

_Index Education, Training, Apprenticeships.pdf

This section will concentrate on the Educational Opportunities and Air Cargo and Flight Training, and we will make further submissions on Jobs, Training and Apprenticeships throughout the Examination Process, in conjunction with partner organisation Kent Needs Manston Airport (KNMA).

a - Examination Agenda - Initial Assessment of Principal Issues - Education.pdf

Item v : Scope for training schemes - SMAa requested that the word “training” be changed to “education and training”. This was actioned by the Examiners.

b – SMAa - KNMA - Educational Opportunities

Deprivation, Unemployment, The educational benefits of the scheme, STEM Education, Careers and Industry Involvement, a) schools, b) post 16

Educational opportunities and training will enable local people to achieve the qualifications and skills they need to be employable at a reopened airport.

c – Training and Apprenticeships

We will make further submissions on Jobs, Training and Apprenticeships throughout the Examination Process, in conjunction with partner organisation Kent Needs Manston Airport (KNMA).

d - KNMA - Air Cargo at Manston and how it Works

Taken from a series of weekly articles by Kent Needs Manston Airport and the employment opportunities at a reopened airport. The purpose is to provide general information or a framework on the setup of air cargo processes, for people new to the business.

e - KNMA - Engineering Training Guide - Revision 6

This document is intended to identify approved engineering knowledge and skills that the Operators of Manston Airport may require on site to comply with up-to-date statutory regulations. These may be deliverable by a Manston Airport Aviation Academy in-house or through out-sourcing.

Potential students should have a good understanding of both Mathematics and Physics.

There are no minimum entry qualification levels required for undertaking the training.

f - Flight Training/Aviation

The positive impact on the youth population, including encouragement to take up flight training and careers in aviation. The importance of aviation history and remembrance. Apprenticeship training and educational possibilities. – Greg Nocentini (20)

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Manston Airport DCO :

Agenda for the Preliminary Meeting

Date: 9 January 2019

Save Manston Airport association (SMAa) :

- request one change to

Item 3 : Initial Assessment of Principal Issues

SMAa request that under Socio-economic issues

Item v. : Scope for training schemes

That the word “training” be changed to “education and training”.

Transcript :

[Audio : Part Manston AM 2 - 0:22:10]

Dr. Beau Webber, Chairman of the Save Manston Airport association,

SMAa request one change under Socio-economic issues :

Item v : Scope for training schemes

SMAa request that the word “training” be changed to “education and training”.

Thank you sir.

[end : 0:22:42]

Addendum :

[1:20:10]

Dr. Beau Webber, Chairman of SMAa, again, I would just like to again raise the point about changing the word “training” to “education and training”.

Both the applicant and our 3,500 members are very clear that education is equally important with training, if local people are to participate in airport jobs.

[1:20:27]

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_Joint SMAa-KNMA Educational Opportunities WR.pdf

Deprivation, Unemployment, The educational benefits of the scheme, STEM Education, Careers and Industry Involvement, a) schools, b) post 16

Educational opportunities and training will enable local people to achieve the qualifications and skills they need to be employable at a reopened airport.

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Educational Opportunities – Socio-economic issues SE ii, SE iii, SE v, SE vii, SE viii

Introduction

We are writing as Vice Chair of Kent Needs Manston Airport and Vice Chair of Save Manston Airport Association, which both support the RSP DCO application in full, and as such agree with all aspects of the application [APP-001 to APP-087].

Although they are separate organisations, they share a common goal to see local people benefit from gaining the necessary skills and qualifications, through the appropriate provision of education, training and apprenticeships, to enable as many of them as possible to gain employment. We have been working with the applicant to find the best ways to bring this about.

This Written Representation will concentrate on the Educational Opportunities and we will make further submissions on Jobs, Training and Apprenticeships throughout the Examination Process.

Data, methodology and assumptions

We have tried to access information/data from reputable sources and quoted relevant passages using quotation marks. In each case we have used a footnote which indicates the name of the relevant appendix and, where possible the page number, paragraph or table/figure number. We have then submitted these appendices as PDF attachments. In some cases, such as data from web pages we have taken screenshots and then converted to PDFs.

If we have referred to documents in the Examination Library, we used the appropriate document reference from the EL and put it in square brackets with a footnote. The footnote will indicate the relevant page number and paragraph number, table, diagram or figure where possible.

N.B.

- 1) Some documents, for example audio recordings, are not yet in the EL so we have used their full name in the footnote with the approximate start time indicated.
- 2) The background for this submission is the same as for Investment, Jobs and regeneration as it is applicable to both.

We have tried to avoid using assumptions by applying the methods described above but on occasions we have used our personal experiences as educationalists.

Executive Summary

Evidence makes it clear that Thanet continues to be the most deprived local authority¹ in Kent and has the highest 18-24 year old unemployment in the South East. The situation is not much better in Canterbury, Dover and Swale.²

The majority of enterprises in East Kent employ 0-4 people and very few employ over 250 people.³ A reopened airport, by the applicant, will be a significant employer in the area even by year two of operation.⁴

It is the stated aim of the applicant to employ as many local people⁵ as possible and this will involve them having access to the appropriate educational opportunities and training. Engagement between the applicant and educational providers is already underway⁶ and will continue.

Evidence from multiple sources (PCP Market Research,⁷ CEO STEM Learning,⁸ the Aspires Project,⁹ the APPG on Diversity and Inclusion,¹⁰ Anthony Mann et al.,¹¹ the Gatsby Charitable Foundation¹² and the Department for Education¹³ all indicate that employers can play a key role in education, particularly careers. At present there is evidence that there is a shortage of people with the necessary skills and qualifications¹⁴ but with the involvement of employers, like the applicant, and with educational providers, pupils can be made aware of the job opportunities, work experience opportunities, give them access to the appropriate courses, and raise their motivation and aspirations.

This application brings real hope to the area because it will be transformational in so many ways.

¹ Appendix 1 – page 1

² Appendix 2 – page 2

³ Appendix 3 – page 6 table 3 and table 4

⁴ [APP – 085] – Volume IV page 28 table 4

⁵ [APP – 085] – Volume IV page 38

⁶ Recording of ISH – Afternoon Session Part 1 at 1:06:16

⁷ Appendix 4 - page 2 paragraph 2

⁸ Appendix 4 – page 4

⁹ Appendix 5 – page 5 column 2

¹⁰ Appendix 7

¹¹ Appendix 10 – page 13 paragraph 3

¹² Appendix 11 – page 6

¹³ Appendix 14 – page 26 point 62

¹⁴ Appendix 4 – page 2 paragraph 2

Background

a) Deprivation

According to figures produced by the Office for National Statistics (ONS) and published by Kent County Council (KCC) looking into the index of multiple deprivation (2015):

“Thanet continues to rank as the most deprived Local Authority in Kent”¹⁵

Out of 326 Local Authorities, Thanet is now ranked 28th, which is 21 places worse than in 2010.¹⁶ Thanet is within the top (worst) 10% most deprived Authorities in England.

N.B. The lower the ranking number the more deprived the area.

England is divided into 32,844 Lower Super Output Areas (LSOA) each with a population of 1,500. Cliftonville West 001A (in Thanet) is 4th out of 32,844 LSOAs. Thanet has 14 LSOAs within the top 10% most deprived LSOAs in England.¹⁷

b) Unemployment

Using information from the Office for National Statistics Claimant Count (Dec 2018) published by KCC:

Thanet has the highest unemployment rate (in Kent) at 5.2%. That compares very poorly with the Kent figure of 2.2% and Great Britain 2.4%.¹⁸

The situation for the young is even worse. “Thanet has the highest 18-24 year old unemployment rate in the South East at 8.0%.” In Canterbury, 1.5%, Dover 5.9%, Swale 6.1%, Kent 3.4% and Great Britain 3.2%.¹⁹

It is clear from the information above that Thanet and neighboring authorities desperately need jobs that are accessible to local people particularly the young.

Referring to information from the Office for National Statistics published by KCC it is shows there are very few enterprises that employ more than 250 people:

Canterbury District 30 out of 3,990 (0.6%)

Dover District 5 out of 2,530 (0.1%)

Swale District 15 out of 3,670 (0.3%)

Thanet District 5 out of 2,935 (0.1%)²⁰

In contrast most enterprises employ 0-4 people, Canterbury 75.8%, Dover 75.1%, Swale 76.1% and Thanet 75.9%.²⁰

Unemployment in Kent increased by 3,875 from December 2017 to December 2018 with a quarter of that, 965, being in Thanet alone. Thanet desperately needs jobs.

¹⁵ Appendix 1 – page 1

¹⁶ Appendix 1 – page 3 table 2

¹⁷ Appendix 1 – page 4

¹⁸ Appendix 2 – page 1

¹⁹ Appendix 2 – page 2

²⁰ Appendix 3 – page 6 table 3 and table 4

By any standard, a reopened airport will be a very significant enterprise with the number of jobs projected. By year two, direct jobs projected by the applicant (856) will exceed the 250-job threshold making it one of the major employers in the area.²¹

Table 4 Forecast job creation

	Freight tonnage	Passenger numbers	Direct jobs	Indirect/ induced jobs	Catalytic jobs	Total job creation
Y1	0	0	116	0	0	116
Y2	96,553	0	856	1,542	0	2,398
Y3	108,553	662,768	1,551	2,791	6,203	10,545
Y4	167,092	679,868	2,085	3,753	8,341	14,179
Y5	173,741	686,672	2,150	3,870	8,601	14,621
Y6	181,436	965,295	2,466	4,438	9,862	16,766
Y7	192,908	975,591	2,576	4,638	10,306	17,520
Y8	200,673	975,591	2,645	4,762	10,581	17,988
Y9	203,245	975,591	2,668	4,803	10,673	18,143
Y10	212,351	975,591	2,749	4,948	10,996	18,693
Y11	222,377	1,011,587	2,812	5,062	11,249	19,124
Y12	234,508	1,049,022	2,890	5,202	11,561	19,653
Y13	244,690	1,087,954	2,947	5,305	11,789	20,042
Y14	256,989	1,128,444	3,018	5,432	12,072	20,522
Y15	270,579	1,170,553	3,094	5,570	12,378	21,042
Y16	283,904	1,214,347	3,164	5,695	12,656	21,515
Y17	296,594	1,259,892	3,224	5,802	12,894	21,920
Y18	312,344	1,307,259	3,301	5,942	13,205	22,448
Y19	324,838	1,356,521	3,349	6,029	13,397	22,775
Y20	340,758	1,407,753	3,417	6,151	13,668	23,235

The educational benefits of the scheme

It is the stated aim of the applicant to employ as many local people as possible. They intend to:

“Work with local councils and 3rd sector organisations to help promote job opportunities to local people, particularly to the long-term unemployed.”²²

It was also stated by the applicant that they intend to include this as part of an s.106 agreement.²³

To be employable any person will need to have the appropriate skills and qualifications. There are a number of people in the area, including former workers, who have the appropriate skills and qualifications but with the number of jobs forecast it will be necessary to provide training and educational opportunities. As stated in the introduction, this Written Representation will concentrate on the educational opportunities.

STEM Education

Research conducted by PCP Market Research among a nationally representative sample of Human Resources and senior decision makers at 400 businesses in STEM industries (excluding micro-businesses) across the UK, between 20th and 30th April 2018 and published by STEM Learning on their web site indicates:

“The STEM Skills Indicator reveals that nine in 10 (89%) STEM businesses have found it difficult to hire staff with the required skills in the last 12 months, leading to a current shortfall of over 173,000 workers - an average of 10 unfilled roles per business.”²⁴

²¹ [APP – 085] – Volume IV page 28 table 4

²² [APP – 085] – Volume IV page 38

²³ Recording of ISH – Afternoon Session Part 1 at 1:06:16

²⁴ Appendix 4 – page 2 paragraph 2

“Building the future pipeline of skills will therefore be key to maintaining the UK’s standing in the STEM sector. Low awareness of the jobs available (31%) and a lack of meaningful work experience opportunities (35%) are identified by businesses facing recruitment challenges as key barriers to young people considering STEM careers.”²⁵

Yvonne Baker, Chief Executive, STEM Learning said:

“STEM Learning bridges the gap between businesses and schools. By working with us to invest in teachers in local schools and colleges, employers can help deliver a world-leading STEM education, inspiring young people and building the pipeline of talent in their area, making it a win-win for everyone.”²⁶

The applicant, together with SMAa and KNMA, have already begun the process of engagement with local schools with a view to finding the best way to make pupils aware of the availability of jobs and future work experience that will occur with a reopened airport.

The Aspires Project, Kings College London has summarized the findings of a 5-year longitudinal research study into this area. Some of their findings:

“Currently careers in and from science are not commonly perceived as ‘for all’, which discourages many children from developing science aspirations.”²⁷

“More children and families would benefit from understanding that science and mathematics qualifications have a strong exchange value in the education and labour market and are not purely specialist routes leading to a narrow range of careers in science.”²⁸

A reopened and successful airport offers not only a large number of jobs but there is such a range of jobs available, both direct and indirect, which increases the chance that pupils can see a role for them. As a teacher for 34 years I know that it can be difficult at times to motivate pupils and it is vital that they see the relevance of the subject they are studying. If the pupils can see a possible career path for they are more likely to engage.

An all-party parliamentary group consisting of Members of Parliament and Lords has been set up to look at Diversity and Inclusion in STEM:

“Many young people think they are not smart enough to study STEM because it is associated with natural intelligence and not hard work, and this view is more common in those with less science capital. Careers guidance is underfunded and patchy – poorer students who would benefit most are the least likely to get it. We should tell young people about the diversity of stem careers and embed the message that STEM gives you options. The formal education system is working against us, but we can solve these problems with long-term work.”²⁹

As indicated in the background section of this Written Representation, East Kent, and Thanet in particular, has high deprivation and high unemployment particularly for young people. As a major employer in the area, the applicant can and will make a huge difference to the uptake of STEM subjects by building a long-term relationship with schools and pupils. They intend to:

²⁵ Appendix 4 – page 3 paragraph 4

²⁶ Appendix 4 – page 4

²⁷ Appendix 5 – page 4 column 2

²⁸ Appendix 5 – page 5 column 2

²⁹ Appendix 7 -

“Work with local HE, FE and schools to provide opportunities to learn about aviation-related **careers and to raise aspirations**, particularly for STEM subjects and with those who may be disengaged from learning. This will include curriculum and careers support activities with local schools, FE and HE.”³⁰

This engagement has been made easier by recent changes to Careers Guidance.

Careers and Industry Involvement

a) schools

In an article, Anthony Mann & Christian Percy (2013): Employer engagement in British secondary education: wage earning outcomes experienced by young adults published in the Journal of Education it states:

“Those young adults earning a full-time annual salary who experienced four or more employer contacts whilst in education could expect to earn, on average in their early 20s, 18% or £3600 more per year than their peers, qualified to similar levels, who undertook no activities during their schooling.”³¹

The Gatsby Charitable Foundation has been doing research to find the best practice in career guidance.³²

“Good career guidance is the key to social mobility: it is about showing young people – whatever their social background – the options open to them, and helping them make the right choices to set them on the path to rewarding future careers. This is particularly important for young people who come from families without experience of higher education, or who live in areas of deprivation, or whose ethnicity or gender is underrepresented in certain occupations. Good career guidance is about raising aspirations, aiming high and avoiding making any assumptions about the limits on a young person’s options. It’s about accepting that while some subjects – for example science and mathematics – may seem harder than others, they may open more doors.”³³

As a result of their work they came up with 8 benchmarks for Good Career Guidance which have since been adopted by the government, in their Careers strategy: making the most of everyone’s skills and talents, December 2017. From this strategy:

“There is a compelling case for increasing the opportunities for young people to meet employers. Research from the Education and Employers Taskforce shows that a young person who has four or more encounters with an employer is 86% less likely to be unemployed or not in education or training and can earn up to 22% more during their career.”³⁴

“We want to extend this opportunity to benefit everyone, especially young people from disadvantaged areas who may not otherwise access these crucial experiences. Secondary schools should offer every young person at least seven encounters with employers during their education, with at least one encounter taking place each year from years 7-13, supported by the

³⁰ Appendix 13 – page 2 point 8

³¹ Appendix 10 – page 13 paragraph 3

³² Appendix 11 – page 8

³³ Appendix 11 – page 6

³⁴ Appendix 12 – page 10 last paragraph

CEC's network of Enterprise Coordinators and Advisers and their Investment Funds.”³⁵

In their draft s.106 agreement on Education, training, recruitment and local procurement inclusions the applicant states their intention to:

“Work with education leaders from schools, HE and FE to ensure **awareness** of the re-opening of the airport and the extent and type of opportunities expected to arise. In particular, through the Kent & Medway Enterprise Company (The Education People) to brief the Enterprise Advisers and STEM Ambassadors in the area to ensure educationalists are fully briefed and engaged with the opportunities in the aviation sector and its supply chain.”³⁶

b) Post 16

It is vital that all educational establishments are providing the appropriate courses and the applicant intends to:

“Ensure appropriate **research** is conducted to establish the need for particular training and education courses related to the forecast employment creation by job type. This is essential for the providers if they are to make the business case to their Boards for new courses and initiatives.”³⁷

As has already been stated by the applicant,³⁸ talks with a number of educational providers are ongoing and these will continue.

The government is introducing new T-level exams,³⁹ which are a kind of halfway house between apprenticeships for students who wish to learn a specific occupation “on the job” and A levels for students who wish to continue academic education.

They will be a mixture of classroom learning and “on the job” experience during an industry placement of a minimum of 45 days.

This would dovetail nicely with what the applicant is proposing in their draft s106 agreement:

“Work with local Higher Education (HE), Further Education (FE) and schools to provide an **education and training facility** on the Manston Airport site. These facilities would include:

- Apprenticeship centre
- Training rooms
- Aircraft with working parts such as hydraulics, etc. located outdoors or in a well-ventilated space
- Multi-purpose laboratory area
- Open plan café area that could be used for groups, school visits, networking, etc.
- High quality ICT equipment and wifi.”⁴⁰

³⁵ Appendix 12 – page 11 paragraph 2

³⁶ Appendix 13 – page 1 point 6

³⁷ Appendix 13 – page 1 point 2

³⁸ Recording of ISH – Afternoon Session Part 1 at 1:06:16

³⁹ Appendix 15

⁴⁰ Appendix 13 – page 1 point 3

Conclusion

There is overwhelming evidence that employers need to play a key role in education, particularly in Careers, and the government have now published Statutory Guidance⁴¹ to ensure that this happens. There needs to be a coordinated scheme with regular contact between employers and pupils:

“Every year from the age of 11, pupils should participate in at least one meaningful encounter with an employer– this means at least one encounter each year from years 7 to 13.”⁴²

Employers working with The Career and Enterprise Company, Enterprise Advisers and STEM Ambassadors will ensure that a coordinated scheme is realised.

The applicant has already begun discussions with Enterprise coordinators, Enterprise Advisers, KCC Careers and the Kent and Medway Skills Commission amongst others. These discussions will continue and will produce a scheme that will raise aspirations, increase motivation, increase the uptake of STEM subjects, support the introduction of T-levels and give all pupils, including SEND pupils, the opportunity to achieve the skills and qualifications they require.

N.B. Apprenticeships play an important role for some pupils post 16 but that is being covered by later on in the Examination process.

In a highly deprived area with high unemployment, the reopening of Manston Airport will make a huge difference to the people of East Kent. As indicated in the introduction, there are very few enterprises that employ more than 250 people and even at very conservative projections, the airport will employ considerably more than that figure. As such it will be one of the biggest employers in the area and will play a key role in the education of our young people in the years to come.

⁴¹ Appendix 14

⁴² Appendix 14 – page 26 point 62

The English Index of Multiple Deprivation (IMD 2015): Headline findings for Kent

Related information

The [Deprivation and Poverty](#) web page contains more information which you may find useful.

- Fuel poverty
- Households in poverty
- Children in Poverty
- Homelessness
- Unemployment and benefits claimants

NOTE: within this bulletin 'Kent' refers to the Kent County Council (KCC) area which excludes Medway

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The English Index of Multiple Deprivation 2015 (IMD2015) was released 30 September 2015 by The Department for Communities and Local Government. This bulletin presents the initial findings for Kent.

Summary

- On the National rank of the IMD2015 Kent is ranked at 100th out of 152 Counties and Unitary Authorities in England. This places Kent within the least deprived 50% of all counties and unitary authorities in England.
- Within the 19 Counties and Local Authorities in the South East, Kent is ranked at 9. This places Kent just within the most deprived 50% of all Counties and Unitary Authorities in the South East.
- The level of deprivation in eight out of 12 Kent local authority districts has increased since ID2010 relative to other areas in England.
- Thanet continues to rank as the most deprived local authority in Kent.
- Tunbridge Wells ranks as the least deprived local authority in Kent
- Ashford and Swale have experienced the largest increase in deprivation relative to other areas.
- Tunbridge Wells has experienced the largest decrease in deprivation relative to other areas.

Introduction

The Index of Multiple Deprivation 2015 (IMD 2015) is the official measure of relative deprivation for small areas (or neighbourhoods) in England.

The IMD ranks every small area in England from 1 (most deprived area) to 32,844 (least deprived area).

The small areas used are called Lower-layer Super Output Areas, of which there are 32,844 in England. They are designed to be of a similar population size with an average of 1,500 residents each and are a standard way of dividing up the country. They do not have descriptive place names (in the way that local wards do), but are named in a format beginning with the name of the local authority district followed by a 4 character code eg Ashford 001A.

It is common to describe how relatively deprived a small area is by saying whether it falls among the most deprived 10 per cent, 20 per cent or 30 per cent of small areas in England (although there is no definitive cut-off at which an area is described as 'deprived').

To help with this, deprivation 'deciles' are published alongside ranks. Deciles are calculated by ranking the 32,844 small areas in England from most deprived to least deprived and dividing them into 10 equal groups. These range from the most deprived 10 per cent of small areas nationally to the least deprived 10 per cent of small areas nationally.

The Index of Multiple Deprivation is part of the Indices of Deprivation and it is the most widely used of these indices. It combines information from seven domain indices (which measure different types or dimensions of deprivation) to produce an overall relative measure of deprivation. You can use the domain indices on their own to focus on specific aspects of deprivation. There are also supplementary indices concerned with income deprivation among children (IDACI) and older people (IDAOPI).

The Index of Multiple Deprivation is designed primarily to be a *small-area* measure of deprivation. But the Indices are commonly used to describe deprivation for higher-level geographies including local authority districts. A range of summary measures are available allowing you to see where, for example, a local authority district is ranked between 1 (the most deprived district in England) and 326 (the least deprived district in England). Summary measures are also available for upper tier local authorities, local enterprise partnerships and clinical commissioning groups.

All of the Indices of Deprivation measure relative deprivation at small area level as accurately as possible, but they are not designed to provide 'backwards' comparability with previous versions of the Indices (2010, 2007, 2004 and 2000). However, because there is a broadly consistent methodology between the Indices of Deprivation 2015 and previous versions, you can compare the rankings as determined at the relevant time point by each of the versions.

When looking at changes in deprivation between the Indices of Deprivation 2015 and previous versions, users should therefore be aware that changes can only be described in relative terms, for example, the extent to which an area has changed rank or decile of deprivation.

This bulletin presents the IMD 2015 for Kent, Kent local authorities and the 10% most deprived LSOAs in Kent. A comparison with the IMD2010 (and IMD2007 at County level) is also presented.

County Level

The overall IMD2015 ranks Kent at 100 out of 152 local authorities in England. This places Kent within the least 50% deprived local authorities in England.

This position is two places higher than the IMD2010 and six places higher than the IMD2007 which indicates that Kent has become more deprived in 2015 relative to all other areas.

Kent's position amongst the local authorities within the South East region is nine out of 19. This position has not changed between the IMD2007 and IMD2010. This places Kent just within the 50% most deprived areas in the region.

Table 1: South East Counties and Unitary Authorities by national and regional ranks: IMD2007, IMD2010, IMD2015

South East Counties and Unitary Authorities by national and regional ranks: IMD2007, IMD2010, and IMD2015

Source: Indices of Deprivation 2007; 2010; and 2015 Communities and Local Government

Table presented by Strategic Business Development & Intelligence, Kent county Council

A rank of 1 is the most deprived

Authority	IMD2007		IMD2010		IMD2015		Change in rank* 2010 to 2015	
	National rank (out of 152)	South East rank (out of 19)	National rank (out of 152)	South East rank (out of 19)	National rank (out of 152)	South East rank (out of 19)	National position	South East position
Portsmouth U.A.	67	3	60	2	50	1	10	1
Southampton U.A.	66	2	65	3	54	2	11	1
Brighton and Hove U.A.	59	1	53	1	74	3	-21	-2
Isle of Wight U.A.	88	5	86	5	76	4	10	1
Slough U.A.	79	4	69	4	78	5	-9	-1
Medway U.A.	92	6	88	7	81	6	7	1
Reading U.A.	94	7	87	6	93	7	-6	-1
East Sussex	95	8	90	8	99	8	-9	0
Kent	106	9	102	9	100	9	2	0
Milton Keynes	118	10	119	10	106	10	13	0
West Sussex	132	11	130	11	131	11	-1	0
Hampshire	141	13	141	13	141	12	0	1
Oxfordshire	139	12	135	12	142	13	-7	-1
Bracknell Forest U.A.	147	15	148	16	145	14	3	2
West Berkshire U.A.	149	17	147	15	146	15	1	0
Buckinghamshire	146	14	145	14	148	16	-3	-2
Surrey	150	18	150	18	150	17	0	1
Windsor & Maidenhead U.A.	148	16	149	17	151	18	-2	-1
Wokingham U.A.	152	19	152	19	152	19	0	0

Table sorted by ID2015 lowest rank

* A minus change in rank illustrates that an area has moved down the rankings and is therefore less deprived in ID2015 than ID2010 relative to other areas

* A positive change in rank illustrates an area is more deprived in ID2015 than ID2010 relative to other areas

Local Authority Level

Thanet was the most deprived local authority in the IMD2010 and remains Kent's most deprived local authority district in IMD2015. Nationally, Thanet is ranked at 21 out of 326 authorities placing it within England's 10% most deprived of authorities.

Kent's least deprived local authority district in the IMD2015 is Tunbridge Wells with a rank of 282 out of 326 authorities. This rank places Tunbridge Wells within the least 20% deprived areas in England.

Deprivation levels have increased in eight out of the 12 local authority districts relative to all other areas between IMD2010 and IMD2015.

Ashford and Swale have seen the greatest change in national rank, both moving up 22 places between 2010 and 2015. This indicates that these areas are more deprived in 2015 than in 2010 relative to all other local authorities in England.

Canterbury, Shepway, Tonbridge & Malling and Tunbridge Wells have all moved down in the rankings which indicates that levels of deprivation have reduced between 2010 and 2015 relative to other local authorities in England.

Table 2: Kent Local Authorities by national and Kent ranks: IMD2010, IMD2015

Kent local authorities by national and Kent ranks: IMD2010 and IMD2015

Source: Indices of Deprivation 2010 and 2015, Communities and Local Government

Table presented by Strategic Business Development & Intelligence, Kent county Council

A rank of 1 is the most deprived

Authority	IMD2010			IMD2015			Change in rank* 2010 to 2015	
	IMD2010 national rank (out of 326)	Kent Rank (out of 12)		IMD2015 national rank (out of 326)	Kent Rank (out of 12)		National position	Kent position
Thanet	49	1		28	1		21	0
Swale	99	3		77	2		22	1
Shepway	97	2		113	3		-16	-1
Gravesham	142	5		124	4		18	1
Dover	127	4		126	5		1	-1
Dartford	175	7		170	6		5	1
Ashford	198	8		176	7		22	1
Canterbury	166	6		183	8		-17	-2
Maidstone	217	9		198	9		19	0
Sevenoaks	276	12		268	10		8	2
Tonbridge & Malling	268	11		274	11		-6	0
Tunbridge Wells	249	10		282	12		-33	-2

Table ranked by highest IMD 2015 Score

* A minus change in rank illustrates that a district has moved down the rankings and is therefore now less deprived relative to other areas in England.

*A positive change in rank illustrates an area is more deprived in ID2015 than ID2010 relative to other areas

Deprivation at small area level in Kent's Lower Super Output Areas

Kent has 902 Lower Super Output Areas, 51 (6%) fall within the top 10% most deprived LSOAs in England in the IMD2015. In the IMD2010 the number of LSOAs within the most deprived 10% nationally was 32 (4%).

These LSOAs are spread within seven of Kent's local authorities with Thanet having the highest number and proportion of LSOA within the top10% most deprived LSOAs in England.

Ashford, Canterbury, Sevenoaks, Tonbridge & Malling and Tunbridge Wells do not have any LSOAs ranked within the top 10% most deprived in England.

Table 3: The number and proportion of LSOAs in Kent Authorities within the 10% most deprived Lower Super Output Areas in England

IMD2015 Number and proportion of LSOAs in Kent authorities within the top 10% most deprived in England

Source: Indices of Deprivation 2010 and 2015, Communities and Local Government

Table presented by Strategic Business Development & Intelligence, Kent county Council

Authority	Total LSOAs in each Local Authority	Top 10% most deprived National Rank:IMD 2010		Top 10% most deprived National Rank:IMD 2015		Change Number of LSOAs
		Number of LSOAs	%	Number of LSOAs	%	
Thanet	84	14	16%	18	20%	4
Swale	85	8	9%	14	16%	6
Gravesham	64	3	3%	6	7%	3
Dover	67	1	1%	4	4%	3
Shepway	67	5	6%	4	4%	-1
Dartford	58	0	0%	3	3%	3
Maidstone	95	1	1%	2	2%	1
Canterbury	90	0	0%	0	0%	0
Ashford	78	0	0%	0	0%	0
Sevenoaks	74	0	0%	0	0%	0
Tonbridge & Malling	72	0	0%	0	0%	0
Tunbridge Wells	68	0	0%	0	0%	0
Kent	902	32	36%	51	57%	19

Table ranked by highest number of LSOAs in top 10% most deprived by IMD 2015 Score

The highest ranking LSOA in Kent is in Thanet District, within Cliftonville West ward. This LSOA is ranked 4th out of 32,844 LSOAs in England placing it within England's most deprived 1% of small areas.

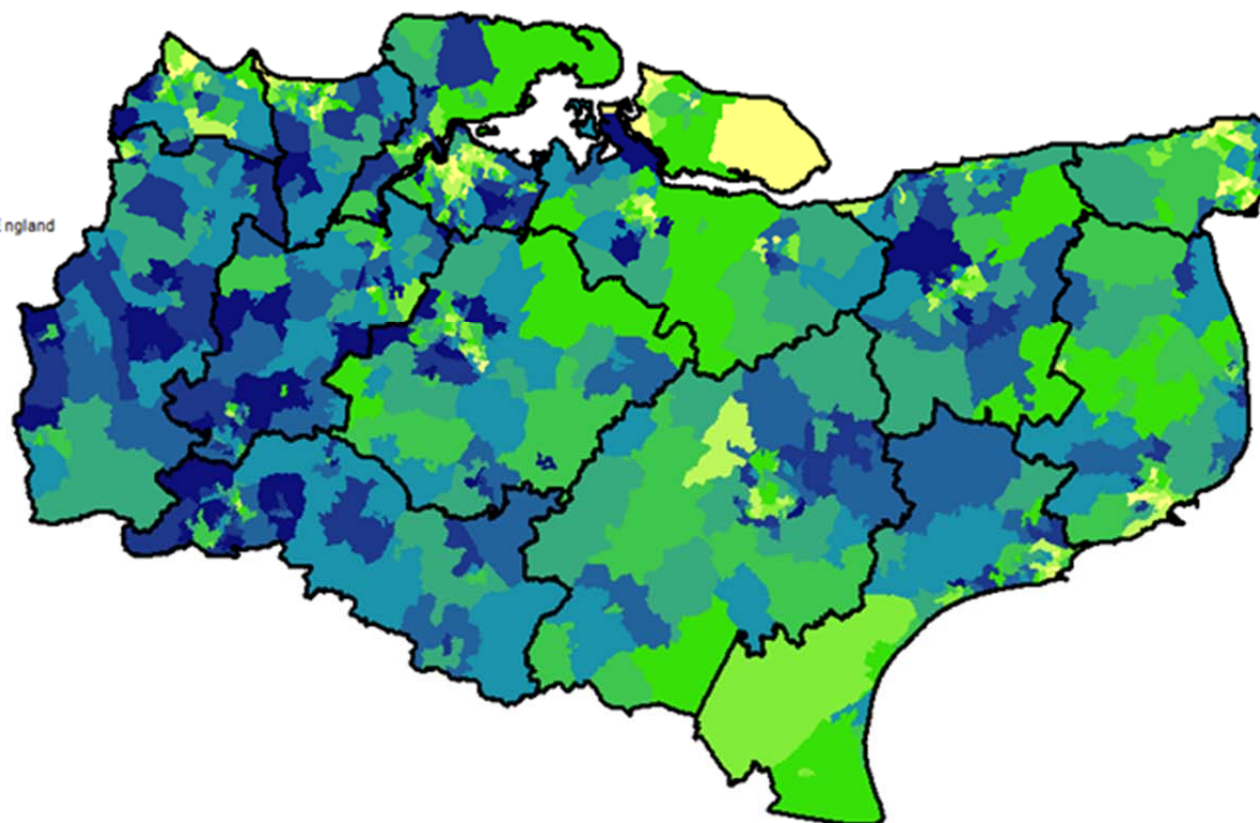
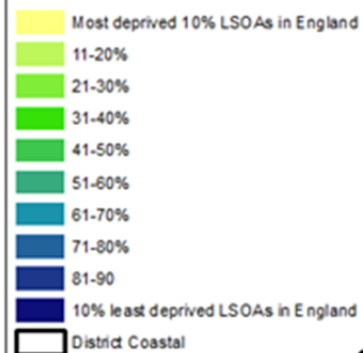
The lowest ranking LSOA in Kent is in Tunbridge Wells Borough, within Speldhurst & Bidborough ward. This LSOA is ranked 32,728th out of 32,844 LSOAs in England placing it within England's most deprived 1% of small areas.

Map 1 illustrates the pattern of deprivation across Kent at LSOA level. The map shows there is an east/west divide, with the east of the county having higher levels of deprivation than the west.

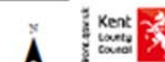
IMD 2015: Overall IMD
National rank of Kent Lower Super Output Areas

Overall IMD - England Position

National Rank



This map produced by Strategic Business Development & Intelligence, Kent County Council
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A ward level measure of deprivation is not published as part of the official IMD2015. However, there is high demand for a ward level measure and we will issue ward level ranks based on averages of LSOA scores at a later date. Table 4 indicates the wards in which the top 10% most deprived LSOAs in Kent are situated. This table also shows the national rank and South East rank.

Table 4: The 10% most deprived Lower Super Output Areas in Kent

The 10% most deprived Lower Super Output Areas in Kent: (Rank 1 to 45 out of 90)

Source: Indices of Deprivation 2015, Communities and Local Government

A rank of 1 is the most deprived

Table presented by Strategic Business Development & Intelligence, Kent county Council

2011 LSOA Name	2011 Ward Name	National rank		South East rank		Kent Rank	
		position out of 32,844 LSOAs	Within top 10% most deprived	position out of 5,382 LSOAs	Within top 10% most deprived	Position out of 902 LSOAs	Within top 10% most deprived
Thanet 001A	Cliftonville West	4	Yes	1	Yes	1	Yes
Thanet 001E	Margate Central	21	Yes	2	Yes	2	Yes
Thanet 003A	Margate Central	35	Yes	3	Yes	3	Yes
Swale 001A	Sheerness East	46	Yes	4	Yes	4	Yes
Thanet 001D	Cliftonville West	117	Yes	7	Yes	5	Yes
Thanet 001B	Cliftonville West	233	Yes	10	Yes	6	Yes
Swale 010C	Murston	329	Yes	14	Yes	7	Yes
Swale 006A	Leysdown and Warden	366	Yes	18	Yes	8	Yes
Thanet 016D	Eastcliff	423	Yes	22	Yes	9	Yes
Thanet 006D	Dane Valley	452	Yes	24	Yes	10	Yes
Thanet 013B	Newington	486	Yes	26	Yes	11	Yes
Shepway 014A	Folkestone Harbour	572	Yes	29	Yes	12	Yes
Swale 002C	Sheerness West	626	Yes	31	Yes	13	Yes
Swale 002A	Sheerness West	674	Yes	32	Yes	14	Yes
Thanet 003E	Westbrook	692	Yes	33	Yes	15	Yes
Swale 002B	Sheerness West	739	Yes	36	Yes	16	Yes
Thanet 013E	Northwood	968	Yes	42	Yes	17	Yes
Swale 006D	Sheppey Central	1013	Yes	44	Yes	18	Yes
Swale 004E	Sheppey Central	1036	Yes	46	Yes	19	Yes
Swale 005C	Queenborough and Halfway	1053	Yes	48	Yes	20	Yes
Thanet 006E	Dane Valley	1065	Yes	52	Yes	21	Yes
Thanet 004A	Cliftonville West	1171	Yes	54	Yes	22	Yes
Shepway 014B	Folkestone Harvey Central	1343	Yes	63	Yes	23	Yes
Dover 011F	St Radigunds	1358	Yes	64	Yes	24	Yes
Swale 015D	Davington Priory	1649	Yes	74	Yes	25	Yes
Shepway 003C	Folkestone East	1751	Yes	76	Yes	26	Yes
Gravesham 011D	Singlewell	1876	Yes	81	Yes	27	Yes
Gravesham 001C	Northfleet North	1877	Yes	82	Yes	28	Yes
Dartford 001A	Joyce Green	1951	Yes	85	Yes	29	Yes
Maidstone 013A	Park Wood	1979	Yes	86	Yes	30	Yes
Gravesham 002E	Riverside	2017	Yes	89	Yes	31	Yes
Dover 012F	Castle	2065	Yes	94	Yes	32	Yes
Swale 006B	Leysdown and Warden	2109	Yes	97	Yes	33	Yes
Thanet 003D	Salmestone	2224	Yes	102	Yes	34	Yes
Swale 001B	Sheerness East	2240	Yes	104	Yes	35	Yes
Thanet 016E	Eastcliff	2319	Yes	107	Yes	36	Yes
Dover 013B	Maxton, Elms Vale and Priory	2330	Yes	108	Yes	37	Yes
Gravesham 011C	Singlewell	2533	Yes	118	Yes	38	Yes
Swale 001C	Sheerness East	2564	Yes	121	Yes	39	Yes
Thanet 013A	Newington	2633	Yes	123	Yes	40	Yes
Gravesham 007A	Westcourt	2730	Yes	128	Yes	41	Yes
Thanet 001C	Cliftonville West	2739	Yes	129	Yes	42	Yes
Thanet 016C	Central Harbour	2751	Yes	130	Yes	43	Yes
Thanet 015D	Eastcliff	2850	Yes	134	Yes	44	Yes
Maidstone 013B	Park Wood	2857	Yes	137	Yes	45	Yes

Table 4 continued: The 10% most deprived Lower Super Output Areas in Kent

The 10% most deprived Lower Super Output Areas in Kent: (Rank 46 to 90 out of 90)

Source: Indices of Deprivation 2015, Communities and Local Government

A rank of 1 is the most deprived

Table presented by Strategic Business Development & Intelligence, Kent county Council

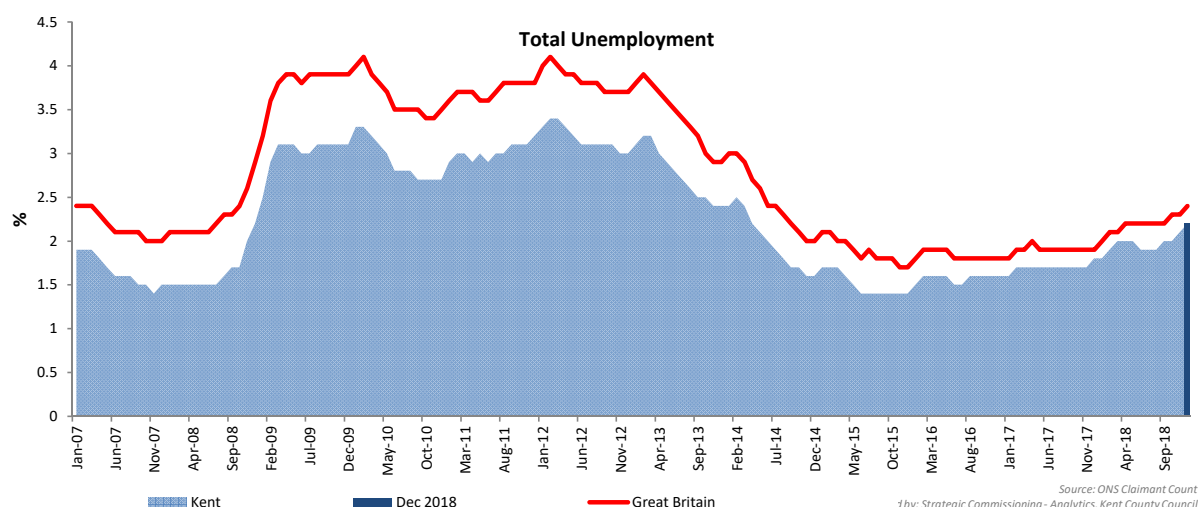
2011 LSOA Name	2011 Ward Name	National rank		South East rank		Kent Rank	
		position out of 32,844 LSOAs	Within top 10% most deprived	position out of 5,382 LSOAs	Within top 10% most deprived	Position out of 902 LSOAs	Within top 10% most deprived
Swale 001D	Sheerness East	2887	Yes	140	Yes	46	Yes
Dartford 004C	Swanscombe	3010	Yes	147	Yes	47	Yes
Dover 011D	Buckland	3071	Yes	151	Yes	48	Yes
Shepway 014D	Folkestone Harvey Central	3125	Yes	154	Yes	49	Yes
Dartford 001D	Littlebrook	3199	Yes	156	Yes	50	Yes
Gravesham 002A	Central	3222	Yes	158	Yes	51	Yes
Ashford 008C	Stanhope	3285	No	163	Yes	52	Yes
Shepway 014C	Folkestone Harvey Central	3296	No	164	Yes	53	Yes
Ashford 008B	Stanhope	3315	No	165	Yes	54	Yes
Thanet 005A	Garlinge	3332	No	167	Yes	55	Yes
Swale 002D	Sheerness West	3474	No	174	Yes	56	Yes
Swale 010B	Milton Regis	3609	No	183	Yes	57	Yes
Dover 012D	Tower Hamlets	3627	No	185	Yes	58	Yes
Thanet 006C	Dane Valley	3643	No	188	Yes	59	Yes
Canterbury 019A	Wincheap	3751	No	195	Yes	60	Yes
Maidstone 013D	Shepway South	3768	No	198	Yes	61	Yes
Thanet 012C	Sir Moses Montefiore	3779	No	199	Yes	62	Yes
Canterbury 007B	Gorrell	3814	No	202	Yes	63	Yes
Sevenoaks 002A	Swanley St Mary's	3820	No	203	Yes	64	Yes
Thanet 003B	Margate Central	3834	No	204	Yes	65	Yes
Thanet 004B	Dane Valley	3884	No	208	Yes	66	Yes
Maidstone 013E	Shepway South	3928	No	212	Yes	67	Yes
Shepway 004E	Folkestone Harbour	3953	No	214	Yes	68	Yes
Canterbury 001B	Heron	3968	No	215	Yes	69	Yes
Dover 013A	Maxton, Elms Vale and Priory	4019	No	218	Yes	70	Yes
Dover 013D	Tower Hamlets	4137	No	225	Yes	71	Yes
Dover 011A	Buckland	4155	No	226	Yes	72	Yes
Sevenoaks 002B	Swanley St Mary's	4324	No	234	Yes	73	Yes
Dover 013E	Town and Pier	4397	No	241	Yes	74	Yes
Dartford 009A	Princes	4464	No	245	Yes	75	Yes
Canterbury 001C	Heron	4469	No	246	Yes	76	Yes
Maidstone 009C	High Street	4490	No	249	Yes	77	Yes
Gravesham 002F	Pelham	4555	No	253	Yes	78	Yes
Canterbury 009D	Seasalter	4715	No	263	Yes	79	Yes
Canterbury 001A	Heron	4726	No	266	Yes	80	Yes
Dover 011H	Tower Hamlets	4848	No	271	Yes	81	Yes
Canterbury 011A	Northgate	4869	No	273	Yes	82	Yes
Shepway 003A	Folkestone East	4936	No	279	Yes	83	Yes
Thanet 016A	Central Harbour	5057	No	288	Yes	84	Yes
Ashford 007F	Victoria	5083	No	290	Yes	85	Yes
Shepway 004B	Folkestone Foord	5084	No	291	Yes	86	Yes
Ashford 005A	Aylesford Green	5117	No	294	Yes	87	Yes
Dover 006C	Aylesham	5134	No	296	Yes	88	Yes
Swale 014F	Watling	5242	No	301	Yes	89	Yes
Swale 003A	Minster Cliffs	5251	No	302	Yes	90	Yes

Further information about the English Indices of Deprivation can be found from the [Department for Communities and Local Government website](https://www.gov.uk/government/collections/english-indices-of-deprivation-2015)

Unemployment in Kent

Last updated: 22 Jan 2019

Using information from the Office for National Statistics Claimant Count this bulletin looks at the total number of people claiming either Jobseekers Allowance or Universal Credit **principally for the reason of being unemployed**. It also looks at the age profile of claimants, in particular at youth unemployment which is defined as those aged 18 to 24.



	Dec 2018		Change since Nov 2018		Change since Dec 2017	
Unemployment	Number	% Rate	Number	%	Number	%
Kent	20,400	2.2%	550	2.8%	3,875	23.4%
Great Britain	956,745	2.4%	19,485	2.1%	184,150	23.8%

	Dec 2018		Change since Nov 2018		Change since Dec 2017	
	Number	% Rate	Number	%	Number	%
Ashford	1,710	2.2%	70	4.3%	410	31.5%
Canterbury	1,850	1.8%	140	8.2%	495	36.5%
Dartford	930	1.4%	70	8.1%	165	21.6%
Dover	2,405	3.5%	70	3.0%	470	24.3%
Folkestone & Hythe	1,885	2.9%	65	3.6%	445	30.9%
Gravesham	1,595	2.4%	15	0.9%	260	19.5%
Maidstone	1,180	1.1%	0	0.0%	-30	-2.5%
Sevenoaks	575	0.8%	60	11.7%	45	8.5%
Swale	2,780	3.1%	5	0.2%	805	40.8%
Thanet	4,275	5.2%	65	1.5%	965	29.2%
Tonbridge and Malling	660	0.8%	5	0.8%	-90	-12.0%
Tunbridge Wells	555	0.8%	-15	-2.6%	-65	-10.5%
Medway	4,145	2.3%	230	5.9%	880	27.0%
Kent	20,400	2.2%	550	2.8%	3,875	23.4%

Kent unemployment headlines December 2018

The unemployment rate in Kent is 2.2%. This is below the rate for Great Britain (2.4%).

20,400 people were claiming unemployment benefits in Kent. This has increased since last month.

Thanet has the highest unemployment rate at 5.2%. Sevenoaks has the lowest unemployment rate at 0.8%.

The 18-24 year old unemployment rate in Kent is 3.4%. They account for 21.1% of all unemployed people in the area

Thanet has the highest 18-24 year old unemployment rate in the South East at 8%.

Unemployment by age group

Kent

Dec 2018

Change since

Nov 2018

Change since

Dec 2017

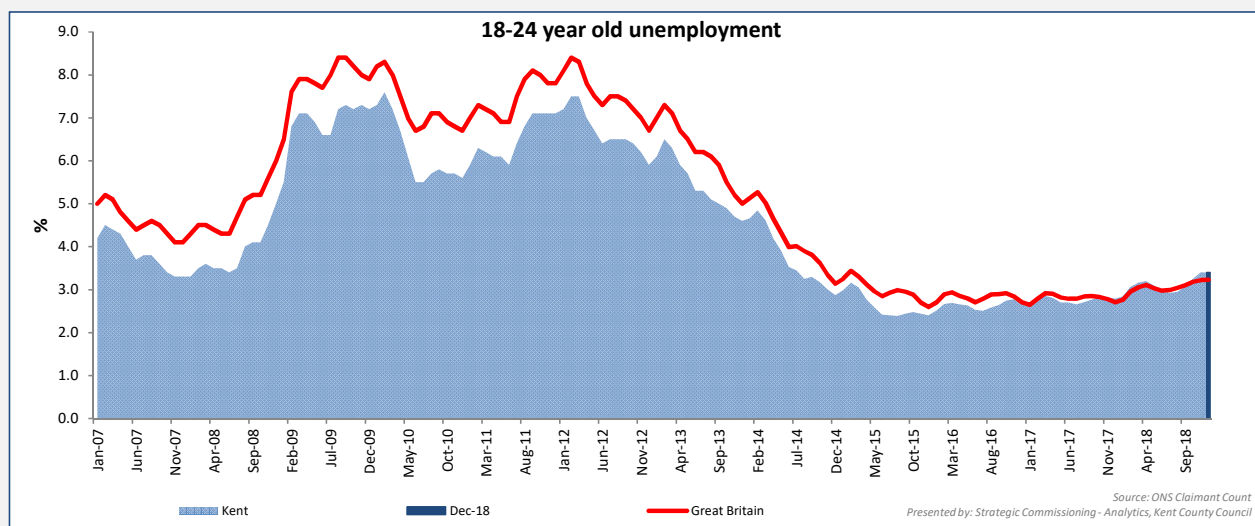
	Number	%	Number	%	Number	%
18-24	4,305	3.4%	5	0.1%	780	22.1%
25-49	10,335	2.1%	380	3.8%	2,150	26.3%
50-64	5,705	1.9%	165	3.0%	920	19.2%

December 2018

Number

Rate

	18-24	25-49	50-64	18-24	25-49	50-64
Ashford	395	835	470	4.4%	2.1%	1.9%
Canterbury	410	925	510	1.5%	2.0%	1.8%
Dartford	200	515	210	2.6%	1.3%	1.1%
Dover	500	1200	695	5.9%	3.7%	2.8%
Folkestone & Hythe	375	915	595	4.9%	2.8%	2.6%
Gravesham	320	825	445	4.0%	2.3%	2.3%
Maidstone	210	625	340	1.8%	1.1%	1.1%
Sevenoaks	110	280	180	1.5%	0.8%	0.7%
Swale	705	1340	730	6.1%	2.9%	2.5%
Thanet	860	2275	1140	8.0%	5.7%	4.1%
Tonbridge and Malling	130	315	215	1.4%	0.8%	0.9%
Tunbridge Wells	90	290	170	1.2%	0.8%	0.7%
Kent	4305	10335	5705	3.4%	2.1%	1.9%
Medway	885	2195	1055	3.6%	2.3%	2.1%

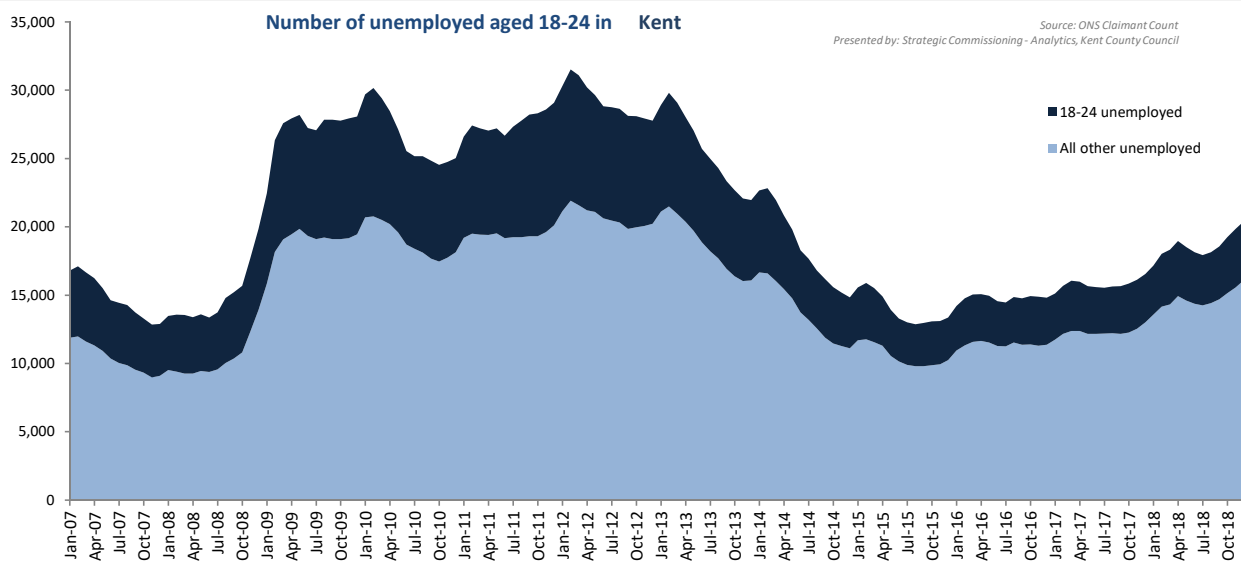
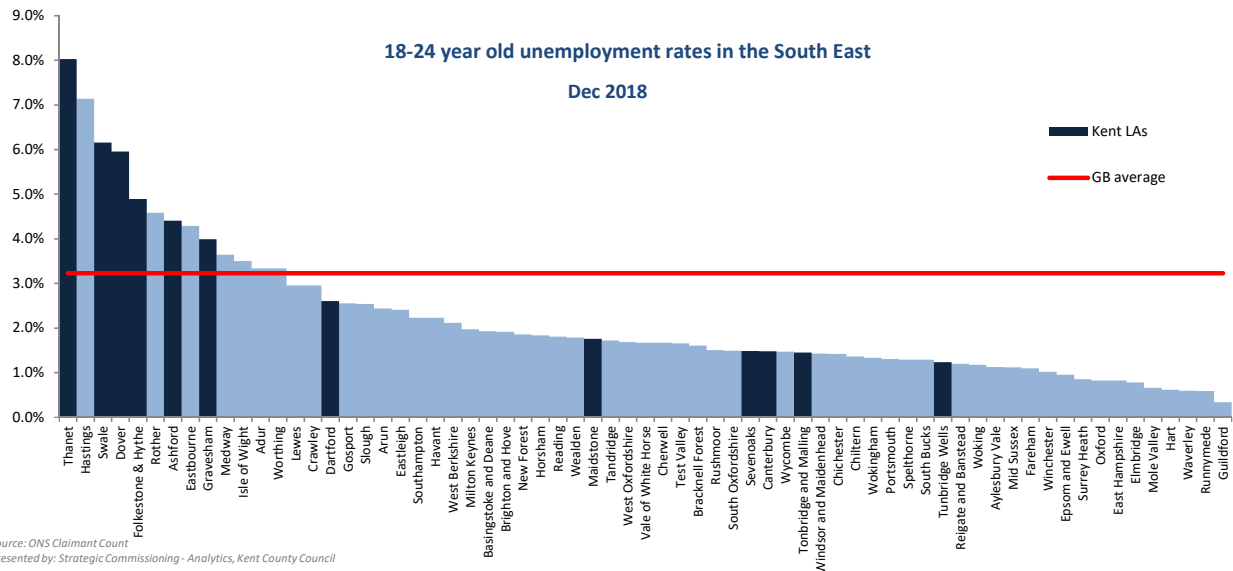


18-24 Unemployment	Number	Rate	Change since Nov 2018	Change since Dec 2017
			Number	Number
Kent	4,305	3.4%	5	780
Great Britain	180,715	3.2%	385	29,135

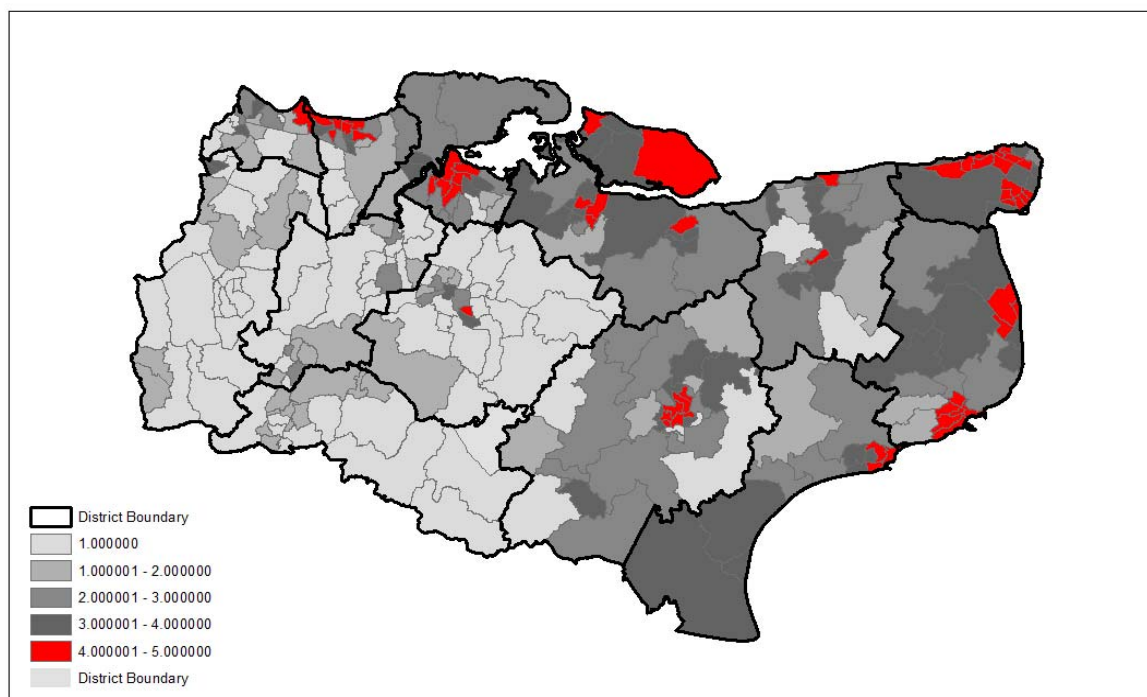
Unemployment by age group - % of all unemployed

December 2018

	Kent		Great Britain	
	Number	% of all unemployed	Number	% of all unemployed
18-24	4,305	21.1%	180,715	18.9%
25-49	10,335	50.7%	519,815	54.3%
50-64	5,705	28.0%	253,250	26.5%



Ward unemployment rates December 2018



Source: NOMIS Claimant Count
This map is produced by Strategic Commissioning - Analytics, Kent County Council
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This workbook looks at the total number of people claiming either Jobseekers Allowance or Universal Credit principally for the reason of being unemployed. It also looks at the age profile of claimants, in particular at youth unemployment which is defined as those aged 18 to 24.

This workbook uses information from a dataset called The Claimant Count by Sex and Age. This experimental series counts the number of people claiming Jobseeker's Allowance plus those who claim Universal Credit who are out of work. The dataset currently includes some out of work claimants of Universal Credit who are not required to look for work; for example, due to illness or disability. Therefore this dataset is considered experimental and the results should be interpreted with caution.

Unemployment rates are calculated using the Office for National Statistics Mid-year Population Estimates 2001-2017. The resident working age population is defined as all males and females aged 16-64. These denominators will be updated annually with the ONS mid-year population estimates.

Data back to December 2014 were revised by ONS on 18th October 2017. This bulletin contains these revisions and therefore supersedes any previously released data.

Introduction of Universal Credit

Since 2013 the roll out of Universal Credit has progressed across across the UK. Universal Credit will replace a number of means-tested benefits including the means-tested element of Jobseeker's Allowance (JSA).

From April 2015 Universal Credit started to be rolled out within Kent. It is now available in all Jobcentre areas in Kent & Medway. Initially it was only available to single claimants without a partner and without child dependents however in 2017 the full roll out of Universal Credit to all claimant types began. The following table shows the planned roll out within Kent districts.

As announced in June 2018 the government will start to migrate existing claimants of the benefits that are being replaced to Universal Credit early in 2019. It hopes to migrate all existing benefit claimants to Universal Credit by March 2023.

Date of roll

out	Job Centre Plus Office	District Served
May-17	Dover	Dover
Jul-17	Margate	Thanet
Jul-17	Ramsgate	Thanet
Dec-17	Sheerness	Swale
Dec-17	Sittingbourne	Swale
Feb-18	Gravesend	Gravesham
Feb-18	Gravesend	Sevenoaks (part)
Feb-18	Folkestone	Folkestone & Hythe
Feb-18	Chatham	Medway
Mar-18	Ashford	Ashford
Apr-18	Canterbury	Canterbury
Apr-18	Hernebay	Canterbury
Apr-18	Whitstable	Canterbury
May-18	Dartford	Dartford
May-18	Dartford	Sevenoaks (part)
Aug-18	Maidstone	Maidstone
Aug-18	Tonbridge	Tonbridge & Malling
Aug-18	Tonbridge	Tunbridge Wells

For more information on Universal Credit: <https://www.gov.uk/universal-credit>

Produced by:

Strategic Commissioning - Analytics,
Strategic & Corporate Services,
Kent County Council

Tel: 03000 417444



UK Business Counts 2018

Information on businesses in Kent

Related documents

[Business Demography](#) – Looking at the counts business activity during the course of the whole of the financial year

[Construction Industries in Kent](#) – the number of construction businesses in Kent and the people employed in the sector

[Creative Industries in Kent](#) - the number of creative businesses in Kent and the people employed in the sector

Further information

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The UK Business data is published annually by the Office for National Statistics (ONS) and is based on output from the VAT and PAYE administrative systems.

The information provided by the UK Business dataset gives a snap shot of businesses and is broken down by size band, industry, turnover and age of business.

An additional dataset from ONS is the Business Demography dataset. This is also based on VAT and PAYE data but this information measures any activity during the course of the year, so leads to slightly higher counts of businesses. It provides information on business births, deaths and survival rates.

Information on this dataset can be found in the bulletin “Business Demography”

Kent Summary

- As at March 2018 there were 61,255 enterprises in Kent
- Kent has a significantly higher proportion of enterprises (16.3%) in the wholesale industry than is seen nationally (12.4%)
- The highest proportion of enterprises in Kent (17.6%) are within the Professional, scientific and technical sector
- The majority of enterprises in Kent (89.7%) are micro enterprises (with 0-9 employees)
- The majority of enterprises in Kent (99.3%) are classed as companies which operate within the private sector.
- 62.7% of enterprises in Kent have a turnover of over £100k

Introduction

The UK Business data is produced from a snapshot of the Inter Departmental Business Register (IDBR) - usually taken during March - and provides the basis for the Office for National Statistics (ONS) to conduct surveys of businesses.

The main administrative sources for the IDBR are VAT trader and PAYE employer information passed to the ONS by HM Revenue & Customs under the Value Added Tax Act 1994 for VAT traders and the Finance Act 1969 for PAYE employers; details of incorporated businesses are also passed to ONS by Companies House. ONS Survey data and survey information from the Department of Enterprise, Trade and Investment – Northern Ireland (DETINI) and the Department for Environment, Food and Rural Affairs (DEFRA) farms register provide auxiliary information. Construction statistics formerly produced by the Department for Business Innovation & Skills are now produced by ONS.

The IDBR combines the information from the three administrative sources with this survey data in a statistical register comprising over two million enterprises. These comprehensive administrative sources combined with the survey data contribute to the coverage on the IDBR, which is one of its main strengths, representing nearly 99 per cent of UK economic activity.

The latest data is published for 2018 and is based upon the 2007 revision to the Standard Industrial Classification UKSIC (2007). Detailed information about the types of industry which make up each of the industrial sectors is available from the [UK Standard Industrial Classification of Economic Activities](#) published by the Office for National Statistics.

This bulletin looks at the main tables available from the UK Business data, which relate to VAT/PAYE enterprises.

This bulletin will be updated in Autumn 2019.

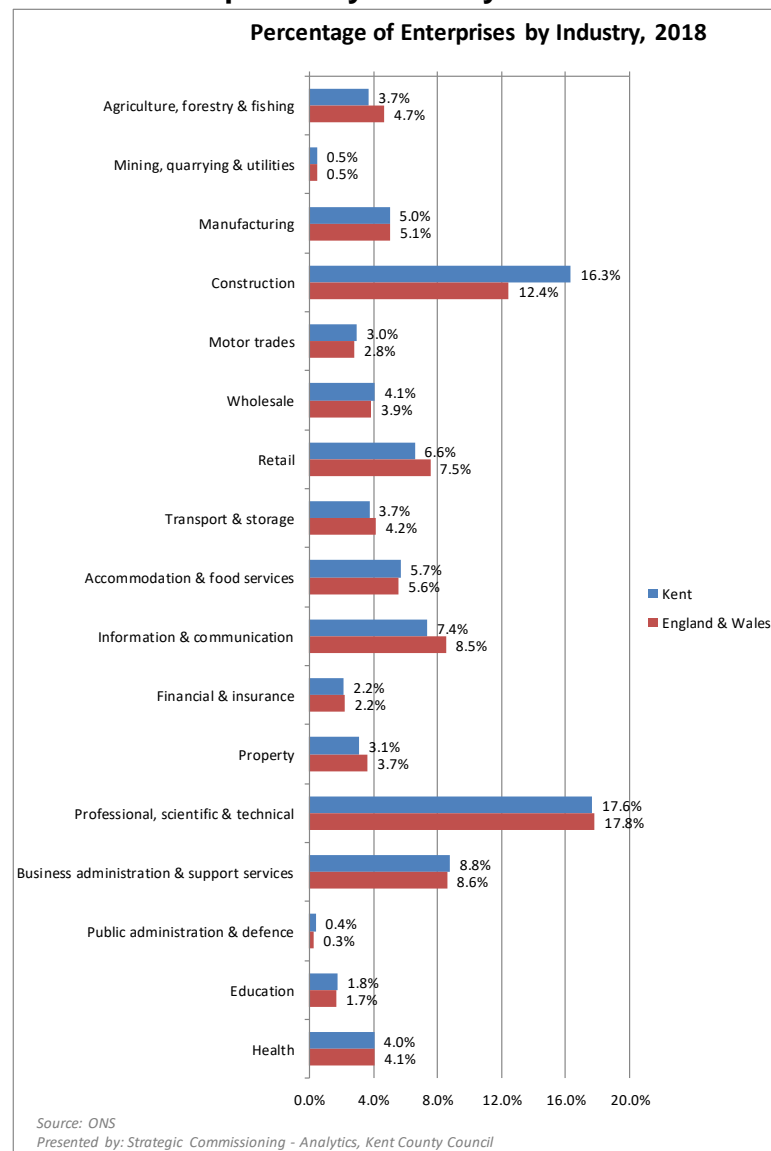
Analysis

Enterprises by Industry

The UK Business data shows us the number of enterprises by broad industrial group.

Overall Kent has a similar profile to England and Wales although does show a significantly higher proportion of enterprises in the Construction Industry and lower proportions in Agriculture and Fishing, Retail and Information & Communications industries. This is shown in Chart 1.

Chart 1: Enterprises by Industry



Tables 1 and 2 show the number and percentage of businesses by industry in Kent local authority districts and Kent as a whole. Regional and national figures are also presented for comparison.

Table 1: Number Of Vat And/or Paye Based Enterprises In 2018 By Broad Industrial Group

	UK SIC 2007																		
	Agriculture, forestry & fishing	Mining, quarrying & utilities	Manufacturing	Construction	Motor trades	Wholesale	Retail	Transport & storage	Accommodation & food services	Information & communication	Financial & insurance	Property	Professional, scientific & technical	Business administration & support services	Public administration & defence	Education	Health	Arts, entertainment, recreation & other services	Total
Ashford	410	30	330	870	170	475	370	160	250	405	345	210	975	535	40	85	240	305	6,205
Canterbury	175	20	230	765	150	205	440	130	410	355	85	195	905	425	15	105	255	395	5,265
Dartford	30	20	220	850	135	170	245	245	200	425	70	110	750	360	10	60	150	195	4,240
Dover	195	20	170	545	115	100	275	150	280	165	40	75	510	240	40	80	165	215	3,370
Folkestone & Hythe	205	10	165	575	120	110	295	120	335	210	40	125	610	295	15	60	155	235	3,670
Gravesham	45	15	195	805	115	105	260	320	235	250	45	105	545	340	5	70	165	205	3,830
Maidstone	300	40	370	1,360	235	295	395	390	320	465	125	230	1,260	620	30	125	305	420	7,295
Sevenoaks	200	25	310	990	200	275	370	135	250	625	160	245	1,390	655	25	115	205	400	6,580
Swale	230	40	325	920	185	170	315	250	325	250	60	135	655	385	25	80	195	275	4,820
Thanet	75	25	240	670	125	110	380	130	400	215	60	110	475	290	10	85	175	285	3,865
Tonbridge and Malling	135	30	270	935	165	245	280	170	235	515	150	165	1,200	570	25	105	230	320	5,745
Tunbridge Wells	285	20	245	700	115	255	410	95	265	635	145	210	1,525	670	20	120	245	410	6,365
Kent	2,280	300	3,075	9,990	1,830	2,515	4,035	2,295	3,500	4,515	1,320	1,915	10,800	5,380	260	1,095	2,480	3,660	61,255
Medway	75	40	450	1,785	275	320	615	505	475	575	110	210	1,260	685	10	170	410	450	8,410
Kent + Medway	2,355	340	3,525	11,770	2,105	2,835	4,645	2,805	3,975	5,085	1,430	2,125	12,060	6,065	270	1,270	2,890	4,110	69,660
South East LEP	6,010	800	9,020	29,865	5,330	6,780	11,370	6,750	8,930	12,740	3,325	5,500	28,460	14,520	585	3,055	6,805	10,085	169,930
South East Region	11,830	1,715	18,725	54,485	11,045	15,005	27,200	12,615	19,080	44,650	8,100	13,475	81,230	35,265	1,200	7,475	15,475	25,985	404,555
ENGLAND AND WALES	113,520	12,145	122,650	301,145	68,585	94,070	182,665	101,105	135,270	206,985	54,130	88,610	430,910	208,365	7,210	41,345	99,120	153,755	2,421,590

Source: ONS

Presented by: Strategic Commissioning - Analytics, Kent County Council

Table 2: Percentage Of Vat And/or Paye Based Enterprises In 2018 By Broad Industrial Group

	UK SIC 2007																	
	Agriculture, forestry & fishing	Mining, quarrying & utilities	Manufacturing	Construction	Motor trades	Wholesale	Retail	Transport & storage	Accommodation & food services	Information & communication	Financial & insurance	Property	Professional, scientific & technical	Business administration & support services	Public administration & defence	Education	Health	Arts, entertainment, recreation & other services
Ashford	6.6	0.5	5.3	14.0	2.7	7.7	6.0	2.6	4.0	6.5	5.6	3.4	15.7	8.6	0.6	1.4	3.9	4.9
Canterbury	3.3	0.4	4.4	14.5	2.8	3.9	8.4	2.5	7.8	6.7	1.6	3.7	17.2	8.1	0.3	2.0	4.8	7.5
Dartford	0.7	0.5	5.2	20.0	3.2	4.0	5.8	5.8	4.7	10.0	1.7	2.6	17.7	8.5	0.2	1.4	3.5	4.6
Dover	5.8	0.6	5.0	16.2	3.4	3.0	8.2	4.5	8.3	4.9	1.2	2.2	15.1	7.1	1.2	2.4	4.9	6.4
Gravesham	5.6	0.3	4.5	15.7	3.3	3.0	8.0	3.3	9.1	5.7	1.1	3.4	16.6	8.0	0.4	1.6	4.2	6.4
Maidstone	1.2	0.4	5.1	21.0	3.0	2.7	6.8	8.4	6.1	6.5	1.2	2.7	14.2	8.9	0.1	1.8	4.3	5.4
Sevenoaks	4.1	0.5	5.1	18.6	3.2	4.0	5.4	5.3	4.4	6.4	1.7	3.2	17.3	8.5	0.4	1.7	4.2	5.8
Shepway	3.0	0.4	4.7	15.0	3.0	4.2	5.6	2.1	3.8	9.5	2.4	3.7	21.1	10.0	0.4	1.7	3.1	6.1
Swale	4.8	0.8	6.7	19.1	3.8	3.5	6.5	5.2	6.7	5.2	1.2	2.8	13.6	8.0	0.5	1.7	4.0	5.7
Thanet	1.9	0.6	6.2	17.3	3.2	2.8	9.8	3.4	10.3	5.6	1.6	2.8	12.3	7.5	0.3	2.2	4.5	7.4
Tonbridge and Malling	2.3	0.5	4.7	16.3	2.9	4.3	4.9	3.0	4.1	9.0	2.6	2.9	20.9	9.9	0.4	1.8	4.0	5.6
Tunbridge Wells	4.5	0.3	3.8	11.0	1.8	4.0	6.4	1.5	4.2	10.0	2.3	3.3	24.0	10.5	0.3	1.9	3.8	6.4
Kent	3.7	0.5	5.0	16.3	3.0	4.1	6.6	3.7	5.7	7.4	2.2	3.1	17.6	8.8	0.4	1.8	4.0	6.0
Medway	0.9	0.5	5.4	21.2	3.3	3.8	7.3	6.0	5.6	6.8	1.3	2.5	15.0	8.1	0.1	2.0	4.9	5.4
Kent + Medway	3.4	0.5	5.1	16.9	3.0	4.1	6.7	4.0	5.7	7.3	2.1	3.1	17.3	8.7	0.4	1.8	4.1	5.9
South East LEP	3.5	0.5	5.3	17.6	3.1	4.0	6.7	4.0	5.3	7.5	2.0	3.2	16.7	8.5	0.3	1.8	4.0	5.9
South East Region	2.9	0.4	4.6	13.5	2.7	3.7	6.7	3.1	4.7	11.0	2.0	3.3	20.1	8.7	0.3	1.8	3.8	6.4
ENGLAND AND WALES	4.7	0.5	5.1	12.4	2.8	3.9	7.5	4.2	5.6	8.5	2.2	3.7	17.8	8.6	0.3	1.7	4.1	6.3

Source: ONS

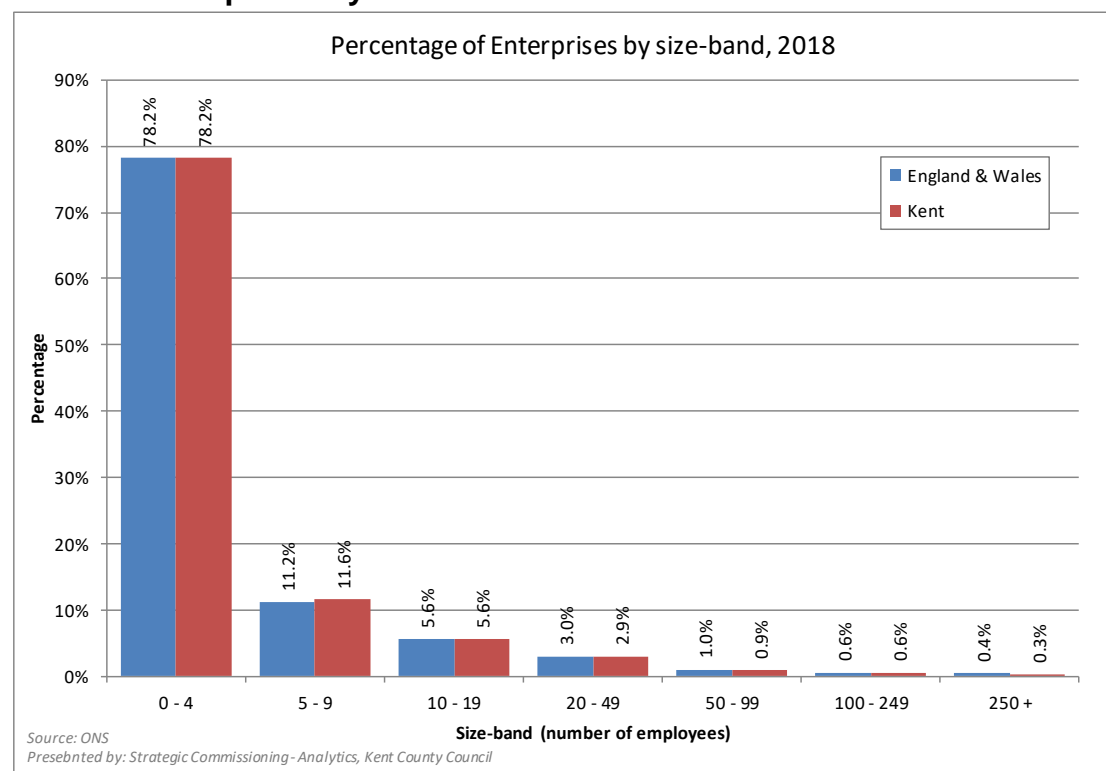
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Enterprises by employee size

The majority of enterprises are classed as micro businesses i.e. they have 0 - 9 employees. In Kent 89.7% of enterprises are classed as micro, 89.5% in England and Wales.

Chart 2 shows the proportion of enterprises in Kent and England and Wales by employment size.

Chart 2: Enterprises by sizeband



Tables 3 and 4 show an even greater breakdown of the number and percentage of enterprises by the number of employees.

The data shows that while the majority of enterprises are micro businesses employing up to 9 people, most of these actually have 0 - 4 employees (87.1% of micro businesses in Kent).

Kent has the same proportion of enterprises with 0 – 4 employees, and a slightly higher proportion with 5 – 9 employees than is seen nationally.

Table 3: Number Of Vat And/or Paye Based Enterprises In 2016 By Employment Size

	Employment size							TOTAL
	0 - 4	5 - 9	10 - 19	20 - 49	50 - 99	100 - 249	250 +	
Ashford	4,995	670	285	160	50	25	20	6,205
Canterbury	3,990	670	320	175	55	25	30	5,265
Dartford	3,395	415	210	120	50	30	20	4,240
Dover	2,530	460	215	105	35	25	5	3,370
Folkestone & Hythe	2,800	490	205	120	30	15	10	3,670
Gravesham	3,050	450	170	100	25	20	10	3,830
Maidstone	5,690	820	435	200	70	50	30	7,295
Sevenoaks	5,230	725	345	180	55	25	20	6,580
Swale	3,670	610	300	135	45	40	15	4,820
Thanet	2,935	505	230	125	30	30	5	3,865
Tonbridge and Malling	4,495	610	335	195	60	30	25	5,745
Tunbridge Wells	5,090	645	350	190	55	25	10	6,365
Kent	54,540	7,995	3,875	2,000	635	390	230	61,255
Medway	47,875	7,080	3,400	1,795	565	340	200	8,410
Kent + Medway	6,665	915	475	205	70	50	35	69,660
South East LEP	133,990	18,970	9,280	4,775	1,540	865	510	169,930
South East Region	321,210	42,680	21,610	11,480	3,765	2,270	1,535	404,555
ENGLAND AND WALES	1,893,935	272,190	136,415	72,265	23,995	13,490	9,305	2,421,590

Source: ONS

Presented by: Strategic Commissioning - Analytics, Kent County Council

Table 4: Percentages Of Vat And/or Paye Based Enterprises In 2018 By Employment Size

	Employment size							TOTAL
	0 - 4	5 - 9	10 - 19	20 - 49	50 - 99	100 - 249	250 +	
Ashford	80.5	10.8	4.6	2.6	0.8	0.4	0.3	100
Canterbury	75.8	12.7	6.1	3.3	1.0	0.5	0.6	100
Dartford	80.1	9.8	5.0	2.8	1.2	0.7	0.5	100
Dover	75.1	13.6	6.4	3.1	1.0	0.7	0.1	100
Gravesham	76.3	13.4	5.6	3.3	0.8	0.4	0.3	100
Maidstone	79.6	11.7	4.4	2.6	0.7	0.5	0.3	100
Sevenoaks	78.0	11.2	6.0	2.7	1.0	0.7	0.4	100
Shepway	79.5	11.0	5.2	2.7	0.8	0.4	0.3	100
Swale	76.1	12.7	6.2	2.8	0.9	0.8	0.3	100
Thanet	75.9	13.1	6.0	3.2	0.8	0.8	0.1	100
Tonbridge and Malling	78.2	10.6	5.8	3.4	1.0	0.5	0.4	100
Tunbridge Wells	80.0	10.1	5.5	3.0	0.9	0.4	0.2	100
Kent	89.0	13.1	6.3	3.3	1.0	0.6	0.4	100
Medway	569.3	84.2	40.4	21.3	6.7	4.0	2.4	100
Kent + Medway	9.6	1.3	0.7	0.3	0.1	0.1	0.1	100
South East LEP	78.9	11.2	5.5	2.8	0.9	0.5	0.3	100
South East Region	79.4	10.5	5.3	2.8	0.9	0.6	0.4	100
ENGLAND AND WALES	78.2	11.2	5.6	3.0	1.0	0.6	0.4	100

Source: ONS

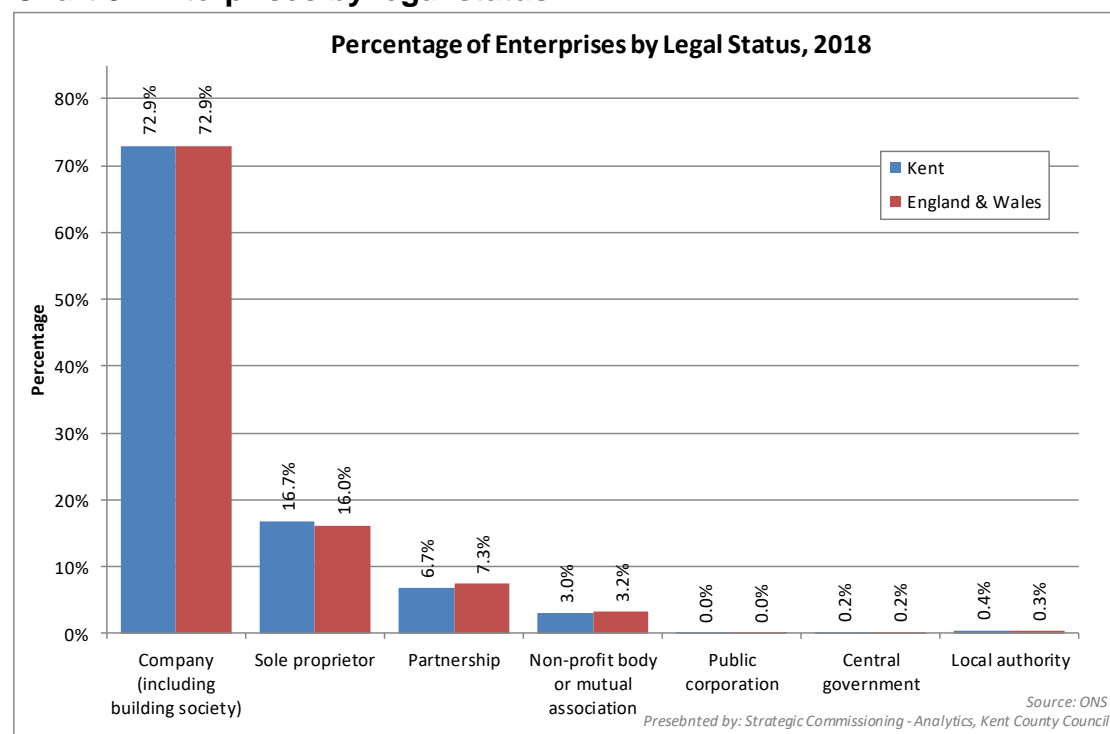
Presented by: Strategic Commissioning - Analytics, Kent County Council

Enterprise by status

The data also shows the number of enterprises by legal status. The legal status of units is classified by ONS in accordance with National Accounts Sector Classifications. All enterprises engage in financial transactions, paying out and receiving money for reasons such as buying and selling goods and services, paying taxes, or collecting tax revenues. Using information received from Companies House and the administrative sources from HM Revenue & Customs, the National Accounts Sector Classification determines whether a body or enterprise is in the private or public sector, and if public, whether they are government bodies or public corporations, and whether certain transactions count as taxes or service fees.

Chart 3 shows the proportion of enterprises by legal status in Kent compared to England and Wales in 2018.

Chart 3: Enterprises by legal status



The majority of enterprises are private sector companies. In Kent they account for 72.9% of all enterprises, the same as England and Wales as a whole.

Kent has a slightly higher proportion of sole proprietor enterprises (16.7%) than is seen nationally and a slightly lower proportion of partnerships (6.7%).

Tables 5 and 6 show the legal status of enterprises in Kent local authority districts and Kent as a whole. They also present information at regional and national level for comparison.

Table 5: Number Of Vat And/or Paye Based Enterprises In 2018 By Employment Status

	Private sector				Public sector			TOTAL
	Company (including building society)	Sole proprietor	Partnership	Non-profit body or mutual association	Public corporation	Central government	Local authority	
Ashford	4,250	985	500	420	0	10	40	6,205
Canterbury	3,625	990	440	180	0	10	20	5,265
Dartford	3,455	505	140	115	0	15	10	4,240
Dover	2,015	815	385	105	5	10	40	3,370
Folkestone & Hythe	2,450	780	325	90	0	10	15	3,670
Gravesham	3,020	555	160	75	0	10	10	3,830
Maidstone	5,415	1,170	485	175	0	10	35	7,295
Sevenoaks	5,085	970	345	145	0	5	30	6,580
Swale	3,400	900	350	125	0	15	30	4,820
Thanet	2,630	800	310	100	0	15	10	3,865
Tonbridge and Malling	4,480	795	285	150	0	5	30	5,745
Tunbridge Wells	4,820	950	400	175	0	5	20	6,365
Kent	44,655	10,215	4,130	1,855	5	120	275	61,255
Medway	6,380	1,360	410	215	0	30	10	8,410
Kent + Medway	51,035	11,570	4,540	2,070	5	150	290	69,660
South East LEP	126,590	26,935	11,105	4,315	10	360	620	169,930
South East Region	307,465	59,780	23,950	11,440	15	550	1,350	404,555
ENGLAND AND WALES	1,766,460	388,100	177,770	76,910	160	3,890	8,300	2,421,590

Source: ONS

Presented by: Strategic Commissioning - Analytics, Kent County Council

Turnover

Turnover figures provided to ONS for the majority of traders is based on VAT returns for a 12 month period. For 2018 this relates to a 12 month period covering the financial year 2017/2018. For other records, in particular members of VAT group registrations, turnover may relate to an earlier period or survey data.

For traders who have registered more recently, turnover represents the estimate made by traders at the time of registration.

The turnover figures on the register generally exclude VAT but include other taxes, such as the revenue duties on alcoholic drinks and tobacco. They represent total UK turnover, including exempt and zero-rated supplies.

Turnover bands shown in the analyses relate to the latest year for which information is available. Traders may be registered below the VAT threshold or may choose not to de-register should their turnover fall below the threshold.

Table 7 shows the VAT registration thresholds since 2004/05.

Table 7 - VAT registration thresholds

Operative dates	VAT Registration Threshold
1 Apr 2004 - 31 Mar 2005	£58,000
1 Apr 2005 - 31 Mar 2006	£60,000
1 Apr 2006 - 31 Mar 2007	£61,000
1 Apr 2007 - 31 Mar 2008	£64,000
1 Apr 2008 - 31 Mar 2009	£67,000
1 Apr 2009 - 31 Mar 2010	£68,000
1 Apr 2010 - 31 Mar 2011	£70,000
1 Apr 2011 - 31 Mar 2012	£73,000
1 Apr 2012 - 31 Mar 2013	£77,000
1 Apr 2013 - 31 Mar 2014	£79,000
1 Apr 2014 - 31 Mar 2015	£81,000
1 Apr 2015 - 31 March 2016	£82,000
1 Apr 2016 - 31 March 2017	£83,000
1 Apr 2017 - 31 March 2018	£85,000
1 Apr 2018 onwards	£85,000

Source: HMRC

33.2% of enterprises in Kent have a turnover of between £100k and £249k. In Kent a higher proportion of enterprises have a turnover of over £100k than is seen nationally. This is shown in chart 4.

Tables 8 and 9 present the turnover data for Kent local authority districts and Kent as a whole. Regional and national figures are also presented for comparison.

Chart 4

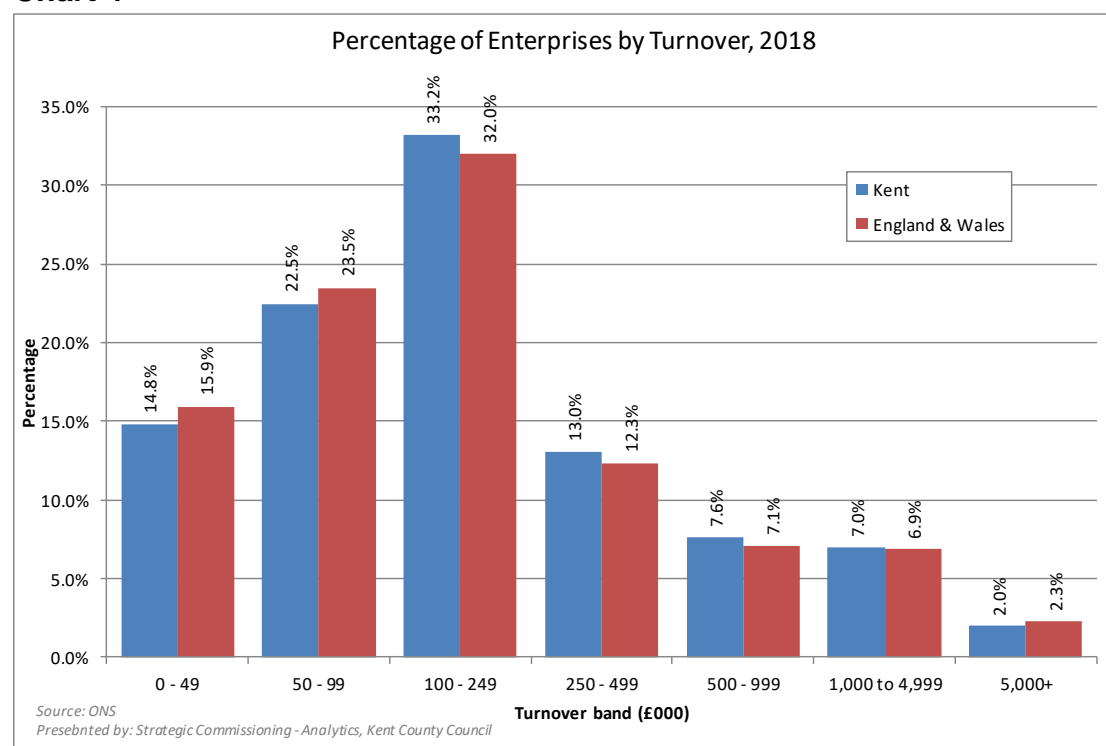


Table 8: Number Of Vat And/or Paye Based Enterprises In 2018 By Turnover Sizeband

	Turnover size (£ thousand)							TOTAL
	0 to 49	50 to 99	100 to 199	200 to 499	500 to 999	1,000 to 4,999	5,000+	
Ashford	1,225	1,295	1,850	810	525	405	95	6,205
Canterbury	735	1,195	1,780	685	415	360	95	5,265
Dartford	575	1,080	1,395	485	275	310	120	4,240
Dover	510	720	1,095	475	285	240	50	3,370
Folkestone & Hythe	570	845	1,275	460	245	230	45	3,670
Gravesham	585	970	1,245	480	250	250	55	3,830
Maidstone	1,115	1,605	2,330	975	585	525	160	7,295
Sevenoaks	875	1,370	2,320	845	515	495	165	6,580
Swale	675	1,150	1,495	665	400	340	90	4,820
Thanet	485	905	1,355	545	280	245	55	3,865
Tonbridge and Malling	800	1,235	1,930	740	420	460	160	5,745
Tunbridge Wells	920	1,390	2,235	825	450	415	130	6,365
Kent	9,070	13,760	20,310	7,980	4,650	4,270	1,220	61,255
Medway	1,245	2,145	2,610	1,030	660	565	160	8,410
Kent + Medway	10,315	15,900	22,920	9,010	5,310	4,835	1,370	69,660
South East LEP	24,545	39,210	56,695	21,850	12,525	11,740	3,365	169,930
South East Region	62,330	92,600	135,775	49,070	28,370	27,375	9,040	404,555
ENGLAND AND WALES	386,205	568,870	774,035	298,325	171,895	166,485	55,770	2,421,590

Source: ONS

Presented by: Strategic Commissioning - Analytics, Kent County Council

Table 9: Percentage Of Vat And/or Paye Based Enterprises In 2018 By Turnover Sizeband

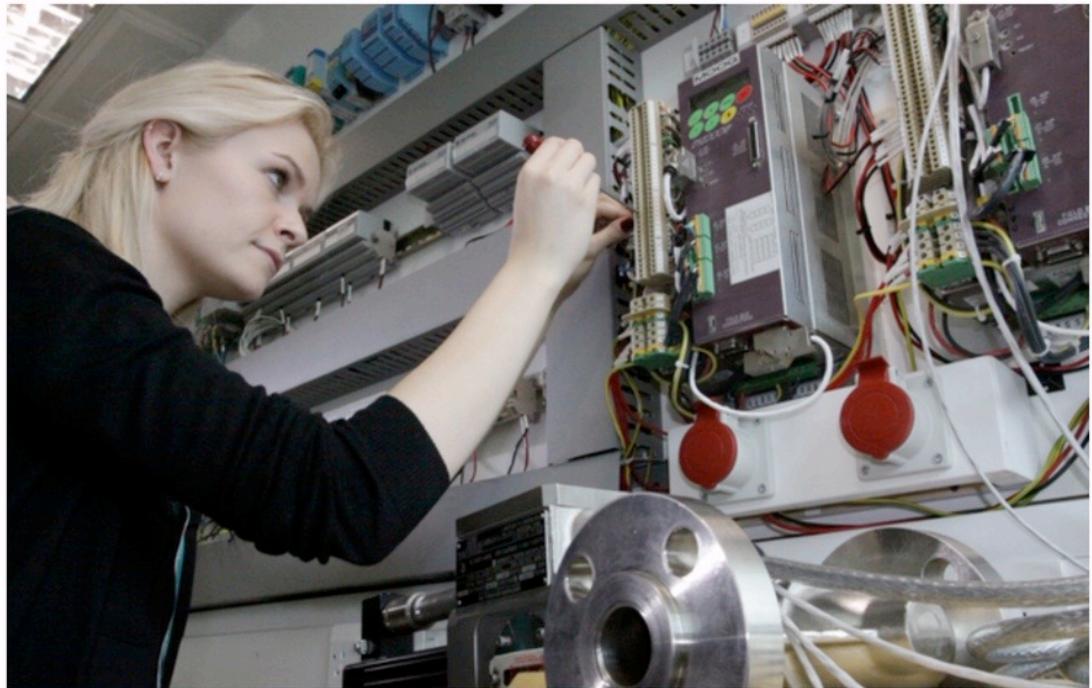
	Turnover size (£ thousand)							TOTAL
	0 to 49	50 to 99	100 to 199	200 to 499	500 to 999	1,000 to 4,999	5,000+	
Ashford	19.7	20.9	29.8	13.1	8.5	6.5	1.5	100
Canterbury	14.0	22.7	33.8	13.0	7.9	6.8	1.8	100
Dartford	13.6	25.5	32.9	11.4	6.5	7.3	2.8	100
Dover	15.1	21.4	32.5	14.1	8.5	7.1	1.5	100
Gravesham	15.5	23.0	34.7	12.5	6.7	6.3	1.2	100
Maidstone	15.3	25.3	32.5	12.5	6.5	6.5	1.4	100
Sevenoaks	15.3	22.0	31.9	13.4	8.0	7.2	2.2	100
Shepway	13.3	20.8	35.3	12.8	7.8	7.5	2.5	100
Swale	14.0	23.9	31.0	13.8	8.3	7.1	1.9	100
Thanet	12.5	23.4	35.1	14.1	7.2	6.3	1.4	100
Tonbridge and Malling	13.9	21.5	33.6	12.9	7.3	8.0	2.8	100
Tunbridge Wells	14.5	21.8	35.1	13.0	7.1	6.5	2.0	100
Kent	14.8	22.5	33.2	13.0	7.6	7.0	2.0	100
Medway	14.8	25.5	31.0	12.2	7.8	6.7	1.9	100
Kent + Medway	14.8	22.8	32.9	12.9	7.6	6.9	2.0	100
South East LEP	14.4	23.1	33.4	12.9	7.4	6.9	2.0	100
South East Region	15.4	22.9	33.6	12.1	7.0	6.8	2.2	100
ENGLAND AND WALES	15.9	23.5	32.0	12.3	7.1	6.9	2.3	100

Source: ONS

Presented by: Strategic Commissioning - Analytics, Kent County Council

Skills shortage costing STEM sector £1.5bn

17TH MAY 2018 07:00



- current shortfall of 173,000 skilled workers as 89% of STEM businesses struggle to recruit
- new STEM roles expected to double in next 10 years: businesses warn of economic impact if skills shortage continues
- STEM Learning calls for businesses to join its efforts to grow the future STEM workforce

UK STEM businesses have warned of a growing skills shortage as they struggle to recruit qualified workers in science, technology, engineering and mathematical fields.

According to new findings from STEM Learning, the largest provider of STEM education and careers support in the UK, the shortage is costing businesses £1.5 billion a year in recruitment, temporary staffing, inflated salaries and additional training costs.

The STEM Skills Indicator¹ reveals that nine in 10 (89%) STEM businesses have found it difficult to hire staff with the required skills in the last 12 months, leading to a current shortfall of over 173,000 workers - an average of 10 unfilled roles per business.

The findings come as the UK is entering the 'Fourth Industrial Revolution'², a time of significant technological, economic and societal change, along with a Brexit outcome that remains uncertain, and severe funding challenges in schools.

As a result, the recruitment process is taking much longer for the majority (89%) of STEM employers – an average of 31 days more than expected – forcing many to turn to expensive temporary staffing solutions (74%), hire at lower levels (65%) and train staff in-house (83%) or inflate salaries (76%) by as much as £8,500 in larger companies to attract the right talent.

Almost half (48%) of STEM businesses are looking abroad to find the right skills, while seven in 10 (70%) are hiring candidates without a STEM background or simply leaving positions empty (60%).

Businesses are concerned about the outlook too. Over half (56%) expect the shortage to worsen over the next 10 years, with expansion in the sector set to nearly double the number of new STEM roles required.

Employers are concerned that the UK could fall behind other countries in terms of technological advancement (54%) or lose its research and development credentials (43%), while others warn a lack of talent could put off foreign investment in the sector (50%).

Building the future pipeline of skills will therefore be key to maintaining the UK's standing in the STEM sector. Low awareness of the jobs available (31%) and a lack of meaningful work experience opportunities (35%) are identified by businesses facing recruitment challenges as key barriers to young people considering STEM careers.

In a rapidly changing technological environment, the UK government is planning to invest over £400 million in mathematics, digital and technical education³, but businesses will also need to start investing in a sustainable pipeline of talent now.

Nearly one in five STEM businesses (18%) that are finding it difficult to recruit admit that employers need to do more to attract talent to the sector. STEM Learning is therefore calling for businesses to join its efforts to inspire young people in local schools and colleges and help grow the future workforce.

Yvonne Baker, Chief Executive, STEM Learning said:

"We are heading towards a perfect storm for STEM businesses in the UK - a very real skills crisis at a time of uncertainty for the economy and as schools are facing unprecedented challenges.

"The shortage is a problem for employers, society and the economy, and in this age of technological advancement the UK has to keep apace. We need to be in a better position to home grow our talent but it cannot be left to government or schools alone – businesses have a crucial role to play too.

"STEM Learning bridges the gap between businesses and schools. By working with us to invest in teachers in local schools and colleges, employers can help deliver a world-leading STEM education, inspiring young people and building the pipeline of talent in their area, making it a win-win for everyone."

View our executive summary or email employer@stem.org.uk to find out how you can help reduce the skills shortage.

TEN SCIENCE FACTS & FICTIONS:

The Case for Early Education about STEM Careers

Overview

Science, Technology, Engineering and Mathematics (STEM) are vital for the economic and cultural life of the UK. Ensuring high levels of scientific literacy across the general public and an appropriate supply of STEM professionals for the future is crucial – and how this is approached must be based on the most substantial and reliable evidence available.

This document summarises current, high-quality, international research evidence from the fields of science and mathematics education and makes recommendations for change. Through the presentation of ten ‘facts and fictions’, we make a case for the pressing need to integrate an awareness of STEM careers into the mainstream school curriculum. We believe this will help increase young people’s understanding and engagement with STEM, both at school and in later life. Our discussion primarily addresses the education system in England, but has points of relevance for other countries.

Evidence is drawn from international research literature and new findings from a major, 5-year longitudinal research study, funded by the Economic and Social Research Council, currently being conducted in England (the ASPIRES project¹).

Fact or fiction?

- 01 ‘Liking science is not enough’
- 02 ‘Science is only for the most able’
- 03 “If I do science, I have to be a scientist”
- 04 ‘Children think all scientists are geeks’
- 05 ‘It is very hard to change people’s stereotypical views of science’
- 06 ‘One-size-fits-all approaches to STEM careers education are sufficient’
- 07 ‘Artistic children don’t choose science’
- 08 ‘Boys are naturally more interested in the physical sciences than girls’
- 09 ‘You can never start careers awareness too early’
- 10 ‘Science is a route to social mobility’

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ASPIRES

Science and career aspirations: age 10:14

ASPIRES (Science and career aspirations: age 10:14) is funded by the Economic and Social Research Council (ESRC) and is part of the ESRC's Targeted Initiative on Science and Mathematics Education (TISME), in partnership with the Gatsby Charitable Foundation, the Institute of Physics and the Association for Science Education: <http://tisme-scienceandmaths.org>

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'Liking science is not enough'

FACT:

Evidence from a UK survey of over 9,000 pupils aged 10/11 shows that even though the vast majority of children at this age enjoy science at school; have parents who are supportive of them studying science; hold positive views of scientists and even undertake science-related activities in their spare time; nevertheless, very few (less than 17%) aspire to a career in science². Studies also indicate that, after the age of 10/11, children's science attitudes start to decline (notably from ages 10-14)³ with a further diminishing of science aspirations. Consequently, it would seem that even from a young age, many pupils may not envisage continuing with science post-16 as it does not fit with their future aspirations.

Thus increasing participation in science at higher levels is not simply a matter of increasing young people's interest in science or making it more 'fun'. There is a disconnect between interest and aspirations, with research showing that even those who enjoy science and do well, can decide from an early age that science is 'not for me'. Research

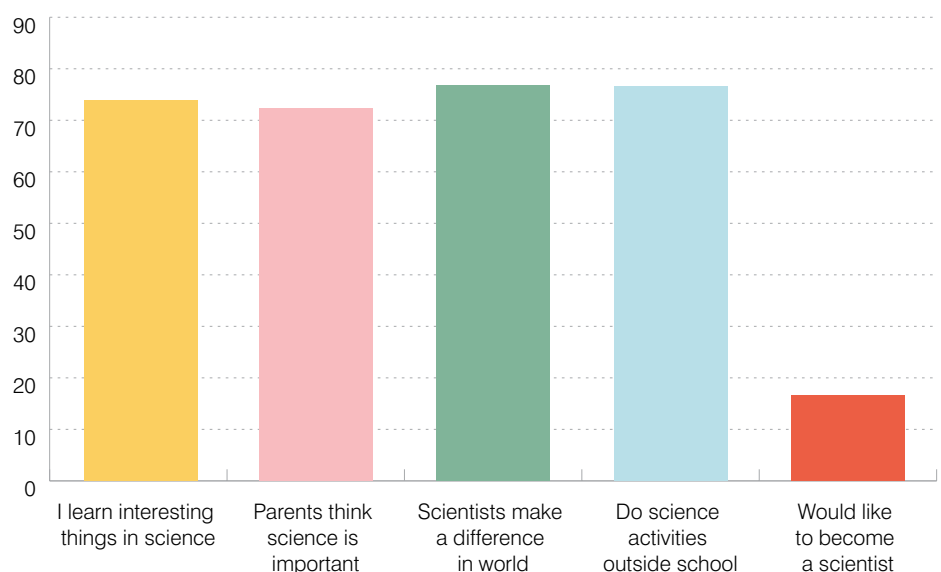
shows that young people's aspirations are strongly influenced by their social backgrounds (e.g. by 'race'/ ethnicity, social class and gender) and family contexts⁴, where identity and cultural factors play an important role in shaping the perception of science as 'not for me'⁵.

Consequently, more needs to be done to make science a 'conceivable' career option for a broader range of pupils, such as incorporating explicit teaching about STEM-related career opportunities into Key Stage 3 lessons.

Although there is an intrinsic value in ensuring that children are engaged by academic subjects at school, the potential for raising participation rates through making subjects more 'fun' is far from clear-cut. International comparative data⁶ suggests that the relationship between enjoyment of a subject, attainment and participation rates is highly complex and varies considerably between nations. For instance, countries with high attainment and participation rates in mathematics (such as Japan) also record amongst the lowest levels of student liking for the subject.

Fig. 1:

Percentage of 10/11 year olds in England agreeing or strongly agreeing with statements



‘Science is only for the most able’

FACT & FICTION:

Evidence suggests that science is widely perceived by children and parents as ‘hard’ and scientists are associated with ‘cleverness’⁷. These associations contribute to science careers being seen as different, unusual and ‘not for me’ from an early age – even before the end of primary school⁸. Currently careers in and from science are not commonly perceived as ‘for all’, which discourages many children from developing science aspirations.

Despite some useful reforms in national science curricula to broaden the nature, content and appeal of taught science at GCSE level (e.g. through growth in vocational learning routes and apprenticeships), it seems that not all courses are afforded equal status. The most prestigious school science qualifications (e.g. ‘Triple Science’) are still those which are seen as the most academic and demanding⁹. Moreover, the current range of post-16 science qualifications remains exceedingly narrow and works against broadening participation. For instance, there are few post-16 science qualification routes for those who do not wish to follow the traditional A Level route¹⁰.

Science education policy has been strongly criticised for assuming that its primary importance is to prepare the next generation of the nation’s professional scientists (the ‘science pipeline’ model)¹¹. Critics emphasise that the scientific literacy of the public is an equal, if not more, important goal of science education¹² and argue that it is questionable whether this goal is reflected in the current narrow range of post-16 science routes.

STEM plays a crucial role in national wealth creation¹³, but evidence suggests that the ‘pool’ from which future

scientists are drawn remains too narrow (especially in the physical sciences)¹⁴. For instance, even highly able individuals (notably women, working-class and some minority ethnic learners) can find it difficult to envisage themselves as ‘science people’, particularly when their backgrounds do not ‘fit’ the public profile of the wider science workforce¹⁵. A shared policy commitment to ‘science for all’ could help attract more diverse talent to help STEM fulfil its national economic remit.

Currently careers in and from science are not commonly perceived as ‘for all’, which discourages many children from developing science aspirations.

“If I do science, I have to be a scientist”

FACT & FICTION:

Although there are a wealth of career opportunities from science, evidence shows that children in both primary¹⁶ and secondary¹⁷ schools in England tend to conceive of science as leading to an extremely limited range of careers (notably scientist, science teacher or doctor)¹⁸. This lack of knowledge of the breadth of careers in science appears to be affecting science aspirations and participation rates. This issue is particularly acute for families with little ‘science capital’ (i.e. qualifications, knowledge, connections and interest in science)¹⁹, and who are particularly likely to be from White and Black working-class backgrounds. The existing research evidence makes a strong case for more work to be undertaken to:

- a increase levels of science capital in an increased and more diverse range of families;
- b integrate awareness about the breadth of careers from science into the primary and secondary curriculum

- c publicise how science and mathematics qualifications ‘keep options open’ rather than closing them down. That is, **more children and families would benefit from understanding that science and mathematics qualifications have a strong exchange value in the education and labour market and are not purely specialist routes leading to a narrow range of careers in science.** Indeed, evidence suggests that science and mathematics can be highly transferable qualifications in the job market, with demand set to increase²⁰, but many young people and families are unaware of this.

Useful work is currently being undertaken to provide teachers and schools with appropriate resources to help them in communicating these messages²¹.

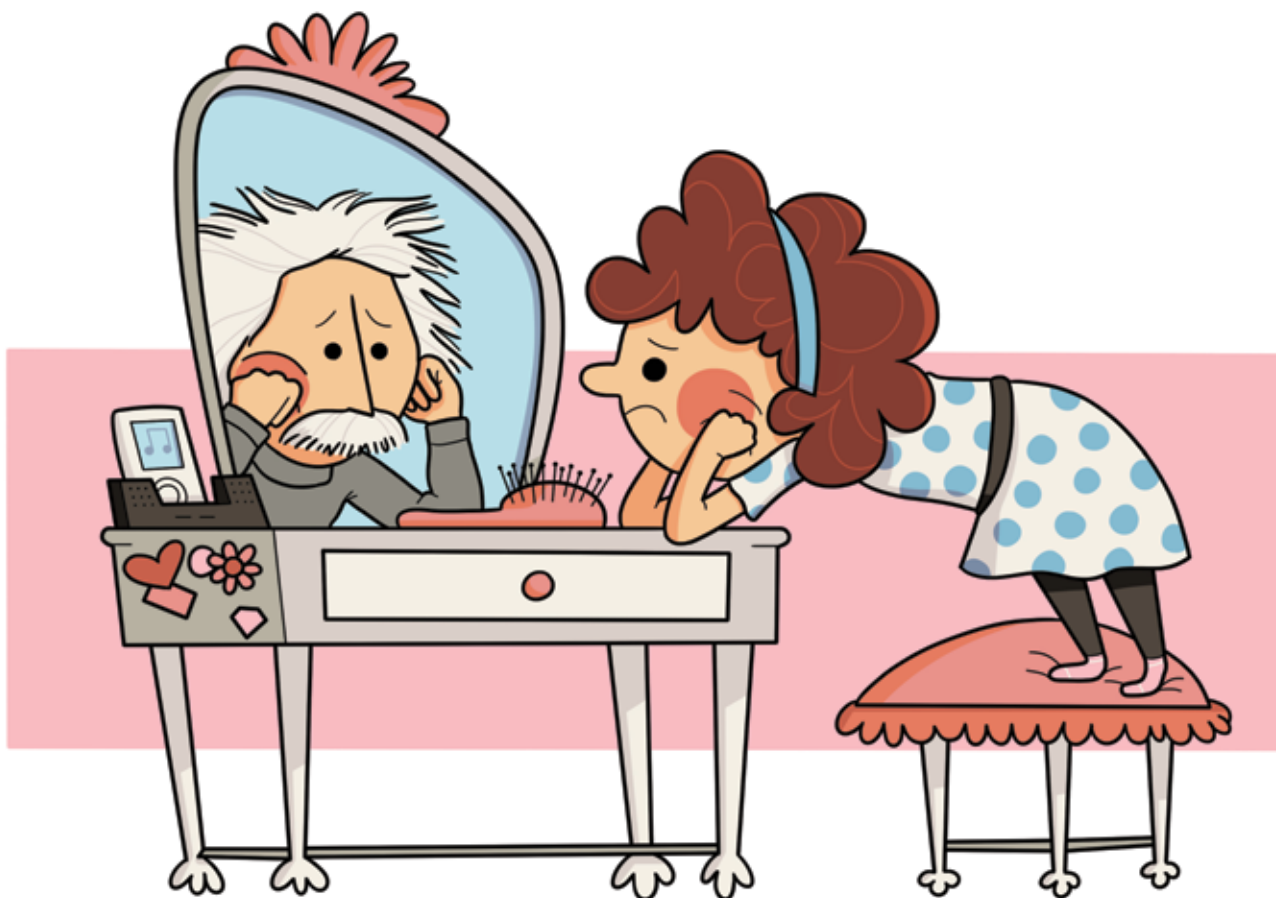


‘Children think all scientists are geeks’

FICTION:

Research shows that children and their parents hold quite complex views of science and scientists and that at age 10/11, these views are largely positive²². For instance, scientists are associated with doing important work (such as finding medical cures) that is often well paid. However, this research also shows that even positive stereotypes can be problematic and can lead to people seeing science as ‘Other’, only for the exceptional, and ‘not for me’. Prevalent popular associations of science with cleverness can make it seem out of reach for many and can feed into, and sustain, more negative stereotypes, such as science as being for geeks/herds²³.

While most children are able to see beyond the ‘wild-haired, white-coated’ scientist stereotype, they still only recognise a very small number of ‘famous’ scientists, who are overwhelmingly white men such as Einstein and Newton or TV personalities such as Sir David Attenborough and Professor Brian Cox (with very few women and/or minority ethnic scientists identified).



‘It is very hard to change people’s stereotypical views of science’

FACT & FICTION:

Evidence suggests that the factors influencing young people’s views of science are complex and that the relationship between their views of science and the likelihood of their participation is also far from straightforward. For instance, research shows that while most children express views such as ‘anyone can do science’, these views seem not to translate into personal choices to study science²⁴. Research²⁵ also tells us that young people’s views of science and their science aspirations are not just ‘rational’ (e.g. determined by a logical calculation of available information or based on an impartial assessment of one’s abilities). Rather, they are highly influenced by personal experiences and a range of emotional, identity-based and cultural factors, which shape what ‘feels right’. This often means that people’s views can be resistant to change. It also means that simply providing alternative (or ‘positive’) stereotypes and images of science and scientists is often insufficient for changing people’s behaviour, choices and aspirations. However, evidence shows that approaches can be successful in changing people’s understandings where in-depth work is done with young people to enable them to deconstruct stereotypical, traditionally held views and ways of seeing the world²⁶.

...research shows that while most children express views such as ‘anyone can do science’, these views seem not to translate into personal choices to study science.

‘One-Size-Fits-All’ approaches to STEM careers education are sufficient’

FICTION:

Research evidence shows that the way in which educational information is presented matters – and that educational decision-making processes can vary dramatically between different social groups²⁷. Children and their families have differential access to, and make differential use of, particular forms of knowledge.

For instance, **the presentation of ‘cold’²⁸ (formalised, abstracted) knowledge on its own (e.g. through documents, prospectuses, the internet) is not always sufficient to change patterns of educational choice, particularly in the case of working-class learners. Working-class families tend to give more weight to ‘hot’ (interpersonal, ‘grapevine’) knowledge, particularly from known and trusted sources²⁹**. Middle-class families tend to benefit from possessing much greater ‘science capital’ to assist them in making educational choices and tend to be more skilled and adept at making use of ‘cold’ information. This suggests that working more broadly with young people, their families and social networks (rather than solely targeting children as individual, de-contextualised, information processors

and decision-makers) may provide a more useful way of ‘growing’ science aspirations and helping young people to perceive careers from science as conceivable and achievable.

Evidence is emerging to suggest that appropriately structured and supported interactions – sensitive and tailored to the locality and diversity of individuals concerned³⁰ – can be effective. Such approaches emphasise the importance of going beyond a simplistic engagement with ‘role models’ or ‘mentoring’³¹. Increasing engagement between young people and the wider world of work – through ambassador schemes, work placements and wider engagement between education and employers – can provide young people with direct knowledge, experiences and connections about particular careers areas and can translate into improved employment and earning outcomes³². Such collaborations between schools and external agencies could also usefully explore ways of enhancing children’s and families’ science capital and science career aspirations.



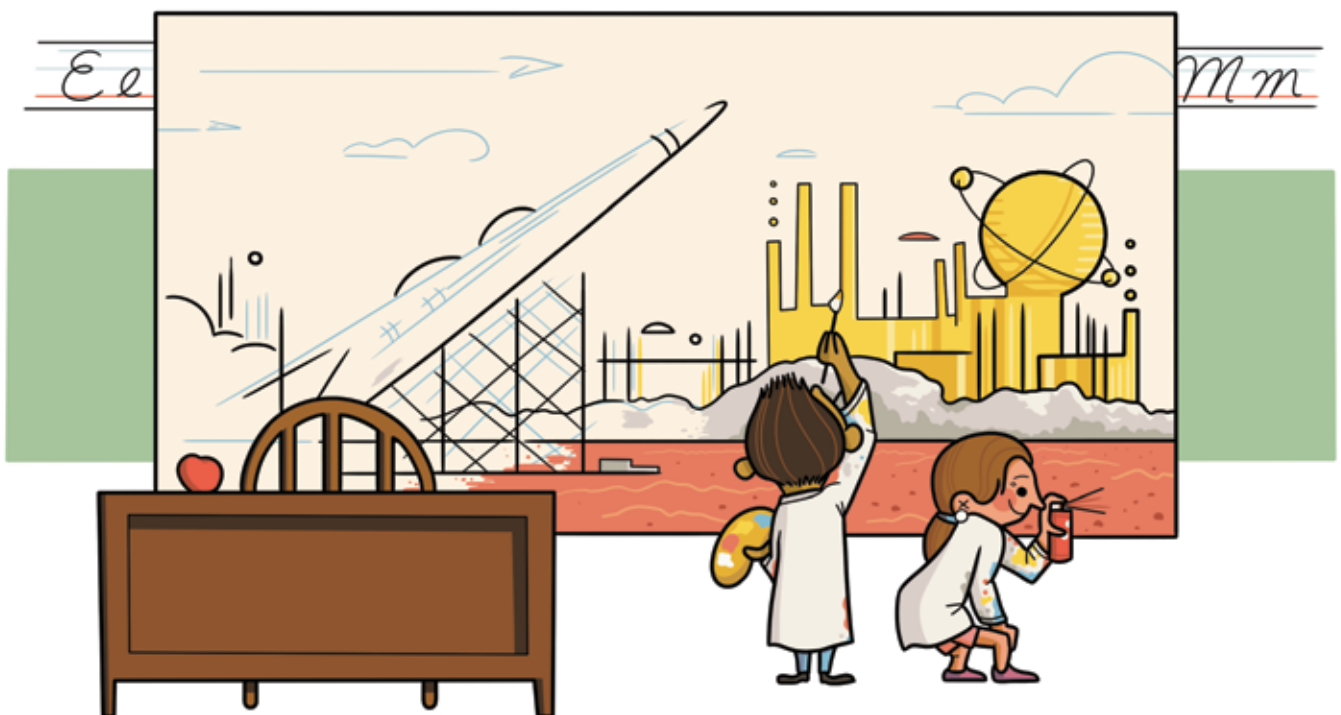
‘Artistic children don’t choose science’

FACT & FICTION:

Evidence shows that from an early age children and parents perceive an arts vs. science divide, which C.P. Snow famously termed the Two Cultures. Even in cases where children may be interested in and adept at science, family perceptions of them as ‘arty’/‘creative’ can encourage these children not to see a career in science as attractive or ‘for me’. England has a particular culture of specialisation (with sciences being seen as highly specialised routes, antithetical to ‘the arts’) that would appear to contribute to lower post-16 science participation rates, as compared to other national contexts where there is a culture/ tradition of taking a more ‘rounded’ set of subjects (e.g. Scotland). Although the extent of

actual divisions between the arts and sciences is a moot point (for instance, various organisations are committed to demonstrating the scope for creativity within STEM; and there are numerous careers which combine arts/ design and STEM expertise), popular public discourses in England maintain a fairly rigid divide, which contributes to a channelling of children’s aspirations from a young age.

While legislating to ‘force’ young people to follow particular educational routes can create an ‘army of reluctant conscripts’³³, moves to encourage a more ‘holistic’ culture within English education (combining both breadth and depth) would appear overdue.



‘Boys are naturally more interested in the physical sciences than girls’

FICTION:

Gender patterns in subject interests have been shown to be socially constructed, not biologically based³⁴. Evidence also suggests that families, teachers and schools play a part in creating gendered patterns of subject choice through, for instance, differential encouragement of boys and girls to pursue science³⁵. Research provides examples of teachers favouring boys and perceiving them to be ‘better’ (and more ‘naturally able’) at science than girls, even where attainment data indicate otherwise³⁶.

In addition, it has been shown that even quite subtle differences within classroom cultures can profoundly shape the extent to which particular pupils (e.g. girls, minority ethnic pupils) feel that they are able to ‘identify’ with science (e.g. to see themselves as a ‘science person’), irrespective of academic ability and the science curriculum³⁷.

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‘You can never start careers awareness too early’

FACT:

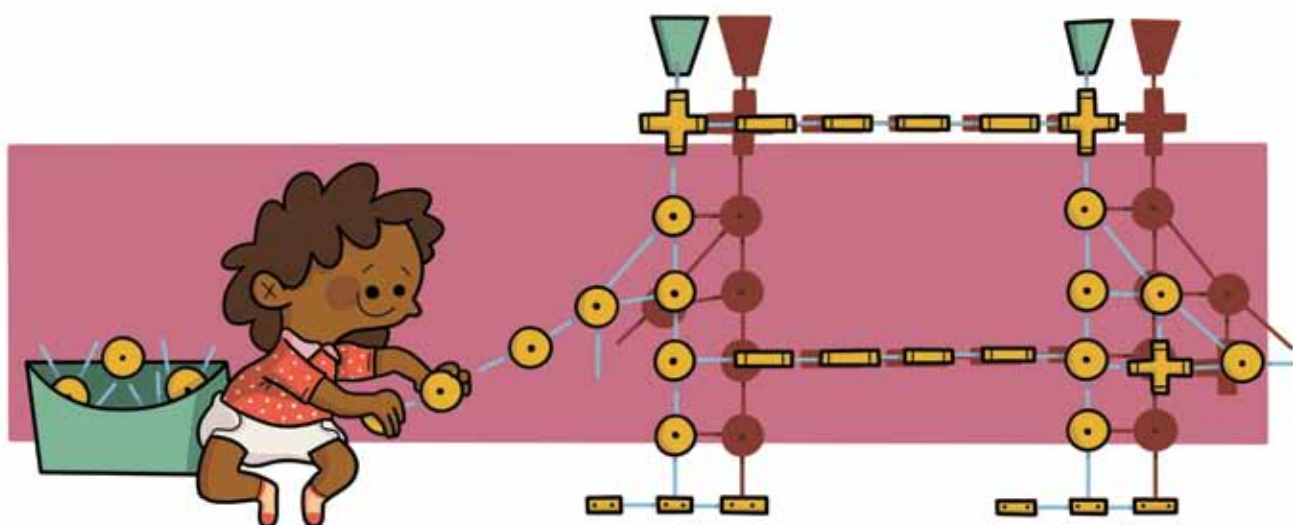
Evidence suggests that most young people’s science aspirations and views of science are formed during the primary years and have solidified by the age of 14, by which point the idea of science as ‘not for me’ becomes very difficult to change³⁸. There is a strong research case for starting to integrate awareness of careers from science into the primary curriculum. This is NOT to advocate ‘careers advice’ or ‘careers counselling’ for this age group – rather, a case is made for the embedding and integration of knowledge, information and awareness about careers in and from STEM across the primary and secondary curriculum. This is especially important given findings that even by age 10/11, when most children have generally positive views of science, the majority have already ruled out careers in science as ‘not for me’. Research suggests that the narrow views of careers in/from science expressed by primary school pupils continues to be shared by adolescents in secondary school³⁹, again highlighting the importance of increasing young people’s understandings of the breadth of careers from science from an early age. That stereotypical views of science appear not yet to

be ‘hardened’ at primary school age, provides another impetus for directing attention at this age group.

Given the wealth of evidence suggesting that ‘one-off’ interventions have little long-term or widespread impact on science choices and participation rates⁴⁰,

research points to the potential value of a more sustained, longer-term programme to integrate science careers awareness into the mainstream science curriculum

, to highlight both the breadth of careers from science and the relevance of science to so many areas of everyday life. Such a planned approach to developing an embedded STEM careers awareness would necessarily involve (appropriately trained and supported⁴¹) subject teachers, high quality resources, linking to inter- and extra-curricula areas, and wider access to expert advice and guidance ‘for all’⁴². It is also important to ensure that children understand how what they learn in science lessons is relevant and connected to their existing knowledge, other areas of the curriculum and their current and future lives.



‘Science is a route to social mobility’

FACT & FICTION:

While science careers can provide a path to social mobility (and are explicitly valued as such among some social groups), evidence shows that many parents and pupils do not see science as accessible and ‘open to all’⁴³. Official statistics show uneven patterns of science participation across social groups, particularly within the physical sciences and at higher levels, where women and those from working-class and/or certain minority ethnic backgrounds (e.g. Black Caribbean) are severely under-represented⁴⁴.

Children’s early aspirations are also patterned by social class and ethnicity, with those holding science aspirations being disproportionately likely to come from middle-class and White or South Asian backgrounds⁴⁵.

Research indicates that much more can be done to make the culture of science, the curriculum, and young people’s experiences of taught science more appealing and inclusive while maintaining its rigour⁴⁶. Many studies suggest that more needs to be done to encourage a greater diversity of young people and their families to perceive science careers as possible and achievable routes to social mobility. As discussed in this document, evidence indicates that this will require action on multiple fronts – working with students, teachers, schools, families, higher education, scientists and employers.

Research indicates that much more can be done to make the culture of science, the curriculum, and young people’s experiences of taught science more appealing and inclusive while maintaining its rigour.

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ASPIRES

Science and career aspirations: age 10:14

KING'S
College
LONDON



All-Party Parliamentary Group on Diversity and Inclusion in STEM

The All-Party Parliamentary Group on Diversity and Inclusion in STEM aims to promote the inclusion and progression of people from diverse backgrounds in STEM, and to encourage government, parliamentarians, academics, businesses and other stakeholders to work towards a STEM sector that is representative of the population. We also want to consider and influence changes in policy that will lead to this outcome.

As part of our work on [Diversity and Inclusion in STEM](#), the BSA acts as secretariat for the Group. The Group is made up of Members of Parliament and Lords, and is a focus for collaboration with businesses and other organisations in the STEM sector.

APPG Meeting 1: Education and skills

Our first meeting was on Wednesday 23 May. Below is a summary of the speeches and points from the attendees.

Siena Castellon, 15-year-old autism and neurodiversity advocate

Difficulties for neurodiverse students

As a high-ability autistic, dyslexic and dyspraxic secondary student, my disabilities have presented unique educational challenges. High-ability disabled students often fall through the cracks because we perform well at school. Teachers often focus on deficits, rather than strengths related to disability. Students might be excellent in some areas and struggling in others.

High-ability autistic students are also likely to be bullied in secondary school, pushing them out of the education system and preventing them pursuing STEM further. The home education system is full of students like this.

What should change?

We need to nurture high-ability SEN students from an early age to increase neurodiversity in STEM education and careers. This process must begin at secondary school and involve a more comprehensive approach to identifying high-ability students, whose talents may mask their disability.

The UK needs more programmes like those in the USA, such as [Stanford University's Pre-Collegiate Summer Institutes](#), where high-ability SEN students can go and develop the areas where they excel – this will help young people like me excel and move into STEM careers.

Schools need to be able to deal with and prevent bullying, and the education system needs to be changed so that all students feel safe and supported at school.

In summary, the education system needs to:

- Create more opportunities for SEN secondary students to take part in STEM apprenticeships and work placements – particularly ones designed specifically with SEN students in mind
- Develop joined-up services to provide autistic students with support during the transition from school to higher education. This will reduce drop-out rates by autistic university students
- Identify and promote disabled STEM role models
- Develop STEM-specific peer mentoring schemes – for example, one that matches autistic university students with autistic secondary students
- Universities need to provide more support for SEN university students; often universities have a diversity and inclusion strategy, but SEN people are commonly overlooked in these strategies and lack support.

Professor Louise Archer, UCL Institute of Education

Louise conducts the [ASPIRES](#) research into what motivates young people to take part in science. It's a ten-year study looking at over 40,000 young people. Louise and her team have created the [Science Capital Teaching Approach](#) to help teachers embed the research in the classroom.

What influences science career decisions?

- We often think that if we just make science more interesting, more young people will study it, but we've found that most young people already find it interesting. Even in GCSEs there are still high levels of interest
 - Up to age 16, most parents tell their children that it's important to learn science and it's valuable for future careers
 - It's not that young people hold negative stereotypes of scientists – most think scientists do valuable work and earn a lot of money
 - But this does not translate into wanting to be a scientist, as the graph below shows:
-
- Our young people are deciding they don't want to be a scientist by the age of 10
 - Young people aspire to other careers, particularly business careers, because they're seen as more open

Why don't more young people want to work in science?

Our education system is partly to blame:

- We force our students to specialise early into a small number of subjects at A-Level
- We have tough entry criteria and marking for subjects like A-Level Physics
- Double and Triple Science GCSE are not equally available to all students

What's the problem with Triple Science GCSE?

We feel the time is right to review current system because this stratification of science education is preventing a broader group from getting involved.

[Triple Science GCSE](#) is seen as the gold standard qualification, but we've found that the likelihood of doing it depends on several factors. Your gender, ethnicity and socioeconomic status all affect whether you are likely to do Triple Science. Our research shows that this is particularly bad for Black students,

girls and those from poorer areas. Schools in deprived areas are often less able to run Triple Science and are sometimes forced to hold it as an extracurricular activity. This is educational rationing. The choice is often made by the school, so it depends on the resources available, and any selection criteria are usually strict. One of our study participants said:

“I was quite gutted that I didn’t get triple science [...] Because I was planning on doing triple science and then obviously going on and doing a science career, but I didn’t get triple science, I didn’t get picked for it”

Triple Science students are more likely to do STEM A-Levels, but when schools make this decision for their students, it forces them down a specific route, and worsens social inequalities.

More information on the inequity of Triple Science is available in [this blog post](#) and [this academic paper](#).

Lord David Willetts, Chair of the British Science Association

Lord Willetts is former Minister for Universities and Science, and has just published ‘[A University Education](#)’, which considers the British university system.

What’s the problem with early specialisation?

- In the UK, students are asked to decide on their future careers at age 16 by selecting only three A-Level subjects
- In a modern civilised society, we should not have such large numbers of people dropping science at 16
- Science is too important to be left to professional scientists - all of us should have the confidence to join debate and assess the evidence available
- And we need scientists who have knowledge of history and other parts of society – many scientists cannot speak a second language, which hinders their ability to collaborate internationally

Why do we specialise so early?

Universities are primarily responsible for the A-Level system. Historically, elite universities such as Oxford and Cambridge used entry exams that were shaped around individual courses. Grammar schools trying to get students into certain subjects educated them in those specialisms, and this approach evolved into the A-Levels we have today.

Degree course leaders also have significant control over entry requirements, so they ask for students with high levels of knowledge. This makes it easier for them to teach students to a higher level, but it also means that young people are tied into a specific career path much earlier than in other countries.

How do other countries work?

In the USA, the largest single subject on degree entry is ‘undeclared’ because students sample several subjects in their first year and decide to specialise in their second year. These students are deciding at age 20 what the UK’s choose at age 16. This system also puts competitive pressure on lecturers to enthuse students about their subject, while teachers in the UK are under less pressure to perform well.

How does early specialisation affect diversity in STEM?

We have an unusual problem in medicine, which receives many more applications from girls than boys. To study medicine, you need A-Levels in biology, maths and chemistry – you don’t need physics, so many girls interested in science drop physics at A-Level. However, the Government sets a limit on the number of medical students each year, so girls applying to medicine are among the most dissatisfied groups. And then, in a final cruel twist, because they haven’t taken A-Level physics, these girls aren’t able to choose a huge number of degrees that require it.

These girls can’t choose engineering, as most universities require physics, and we have a serious shortage of female engineers. Only 7% of young people choose the A-Levels at age 16 required to become engineers. No other country narrows their potential engineers down so early on.

What’s the solution?

- We need our young people to study a broader range of subjects to age 18 – let’s make A-Levels more manageable and allow people to study far more subjects
- Universities should stop setting such high criteria for required A-Level grades
- We can learn from the Classics – the number of students taking Greek and Latin A-Level fell, so they allowed people without them to take their Classics degrees. We need to do this in STEM too

Discussion points

Primary teaching

- To convince young girls to get involved in STEM, we need to engage children at primary level because they are making decisions very early on.
- We lack primary teachers with STEM experience – partly due to the early specialisation that we force people into, and this means there is a lack of diverse role models.
- At primary level, young people from different backgrounds need to see the relevance of STEM to their lives – so it’s important how teachers and ambassadors present it.

Early specialisation

- To make engineering more inclusive, we need to teach it to people with previous low levels of attainment. For instance, if they don't have the necessary grades, the first year at university could be used to get people up to speed. Having to choose a specific area of engineering before you even start university doesn't help
- University of Loughborough and others have dropped A-Level requirements for engineering to include more people, and apprenticeships are a viable option because they require far fewer qualifications.
- Some organisations are creating apprenticeships that do not require STEM subjects, including the National Physical Laboratory.
- AS-Levels were supposed to stop this specialising but the number of subjects that can be studied at AS-Level is now restricted

Aspiration

- STEM Ambassadors are important, but according to a paper from the Wellcome Trust, short-term engagement has little impact, so the intervention needs to be longer-term to have an impact.
- Many young people think they are not smart enough to study STEM because it is associated with natural intelligence and not hard work, and this view is more common in those with less science capital. Careers guidance is underfunded and patchy – poorer students who would benefit most are the least likely to get it.
- We should tell young people about the diversity of stem careers and embed the message that STEM gives you options. The formal education system is working against us, but we can solve these problems with long-term work.
- We need to make STEM glamorous to get those on the outside into the conversation.
- We need the media onside to raise the profile of STEM.
- Career guidance at secondary school often falls on teachers. Many girls aren't aware of STEM careers other than medicine.

Retention

- We are rightly working on getting people into the pipeline, but we need to consider retention of students and teachers.
- Research on LGBT+ people in STEM shows poor retention – more research is needed to understand why. *Postnote: [Nature research](#) finds 57% of American LGBT researchers are 'out' in the lab. New research published in [Science Advances](#) shows that sexual minority students were eight percent less likely to be retained in STEM compared to their heterosexual peers.*
- People returning from parenting leave often struggle to reintegrate as STEM progresses so quickly and we do not help people enough when they come back to work.

Bigger picture

- The government is uniquely positioned to tackle these problems and they need to look at the bigger picture.
- We need to coordinate extracurricular activities because it can be too hard for teachers and students to choose between them.
- Technologies are often not assessed by a diverse group of people, which means they are sometimes not suitable for everyone.

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All-Party Parliamentary Groups are informal groups of members of both houses with a common interest in particular issues. The views expressed in these webpages are those of the group.

APPG Meeting 3: Regional disparity

Our third meeting was on Tuesday 11 September. Below is transcripts and summaries of the speeches and points from attendees.

Mhairi McCann

19-year-old scientist and Scottish Ambassador for the Young Scientists Journal

There are several issues faced by students in areas that are rural or less densely populated. I know this from living in Scotland and can hopefully give you a bit of an insight as to how your postcode can impact both positively and negatively on the accessibility of STEM.

In smaller schools, subject choices are limited. I wasn't able to fit biology into my school timetable alongside physics and chemistry, so I had to teach myself in my own time. When it came to studying Advanced Highers in my final year of school the local schools worked together in a consortium arrangement to allow students to access the widest range of subjects possible. While in principle the concept is good, of my four subjects, only one was in my own school, and I spent a lot of my time in a total of 18 taxis weekly getting between three schools to attend classes, which just didn't work well. Where schools have small numbers of pupils, or don't have enough funds, this narrowing of subject choices can hamper young people in accessing a broad curriculum, including STEM subjects.

Young people in small schools with fewer pieces of equipment and no local universities are not able to benefit from the visits to labs, or tours around departments that their peers within larger towns and cities are more able to access. This makes it difficult for students to put their learning into context, which is vital for their ongoing engagement with STEM.

When participating in national programmes such as the British Science Association's CREST Youth Panel or the Royal Society of Biology's Student Curriculum Group, I'm often the only Scottish person in the room. More opportunities need to be made available for people in the local area.

An example of good practice is The Young Scientists Journal, an international scientific journal written, edited and published by 12-20-year olds – for the past year or so, I've been part of the outreach team as the journal's Ambassador for Scotland but will very soon be taking on the role of Chief Editor. Distance is no boundary in the Young Scientists Journal- though most of the team are based in and around south east England where its roots lie, there are team members from all over the UK, as well as people across the globe including places like Germany, China, Australia, Pakistan, Nigeria, the USA, and Canada... This goes to show that distance doesn't need to be a barrier and that we can produce brilliant results while working remotely.

I think that it is really important that we embrace the differences that exist between regions, particularly within education, as it can be hugely beneficial to be able to relate what you are learning to your locality. But celebrating difference is not the same as solving the regional disparities that exist.

When we're talking about this theme of regional disparity, we need to exercise caution that we do not confuse 'difference' with 'disparity'. 'Difference' is about distinction and uniqueness, but 'disparity' has synonyms of 'imbalance, inequality, disproportion', where you're actually being disadvantaged by the differences that exist in your region. It's important we bear this in mind.

The local authority council where I live is also one of the most deprived, with 44% of residents in the most deprived fifth of Scotland's population. With poverty being so prevalent, high percentages of young people being the first in their families to pursue higher education, and STEM often being seen as quite prestigious, it can seem an inaccessible career path to many young people. We need to change the face of STEM to help young people realise that people like them can succeed in it.

Local industries can have an impact on how STEM is perceived and can make finding relevant work experience easier or more difficult. If you live in an area with little in the way of industry that matches your interests within STEM, the lack of local work experience opportunities can in turn disadvantage you when it comes to job/apprenticeships/college/university applications. Though young people could look further afield for work experience, it is not usually paid, so in an area of poverty, you are then possibly more likely to opt for a more local (but less relevant) placement without the transport costs, rather than pursue a STEM based one further away that will leave you out of pocket.

And in terms of more casual engagement in STEM, when you look at areas that are a bit 'out of the way' like Inverclyde, large public engagement events don't take place locally. But disadvantaged by both poverty and location, a lot of people can't afford to travel to the nearest city to attend them, and so don't get to benefit from them.

My suggestions

So, if those are all the challenges, what might the solutions be?

1. Firstly, we need to create flexibility in the education system to account for and counter the regional challenges that exist, and also to allow students to put their learning into context with meaningful real life examples. This could also have a wider impact when it comes to making education more accessible to all.
2. Organisations, like professional institutions and national initiatives, should vary the locations of face to face interactions, and build in methods of remote participation. I welcome the fact that that BSA took up my suggestion of having a method of contributing remotely to this meeting, and I hope that will continue to be a feature of future meetings of this All Party Parliamentary Group.

3. Higher education institutions and organisations who do science outreach work should explore using technology to facilitate different methods of remote engagement- initiatives like 'I'm a Scientist', and 'I'm an Engineer' 'Get Me Out of Here!', and social media campaigns are good examples of science engagement where distance is no barrier. We need to increase and diversify the availability of such projects.

It's important to embrace the differences that exist within the UK, but it's vital that location doesn't present disadvantage and we take steps to mitigate barriers that exist through using equity to create equality of opportunity.

4. And finally, it is worth remembering that because of the regional differences and disparities that exist, the implementation of government policy in a one size fits all approach is unlikely to be effective. It is vital that regional disparity is combatted through local initiatives, and the direction of such initiatives are driven by the people who will benefit from them. I said right at the beginning that I'm no expert, but that I believe that everyone is an expert in their own experiences. It is capitalising on this that will make huge strides towards reducing regional disparity in STEM.

Anna Round

Senior Research Fellow at IPPR North

There are several economic reasons why STEM skills are important for the UK's regions. STEM skills are foundational. They help people enter careers and also understand policy and manage our own lives. We need to change the cultural attitude to STEM by embedding it into the culture and foundation of our communication. The mainstreaming of science needs to come through in education and our regular discourse.

Why do STEM skills matter? The Royal Academy of Engineering has looked at the value of STEM to the economy and calculated that £370bn in Gross Value Added comes from engineering sectors. Math sciences research adds £240bn. Pharmaceutical adds £2.4bn.

STEM also brings huge potential for regional economies. £17.5bn of Northern Gross Value Added comes from health science. Medical technologies thrive in Yorkshire and pharmaceuticals in the northwest. This is forecast to grow by 30% by 2030.

All of this depends on STEM knowledge and skills among workers and policy makers.

Another area of potential for the north is in green energy. IPPR published [A Northern Energy Strategy](#) last year. The north could create 100k green jobs, but these depend on embedding STEM in our culture and education system.

The digital revolution makes this even more important. Digital skills will become important in every job. Currently, 90% of jobs need some degree of understanding of digital technologies. Those digital skills are becoming ones that sit along numeracy and literacy. We need to be able to communicate digitally alongside writing and maths. Without those skills we risk digital divides.

Research from Newcastle University suggests that children are really interested in science. They love it, but something falls off around the age of 10.

But pathways – how do I get from a general interest in science to a real career in science – might not be hugely obvious. Visibility of science in careers is not always clear. We need to get school science leaders to work with local businesses and local careers.

Educational structures, subject boundaries and the curriculum are far too rigid, and this makes it difficult for teachers to put the context of STEM into the core of their teaching. Links to everyday lives are often made as the add-on to the curriculum.

Alex Norris MP

I represent a poorer community and I am constantly battling the narrative that we're not a creative community. I'm chair of governors for a school on a tough estate, and the kids are incredibly creative. But there's a point at which the world comes down on them. They lose the sense that there's a place for them in science. STEM is not just a subject or school, it's part of your life.

We have valuable partnership with universities and industry but they need scaling because they are usually with schools that are well networked. It's not woven in as a core part of trying to raise attainment and expectation.

Collaboration is so important – science is all about collaboration. Being able to work online is a strong message for our young people to hear. We need to work with communities to stimulate curiosity.

Carol Monaghan MP

I helped to develop the Scottish curriculum and during the process, someone said we wanted to encourage certain attributes in physics and creativity wasn't one of them. They didn't think that physics was a creative subject, which is absurd!

Scotland has a more flexible curriculum – expectation is on the teachers to make more decisions than in England.

Industry and academia can play a more important role, it's not for lack of effort and enthusiasm. We need to start measuring the impact of these activities. It's not about big one-off events, it's about developing relationships with teachers and young people that are sustainable. There needs to be ongoing engagement with STEM so it becomes normalised.

We need to move away from the current picture to something else to see improvements. We just need to think long term.

Q&A

- We are not communicating to remote places and we are not using media/marketing/advertising as much as we could. Huge amounts of money are spent on one-off events but we could have a more powerful impact with marketing.
- The Open University (OU) is a four-nations university and the social mission is all about some of the things we've discussed. OU academics working with the BBC on Blue Planet is a great example of ongoing engagement. OU can work with excluded regions because all their resources are available remotely. How do we do this better? How do we reach disadvantaged communities?
- We need to employ travelling science teachers for primary schools with the expertise, knowledge and equipment (that they take with them) to conduct the science curriculum confidently.
- Most remote engagement is conducted via the internet but not everywhere has superfast internet or phone signal, particularly in especially remote or rural locations.
- Most of the people engaged in outreach are swimming against the tide. Universities are not incentivised to do outreach. Research councils concentrate funds in typically well-funded areas including SE England. Until there's an appropriate system of incentives, academics aren't going to be able to deliver the part of the bargain we're looking for.

Anna Round– Why is outreach always seen as extracurricular for teachers and academics? Why is it always project-by-project rather than an ongoing activity stream? It needs to be funded and evaluated and we need to work out the cost of not doing it! Devolution structures such as Local Enterprise Partnerships can help us to organise this. On why people would invest in science careers – that's really important – IPPR does lots of work on skills and something that comes up is a difference between young people going down a vocational track and an academic track. You have to make a bigger leap of faith for a vocational track, so if you are going into training for a specific career, for example nursing, it's specific, but an English degree means you can delay commitments until later on. It's so important that everyone has a sense of the range of things you can do with a STEM qualification. Getting that evidence to families is vital. Demonstrating how a STEM base makes you resilient in a changing world is really important.

Mhairi McCann– More role models are needed to explain their journey if it's convoluted. You don't need a science degree to work in science, or a science job if you do a science degree, or a degree at all! It comes back to the people in the community. Looking at how we access young people – there needs to be more through groups like Brownies and Scouts – STEM is everywhere and it's not recognised in school.

- In Sweden they spend 1% of their art budget on buying art to be put up in schools. I suggest we spend 10% of the STEM education budget on access. Somebody could map events and you could map the cold spots.
- The cultural aspect is at the core of this. We need to support youth and community groups. We don't have the equivalent for science. STEM outreach grants are much smaller than in the arts.
- Maps exist of what percentage of people are going to university. We need to bring academics, community leaders, families, together. 60% of our young attendees to SMASHfest are BME, 60% are female. 50% of participants would consider working in STEM. We can have an impact and we need more resources!
- It also comes down to a confidence issue. Schools often have a physics department of one physics teacher. Industry should get more involved in schools and show them that science is more than just going to university and has viable career options.

Mhairi– Too often young people are added onto the end like sprinkles – with co-design you bring the target group into the process of designing the activity. They get equal power to say yes and no, and they're a fundamental part of the process. It's vital if we're going to address regional disparity or any other aspect of D&I in STEM, talk to the people that you're talking about. Involve them. Don't ask them for feedback, involve them from the beginning and allow them the opportunity to say if they really like it or not.

- We need to talk about intersectionality and understand the cultures of the people we are dealing with. Bring them to the table at funding panels, at the Royal society, at decision moments and in the Government.
- Policy needs to include discussions of Brexit – regional disparity might get worse. Shared prosperity fund might not be that helpful!
- The most important thing is giving skills to rural schools – with two teachers in a school they'll struggle to have a science specialist.
- The [Wellcome Trust Research Enrichment Fund](#) provides funding to grant-holders for activities that make the scientific community more diverse and inclusive help to make sure that every great idea that could improve health thrives.

Online submissions

Online submissions were invited from people in different regions of the UK. Below is an edited selection of highlights from these submissions.

Sayara Beg, Hackney, London

The main issue is the lack of evidence in the long-term benefit for a person to consider investing their time and money in a STEM education because there is no clear career progression evidence after entering academia or industry. Academia and industry must publish diversity and inclusion statistics showing the pipeline for their STEM-educated workers rising through to leadership roles.

Anonymous

A shortage of good teachers is worse in those areas that are less desirable to work and live. We can't afford to pay enough to persuade the cream of the teaching profession to move to the poorest or most remote areas of the UK, especially if there is a culture of poor performance in exams. Teachers gravitate to those areas that are already doing well.

We fail to use technology to create teaching packages that would give equality of excellence to each pupil. If we combined the skills the BBC brought to its Planet series to all subjects, with video, computer based training and expertly devised classroom exercises, we could raise the quality of teaching for all. There could be packages for extra explanation for those who need it and extra information for those who can ride ahead of the average. Children's education wouldn't need to stop if a teacher was off sick. Teachers could be more fluid in the subjects they deliver.

Edward Vine, Essex

We have 60+ regional and local Science and Discovery Centres across the UK, each of which could bring in industry to support development and career opportunities.

Focusing solely on passing exams and neglecting creativity and skills like team working puts students at all levels off.

Stuart Macdonald, Paisley, Scotland

We have several regional issues in STEM: inconsistent engagement, disparity of opportunity, lack of skilled resource, generally poor mathematical skills in primary education, inconsistent corporate and SME engagement. There are too many 'big bang' events without ongoing engagement. Opportunity in STEM (as in other areas of life) is a lottery dependent on your postal code, gender, ethnicity, headteacher, teacher, youth worker, local business, local big employer and flavour of the month.

Ian Galloway, Southampton

There is a lack of cohesion across the STEM subjects. The lack of a clear vision for dealing with the shortage of young people working in STEM careers. Nobody has set out what their understanding of STEM actually is beyond stating what the acronym stands for. A proper and fit curriculum should be addressing the skills agenda and not the subject agenda.

Rick Hall, Nottingham

"When Gordon Brown offered six cities in England the designation of Science City in his budget of 2005, Nottingham was the only one not to have either a major science museum or discovery centre (such as the Centre for Life in Newcastle, Millennium Point in Birmingham, or @Bristol), or a major science festival (like Manchester). What Nottingham had was a reputation for world-class scientific research, discovery and innovation, and continued investment in new STEM based start-ups and SMEs notably in BioCity.

It was a sound basis on which to grow the skills of the future workforce, and engage the citizenry in programmes of public engagement and science understanding; in effect to grow the Science Capital of Nottingham and its people.

There's a but..

We who strive to raise expectations and opportunities for our neighbours and communities all too frequently encounter a deficit in confidence and willingness to participate and engage, and especially to try something new or different, characterised by the popular response, 'no, you're all right..' when declining an opportunity to pause and engage.

This in turn gives rise to many further attempts to offer public engagement activities for young people, families and communities, (who are often defined as under-served, hard to reach, and within socio-economic indices of multiple deprivation or disadvantage). And in times of cuts and austerity we turn to third sector support to shore up statutory obligations, including youth and play, community support and library services.

The barrier and inhibition to comprehensive and deep seated cultural change is the piecemeal nature of funding support across the STEM sector; in my charity, Ignite!, we trawl over 100 learned institutions and trusts and foundations for their generally under £5,000 outreach and public engagement funding programmes.

In my report for my Churchill Fellowship, 2016, I identified four critical pathways which I argue should inform a progressive framework in the UK:

1. building a long-term national consensus around the importance of Science learning within the context of widely agreed and respected strategies for comprehensive education in general. Such a consensus raises the importance of Science and Science education above party political debate and short-term funding cycles.
 2. embedding Science into the national culture, identity and ethos – as far as such culture can be defined – and by emphasizing the importance of creativity, imagination, curiosity and innovation as significant dimensions of Science learning and public engagement. Such emphasis highlights the importance attached to international comparisons like PISA league tables, and the economic benefits to be derived from Science discovery and technical innovation in a global market.
 3. investing in formal and informal Science education, and facilities that raise the profile of Science discovery. Museums, discovery centres and facilities in community settings are widely recognised in all four countries (of my Fellowship research, namely Finland, Ghana, India and South Korea) as integral to the perceptions of young people, their families and communities that Science IS for the likes of them.
 4. developing an infrastructure for the promotion of Science and Science learning, largely through agencies at arms-length from government, and which also cross sector boundaries.
- In order to develop these four critical pathways, I make the following recommendations:
- DCMS should consider constituting a body to distribute Lottery funds for the public engagement and understanding of Science, including education programmes in out-of-school and community settings. A figure of £50m to build programmes in the long term is my suggestion. Such a function could be included in the constitution of the British Science Association.
 - BEIS should establish a strategic body (or department) promoting the link between STEM programmes and creativity, not simply for the long-term impact on economic growth through innovation and technology, but also to promote progressive cultural values. Responsibilities should include defining and promoting the STEM-based creative economy and human resources development

Lindsay Keith, London and regions

I am a research fellow into public engagement to STEM subjects and also the director of SMASHfestUK, the only STEM festival (to our knowledge) that was specifically founded and developed using a human centred design practice.

The main issues that we perceive stem from economic inequalities in regional areas. The data and evidence are clear that STEM attainment is negatively impacted by poverty. What is also clear is that high quality education can go a significant way to closing that gap however, especially in the regions, schools find it difficult to attract and retain teachers who can bring this level of excellence. London schools have overcome some of these effects in the last two decades by using a multi-factorial collaborative inter-agency approach to support schools and teachers with increased finance, improved leadership and reduced need for “firefighting” which is something we see schools in the regions struggling with and something which negatively impacts their ability to bring improvements. This improvement then needs to be linked to sustainable higher/further education, social and economic activity within and around the region, ensuring that there is “creation and retention” of aspiration within the region.

The other major issue, based on the work of Archer et al from the Aspires Project (Kings College London) are that children living in communities with multiple indicators for poverty and low socio-economic status are likely to see STEM subjects as “not for me” (this is related to the above point, but it specific for STEM engagement).

People with low socio-economic status are less likely to seek out or travel to places where they will find informal science education (such as museums) even if access is free. The key to engagement is two-fold – the intervention must go to the community, and empowerment: the intervention must work with the community. Co-design and co-creation of interventions, and funding/resources are the key to this.

Policy recommendation: Resourcing of integrated multi-agency collaborations to assist schools in poverty who are “firefighting” and improve recruitment and retention of teachers (see London model report [here](#))

Resources are needed to improve the diversity of engagement in the regions. We have shown through our work that it is entirely possible to engage the so-called “hard to reach” communities, but this is only successful by having the resources to go and work face to face with people in the community. We also showed that it is possible to create a community festival/engagement activity even if an organisation is not based in that community.

Policy recommendation: Increased resourcing of engagement activities in the regions which include inter-generational learning and careers

This relies on the co-ordination and engagement of multiple local actors which SMASHfestUK has done under its SOMUCH model (Social Organisations, Museums and Universities as Community Hubs). This brings together practitioners from local organisations to help create community hubs who are then empowered to create their own engagement and progression activities. It is vital that careers information is integrated into these activities from an early age and that the visitors are able to see a diverse range of practitioners with whom they can identify, in order to create aspirations.

Policy recommendation: Resourcing of collaborations in the regions to provide the above engagement

The current landscape of higher education is creating a push towards isolationism with regional post-1992 institutions competing with Russell Group universities, (uncapped as to their numbers) to fill student places, in the face of a recruitment drop due to tuition fees and other economic pressures. If universities can be better encouraged to work on building proper (not lip-service, as so many currently are) links with local communities this could have the multiple benefits of increasing student recruitment locally for them, but also bringing local businesses together and attracting new businesses to the area so that this creates a synergistic reinvigoration for local economies. If businesses can rely on a local workforce of good graduates then this provides a good reason for them to invest in an area. Currently in many areas of local/regional poverty, there are also no businesses, so even if students graduate with a good STEM degree they are often forced elsewhere to work so the effort that goes into local engagement with STEM on a regional level has no effect ultimately on improving the economy because those that engage become socially mobile but then move away. Regions need a circular economy not a brain-drain.

Policy recommendation: Compel HE institutions to work harder in engaging communities locally, as well as beyond, and looks to collaborations with businesses to provide recruitment, a graduate workforce and reinvestment in the local economy by the newly socially mobile graduates."

APPG Meeting 4: Social Mobility in STEM

Our fourth meeting was on Monday 3rd December 2018. Below are transcripts and summaries of the speeches and points from attendees.

Norman Lamb MP, Chair of the House of Commons Science and Technology Select Committee

The Select Committee hasn't yet looked at diversity and inclusion in STEM subjects, but I am keen that we do. We've started conversations and we need to design an inquiry that fully considers these issues.

We need to look at this because it is vitally important that every adult and child is given the same opportunity to flourish.

Women and people from poorer backgrounds currently don't get the same chance to make the most of their talents in STEM, and that cannot continue on moral grounds. On top of that, from an economic perspective, the pool of people we're selecting to do science careers from is stupidly limited. If we limit opportunities only to white men in the population, we limit the human capital of our country. For fairness and for the economy, the topics this group addresses are of vital importance.

[The Royal Society's](#) research has found that socioeconomic background has a strong effect on an individual's ability to enter the STEM workforce.

The [Education Endowment Foundation](#) found from research using the National Pupil Database that educational attainment in science is weaker for students from economically disadvantaged backgrounds, all the way from Key Stage 1 to A-Level. It gets worse as you advance through school, and by the time science is an optional part of the curriculum, poorer students are even less likely to do science.

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Employer engagement in British secondary education: wage earning outcomes experienced by young adults

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Employer engagement in British secondary education: wage earning outcomes experienced by young adults

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Since 2004, the devolved education systems of England, Scotland and Wales have introduced initiatives to increase contact between employers and young people, particularly aged 14–19, as a supplementary, co-curricular activity within mainstream education. The initiatives are motivated partly to increase wage-earning potential but studies to date have not explicitly tested this hypothesis. Robust evaluations from the USA suggest a potential wage uplift of 6.5–25% but these evaluations do not directly comment on the UK approach, as they focus on highly specialised forms of education with closely integrated employer involvement. A new 2011 survey associates wage returns and school-mediated employer contacts for 169 full-time 19–24-year-old workers on annual salaries within the UK environment – and suggests a link of 4.5% between each additional school-mediated employer contact, such that four employer contacts would produce results in line with the US studies. Contrasting the US and UK studies suggests that any causal link from school-mediated employer contact to wage outcomes is likely to be driven more by increased social capital as witnessed in improved access to non-redundant, trustworthy information and social network development than by the development of either technical or ‘employability’ skills.

Keywords: employer engagement; wage premiums; labour market; school-to-work transition

1. Employer engagement in British secondary education: history and context

Over the last decade, employer engagement has become commonplace in the educational experiences of British secondary school pupils. Since 2004, in each of the devolved education systems of England, Scotland and Wales, governments have legislated and devoted public funding to ensure that young people have access to a wide range of opportunities to interact with

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employers within their educational experience. Interactions have taken a range of forms, including short-work experience placements (typically undertaken at age 15), workplace visits, careers advice, business mentoring and enterprise education (Qualifications and Curriculum Authority [QCA] 2003; Scottish Executive 2004, 2007; Welsh Assembly Government 2004, 2008).

Each national programme, while distinct in elements, shared a number of common characteristics:

- A policy assumption and desire that *all* secondary pupils learners regardless of attainment levels and vocational aspirations should be involved in some employer engagement activity, with strongest focus on learners aged 14–19;
- A delivery approach whereby provision would be typically experienced as co-curricular activity i.e. that employer interactions would be primarily delivered within mainstream educational experiences (as a typically compulsory activity taking place during the school day), but rarely integrated into defined programmes of study with curriculum-related learning outcomes;
- Schools would enjoy discretion over the specific types and volume of employer engagement undertaken – in England, for example, fulfilment of the 2004 statutory requirement to work-related learning was interpreted as delivering two or more of nine different, if overlapping, elements of provision to enable pupils to learn through work, about work and for work (QCA 2003, 2008);
- New requirements for systematic workplace involvement built on preceding policy and practice, in each national jurisdiction, encouraging and enabling at least some pupils to have previously experienced employer engagement within their education experiences. Consequently, schools responded to new requirements from different starting points.

Each national programme was further defined by a shared assumption that increasing the involvement of employers within the educational experiences of young people would serve to improve the labour market prospects of pupils. Introduced in 2004, the Scottish Executive's programme, *Determined to Succeed*, called for a 'major commitment' from Scotland's employers to help young people get ready for work and go on 'to be successful employees, employers and entrepreneurs' (Scottish Executive 2007, 10). In Wales, the introduction, in the same year, of a statutory requirement to work-related education was designed to provide 'opportunities for learners to improve their knowledge and understanding of, and skills for, the world of work, enterprise and entrepreneurship' (Welsh Assembly Government 2004, Section 1.4). In England, the Department for Children, Schools and Families

(DCSF) saw a primary benefit of work-related learning at Key Stage four, also introduced by statutory requirement in 2004, as helping young people aged 14 to 16 ‘to develop their “employability skills” that make them attractive to their future employers’ (DCSF 2008, 6).

Studies have shown that implementation of these policies has varied across British schools with young people being exposed to a varying range of employer engagement activities. The English QCA, for example, surveyed 368 Year 11 pupils in 2009 and found that 83% had undertaken a work experience placement of a week or more, 58% had taken part in a workplace visit, 34% an enterprise activity and 46% listened to, or spoken with, a ‘visitor from business’ (Ipsos MORI 2009). Surveying secondary school teachers, YouGov found that over the previous two years, 88% of state schools had provided work experience, 52% enterprise projects and 50% workplace visits (YouGov 2010, 66). Moreover, while survey data suggest that young people who engaged in such activities with employers largely found them to be of interest and value, this was not universally the case (YouGov 2008). Such partiality in implementation across different schools and regions and variation in experience, while a frustration to policy-makers, has the advantage of allowing analysis of the differential impacts of varying intensities of pupil-experienced employer engagement. As Prue Huddleston, Emeritus Professor at the University of Warwick, states: ‘In the British tradition of employer engagement in education, there is relatively little scope for pupil agency in determining whether or not they engage in many activities. Typically, over the last decade, schools have either required all young people in a year group or class to take part in activities such as work experience, one-day enterprise competitions and career fairs or chosen not to engage in them at all. Some pupils might show agency in choosing to take part in longer duration enterprise competitions or be selected themselves for business mentoring, but these commonly involve fewer than 10% of pupils in any year group’.¹

To date, however, there has been no systematic consideration of whether these policy interventions have served to meet their objective in improving the actual labour market prospects of participants as they come to the end of their school-to-work transitions. While British, as European, literature has failed to explore such outcomes, US literature does suggest that employer engagement in high school learning experiences can be positively associated with the higher earnings of young adults. Four studies in particular have tracked young people, who previously participated in learning programmes involving employer engagement, into the labour market and compared earnings to control groups.

Evaluations undertaken by Boston-based social enterprise Jobs for the Future (1998), the Applied Research Unit of Montgomery County Public Schools (2001) and MacAullum et al. (2002) followed high school graduates one to six years into the labour market. In each case, participants were

brought into contact with employers, undertaking work experience and significant classroom involvement, within largely academic learning programmes focused on relevance to discrete vocational areas, such as IT, healthcare or automotive industries, undertaken through the final years of high school. Each review shows alumni of the programmes to be enjoying higher levels of earning – across a range of 6.5–25% more than control groups.² While such results are striking, lack of transparency over methodologies used in creating control groups and low sample sizes suggest that findings should be treated with some caution.

Much more persuasive is the 2008 evaluation, undertaken by research agency MDRC, of the labour market outcomes of the alumni of the US Career Academies, a learning programme combining academic and technical curricula around a career theme delivered in partnership with local employers providing work-based learning opportunities (Kemple and Willner 2008). As Orr et al. (2007) demonstrate, student participants in Career Academy programmes are considerably more likely to have taken part in employer engagement activities such as work experience and related work-based learning experiences than high school peers.³ The Kemple study followed 1764 young people randomly assigned into either a group which undertook the Career Academies programme between ages of 15 and 18 or a control which did not. Eight years after leaving high school, researchers explored the labour market outcomes of 1428 of the original respondents (82% of intervention and 80% of control groups) and found that while the two groups attained and progressed to higher education in similar proportions, alumni of the Career Academies programme enjoyed earnings 11% higher than their peers. The earnings of the quartile of young people whose characteristics suggested the highest risk of dropping out on enrolment in the programme were 17% higher than the comparable control group (Kemple and Willner 2008, 11, 25).

While such studies demonstrate, with varying degrees of confidence, evidence of wage premiums following educational programmes involving significant employer engagement, integration within distinctive learning programmes makes it challenging to assign a particular impact to the involvement of employers themselves. The current study tests whether such wage premiums can be observed in the British educational and economic environment wherein participants would overwhelmingly experience employer engagement not as an element within a distinctive learning programme with interventions linked to desired learning outcomes, but as a supplemental or co-curricular educational activity within a mainstream learning experience. Moreover, in considering potential impacts stemming from contacts which are characteristically of very short duration, it considers insights from an emerging literature which has drawn on aspects of social capital theory to understand the value of weak relationships within social interactions.

The remainder of this paper is structured as follows. Section 2 describes the construction of a survey and relevant questions that afforded insight into this topic. Section 3 describes the selection of analytical methodology and the transformations of data required. Section 4 presents the results, both of the main regression analysis to identify a wage-return correlation and a subsidiary analysis of the number of school/college-mediated employer contacts against an individual's confidence in their current career progression. Sections 5 and 6 contrast the results from this paper against the findings of UK and international studies in an attempt to understand the phenomenon observed, and discuss policy and research implications. The appendices provide summary-level information on the underlying data, including descriptive tables of the survey respondents used in this analysis by education level, type of school attended, gender, age and location.

2. Data

The study in question was undertaken by YouGov on behalf of the Education and Employers Taskforce, a UK charity created in 2009.⁴ In February 2011, YouGov surveyed 985 young British adults, aged 19 to 24 and resident in England, Scotland or Wales to explore their current circumstances and their experiences of school-mediated employer contacts.⁵

The purpose of this paper is to consider the possible wage premium associated with different levels of employer contact, which requires the data-set to be narrowed to a comparable group of respondents. For this reason, only salaried individuals working full-time were subjected to detailed analysis. This approach excludes those working part-time or on an hourly wage at the time of the survey. As discussed later, a primary channel through which employer contact is hypothesised to benefit individuals is through access to information to support career choice and enhancing their networks relevant to chosen careers. For individuals aged 19–24 who are working hourly or part-time, there is an increased likelihood that they are not yet working in their career of choice and are still in the midst of the transition from education to sustained employment. Finally, individuals who did not recall how many employer contacts their school(s) had mediated or did not provide details to questions required for the analysis (e.g. ethnicity and qualifications obtained) were also excluded from the study.

The remaining data-set consists of 169 respondents to be analysed. This sample size is sufficient to allow for aggregate statistical analysis, but does not enable comparisons across subgroups. Matching the reduced sample scope, the conclusions of this paper are similarly restricted to young people aged 19–24 who are in full-time, salaried employment. Nonetheless, it may be relevant to future work to consider to what extent these 169 respondents are representative of wider cohorts. For this reason, descriptive statistics are presented for the 169 respondents under analysis and the full cohort of 985

(see Appendix 1 for full details). Within the constraints of the sample size, the analysed cohort is comparable to the full cohort with respect to location, gender, type of school attended and number of employer contacts. The two main differences between the cohorts result from the requirement that the analysed cohort be wage earning, in that the analysed cohort is more likely to be aged 22–24 than 19–21 and, related to this age difference, is also more likely to have a level 4+ qualification.

The survey asked respondents about the employer engagement activities they had undertaken while at school or college between the ages of 14 and 19. Although differences in categories rule out exact comparisons, participation levels were found to be generally in line with existing survey data reported above suggesting considerable variation in experiences of employer contact: 85% of respondents recalled undertaking a work experience placement, 45% receiving careers advice from employers, 30% taking part in enterprise activities involving employers and 19% experiencing business mentoring in some form.

Q1: Some schools and colleges arrange for their students (aged between 14 and 19) to take part in activities which involve employers of local business people providing things like work experience, mentoring, enterprise competitions, careers advice, CV or interview workshops, workplace visits, taking part in classroom discussions. Did you take part in such activities between those ages? If so, on how many different occasions (more or less) did it happen?

Respondents were given a limited number of options which are set out with response rates below (Table 1).

The survey also asked respondents to give details of their current earnings. *Q2* sought data on gross income currently earned:

Q2: What is your annual salary before income tax or any other deductions you have to pay?

Respondents' answers result in interval data, with respondents offered twenty options in £1000 intervals between the sums of £10,000 and £30,000

Table 1. School/college-mediated employer contacts (respondent count).

No. of activities	#	%
Never	44	26%
Yes, just once	64	38%
Yes, twice	32	19%
Yes, three times	13	8%
Yes, four times or more	16	9%
Total	169	100%

bookended between options for ‘less than £10,000 a year’ and ‘more than £30,000 a year.’

These two questions enable statistical analysis of the correlation between wage and employer contacts that this paper addresses, and background questions on geographic location, gender, educational experiences, highest attainment levels and ethnicity enable appropriate controls to be additionally included in the analysis.

A third question (*Q3*) gathered data on the perceptions of young adults about the utility of the current activity, whether employment, study or other, in securing ultimate occupational goals.

Q3: Thinking about the sort of job which you’d like to be doing in five to ten years time, how useful do you think what you are doing now is as a way of achieving this?

- Very useful
- Useful
- Not that useful
- Not at all useful

3. Analytical methodology

A primary question in assessing the relationship between employer contacts and earnings is the possibility of hidden variable bias. For instance, if children at independent schools are encouraged to have more contact with employers and also go on to earn more later, this may have more to do with a wealthier background and network of parental contacts, than it does school-mediated employer engagement. Alternatively, academic high performers may be more motivated, proactive individuals at school who take full advantage of employer contact opportunities and, quite separately, go on to earn more. Additionally, a range of other background variables available in the survey influence earning power, such as age, gender, ethnicity and location.

Regression analysis is chosen due to its ability to control for such background and potentially confounding variables. Since the dependent variable is interval data, interval regression solved via maximum likelihood is the preferred method of analysis. A linear regression was also conducted on the same data-set, since linear regression does not rely on the distributional assumptions of maximum likelihood analysis.⁶

A second question is the anticipated relationship between earnings and the independent variables being analysed. The majority of categorical, background variables are analysed as dummy variables (gender, region, school type, etc.). The reported age of respondents is treated as a continuous variable, assuming that each extra year is expected to bring (*ceteris paribus*) linearly higher earning power. The linearity assumption is imperfect over a

wide age range, but holds with reasonable precision in the narrow age range in this study, as indicated by the low standard errors for the age variable in the analyses presented below.

The relationship between highest levels of qualification (defined on levels 0 to 5⁷) is less straightforward. Typically, and in the absence of detail on which courses were studied, lower levels of qualification are completed at a younger age, meaning individuals may have had more years in which to build earning power by the time of the survey, an observation which contrasts with the longer term observation that those more highly qualified tend to earn more on average, up to a certain level of qualification. To account for this uncertainty, level of qualification is modelled as a dummy variable, with levels 0, 1 and 2 combined together due to sample size restrictions and the expectation that most respondents with these levels of achievement are likely to have left school at around the same time after the completion of their final year of compulsory schooling. The conclusions with respect to employer contacts are robust to the method chosen for modelling highest qualification.

Number of employer contacts is reported as discrete data by respondents and analysed as a continuous variable for the regression. Logic suggests that if employer contact is beneficial then more contact should convey further benefits. Diminishing marginal returns might also be expected, although this effect might not be expected with four contacts being the upper limit in the reported data. With this data-set, the inclusion of a squared term for employer contacts did not achieve significance at normal standards ($p\text{-value} > 0.25$) and the squared term was excluded for final analyses. The analysis was tested using number of employer contacts both as a dummy variable and as a continuous variable. Due to small sample sizes, the dummy variable analysis was ineffective, although the point estimates of coefficients supported the approach of linear modelling as a proxy for interpreting the underlying relationship and motivate the choice of using four as the value for the category 'four or more' employer contacts.⁸

Finally, there is a choice between seeking to predict absolute earnings or logged earnings. Over the full earnings spectrum, logged earnings are generally preferred, since earnings typically have a highly skewed distribution, with a few people earning very large sums of money. This approach is less applicable in this instance, since the survey did not allow for the reporting of salaries over £30,000 per year and because young people under the age of 24 have had less scope to develop such divergent incomes as those across the full earnings spectrum. The statistical motivation for logged earnings is to improve statistical inference and model performance. In this instance, the residuals from the linear regression for absolute earnings pass a Shapiro-Wilk normality test and do not increase in size with the fitted dependent variable; the performance of the two regressions, using logged and absolute earnings, are similarly undifferentiated (by R -squared and overall F -statistic). The final motivation to use logged earnings is where

there is an a priori reason to believe that the target of study is related to the dependent variable via a multiplicative relationship instead of an additive one, such that additional employer contact drives a percentage rather than a step change in earnings. Since no such reason is available in the literature, this paper chooses the model which produces the more tightly defined estimate with respect to standard error, indicating the functional form that holds most consistently over the 169 respondents. The full results are thus presented for the absolute earnings specification, with the coefficient of interest also presented for the logged earnings specification.

Given the complexity of wage outcome drivers and the decision-making processes of young people, the statistical output from this analysis should not be considered mechanistic. Instead, it provides a sense of the average empirical relationship over a large number of individuals' employer contacts and wage outcomes, controlling the sample to generate a comparison between individuals of similar education level, location, ethnicity and social background. As with all statistical methods of this type, it is not possible to derive causation from correlation. It is possible for instance that underlying personality types influence both wage outcomes and participation in or recall of employer contacts. However, as described in the conclusion, the combination of this analysis with evidence from the USA and qualitative data and theoretical frameworks affords some confidence that a direct causal element accounts for a significant proportion of the observed wage premium. Further insight into this question is gained from analysis of correlations between numbers of school-mediated employer contacts and respondents' medium-term confidence in successful career progression.

4. Results

4.1. *Salary premiums*

To allow for a maximum range of control over background circumstances, all background variables are included in the analysis⁹ (Table 2).

The relationship between the number of recalled employer contacts aged 14–19 and reported annual wage is analysed above with controls for gender, ethnicity, age at time of survey, location in the country, type of school attended and highest level of qualification achieved. The output for the variable of interest indicates that each extra employer contact is linked on average with an extra £900, an analysis which is significant at the 5% level or better.¹⁰ The *p*-value of 0.027 indicates only a 2.7% chance that we would observe the data that we have, and yet there be no relationship between earnings and school-age employer contacts.

Given that all such relationships are estimated with error, especially with such imprecise phenomena as wage return drivers that vary widely by individual, this analysis is better interpreted as being 70%¹¹ confident that the average correlation between each additional employer contact and

Table 2. Results of interval regression.

Dependent variable: reported salary in intervals [annual wage in GBP, before deductions]				
<i>N</i> =169				
	Estimate	Std error	<i>T</i> -statistic	<i>P</i> -value
(Intercept)	−5603	10,047	−0.56	0.58
Age	914	398	2.30	0.02
White ethnicity dummy	−964	2149	−0.45	0.65
Gender dummy	475	1004	0.47	0.64
Highest qualification (level 3 dummy)	4687	2641	1.77	0.08
Highest qualification (level 4 dummy)	7316	2761	2.65	0.01
Highest qualification (level 5 dummy)	7827	2958	2.65	0.01
<i>Employer contacts</i>	909	410	2.22	0.03
East of England dummy	−1576	1375	−1.15	0.25
North East dummy	−2898	1820	−1.59	0.11
North West dummy	−117	2633	−0.04	0.96
East Midlands dummy	−2880	2677	−1.08	0.28
West Midlands dummy	−3695	1518	−2.43	0.02
Wales dummy	−4012	2575	−1.56	0.12
Yorkshire & Humber dummy	−4252	1769	−2.40	0.02
South East dummy	−1288	1560	−0.83	0.41
South West dummy	−1912	1469	−1.30	0.19
Scotland dummy	−4302	2793	−1.54	0.12
Independent school (14–16)	−2656	1465	−1.81	0.07
Other school (14–16)	−1749	2811	−0.62	0.53
Selective state school (14–16)	208	1731	0.12	0.90
Left education at 16 dummy	6326	2913	2.17	0.03
Other school (16–19)	1940	3255	0.60	0.55
Independent school (16–19)	4287	2108	2.03	0.04
Selective state school (16–19)	749	2129	0.35	0.73
Further education college dummy	971	1563	0.62	0.54
Sixth form college dummy ^a	−277	1294	−0.21	0.83

Note: ^a{0, 1} dummy variables are used. The reference category is a female, non-white student living in London who attended a non-selective state school from 14–16 and 16–19, attaining a highest level of qualification below level 3.

earnings is between £500 and £1300.¹² With median earnings of £19,500, this reflects a typical 4.5% increase. Analysing causality cannot be done directly on the statistical data-set, but is considered in Section 5 below by contrasting these results against the wider literature. Remaining uncertainties and possible confounding factors are discussed in the ‘Further Research’ section at the end.

The ordinary least squares linear regression supports the results of the interval regression, with a *p*-value of 0.03 on a point estimate of £883 for the employer contacts co-efficient, and performs well on standard diagnostic tests. Specifically, a Breusch-Pagan fitted-variables heteroskedasticity test passes at the 5% level. The RESET test passes at the 5% level (using

regressors as fitted terms). The analysis is reasonably robust to outliers, in that no studentized residuals have a Bonferonni p -value below 0.05. The residuals are also normally distributed by the Shapiro Wilk test at the 5% level. The F -statistic p -value that the overall regression has no predictive value is 0.01, with a residual standard error of 5701 and an R -squared of 0.26. The interval regression specification also performs well, with overall statistical significance demonstrated via a Wald statistic of 98.8 (p -value 0.00). The overall performance diagnostics confirm the multitude of other, unaddressed factors that contribute to earnings, but remain sufficient to support the analysis on correlation between employer contacts and earnings.

There are several ways in which this statistical analysis might be extended. For instance, a Heckman selection analysis would enable conclusions to be extended with greater confidence beyond the subsample concerned, i.e. an analysis to account for what kinds of individuals are selected into the wage-earning cohort. Preferred extensions would require a larger sample size for comparison amongst sub-groups of interest or additional data points. For instance, questions that permit better traction on issues such as underlying ability, social background, job motivations and interests, and employment satisfaction would allow the analysis to explore further questions lying behind wage outcomes. Nonetheless, for the purposes of this study, the two regressions presented provide sufficient detail to interpret the data against the US research and surrounding literature.

4.2. Confidence in successful career progression

Question 3 gathered perceptions on the utility of current activity – ‘what you are doing now’ – to medium-term future career aspirations and correlated results against *Q1* which asked respondents to recall the volume of employer engagement activities experienced as an adolescent. In so doing, it addresses the long duration of youth transitions into the labour market and provides an insight into potential relationships between teenage workplace exposure and confidence in later decision-making concerning study, training and work undertaken.

This section draws on responses from the 985 British respondents aged 19 to 24 who selected their current activity – ‘what you are doing now’ – from six options (Table 3).

As presented in Figure 1 – the analysis identifies statistically significant relationships between the volume of employer engagement undertaken in the past and confidence that activities currently undertaken represented a positive step towards ultimate career objectives. Whereas around one-third of respondents recalling zero activities (34%) felt their current activity to be ‘very useful’, the proportion agreeing with the statement rises with the number of activities recalled, to more than half (52%) for those recalling four or more activities. The trend is also seen, if less starkly, in responses of

Table 3. Current status (respondent count).

Current occupation	Unweighted		Weighted ^a	
	#	%	# ^b	%
Full-time employment	285	29%	285	29%
Part-time employment	77	8%	79	8%
Full-time study	537	55%	394	40%
Apprenticeship/work-based training	8	1%	9	1%
NEET	59	6%	200	20%
Other	19	2%	20	2%
Total	985	100%	987	100%

Notes: ^aSince this analysis is not restricted just to those in full-time employment, weighted data are preferred to generate more representative results. YouGov provided weights such that each respondent better reflected the overall demographic of the UK against their answers to this question concerning current occupation. ^bRounded to nearest integer.

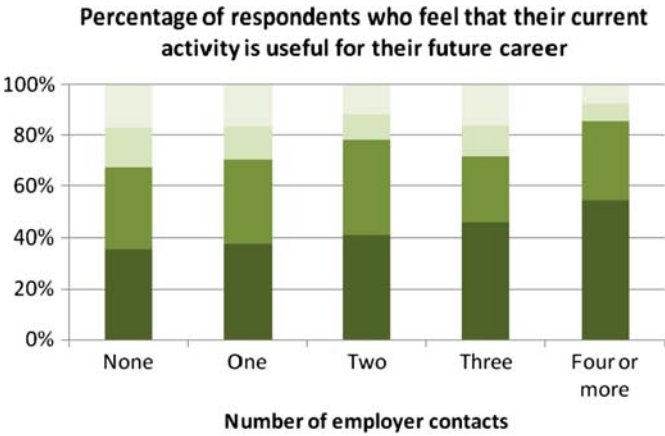


Figure 1. Relationship between teenage school-mediated employer engagement and confidence in career progression as young adults ($n = 883^a$).
Notes: Very dark: ‘Very useful’, Dark: ‘Useful’, Light: ‘Not that useful’, Very light: ‘Not at all useful’. ^aIndividuals who did not have a view on how beneficial their current activity was are not included; neither are those who did not know how many employer contacts they had experienced. Detailed results are displayed in Appendix 2.

respondents who felt their current activity ‘not at all useful’ with proportions agreeing falling from 16% of those who recalled no activities to 7% of those who recalled four or more.

5. Discussion

Over the last decade, employer engagement has become a familiar element within the British educational experience. The majority of pupils, whether state or independently educated, undertake work experience placements,

typically of two weeks duration at age 15, and significant proportions engage with the economic community across a range of other school-mediated activities such as workplace visits, careers advice, enterprise activities and business mentoring.

While the policy rationale for such workplace exposure assumes improved employment outcomes for participating young people, systematic analysis of the labour market impact of such engagement in both academic and public literature has been slight. Where undertaken, British studies have focused largely on the process of employer engagement and explored impact through the lens of changing pupil attitudes towards schooling and confidence about future prospects. Despite some links to academic attainment, these studies touch on labour market outcomes only in terms of perceived improved preparation for the workplace, rather than tracking and assessing actual progression (AIR UK 2008; Miller 1998; Green and Rogers 1997).

The findings from this study of young adults, aged 19–24, provide an opportunity to supplement the current research base. Comparing the reported salary levels of survey participants to recalled incidents of school-mediated employer engagement between the ages of 14 and 19, a significant positive relationship is identified regardless of highest level of qualification held, whether an individual attended a non-selective state school, grammar or independent school and age at time of survey. Moreover, as noted above, the historic delivery of employer engagement in British educational settings has left relatively little scope for results masking teenage personality traits. The analysis indicates that each extra employer contact is linked on average with an extra £900 per year or 4.5% of median annual earnings reported across all respondents. Those young adults earning a full-time annual salary who experienced four or more employer contacts whilst in education could expect to earn, on average in their early 20s, 18% or £3600 more per year than their peers, qualified to similar levels, who undertook no activities during their schooling. The observed relationship is statistically significant by usual measures within the social sciences. The *p*-value of 0.027 indicates only a 2.7% chance that we would observe the data that we have, and yet there be no relationship between earnings and school-age employer contacts. In other words, it is highly likely that some positive relationship does exist. It is also possible to interpret this *p*-value as indicating a confidence interval around the best estimate average correlation of £900 referred to above. Such an approach implies a 70% confidence that the size of the average correlation between each additional employer contact and earnings lies somewhere between £500 and £1300 per year, most likely to be around £900. Considering the variation and complexity of mediating factors and mechanisms in determining wage returns at the individual level, this level of statistical significance at an average level is striking. The findings are consistent, both in significance and in range, with US longitudinal studies which have identified adult wage premiums accruing to alumni of high school learning

programmes involving extensive employer engagement against control groups.

US studies do offer some potential, if slender, explanations for the effects observed. James Kemple, in his landmark analysis of the US Career Academies programme, argues that the higher adult earnings of the programme's alumni stemmed from greater levels of school-age 'career awareness and development activities' (Kemple and Willner 2008, 40). To MacAllum and colleagues, the heightened earnings of alumni of the Michigan employer engagement programme reviewed came from 'enhanced career preparation' which allowed graduates to 'make immediate tangible steps towards careers goals' as they exited high school (MacAullum et al. 2002, 11, 13). Analysts identifying wage premiums experienced by participants within the Boston-based Jobs for the Future programme focused more narrowly on skills development enabled by the learning programme related to competency development around technology use, ability to understand and work within complex systems and heightened communication skills (Jobs for the Future 1998, 2).

While critical consideration of causal factors in these studies is limited, discussions do collectively speak to a fundamental question: can wage premiums be best explained by the comparative skills development of programme participants (and so heightened human capital accumulation prior to labour market entry) or by enhanced ability to understand and navigate the transition from education into work through greater relative social and cultural capital accumulation?

Differences between the US and British experiences of employer engagement provide a means to disentangle the two overlapping potential causal factors. In contrast to US programmes where employer engagement is experienced within coherent learning programmes which are both intense (absorbing a day or more of weekly curriculum time) and extensive (operating over a whole academic year or longer), the typical British experience over the last decade has been of short duration, episodic and unintegrated into any programme of study with defined learning outcomes. Consequently, opportunity for British pupils to develop, and credentialise, technical skills relevant to the workplace through employer engagement activities has been comparatively, and typically, very low.

Skills acquisition may, however, speak to more than technical skill development. Over recent years, important actors within the British public discourse have suggested that a primary value of employer engagement in education has been to enable pupils to develop 'employability skills' (Confederation of British Industry [CBI] 2007; UK Commission for Employment and Skills [UKCES] 2009). Defined by the UKCES as 'the skills that must be present to enable an individual to use the more specific knowledge and technical skills that their particular workplaces requires'¹³ (UKCES 2009, 10), employer engagement in general, and work experience

in particular, have been seen as effective means to prepare young people for the world of work whilst still in the education system (CBI 2007, 11–20; UKCES 2009, 35–56).

There is reason to doubt, however, whether wage premiums observed from greater incidence of school-mediated employer contacts can be primarily attributed to heightened employability skills. Firstly, many of the most common employer engagement activities (workplace visits, careers talks and classroom presentations) are of both very short duration and provide very limited opportunity for pupils to actively develop and practice such skills. Secondly, the activity considered to be most effective means of developing such skills, work experience, is the most universally experienced engagement activity, undertaken by the great majority of pupils. Consequently, while some consideration should be made to variation in the quality of placements experienced, participation in and of itself is a poor means of differentiating pupils.

For only a small minority of young adults, moreover, does school-mediated work experience represents their sole workplace exposure prior to full entry into the labour market. Historically, most young Britons have entered the adult labour market with some prior experience of paid employment, thereby learning at first hand, and having the opportunity to practice, the personal and cultural attributes valued by employers. Two studies which compared the perceived comparative value of school-mediated short-duration work experience placements to part-time teenage employment found, moreover, that young people see the two types of labour as providing broadly similar opportunities to develop employability skills (Fullarton 1999; Howieson, McKechnie, and Semple 2010). As approximately half of teenagers aged 14–16, and three-quarters of those aged 16–19 (Dustmann, Rajah, and Smith 1997; Dustmann and van Soest 2007; Hobbs and McKechnie 1998; Hodgson and Spours 2001; McVicar and McKee 2002), have historically combined education with some part-time employment, the commonplace character of such direct workplace experience makes it a poor candidate for explaining the range of outcomes identified in the current study.

What does differ about work experience, however, is where it is undertaken.¹⁴ Whereas upwards of half of teenage Britons who combine study with part-time working have been typically employed in the retail or hospitality sectors, analysis shows that only one in five of work experience placements to be in these sectors (Francis et al. 2005, 28; Howieson, McKechnie, and Semple 2010, 6). Surveys of young people show that the majority find work experience placements in sectors of occupational interest (Mann 2012, 32). Consequently, while young people are unlikely to gain significant additional technical or employability skills through school-mediated employer engagement, there is evidence to suggest that such activities provide meaningful opportunity for pupils to gain insights of value into careers of interest. Through school-mediated activities, young people have the chance to come

into contact with professionals working in vocational areas of interest and so potentially access useful information about whether and how they might pursue a career in that sector. In this way, it becomes easier to understand how long-term benefits might flow from short duration interventions such as attendance at careers' fairs or workplace visits.

The above observation suggests that it is social capital theory which provides a more persuasive interpretative framework for understanding the phenomena observed. Although retaining a coherent emphasis on the influence of the quantity and quality of human contacts on the behaviour and attitudes of individuals, social capital theory has developed to encompass a broad range of phenomena (Field 2003; Halpern 2005). With specific regard to young people, early social capital theorists such as James Coleman and Pierre Bourdieu tended to view children and teenagers as relatively passive absorbers of the social norms and attitudes surrounding them, whether these be the culturally distinguishing attitudes and norms of American Catholic communities or the distinctive familiarity with high culture characteristic of French elites. Developments in social capital theory, moving from analysis of 'bonded social capital' observed in such close knit, mutually supportive communities towards 'bridging social capital' as a means by which individual attitudes and ultimately life chances are shaped by the character of personal contacts of limited depth (as in Robert Putnam's memorable description of American bowling leagues), comes closer to describing the type of typically shallow relationship which is observed in young people's participation within short duration employer engagement activities common in British educational provision (Field 2003, 13–29; Leonard 2005).

Sociologist Mark Granovetter's empirical research into the dynamic character of social capital provides a more nuanced and helpful conception of the power of social networks to provide tangible value to an individual. Conceptualised as 'the power of weak ties', Granovetter has evidenced the way in which adult workers with broader, shallow networks – people who know a lot of people a little – are able to use contacts to gain access to reliable and relevant information about job vacancies, increasing their likelihood of securing preferred positions (Granovetter 1995). A number of researchers have taken Granovetter's insight and applied it effectively to the experiences of young people. Analysing longitudinal data, Lance Erickson and Steve McDonald, for example, have found significant links between volume and character of non-parental adult social ties (including, but not exclusively employers) enjoyed by US teenagers and ultimate employment success as young adults (McDonald et al. 2007).

A series of studies have described, moreover, teenage social capital accumulation to be a process which is dynamic and susceptible to change through such interventions as school-mediated employer engagement. Leonard (2005) has illustrated the means by which young people in Ireland in search of part-time employment demonstrate resourceful and active

approaches to developing networks with adults outside of the family, accumulating and using social capital to access paid work. Leonard argues that the young people in her studies show agency in their use of social capital, working networks strategically to secure objectives. The ethnographic work of Raffo and colleagues (2003, 2006) on pupils at risk of disengagement from education offers a first-hand observation of the processes by which young people gain information and insights of value to their own navigations through the school-to-work transition. Drawing on a close study of Manchester pupils aged 14–16 in extended school-mediated work experience placements, Raffo and Reeves (2000) argue:

What we have evidenced is that, based on the process of developing social capital through trustworthy reciprocal social relations within individualized networks, young people are provided with an opportunity to gain information, observe, ape and then confirm decisions and actions with significant others and peers. Thus, everyday implicit, informal and individual practical knowledge and understanding is created through interaction, dialogue, action and reflection on action within individualized and situated social contexts.

... there is also evidence in our research of individual young people having their social relations enriched by outside, yet authentic and culturally appropriate, significant others. In these situations, individual strategic decisions about life choices are being affected by external agencies and actors – external in that they are potentially beyond the structuring influence of locality and class. This results in these individualized systems of social capital for individuals becoming more open and fluid, with outside, symbolically rich, resources impacting more freely on their lives. (151, 153)

In such a way, school-mediated employer engagement provides an important opportunity for individual young people to access sources of trusted information beyond the socially constructed constraints of family networks. Research has shown consistently that young people are particularly attentive to working professionals with whom they come into contact within educational settings and value their interactions with them (Lord and Jones 2006, 3–4). This study suggests that they take away from those interactions insights of value to their future career progression.

Perhaps the greatest value, US and UK longitudinal analyses suggest, lies essentially in shaping the articulation of achievable career goals. Analysis of the British Cohort Study by Yates et al. has shown statistically significant correlations between career uncertainty (affecting 7% of cohort) or unrealism (defined as holding career aspirations that exceeded expectations of highest qualification attainment – affecting 40% of the cohort) at 16 and later outcomes. Yates et al. (2011) argue that, with statistical controls in place, those young people lacking realistic career aspirations are two to three times more likely to become NEET after the age of 16 than their peers. Staff et al. (2010), using US data-sets, track the 10% of US 16-year olds uncertain

about occupational aspirations and find them, with controls in place, to be earning significantly lower wages at age 26.

The high levels of unrealism identified by Yates and colleagues within historic longitudinal data are identified too by recent large scale qualitative studies demonstrating widespread ignorance of local labour market opportunities and effective career progression strategies amongst British teenagers (Norris 2011; St. Clair, Kintrea, and Houston 2011). Such findings cast light on data-set out in Figure 1 which shows a significant correlation between volume of employer contacts undertaken while in school and perceptions of confidence in the early labour market progression articulated by young adults. Combined with evidence of wage premiums linked to greater numbers of school-age employer contacts, Figure 1 provides further evidence to suggest that the great value that young people gain from school-age employer engagement is in their heightened ability to gain access to reliable, relevant information which enhances their own ability to identify achievable, desirable career aspirations and navigate well towards them.

The research presented in this paper suggests that the impacts observed by Raffo and Reeves are neither limited to young people at risk of disengagement from education, nor exclusively to the specific activity of a work experience placement. Rather, this paper is able to identify a significant, beneficial correlation from employer contacts even when averaged over a wide range of individuals' different geographies, educational backgrounds, qualification levels, age and gender. Through episodic school-age workplace exposure, young people are arguably gaining a cumulative growth in knowledge relevant to effective career planning that allows them to identify better matches between their own interests, abilities and likely qualifications and available labour market opportunities. Such insight might, for example, be observed in greater familiarity with occupational cultures and languages, improved choices in study or part-time employment options and development of social networks allowing more extensive practical experience, whether through later volunteering, internships or part-time employment.

As with most analyses of wage effects, the question remains whether the observed empirical effect is the result of a positional advantage or a genuine increase in economic productivity. Although hard to address, the question is essential for considering the policy value (in financial terms) of scaling-up interventions to address larger populations. In this instance, since the primary impact of employer engagement within the recent UK context appears to be founded in provision of better information, career decision-making and skills fit, accelerating individuals into occupations that better fit their skill-sets and preferences, the authors contend that there is value in pursuing an hypothesis that it is very likely a significant portion of the wage gain reflects effects that drive through to benefit the economy as a whole, rather than merely reflecting positional advantage or the reallocation of resources within an economy of notionally fixed size.¹⁵

6. Conclusions and further research

In 2004, the devolved education systems of England, Scotland and Wales introduced policy initiatives aimed at increasing the contact between employers and young people within educational settings as supplementary, co-curricular activities. While a clear policy rationale for such initiatives was to improve the employment outcomes of pupils as they entered the world of work, to date no studies have explicitly tested whether the ambition was achieved.

High-quality US reviews have demonstrated positive correlations between mainstream educational experiences rich in employer contacts and the subsequent earnings of young people as they entered the labour market, suggesting potential wage uplifts of 6.5–25%. These American evaluations, however, do not directly comment on the UK approach, focusing as they do on US learning programmes with discrete learning outcomes delivered over extended periods of time (a minimum of a day a week over a school year).

This paper has drawn on the first UK assessment testing for positive links between school-mediated employer contacts and adult earnings. Drawing on a new 2011 survey, it associates wage returns and school-mediated employer contacts for 169 full-time 19–24 year-old workers on annual salaries within the UK environment – and suggests, having controlled for highest level of attainment, school type attended and other available personal characteristics, a link of 4.5% (or £900) between salaried earnings and each additional school-mediated employer contact, such that four employer contacts would produce results in line with the US studies.

Contrasting the US and UK studies suggests that any causal link from school-mediated employer contact to wage outcomes is likely to be driven more by increased social capital as witnessed in improved access to non-redundant, trustworthy information and social network development than by the development of either technical or ‘employability’ skills.

The data presented in this paper present a strong case for larger scale research to further test results with a larger sample size in order to understand more precisely which types of young people most benefit from employer engagement in their labour market outcomes, how qualitative experiences of employer engagement influence outcomes and the full extent of potential benefits. Analysis presented suggests that while wage premiums are not driven by qualification levels, it is amongst the more highly qualified members of the sample that they are more typically found (see Appendix 1). A larger study might profitably seek to follow young people leaving education with differing qualification levels and tracking the relationship between school-mediated workplace exposure and smoothness of school to work transitions.

In considering labour market entrants at age 18–19, a primary question for consideration is the extent to which wider educational experiences influence outcomes. At ages 16–19, within the English education system

while many young people undertake academic programmes of study ('A' levels), many also undertake more vocational related programmes of study, notably BTECs. The analysis presented here suggests that wage premiums prevail on average regardless highest qualification level achieved, but this does not preclude that they may vary by the direct workplace relevance of classroom study and if so whether study choices are influenced by prior workplace exposure. Such analysis should extend to consideration of individual agency in determining outcomes. Whereas young British pupils will commonly have little choice over whether they will undertake work experience, class visits to workplaces or one-day enterprise competitions, agency is found in participation in optional related extracurricular activity, commonly involving employee volunteers, such as long duration enterprise competitions (e.g. Young Enterprise company programme) or STEM clubs. Moreover, if agency is rarely a factor in the requirement to undertaken work experience, agency is often found in where placements are undertaken as some 50% of English placements are self-sourced by pupils with support of their families (Francis et al. 2005, 28) and the quality and limitations of such choices too may shape outcomes. Consequently, further analysis by subgroup as defined by socially influential characteristics such as socio-economic status and ethnicity, would test hypotheses that young people from disadvantaged backgrounds with limited access to relevant social networks would have most to gain from school-mediated employer engagements.

Finally, a longer, more granulated study would allow deeper consideration of the economic and life-course influence of school-mediated workplace exposure. Do wage returns continue beyond age 24 and beyond four activities? What role can be identified in the interplay between attitudinal factors, such as views of work and school, and the relationship between volume of employer contacts and labour market outcomes? To what extent does the differing availability and industry-focus of school-mediated employer activities and local employment patterns influence this relationship at the sub-regional level? The current study would suggest that young people with high levels of school-mediated employer contacts could be expected to make more informed decisions, than peers without access to such resource, about choices in continuing study and gaining workplace experience more profitably accumulating human capital relevant to ultimate employment. Consequently, can such educational approaches serve to address the systematic disadvantages felt by many young adults experienced in competing for available jobs in the labour market?

The International Labour Organisation (ILO) has argued: 'Young people have long been disadvantaged when it comes to finding work ...: they have less work experience; they have less knowledge about how and where to look for work; and, they have fewer contacts upon which to call' (ILO 2010, 2). The analysis presented here suggests that employer engagement within educational experiences represents an effective means of addressing

the comparative weaknesses young people face as they enter the labour market and so further study should be of interest to policy makers as well as to labour market economists and sociologists of education.

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Notes

1. Interview by authors with Professor Huddleston, former Director of the Centre for Education and Industry, University of Warwick, December 2012.
2. The different studies introduce a range of control variables in testing for wage premiums: Montgomery Schools – Background characteristics, post secondary college and work activities, months worked; MacAullum et al. – Duration of employment, hourly wages; and Kemple – student demographic and family characteristics, educational attainment, including gender, ethnicity, socio-economic status, middle school attendance rates, geographic location of academy, graduation cohort, duration of employment, hours worked per week, weeks worked per month and hourly wage. The methodology applied by Jobs for the Future is not sufficiently transparent to determine variables applied.
3. Orr et al. (190–191) surveyed comparable groups of senior year high school students enrolled on Career Academies programmes and those not enrolled. Investigating participation levels across 37 potential high school college and career planning activities, the study found statistically significant variation ($p < 0.01$) across eight areas primarily within the field of career-related work-based learning experiences, including three activities wherein employer contacts would be confidently expected (Job shadowing which was undertaken by 43% of the Career Academies group against 15% of control), work-site visits (43% v. 16%), employer talks at school (68% v. 38%); four which might include employer contacts, school-based business or enterprise (59% v. 31%), work-readiness classes (55% v. 19%), practice interviews (35% v. 14%); and one which would not be expected to include any such contact, talked with teachers about careers (78% v. 56%).
4. See: <http://www.educationandemployers.org>.
5. The survey was conducted using an online interview administered to the members of the YouGov panel of 280,000+ individuals. An email was sent to panel lists selected at random from the base sample according to the sample definition, inviting them to take part in the survey and providing a link to the questionnaire.
6. The linear regression uses point estimates of earning power from the middle of each range, and takes a 10% deviation either side of the end points.
7. See the Appendix 1 for summary information on which qualifications equate to which levels or http://www.direct.gov.uk/en/educationandlearning/qualifications-explained/dg_10039017 (link confirmed 30 May 2012) for full details.
8. Maintaining the structure of the standard linear model presented later, coefficient estimates for the annual wage increase associated with one employer con-

tact relative to zero were (to the nearest £100) £900 vs £2,200 for two and £3,900 for four. Small sample size (13) caused a problem with three employer contacts, where the p -value was 0.52, along with the outlier coefficient size of £1,300.

9. An alternative more parsimonious model was explored by removing all variables for which the t -statistic was below 1.75. This approach, however, reduced model performance, increased the severity of outliers and produced poor performance on diagnostic tests. Although small samples in some dummies (such as certain school types) inflate standard errors for those variables, the variance inflation factors are below 6.5 for all included variables and below 3.5 for variables other than the qualification-level dummies. The analysis seeks to test a single relationship of interest and so there is no value in this paper in refining the model by excluding variables to the detriment of its overall performance.
10. The results from the equivalent log earnings specification for the standard linear model indicate a 3.5% increase in earnings for each additional employer contact with a standard error of 0.02. As described earlier, this is a less statistically significant result than under absolute earnings, but remains supportive of the overall hypothesis of the paper, being significant at the 10% level, with a p -value of 6.4%. For the interval regression model, the result is 3.4% with a standard error of 0.02.
11. This detail reflects one standard error either side of a point estimate of c. £900, equating to around 68.2% given the normal distribution of the residuals in the analysis. Given a level of accuracy appropriate to the analysis, figures are rounded.
12. This is a reasonably wide range and reflects the standard errors in the regression analysis. Where we hypothesised a direct, causal relationship, this wide range would be explained either by random sample variation or by uncertainty about whether the hypothesis is true. In this instance, where the link between employer engagement and wage outcome is not expected to be consistent across individuals or exactly linear, the breadth of uncertainty also reflects variation in the quality of employer contacts and how they affected individual respondents. It is possible therefore that a high impact employer contact at the right time might be associated with a wage increase of £1,300 or considerably higher.
13. The Commission considered employability skills to consist of three functional skills (effective use of numbers, language and IT) and four personal skills (self-management, thinking and solving problems, working together and communicating, and understanding the business) based upon the foundation of 'a positive approach' (UKCES 2009, 10).
14. Fullarton's rare Australian longitudinal survey (Fullarton 1999, 10) involving some 13,000 young people sought, in part, to understand the perceived comparative benefits ascribed to short UK-style work experience placements and part-time paid employment. Rating the value of the experiences on a scale of 1 (nothing) to 4 (quite a bit), respondents rated work experience considerably more valuable than part-time paid work (+0.79) in terms of 'the career you would like after school' and recorded little variation (range: 0.04–0.12) in perceptions across a range of employability outcomes ('what work is really like'; 'getting along with other people'; 'following instructions'; 'thinking for yourself'; 'being confident'; 'particular skills needed in that job'; 'work conditions').
15. Since Spence's influential work on the potential value of education to private individuals and to employers as a pure-signalling mechanism rather than a

mechanism for enhanced productivity through skills development (Spence 1973), public policy academics have debated the extent to which public policy relevant wage premiums reflect signalling effects, or perhaps even positional advantages among equally skilled and productive candidates, and which would not significantly enhance the overall size of the economy and thus whose apparent economic benefits should not be expected to scale directly up to the overall economy if rolled out (see e.g. Chevalier et al. 2004).

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Appendix 1: Description of the survey respondents for selected variables

Frequency tables are available from the authors on request for the other variables used in this paper.

Age	# [out of full 985]	# [out of 169 analysed]
19	164	5
20	164	3
21	163	12
22	163	36
23	165	53
24	166	60

Gender	# [out of full 985]	# [out of 169 analysed]
Female	498	92
Male	487	77

Employer contacts	# [out of full 985]	# [out of 169 analysed]
Don't know	76	
None	265	44
One	341	64
Two	152	32
Three	68	13
Four or more	83	16

Highest reported qualification at the time of survey	# [out of full 985]	# [out of 169 analysed]
Level 1	20	2
Level 2	68	12
Level 3	531	39
Level 4	260	89
Level 5	72	27
No qualifications	3	
Other/prefer not to say	31	

Definitions used from the survey answers:

Level 1 corresponds to NVQ at Level 1, BTEC introductory Diploma or GCSEs at grades D–G.

Level 2 corresponds to 5 or more GCSEs A*–C, BTEC First Diploma, Standards (Scotland) or OCR National/NVQ at Level 2.

Level 3 corresponds to 2 or more 'A' levels/International Baccalaureat/BTEC Diploma, NVQ at Level 3/OCR National/BTEC national or Highers (Scotland).

Level 4 corresponds to an undergraduate degree or a foundation degree.

Level 5 corresponds to any post-graduate qualification.

	# [out of full 985]	# [out of 169 analysed]
<i>Type of school attended at 14–16</i>	14	2
A combination of different school types		
A non-selective state comprehensive or academy	598	102
An independent school	129	20
Grammar/state selective school	210	41
Home educated	3	1
Other	27	3
<i>Type of school attended at 16–19</i>		
A further education college	178	32
A non-selective state comprehensive or academy including sixth form	242	36
A sixth form college	258	41
An independent school including sixth form	98	15
Did not go to a school or college between 16 and 19	31	11
Grammar/state selective school including sixth form	157	29
Other	20	5
Special school	1	

Location of respondent	# [out of full 985]	# [out of 169 analysed]
East Midlands	64	9
East of England	118	26
London	142	30
North East	34	4
North West	98	12
Scotland	76	5
South East	141	26
South West	78	16
Wales	46	5
West Midlands	88	18
Yorkshire and the Humber	100	18

Appendix 2

Correlation between number of employer engagement activities undertaken whilst in education (aged 14–19) and perceptions as a young adult (aged 19–24) of usefulness of current activity to future career aspirations.

Taskforce/YouGov survey Fieldwork: February 2011 (Great Britain)		Some schools and colleges arrange for their students (aged between 14 and 19) to take part in activities which involve employers or local business people providing things like work experience, mentoring, enterprise competitions, careers advice, CV or interview practice. On how many different occasions do you remember such employer involvement in your education?				
Weighted data		0	1	2	3	4 or more
Thinking about the sort of job you would like to be doing in 5 to 10 years time, how useful do you think what you are doing now is as a way of achieving this? ^a	Very Useful	34%	37%	41%	42%	52%
	Useful	30%	31%	37%	24%	30%
	Not that Useful	15%	13%	10%	11%	7%
	Not at all Useful	16%	16%	12%	15%	7%
Respondent count (excluding respondents recording 'Don't Know')		266	345	145	59	68

Notes: Measure of correlation: Kendall's Tau C indicates significance at the 1% level or better.
^aPercentages do not sum to 100 because the respondents who chose 'Don't know' when asked about their current activity are not included.

GOOD CAREER GUIDANCE

REACHING THE GATSBY BENCHMARKS



GATSBY

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WWW.GOODCAREERGUIDANCE.ORG.UK

FOREWORD



I first realised the importance of career guidance when I was a headteacher. Many young people rely on their parents and families to guide them through school and beyond, towards a fruitful career. But even the best-informed families may give incomplete or even stereotyped advice. School is the place where all students, whatever their family background, can get unbiased information, advice and guidance on the whole range of career pathways.

I am pleased that the Department for Education has used the *Gatsby Benchmarks of Good Career Guidance* as the core framework for the Careers Strategy, *Making the Most of Everyone's Skills and Talents*, launched in December 2017, and the Statutory Guidance, *Careers guidance and access for education and training providers*, published in January 2018. The eight Gatsby Benchmarks define an ambitious framework for career guidance that works for schools, employers and, most importantly, young people and their families. The Benchmarks are based on international best practice, but they have been tested in a pilot in schools and colleges in North East England. The pilot showed that with good leadership and a clear sense of purpose, the Benchmarks are achievable by each and every school.

The landscape is changing for career guidance. Not only has the Government given clear backing with its new strategy; *The Careers & Enterprise Company* is making fundamental changes to the support available for schools and colleges across all eight Gatsby Benchmarks. Rapid changes in online information and 'big data' mean that up-to-date labour market information is readily available to schools, students and parents, wherever they are. Changes to technical education mean the options open to young people to follow apprentice and technical routes are clearer and wider than ever.

I hope that this handbook helps your school understand how to be part of a step change in career guidance across England, supporting every young person to make decisions that lead to a positive and fulfilling life.

John Holman

Sir John Holman,
Senior Advisor to the Gatsby Foundation
April 2018

“

It has been a humbling experience to see how the hard work and dedication of the schools and colleges involved has directly resulted in such a positive change to the lives of the young people they serve

”



Over the last few years it has been my pleasure to lead Gatsby's career guidance pilot, testing the implementation of the Gatsby Benchmarks in schools and colleges across the North East. Before joining the *North East Local Enterprise Partnership* to lead this work, I was an assistant headteacher at a secondary school in South Tyneside, where I saw first-hand the positive impact that good career guidance can have on students. I have always believed that careers guidance is important for each and every young person, whatever their ambitions or background – a value that sits firmly at the heart of the Benchmarks.

It is important to understand that the experience of each school and college in the pilot was different. They all had different starting points and a different set of strengths and challenges (and you can learn more about these schools and colleges in Annex A). As a result, their solutions and approaches to achieving the Benchmarks were varied. However, every school and college found that the Benchmarks created a clear framework that helped coordinate activity across the whole school, from subject teachers to governors and administration staff. The Benchmarks also helped external stakeholders, such as employers, clearly see where they could fit into a school's careers programme.

Throughout this pilot, the North East LEP supported these schools and colleges in forging new relationships and creating new systems and structures both within and between institutions. I would encourage you to seek out the equivalent local support on offer to your school or college. The Careers & Enterprise Company Enterprise Coordinators, hosted across the country, are a great place to start. In the North East we are now rolling out our support for the Benchmarks across the region.

It has been a humbling experience to see how the hard work and dedication of the schools and colleges involved has directly resulted in such a positive change to the lives of the young people they serve. This handbook shares some of the stories and experiences from the pilot, and I hope this information can help inspire you on your journey to implementing the Benchmarks.

R. Gibson

Ryan Gibson,
Facilitator of the Gatsby career pilot,
North East LEP
April 2018

ABOUT THIS HANDBOOK

THIS HANDBOOK IS DESIGNED TO HELP SECONDARY SCHOOLS CREATE A CAREER GUIDANCE PROGRAMME FRAMED BY THE GATSBY CAREER BENCHMARKS. WE HOPE IT WILL BE PARTICULARLY USEFUL FOR HEADTEACHERS AND CAREERS LEADERS WHO HAVE RESPONSIBILITY FOR OVERSEEING THEIR SCHOOL'S CAREERS PROGRAMME.

The handbook introduces the Benchmarks, which describe all the elements of good career guidance in schools. However, we recognise that every school is different, and context is critical to designing a careers programme. This handbook is therefore not a prescriptive 'step-by-step' guide. Instead we present a series of case studies and suggested approaches developed by the broad range of schools and colleges involved in the successful pilot of the Benchmarks.

Several themes run through the Benchmarks, such as the use of data, providing advice on all progression routes, the need to focus on *each and every* student, and the need for strong school leadership. We explore some of these themes in the 'further considerations' sections towards the end of the handbook.

We hope this handbook can act as a starting point for your journey, and we have included a list of key organisations to help you further. We have also put together a more extensive list of recommended organisations on our website, where you can also find an online version of this handbook (which includes direct weblinks to organisations or documents when they are mentioned in the text).

The website address is:
www.goodcareerguidance.org.uk

THE CAREERS & ENTERPRISE COMPANY

The Careers Strategy, published in December 2017, identifies a broader role for The Careers & Enterprise Company across all eight of the Gatsby Benchmarks. At the heart of its mission to inspire young people about the world of work is a highly successful national network, connecting schools and colleges, employers and career programme providers. The impact of their work can be seen in many of the stories in this handbook, and we encourage all schools to make use of the extensive support it provides.

Right: Students at Kenton School





THE IMPORTANCE OF CAREER GUIDANCE

GOOD CAREER GUIDANCE IS THE KEY TO SOCIAL MOBILITY: IT IS ABOUT SHOWING YOUNG PEOPLE – WHATEVER THEIR SOCIAL AND FAMILY BACKGROUND – THE OPTIONS OPEN TO THEM, AND HELPING THEM MAKE THE RIGHT CHOICES TO SET THEM ON THE PATH TO REWARDING FUTURE CAREERS.

This is particularly important for young people who come from families without experience of higher education, or who live in areas of deprivation, or whose ethnicity or gender is underrepresented in certain occupations. Good career guidance is about raising aspirations, aiming high and avoiding making any assumptions about the limits on a young person's options. It's about accepting that while some subjects – for example science and mathematics – may seem harder than others, they may open more doors.

Only through schools can we be sure that every young person gets the advice they need, and that this advice is in their best interest, and theirs alone. Ofsted recognise the importance of career guidance and reference its importance throughout their inspection framework.

For some young people, university may offer the best route after school. For others, technical routes or apprenticeships may be better. Many schools and teachers find it easier to advise on the university route, because that is the route that many teachers took themselves. However, good career guidance means showing all students all the options open to them, whichever route they eventually take.

Right: Year 12 students from Churchill Community College on placement at Printed.com as part of their school's innovative new approach to experiences of workplaces



“

We see careers education as a driving force behind the social mobility of our students. With 45 per cent of our students qualifying as Pupil Premium, many do not have access to the role models and social networks required to develop their employability skills; we hope to open their eyes to careers they perhaps won't have ever considered. As a result, careers education is a key focus of our Academy and an integral part of our Academy development plan.

The Benchmarks have provided a clear framework to help us to develop our careers provision across all areas of the curriculum

”

JANET BRIDGES OBE, PRINCIPAL, CASTLE VIEW ENTERPRISE ACADEMY

THE GATSBY CAREER BENCHMARKS

THE GATSBY CAREER BENCHMARKS ARE THE RESULT OF AN INTERNATIONAL STUDY TO FIND THE BEST PRACTICE IN CAREER GUIDANCE WORLDWIDE. WORKING WITH EXPERTS FROM THE UNIVERSITY OF DERBY, THE GATSBY TEAM VISITED SIX PLACES – GERMANY, FINLAND, THE NETHERLANDS, IRELAND, HONG KONG AND ONTARIO – WHERE CAREER GUIDANCE IS KNOWN TO BE GOOD.

From these visits, from reviewing good practice in UK schools and from a close study of the research literature, the team drafted eight Benchmarks to define the essentials of good career guidance. The draft Benchmarks were tested hard: through consultation, through a survey of 10% of English schools and through a costing exercise by PwC. After publication in 2014, they were tested further in a pilot in North East England in 2015–17, involving a wide range of schools in terms of size, location and Ofsted rating.

From all this research and testing, we are confident that the Benchmarks are a robust but realistic framework for developing career guidance that is world class.

“

Effective careers guidance is the driving force behind improving social mobility – so businesses want young people to fully understand the world of possibilities out there, make the most of their talents and create lasting careers.

Many firms already provide inspiration and advice – with real progress being made in many areas, including the North East. But it's crucial more get involved across England and showcase the range of exciting careers available to all young people across all sectors

”

SARAH GLENDINNING, NORTH EAST DIRECTOR,
CONFEDERATION OF BRITISH INDUSTRY

Benchmark	Summary	Criteria
1 A STABLE CAREERS PROGRAMME	Every school and college should have an embedded programme of career education and guidance that is known and understood by pupils, parents, teachers and employers.	<ul style="list-style-type: none"> – Every school should have a stable, structured careers programme that has the explicit backing of the senior management team, and has an identified and appropriately trained person responsible for it. – The careers programme should be published on the school's website in a way that enables pupils, parents, teachers and employers to access and understand it. The programme should be regularly evaluated with feedback from pupils, parents, teachers and employers as part of the evaluation process.
2 LEARNING FROM CAREER AND LABOUR MARKET INFORMATION	Every pupil, and their parents, should have access to good quality information about future study options and labour market opportunities. They will need the support of an informed adviser to make the best use of available information.	<ul style="list-style-type: none"> – By the age of 14, all pupils should have accessed and used information about career paths and the labour market to inform their own decisions on study options. – Parents should be encouraged to access and use information about labour markets and future study options to inform their support to their children.
3 ADDRESSING THE NEEDS OF EACH PUPIL	Pupils have different career guidance needs at different stages. Opportunities for advice and support need to be tailored to the needs of each pupil. A school's careers programme should embed equality and diversity considerations throughout.	<ul style="list-style-type: none"> – A school's careers programme should actively seek to challenge stereotypical thinking and raise aspirations. – Schools should keep systematic records of the individual advice given to each pupil, and subsequent agreed decisions. All pupils should have access to these records to support their career development. – Schools should collect and maintain accurate data for each pupil on their education, training or employment destinations for at least three years after they leave the school.
4 LINKING CURRICULUM LEARNING TO CAREERS	All teachers should link curriculum learning with careers. For example, STEM subject teachers should highlight the relevance of STEM subjects for a wide range of career pathways.	<ul style="list-style-type: none"> – By the age of 14, every pupil should have had the opportunity to learn how the different STEM subjects help people to gain entry to, and be more effective workers within, a wide range of careers.
5 ENCOUNTERS WITH EMPLOYERS AND EMPLOYEES	Every pupil should have multiple opportunities to learn from employers about work, employment and the skills that are valued in the workplace. This can be through a range of enrichment opportunities including visiting speakers, mentoring and enterprise schemes.	<ul style="list-style-type: none"> – Every year, from the age of 11, pupils should participate in at least one meaningful encounter* with an employer. <p>*A 'meaningful encounter' is one in which the student has an opportunity to learn about what work is like or what it takes to be successful in the workplace.</p>
6 EXPERIENCE OF WORKPLACES	Every pupil should have first-hand experiences of the workplace through work visits, work shadowing and/or work experience to help their exploration of career opportunities, and expand their networks.	<ul style="list-style-type: none"> – By the age of 16, every pupil should have had at least one experience of a workplace, additional to any part-time jobs they may have. – By the age of 18, every pupil should have had one further such experience, additional to any part-time jobs they may have.
7 ENCOUNTERS WITH FURTHER AND HIGHER EDUCATION	All pupils should understand the full range of learning opportunities that are available to them. This includes both academic and vocational routes and learning in schools, colleges, universities and in the workplace.	<ul style="list-style-type: none"> – By the age of 16, every pupil should have had a meaningful encounter* with providers of the full range of learning opportunities, including sixth forms, colleges, universities and apprenticeship providers. This should include the opportunity to meet both staff and pupils. – By the age of 18, all pupils who are considering applying for university should have had at least two visits to universities to meet staff and pupils. <p>*A 'meaningful encounter' is one in which the student has an opportunity to explore what it is like to learn in that environment.</p>
8 PERSONAL GUIDANCE	Every pupil should have opportunities for guidance interviews with a Careers Adviser, who could be internal (a member of school staff) or external, provided they are trained to an appropriate level. These should be available whenever significant study or career choices are being made. They should be expected for all pupils but should be timed to meet their individual needs.	<ul style="list-style-type: none"> – Every pupil should have at least one such interview by the age of 16, and the opportunity for a further interview by the age of 18.

ACHIEVING THE BENCHMARKS: EXPERIENCES FROM THE NORTH EAST PILOT AND PRACTICAL TIPS TO HELP YOUR SCHOOL

THE VALUE OF THE BENCHMARKS HAS BEEN RIGOROUSLY TESTED THROUGH A PILOT INVOLVING SCHOOLS AND COLLEGES IN THE NORTH EAST. FROM THIS PILOT WE HAVE SEEN THAT, WHEN EMBRACED, THE BENCHMARKS CAN BE TRULY TRANSFORMATIONAL FOR A SCHOOL OR COLLEGE.

The schools ranged in terms of size, location and Ofsted rating, and many have a higher than average number of students eligible for Pupil Premium.

You can learn more about the pilot and the schools and colleges involved in Annex A. The following section shares some of the practical lessons learned about implementing each Benchmark, and gives top tips and ideas from those that have done so in their own school or college.

“

We are delighted that the eight Gatsby Benchmarks for good careers guidance are at the heart of the Careers Strategy. This evidence-based approach has the potential to make a significant difference to young people across England. It has been accepted as best practice by schools, colleges and employers across the country. At The Careers & Enterprise Company we consider its adoption by government to be a breakthrough moment for careers in England

”

CLAUDIA HARRIS, CEO, [THE CAREERS & ENTERPRISE COMPANY](#)



BENCHMARK 1: A STABLE CAREERS PROGRAMME

Every school and college should have an embedded programme of career education and guidance that is known and understood by pupils, parents, teachers and employers.

The first rung in building a structured career ladder for all students comes from strong leadership and a committed senior leadership team. The pilot in the North East showcases the importance of every school having a Careers Leader who can drive forward all eight Benchmarks in the school.

A Careers Leader needs to be supported by the school's leadership and have the skills, knowledge, authority and time to deliver a strategy and 'conduct the orchestra' of career guidance across the school and the community of external partners. Embarking on using the Benchmarks with buy-in from all staff will make the process much simpler. [The Careers & Enterprise Company](#) provide support and resources across all eight benchmarks. Their Enterprise Adviser scheme is available to every school and college and links schools to a business volunteer to work closely with the senior leadership team to design and implement a careers strategy.

At Excelsior Academy, the chair of governors is also the governor with responsibility for careers, and one of the Vice Principals acts as a Careers Leader with strategic responsibility for the quality and impact of the careers programme. They are supported by a Careers Activities Coordinator and a Work Experience Coordinator as well as a committed team of 'Careers Champions' – staff who implement and deliver the careers plan across the school. Careers guidance is now embedded across the school, including building the Benchmarks into the appraisal and performance review of staff at all levels, including the headteacher.

Sunderland College used a planned restructure of the senior leadership team (SLT) to introduce a new position: a Careers Leader with strategic responsibility for all careers education, information, advice and guidance (CEIAG) activity. Two other members of the SLT were also given the lead on Benchmarks 4 (Careers in the Curriculum) and 5 (Encounters with Employers). Employing the right member of staff to become the Careers Leader is key. If the Careers Leader is not a member of the SLT, they should report to a member of the SLT who has strategic responsibility for careers education. (See section 5 for more on Careers Leaders.)

To meet Benchmark 1, schools need to provide information about their careers offer in a manner accessible to staff, students, parents, carers and employers. To achieve this, The King Edward VI School in Morpeth built a dedicated careers website. Young people particularly appreciate being able to access relevant careers information from home, and it also gives parents and carers the opportunity to get involved. Park View School created a public-facing Careers and Enterprise blog with their Enterprise Adviser: each faculty within the academy has student Careers and Enterprise Champions who regularly blog about their experiences and events happening within the faculty. This has allowed employers, colleges and universities to link to what the academy is doing, and for parents, teachers and students to keep track of available opportunities.

Evaluating their current position against the Benchmarks was a powerful first step for the schools and colleges involved in the pilot. Compass, the free, confidential self-audit web tool created by Gatsby and The Careers & Enterprise Company, can help your school do this. Understanding your school's starting point will help you to reflect on what has worked well in the past, plan your journey and focus on areas of particular need.

For more information visit www.goodcareerguidance.org.uk/evaluation-tool

COMPASS
CAREERS BENCHMARK TOOL

TOP TIPS

"As part of writing a careers education policy, carry out an audit: you'll be surprised what you're already doing, and you'll have a focus for what to put in the policy. You will find using the Compass audit tool on The Careers & Enterprise Company website a useful part of this process."

Ryan Gibson, National Facilitator for the Career Benchmarks Pilot at the North East LEP

"In order to ensure that we met Benchmark 1, a large amount of research and cross-referencing took place with external providers, quality awards and the [Career Development Institute](#). This ensured that we created a framework for careers guidance which feels robust and comprehensive."

Marie Jobson, Careers Leader at Churchill Community College

"Benchmark 1 focuses on your policies, how these influence your careers programme, your staffing and the role of the SLT. This ensures you have a strong base for careers within the school and allows you to build a successful careers provision."

Rachel Reay, Careers Leader at The Link School



Above: Parents, carers and students hear about future study and employment options at Harton Academy

“

Learning about the labour market does not have to be about a mountain of statistics and bar charts; just highlighting key trends about skills requirements of the future, what employers are looking for, and the importance of being employable will give students what they need to start preparing for the world of work

”

MARK FOX, CAREERS LEADER, NORTHUMBERLAND CHURCH OF ENGLAND ACADEMY

2 BENCHMARK 2: LEARNING FROM CAREER AND LABOUR MARKET INFORMATION

Every pupil, and their parents, should have access to good quality information about future study options and labour market opportunities. They will need the support of an informed adviser to make the best use of available information.

Finding reliable information about the local and national labour market is vital to deliver good-quality intelligence about jobs and career paths. Access to up-to-date career and labour market information (LMI) is also important for social mobility. If students and their parents know what people in different occupations get paid, and where and how numerous the vacancies are, they are in a better position to make informed choices about future study and training. The government-funded 'LMI for All' website brings together multiple sources of robust LMI which is used by several careers guidance websites – this data can also be accessed through a widget which can be put directly on to a school website.

Interpreting LMI can be overwhelming, so one approach is to ask students for areas of interest and initially concentrate on these industries. At Northumberland Church of England Academy, trips were organised to local industries that the students picked. In this case, the automotive industry was of interest. The school presented LMI in a way that was engaging for students, giving them the opportunity to find out about the state of the industry today and in the future. This left students better equipped to understand the potential challenges within the industry, ask more relevant questions of employers, and come to an informed decision about their future career choices. The Academy also designed an interactive, practical lesson where students learnt how jobs are divided into sectors, were shown the National Careers Service website, and worked on individual projects which they presented to the class. This broadened their horizons beyond the narrow options they had previously considered. The lesson was designed to be adapted to suit any year group from Year 7 upwards.

At Bishop Auckland College, the careers team ensured all students engaged with LMI by organising large-scale sessions for up to 50 students at a time. They researched high-growth industries in the North East and disseminated information to the students on different vacancies, specific roles and what different sectors might look like in the future. For example, the energy sector is going to be a key source of jobs in the future – something many students had not considered before the LMI was presented to them.

LMI should also be integrated into normal curriculum lessons. Park View School built a central database of people who could be brought in by staff to provide LMI for the curriculum. The database contained details of school alumni, parents and carers, contacts made through [Future First](#) and [Inspiring the Future](#), and individuals from industry who had worked with the school in the past. The database gives them easy access to lesson resources from real people who are currently in that industry.

TOP TIPS

“Learning about the labour market does not have to be about a mountain of statistics and bar charts; just highlighting key trends about skills requirements of the future, what employers are looking for, and the importance of being employable will give students what they need to start preparing for the world of work. Self-awareness is a key component of the careers education programme and should go hand in hand with learning about the labour market.”

Mark Fox, Careers Leader at Northumberland Church of England Academy

“Organisations such as the local authority, Chambers of Commerce and Local Enterprise Partnerships can be particularly useful as they are skilled at accessing and interpreting local LMI. They can help you identify industries that are growing or sectors that have good prospects that your students may not have considered. The [National Careers Service](#) will also be using LMI alongside job profiles.”

Ryan Gibson, National Facilitator for the Career Benchmarks Pilot at the North East LEP

“You can track whether your students are going to college or university, securing apprenticeships or progressing into employment. You can also analyse whether students are progressing into growing or declining industries and whether they feel prepared for the world of work.”

Leanne Johnston, Careers Leader and Assistant Headteacher at The King Edward VI School, Morpeth

“Read your local economic plan documents produced by your Local Enterprise Partnership or the local authority to understand the local area yourself. At Bishop Auckland College, students, lecturers and impartial Careers Advisers felt better equipped to ask useful and relevant questions of employers when they met them at future events such as career fairs.”

Kevin Burns, Careers Leader at Bishop Auckland College

3 BENCHMARK 3: ADDRESSING THE NEEDS OF EACH PUPIL

Pupils have different career guidance needs at different stages. Opportunities for advice and support need to be tailored to the needs of each pupil. A school's careers programme should embed equality and diversity considerations throughout.

To address the needs of each young person, schools can first look at the destinations achieved by former students. By gathering accurate data for each student on their education, training and employment destinations for around three years, you will gain a better understanding of the needs of current students and what has and hasn't worked in the past.

Berwick Academy brought in a former student as an intern to map where alumni had gone on to. Berwick created a map which was hung in a newly created careers area within the school. The map showed the destinations of former students. The school also created 'alumni boards', highlighting former students in each department. The development of an alumni database ensures the Academy can keep in touch with former students in the years to come.

Destination data can help shape the careers advice given. At Castle View Enterprise Academy, they realised that lots of former students had taken up apprenticeships but they weren't providing much information about this pathway to current students. In response to this, they organised an event specifically looking at apprenticeships and the routes into them.

It is also important to guarantee that each and every student has career guidance that meets their own needs. This means that in some cases students may take part in different activities or receive different amounts and types of support. At Castle View Enterprise Academy, Year 7 students eligible for Pupil Premium were selected to take part in a five-week business mentoring programme. Activities that require students to self-select can sometimes miss those who might benefit most from a programme.

To ensure that students' progress was being accurately tracked, Bishop Auckland College undertook an extensive IT project culminating in the creation of an online portal that tracks a student's academic, welfare and careers progress. It brought together all of the college's careers activities and interventions in one place, ensuring that resource management, tracking and impact were all enhanced. It can be accessed by both teachers and students, with sensitive information accessible for staff only. The system provides each student with a record of their careers education and a focused career ladder. Although a large task, the impact of integrating all of the tracking systems together has been invaluable to the college.

“

By implementing all eight Benchmarks, the school has seen a dramatic fall in the number of NEET students from 60 per cent to 9 per cent in two years

”

THE LINK SCHOOL, SUNDERLAND

Harton Academy undertook a similar exercise. It equipped each student from Year 7 to Year 11 with a skills audit book. The book is a record of the skills they've learned each year, how these skills could be applied to industry, and what further skills they need to develop. As well as providing a record, the book also encourages students to critically analyse their development and the labour market. The skills booklet was so useful at Harton Academy that they're now looking at developing it into an app so that parents and carers can also access it.



Above: Students from Harton Academy attend a careers event

🔍 CASE STUDY

THE LINK SCHOOL, A PUPIL REFERRAL UNIT IN SUNDERLAND

Before implementing the Benchmarks, The Link School did not focus on careers as part of their work with young people, and were initially reluctant to engage with a [Careers & Enterprise Company Enterprise Adviser](#), preferring to work with a youth worker who would understand the more challenging nature of their students.

Through using the Benchmarks, the school gained the confidence to begin to work with employers, both strategically and operationally. The school are now matched with Unipres (a global automotive engineering company), work with the Department for Work and Pensions one morning a week, and have hosted their first ever careers fairs. The school also now commissions external guidance to ensure that all students have access to an independent and impartial careers guidance professional. By implementing all eight Benchmarks, the school has seen a dramatic fall in the number of NEET students from 60 per cent to 9 per cent in two years, and a much greater progression to college and apprenticeships.

“I am one very proud mother. Today [my son] completed a week of work experience at Unipres. I have not witnessed this sparkle in him for such a long time. I've listened, intently each evening, to the day's news and loved it almost as much as my son. His self-esteem and just the way his outlook has changed is astounding. His self-confidence has rocketed! ... Thank you for helping me to allow my son to grow. For giving him these opportunities and believing in him. I am in awe of the changes I see before me.”

**Mother of Year 10 student
(The Link School)**

“I have to say, the impact that the [introduction of the Benchmarks] has had on our school has been absolutely transformative. Learners are so engaged with their future steps – and the range of what they have been successful in applying for is just unbelievable. [Our Assistant Head] said that she has never known learners be so engaged with GCSE maths, and she specifically credited the work that had been done on careers for that. I really believe that what has been achieved within our school could be a blueprint for other schools throughout the country in breaking the cycle of low expectations and aspirations.”

**Headteacher, The Link School,
Sunderland**

TOP TIPS

“Destinations data is an important measure and will be looked at by Ofsted during inspections. Ensure governors, leaders, staff and students are aware of destination data and are able to talk confidently about how the school appropriately prepares young people for the next stage.”

**Matt Joyce, Careers Leader
at Harton Academy**

“Use the destination data of alumni combined with LMI to better understand whether the curriculum is producing positive destinations for your students.”

**Louise Gulliver and Charlotte Reynolds,
Careers Leaders at Park View School**

“Manage time effectively. Use September to complete destinations work in a focused way, and do not start on the cycle of current students until October. I work with the Education Welfare Officer and the Local Authority Link Adviser to identify and support the Y11–13 summer leavers and encourage them to attend local drop-ins. This has helped reduce the academy's NEET figure to between 0–1 per cent every year.”

**Mark Fox, Careers Leader at
Northumberland Church of
England Academy**

“Taking into account Excelsior's context (more than 50 per cent of students with English as a second language, high proportion of Pupil Premium and high SEN figures), it has been our relentless focus to ensure that the needs of each and every student are met. In order to do that, significant changes had to be made to align our curriculum to what the Benchmarks were telling us to do. A new robust curriculum was designed for Key Stage 3.”

**Deon Krishnan, Careers Leader
at Excelsior Academy**

4

BENCHMARK 4: LINKING CURRICULUM LEARNING TO CAREERS

All teachers should link curriculum learning with careers. For example, STEM subject teachers should highlight the relevance of STEM subjects for a wide range of career pathways.

Some schools in the pilot have explored ways to embed careers into the curriculum. Promising initiatives include: subject teachers visiting relevant industries; building links between subject heads and employers; bringing employers into class to deliver (or co-deliver) lessons; developing careers activities linked to subject schemes of work; identifying 'Careers Ambassadors' from each department; and including a careers prompt on planning documents for schemes of work.

One of the key barriers faced in bringing careers into the curriculum is a worry from teachers that they're not trained to do this. Building relationships with employers is key here. Some pilot schools brought employers in to give talks to their teachers, but others sent their staff out to work with local businesses and learn about the skills they were looking for when recruiting. At Churchill Community College, a teacher undertook an 'insight into industry' week organised by [STEM Learning](#), where she spent a day with five STEM businesses. On returning to school she used her experiences to update staff on routes into relevant STEM occupations. It also built closer relationships between the school and industry.



Left: Students taking part in activities at Bishop Auckland College

“

I was looking for fresh ideas around textures, tones and sharp lines. The project far exceeded my expectations...I would be delighted to repeat this experience again

”

HOUSING ASSOCIATION STAFF
WORKING WITH KENTON SCHOOL

Churchill also matched curriculum leaders with a relevant employer who could help to deliver aspects of the GCSE syllabus. Industry professionals provided real-life case studies to integrate into lessons and set projects around real industry developments. This programme was tested across three subject areas and has now been rolled out across the entire syllabus.

At Kenton School, Year 8 art & design students took part in an interior design challenge set for them by a local housing association. Working in small groups, they were tasked with redesigning the interior of a block of flats being built near the school, based on information about the different prospective residents. At the end of the project, the students presented their ideas to a representative of the housing association. Other similar projects linking specific subjects to employers were run in history and mathematics.

🔍 CASE STUDY

TECHNICIANS MAKE IT HAPPEN

Technicians apply knowledge of science, technology, engineering and maths with hands-on skills, to facilitate innovation and procedures in almost every industry. However, because their work tends to be 'behind the scenes', these rewarding career opportunities may be relatively invisible to young people. The campaign, *Technicians Make it Happen*, provides schools, parents and students with information about technician roles in a variety of sectors, from healthcare and aeronautics to theatre and broadcast. More information can be found on their [website](#).



Creating industry-focused workstreams for students is another way of embedding industry into the curriculum. At Excelsior Academy, students were invited to design an eco hotel. The project ran over ten weeks and is now a yearly event. The students who took part this year are ambassadors for the programme, and will encourage and inspire subsequent year groups. The project brought to life numerous subjects, including maths, English and science. It highlighted their practical purpose within the workplace and illustrated how the subjects prepare students for working life.

Great ideas don't have to require a lot of extra resource. At Northumberland Church of England Academy, students were asked to think of all the jobs that were needed to make household objects. This introduced them to roles they might not have thought about, developed the idea of supply chains, and helped them think about the variety of routes into specific industries. By simply using a model airplane as a stimulus, groups of students came up with all manner of jobs and sectors, from pilots and engineers to catering, tourism and emergency services.

TOP TIPS

"Ensure all staff are aware and agree on the time needed to design and deliver a careers programme before it starts. Encourage training and professional development so that staff feel invested in and supported. We have seen teachers' confidence in incorporating careers information into the curriculum increase notably. This confidence was also seen in the way teachers built new relationships with local employers."

Marie Jobson, Careers Leader at Churchill Community College

"There are lots of services you can buy in to support a career education programme, and it is worth talking to colleagues in other schools for recommendations, but also carrying out your own research. There may be discounts or free services in your area. You can also minimise cost by sharing resources with other schools, working with employers, and applying for bursaries. Some of the most creative ideas cost very little, for example ensuring you have employer representation on the governing body, directing young people to the National Careers Service, or making use of the labour market plugin available on the [LMI for All](#) website. The key is understanding what support you need, based on an audit of practice."

Ryan Gibson, National Facilitator for the Career Benchmarks Pilot at the North East LEP

"Encourage curriculum areas to map their overview schemes of work to specific careers – at Berwick Academy, we invested in CEIAG boards for each faculty to showcase curriculum learning with a link to specific sectors."

Sarah Flanagan, Careers Leader at Berwick Academy

"Try to collect departmental schemes of work to share with employers. It will help employers to think about how they can support your curriculum and ensure their limited time is maximised."

Emma McDermott, Careers Leader at Castle View Enterprise Academy

5 BENCHMARK 5: ENCOUNTERS WITH EMPLOYERS AND EMPLOYEES

Every pupil should have multiple opportunities to learn from employers about work, employment and the skills that are valued in the workplace. This can be through a range of enrichment opportunities including visiting speakers, mentoring and enterprise schemes.

To ensure they met Benchmark 5, many schools and colleges in the pilot had to bolster their existing relationships with employers. Many started from the point of already having a regular careers fair or talks with employers, so their challenges revolved around ensuring high-quality and comprehensive student engagement. They began by enhancing their existing events to reach students in all year groups. They also looked at ways to personalise employer interactions so that students found these discussions relevant for their future, and not just generic careers advice. The schools who really embraced the Benchmark worked with [The Careers & Enterprise Company Enterprise Advisers](#) and created innovative opportunities for students to meet local employers. One school organised for employers to judge a "Dragons' Den-style" event in which students had to pitch their business ideas. This scheme had an amazing impact on some students.

Those looking to enhance an existing careers fair started by tackling the major problem of attendance from both employers and students. Schools contacted employers by mining alumni, parents and contacts from teachers across the school. Some schools wanted to put on sector-specific events. To make this worthwhile, they teamed up with other local schools, ensuring a good turnout of students and employers. Others wanted to tailor their careers fair to what they knew their students wanted. King Edward VI School analysed their student destination data and post-18 choices, grouping them into sectors. This gave them target institutions and businesses that they then brought in to careers fairs. Looking for who you can collaborate with is key to enhancing a careers fair.

The most successful careers fairs also focused on ensuring parent attendance. The King Edward VI School engaged parents right from the very beginning, opening up the careers fair to them as well as to students. The school sent text messages and tweets to parents reminding them of the event, and also updated them when new employers were added.

Smaller scale events can also work well. Castle View Enterprise Academy organised "Business Breakfasts" where two employers came in and spoke to students over breakfast. Prior to starting this programme, the careers team surveyed students to see which employers they'd be interested in hearing from. They then matched these responses with the employers invited, and made sure students were sent personal invitations to events that would interest them. Employers who attended included Nike, Gentoo, Pets as Therapy, Northumbrian Water and the Army. These smaller events helped gauge student interest, feeding back information that then focused future activity. For example, after a visit from a scientist based at Sunderland University, female students who were particularly interested were invited to the university to take part in a science taster day designed specifically for them.

Many employers run short-term programmes for students aimed at teaching them about a specific industry. Nissan ran a Cadet programme with Excelsior Academy and St Joseph's Catholic Academy aimed at students who might be looking for apprenticeships in the future. The programme ran over five days during term-time, which initially seemed like a large amount of time away from lessons. To help gain buy-in from staff and students, Excelsior had representatives from Nissan come into the school and give a presentation about the programme and the work that students would be doing. At St Joseph's, Nissan began by running evening workshops; the most engaged students were then chosen to take part in the full programme.

Right: A careers fair at Park View School

“

Schools focusing on the Gatsby Benchmarks are more open to connecting to employers, and it is easier for employers to work with them to develop projects, to support delivery in the classroom, and to develop relationships with the teachers. Schools using the Benchmarks are open to a wider range of interactions, making it easier for employers to demonstrate what our workplaces are like, how we recruit, the key skills we are looking for and the diversity of job opportunities we have (including apprenticeships). This helps pupils to gain a real understanding of how their learning will support future careers choices

”

KAREN MARSHALL, APPRENTICE EDUCATION
AND ENGAGEMENT LEAD, [ACCENTURE](#)



TOP TIPS

"To make sure these encounters with employers are memorable, it can be useful to poll students to identify areas of interest and where any gaps in knowledge might lie. At our school, the Careers Adviser found that there was a great deal of interest from students in midwifery, so they arranged for current medical students and a midwife to visit the school. To ensure the most was made of this visit, students were asked to prepare questions in advance and to analyse what they had learned after. Evaluation of impact is key."
Sarah Rice, Careers Leader at Kenton School

"Tap into your networks and try to expand them to find employer contacts. The Cadet programmes at Nissan came from alumni and family contacts who helped build the relationship."
Deon Krishnan, Careers Leader at Excelsior Academy

"Overbook a careers fair with more employers than you'll think you need as this allows for any dropouts and cancellations. Always have a back-up plan so that students are not missing out."
Christine Jones, Careers Leader at St Joseph's Catholic Academy

“

The number of students successfully matched to a work experience place increased by 127 per cent

”

SUNDERLAND COLLEGE

“

As the lifeblood of our communities and economy, small businesses are integral to raising young people's awareness of future opportunities in local areas across England. With entrepreneurship becoming increasingly attractive to the next generation, small business owners are ideally placed to share their passion and experience of working for yourself. What's more, small businesses benefit too – the chance to develop employees of the future, build personal skills and give something back

”

JANE WALTON, EDUCATION CHAIR, [FEDERATION OF SMALL BUSINESSES](#)

6 BENCHMARK 6: EXPERIENCES OF WORKPLACES

Every student should have first-hand experiences of the workplace through work visits, work shadowing and/or work experience to help their exploration of career opportunities, and expand their networks.

By taking a strategic approach, pilot schools have seen a huge increase in the number of the students carrying out high-quality work experience. They have focused on encouraging students to take up opportunities to experience a wide variety of workplaces and to plan for, reflect upon and learn from these experiences.

To ensure work experience was positive for both the student and employer, Sunderland College worked with an external recruitment agency to prepare students and match them with employers. Students were encouraged to think about what they wanted from an experience of work and what skills they would need to demonstrate during their time with an employer. The college also worked with employers to encourage them to let students participate in real work in addition to shadowing employees. After their time with employers, students were encouraged to reflect on and record what they had learnt in booklets, and to update their CVs with new skills. At Sunderland College, the number of students successfully matched to a work experience place increased by 127 per cent. There are now over 200 employers engaged in the programme.

The Academy at Shotton Hall had found that its students were not thinking deeply about their experiences in the workplace, and consequently the impact of these experiences was limited. To tackle this issue, they are experimenting with "career investigations". Career investigations encourage students to look holistically at a business; studying its role in the local area. Students who took part in the investigations learnt about hidden aspects of the business, often overlooked by students in previous work placements.

At East Durham College, students produced and ran two days of events as part of the "Why Art Man?" festival. They were responsible for creating the event, working with the Local Authority, marketing it and selling tickets. This real-life experience gave students a snapshot of the responsibilities associated with work, and gave them a chance to work with a wide range of businesses, charities and public sector bodies.

Securing a valuable workplace experience for every young person can be a big task. Churchill Community College reduced the burden on the employers by carefully structuring their work experience programme. Students were put into small groups based on skills and aspirations and paired with employers. Students were then given two tasks: to present an overview of the company to employers, and complete a challenge or project set by the employer. Over the week, the group carried out an employer visit to understand the breadth of the business, and each student spent a day shadowing an employee. At the end of the week, groups made a formal presentation to the employer.

Berwick Academy has worked with the Multidisciplinary Innovation Team at Northumbria University to design a 'road-map' of meaningful and diverse workplace experiences across Years 9 to 11. The road-map helps to plan activity across key stages and has resulted in students undertaking work experience, extended projects and workshops within and outside school. The programme has engaged with employers across over 20 sectors. It also integrates elements of Benchmark 5 such as 'employer speed dating'.

TOP TIPS

"The Gatsby Benchmarks have introduced a way of thinking as to how students can gain meaningful experience of the workplace and links with employers as alternatives to a traditional two-week work experience placement. Through the North East Local Enterprise Partnership 'Enterprise Project' we are now working with an Enterprise Adviser at the international company Caterpillar, and already have had two small groups of students visit the local establishment."

Rodger Davies, Careers Leader at The Academy at Shotton Hall

"To us, [a meaningful experience of workplaces] is the culmination of our CEIAG provision and really allows students to gain experiential learning and confidence of seeing what they have learned put into practice."

Marie Jobson, Careers Leader at Churchill Community College

"Think less about work experience and more about experiences of the workplace. How can you help students to really investigate the industry and truly understand what working in it would be like?"

Vikie Morton, Careers Leader at Sunderland College

"Try to encourage students to take up weekend and holiday work experience too. These can help to develop technical and transferable skills for students and widen their networks."

Gillian Hales, Careers Leader at East Durham College

Right: Students from Greenfield Community College working with employers at Bishop Auckland College

“

The Benchmarks allow both organisations and schools to work on a clear plan to deliver their part in good career guidance for students. Organisations need to get their heads around supporting local students in career advice and work experiences. This is the workforce of the future. It is not a long-term game: in reality, we are seeing the benefits of fast tracking outstanding pupils in only six months. This is not a tick in the box exercise: it is about adding real value to the schools, students and our business

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GREG ROBSON, LEARNING MANAGER, [CATERPILLAR](#)



7 BENCHMARK 7:
ENCOUNTERS WITH FURTHER
AND HIGHER EDUCATION

All pupils should understand the full range of learning opportunities that are available to them. This includes both academic and vocational routes and learning in schools, colleges, universities and in the workplace.

Schools within the pilot have fully embraced the concept of 'meaningful encounters' with higher and further education, ensuring that students are made aware of the full range of learning opportunities. With large-scale reforms to technical education on the horizon – including the introduction of T levels from 2020 – making sure young people understand the full range of options available has never been more important. The Government's Statutory Guidance, *Careers guidance and access for education and training providers*, published in January 2018, recognises the importance of these encounters. Schools are now required to give providers of technical education and apprenticeships the opportunity to talk to all their students, including publishing their 'provider access' statement on their website.

By making use of all the organisations who can provide support through established outreach and awareness programmes, you can ensure that technical education routes are explained alongside academic routes within the school. Every student, whatever their ambitions, should have the opportunity to explore what it is like to learn at the full range of learning providers, including University Technical Colleges (UTCs), FE colleges, universities and apprenticeship and training providers.

Harton Academy organised an evening event exploring future education options. Local higher education institutions shared information on learning styles and financing options, and a range of professionals talked about their career pathways. The professionals had taken many different routes and qualifications to get to their positions, including apprenticeships and higher technical qualifications. Students could have individual meetings with any of the speakers, and parents and carers also attended the event.

Greenfield Community College looked at this a different way, inviting local further education and apprenticeship providers to a Year 11 parent evening. A designated space was given to the providers so that they were able to engage with students and parents as they waited to speak to teachers.

To ensure students understood the breadth of pathways available, Sunderland College focused on creating a 'Routes into STEM' event, which brought together employers, higher education providers and professionals to talk about careers and the routes into them. By inviting high-profile speakers, they increased attendance at the event.

You can reduce the potential for students to receive conflicting messages about pathways into employment by understanding where parents and carers get their information from, challenging preconceptions of further and higher education, and sharing information throughout the school year.

TOP TIPS

"Map out your destinations from previous years and look for gaps and trends. Are students clustering around particular universities or colleges? Did students pursue 'fallback' routes due to a lack of information about opportunities? Use this data to inform planning of opportunities and potential interventions for the next cycle."

Leanne Johnston, Careers Leader at The King Edward VI School, Morpeth

"It can sometimes be difficult to convince senior leadership to provide broad and balanced information about post-16 options when a school is invested in recruiting students for their own sixth form, but you should focus on the student, and what is best for them. They are entitled to all the information about how they can succeed. A school sixth form should be promoted alongside other routes."

Ryan Gibson, National Facilitator for the Careers Benchmarks Pilot at the North East LEP

"Look at what your local college does in local schools. Staff from our college offer sessions to Year 8 students, linking careers and labour market information to growth sectors in the local area, often taking in employers drawn from the college's own contacts. We also work with Year 11 students and sixth form students applying to college, raising the profile of careers linked to opportunities in our specific region."

Kevin Burns, Careers Leader at Bishop Auckland College

"Our work with Bishop Auckland is an example of how partnership can have an impact on a range of Benchmarks across several institutions through one coordinated and collaborative activity."

Simon Tait, Careers Leader at Greenfield Community College

"Collect bulk copies of local FE college and sixth form prospectuses and training provider guides to use in lessons; the students love to see the real thing."

Emma McDermott, Careers Leader at Castle View Enterprise Academy

“
We moved Russell
Group admissions
from 5 per cent to
25–35 per cent
annually

”
BERWICK ACADEMY

CASE STUDY

EXPLORING SCIENCE AND
ENGINEERING THROUGH
THE CURRICULUM

A student in Berwick Academy became increasingly interested in STEM subjects in Year 11 and decided to take forward maths and physics to A level. She was accepted onto natural sciences courses at all five institutions she applied for.

"Part of [the decision to take maths and physics A level] was thanks to the teachers – they were really inspiring and related the skills I was learning to different kinds of workplace. Attending the summer schools, as well as school visits from science businesses, helped me to decide which direction I'd like to go in."

When I did the engineering summer school, I enjoyed it, but it really highlighted that I'm more interested in science than engineering. It proved to me that, while it's important to focus on what you think you'd like to do, you need to rule out the careers you're not keen on too. My advice to other students, in terms of careers guidance, would be to take advantage of as many opportunities you can. If you're not sure exactly what you want to do, just do something! The skills and learning you get at the end are what count."

Year 13 student, Berwick Academy

Below: Students from Harton Academy attending an evening event exploring education options



8 BENCHMARK 8: PERSONAL GUIDANCE

Every pupil should have opportunities for guidance interviews with a Careers Adviser, who could be internal (a member of school staff) or external, provided they are trained to an appropriate level. These should be available whenever significant study or career choices are being made. They should be expected for all pupils but should be timed to meet their individual needs.

There are many different models of one-to-one guidance, so start by researching the right one for your school. Whether you are using internal or external provision, make sure a robust quality assurance system is in place to monitor the guidance given to students and ensure those providing guidance are trained to the appropriate level. The Career Development Institute (CDI) holds the [UK Register of Career Development Professionals](#) to help identify qualified practitioners. Those on the register have recognised qualifications, abide by a code of ethics, and undertake regular professional development.

If you're considering using someone from within the school team, think about how you can ensure the guidance interview is independent and impartial. To solve this problem, some of the schools and colleges in the North East pilot swapped appropriately trained staff so students received an impartial interview. This ensured staff had no preconceptions based on relationships built in the classroom.

Greenfield Community College worked with an external organisation to provide 30-minute interviews with each Year 11 student. During these interviews, the Careers Adviser discussed the students' ambitions and helped them explore the progress they had made, or would have to make, to achieve these goals. The Adviser also fed back to staff if there were any students with unrealistic expectations or no plan; this allowed staff to intervene and provide these students with more focussed guidance. For the students of Greenfield Community College, having a one-to-one guidance interview with an external provider was positive, as it reassured them about a lack of bias. The majority now have an intended destination and those that do not have been identified and given extra support.

The Northumberland Church of England Academy looked to draw out recurring themes from Year 11 personal guidance interviews to help improve their wider careers programme. With the consent of the students, 30-minute interviews were audio-recorded and analysed by the Careers Adviser. As a result, the school's PSHE curriculum was changed to address recurring themes, including finance and travel barriers to further education.

When bringing in external providers, think about the sort of information you can give them in advance – providing a record of students' academic and career learning in one place allows them to provide more tailored advice. It also helps them to judge when a student's plans are unrealistic or not ambitious enough. To make sure you are investing in something that is high-quality, ask external providers how they quality assure their service and request to see evidence.



Above: Excelsior Academy

TOP TIPS

"The personal guidance meeting is not about telling a student what qualifications they need for a specific job – they can find that out for themselves. It is an opportunity for a student to have time and space to reflect on what being at school means to them and where it is all leading. The personal guidance interview works best when a comprehensive careers education programme is in place and the Adviser does not have to spend the whole session introducing concepts the student should already know about."

Mark Fox, Careers Leader at Northumberland Church of England Academy

"Conducting guidance interviews was much improved when we could contextualise them with the information about students' academic performance and career education."

Judith McChesney and Rachel Duff, Career Advisers at Bishop Auckland College

"We liaise with services that currently have responsibility for targeted guidance services – for example the Local Authority and Jobcentre. This really helped."

Rachel Reay, Careers Leader at The Link School in Sunderland

"To assure the quality of an external provider, the Career Development Institute's (CDI) '[A guide to best practice and commissioning careers guidance services](#)' recommends you check the external organisation you are employing has the [Matrix Standard](#). If the organisation doesn't, the CDI also provides a checklist."

Marie Jobson, Careers Leader at Churchill Community College

"Become a member of the CDI and contact them with any questions about professionally qualified Advisers."

Mark Fox, Careers Leader at Northumberland Church of England Academy

The Career Development Institute welcomes the new careers strategy and the focus that the Gatsby Benchmarks provide. Professional careers guidance is at the core of the Gatsby Benchmarks. At the CDI we continue to support Careers Advisers and Careers Leaders to improve outcomes for young people by developing and strengthening their skills through ongoing CPD and recognised qualifications, raising standards throughout the profession

FURTHER CONSIDERATIONS: RAISING ASPIRATIONS AND TACKLING STEREOTYPES

DELIVERING GOOD CAREER GUIDANCE
FOR EACH AND EVERY STUDENT MEANS
PROVIDING DIFFERENT EXPERIENCES
TO EACH INDIVIDUAL, AND MAY REQUIRE
SPECIFIC INTERVENTIONS TO TACKLE
SYSTEMIC ISSUES AROUND GENDER, ETHNICITY,
LOCATION OR FINANCIAL SITUATION.



It is essential that all young people can access the most competitive courses and occupations, regardless of their circumstances.

ACCESS TO HIGHER EDUCATION

Following an academic pathway can provide access to many skilled professions, and in 2017 record numbers of 18-year-olds in the UK accessed full-time higher education. However, as the Government's social mobility action plan, *Unlocking talent, fulfilling potential*, highlights, young people from advantaged backgrounds are two and a half times more likely to enter higher education compared with those from the most disadvantaged backgrounds, and six times more likely to go to the most selective institutions. The Social Mobility Commission have found that local residents are also not always benefiting from high-quality provision in their area.



Everyone is different, and their hopes and dreams need to be respected and encouraged. We are not here to be an 'exam factory' but to produce accomplished young people who can flourish beyond school and be active within society and the economy



LEANNE JOHNSTON,
CAREERS LEADER,
KING EDWARD VI SCHOOL

The UK has some of the most highly regarded universities in the world, and there are many widening participation initiatives led by universities, including outreach activities and summer schools. Some universities also offer financial support and bursaries for students, and some may take in to consideration the applicant's background as part of the admissions process.

But these universities can only make offers to those who apply, so it is critical to provide timely, good quality advice to young people and encourage them to aim high. The Russell Group provide information about making informed choices leading up to entering higher education – this includes a list of 'facilitating subjects' that are most frequently required for entry to degree courses.

These facilitating subjects are: biology, chemistry, English literature, geography, history, modern and classical languages, maths and further maths, and physics.

Supporting students to produce high-quality personal statements can also have a significant impact on whether a student is accepted on to a university course. There is a lot of advice on producing a good personal statement, but it is important to begin thinking about applications early. [The Sutton Trust](#) have successfully piloted activity to help students from low-income backgrounds with their personal statements by engaging them in wider reading and tailored academic activity in advance.

Some school and college leavers may prefer to continue their education as part of an apprenticeship, gaining wages and experience as well as a pathway into a respected occupation. There are increasing opportunities for young people to gain a higher level qualification – including degrees – in this way. There is also evidence to show higher apprenticeships can lead to greater lifetime earnings than many degree courses.



Our school is in a POLAR 1 postcode, with historically low rates of progression to higher education.

We analysed our post-18 destinations data and then planned interventions and built new partnerships. We moved Russell Group admissions from 5 per cent to 25–35 per cent annually. Through working with the [Social Mobility Foundation](#) and [Teach First: Futures](#), we recently sent our first student to Oxford University, and have a cohort of students aspiring to Oxbridge/Medicine



SARAH FLANAGAN, CAREERS LEADER, BERWICK ACADEMY

GENDER DISPARITIES IN STEM SUBJECTS

Across all those who started apprenticeships in 2015/16, a stark gender gap emerges. Only 8 per cent of engineering and manufacturing apprentices, and only 16 per cent of ICT apprentices, were female. A recent [report from the Institution of Mechanical Engineers \(IMechE\)](#) found that girls feel particularly poorly informed about engineering and do not see it as relevant to their own lives. The lower application rate by females to apprenticeships in high-demand industries such as engineering is contributing to a significant gender gap in what apprentices are earning: male apprentices get paid 21 per cent more per hour, leaving women potentially over £2,000 worse off per year.

Schools can play an important role in addressing these issues at an early age. The Sutton Trust has identified that guidance about different post-18 courses is particularly needed at age 14. At GCSE, STEM subjects are relatively well balanced in terms of gender (with the exceptions of computing which is 80 per cent male, and design and technology which is 61 per cent male).

However, post-GCSE there are significant variations in uptake of academic subjects by gender. Girls account for 50 per cent of the entries to physics GCSE but only 22 per cent of entries to physics A level. The total cohort size for physics A level has increased by almost 30 per cent in the last decade, but the proportion of girls has remained almost static. Computing continues to be an unpopular subject at A level among girls, who make up only 10 per cent of entries.

A 2017 [report from the Institute of Physics](#) makes a number of whole-school recommendations to help address the gender balance in physics, including appointing someone senior in the leadership team to act as a gender champion and drive change within the school, and reviewing the options process for any unconscious gender bias.

STUDENTS WITH SPECIAL EDUCATIONAL NEEDS AND DISABILITIES (SEND)

Although there are specific barriers to overcome when developing a careers programme for students with special educational needs and disabilities, the

benefits can be significant, helping them develop life skills, gain independence and achieve sustained employment.

Relationships with employers will need to be stronger, as they may have negative perceptions of students with SEND. Work experience may therefore need more organisation. MENCAP research revealed that 62 per cent of people have never worked with a colleague with a learning disability, but that, positively, more than half said they would prefer to work for a company that employs people with a learning disability. Parents may also need support to understand the potential for their child to develop independence.

The Careers & Enterprise Company has produced a [report](#), as part of its 'what works' series, which provides some guidance on transition programmes for students described as having SEND.

CASE STUDY

DELIVERING CAREER GUIDANCE TO STUDENTS WITH SEND

Southlands School in North Tyneside is a senior school for children with moderate learning difficulties. It is one of several schools in the North East which have been influenced by the pilot, although not formally part of it. A number of Southlands students have additional social, emotional and behavioural difficulties or other more complex needs. Leon Buffham, a Year 11 student at Southlands, readily admits that he often struggles at school and finds it difficult dealing with his emotions. He was given the opportunity to undertake a retail placement at Café Ora in North Tyneside as part of the school's 'Moving On' vocational programme.

The aim of the retail placement is to give students real life valuable work experience over a sustained period. This can help them to develop more advanced skills and greater confidence, hopefully leading to employment in the sector if they wish. During Leon's placement, he arrived independently and undertook a variety of roles from stocktaking to learning the menu. The impact has been huge, and Leon has really noticed the difference. He has been offered a job on weekends following the placement, and Café Ora is continuing to train him for recruitment into future jobs.

"I just love being there. It has been the best thing ever."

Leon Buffham, Year 11 student, Southlands School

"Having Leon as part of the team has not only been a great help, but also he is an eager young man, who has been appropriately selected for this type of business and has gelled really well with members of the team. Working with Leon one morning a week has given us an opportunity to develop our own training techniques to a person who has little knowledge of the industry, and we aim to develop his confidence in a new and unfamiliar working environment, to hopefully give him the skills to gain work in the industry in future."

Charlotte, Leon's workplace supervisor at Café Ora

“

Engineering is really about how people use their creativity to improve lives. The best way to communicate this to young people is through a high-quality careers programme that is an ever-present thread running through the entirety of their educational experience. An effective programme must include the real voices of engineers, and present academic and technical career routes as equally valued, fulfilling options

”

PETER FINEGOLD, HEAD OF EDUCATION AND SKILLS POLICY,
[INSTITUTION OF MECHANICAL ENGINEERS](#)



Right: Students from The Academy at Shotton Hall working with employees from Caterpillar

FURTHER CONSIDERATIONS: CAREERS LEADERS

DELIVERING GOOD CAREER GUIDANCE THAT TAKES INTO ACCOUNT INDIVIDUAL NEEDS REQUIRES STRONG, EMPOWERED LEADERSHIP. EVERY SCHOOL SHOULD THEREFORE HAVE A DEDICATED CAREERS LEADER.

A Careers Leader needs to be a:

LEADER

– a good leader who takes responsibility for conceiving, running and reporting on the school's careers programme;

MANAGER

– a skilful manager who is able both to run projects and, in some cases, line manage more junior staff;

COORDINATOR

– a careful coordinator of staff from across the school and from outside; and

NETWORKER

– a skilled networker who is able to develop a range of links beyond the school with employers and education and training providers.

It is important to note that the Careers Leader is a distinct but complementary role to that of the Careers Adviser. The Careers Leader takes responsibility for the school's whole careers programme. They lead, manage, coordinate and build the networks that support careers provision in a school, but do not necessarily deliver all this careers support themselves. A Careers Adviser will be seeing students, providing information, advice and guidance, and offering specific expertise on the labour market, educational pathways and career decision-making.

The Careers Leader has an important and demanding job which can also be very satisfying. The background of the Careers Leader is less important than ensuring that they have the time, authority, knowledge, skills and, critically, the clear backing of senior school leaders to do the job.

The Government's Statutory Guidance, Careers guidance and access for education and training providers, published in January 2018, recognises the importance of every school having a Careers Leader; and from September 2018 every school will be expected to publish the name and contact details of their Careers Leader on their website.

Above right: Northumberland Church of England Academy



“

At Teach First we welcome the commitment in the government's careers strategy for the training and support of Careers Leaders. We have seen first-hand the benefits to schools in having a whole-school careers strategy, led by a confident and skilled Careers Leader, through the delivery of our Careers and Employability Leadership Programme. This pilot programme identified and supported middle leaders on their journey to becoming a Careers Leader. All of the schools involved are now on track to deliver their strategies and are already reporting an improvement in their careers provision. Their success has been down to the support of the school senior leadership team and the Careers Leaders being given the time and space to take part in training

”

RUSSELL HOBBY, CEO, TEACH FIRST

FURTHER CONSIDERATIONS: UNDERSTANDING THE CHANGING LANDSCAPE OF TECHNICAL EDUCATION

GOOD TECHNICAL EDUCATION
ENABLES INDIVIDUALS TO
DEVELOP THE KNOWLEDGE AND
SKILLS THEY NEED TO ENTER
SKILLED EMPLOYMENT.

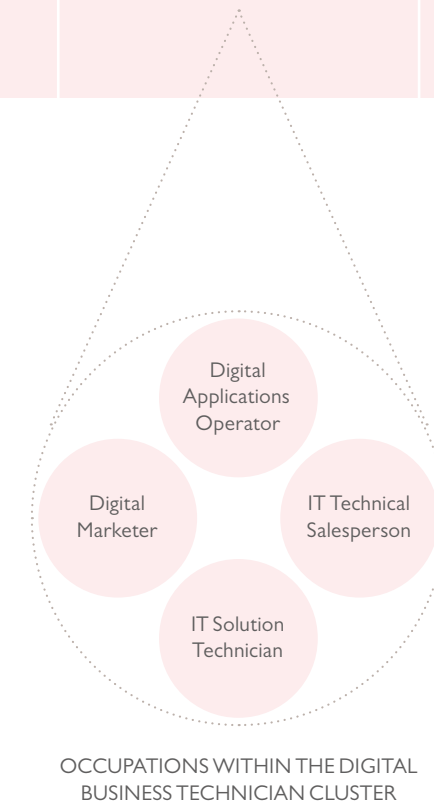
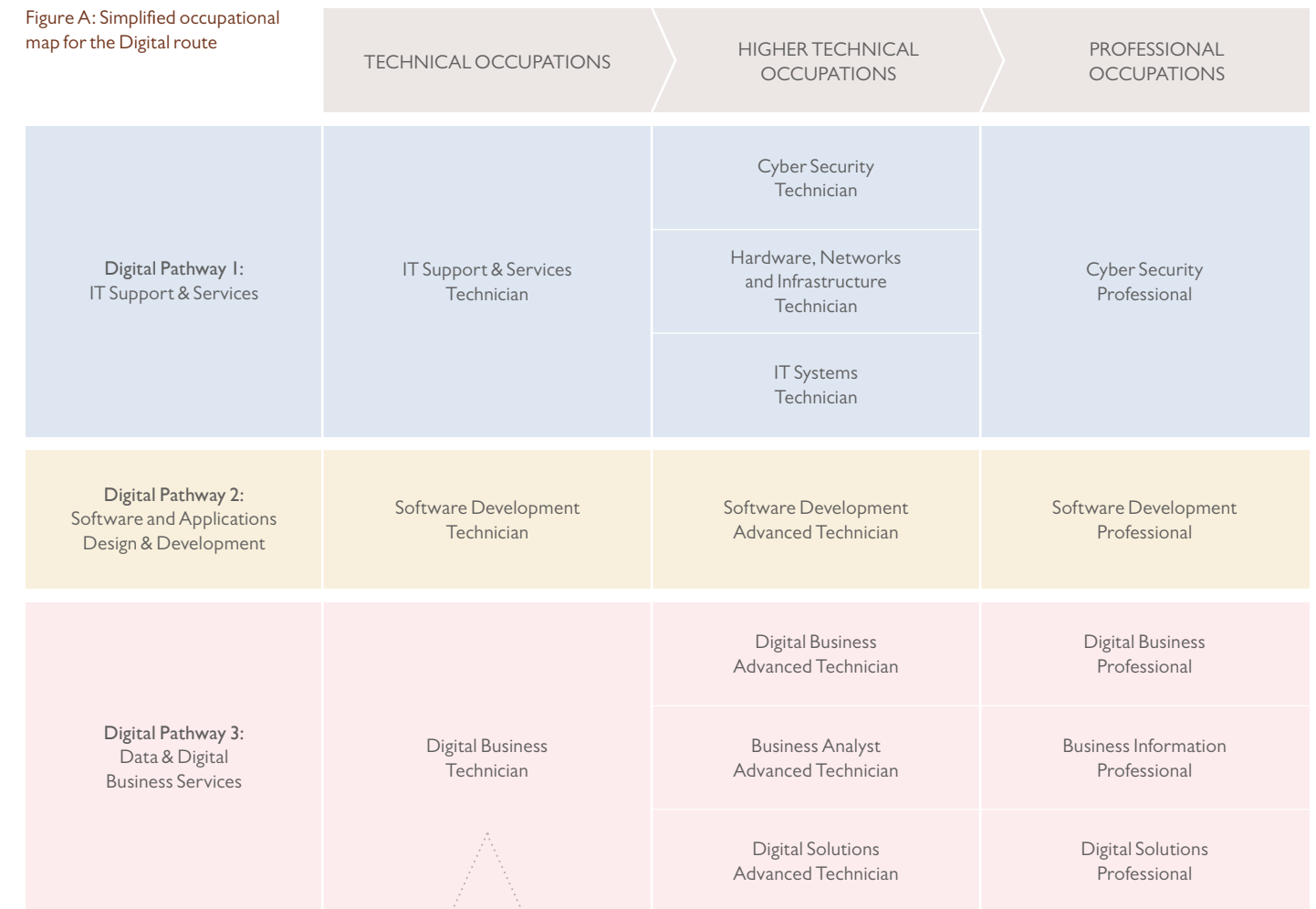
Young people often have a good understanding of how they might progress from post-16 academic study such as A levels – typically to an undergraduate degree programme. In contrast, our current technical education system can seem complex, with unclear paths for progression and limited information about which qualifications employers value. The technical option – encompassing apprenticeships and classroom-based technical qualifications – is also often unfamiliar to those working in schools, many of whom have themselves only followed the academic option.

However, good technical education enables individuals to develop the knowledge and skills they need to enter skilled employment. It also supports individuals to continue their learning through higher or degree apprenticeships, or higher education courses including higher technical qualifications and technical degrees.

In 2016, the Government's *Post-16 Skills Plan* set out the most significant reforms to technical education in England for a generation, having accepted all of the recommendations of the *Independent Panel on Technical Education*, chaired by David Sainsbury. Both documents can be found on the Department for Education [website](#).

Technical education in England will now be built around 15 clear routes to skilled employment. These 15 routes – for example 'Construction', 'Engineering & Manufacturing', or 'Catering and Hospitality' – will encompass apprenticeships and classroom-based technical education, and will be based on a national framework of standards being developed by employers working in partnership with government. The standards describe the knowledge, skills and behaviours required to perform successfully in different occupations. For more information on occupational maps please see the [website](#) of the Institute for Apprenticeships.

Figure A: Simplified occupational map for the Digital route



AN OCCUPATIONAL MAP

Technical education in England will be built around 15 routes to skilled employment. For each route there is an occupational map which brings together occupations with similar requirements into pathways and occupation clusters. The maps also show typical progression pathways.

For the Digital route, shown in Figure A, the occupation clusters have names such as 'IT Support & Services Technician', 'Software Development Technician' and 'Digital Business Professional'. Within these clusters there can be any number of occupations; for example the Digital Business Technician cluster contains 4 individual occupations. Pathways on the occupational maps are split into technical occupations (those at levels 2 and 3), higher technical occupations (at levels 5 and 6), and professional occupations (at level 6 and above).

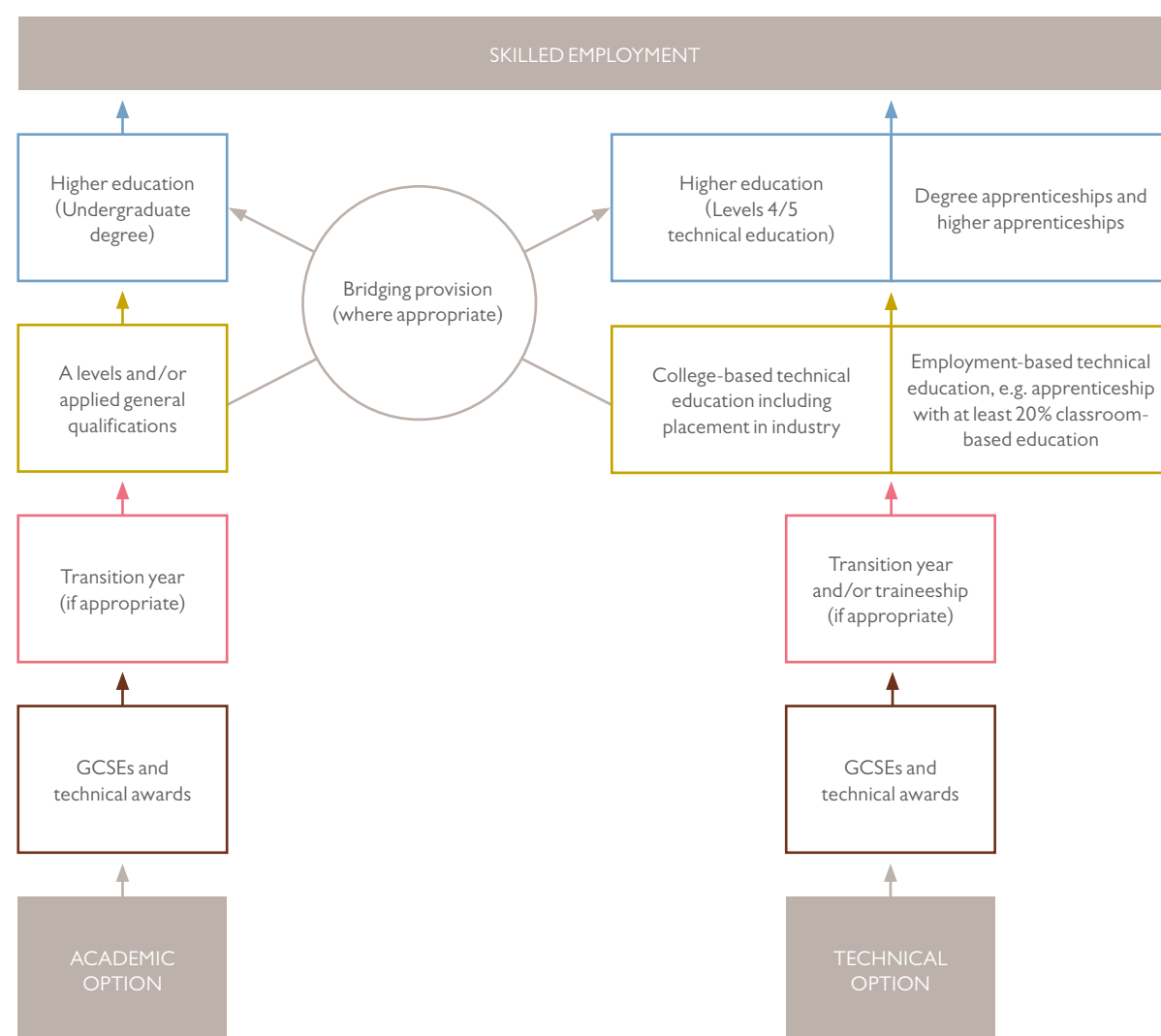


Figure B: Diagram summarising post-16 education and training options for young people in England as set out in the Post-16 Skills Plan

For 16–18 year olds, the new technical option being introduced from 2020 will offer two modes of learning: work-based (apprenticeships), and classroom-based (T levels). As described above, both apprenticeships and T levels will be developed against a common framework of employer-developed standards.

Figure B illustrates how technical education fits within the wider post-16 education system for young people. Transition support will be available for young people not ready to begin a technical education route at age 16. Bridging provision at key points will facilitate movement between the academic and technical options. The Government will be consulting on and developing plans for the shape of both transition support and necessary bridging provision.

Different types of institution offer post-16 education and training, and it is important to ensure that young people have full, impartial information about the options available to them. The first step is to consider the opportunities offered by both the academic and technical options. Then a young person considering the technical option should explore opportunities for both apprenticeships with employers, and full-time classroom-based programmes. In the student's locality, these full-time programmes may be delivered by schools, UTCs, colleges (including general FE, specialist colleges, sixth-form colleges and National Colleges), and independent training providers.

APPRENTICESHIPS

Apprenticeships offer employment with education and training. The employer of an apprentice ensures that they are given the necessary education and training for them to become competent in the chosen occupation. In exchange, the apprentice accepts a lower wage than they would expect to earn once they have successfully completed their training. An apprentice learns while on-the-job, and spends at least 20 per cent of their time undertaking off-the-job learning (in a college or independent training provider chosen by the apprentice's employer), which equips them with knowledge and skills that they may not be able to gain in their current workplace.

Since 2014, the Government has been reforming apprenticeships, phasing out the previous apprenticeship 'frameworks' and ensuring that all new apprenticeships lead to full competence in the chosen occupation. This is tested through a synoptic, end-point assessment. Apprenticeship standards are overseen by the Institute for Apprenticeships (IFA), and included in the detailed occupational maps for the 15 technical education routes. In 2018, the IFA will also assume responsibility for T levels and become the Institute for Apprenticeships and Technical Education.

Further information about apprenticeships is available on the [Apprenticeships: Get In Go Far](#) and the IFA website, and information specifically for teachers can be found on the [Amazing Apprenticeships](#) website.

T LEVELS

Between 2020 and 2022, new, full-time Level 3 technical programmes – T levels – will be introduced for post-16 students. T levels will be substantial technical education study programmes including a relevant technical qualification, an extended work placement, any route-specific requirements (for example, a food safety certificate in catering), and appropriate English, mathematics and digital skills. The technical qualification will be designed to equip students with the knowledge and skills which employers have identified as being required to enter relevant occupations within the chosen route.

Work placements are distinct from shorter *work experience* opportunities. High-quality work experience opportunities are extremely valuable – as described by Benchmark 6 – but they tend to provide young people with general experience of the workplace environment. The work placements within T levels, on the other hand, will involve a young person spending between 45 and 60 days in a working environment relevant to their chosen T level programme. The work placement thus gives a student the opportunity to develop industry-specific skills and behaviours that are more difficult for them to obtain in a classroom environment.

Recognising that T levels will be more rigorous, and more challenging to teach, than existing technical qualifications, the Government has committed to providing an additional £500 million each year to T level delivery. This will allow the number of funded hours for T level programmes to average 900 hours every year, compared to 600 hours for other 16–18 study programmes.

Further information on T levels and the current reforms to technical education can be found on the [DFE website](#).



Left: A scenic metal fabrication apprentice at the National Theatre

FURTHER SUPPORT ON YOUR JOURNEY TO GOOD CAREER GUIDANCE

THERE ARE MANY ORGANISATIONS THAT CAN HELP YOU AND YOUR SCHOOL DEVELOP AND DELIVER YOUR CAREERS PROGRAMME, AND WE RECOGNISE THAT SOMETIMES IT CAN BE DIFFICULT TO FIND THE RIGHT ONE. BELOW ARE NATIONAL ORGANISATIONS THAT WILL BE IMPORTANT SOURCES OF SUPPORT AS YOU WORK TOWARDS IMPLEMENTING THE GATSBY BENCHMARKS.

THE CAREERS & ENTERPRISE COMPANY

The Careers & Enterprise Company was established in 2015 in order to prepare and inspire young people for the fast-changing world of work by focussing on the creation of meaningful career opportunities and connections to employers. To do this, the Company has established a national network, connecting schools and colleges with employers and career programme providers.

It is free to schools and colleges to join this network and receive a range of benefits including support from an Enterprise Coordinator, match with a local Enterprise Adviser and access to a community of employer and careers activity programmes. Signing up to the network also enables full access to career planning tools. Using Compass, schools can evaluate their activity with a confidential self-audit web tool created in partnership with Gatsby. With Tracker, you can build and manage your careers plan to improve your benchmark scores.

NATIONAL CAREERS SERVICE

The National Careers Service (NCS) provides information and advice to adults and young people to support decisions on learning, training and work. The website contains job profiles, a 'skills health check', a course finder tool, access to independent Careers Advisers via a phone service, and support to manage the process of finding a job. The Government is committed to continued support of the NCS, and has committed to ensuring comprehensive careers information is hosted on its website.

JOBCENTRE PLUS

Jobcentre Plus Advisers work directly with schools to advise on work experience opportunities, routes into traineeships and apprenticeships, and the local labour market for the whole range of students. You can contact your local Jobcentre to find out how they can help students in your school.

CAREER DEVELOPMENT INSTITUTE

The Careers Development Institute is the UK-wide professional body for the career development sector, including those working in schools. Their website contains lots of useful information on implementing careers, enterprise and employability activity for 7 to 19-year-olds, including the recently updated careers framework document. They hold the UK Register of Career Development Professionals, which you can use to help find and select a qualified career adviser for your school.

STEM LEARNING

STEM Learning is the largest provider of science, technology, engineering and maths (STEM) education support to schools across the UK. Their National STEM Learning Centre provides professional development opportunities for teachers and others working with young people, an online community and curated resources, including information about careers education relating to STEM occupations. They also run the STEM Ambassadors and STEM Clubs programmes. STEM Ambassadors are a network of thousands of employees from STEM industries that can volunteer with your school and share their experiences of work with your students. Any school can set up a STEM Club to give students an opportunity to explore STEM outside the curriculum; this could be working with an ambassador, carrying out a project or thinking about science in the workplace.

LOCAL SUPPORT

In each locality the specific programmes and support available will be different. Try contacting the following organisations in your area to find out what is on offer:

- Local Enterprise Partnerships
- Local Authorities
- Chambers of Commerce
- Business in the Community

To help you find even more support, we have put together an online list of organisations recommended to us by schools and colleges who have already been working towards the Benchmarks. We hope it can act as a starting point for your journey. Many of these organisations also act as a gateway to multiple schemes and regional activity.

You can find a full list at:
www.goodcareerguidance.org.uk/support

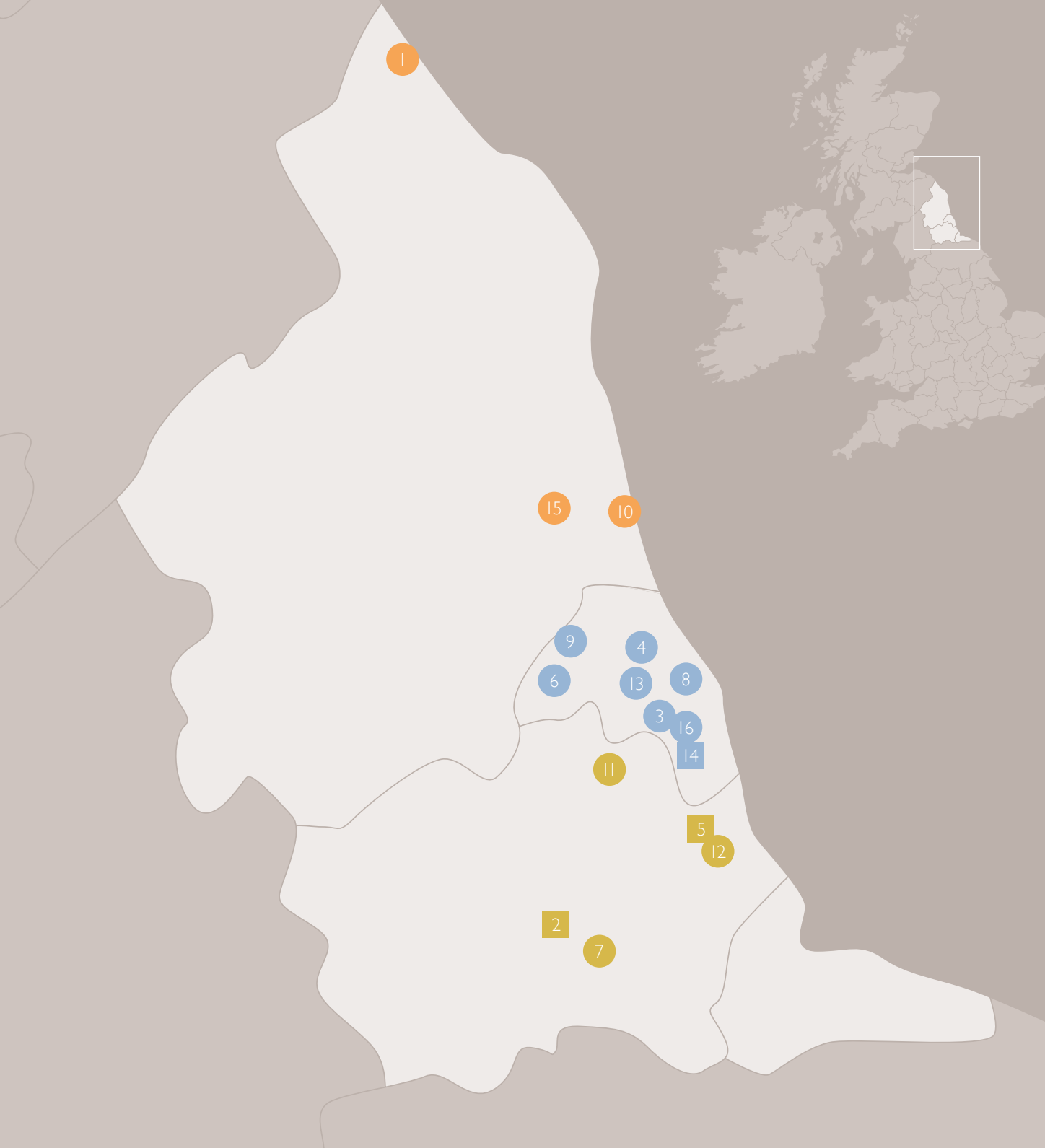
“

Compass enabled us to very quickly identify our strengths and areas for improvement and we have been able to monitor progress as we work towards achieving all the Gatsby Benchmarks. Outcomes for all students have already improved and we are closing the gap with disadvantaged students. The ethos and climate at the college has changed and you can feel the difference!

”

ASSISTANT PRINCIPAL, THE LATIMER ARTS COLLEGE

ANNEX A: THE NORTH EAST PILOT



PARTICIPATING SCHOOLS AND COLLEGES

A number of schools and colleges in the North East of England took part in a pilot programme between 2015 and 2017, coordinated by the [North East Local Enterprise Partnership \(LEP\)](#), putting the [Gatsby Career Benchmarks](#) into practice.

The schools and colleges in the pilot represented a range of sizes, types, locations and Ofsted ratings. Many of the schools and colleges have a higher than average number of pupils eligible for Pupil Premium.

The North East region faces a number of education and skills challenges: it has fewer people with high skill levels compared to the national average; more than a fifth of adults in the region have no qualifications at all; and the region has an ageing skilled workforce in some key areas of economic activity. Stark gender imbalances exist within some sectors, and at the start of the pilot in September 2015, the region had one of the highest rates of youth unemployment and one of the highest proportions of young people recorded as NEET nationally. However, the region has some significant strengths, with a higher proportion of young people entering apprenticeships than the national average and nearly 50,000 students studying STEM in the region. In 2012, Lord Adonis was commissioned by the North East LEP to conduct a review of the North East economy. The report highlighted a lack of cohesion, consistency and coordination within careers guidance as a barrier to the region's economic success.

When the pilot began in 2015, 50 per cent of the schools and colleges involved achieved none of the Gatsby Benchmarks. After two years of work, over 85 per cent fully achieved between six and eight Benchmarks. Indeed, the Social Mobility Commission *State of the Nation: 2017* report, highlighted that "the North East Local Enterprise Partnership has transformed careers support in local schools and colleges from the worst provision in the country to some of the best".

KEY

- ● ■ ■ Secondary School
- ■ Further Education College

The schools and colleges that took part in the pilot:

- 1 **[Berwick Academy](#)** is located in Berwick upon Tweed, and is one of the smallest secondary schools in England, with 600 students between the ages of 13 and 18. The school serves an isolated, rural community where job density is low.
- 2 **[Bishop Auckland College](#)** is a further education college providing Foundation Degrees and Higher National Diploma programmes in County Durham. It is one of the largest providers of apprenticeships and commercial training in the area.
- 3 **[Castle View Enterprise Academy](#)** is based in the north of the City of Sunderland. It is an urban mixed secondary school for students aged 11 to 16.
- 4 **[Churchill Community College](#)** is a small 11–18 foundation school in the town of Wallsend, Tyne and Wear. In 2017 Churchill achieved Teaching School status.
- 5 **[East Durham College](#)** in County Durham is a medium-sized further education college with three campuses. The college offers A levels and vocational courses between entry level and Level 5. The college has over 1,700 classroom based learners ages 16–18.
- 6 **[Excelsior Academy](#)** is an urban, all-through academy, with a primary school and sixth form, in the west of Newcastle upon Tyne. Approximately 55 per cent of Excelsior students have English as a second language.
- 7 **[Greenfield Community College](#)** was created in 2015 through the merging of two 11–16 community colleges in the small towns of Newton Aycliffe and Shildon, County Durham. The school is in an area of high economic deprivation.
- 8 **[Harton Academy](#)** is a large Teaching School in South Shields, with over 1,600 students between the ages of 11 and 18. The Academy has well above the national average of students with an Education, Health and Care plan or a statement of Special Educational Need (SEN).
- 9 **[Kenton School](#)** is a very large urban secondary school, with over 1,700 students between the ages of 11 and 18. Located in the west of Newcastle upon Tyne, Kenton has additional resource centres for Autism Spectrum Disorders (ASD) and SEN students, as well as a personalised learning centre for those at risk of exclusion.
- 10 **[Northumberland Church of England Academy](#)** has over 2,500 students, and is an all-through Anglican Faith Academy, providing education for the coastal towns of Ashington, Newbiggin and Lynemouth.
- 11 **[Park View School](#)** in Chester-le-Street, County Durham, educates children from the age of 11 to 18. Running since 1911, the Academy is an ex-grammar school.
- 12 **[The Academy at Shotton Hall](#)** is a larger than average secondary school located in the small town of Peterlee near Durham. The Academy teaches students between the ages of 11 and 16.
- 13 **[St Joseph's Catholic Academy](#)** is a mixed Catholic faith Academy educating students between the ages of 11 and 18 in South Tyneside. The school has been recognised for their work developing applied learning.
- 14 **[Sunderland College](#)** is one of the largest providers of post-16 education in the North East. It has 14,300 students. Four campuses spread across the City of Sunderland offer vocational and academic courses.
- 15 **[The King Edward VI School](#)** in the small town of Morpeth, Northumberland, serves over 1,400 students from the town and surrounding countryside and has a strong academic record. Students are between the ages of 13 and 18.
- 16 **[The Link School](#)** is a Pupil Referral Unit and alternative learning provider working with families across the City of Sunderland. Their two schools are Tudor Grove (KS3) and The Link School, Pallion (KS4).

FIND OUT MORE

WWW.GOODCAREERGUIDANCE.ORG.UK

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SCIENCE AND ENGINEERING EDUCATION
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WE ARE PROACTIVE IN DEVISING PROJECTS
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ANALYTICAL AS WE BELIEVE IT IS IMPORTANT
TO UNDERSTAND THE OPPORTUNITIES
AND PROBLEMS WE TACKLE. WE TAKE A
LONG-TERM VIEW AS WE DO NOT THINK MUCH
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Department
for Education



Careers strategy: making the most of everyone's skills and talents

December 2017

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Foreword

We want to create a stronger, fairer society in which people from all backgrounds can realise their potential. A thriving careers system, that is accessible to everyone, is at the heart of our focus on social mobility. We must break down the barriers to progress that too many people in our country face today, and give young people the skills to get on in life. Our careers strategy will support everyone, whatever their age, to go as far as their talents will take them and have a rewarding career.



Our careers provision must be world class to help people understand the range of opportunities available to them in today's economy and acquire the skills and qualifications they need to succeed in the workplaces of the future. But for too long, careers guidance has not been given the status it deserves. This strategy sets out our ambitions and plans to expand the quality and quantity of provision. We want to transform the careers system so that everyone can benefit from support of the highest calibre.

Our modern Industrial Strategy is about building a Britain fit for the future by investing in the development of skills to meet the changing needs of business, increase productivity and drive growth across the whole country. High-quality careers support will allow us to promote new world class technical education and make sure people know where their qualifications lead. We will increase participation in higher level qualifications, with clear routes so that people know how to progress to that level. It is vital, in an environment where new industries are emerging and many of the most important jobs of the future don't yet exist, that individuals have access to high-quality labour market information and earnings data to underpin their choices.

Raising the quality of careers provision requires a truly national effort. This strategy sets out what more we can do as a Government. But there is a crucial role for others too. Employers, including those who are self-employed, have an important part to play if we are to succeed in our ambition to support individuals to grow and develop. This document sets out the Government's plan for achieving just that – working closely with careers organisations and careers professionals, schools, colleges, universities, employers and others in the sector.

The Rt Hon Anne Milton MP
Minister of State for Apprenticeships and Skills and Minister for Women

Introduction

1. This careers strategy is part of our plan to make Britain fairer, improve social mobility and offer opportunity to everyone. Our ambitious, modern Industrial Strategy sets out a long-term plan to boost national productivity and the earning power of people throughout the country. We want every person, no matter what their background is, to be able to build a rewarding career. We want to end the generational cycle of disadvantage which means that people from poorer backgrounds earn significantly less than those with wealthier parents, even when they have the same job, experience and qualifications. We want to break down the barriers that currently mean that people with special educational needs and disabilities, or those from disadvantaged groups, experience significantly lower employment rates. We want to challenge perceptions and raise aspirations so that subject and career choices are free from gender bias and people look beyond their immediate environment to new and exciting possibilities.

2. Excellent careers guidance makes sure there is equality of opportunity. It unlocks potential and transforms outcomes for people of all ages. Evidence suggests that effective and impartial careers provision is particularly important for students from working class backgrounds.¹ Yet students from disadvantaged groups, and those who are unsure of their aspirations, have been shown to be the least likely to receive careers guidance.²

3. We need to move towards a culture of having the right advice, in the right place, at the right time – backed up by the experiences with employers and educators that make a difference.

4. We want:

- all young people to understand the full range of opportunities available to them, to learn from employers about work and the skills that are valued in the workplace and to have first-hand experience of the workplace;
- all young people in secondary school and college to get an excellent programme of advice and guidance that is delivered by individuals with the right skills and experience;
- everyone to get support tailored to their circumstances. All adults should be able to access free face-to-face advice, with more bespoke support for those who most need it;

¹ Smith, D, et al (2005) A systematic literature review of research (1988-2004) into the impact of career education and guidance during Key Stage 4 on young people's transitions into post-16 opportunities, EPPI-Centre, Social Science Research Unit, Institute of Education

² Percy, C & Mann, A. (2013) Employer Engagement in British Secondary Education: Wage Earning Outcomes Experienced by Young Adults. *Journal of Education and Work* DOI: 10.1080/13639080.2013.769671

- everyone to get the information they need to understand the job and career opportunities available, and how their knowledge and skills can help them in considering suitable careers.

5. This document explains how we will bring together all the different elements of our careers system to deliver significant improvements for people of all ages. High-quality education, information, advice and guidance should help people to:

- understand their options and different paths to work, to plan the steps they need to take, and to get from where they are to where they want to go;
- be inspired about new opportunities they might not have known about (or that might not exist yet), or thought they could not achieve;
- understand their own knowledge and skills and how they can be used in the workplace;
- get, hold and progress in a job, whatever their age, ability or background;
- increase the amount they earn across their working lives;
- improve their well-being through doing a job they are good at and enjoy.

6. This is an ambitious plan, but one that can be delivered by a strong partnership between Government, employers, the education sector and the careers community. Everyone has an important contribution to make if we are to create a level playing field of opportunity and to build a country that works for everyone.

The current careers offer

7. To deliver the wide-ranging support that is needed, there have already been a number of changes to the careers system. **Secondary schools, further education colleges and sixth form colleges** have been given the responsibility to arrange independent careers guidance for their students. Schools and colleges work with many different partners, including qualified careers professionals, employers and training providers, to make sure young people receive information and guidance to understand the full range of options available to them. Local authorities have a range of duties to support young people to participate in education or training.

8. In 2014, the Government established **The Careers & Enterprise Company (CEC)** to be the strategic coordinating function for employers, schools, colleges, funders and providers and to provide high impact careers and enterprise support to young people (aged 12-18). In its first two years of operation, the CEC has worked in partnership with Local Enterprise Partnerships (LEPs) across England to build and co-fund a national network of Enterprise Coordinators. Enterprise Coordinators are trained to work with school and college leadership teams to build careers and employer engagement plans. In addition, each school and college is supported by an Enterprise Adviser – a senior volunteer from business – who helps unlock relationships with other local businesses.

The network is now operating in over half of secondary schools and colleges, and the number of encounters that those young people have with employers has increased by 50%. The CEC has invested over £10 million in careers interventions, based on activities that the evidence shows are effective and focused on areas of the country most in need of support. 250,000 young people have already been supported through this funding.

9. Working lives are extending and new jobs are emerging that require new skills. This means that support for adults seeking to improve their skills and change roles is vital. In 2012, the **National Careers Service** was established to provide information, advice and guidance through face-to-face and telephone advice, web chat and email. Local, community based, in-depth support is primarily for adults, though young people can also access the National Careers Service website and telephone advice. Over the past year, its website has received 20 million visits, 474,000 individuals received face-to-face careers advice, and the call centre has carried out over 200,000 calls, web chats and emails. In 2017, two out of eight National Careers Service contractors achieved an Outstanding grading from Ofsted; the rest were rated Good.

10. Since 2015, local **Jobcentre Plus (JCP)** advisers have been working directly with young people in schools, to advise on work experience opportunities, routes into traineeships and apprenticeships and the local labour market (including 'soft skills' employers value, such as team work and commitment). Over 1000 schools have already benefited from the trained support these advisers offer. JCP are working with local CEC Enterprise Coordinators so that schools aren't approached by multiple organisations. The National Careers Service is also working closely with JCP so that its careers advice is complemented by the knowledge that work coaches have of the local labour market.

Our future ambition

11. We have laid the foundations for an effective careers system, but we recognise that the quality of careers provision across the country remains variable and there is much more to do. A wide range of surveys and reports suggest that many young people do not feel they are getting the support they need. In one survey, less than two-thirds of students in year 11 said they received careers education and, of those that did, only just over half were satisfied with the careers education that they had received.³

12. This strategy will address the issue of variable quality. We will bring together the education, business, and public sectors, to provide careers advice and employer encounters that are dynamic and genuinely link to the modern workplace.

³ Archer, L & Moote, J. (2016) ASPIRES 2 Project Spotlight: Year 11 Students' Views of Careers Education and Work Experience. London, UK: King's College London

13. Now is the time to act so that everyone has the skills and the knowledge to thrive in our fast-changing work environment. We will spread opportunity to every part of the country. Social mobility is positively related to productivity internationally.⁴ A modest increase in the UK's social mobility to the average level across western Europe could be associated with an increase in annual GDP of approximately 2%: equivalent to £590 per person or £39 billion to the UK economy as a whole. People need advice and guidance which will help them to understand the potential benefits of different careers to themselves and to the economy.

14. High-quality careers guidance relies on having equally high-quality learning, training and employment options for people to choose from. Every young person will be presented with two choices after the age of 16: an academic route, traditionally via A levels and university, leading to graduate jobs, and a technical route for those seeking to gain the technical knowledge and skills required for entering skilled employment. This will radically simplify the options available to young people, and ensure that through T levels and apprenticeships there is a distinctive and prestigious technical offer. A combination of the two routes will be most suitable for some people. Regardless of the path someone chooses, they will need access to high-quality information and advice to make decisions about the next step that is right for them. This might include advice about the facilitating subjects that will support their next step, support with applications, or advice about how employers regard different qualifications.

15. We will support adults to continue to learn and train regardless of which stage they are at in their lives. It is important to encourage and improve lifelong learning for those who are just starting out along a career path and those who want to reskill or upskill. This will make sure employers have people with the right set of skills working for them which will boost economic growth and productivity.

16. This strategy will connect the worlds of education and employment. Schools, colleges, universities and other education and training providers will work together with the expertise of employers and careers professionals to help people make the right choices for them. We will build on strong foundations to transform careers provision in England. We will set out clear roles for the organisations we fund, addressing concerns about duplication or unclear objectives. We will learn from what we know works, both here and abroad, so that people are given the best advice available.

17. Secondary schools and colleges will continue to be responsible for making sure that their students can access independent careers guidance. We will use the eight Benchmarks of good career guidance, developed by the Gatsby Charitable Foundation, to set a standard of excellence. The CEC will take on a more ambitious role, building on

⁴ Boston Consulting Group, Sutton Trust (2017) The State of Social Mobility in the UK

their progress to date by coordinating support for schools and colleges across all the Gatsby Benchmarks.

18. The National Careers Service will be the single service that provides careers information, advice and guidance. Young people and adults will be able to access this online via a new, improved National Careers Service website, alongside a range of tools that individuals, parents and schools can use.

19. This strategy sets out how careers provision will bridge the gulf in opportunity. We will prioritise the people and places that are in greatest need of support while raising the standard for everyone. As a young person, this strategy will mean your school or college designs a careers programme based around your needs and that makes sure you get seven employer encounters across secondary school and college, opportunities to meet education and training providers, clear information about the labour market, and personal guidance to make decisions. As an adult, you will be able to access local, high-quality advice from a National Careers Service adviser, with more bespoke advice and support available when you need it most. Increasingly engaging ways of presenting information and using digital and social media platforms will help everyone see new routes through to the career path that is right for them.

20. The key actions we will take are set out in the table below and the chapters that follow.

Timing	Action
By January 2018	<ul style="list-style-type: none">• Schools and colleges should use the Gatsby Benchmarks to improve careers provision, as set out in new statutory guidance.• Schools must give providers of technical education and apprenticeships the opportunity to talk to all pupils.⁵• Ofsted must comment in college inspection reports on the careers guidance provided to young people.⁶
By September 2018	<ul style="list-style-type: none">• The CEC will launch a new investment fund of £5 million to support the most disadvantaged pupils.• Schools and colleges are expected to publish details of their careers programme for young people and their parents.⁷• Job specification and standards for Careers Leaders developed and started to be used by schools and colleges.• A named Careers Leader should lead the careers programme in every school and college.

⁵ Section 42B of the Education Act 1997, as inserted by Section 2 of the Technical and Further Education Act 2017

⁶ Section 125 (4)(aa) of the Education and Inspections Act 2007, as amended by Section 41 of the Technical and Further Education Act 2017

⁷ By amendment to the School Information Regulations

Timing	Action
	<ul style="list-style-type: none"> • CEC will begin to take on a broader role across all the Gatsby Benchmarks. • 20 “careers hubs” will be funded by Government and supported by a coordinator from the CEC. • Government sponsors two UK Career Development Awards for 2018.
During 2018 and 2019	<ul style="list-style-type: none"> • CEC triples the number of cornerstone employers committing to work with schools and colleges across the country, including Opportunity Areas, to 150. • New approaches to careers provision are tested and evaluated, to: <ul style="list-style-type: none"> ○ encourage young people, especially girls, to consider jobs in science, technology, engineering and maths; ○ understand what careers activities work well in primary schools; ○ improve careers information, advice and guidance for young people and adults who are disadvantaged or vulnerable. • CEC will provide tools to help schools and colleges meet the Gatsby Benchmarks. • Careers Leaders training funded for 500 schools and colleges. • Clear information about T levels is provided to parents, teachers, young people and careers professionals. • Guidance will ask universities to do more to help students from disadvantaged backgrounds to make good use of their careers services. • New contracts for the National Careers Service in place. • Results from the Career Learning Pilots collected and evaluated. • New standardised application forms tested to make it easier for young people to apply to further education. • Data on student destinations widely available and easily understandable by people of all ages.
By end 2020	<ul style="list-style-type: none"> • All schools and colleges will have access to an Enterprise Adviser. • Schools should offer every young person seven encounters with employers - at least one each year from years 7 to 13 – with support from the CEC. Some of these encounters should be with STEM employers. • A new, improved National Careers Service website will include all of the information to help citizens make informed choices.

1. Inspiring encounters with further and higher education, and with employers and workplaces

Our aim: We want all young people to understand the full range of opportunities available to them, learn from employers about work and the skills that are valued in the workplace, and have first-hand experiences of the workplace.

A critical role for employers

21. Employers are integral to great careers advice. We need employers of all sizes, and from all sectors, to provide encounters that inspire people and give them the opportunity to learn about what work is like and what it takes to be successful in the workforce. These activities could include work experience or shadowing, workshops or talks run by employers, or other activities that develop the skills needed to deal with business challenges. They could include encounters with people who are self-employed and working for themselves, reflecting the growing number of freelancers in the workforce. The UK's fast-growing creative industries, for instance, offer careers in a wide range of roles, and opportunities to move between projects. With more people than ever running their own business, entrepreneurship education is an important component of high-quality careers provision.

"Today [my son] completed a week of work experience at Unipres. I have not witnessed this sparkle in him for such a long time. I've listened, intently each evening, to the day's news and loved it almost as much as my son. His self-esteem and just the way his outlook has changed, is astounding. His self-confidence has rocketed! ... Thank you for helping me to allow my son to grow. For giving him these opportunities and believing in him. I am in awe of the changes I see before me."

Mother of Year 10 pupil

22. Mayors have a positive role to play through convening employers and working closely with them to highlight local career opportunities. A number of Combined Authorities have set out a clear ambition to develop strong local careers strategies, and government will work closely with them to trial approaches that ensure local priorities directly inform the provision of careers advice.

23. There is a compelling case for increasing the opportunities for young people to meet employers. Research from the Education and Employers Taskforce shows that a young person who has four or more encounters with an employer is 86% less likely to be unemployed or not in education or training and can earn up to 22% more during their

career.⁸ Matthew Taylor's recent review also recognises the importance of high-quality work experience and encounters at different education stages.⁹

24. We want to extend this opportunity to benefit everyone, especially young people from disadvantaged areas who may not otherwise access these crucial experiences.

Secondary schools should offer every young person at least seven encounters with employers during their education, with at least one encounter taking place each year from years 7-13, supported by the CEC's network of Enterprise

Coordinators and Advisers and their Investment Funds. This will make sure all young people get a chance to engage with a wide range of employers, exceeding the four encounters demonstrated to have an impact on employment and earnings¹⁰, and providing employer experiences in line with the requirements of the Gatsby Benchmarks. These must be meaningful encounters which help young people build their broader understanding of workplaces and employment. This will be a significant change from the current position, in which only 37% of schools report that the majority of their pupils have at least one meaningful encounter every year that they are at school.¹¹

25. There are now over 2,000 Enterprise Advisers in the CEC's network, covering over half of schools and colleges in England, focusing first on those areas in most need of support. **By 2020, we will make an Enterprise Adviser available to all secondary schools and colleges.** The CEC will make sure that all Enterprise Advisers are aware of the additional needs of disadvantaged young people and the barriers that they face to entering employment. The newly identified Careers Leaders, tasked with driving forward an ambitious careers strategy in their school or college, will use this national network of Enterprise Advisers to help deliver inspiring employer encounters for those who will benefit the most.

⁸ Mann, A. et al. (2017) Contemporary Transitions: Young people reflect on life after secondary school and college

⁹ Taylor, M (2017) Good Work: The Taylor Review of Modern Working Practices

¹⁰ Kashefpakdel, E., & Percy, C. (2016) Career education that works: an economic analysis using the British Cohort Study. *Journal of Education and Work*, DOI: 10.1080/13639080.2016.1177636. ; Mann, et al. (2017) Contemporary transitions: Young Britons reflect on life after secondary school and College. London: Education and Employers

¹¹ Based on the results of an opt-in self-assessment reported in: The Careers & Enterprise Company. (2017) Careers & Enterprise Provision in England's Schools: State of the Nation 2017. London: The Careers & Enterprise Company

"We had a mock interview day - there were six of us all being interviewed for the same job by different employers in the north-east. You basically had to show that you understood the job specifications and had done some research about the job. The interviewers just wanted to figure out how professional you were and how you performed in the interview. They then gave feedback on areas that you need and could improve... They helped us be prepared better for job interviews now as compared to before. After that I went for an interview... and got a part-time job for three months."

Year 12 student

26. An Enterprise Adviser, supported by a trained Enterprise Coordinator, will be offered to every secondary school and college in the Opportunity Areas (OAs) to support their development of a careers and enterprise strategy and to unlock business relationships. The CEC will also **support all young people in OAs to have more encounters with employers during their secondary school education.**

27. To fund these employer encounters, the CEC is investing £2 million in careers and enterprise activities in the twelve OAs. To galvanise the business effort, CEC has built up a network of 50 cornerstone employers, a combination of local and national businesses. These employers have made clear commitments to work with schools and colleges. Through their business networks and supply chains, they are encouraging more businesses to get involved by becoming Enterprise Advisers or offering employer encounters.

28. **In the next two years, the CEC will triple the number of cornerstone employers across the country, including in Opportunity Areas, to 150.** They will build a network of employers in areas identified as "careers cold spots" so that the CEC's programmes continue to benefit areas of greatest need. The CEC has also funded 39 mentoring programmes across the country to work with young people who are at risk of disengaging from education.

29. **To target more support on those who need it most, the Government will invest £5 million during 2018 in a new round of the CEC's Investment Fund. This will help disadvantaged pupils to get the additional support they need to prepare for work, including opportunities for mentoring and guidance.** This continued investment in the CEC's programmes and their network of Enterprise Coordinators and Advisers will support schools to deliver activity where it is needed most. The CEC will set out what makes high-quality employer encounters, including work experience for those in school, based on evidence about what works. We will also support employers to offer effective work placements to young people and adults by producing guidance on the range of opportunities delivered as part of government programmes.

Inspiring opportunities through education and training providers

30. We have put employers at the heart of the reforms we are making to technical education. The introduction of the new T levels, level 4/5 technical qualifications, and increasing numbers of high-quality apprenticeships, will create a technical education system to rival the best in the world. Technical, employment-focused education will be promoted as an ambitious and aspirational route to rewarding careers.

“Most people push you to go to university. So we had an hour a week in Sixth Form, which we called tutorial...but when we got to Year 13, it was just solely, like, applying for what you’re going to do next. Most people push you to go to university... me and one other person were the only people who didn’t apply to university because everyone just, sort of, felt you had to.”

Apprentice

31. Schools are already responding to these reforms, recognising that technical options can give people opportunities to access inspiring careers, whatever their interests, strengths or aspirations. We will ask all schools to step up their efforts so that every pupil is well informed about their future options at every stage. **From January 2018, Government will require schools to give providers of technical education, including apprenticeships, the opportunity to talk to pupils about the courses and jobs they offer.**¹² The new law, originally proposed by Lord Baker of Dorking, will make sure that all young people learn more about opportunities for education and training outside school before making crucial choices about their future options.

32. We want to take further steps to make sure that schools, young people and their parents, and adults looking to reskill or retrain, are clear about the opportunities offered by technical, employment-focused education. Organisations like WorldSkills UK are helping young people to be world class in their chosen skill, with the young professionals they train acting as role models to inspire those making careers choices and embarking on apprenticeships and technical careers. For example, they organise the Skills Show, which is the largest skills and careers event in the UK and is changing the perceptions and aspirations of the 70,000 young people, teachers, parents and careers professionals visiting each year. WorldSkills UK is developing both live and digital inspirational activities to give first-hand insights into technical skills and apprenticeships and aim to engage some 1 million young people by 2022.

¹² Section 42B of the Education Act 1997 due to come into force on 2 January 2018

33. **Government will make sure that a strategy is in place to communicate about the new T levels with parents, teachers, students and careers professionals as new technical options become available.** We will make use of peer role models and other ambassadors to encourage more girls and women to pursue technical careers. Networks like Apprenticeship Ambassadors are already opening up new opportunities by championing the benefits that apprenticeships can offer and working across the country to target specific areas and raise awareness.

34. We also want higher education institutions to continue working with schools and their pupils to inspire them to go on to higher education. **We expect institutions to continue to target the most effective outreach interventions at disadvantaged pupils** as part of Access and Participation Plans agreed with the Office for Students. This outreach activity should include interventions that raise attainment, such as supporting curriculum programmes and formally sponsoring or establishing schools. We want universities, particularly our most selective institutions, to support young people from disadvantaged backgrounds and challenging areas to apply to higher education. We want young people to understand that where they are from should never be a barrier to entry and may entitle them to support.

35. The National Collaborative Outreach Programme funds collaborations between higher education institutions, colleges, and schools to support disadvantaged students to enter higher education. It is targeted at those areas of the country, including Opportunity Areas, where progression to higher education is low. Careers information, advice, and guidance will continue to be an important part of this support, addressing the fact that 18-year-olds from the most advantaged areas in England are almost six times more likely to enter the most selective institutions, compared to those from the most disadvantaged areas.¹³

More time with employers from an early age

36. Children who meet employers from a young age can find out about a wide range of jobs and understand how the subjects they learn at school connect to their future. This is particularly important for children from disadvantaged backgrounds who may lack a diversity of role models with experiences of different jobs and careers. Children (and their parents) may also have fixed views about what kind of jobs might be suitable for them, so it is important to challenge these views before they become entrenched and ambitious, realistic aspirations encouraged instead. A UCAS survey suggested that being certain about entering higher education by age ten or earlier means a child is over twice as likely

¹³ UCAS (2016) End of Cycle Report

to end up at a more competitive university than someone who decided in their late teens.¹⁴

37. Many primary schools are already thinking about how best to introduce young children to ideas about the work they might do in future. Excellent programmes like Primary Futures give primary schools access to a wide range of professionals, who deliver sessions that help raise children's aspirations and counteract stereotypes about the people who do different jobs.¹⁵ But there is no consistent approach across primary schools and limited evidence and best practice for schools to use when planning their activities.

38. We want to learn more about what works so that children can develop positive attitudes about work from an early age and make sure that primary schools have access to the tools they need to understand how they can start to build activities with employers into their lessons.

39. **Starting next year, Government will test what careers activities are appropriate and work well in primary schools, providing £2 million to test new programmes, or expand ones that work, including in challenging areas. We will also work with the CEC and interested Opportunity Areas to explore new approaches to employer engagement and early careers activities in primary schools. We will share the results widely so other schools can benefit and build their expertise.**

Positive engagement with Science, Technology, Engineering and Maths (STEM)

40. The demand for STEM skills is growing, particularly for sectors such as engineering, construction and manufacturing. As Professor Sir Adrian Smith's review of post-16 mathematics set out, mathematical and quantitative skills will be increasingly required in the future, not just for traditional STEM routes but for a wide range of future careers.¹⁶ The review also made clear that basic numeracy skills are vital to everyday life and citizenship. This highlights the need for Government, employers, schools, and colleges to support and encourage more young people to study mathematics after the age of 16. However, there are differences in progression to STEM qualifications between local areas and a significant gender gap. Careers services must play a key role in encouraging people of all ages and backgrounds to consider the value of STEM

¹⁴ UCAS (2016) Through the lens of students: how perceptions of higher education influence applicant's choices

¹⁵ Mann, A., Kashefpakdel, E.T., & Iredale, S. (2017) Primary Futures: Connecting life and learning in UK primary education. London: Education and Employers

¹⁶ Frey, C. & Osborne, M. (2013) The future of employment: how susceptible are jobs to computerisation?

qualifications and careers, dispelling stereotypes and making sure people have up-to-date information about the skills employers will need.

41. Children form views about careers at an early age. There is a perception amongst many young people that STEM subjects are too challenging or not suitable for them. Girls are less likely than boys to want to pursue a career in science, even when it is their favourite school subject. Even where girls do pursue STEM subjects, they are much more likely to take some courses than others.¹⁷ Only 18% of young people are satisfied with the advice they received in relation to STEM, with gender disparities in STEM subject take-up increasing with age despite no differences in ability.¹⁸

42. We are learning more about what works to tackle gender stereotypes in both schools and employment, and across Government there are significant programmes aimed at encouraging more people into STEM careers.^{19 20 21} Government has committed to deepen the understanding of the gender disparity in subject choices at age 16 by exploring how to improve the accessibility and transparency of data on this issue by institution and subject. We will also work with the Government Equalities Office to take positive steps towards eradicating gender norms in the classroom that lead to girls narrowing their career choices. We are exploring how to close the gender divide in STEM across educational and professional routes, such as STEM apprenticeships and the new T levels.

43. Programmes such as the new £16 million Level 3 Support Programme will work to inspire more students, particularly girls, to study maths after the age of 16. The Department for Business, Energy & Industrial Strategy funds the STEM Ambassador programme, a UK-wide network of over 30,000 volunteers from a wide range of employers, who work with young people to provide stimulating and inspirational activities in both school and non-school settings. The National Careers Service website will provide clear information on how young people and adults can enter or progress in STEM careers, including salary ranges and any specific skills or qualifications required. The Year of Engineering launches in January 2018. Throughout the year, Government will work with hundreds of industry partners to bring young people, their parents, and their teachers face-to-face with engineering activities, events, and role models.

¹⁷ ASPIRES (2013) Young people's science and career aspirations, age 10-14. KCL, London.

¹⁸ NAO. (2010) Department for Education. Educating the next generation of scientists.

¹⁹ Archer et al. (2013) 'Not girly, not sexy, not glamorous' : primary school girls' and parents' constructions of science aspirations.

²⁰ Institute of Physics (2017) Improving Gender Balance – Reflections on the impact of interventions in schools.

²¹ Wise (2014) "Not for people like me?" Under-represented groups in science, technology and engineering.

“Part of the decision to take maths and physics was thanks to the teachers – they were really inspiring and related the skills I was learning to different kinds of workplace. Attending the summer schools, as well as school visits from science businesses, helped me to decide which direction I’d like to go in. When I did the engineering summer school, I enjoyed it, but it really highlighted that I’m more interested in science than engineering. It proved to me that, while it’s important to focus on what you think you’d like to do, you need to rule out the careers you’re not keen on too. My advice to other students would be to take advantage of as many opportunities you can. If you’re not sure exactly what you want to do, just do something! The skills and learning you get at the end are what count.”

Year 13 student, Berwick Academy

44. The CEC has funded over 170,000 encounters between young people and STEM employers since it was established, investing in organisations like Engineering UK, Greenpower Trust and Manufacturing UK. **We will ask schools and colleges to make sure that STEM encounters, such as with employers and apprenticeships, are built into their careers programme by updating school and college statutory guidance.** This will make sure that all students, including those who might consider a STEM career is not an option for them, start to understand the range and benefits of careers and routes on offer.

45. **The CEC will work with LEPs to help Enterprise Coordinators in those areas with lowest uptake of STEM qualifications to make sure that STEM encounters are built into careers and enterprise plans.**

46. A partnership between the Education Endowment Foundation, CEC, and Bank of America Merrill Lynch is currently testing the impact of “Generation STEM” – a programme focused on helping students get STEM-related work experience, as well as to get the most out of it. **The findings will be available in 2020 and Government will make sure they are built into advice to schools and colleges about how best to engage students in STEM careers through work experience.**

47. **Government will assess the breadth and effectiveness of current careers provision in schools and colleges on STEM, including activities to inspire students to pursue STEM careers. We will produce information about ‘what works’ and develop a toolkit for use in schools and colleges, trialling new approaches where needed.**

2. Excellent advice and guidance programmes

Our aim: We want all young people in secondary school and college to get a programme of advice and guidance that is stable, structured, and delivered by individuals with the right skills and experience.

The Gatsby Career Benchmarks: a world-class standard for schools and colleges

48. Every young person should be supported by their secondary school or college to prepare themselves for a future successful career. Young people, parents and employers need to be involved from the beginning in the design, delivery and evaluation of the advice and guidance programme in schools and colleges.

49. The Gatsby Charitable Foundation has brought together the best national and international research to set out eight Benchmarks that define excellence in careers provision.²² These Benchmarks have resonated with schools, colleges and employers, and many have started voluntarily to set out their own plans to work together to meet them.

50. The Gatsby Benchmarks have set world-class standards, and now we want every school and college to use them to develop and improve their careers provision.

Government will ask schools and colleges to meet these standards, publishing new statutory guidance in January 2018 setting out how to meet all of the Benchmarks.

51. By adopting these Benchmarks, schools and colleges will be putting employers at the heart of the careers programme. Support will be tailored to address the needs of every young person, especially disadvantaged students, and data and technology will be used to drive improvements.

²² Holman, J. (2014) Good Career Guidance. Gatsby Charitable Foundation

The Gatsby Benchmarks

1. **A stable careers programme.** Every school and college should have an embedded programme of career education and guidance that is known and understood by students, parents, teachers, governors and employers.
2. **Learning from career and labour market information.** Every student, and their parents, should have access to good quality information about future study options and labour market opportunities. They will need the support of an informed adviser to make best use of available information.
3. **Addressing the needs of each student.** Students have different career guidance needs at different stages. Opportunities for advice and support need to be tailored to the needs of each student. A school's careers programme should embed equality and diversity considerations throughout.
4. **Linking curriculum learning to careers.** All teachers should link curriculum learning with careers. STEM subject teachers should highlight the relevance of STEM subjects for a wide range of future career paths.
5. **Encounters with employers and employees.** Every student should have multiple opportunities to learn from employers about work, employment and the skills that are valued in the workplace. This can be through a range of enrichment activities including visiting speakers, mentoring and enterprise schemes.
6. **Experiences of workplaces.** Every student should have first-hand experiences of the workplace through work visits, work shadowing and/or work experience to help their exploration of career opportunities, and expand their networks.
7. **Encounters with further and higher education.** All students should understand the full range of learning opportunities that are available to them. This includes both academic and vocational routes and learning in schools, colleges, universities and in the workplace.
8. **Personal guidance.** Every student should have opportunities for guidance interviews with a career adviser, who could be internal (a member of school staff) or external, provided they are trained to an appropriate level. These should be available whenever significant study or career choices are being made.

Demonstrating progress

52. The CEC and the Gatsby Charitable Foundation have developed the Compass self-assessment tool, so schools can assess how their careers support compares against

the Benchmarks.²³ The CEC is considering how to extend Compass to provide equal support to colleges and creating new digital tools for schools so that they can easily identify support to help them achieve the Benchmarks. Compass has been used by over 500 schools so far and, by adopting the Gatsby Benchmarks nationally, we expect many more to do so.

53. Schools and colleges can also gain formal accreditation of their careers programme through the Quality in Careers Standard - the national quality award for careers education, information, advice and guidance. The Standard offers an opportunity for providers to undergo an external evaluation of their careers programme and so is distinct from the Compass self-assessment.

54. The Quality in Careers Consortium has already led work to map the Standard to the Gatsby Benchmarks. We welcome that the Consortium is committed to working with the CEC and the Gatsby Charitable Foundation to align the Standard more fully to the Benchmarks and to incorporate Compass into its processes by June 2018. We would then expect schools achieving the Quality in Careers Standard to meet all eight Benchmarks. **We strongly recommend that all schools and colleges work towards the updated Quality in Careers Standard, incorporating Compass,** to support the development of a world-class careers programme for all their young people.

55. Ofsted will continue to hold schools and colleges to account for the quality of careers provision. **This includes a new requirement for Ofsted to comment in college inspection reports on the careers guidance provided to students from January 2018.**²⁴ Careers-related provision is already considered under three of the four areas evaluated as part of school inspections.

56. The Department **will engage with Ofsted, as it reviews the Common Inspection Framework, to consider coverage of careers provision as part of the development of any planned changes to school and college inspection arrangements which will take effect from September 2019.** In developing its approach to assessing careers provision as part of those changes, Ofsted will take account of the requirements within the new statutory guidance for schools, which is being updated to reflect the Gatsby Benchmarks.

57. The Gatsby Benchmarks recognise the importance of having a programme of careers education and guidance that is known and understood by young people, parents, teachers, governors and employers. The provision of information on the school website is an important element of achieving the first Gatsby Benchmark – a stable careers

²³ <https://www.careersandenterprise.co.uk/news/new-careers-guidance-tool>

²⁴ Section 125 (4)(aa) of the Education and Inspections Act 2006 as amended by Section 41 of The Technical and Further Education Act 2017

programme. A recent analysis found that only 40% of schools published this information on their websites.²⁵ **From September 2018, we will expect schools and colleges to publish details of their careers programme.** We will also encourage new approaches to involving young people and their parents in careers development, building on work done already in a pilot in the North East.

Supporting schools and colleges to meet the Gatsby Benchmarks

58. The CEC's "State of the Nation" report²⁶ describes careers and enterprise provision in England in 2016/17, and is based on responses from schools gathered through the Compass self-assessment tool. The analysis shows that there is much further to go before schools are meeting all eight Benchmarks. Around half of schools using the tool currently achieve two or more of the Benchmarks, but a fifth of schools are not currently achieving any Benchmarks.

59. A two-year pilot with 16 schools and colleges in the North East of England has demonstrated the significant progress that can be made. Two years after the pilot started, 88% of the schools and colleges are achieving 6-8 of the Benchmarks and three schools are achieving all eight. This is compared to no school or college achieving more than three Benchmarks at the start of the pilot. Good practice from the pilots is available online at www.goodcareerguidance.org.uk.

"I have to say, the impact that the [introduction of the Benchmarks] has had on our school has been absolutely transformative. Learners are so engaged with their future steps - and the range of what they have been successful in applying for is just unbelievable. In speaking with the Assistant Head, she said that she has never known learners be so engaged with the GCSE Maths and she specifically credited the work that had been done on careers for that.

I really believe that what has been achieved within our school could be a blueprint for other schools throughout the country in breaking the cycle of low expectations and aspirations. I wanted to let you know that the Benchmarks have impacted on so many young people's lives within our school through the work of the pilot. It has been one of the best things that we have ever participated in."

Head teacher, The Link School, Sunderland

²⁵ Based on the results of an opt-in self-assessment reported in: The Careers & Enterprise Company. (2017) Careers & Enterprise Provision in England's Schools: State of the Nation 2017. London: The Careers & Enterprise Company

²⁶ The Careers & Enterprise Company. (2017) Careers & Enterprise Provision in England's Schools: State of the Nation 2017. London: The Careers & Enterprise Company

60. Up until now, the CEC has been asked to focus only on the fifth and sixth of the Gatsby Benchmarks – increasing young people’s engagement with employers and the workplace. **The CEC will now take on a broader role, acting as the backbone for coordinating all Gatsby Benchmarks**, recognising that schools and colleges need help to develop all aspects of their careers programme – not just employer engagement. They will use tools like Compass alongside ‘what works’ research to help schools and colleges identify and put into practice the activities that are most effective.

61. By supporting schools and colleges to achieve these Benchmarks, we will drive a radical improvement in careers support which will benefit those most in need. The CEC will publish their State of the Nation report annually, showing what progress schools and colleges have made in meeting the Benchmarks, supported by the interventions in this strategy.

62. To strengthen local community involvement, and build on the pilot done in the North East, **Government will test “careers hubs” in 20 areas, linking together schools, colleges, universities and other local organisations. We will invest £5 million to support these areas, including through additional coordinators based at the CEC, as part of a major trial to support the CEC’s work across all the Gatsby Benchmarks.** These additional coordinators will be trained across all the Benchmarks. Each careers hub will work with the CEC’s network structure within the LEP and, if located within a Combined Authority, will work closely with the local Combined Authority. Hub activities will be focused on groups of young people and areas most in need of targeted support, to help deliver improvements in social mobility.

63. Many schools deliver careers education, including employability and enterprise, through the curriculum as part of their commitment to Personal, Social, Health and Economic (PSHE) education. As we legislated for in the Children and Social Work Act 2017, **Government will consider whether PSHE education (or elements of it) should be mandatory in schools.** The Department for Education is currently engaging with a wider range of experts, schools, parents and young people on this, which will be followed by a formal consultation on the resulting regulations and guidance.

High-quality Careers Leaders at the heart of our approach

64. The pilot in the North East has shown that meeting the Gatsby Benchmarks is not just a question of providing a series of activities, but that what is needed above all is leadership. Every school and college needs a Careers Leader who has the energy and commitment, and backing from the senior leadership team, to deliver the careers programme across all eight Benchmarks. Careers leadership pilots undertaken by Teach First also demonstrate how important it is to have a named lead individual in each school with the right capabilities, such as strategy development, management, networking skills

and an up-to-date understanding of labour market information and new options like T levels.^{27 28}

65. Most schools have a member of staff with a designated role to coordinate careers activities within the school: they are sometimes called the ‘careers teacher’. This title does not convey the importance of leadership in this role. As the Gatsby Benchmarks show, careers guidance involves a set of complex activities across the whole school, as well as working with external stakeholders. To lead and coordinate these activities requires a person with leadership skills, administrative ability, and specialist knowledge of careers. They need the explicit backing of the head teacher and Governors. We believe that designating such people as ‘Careers Leaders’ recognises the importance of the role and will help to build the status of careers guidance for their school. Careers Leaders can develop a strategy with senior leadership and ensure the whole school can deliver a careers programme which meets the world-class expectations set out in this strategy. Careers Leaders need to:

- have the appropriate skills and experience;
- be sufficiently senior to lead the implementation of all eight of the Benchmarks;
- have buy-in from the Governors and the Senior Leadership team;
- work with subject teachers across the school so that careers provision is embedded within the curriculum.

66. The Gatsby Benchmarks describe a system in which a careers programme works for every single young person, whatever their background or needs. We will therefore expect Careers Leaders to provide and, when needed, prioritise careers support for disadvantaged young people who have fewer opportunities to get the right advice, guidance and experiences. This may include young people such as those eligible for the Pupil Premium, those with special educational needs and disabilities, or those classed as looked after children and Children in Need by their local authority. Careers Leaders will be expected to make sure that young people from disadvantaged backgrounds are aware of the subject choices, experience and qualifications required to pursue different career options.

67. We have some way to go to achieve this. Many schools find it difficult to prioritise careers advice because of a lack of dedicated and trained resource within their school, including the absence of a clearly defined careers leadership role. There are also differences in the level of seniority, title, job description and background of the individual coordinating the careers programme in each school. **Gatsby and the CEC will work with school leaders to set out clearly what Careers Leaders should do, what the job involves, and the benefits of the role. From September 2018, we will expect**

²⁷ Hooley, T., Dodd, V. and Shepherd, C. (2016) Developing a New Generation of Careers Leaders. Derby: International Centre for Guidance Studies, University of Derby

²⁸ TeachFirst. (2017) Impossible? Improving careers provision in schools

every school to publish the name and contact details of their Careers Leader on their website.

68. Government will provide £4 million to fund the development of new training programmes and support at least 500 schools and colleges in areas of the country needing most support to train their own Careers Leaders and build momentum behind this enhanced role. We will ask organisations to submit proposals for training programmes. We expect this training to include knowledge about the new T levels and apprenticeships. Training will be piloted and evaluated before considering whether to make it available more widely. We will pilot the first training in 2018/19 academic year.

3. Support and guidance tailored to individual needs

Our aim: We want everyone to get support tailored to their circumstances at any time. All adults will be able to access free face-to-face advice with more bespoke support for those who need it most.

Personal guidance to help people make choices

69. Personal guidance is important because it tailors advice to individual needs and helps people to navigate their way successfully through education, training and career choices. Personal guidance has an observable impact on young people's careers and progression, and young people continue to have a clear preference for face-to-face support.²⁹ Guidance must be impartial and delivered by qualified practitioners, putting the needs of the individual first.

"Throughout secondary school my teachers offered amazing support. Whenever I required assistance with picking subjects to study that would be of benefit for my educational and professional career. If they were at all unsure, they referred me to a careers adviser who was clued up further on the career options available. I was fortunate, in the sense that I was driven and had a goal of where I wanted to be. I merely needed assistance on the route that would take me there. My careers advice was like a sat nav guiding me to a destination."

Secondary school pupil

70. We welcome the Career Development Institute's (CDI) work to raise the profile and status of the careers profession. We continue to encourage schools, colleges and other organisations to use the CDI's UK Register of Career Development Professionals to identify qualified practitioners. The CDI's emphasis on continuing professional development for its members will mean that young people and adults can benefit from impartial guidance, based on up-to-date knowledge. Government will support this by providing clear, in-depth information about new qualifications, such as T levels, or reforms that can support the ongoing training of careers professionals.

71. We want to create a culture of excellence by recognising and celebrating the very best practice in careers provision. **Government will back the UK Career Development**

²⁹ Whiston, S., Tai, W., Rahardja, D. & Eder, K. (2011) School counselling outcome: A meta-analytic examination of interventions. *Journal of Counseling and Development*, 89 (1): 37-55

Awards by sponsoring the ‘Careers Leader’ and ‘Use of Technology in Careers’ awards for 2018.

Supporting graduates into skilled employment

72. The Teaching Excellence and Student Outcomes Framework has highlighted the vital connection between higher education and future employment by explicitly recognising providers which have high proportions of graduates going into highly skilled employment. Schools and colleges should make sure that disadvantaged young people are encouraged to go as far as their talents will take them. For those wanting to pursue an academic route, they should be advised about the most appropriate A level or equivalent subject choices, extra-educational experiences and qualifications needed to pursue different higher education options. Schools and colleges should also encourage more able disadvantaged young people wanting to go to university to apply to the most selective universities.

73. Schools and colleges should also encourage young people wanting to pursue a technical route to go as far as their talents will take them and advise them about the most appropriate courses to take to fulfil their ambitions. We are supporting those who want to follow the technical route at a higher level by encouraging wider participation through a degree apprenticeships development fund. We have also made clear that one of the objectives of the new Institutes of Technology is to widen participation, building on best practice, including the use of access agreements by higher education institutions. Our review of Level 4 & 5 education will make sure that technical qualifications can better address the needs of learners and employers, making sure there is a compelling technical education offer at all levels of study.

74. There is evidence that work experience placements during undergraduate study are highly effective in helping students in their future careers.³⁰ There is also evidence to suggest that undergraduates from disadvantaged backgrounds are less likely to use university careers services relative to their advantaged peers.³¹ Universities UK is working with the North East LEP, and four universities in the region, on a pilot focussed on career guidance support targeted at improving graduate outcomes for students from disadvantaged backgrounds and hard-to-reach backgrounds, including exploring the potential to adapt and extend the Gatsby Benchmarks to universities. There will be a specific focus on identifying and addressing the existing barriers to social mobility, and experiences of what works will be shared across the universities sector.

³⁰ McCulloch, A. (2013) Learning from Futuretrack: The impact of work experiences on higher education student outcomes. Department for Business, Innovation and Skills, London

³¹ E.g. Greenbank, P. (2009). An examination of the role of values in working-class students' career decision-making. *Journal of Further and Higher Education*, 33(1), 33-44

75. **We will ask the Director of Fair Access and Participation and the Office for Students to expect higher education institutions to do more to make sure that students from disadvantaged backgrounds make best use of their university careers services. This may include offering mentors, access to alumni networks or specialist careers outreach programmes.**

Dedicated support for adults when they most need it

76. To improve social mobility and tackle the UK's productivity challenges, we need to keep developing the skills of those already in the workforce, as well as making sure that those entering employment are work-ready. In the next three to five years, employer demand for more people with increased levels of skills is expected to be strong across virtually all sectors of the economy. Achieving economic growth depends on the capacity to meet these skill needs in a changing economic climate.

77. To make sure that adults both in and out of work have access to the advice and guidance they need, Government will continue to provide tailored careers support through the National Careers Service. The National Careers Service is delivering positive outcomes for people from all backgrounds. All National Careers Service providers must meet the matrix Standard which assesses and measures their delivery of advice and support services on careers, training and work.

78. Last year, more than 50% of adults receiving advice from the National Careers Service moved onto an accredited training course or into employment. Over 90,000 adults declared as having a disability were seen by the service. We will build on the strengths of the current service, which will continue to be available in a range of locations, including JobCentres. **We will procure a new service by October 2018 which will provide high-quality bespoke support for those who need it most. This will include people with low qualification levels and those with special educational needs and disabilities.**

79. The National Careers Service will continue to provide universal information and advice via its website and phone service. Local labour market intelligence will be used to inform material on the website and advice provided through web chats with advisers, over the phone and in face-to-face sessions. Skills Advisory Panels, once established, will contribute to this material. People will be encouraged and supported to manage their careers proactively throughout their working lives. Online tools will support intermediaries such as schools, colleges and parents to help guide young people when making career choices. Young people and adults will also be able to store and access their careers and learning information online.

80. Local Industrial Strategies, supported by Skills Advisory Panel analysis, will bring together local partnerships and relationships with businesses, Mayoral Combined

Authorities and LEPs to help make sure that careers advice is well-positioned to support local economic growth. National Careers Service providers will use up-to-date information on the skills and jobs available in their areas and advisers will use local labour market information to help their customers make informed decisions on future careers, jobs or learning.

Alfie aged 22 from Bracknell got in touch with the National Careers Service when, as a result of physical injury due to an accident, he could no longer work in the construction industry.

"I had just finished recovering from my accident and returned to work, only to realise that I wasn't physically capable of maintaining the job. So down on my luck, a bit depressed and out of money I got in touch with my local National Careers Service careers adviser. She pointed me towards Bracknell and Wokingham College where I have been and am currently studying full time. The courses which I am taking are GCSE Physics, Chemistry, Biology, Maths and English. And I have been accepted for my A levels to start in the next academic year in Chemistry, Physics and Mechanical Maths. I am at the college for 10-13 hours a day, studying during the day and working in the college canteen during the evening.

Having taken no exams at school, to receive a second chance to do things the right way with the correct attitude is indescribable. I fully intend to take this opportunity with both hands and run as fast and far as I can with it. It's time to be successful and it was my National Careers adviser who opened the door for me. She genuinely cared on a human level about my situation and did everything in her power to make it happen. I couldn't have asked for a better and more effective adviser."

Alfie – National Careers Service customer

81. Our modern Industrial Strategy identifies priority skills needs (such as in STEM and digital skills), Grand Challenges, and specific sectors that Government is working with through Sector Deals. The changing nature of the labour market, with higher numbers of people in more flexible, atypical jobs and more self-employment, longer working lives, and the impact of technology, means that it is increasingly important to help adults to upskill and reskill. We want to help those who are in low paid jobs to progress and to make sure that people have transferable skills for employment. To address the combined social mobility and productivity challenge in different parts of the country, the adult education landscape needs to cater to a variety of different educational needs, from improving basic skills to opportunities for those who want to advance their careers.

82. Government is investing £40 million in Career Learning Pilots to test how we can effectively engage adults about the opportunities and benefits of learning. The first of

these pilots – the Flexible Learning Fund - was launched on 31 October. Through this Fund, Government is making available up to £10 million to support projects which design and test flexible and accessible ways of delivering learning to working adults with low or intermediate skills.

83. The second pilot is being delivered across up to five LEP areas. It will test how best to reach low-skilled adults who are in work and whether reducing the cost of courses (by 25%, 75% and 100%) makes adults more likely to do economically valuable learning matched to local economic need. As part of the outreach work we want to understand the impact of face-to-face careers guidance on helping adults to understand the benefits of training and also ensure they are supported to enrol on courses armed with the best possible information. This includes where there are employment opportunities in their region, and what courses could support them to progress through reskilling or upskilling.

84. The Career Learning Pilots will be closely evaluated, with results being collected throughout the 2018/19 academic year, to provide vital evidence to support the development of a world-leading programme of learning and training and in line with Government's career learning ambitions. As announced at the 2017 Budget, this will include introducing a National Retraining Scheme, which will give individuals the skills they need to progress in work, redirect their careers and secure the high-paid, high-skilled jobs of the future. As a first step, the Scheme will include targeted short-term action in sectors with immediate skills shortages. Government is investing £30 million to develop digital skills as an early Scheme initiative, as well as £34 million to expand innovative construction training programmes across the country. The Scheme will expand its reach as its priorities are set and we test the evidence base on what works, with the Scheme fully in place by the end of this Parliament.

A targeted approach for groups needing more support

85. Careers advice for young people with special educational needs and disabilities (SEND) can often be poor and lacking in aspiration.³² We want careers advice for these young people to be aspirational, personalised and well informed.

86. To improve careers advice for people with special educational needs and disabilities, **Government is funding the Education and Training Foundation to provide professional development for careers professionals working with these young people.** The Education and Training Foundation is developing two sets of online training modules to support careers professionals working with young people with SEND and this training will be freely available to schools, colleges and other careers professionals. The two resources will complement other resources funded by

³² OFSTED (2016) "Moving Forward?" How well the further education and skills sector is preparing young people with high needs for adult life

Government - currently being developed - on work experience placements and Study Programmes for learners with SEND.

Southlands school in North Tyneside is a senior school for children with moderate learning difficulties, a number of whom have additional social, emotional and behavioural difficulties or other more complex needs.

Leon was given the opportunity to undertake a retail placement as part of the school's 'Moving On' programme in September 2016. The aim of the retail programme is to give students real life valuable work experience over a sustained period. This can enable them to develop more advanced skills and greater confidence, hopefully leading to employment in this sector if they so wish. Leon has had to arrive independently and undertake a variety of roles, from stocktaking to learning the menu. The impact that this placement has had on Leon has been huge and he has really noticed the difference. Leon has been offered a job on weekends following this experience and the company is continuing to train him for recruitment into future jobs. *"I just love being there. It has been the best thing ever".*

Leon – pupil, Southlands school

87. The CEC and Gatsby Foundation will work together to set out good practice in supporting young people with special educational needs and disabilities. Enterprise Advisers will receive training and information so they can recommend the resources available to design a careers programme to support people with special educational needs and disabilities. The CEC will undertake targeted work with employers to stimulate more employer engagement that will support young people with SEND and will continue to make the case for employers to provide work experience and supported internships for young people with SEND.

88. **Government will fund work during 2018 to test new approaches and produce resources to improve careers information, advice and guidance for individuals who are disadvantaged, including those with special educational needs and disabilities.** This will support social mobility by enabling more people to progress to further studies and employment.

4. Using data and technology to help everyone make choices about careers

Our aim: We want everyone to get the information they need to understand the job and career opportunities available, and how their knowledge and skills can help them in considering suitable careers.

A single digital route to careers information

89. Careers advice must be accessible to the digital generation, harnessing technology and using online tools and activities to engage people of all ages in learning about different skills and career paths. The National Careers Service is a valuable online resource providing information and free tools for young people, adults thinking about their own career choices and those who are helping young people to make choices about their future pathways. But to truly meet the needs and expectations of those seeking advice online, we need to find new ways to inspire people online and help them explore new options.

90. **A new, engaging and inspiring website for the National Careers Service will be developed in 2018.** Changes to the website will be made public in April and then further developments made for October 2018. Labour market information is used to inform the over 800 job profiles which are available on the website. These have been developed with industry experts and give young people and adults a clear picture of what a job involves and the salary, qualifications and experience they need to enter and progress in their chosen careers. An improved and interactive course directory will clearly explain routes to a wide range of vocational and academic learning opportunities, including apprenticeships, degrees and basic skills courses.

91. For people who know where they want to go, the information will be clear and up-to-date. But for those who don't know their next step, the website will help inform people about new opportunities based, for example, on jobs with shortages in the local area, high life satisfaction amongst those employed in a profession, or options that can be reached through an apprenticeship route.

92. For those who want to manage their careers online, the services will be in place to support them. On the National Careers Service website, the web chat tool will mean that anyone can access quick, personalised and high-quality careers advice with a National Careers Service adviser through an entirely digital channel.

93. We will continue to improve the National Careers Service online resources beyond October 2018, **by making sure all Government careers information is available in one place, allowing people to more easily find out about and consider the different ways to pursue a particular career.** This will draw on analysis provided by the Skills

Advisory Panels and include specific information about opportunities in their area, potential earnings from different roles and the different routes an individual can take.

94. Through this work, Government will meet its manifesto commitment to make the system easier for young people taking technical and vocational routes. We will provide simple, relevant online information and tools to support students applying for apprenticeships and technical education courses through the new, improved National Careers Service website. **We will work with colleges who want to test a new approach that makes it easier for students to apply for their chosen courses. We will begin testing this new approach in 2018.**

Making best use of technology

95. New technology presents exciting opportunities to provide careers services differently. There are already a number of valuable online careers resources to help people make their career choices. The 'LMI for All' (Labour Market Information (LMI) for All) website provides one place to access multiple sources of robust LMI. It is being used successfully by developers to create careers apps and websites to help inform people who want information about their careers options. LMI for All data is also used in the job profiles on the National Careers Service website. **Government has renewed the contract for LMI for All, so that people will continue to have up-to-date information about local labour markets. We will continue to promote the use of the service, and encourage the design of new apps and websites to help people navigate this information.** This will include promoting the improved 'careerometer' tool in schools, to enable students to review and compare different occupations, what they involve and what the potential earnings can be.

96. However, we know that many people, especially those who are less confident accessing and using digital tools, welcome support from someone (for example, the school's Careers Leader) to help them make the best use of online tools. **We will run a 'hack day' for developers to design new apps, using labour market information, that could be used in a tailored way with people who are less confident using digital tools.**

97. Advances in technology are increasingly important in supporting schools and colleges with their careers provision and connecting with employers and providers. The CEC has developed Compass, a tool which allows schools to evaluate their delivery against the Gatsby Benchmarks, and recently Tracker, a careers activity planning tool, which uses the school's Compass evaluation to allow schools to identify and plan activities to fill gaps. In January 2018, the CEC will build on this by launching its online Provider and Resource Directory, which will help direct schools to organisations that can help them to fill gaps identified by Compass.

98. Careers professionals also need to develop digital talent and leadership to support people to update their own digital skills and access exciting career opportunities in the emerging hi-tech and digital industries. The CDI will publish a strategy and three-year action plan which will set out a vision for the sector to imagine new ways of working, using digital technology and to set out their training and development needs.

Effective use of data

99. There is a wealth of data and information available, but it is often not clearly communicated to those who could most benefit from it. For social mobility to improve, it is important this information reaches those who are least likely to look for it and that they have the support to be able to use it. Information needs to be accessible and easy to understand for everyone, not just those who are digitally-aware.

100. Government already publishes data on the destinations of students, which show the number of young people going into education, employment or training the year after finishing Key Stage 4 (aged 16) and Key Stage 5 (aged 18). This year these were published in performance tables for the first time. Ofsted also take destination measures into account as part of their inspection framework. The Longitudinal Education Outcomes (LEO) dataset links information on education with employment data and is demonstrating the impact that different decisions about education and training have on employment outcomes.

101. **Government will make destinations and outcomes data more accessible to people, to help them compare opportunities and make informed decisions on education, training and employment options. We will also look into ways to improve the long-term tracking of student outcomes, including the extent to which young people go on to apprenticeships and other technical routes such as the new T levels.** We want to do more with data to make sure that young people are fully aware of both their academic and non-academic options, the various routes they can take to get there and their potential outcomes, to better inform their decision making. We also want to raise awareness of the role data can play to support decision making and encourage young people and schools to make more use of it through the adoption of the Gatsby Benchmarks. The Benchmarks recognise the importance of accessing and learning from career and labour market information for social mobility. The new Skills Advisory Panels will also help make regional outcomes data more available, and through our statutory guidance we will encourage Careers Leaders and careers professionals to interpret this information so that young people can easily understand it.

“I think labour market information is useful. I want to know where I have to move to, to get on the best course that’s going to get me a well-paid job afterwards”

Secondary school pupil

“If I’m spending money and years going to university, I want to choose one to go to that will get me a really good qualification at the end of it, so I’m most likely to get a job”

Secondary school pupil

102. We will also consider how this information is best made available to people, including through the development of the National Careers Service online resources. Outcomes information also needs to be relevant for the region that a person lives in. We will encourage schools and colleges to publish more of their destinations information on their website, including information on those students who have progressed onto an apprenticeship. The CEC will continue to work locally to help schools and colleges make best use of the available data, coordinating and boosting understanding of different data sources and measures.

103. **We are establishing Skills Advisory Panels, in partnership with Mayoral Combined Authorities and LEAs, to produce rigorous analysis of current and future local skills needs.** We will encourage schools, colleges and others to use this information to help shape their careers provision and will encourage Careers Leaders to interpret the data for their students. The CEC will use their networks to share this analysis and to inform the activities they support locally.

A call to action

104. This strategy sets out how we will transform careers provision across the country, prioritising the people and places that need it most while raising the standard for everyone. This is an ambitious plan and one that we cannot achieve alone. To deliver real change, we need the education, business and careers communities to come together and work in partnership with Government. Only then can we tackle the injustice of people from lower income backgrounds and from disadvantaged regions missing out on the opportunities and experiences that their more affluent counterparts enjoy.

105. We want every person, no matter what their background is and no matter where they are from, to be able to build a rewarding career. Now we need to work together and capitalise on the network we are building, to provide careers guidance and encounters that are dynamic and link to the real employment opportunities available in future. In a fast-changing economy, it is essential that we make school and work more closely connected than ever before so young people from all backgrounds have the knowledge, skills and experience to succeed in work. As the labour market evolves, it is crucial that those already in work can access the advice and information on career changing and retraining that opens up other opportunities. Let's seize this chance to lead change and make the most of everyone's skills and talents.



Department
for Education

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Section 106 Agreement
Education, training, recruitment and local procurement inclusions
Version 3 DRAFT

This paper provides an initial draft of potential inclusions for the Manston Airport Section 106 Agreement covering:

- Education and training
- Careers advice
- Aspiration raising
- Local recruitment
- Local procurement

Initial topics for consideration and further detail include:

1. **Financial contribution** to be made by the Airport Company for the purpose of education and training, careers advice, aspiration raising, and recruitment of local personnel.
2. Ensure appropriate **research** is conducted to establish the need for particular training and education courses related to the forecast employment creation by job type. This is essential for the providers if they are to make the business case to their Boards for new courses and initiatives.
3. Work with local Higher Education (HE), Further Education (FE) and schools to provide an **education and training facility** on the Manston Airport site. These facilities would include:
 - Apprenticeship centre
 - Training rooms
 - Aircraft with working parts such as hydraulics, etc. located outdoors or in a well-ventilated space
 - Multi-purpose laboratory area
 - Open plan café area that could be used for groups, school visits, networking, etc.
 - High quality ICT equipment and wifi
4. Prepare an **Employment and Skills Plan** for the airport detailing each of the areas contained in this document together with SMART (Specific, Measurable, Achievable, Relevant and Time-bound) targets.
5. Help establish and/or maintain **collaboration** between EKC, CCCU and other HE and FE providers and schools where appropriate so that relevant and sufficient courses are available at all levels to support employment at the airport including with the Airport Company, airlines, logistics companies and others in the supply chain.
6. Work with education leaders from schools, HE and FE to ensure **awareness** of the re-opening of the airport and the extent and type of opportunities expected to arise. In particular, through the Kent & Medway Enterprise Company (The Education People) to brief the Enterprise Advisors and STEM Ambassadors in the area to ensure educationalists are fully briefed and engaged with the opportunities in the aviation sector and its supply chain.
7. Liaise with schools and HE and FE providers of **apprenticeships, graduate placements, workplace training and world of work** to secure placements with the Airport Operator, airlines and others in the supply chain. This will

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include ensuring, by including specific obligations in the procurement of main contractors, there are apprenticeships and workplace training opportunities for young people and adults in the construction sector during each of the airport's development phases. These obligations should be specific, including overall numbers of apprenticeships and workplace training, start dates, trades, professions, etc. and be closely monitored with penalties for not meeting agreed obligations. Contracts for work by main contractors should also include the obligation to work with their local school, FE/HE provider and/or other training providers.

8. Work with local HE, FE and schools to provide opportunities to learn about aviation-related **careers and to raise aspirations**, particularly for STEM subjects and with those who may be disengaged from learning. This will include curriculum and careers support activities with local schools, FE and HE.
9. Instigate a **Local Hiring Policy** where possible. The Airport Operator will, of course, be an equal opportunities employer working in accordance with the Equality Act 2010, but the Company may have a positive policy in favour of hiring locally. Using local labour may have the following benefits:
 - Foster community involvement with the airport and its supply chain
 - Reduce the environmental impact of commuting
 - Retain apprentices, trainees, graduates and staff within the area
10. Establish a **Local Employment Partnership Board** as a partnership between Thanet District Council, Dover District Council, Canterbury City Council, Swale Borough Council and the Airport Company. *[Please note this has not been discussed with any of the Councils except in outline with Dover DC.]* The Partnership Board may also include other stakeholders such as Kent County Council, Job Centre Plus, and providers of careers services for adults. The Partnership Board would:
 - Act as a conduit between the Airport Company and local, regional and national government, taking responsibility for local strategic education, training and employment issues associated with the presence of an operational Manston Airport.
 - Suggest initiatives that meet local need
 - Bring together parties working on initiatives around the area where collaboration would have greater impact for the local community.
 - Allocate available funding
 - Ensure suitable performance targets are set (see also **Error! Reference source not found.** below) and monitor progress against these targets.
11. Help create a **central point for recruitment** so that potential employees and employers can access information easily. The Local Employment Partnership Board, Jobcentre Plus and local recruitment providers would work together to provide a comprehensive range of services to job seekers and aviation-related employers. This will include support for local unemployed and under-employed people, signposting access to careers advice and training provision. It will also support local aviation-related companies' recruitment needs. This service would be supported by development of a website with details of education, training, careers advice, and job opportunities.

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12. **Promote job opportunities and apprenticeships** to local people particularly the long-term unemployed and hard to reach groups.
13. **Recruitment of ex-employees** of Manston Airport including population of a database of those interested in returning to work at Manston, wishing to retrain or with a desire to pass on their skills to others.
14. Work with providers to ensure **hard-to-reach groups** are not excluded from training, education, aspiration raising, careers advice, and employment opportunities. These groups would include the long-term unemployed, offenders, children in care and looked-after children.
15. Work with local providers to ensure there is provision for **pre-recruitment advice** including CV preparation, interview practice, job fairs, and meet the employer events.
16. In conjunction with local FE, HE and other organisation, provide a comprehensive programme of **workforce development** for employees.
17. Provide support for **enterprise and innovation** including start-ups associated with aviation, logistics, technology, and environmental innovations. This should include establishing a **Knowledge Transfer Partnership** with a local HEI and may also involve the local Chamber of Commerce and other relevant organisations.
18. Identify forthcoming **procurement opportunities** that are relevant and suited to local businesses and promote these opportunities to the local Chambers of Commerce and other relevant trade organisations.
19. Carry out **community engagement** to ensure local people have an awareness of the work and career opportunities provided by the Airport Company and its supply chain.
20. Engage full/part time **Airport Company staff** with responsibility for:
 - Acting as the point of contact within the Airport Company for the initiatives detailed above
 - Maintaining relationships between all stakeholders
 - Monitoring progress against targets and reporting to interested parties
 - Taking action in cases where targets are not met
 - Advising the Airport Operator and their partners of relevant government policies, initiatives, funding, etc.



Department
for Education

Careers guidance and access for education and training providers

**Statutory guidance for governing bodies,
school leaders and school staff**

October 2018

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Summary

About this guidance

This is statutory guidance from the Department for Education. This means that recipients must have regard to it when carrying out duties relating to independent careers guidance and provider access to schools. We use the term ‘must’ when the person in question is legally required to do something and ‘should’ when advice is being offered.

Expiry or review date

This statutory guidance replaces the version issued in January 2018. This statutory guidance will be reviewed annually and updated if necessary.

What legislation does this guidance refer to?

- Sections 42A¹, 42B and 45A of the Education Act 1997
- Section 72 of the Education and Skills Act 2008
- Schedule 4 (15) of the School Information (England) Regulations 2008

Who is this guidance for?

This is statutory guidance for:

- governing bodies, proprietors, school leaders, careers leaders and school staff in maintained schools², academies and free schools (including alternative provision academies and free schools)³ that provide secondary education;
- local authorities that maintain pupil referral units that provide secondary education.

¹ Subsection (6) of section 42A was amended by the Careers Guidance in Schools Regulations 2013

² For the purposes of this statutory guidance, references to ‘maintained school’ or ‘school’ means a community, foundation or voluntary school, community or foundation special school (other than one established in a hospital) that provides secondary education. It also includes pupil referral units. References to a ‘governing body’ or ‘proprietor’ include a local authority that maintains a pupil referral unit.

³ All academies and free schools are subject to the new duty to provide pupils with access to a range of education and training providers. Many academies and free schools are subject to the duty to provide independent careers guidance through their funding agreements, including those which opened from September 2012 and those which have moved to the updated funding agreement. Academies without the requirement are encouraged to follow the guidance in any case as a statement of good practice.

Main points

- The Government's careers strategy⁴, published on 4 December 2017, sets out a long term plan to build a world class careers system that will help young people and adults choose the career that is right for them. This statutory guidance has been updated to expand on the aim set out in the strategy to make sure that all young people in secondary school get a programme of advice and guidance that is stable, structured and delivered by individuals with the right skills and experience.
- To achieve this aim, the careers strategy sets out that every school and academy providing secondary education should use the Gatsby Charitable Foundation's Benchmarks⁵ to develop and improve their careers provision. This statutory guidance has been restructured around the Benchmarks with information on what schools need to do to meet each one. The Gatsby Benchmarks are not a statutory framework but by adopting them, schools can be confident that they are fulfilling their legal duties: the existing duties to secure independent careers guidance and provide opportunities to a range of providers to inform pupils about technical education qualifications or apprenticeships and the new duty to publish information about the careers programme on the school website.
- The Benchmarks go further by defining all of the elements of an excellent careers programme, based on the best national and international research. Government recognises that the work needed to meet all eight Benchmarks will vary for individual schools. Government's expectation is that schools begin to work towards the Benchmarks now and meet them by the end of 2020. Compass is an online self-evaluation tool⁶ for schools to use to assess how their careers support compares against the Gatsby Benchmarks and the national average. Schools should baseline themselves using this tool, consider the opportunities to improve their careers programme based on their confidential results, and track their progress against the Benchmarks over time.
- The careers strategy explains that both co-ordinated external support and an appropriately skilled and experienced leader in school are important to help schools meet the Benchmarks. This statutory guidance explains what support will be made available to schools between now and 2020.
- The Careers & Enterprise Company will provide external support to schools. The Company supports and coordinates collaboration between employers, schools, colleges, Local Enterprise Partnerships and careers and enterprise organisations

⁴ <https://www.gov.uk/government/publications/careers-strategy-making-the-most-of-everyones-skills-and-talents>

⁵ Gatsby Charitable Foundation (2014) Good Career Guidance. London: Gatsby Charitable Foundation

⁶ <http://www.careersandenterprise.co.uk/schools-colleges/about-compass>

to create high impact careers and enterprise support to young people (aged 11-18). The Company's initial focus has been on employer engagement, based on evidence about the importance of giving young people more opportunities to connect with employers of all sizes, and from all sectors. These encounters will inspire pupils and allow them to learn about what work is like, or what it takes to be successful in the workforce. The careers strategy confirmed that The Careers & Enterprise Company will take on a more ambitious role building on their progress to date, offering all schools an Enterprise Adviser⁷ by 2020. The Careers & Enterprise Company will also offer further support across all of the Gatsby Benchmarks. This will include the development of new resources, support for Careers Leaders and establishing Careers Hubs.

- The careers strategy sets out that every school needs a Careers Leader who has the skills and commitment, and backing from their senior leadership team, to deliver the careers programme across all eight Gatsby Benchmarks. Every school is expected to name this Careers Leader and publish contact details on their website from September 2018. More information about the role and responsibilities of the Careers Leader is set out in a new guide, 'Understanding the role of the Careers Leader'.⁸
- The way in which careers guidance will continue to be considered during Ofsted inspection is set out in Ofsted's Common Inspection Framework⁹ and School Inspection Handbook.¹⁰ A successful careers guidance programme will also be reflected in higher numbers of pupils progressing to positive destinations such as apprenticeships, technical routes, school sixth forms, sixth form colleges, further education colleges, universities or employment. Destination measures provide clear and comparable information on the success of schools in helping all of their pupils take qualifications that offer them the best opportunity to continue in education or training. We publish KS4 and 16-18 (KS5) education destinations in performance tables on gov.uk¹¹, meaning that they are now an established part of the accountability system.

⁷ Enterprise Advisers are senior business volunteers who work closely with a local school to help develop a practical careers plan.

⁸ The Careers & Enterprise Company and Gatsby Charitable Foundation (2018) Understanding the Role of the Careers Leader. London: The Careers & Enterprise Company.
<https://www.careersandenterprise.co.uk/sites/default/files/uploaded/understanding-careers-leader-role-careers-enterprise.pdf>

⁹ <https://www.gov.uk/government/publications/common-inspection-framework-education-skills-and-early-years-from-september-2015>

¹⁰ <https://www.gov.uk/government/publications/school-inspection-handbook-from-september-2015>

¹¹ <https://www.gov.uk/school-performance-tables>

The Gatsby Benchmarks¹²

1. A stable careers programme	Every school and college should have an embedded programme of career education and guidance that is known and understood by students, parents, teachers, governors and employers.	<ul style="list-style-type: none"> • Every school should have a stable, structured careers programme that has the explicit backing of the senior management team, and has an identified and appropriately trained person responsible for it. • The careers programme should be published on the school's website in a way that enables pupils, parents, teachers and employers to access and understand it. • The programme should be regularly evaluated with feedback from pupils, parents, teachers and employers as part of the evaluation process.
2. Learning from career and labour market information	Every student, and their parents, should have access to good quality information about future study options and labour market opportunities. They will need the support of an informed adviser to make best use of available information.	<ul style="list-style-type: none"> • By the age of 14, all pupils should have accessed and used information about career paths and the labour market to inform their own decisions on study options. • Parents should be encouraged to access and use information about labour markets and future study options to inform their support to their children.
3. Addressing the needs of each student	Students have different career guidance needs at different stages. Opportunities for advice and support need to be tailored to the needs of each student. A school's careers programme should embed equality and diversity considerations throughout.	<ul style="list-style-type: none"> • A school's careers programme should actively seek to challenge stereotypical thinking and raise aspirations. • Schools should keep systematic records of the individual advice given to each pupil, and subsequent agreed decisions. • All pupils should have access to these records to support their career development. • Schools should collect and maintain accurate data for each pupil on their education, training or employment destinations for at least three years after they leave the school.
4. Linking curriculum learning to careers	All teachers should link curriculum learning with careers. STEM subject teachers should highlight the relevance of STEM subjects for a wide range of future career paths.	<ul style="list-style-type: none"> • By the age of 14, every pupil should have had the opportunity to learn how the different STEM subjects help people to gain entry to, and be more effective workers within, a wide range of careers.

¹² Gatsby Charitable Foundation (2014) Good Career Guidance. London: Gatsby Charitable Foundation

1. A stable careers programme	Every school and college should have an embedded programme of career education and guidance that is known and understood by students, parents, teachers, governors and employers.	<ul style="list-style-type: none"> • Every school should have a stable, structured careers programme that has the explicit backing of the senior management team, and has an identified and appropriately trained person responsible for it. • The careers programme should be published on the school's website in a way that enables pupils, parents, teachers and employers to access and understand it. • The programme should be regularly evaluated with feedback from pupils, parents, teachers and employers as part of the evaluation process.
5.Encounters with employers and employees	Every student should have multiple opportunities to learn from employers about work, employment and the skills that are valued in the workplace. This can be through a range of enrichment activities including visiting speakers, mentoring and enterprise schemes.	<ul style="list-style-type: none"> • Every year, from the age of 11, pupils should participate in at least one meaningful encounter* with an employer. <p>*A 'meaningful encounter' is one in which the student has an opportunity to learn about what work is like or what it takes to be successful in the workplace.</p>
6.Experiences of workplaces	Every student should have first-hand experiences of the workplace through work visits, work shadowing and/or work experience to help their exploration of career opportunities, and expand their networks.	<ul style="list-style-type: none"> • By the age of 16, every pupil should have had at least one experience of a workplace, additional to any part-time jobs they may have. • By the age of 18, every pupil should have had one further such experience, additional to any part-time jobs they may have.
7.Encounters with further and higher education	All students should understand the full range of learning opportunities that are available to them. This includes both academic and vocational routes and learning in schools, colleges, universities and in the workplace.	<ul style="list-style-type: none"> • By the age of 16, every pupil should have had a meaningful encounter* with providers of the full range of learning opportunities, including Sixth Forms, colleges, universities and apprenticeship providers. This should include the opportunity to meet both staff and pupils. • By the age of 18, all pupils who are considering applying for university should have had at least two visits to universities to meet staff and pupils. <p>*A 'meaningful encounter' is one in which the student has an opportunity to explore what it is like to learn in that environment.</p>
8.Personal guidance	Every student should have opportunities for guidance interviews with a career adviser, who could be internal (a member of school staff) or external, provided they are trained to an appropriate level. These should be available whenever significant study or career choices are being made.	<ul style="list-style-type: none"> • Every pupil should have at least one such interview by the age of 16, and the opportunity for a further interview by the age of 18.

Requirements and expectations of schools

Timing	Action
Ongoing (legal duty came into force in September 2012)	<ul style="list-style-type: none"> Every school must ensure that pupils are provided with independent careers guidance from year 8 to year 13.
Ongoing (legal duty came into force on 2 January 2018)	<ul style="list-style-type: none"> Every school must ensure that there is an opportunity for a range of education and training providers to access all pupils in year 8 to year 13 for the purpose of informing them about approved technical education qualifications or apprenticeships. Every school must publish a policy statement setting out their arrangements for provider access and ensure that it is followed. Annex A sets out an example policy statement on provider access.
From January 2018 to end 2020	<ul style="list-style-type: none"> Every school should begin using the Gatsby Benchmarks to improve careers provision now, and meet them by the end of 2020. For the employer encounters Benchmark, every school should begin to offer every young person seven encounters with employers – at least one each year from year 7 to year 13 – and meet this in full by the end of 2020. Some of these encounters should be with STEM employers.
From September 2018	<ul style="list-style-type: none"> Every school should appoint a named person to the role of Careers Leader to lead the careers programme.
From September 2018 (legal duty came into force on 1 September 2018)	<ul style="list-style-type: none"> Every school must publish details of their careers programme for young people and their parents.

Support for schools

Timing	Action
From September 2018	<ul style="list-style-type: none"> Job specification and standards for Careers Leaders developed and started to be used by schools.
From September 2018	<ul style="list-style-type: none"> The Careers & Enterprise Company will take on a broader role across all the Gatsby Benchmarks.
During 2018 and 2019	<ul style="list-style-type: none"> The Careers & Enterprise Company will provide tools to help schools meet the Gatsby Benchmarks.
During 2018 and 2019	<ul style="list-style-type: none"> Careers Leaders training funded for 1300 schools and colleges.
By end 2020	<ul style="list-style-type: none"> All schools will have access to an Enterprise Adviser.

Statutory duties

1. Section 42A of the Education Act 1997 requires governing bodies to ensure that all registered pupils at the school are provided with independent¹³ careers guidance¹⁴ from year 8 (12-13 year olds) to year 13 (17-18 year olds).
2. The governing body must ensure that the independent careers guidance provided:
 - is presented in an impartial manner, showing no bias or favouritism towards a particular institution, education or work option;
 - includes information on the range of education or training options, including apprenticeships and technical education routes;
 - is guidance that the person giving it considers will promote the best interests of the pupils to whom it is given.
3. The Technical and Further Education Act 2017 inserts section 42B into the Education Act 1997 and came into force on 2 January 2018. This new law requires the proprietor of all schools and academies to ensure that there is an opportunity for a range of education and training providers to access all pupils in year 8 to year 13 for the purpose of informing them about approved technical education qualifications¹⁵ or apprenticeships¹⁶.
4. The proprietor must prepare a policy statement setting out the circumstances in which education and training providers will be given access to pupils, and to ensure that this is followed. The policy statement must be published and must include:
 - any procedural requirement in relation to requests for access;
 - grounds for granting and refusing requests for access;
 - details of premises or facilities to be provided to a person who is given access.

¹³ Independent is defined as external to the school. External sources of careers support could include employer visits, mentoring, website, telephone and helpline access and personal guidance provided externally to the school. Taken together, the external sources must include information on the range of education and training options, including apprenticeships. Personal guidance does not have to be external – it can be delivered by school staff, if trained. Where this advice or any other element of the careers programme is internal, it must be supplemented by external sources of support to ensure compliance with the legal duty.

¹⁴ Careers guidance is understood in this document to be the full range of activity delivered under the eight Gatsby Benchmarks.

¹⁵ “Approved technical education qualification” means a qualification approved under section A2DA of the Apprenticeships, Skills, Children and Learning Act 2009. Section A2DA is not yet commenced but when in force will allow for approval of technical education qualifications by what will by then be the Institute for Apprenticeships and Technical Education (currently the Institute for Apprenticeships). In practice this will be the qualification element of what will be known as the ‘T level’.

¹⁶ An apprenticeship is a paid job with training, lasting a minimum of twelve months. Further information for schools can be found at [Amazing Apprenticeships](#).

5. The proprietor may revise the policy statement from time to time. The proprietor must publish the policy statement and any revised statement. It is expected that a policy statement will be published for each academy within a multi-academy trust.
6. The School Information (England) Regulations 2008 require schools¹⁷ to publish information about the school's careers programme. This information must relate to the delivery of careers guidance to year 8 to 13 pupils in accordance with Section 42A of the Education Act 1997. For the current academic year, you must include:
 - the name, email address and telephone number of the school's Careers Leader
 - a summary of the careers programme, including details of how pupils, parents, teachers and employers may access information about the careers programme
 - how the school measures and assesses the impact of the careers programme on pupils
 - the date of the school's next review of the information published

What is the governing body expected to do?

7. The governing body should provide clear advice and guidance to the head teacher on which he/she can base a strategy for careers education and guidance which meets the school's legal requirements, is developed in line with the Gatsby Benchmarks and informed by the requirements set out in this document. Every school should have a member of their governing body who takes a strategic interest in careers education and guidance and encourages employer engagement.
8. The governing body must make sure that arrangements are in place to allow a range of education and training providers to access all pupils in years 8-13 to inform them about approved technical education qualifications and apprenticeships, and that a policy statement setting out these arrangements is published. This should be part of a broader approach to ensuring that young people are aware of the full range of academic and technical routes available to them at each transition point.
9. The governance handbook¹⁸ provides information on governors' other legal duties.

Compliance with the duties and statutory guidance

10. In the event of suspected non-compliance with the duties and statutory guidance, our approach is for the parties involved to try to resolve the matter locally. This might

¹⁷ Academies should also publish this information on their website

¹⁸ <https://www.gov.uk/government/publications/governance-handbook>

include resolving a complaint in line with the school's published complaints procedure. If a complaint remains unresolved, the DfE School Complaints Unit will consider whether the school's statutory policies meet current education legislation and whether they have been adhered to. If the Department finds fault with a school's policies following a complaint, then remedial action could be taken. This could include an official or a Minister from the Department for Education writing to the school and, ultimately, the legal powers of intervention available to the Secretary of State for Education may be enforced¹⁹.

¹⁹ Section 496 and 497 of the Education Act 1996

Responsibilities of schools

11. The careers strategy explains that good careers guidance connects learning to the future. It motivates young people by giving them a clearer idea of the routes to jobs and careers that they will find engaging and rewarding. Good careers guidance widens pupils' horizons, challenges stereotypes and raises aspirations. It provides pupils with the knowledge and skills necessary to make successful transitions to the next stage of their life. This supports social mobility by improving opportunities for all young people, especially those from disadvantaged backgrounds and those with special educational needs and disabilities.
12. The Government has set a clear expectation that the quality of careers education and guidance should be raised in all schools. The statutory framework requires every school to secure independent careers guidance for all year 8 to 13 pupils. This makes sure that all pupils have access to external sources of information on the full range of education and training options.
13. The Government wants to go beyond the statutory duties and introduce a framework around which schools can develop and improve their entire careers programme. This will help to promote a shared understanding of what excellent careers provision looks like and a consistent approach to achieving it. The Government expects all schools to use the Gatsby Benchmarks to improve their careers provision. The Gatsby Charitable Foundation's 'Good Career Guidance' report brought together the best national and international research to look at what practical actions could improve careers guidance in England. It identifies eight Gatsby Benchmarks that define a world-class standard of excellent careers guidance. The research provides a clear and consistent message that a good careers programme means achieving all eight Gatsby Benchmarks with every pupil.
14. Benchmark 1 recognises that every school should have a stable, structured careers programme that is published on the school's website. Many schools already have information about their careers information written down but the Government wants to go further to make sure that schools are consistently making available public information about their careers programme so that it is known and understood by young people, parents, teachers and employers. The Government has introduced a new requirement for schools to publish information about their careers programme on their website.
15. Benchmark 7 recognises the importance of every pupil meeting education and training providers to understand the full range of educational opportunities that are available to them. Schools are already responding to this, recognising that technical options can give young people opportunities to access inspiring careers, whatever their interests, strengths or aspirations. The Government wants to go further. Currently, only 59.5% of schools are providing pupils with encounters with general

further education providers and only 44.1% are providing them with encounters with independent training providers²⁰. A new duty on schools to allow access to providers of technical education and apprenticeships will make sure that every pupil is well-informed about their future options at every stage. The duty will help pupils to make an informed choice about an academic option for those interested in going to university, and a technical route, including T levels or an apprenticeship, for those seeking to progress to the highest levels of skilled employment or technical education and training at levels 4, 5 and 6. Progression options will include higher and degree level apprenticeships or higher technical education, including technical degrees.

16. Over 3000 schools and colleges are now using Compass²¹, a self-evaluation tool developed by Gatsby and The Careers & Enterprise Company. Compass works by asking schools to answer a series of questions about what careers provision they offer. On completing the questions, the school will receive a confidential report showing how they compare to the Gatsby Benchmarks. Over time a school can return to the tool, see their previous results and repeat the assessment as provision develops. The Compass report is confidential, but schools may choose to share it with governors, parents/carers, colleagues, and Ofsted. Using the Gatsby Benchmarks to develop and improve careers provision, and putting in place a clear plan that is based around meeting them, will also help schools to ensure they are complying with their legal duties.
17. We recognise that the eight Benchmarks represent a demanding but achievable standard. Analysis of the Compass data²² found that the overwhelming majority of schools (79.4%) achieve at least one Benchmark and most (51%) achieve at least two. While only a small number of schools report excellent provision, many schools are partially meeting the Benchmarks. On average schools are meeting around 50% of the indicators that make up the Benchmarks and manage to achieve or partially achieve 6.4 out of 8 Benchmarks. The analysis suggests that careers leadership, clear strategy and resourcing are all key to achieving the Benchmarks. The Government's expectation is that all schools have been working towards the Benchmarks from January 2018, and meet them all by the end of 2020. The Gatsby Foundation has produced a handbook that details the eight Gatsby Benchmarks and provides information on how to work towards them. It provides inspiration, tips and support from the North East pilot of the Gatsby Benchmarks.²³

²⁰ The Careers & Enterprise Company. (2017) [State of the Nation 2017: Careers and Enterprise Provision in England's Schools](#). London: The Careers & Enterprise Company.

²¹ <http://www.careersandenterprise.co.uk/schools-colleges/about-compass>

²² The Careers & Enterprise Company. (2017) [State of the Nation 2017: Careers and Enterprise Provision in England's Schools](#). London: The Careers & Enterprise Company.

²³ Gatsby Charitable Foundation (2018) Good Career Guidance: Reaching the Gatsby Benchmarks. London: Gatsby Charitable Foundation.

Meeting the Gatsby Benchmarks

Benchmark 1: A stable careers programme

18. Every school should have their own careers programme in place which meets the requirements of the other seven Benchmarks, showing how they come together into a coherent strategy that is embedded in school structures.

19. The presence of a named individual in each school with appropriate skills and experience (a Careers Leader) is important to ensure the leadership and co-ordination of a high quality careers programme. This role is distinct from the careers adviser, who provides careers guidance to pupils. The Careers Leader may be a teaching or non-teaching member of staff but should have the time, authority, knowledge, skills and clear backing of the Governors and Senior Leadership team to do the job. From September 2018, every school should appoint a named person to this role. The responsibilities of the Careers Leader can be summarised under four main headings:

- Leadership – a good leader who takes responsibility for developing, running and reporting on the school's careers programme.
- Management – a skilful manager who is able to plan careers activities, manage the careers budget and, in some cases, manage other staff involved in the delivery of careers guidance.
- Coordination – a careful coordinator of staff from across the school and from outside.
- Networking – a good networker who can establish and develop links with employers, education and training providers and careers organisations.

20. The Careers & Enterprise Company has published a guide, 'Understanding the role of the Careers Leader', that defines the responsibilities of the role.²⁴ An online Guide for new Careers Leaders in schools provides essential information, helpful resources and practical tools to help Careers Leaders make a successful start in the role.²⁵

21. The Careers & Enterprise Company has built a national network of Enterprise Coordinators co-funded with the Local Enterprise Partnerships (LEPs). Enterprise Coordinators are trained people who work with school leadership teams to build

²⁴ <https://www.careersandenterprise.co.uk/sites/default/files/uploaded/understanding-careers-leader-role-careers-enterprise.pdf>

²⁵ <https://www.careersandenterprise.co.uk/schools-colleges/careers-leaders/guide-new-careers-leaders-schools>

careers and employer engagement plans. In addition, each school is supported by an Enterprise Adviser – a senior volunteer from business – who helps unlock relationships with other local businesses²⁶. The Enterprise Adviser Network is now operating in over half of schools and colleges and all schools will have access to an Enterprise Adviser by 2020.

22. Schools can gain formal accreditation of their careers programme through the Quality in Careers Standard²⁷ - the national quality award for careers education, information, advice and guidance. The Standard offers an opportunity for schools to undergo an external evaluation of their careers programme and so is distinct from the Compass self-assessment. The Standard has been aligned to the Gatsby Benchmarks and incorporates Compass into its processes, so those schools achieving the Standard meet all eight Benchmarks. We strongly recommend that all schools work towards the updated Quality in Careers Standard, incorporating Compass, to support the development of their careers programme.

New requirement to publish information about the careers programme

23. The Government has introduced a new legal requirement, from 1 September 2018, for schools to publish information about their careers programme on their websites. Current data shows that almost two thirds of schools have information about their careers programme written down but only 40% publish it on their website, and even fewer include information that is targeted at different audiences.
24. Publishing information about the careers programme for pupils, parents, teachers, governors and employers will help these groups to understand the offer. Schools can invite them to provide feedback as part of their formal evaluation of the careers programme. Parents will also be able to use information about the careers programme as a factor in choosing schools for their children.
25. The published information must relate to the delivery of independent careers guidance to year 8-13 pupils in accordance with section 42A of the Education Act 1997 and the expectations set out in this statutory guidance. In particular, schools should demonstrate how they are working towards meeting all eight Gatsby Benchmarks.
26. From September 2018, schools must publish:

²⁶ Information about how to sign up to the Enterprise Adviser Network is available at <https://www.careersandenterprise.co.uk/schools-colleges/sign-your-school>.

²⁷ <http://www.qualityincareers.org.uk>

- The name, email address and telephone number of the school's Careers Leader
- A summary of the careers programme, including details of how pupils, parents, teachers and employers may access information about the careers programme
- How the school measures and assesses the impact of the careers programme on pupils
- The date of the school's next review of the information published

27. Beyond these requirements, the school can design information on the careers programme in a way which best suits their needs. The following principles of good practice are based on examples from schools across the country:

- Present the careers programme as a distinct section of the website, or alongside other published policies. Consider individual pages divided by the audience group they are aimed at: pupils, parents, teachers and employers.
- For the four mandatory requirements of the published information, it is good practice to:
 - i) Make sure the contact details of the Careers Leader are in a prominent position.
 - ii) Prepare a summary of the careers programme that gives a sense of what the school provides for each year group in line with the Gatsby Benchmarks. You don't need to provide a huge amount of detail but set out the aims and objectives of your careers programme, a summary of activities and the partners that you work with to deliver them. Compass²⁸ and Tracker²⁹ can help you think about what information to include.
 - iii) Consider using destination data and regular feedback from pupils, parents, teachers and employers to demonstrate how you measure the impact of your careers programme.
 - iv) Review the published information on an annual basis, inviting feedback from key audiences.
- Incorporate the policy statement on provider access that every school must publish under section 42B of the Education Act 1997 (see paragraphs 71 to 78).

²⁸ <https://www.careersandenterprise.co.uk/schools-colleges/compass-benchmark-tool>

²⁹ <https://www.careersandenterprise.co.uk/schools-colleges/tracker-planning-tool>

- Communicate clearly what the school is doing in language that is accessible to the different audiences who will read your website. For example, you may wish to consider a published charter or entitlement that makes it clear what every young person can expect from the school's careers programme. You could also include information directed at parents, employers and other interested groups which explains how they can support the careers programme.
- Include links to other helpful careers resources, websites and events.

28. The Careers & Enterprise Company has included some examples of careers information published on school websites in its online Guide for new Careers Leaders.³⁰

Benchmark 2: Learning from career and labour market information

29. Every pupil, and their parents/carers, should have access to good quality information about future study options and labour market opportunities. The National Careers Service offers information and professional advice about education, training and work to adults and young people aged 13 years and over. Pupils and their parents/carers can access support via a website³¹, helpline³² and web chat.

30. There is a significant mismatch between the careers that young people want to pursue and the opportunities available. Labour market information (LMI) can help young people and their parents/carers to understand the salaries and promotion opportunities for different jobs, and the volume and location of vacancies across different sectors. Schools should make sure that, by the age of 14, all pupils have accessed and used information about career paths and the labour market to inform their decisions on study options. Schools should explain the value of finding out about the labour market and support young people and their parents/carers to access and understand this information.

31. LMI can be accessed from a range of sources. The government funds a high quality LMI service called LMI for All which is used by a number of providers, including the National Careers Service³³.

³⁰ <https://www.careersandenterprise.co.uk/schools-colleges/careers-leaders/guide-new-careers-leaders-schools/step-five>

³¹ <https://nationalcareersservice.direct.gov.uk>

³² 0800 100 900

³³ <http://www.lmiforall.org.uk/>

32. DWP, through the Jobcentre Plus 'Support for Schools' programme, provides information to schools, their pupils, teachers and parents on the local labour market and employer expectations. In many areas Local Enterprise Partnerships³⁴ are drawing together labour market information and schools may find it helpful to make use of this.
33. Good career and labour market information can also support social mobility by raising pupil's aspirations and tackling stereotypical assumptions that certain jobs are 'not for people like me'. Career choices for girls, particularly around STEM, are affected in a range of ways. Schools may use a number of interventions to tackle gender stereotypes, for example by arranging for pupils to talk to men and women who work in non-stereotypical jobs and raising awareness of the range of careers that STEM qualifications offer.

Benchmark 3: Addressing the needs of each pupil

34. The school careers programme should raise the aspirations of all pupils but also be tailored to individual need. Schools should consciously work to prevent all forms of stereotyping in the advice and guidance they provide, to ensure that young people from all backgrounds, gender and diversity groups, including those with special educational needs and disabilities, consider the widest possible range of careers.
35. Schools should keep comprehensive and accurate records to support the career and enterprise development of pupils. Such records are an effective means of maintaining consistent advice and helping pupils, parents/carers and advisers to keep track of agreed actions and next steps. It can also help young people to showcase their skills to employers.
36. Schools should assess their success in supporting their pupils to take up education or training which offers good long-term prospects. One way of doing this is through the use of destination data. Collection and analysis of destination data can help schools to see how well they are doing in countering stereotypes and raising aspirations (Benchmark 3). It can also help schools build and maintain alumni networks which will be valuable for giving pupils encounters with employers and employees (Benchmark 5) and encounters with further and higher education (Benchmark 7). Government has published a good practice guide on destinations data which sets out more information on what destinations data is, how it differs from the destination measures

³⁴ Schools can identify their Local Enterprise Partnership at <https://www.lepnetwork.net/the-network-of-leps/> or <https://www.lepnetwork.net/find-your-nearest-lep/>

accountability tool that Government publishes in performance tables, and how both can be used to help schools improve their careers provision.³⁵

37. An indicator for Benchmark 3 is for schools to collect and maintain accurate data for each pupil for at least three years after they leave the school or from the end of key stage 4, whichever is the earlier. We appreciate that this may be difficult for schools to do at this time. However, for now, we encourage schools to begin to put processes in place that will help them to make better use of destinations data. Schools can do this by working with local authorities to establish effective data-sharing agreements, and by making more use of the published Government data on longer-term outcomes (for example, the experimental statistics on destination measures). We also encourage schools to begin to develop alumni networks of pupils that have recently left school. More information about these activities is included in the destinations data good practice guide.
38. We also encourage schools to publish information on the destinations of their pupils on their website, for example the percentage of pupils who go on to sixth form, sixth form college, further education college or an apprenticeship after key stage 4, and employment, an apprenticeship or higher education institution after 16-18 study. This will allow parents and others to see where pupils at that school progress to. This could sit alongside the careers programme on the school's website. More details about publishing destinations data on the website are in the good practice guide.

Targeted support for vulnerable and disadvantaged young people

39. Local authorities³⁶ have a range of duties to support young people to participate in education or training which are set out in [statutory guidance](#) on the participation of young people. Local authorities should have arrangements in place to ensure that 16 and 17 year olds have agreed post-16 plans and have received an offer of a suitable place in post-16 education or training under the 'September Guarantee', and that they are assisted to take up a place.
40. Schools should continue to work with local authorities, particularly children's social care, to identify young people who are in need of targeted support or who are at risk of not participating post-16. This includes young people with particular vulnerabilities or who are receiving support to safeguard them and promote their welfare, such as Children in Need (including those who are on child protection plans or who are looked after). It also includes young people with additional needs, such as special educational needs and disabilities, or those who may leave care between the ages of

³⁵ www.gov.uk/government/publications/how-to-use-destinations-data

³⁶ For the purpose of this guidance, local authorities includes services subcontracted by the local authority to deliver services to support young people's participation as set out in the Education and Skills Act 2008.

16 and 18. Schools will need to agree how these young people can be referred for support drawn from a range of education and training support services available locally. This may require multi-agency working with other professionals involved in supporting the young person, such as social workers.

41. Pupils in Alternative Provision are some of the most vulnerable in the education sector who may require targeted and personalised support to help them achieve their full potential. All pupil referral units, Alternative Provision academies and free schools should have high aspirations for these pupils, some of whom may lack confidence and need encouragement to broaden their horizons. They should help pupils to explore career options, and understand the variety of pathways into work including degrees, traineeships and apprenticeships. Transition to post-16 provision is a crucial stage- but not an end in itself, and it is important for pupils to have a “line of sight” to a future career. Providers of Alternative Provision should work in partnership with their commissioning schools and local authorities, as well as post-16 providers, to provide support and advice on transitional pathways into further education or training and pathways beyond education into employment. In doing so, they should consider the particular needs of the pupil in Alternative Provision and what different or additional support they may need to succeed on leaving school. Providers of Alternative Provision, and pupil referral units should work closely with post-16 providers on transition to post-16 education and training. This will help the young person can make an informed choice about their education and training options and future career paths, and also help the post-16 providers understand the needs of the young person and put appropriate support in place.
42. Pupil Referral Units and special schools may also find it helpful to work with Jobcentre Plus under their ‘Support for Schools’ programme, which is aimed particularly at those young people in danger of becoming NEET or who are otherwise disadvantaged in the labour market.
43. Schools should ensure that young people understand the programmes available to support them with the costs associated with staying in post-16 further education for instance costs such as transport, accommodation, books, equipment and childcare. The [16 to 19 Bursary Fund](#) is available to support young people in defined vulnerable groups, who may receive yearly bursaries of up to £1,200 and/or discretionary payments to help those who are also in financial hardship. Young people should speak to the education or training provider they are intending to study with post 16 – this may be a school, academy, sixth form college, or general FE institution - to find out more information.
44. Schools may also work with their local authority and local post-16 education or training providers to share data on students who are likely to need support with post-16 participation costs, such as care leavers or those on Free School Meals.

45. Looked after children and previously looked after children, and care leavers may need particularly strong support to ensure high levels of ambition and successful transition to post-16 education or training. The designated careers lead should engage with the school's designated teacher for looked after and previously looked after children to 1) ensure they know which pupils are in care or who are care leavers; 2) understand their additional support needs and 3) ensure that, for looked after children, their personal education plan can help inform careers advice. For these young people, careers advisers should also, in co-ordination with the school's designated teacher, engage with the relevant Virtual School Head³⁷ or personal adviser to ensure a joined up approach to identifying and supporting their career ambitions.

Information sharing

46. All schools (including academies and other state-funded educational institutions) must continue to provide relevant information about all pupils to local authority support services³⁸. This includes:

- i) basic information such as the pupil's name, address and date of birth;
- ii) other information that the local authority needs in order to support the young person to participate in education or training and to track their progress. This includes for example: young people's contact details including phone numbers, information to help identify those at risk of becoming NEET post-16, young people's post-16 and post-18 plans and the offers they receive of places in post-16 or higher education. However, schools must only provide the basic information, and not this additional information, if a pupil aged 16 or over, or the parent/carer of a pupil aged under 16, has instructed them not to share information of this kind with the local authority. The school's privacy notice is the normal means of offering young people and their parents/carers the opportunity to ask for personal information not to be shared.

47. Schools (including academies and other state-funded educational institutions) must also notify local authorities whenever a 16 or 17 year old leaves an education or training programme before completion³⁹. This notification must be made at the earliest possible opportunity to enable the local authority to support the young person

³⁷ All local authorities must appoint a Virtual School Head for the purpose of discharging their duty to promote the education of looked after and certain previously looked after children's education. For looked after children, the VSH of authority which looks after them is responsible for promoting their education. For previously looked after children (those who have left care through adoption, special guardianship or child arrangement orders or were adopted from state care abroad) the relevant VSH will be the one serving the area where the child is educated.

³⁸ Section 72 of the Education and Skills Act 2008

³⁹ Section 13 of the Education and Skills Act 2008

to find an alternative place. It is for schools and local authorities to agree local arrangements for ensuring these duties are met.

48. Careers guidance for pupils with special educational needs or disabilities The Gatsby Benchmarks outline the experiences and information that every young person should have to make an informed choice about their future. They set a high bar, but the overwhelming majority of young people with SEND, including those with high levels of needs, are capable of sustainable paid employment with the right preparation and support. We recognise that some of the Gatsby Benchmarks need different interpretation in special schools and for some SEND pupils in mainstream schools. The Careers and Enterprise Company has published a SEND Gatsby Benchmark Toolkit ⁴⁰ which includes practical advice for schools and colleges on how their careers programme can support children and young people with SEND.
49. The Careers Leader should work closely with the Special Educational Needs Coordinator and other teachers and professionals in the school to identify the guidance needs of all pupils with SEND and put in place personalised support. This may include helping pupils with SEND to understand different career pathways, and enabling them to gain the skills, knowledge and experience they require to achieve their career goals. This may include working with families of pupils with SEND to help them understand what career options are possible, with the right support, for their son/daughter.
50. Schools should support every pupil, whatever their level or type of need, to fulfil their potential. Careers guidance for pupils with SEND should be based on the pupils' own aspirations, abilities and needs. Research by The Careers & Enterprise Company highlights the need to put the individual with SEND at the centre, working with the family, to start transition planning early, and the value of supported encounters with the workplace and work experience⁴¹.
51. Careers guidance for pupils with SEND should take account of the full range of relevant education, training and employment opportunities, such as traineeships and apprenticeships, supported internships (for young people with Education, Health and Care plans) or routes into higher education. It should be well informed about ways in which adults with SEN or disabilities can be supported in the workplace (e.g. disability rights, supported employment, ways in which jobs can be "carved" to fit a person's abilities, job coaching, reasonable adjustments for disabled people in the workplace and Access to Work (DWP support)). Advice on self-employment (e.g. micro-enterprise) can also be especially relevant for some young people with SEND.

⁴¹ <https://www.centralcareershub.co.uk/wp-content/uploads/2018/04/send-gatsby-benchmark-toolkit.pdf>

52. Schools should build partnerships with businesses and other employers, employment services, and disability and other voluntary organisations, to help broaden the pupil's horizons. Encounters with employers can be transformational for pupils with SEND, particularly hands on experience in the workplace, and schools should facilitate this where possible. It can be especially powerful to hear from adults with disabilities who have succeeded in their careers. The opportunity to experience lots of different work sectors can be particularly helpful. Schools should prepare pupils well for these experiences, so they know what to expect and what is expected of them, match them carefully to each employer and provide any special support the pupil may need to benefit fully from the experience.
53. Schools should make sure that careers guidance for pupils does not simply focus on finding a post-16 destination to meet their immediate needs. Support should focus on the pupil's longer term career aspirations, and the post-16 options which are most likely to give the young person a pathway into employment, or higher education, and give them the support they need to progress and succeed.
54. Schools should make use of the SEND local offer published by the local authority. Where pupils have EHC plans, their annual reviews must, from year 9 at the latest, include a focus on adulthood, including employment. Schools should ensure these reviews are informed by good careers guidance. Schools must co-operate with local authorities, who have an important role to play through their responsibilities for SEND support services, EHC plans and also the promotion of participation in education and training. Statutory guidance on the SEND duties is provided in the [0-25 Special Educational Needs and Disability Code of Practice](#).

Benchmark 4: Linking curriculum learning to careers

55. Subject teachers should also support the school's approach to careers education and guidance. The curriculum offers excellent opportunities for developing the knowledge and skills that employers need and subject teachers can be powerful role models to attract pupils towards their subject and the careers that flow from it. Schools should ask all teachers to support the career development of young people in their tutorial role and through their subject teaching⁴². Many schools currently deliver careers, employability and enterprise lessons through the curriculum as part of their commitment to Personal, Social, Health and Economic (PSHE) education. Schools

⁴² Hooley, T., Watts, A.G., and Andrews, D. (2015) [Teachers and Careers: The Role Of School Teachers in Delivering Career and Employability Learning](#). Derby: International Centre for Guidance Studies, University of Derby.

should work towards weaving careers education and guidance in to subjects across the curriculum, including PSHE⁴³.

56. Schools should ensure that, as early as possible, pupils understand that good maths skills are a necessary element of citizenship, and that studying maths and science can lead to a wide range of career choices. Schools should ensure that, by the age of 14, every pupil is exposed to the world of work. This should include meeting a range of professionals from occupations which require maths and science qualifications, as well as highlighting the importance of maths to all jobs. These meetings should emphasise the opportunities created for young people who choose maths and science subjects at school and college. Schools should be aware of the need to do this for girls, in particular, who are statistically much more likely than boys to lack confidence in their own ability in maths and science and be put off studying those subjects at an early age.
57. Schools should ensure that pupils study the core academic subjects at GCSE – English, maths, science, history or geography and a language – the English Baccalaureate (EBacc). Schools should support pupils to understand that these are the subjects which provide a sound basis for a variety of careers beyond the age of 16, and can also enrich pupils’ studies and give them a broad general knowledge that will enable them to participate in and contribute to society.
58. Schools should make clear to pupils that if they do not achieve a grade 4 or better in GCSE maths and English by the end of key stage 4 they will be required to continue working towards this aim as part of their 16-19 study programme - we have made this requirement a condition of funding. For some students this can mean taking stepping stone qualifications in order to support them as they work towards a GCSE. There are exemptions for some students with Education, Health and Care plans who may not be able to take any of these qualifications, although all students must continue to study maths and English at an appropriate level. This is because of the vital importance and powerful labour market value of securing a good standard in maths and English.

Benchmark 5: Encounters with employers and employees

59. There is strong research evidence about the impact of employer engagement on pupils’ future prospects and earnings in adult life. A study conducted by the Education and Employers Taskforce⁴⁴ found that where there were higher levels of employer

⁴³ Collins, J. and Barnes, A. (2017) *Careers in the Curriculum. What Works?* London: The Careers & Enterprise Company.

⁴⁴ Mann, A. et al. (2017) *Contemporary Transitions: Young people reflect on life after secondary school and college*

contacts, in the form of careers talks with outside speakers, this was linked to higher returns to individuals in the labour market.

60. A clear focus on the enterprise and employability skills, experience and qualifications that employers want can support preparation for work. Schools should help pupils gain the confidence to compete in the labour market by providing opportunities to gain the practical know-how and attributes that are relevant for employment. This should include the opportunity for pupils to develop entrepreneurial skills for self-employment. Schools should engage fully with local employers, businesses and professional networks to ensure real-world connections with employers lie at the heart of the careers strategy. Visiting speakers can include quite junior employees, or apprentices, particularly alumni, with whom pupils can readily identify.
61. Schools should work with The Careers & Enterprise Company to identify an Enterprise Adviser appropriate for the school⁴⁵. An Enterprise Adviser is an experienced business volunteer who can support the school to connect to the labour market.
62. Every year from the age of 11, pupils should participate in at least one meaningful encounter with an employer – this means at least one encounter each year from years 7 to 13. Different encounters will work for different schools and pupils, but it could mean in practice:
- alumni activity
 - business games and enterprise competitions;⁴⁶
 - careers fairs;⁴⁷
 - employer encounters with parents;
 - employer involvement in the curriculum;
 - employer mentoring;⁴⁸
 - employer talks;

⁴⁵ Connect via the Careers & Enterprise Company website at

<https://www.careersandenterprise.co.uk/schools-colleges/sign-your-school>

⁴⁶ Hanson, J., Hooley, T. and Cox, A. (2017) Business Games and Enterprise Competitions. What Works? London: The Careers & Enterprise Company <https://www.careersandenterprise.co.uk/research/business-games-and-enterprise-competitions-what-works>

⁴⁷ Rehill, J., Kashefpakdel, E. and Mann, A. (2017) Careers Events. What Works. London: The Careers & Enterprise Company. <https://www.careersandenterprise.co.uk/research/business-games-and-enterprise-competitions-what-works>

⁴⁸ Hooley, T. (2016) Effective Employer Mentoring. Lessons from the Evidence. London: The Careers & Enterprise Company. <https://www.careersandenterprise.co.uk/research/publications/effective-employer-mentoring>

- mock interviews;⁴⁹
- CV workshops;
- mock assessment centres;
- speed networking/careers carousels.

63. Because of the high returns to STEM careers, and the increasing need for many jobs to have greater quantitative skills in future, schools should make sure one of the encounters their pupils experience before year 11 is with a STEM employer or workplace, or one of their careers events is focused around STEM.

64. Jobcentre Plus can play a role in facilitating links between schools and employers through the 'Support for Schools' programme. Jobcentre Plus works with many employers that are keen to engage with schools, support careers fairs, or provide work experience or work taster opportunities.

Benchmark 6: Experiences of workplaces

65. In addition to school-based encounters with employers, pupils should have first-hand experience of the workplace. There is evidence that work experience gives pupils a more realistic idea of the expectations and realities of the workplace⁵⁰. This is particularly valuable for pupils from disadvantaged backgrounds who may not have access to a diverse range of role models.

66. Schools should ensure that by the age of 16, every pupil has at least one experience of a workplace, and one further such experience by the age of 18. Schools should pay particular attention to work placements for pupils with SEND. Some pupils with SEND may find work placements particularly helpful, especially where pupils find it difficult to imagine a work context, or to counter low aspirations. When arranging work placements for pupils with SEND, schools should carefully match the placement to the abilities, needs and aspirations of the pupil. Schools should consider whether pupils with SEND need additional support in the work placement to make sure it is a

⁴⁹ Rehill, J., Kashefpakdel, E. and Mann, A. (2017) Transition Skills (Mock Interviews and CV Workshops). What Works? London: The Careers & Enterprise Company. <https://www.careersandenterprise.co.uk/research/transition-skills-mock-interviews-and-cv-workshops-what-works>

⁵⁰ Buzzeo, J. and Cifci, M. (2017) Work Experience, Job Shadowing and Workplace Visits. London: The Careers & Enterprise Company. <https://www.careersandenterprise.co.uk/research/work-experience-job-shadowing-and-workplace-visits-what-works>

valuable and positive experience, and secure that support where needed, working with the employer⁵¹.

67. High quality and meaningful work experience forms a required part of 16-19 study programmes. A more flexible approach can be adopted for younger pupils and does not necessarily have to involve a traditional placement. Options could include:

- internships and holiday placements;
- job shadowing;
- part-time work;
- work experience in school;
- volunteering; work experience (less than 1 week);
- work experience (1-2 week block);
- work experience (regular/weekly commitment);
- workplace visits.

Benchmark 7: Encounters with further and higher education

68. Most pupils will be more immediately concerned with the next stage of their study and choosing the right post-16 and post-18 options rather than choosing the right occupation. It is important that young people realise that all of their educational choices have implications for their longer term career. Schools should encourage young people to consider what career options different educational choices open up and close down. Under raising the participation age (RPA) requirements, all young people in England are required to continue in education or training until at least their 18th birthday. Schools must make sure that young people are clear about this requirement and what it means for them. In particular, they must be clear that young people are not required to stay in school. They can choose how to participate which might be through:

- full time study in a school, college or training provider;
- an apprenticeship, traineeship or supported internship;

⁵¹ Hanson, J., Codina, G. and Neary, S. (2017) Transition Programmes for Young Adults with SEND. London: The Careers & Enterprise Company. <https://www.careersandenterprise.co.uk/research/transition-programmes-young-adults-send-what-works>

- full time work or volunteering (20 hours or more) combined with part time accredited study.

69. The Moments of Choice research⁵² commissioned by The Careers & Enterprise Company suggests that leaving decision-making to the last minute results in young people becoming overwhelmed. Young people should receive a range of information and opportunities to learn about education, training and career paths throughout their school life.

70. Schools should encourage pupils to use information tools such as websites and apps which display information about opportunities. The Government has made available information on the full range of education and training opportunities at college via a national course directory on the National Careers Service website which can be presented on careers information websites and apps to help young people make choices effectively. Schools may support their year 11 pupils in particular to use these information tools as part of their careers education and guidance. In consultation with a careers professional, schools may recommend good quality websites and apps, whether national or local in scope, that present the full range of opportunities in an objective way, which will help pupils make good choices about post-16 options.

New legal duty: access to providers of technical education and apprenticeships

71. The Government has introduced a new legal duty, from 2 January 2018, which requires all maintained schools and academies to ensure that there is an opportunity for a range of education and training providers to access all pupils for the purpose of informing them about approved technical education qualifications and apprenticeships. In practice this will mean every school allowing each provider access to all pupils in years 8 to 13 to inform them about the varied career options open to them and courses and qualifications they offer and what each option entails. This will allow pupils to consider how the opportunity to study or train in different ways, and in different environments, might suit their skills, interests and aptitudes. By hearing directly from providers about alternatives to academic and school-based routes, every pupil can build up a full picture of the options available to them at important transition points. This will lead to better-informed choices and help to reduce the risk of dropping out of courses.

⁵² The Careers & Enterprise Company. (2016) Moments of Choice. London: The Careers & Enterprise Company. <https://www.careersandenterprise.co.uk/research/moments-choice>

72. The school must ensure that there are opportunities⁵³ for providers of approved technical education qualifications and apprenticeships to visit the school to speak to all pupils in years 8 to 13. We would expect the opportunities to include⁵⁴ visits from a range of providers of A level, Applied General, apprenticeships and technical options to inform key stage 4, key stage 5 and post-18 choices. Visits should include Further Education Colleges, Studio Schools, University Technical Colleges and a range of providers of apprenticeships and technical options. The school must make provider visits available to all pupils in the relevant year group. The school should not do anything which might limit the ability of pupils to attend. Unacceptable behaviour would include restricting invitations to selected groups of pupils, or holding events outside of normal school hours.
73. The school should also provide a range of opportunities for providers offering academic options, including sixth form and tertiary colleges and higher education institutions, to visit the school to talk to pupils. This will help all pupils to develop a comprehensive picture of the education and training options available beyond the school.
74. Every school should review their arrangements for provider access and must set out those arrangements in a policy statement. The school may revise the policy statement from time to time and we recommend that this is done annually. The policy statement must be published and should be made available on the school website. The purpose of the statement is to set out opportunities for providers to visit and to explain how requests from providers will be handled. The policy statement must include:
- any procedural requirements in relation to requests for access e.g. the main point of contact at the school to whom requests should be directed;
 - grounds for granting and refusing requests for access e.g. details of timetabled careers lessons, assemblies or careers events which providers may attend; and should include the safeguarding policy;
 - details of premises or facilities to be provided to a person who is given access e.g. rooms and resources to be made available in support of a provider visit.
75. Beyond these requirements, the school can design the policy statement in a way which best suits their needs. For example, it could be incorporated into a wider careers plan. What is most important is that the document includes details of the

⁵³ 'Schools are not required to accept every request from a provider to visit but must demonstrate, through their policy statement on provider access, that a number of opportunities are available to all pupils in each year group from years 8 to 13.

⁵⁴ Except where there is no such provider in the area that pupils could reasonably be expected to consider attending in future, due to the travelling distance involved.

opportunities for providers to visit the school to talk directly to pupils and the process for providers to request access. An example of a suitable policy statement is at Annex A and The Careers & Enterprise Company have published further examples online.⁵⁵

76. By considering carefully the frequency and scale of opportunities to offer to providers, the school can minimise the burden of dealing with unsolicited requests. For example, the school may decide to arrange an annual assembly for a whole year group and invite multiple providers, or work with a group of providers to deliver one presentation covering multiple further education or apprenticeship opportunities in the local area. Each event should give each provider the chance to present meaningfully to the pupils.
77. Persons acting on behalf of a provider may represent the provider, or accompany the provider, if they are particularly well placed to engage and inform pupils about the options available. For example, a University Technical College or an apprenticeship provider may ask to bring a key employer with them on a provider visit. The school should consider such requests and consent cannot be withheld unreasonably⁵⁶.
78. The apprenticeship training provider base is particularly large and diverse. It can include private training providers, further education colleges, higher education institutions, sixth form colleges, and employers. Schools may wish to consult the [Amazing Apprenticeships](#) resource⁵⁷ as well as the register of apprenticeship training providers⁵⁸ to inform decisions about whom to invite in. They may wish to enlist locally available support, for example the Apprenticeship Support and Knowledge for Schools (ASK) programme which delivers free traineeship and apprenticeship information and activities to young people in years 10 to 13, or the Jobcentre Plus Support for Schools programme, which also provides this service for years 8 to 13.

Benchmark 8: Personal guidance

79. Every pupil should have opportunities for personal guidance interviews with a qualified careers adviser whenever significant study or career choices are being made. Careers advisers can help pupils to locate ambitious education and career options, by identifying opportunities and assessing pupils' abilities, interests and

⁵⁵ <https://www.careersandenterprise.co.uk/schools-colleges/careers-leaders/guide-new-careers-leaders-schools/step-five>

⁵⁶ Schools and colleges are not entitled to require a Disclosure and Barring Service (DBS) check for a visitor who is in the school for a "one-off" visit. However, head teachers and principals should decide on the appropriate level of supervision for the duration of the visit.

⁵⁷ <http://amazingapprenticeships.com/>

⁵⁸ Organisations that are approved to deliver apprenticeship training are listed on the register of apprenticeship training providers (RoATP): <https://www.gov.uk/guidance/register-of-apprenticeship-training-providers>.

achievements. The Government's expectation is that every pupil should have at least one such interview by the age of 16, and the opportunity for a further interview by the age of 18. The school should integrate this guidance within the pastoral system so that personal careers interviews can be followed up by the form tutors or their equivalent. The personal guidance should be clearly connected with the wider careers programme.

80. Careers advisers working with young people with special educational needs or disabilities should use the outcome and aspirations in the Education, Health and Care plan, where they have one, to focus the discussion. Similarly, when working with looked after children or care leavers, their Personal Education Plan or pathway plan should be used to help focus the discussion. It is good practice for these young people to have a named adviser who can build a relationship with them and better understand their individual needs.
81. The school should use a qualified careers professional, who could be an appropriately trained member of school staff, to provide personal guidance interviews⁵⁹. The Career Development Institute (CDI) has developed a set of professional standards for careers advisers which includes a Professional Register of advisers holding Level 6 or higher qualifications and guidelines on how advisers can develop their own skills and gain higher qualifications. Registration shows that a careers adviser is professionally qualified and abides by the CDI Code of Ethics, which includes impartiality and updates their skills and knowledge by undertaking 25 hours CPD each year. Adherence to these criteria is monitored by the CDI. We encourage schools to view the Professional Register⁶⁰ to search for a career development professional who can deliver a particular service or activity.
82. Organisations that meet the matrix Standard, including all contractors engaged in delivering the National Careers Service, have undergone an assessment of their delivery of advice and support services on careers, training and work. Schools that want to commission face-to-face support from an organisation which holds the matrix Standard can access an online register of accredited organisations⁶¹. The CDI's commissioning guide provides practical information and advice to help schools commission independent careers guidance for pupils⁶².

⁵⁹ The main Level 6 and 7 qualifications for careers professionals are the Qualification in Career Development (QCD) at Level 7, (which replaces the earlier Qualification in Career Guidance (QCG) and Diploma in Career Guidance) and the Level 6 Diploma in Career Guidance and Development.

⁶⁰ <http://www.thecdi.net/Professional-Register->

⁶¹ <http://matrixstandard.com/>

⁶² Career Development Institute (2018) Careers Guidance in Schools and Colleges: A Guide to Best Practice and Commissioning Independent Career Guidance Services. Available from http://www.thecdi.net/write/BP560-Career_Guidance_in_Schools_2018-Web.pdf

Annex A: Example of a policy statement on provider access⁶³

[School Name]: Provider Access Policy

Introduction

This policy statement sets out the school's arrangements for managing the access of providers to pupils at the school for the purpose of giving them information about the provider's education or training offer. This complies with the school's legal obligations under Section 42B of the Education Act 1997.

Pupil entitlement

All pupils in years 8-13 are entitled:

- to find out about technical education qualifications and apprenticeships opportunities, as part of a careers programme which provides information on the full range of education and training options available at each transition point;
- to hear from a range of local providers about the opportunities they offer, including technical education and apprenticeships – through options events, assemblies and group discussions and taster events;
- to understand how to make applications for the full range of academic and technical courses.

Management of provider access requests

Procedure

A provider wishing to request access should contact *[Name]*, *[Job title]*,
Telephone: *[Telephone Number]*; Email: *[Email address]*

Opportunities for access

A number of events, integrated into the school careers programme, will offer providers an opportunity to come into school to speak to pupils and/or their parents/carers:

⁶³ This could be integrated into a wider careers plan or strategy for the school.

	Autumn Term	Spring Term	Summer Term
Year 8	<p>Overview of post 16 options for pupils and parents/carers, to include: A levels, Applied General Qualifications (e.g., BTECs), technical/vocational qualifications, apprenticeships, traineeships and supported internships</p> <p>Event for University Technical Colleges</p>	<p>Employer event for pupils, parents/carers - market stall event giving overview of local, regional and national opportunities and skills requirement</p> <p>Meetings with careers professional</p>	<p>Technical/vocational tasters at local college/s, training providers</p> <p>Meetings with careers professional</p>
Year 9	<p>Event for providers of technical education/ apprenticeships to include Further Education colleges, UTCs or Studio schools and training providers</p> <p>Meetings with careers professional</p>	<p>Meetings with careers professional</p> <p>KS4 options event</p>	<p>Technical/vocational tasters at local college/s, training providers</p> <p>Meetings with careers professional</p>
Year 10	<p>Life Skills – work experience preparation sessions</p> <p>Meetings with careers professional</p>	<p>Technical/vocational tasters at local college/s, training providers</p> <p>Meetings with careers professional</p>	<p>Life skills – assembly and tutor group opportunities</p> <p>Meetings with careers professional</p>

	Autumn Term	Spring Term	Summer Term
Year 11	Post 16 provider open evenings: opportunities to visit local Further Education and sixth form colleges, other school UTCs, Studio schools and other training providers regarding A level, Applied General, technical and vocational and apprenticeships. Meetings with careers professional Post 16 applications	Post-16 interviews	Confirmation of post 16 education destinations for all pupils
Year 12	Higher Education Fair for a variety of HE providers including local Further Education colleges Post-18 assembly – higher and degree apprenticeships	Small group sessions: future education, training and employment options Meetings with careers professional	Small group sessions: future education, training and employment options Meetings with careers professional
Year 13	Workshops – HE and higher apprenticeship applications	Meetings with careers professional	Confirmation of post 18 education destinations for all pupils

Please speak to our Careers Leader to identify the most suitable opportunity for you.

Premises and facilities

The school will make the main hall, classrooms or private meeting rooms available for discussions between the provider and students, as appropriate to the activity. The school will also make available AV and other specialist equipment to support provider presentations. This will all be discussed and agreed in advance of the visit with the Careers Leader or a member of their team.

Providers are welcome to leave a copy of their prospectus or other relevant course literature at the Careers Resource Centre, which is managed by the school librarian. The Resource Centre is available to all students at lunch and break times.

Approval and review

Approved *[date]* by Governors at Curriculum and Standards Committee

Next review: *[date]*

Signed: *[name]* Chair of Governors

[name] Head teacher

Further information

Useful resources and external organisations

- [Gatsby Good Career Guidance](#). A report on improving career guidance in secondary schools which includes the Gatsby Benchmarks.
- [Gatsby Good Practice](#). A website which shares good practice from the North East pilot of the Gatsby Benchmarks, and other information and support for schools.
- [Gatsby Good Career Guidance: Reaching the Gatsby Benchmarks](#). A handbook designed to help secondary schools create a careers programme framed by the Gatsby Benchmarks.
- [Compass](#). A self-evaluation tool to help schools to evaluate their careers and enterprise provision and benchmark against the Gatsby Benchmarks and compare it with other schools.
- [State of the Nation](#). An annual report on the careers and enterprise provision in secondary schools in England. It examines how schools are performing in relation to the Gatsby Benchmarks, based on data from responses to the Compass tool.
- [Careers & Enterprise Company](#). The Careers & Enterprise Company coordinates collaboration between employers, schools and colleges in order to ensure that young people aged 12-18 get the inspiration and guidance they need for success in working life.
- [Careers & Enterprise Company: Schools and Colleges](#). Connects schools to businesses volunteers and careers activity programmes.
- [Careers & Enterprise Company: Guide for new Careers Leaders in schools](#). Essential information, helpful resources and practical tools to help newly appointed Careers Leaders get started in the role.
- [National Careers Service](#). The National Careers Service provides information, advice and guidance to help people make decisions on learning, training and work opportunities. The service offers confidential and impartial advice delivered by qualified careers advisers.
- [Amazing Apprenticeships](#). A website to make it easy for teachers and careers advisers to access the latest information about apprenticeships.
- [Apprenticeships Support and Knowledge for Schools](#) (ASK). A network of teachers, careers advisers and ambassadors who will promote apprenticeships and traineeships in positive ways to year 10-13 pupils in the North, Midlands, London and the South.
- [Baker Dearing Educational Trust](#). Information on University Technical Colleges.

- [Career Development Institute](#). The Career Development Institute is the single UK-wide professional body for everyone working in the fields of careers education, career information, advice and guidance, career coaching, career consultancy and career management. It offers affiliate and individual membership to schools which includes free CPD webinars, regular digital newsletters, a quarterly magazine, online networking groups and training at a preferential rate.
- [Career Development Institute Framework for careers, employability and enterprise education](#). A framework of learning outcomes to support the planning, delivery and evaluation of careers, employability and enterprise education for children and young people.
- [Career Development Institute Careers Guidance in Schools and Colleges: A Guide to Best Practice in Commissioning Independent Career Guidance Services](#). This guide provides practical advice, information and templates to help schools commission independent and impartial personal careers guidance for pupils.
- [UK Register of Career Development Professionals](#). The single national point of reference for ensuring and promoting the professional status of career practitioners.
- [Quality in Careers Standard](#). The Quality in Careers Standard is the national quality award for careers education, information, advice and guidance.
- [Find an Apprenticeship](#). Search and apply for an apprenticeship in England.
- [LMI for All](#). An online data portal, which connects and standardises existing sources of high quality, reliable labour market information (LMI) with the aim of informing careers decisions. This data is made freely available via an Application Programming Interface (API) for use in websites and applications.
- [Not Going to Uni](#). A resource providing options and advice on alternatives to University.
- [STEM Ambassadors](#). A nationwide network of over 30,000 volunteers from a wide range of employers, who engage with young people to provide stimulating and inspirational informal learning activities in both school and non-school settings
- [Studio Schools Trust](#). The organisation that unites all Studio Schools, acting as a linking point between Studio Schools, enabling the sharing of best practice as well as providing advice and curriculum support.
- [Unistats](#). The official website for comparing UK higher education course data. The site includes information on university and college courses, Teaching Excellence and Student Outcomes Framework (TEF) ratings, student satisfaction scores from the National Student Survey, employment outcomes and salaries after study and other key information for prospective students.

- [Your Daughter's Future](#). A careers toolkit for parents.

Other relevant departmental advice and statutory guidance

- [Governance handbook](#). Guidance outlining the roles and duties of school governors and academy trusts.
- [Special educational needs and disability code of practice: 0 to 25 years](#). A statutory code which explains the duties of local authorities, health bodies, schools and colleges to provide for those with special educational needs under Part 3 of the Children and Families Act 2014.
- [Participation of young people: education, employment or training](#). Statutory guidance for local authorities on their duties relating to the participation of young people in education, employment or training.

Other departmental resources

- [Careers strategy: making the most of everyone's skills and talents](#). Government's plan for raising the quality of careers provision in England.
- [Destinations data good practice guide for schools](#). Guidance notes on destination data and destination measures and how they can be used to improve careers provision and outcomes for young people in a school.
- [T Levels: Next Steps for Providers](#). Information for post-16 providers on the development and delivery of T Levels.



Department
for Education

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Department
for Education

Guidance

Introduction of T Levels

Updated 16 January 2019

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T Levels: what they are

T Levels: what they are

T Levels are new courses coming in September 2020, which will follow GCSEs and will be equivalent to 3 A Levels. These 2-year courses have been developed in collaboration with employers and businesses so that the content meets the needs of industry and prepares students for work.

T Levels will offer students a mixture of classroom learning and 'on-the-job' experience during an industry placement of around 3 months. They will provide the knowledge and experience needed to open the door into skilled employment, further study or a higher apprenticeship.

Students will be able to take a T Level in the following subject areas:

- accountancy
- agriculture, land management and production
- animal care and management
- building services engineering
- catering
- craft and design
- cultural heritage and visitor attractions
- design, development and control
- design, surveying and planning
- digital business services
- digital production, design and development
- digital support and services
- education
- financial
- hair, beauty and aesthetics
- health
- healthcare science
- human resources
- legal
- maintenance, installation and repair
- management and administration
- manufacturing and process
- media, broadcast and production
- onsite construction
- science

When they will start

The first 3 T Levels will be available at selected colleges and schools (providers) across England in September 2020. This means pupils who entered year 10 in September 2018 will be the first to be able to study them.

We have published a [list of the providers](#) who will be offering the first courses in:

- digital production, design and development
- design, surveying and planning
- education

How T Levels will work with other post-16 choices

T Levels will become one of the main choices for students after GCSE alongside:

- apprenticeships for students who wish to learn a specific occupation ‘on the job’
- A levels for students who wish to continue academic education

We are currently reviewing post-GCSE qualifications to create a simpler, high-quality system that students, parents and employers will all understand.

T Levels will be based on the same standards as apprenticeships, designed by employers and approved by the Institute for Apprenticeships (IfA). We expect the total time for a T Level to be around 1,800 hours over the 2 years, including the industry placement. This is a significant increase on most current technical education courses. This differs from an apprenticeship, which is typically 80% on-the-job and 20% in the classroom and is more suited to those who know what occupation they want to pursue, want to earn a wage and learn at the same time and are ready to enter the workforce at age 16.

How T Levels are being developed

Employers and providers are working together to develop each T Level, with support from DfE and IfA. Groups of employers define the skills and requirements for each T Level course by participating in [T Level panels](#). This ensures that students taking T Levels will develop the technical knowledge and skills required by employers in that industry.

The T Level panels have been developing the [content for the qualification](#), based on the same standards as apprenticeships and these plans are being tested and reviewed with students, education providers and employers.

Structure of a T Level

T Level courses will include the following compulsory elements:

- a technical qualification, which will include
 - core theory, concepts and skills for an industry area
 - specialist skills and knowledge for an occupation or career
- an industry placement with an employer
- a minimum standard in maths and English if students have not already achieved them

Industry placements

Every T Level will include an industry placement with an employer focused on developing the practical and technical skills required for the occupation. These will last a minimum of 45 working days but can last longer. Employers can offer industry placements as a block, day release or a mix of these.

Providers will support employers offering industry placements. This will include assistance with the necessary paperwork, a careful planning process and support with designing the industry placement.

The Education and Skills Funding Agency (ESFA) and National Apprenticeship Service (part of ESFA) will work with employers and providers on industry placements. Employers interested in finding out more about industry placements, can contact [08000 150 600](tel:08000150600) or email tlevel.placement@education.gov.uk.

Grading

Students who pass all the elements of their T Level will get a nationally recognised certificate showing an overall grade of pass, merit or distinction. It will also set out the details of what students have achieved on the course.

The T Level certificate will include:

- an overall pass grade for the T Level, shown as pass, merit or distinction
- a separate grade for the occupational specialism, shown as pass, merit or distinction
- a separate grade for the core component, using A* to E
- grades for maths and English qualifications
- details of the industry placement

Funding and support for providers

We recognise that significant additional funding will be needed for the successful introduction and delivery of T Levels.

We have already announced additional funding of £500 million a year, once T Levels are fully rolled out, to help providers meet the costs of additional teaching hours and organising industry placements.

Providers of the first 3 T Levels will be able to apply for funding for up-to-date equipment and facilities. They will also be able to access training to help prepare their teachers and leaders.

For more information, visit [T Levels: next steps for providers](#).

Timeline

February 2019

[Expression of interest](#) for providers who are interested in delivering T Levels in the academic year 2021 to 2022 closes on Thursday, 28 February 2019.

Consultation on the [proposals for distributing funding to providers for the delivery of T levels from 2020](#) closes at 11:45pm on Tuesday, 19 February 2019.

Summer 2019

Detailed funding information available for the 2020 providers including an indicative T Levels funding allocation.

Autumn 2020

First T Level programmes start for specific occupations in 3 industries:

- digital production, design and development (digital industry)
- design, surveying and planning (construction industry)
- education (education and childcare industry)

Autumn 2021

T Level courses start in these subject areas:

- building services engineering
- digital business services
- digital support and services
- health
- healthcare science
- onsite construction
- science

Get involved

Find out more about the [next steps for providers and how to get involved](#).

Employers interested in finding out more about industry placements, can contact [08000 150 600](tel:08000150600) or email tlevel.placement@education.gov.uk.

Read the [T Level action plan](#) for detailed information about how we're developing the T Level qualifications for post-16 students.

[Get email updates when this page is updated](#).

[↑ Contents](#)

SMAa & KNMA - Training and Apprenticeships

We will make further submissions on Jobs, Training and Apprenticeships throughout the Examination Process, in conjunction with partner organisation Kent Needs Manston Airport (KNMA).



*Employment at a re-opened
Manston Airport*

Taken from a series of weekly articles by Kent Needs
Manston Airport and the employment opportunities at
a reopened airport . **Riveroak Strategic Partners**



are applying to the Secretary of State for a
Development Consent Order (DCO) to re-open Manston Airport
as an Air Cargo Airport , it will also include passenger services ,
Maintenance Repair & Overhaul (MRO) , Aircraft Recycling
facilities ,Fixed Base Operation (FBO) and a Flight Training
School.

- 1: Air cargo and how it works.
 - 2: The Shipper.
 - 3:The Freight forwarder (Export).
 - 4: The Freight forwarder (Import).
 - 5: Cargo Air transport.
 - 6: Cargo Air transport and Consignment.
 - 7: What you need to know and where you get it from.
 - 8: The Ramp Agent.
 - 9: GSE Technician, Firefighter, Security Officer,
Catering,Airfield Maintenance & Lighting.
 - 10:Other airport employers Border Force Officer,Customs
officer.
- Air cargo related terms and abbreviations



Cargolux Boeing 747 Manston

1 This is the first of a series of 10 **Kent Needs Manston Airport** articles on Air Cargo how it works and its employment opportunities . **Riveroak Strategic Partners** are applying to the Secretary of State for a Development Consent Order (DCO) to re-open Manston Airport as an Air Cargo Airport , it will also include passenger services , Maintenance Repair & Overhaul (MRO) , Aircraft Recycling facilities ,Fixed Base Operation (FBO) and a Flight Training School.

Welcome to this short introduction to Air Cargo .

The purpose is to provide general information or a framework on the setup of air cargo processes, for people new to the business, of course details of the processes will vary by company, also new methods evolve over time, and documentation can change ,and here in the UK with the advent of “Brexit” this could bring more changes to the documentation, **Riveroak Strategic Partners** tell us they will be using the latest digital and scanning technologies.

In preparing this series of articles acknowledgement is made to Air-Cargo-How-it Works and The British International Freight Association for supplying much of the content.

Ok enough waffle , lets begin:

The Air Cargo process :

- 1 Introduction
- 2 Shipping
- 3 Forwarding out
- 4 Forwarding in
- 5 Air transport
- 6 Air transport and Consignment



So who carry's out this work , who are they ? And there are jobs!

Definitions

Shipping : (Shipper **a person** or company that transports or receives goods by sea, land, or air.

Forward in / out : (a **person** or organisation that dispatches or delivers goods. "a freight forwarder")

Consignment: (a **person** or firm (usually the seller) who delivers a consignment to a carrier for transporting it to a **consignee** (usually the buyer) named in the transportation documents. Ownership (title) of the goods remains with the **consignor** until the **consignee** pays for them in full.

Integrators : **Cargo** transporter who uses its own equipment (aircraft, ships, trucks, etc.) ie DHL and Fedex , instead of the scheduled airlines door-to-door transport .

The Air Transport

For someone who wants to send a shipment door-to-door and over a medium to long distance fast, the air transport mode will best fit this purpose.

With air transport, cargo can be transported in different types of aircraft:

Passenger aircraft :

In the cargo area below the passengers, the so-called "belly" cargo



An example the **Airbus A320** (Lufthansa)



An example **Boeing 737** (Easyjet)



An example **Airbus A380** (British Airways)



An example **Airbus A330** (Virgin)

in the passenger cabin as hand-carry by a so-called "on-board courier" (OBC) flying as a passenger, sometimes also called "hand-carry services" the OBC is mostly an employee working for a forwarder or courier service (see below*) and can also take care of the total door-to-door transport, all eventual customs formalities for export or import, as well as the hand-over at destination this type of service is mainly used for very urgent or valuable documents and small goods ; as with all cargo services, also here the entry requirements and customs regulations of the country of import, as well as the regulations for restricted articles on board of the aircraft must be known and adhered to .

Cargo aircraft, or: Freighters

On the main-deck or in the belly ; by means of nose-loading, where the whole nose is opened, or side loading, through a large cargo door



An example [Boeing 767-300F](#) (Fed Ex)an integrator company. An example [Boeing 747-400ERF](#) (Cargolux



An example [Airbus A330-200F](#) (Airbus)



An example [ATR72](#) (Fedex)an integrator company

Combi aircraft :

on the main-deck behind the passengers' area with side loading through a large cargo door, and in the belly



An example *Boeing 737-400 Combi* (Alaska Airlines)



An example *Boeing 747-400M Combi*

As you can see in the examples above, the dimensions of the aircraft can vary, which of course also influences the amount of passengers and/or cargo that can be taken. The amount and weight of cargo that can be carried depends on the fuselage dimensions (esp. the diameter) of the aircraft. For the bigger aircraft or airliners a difference is made between narrow body and wide body aircraft.

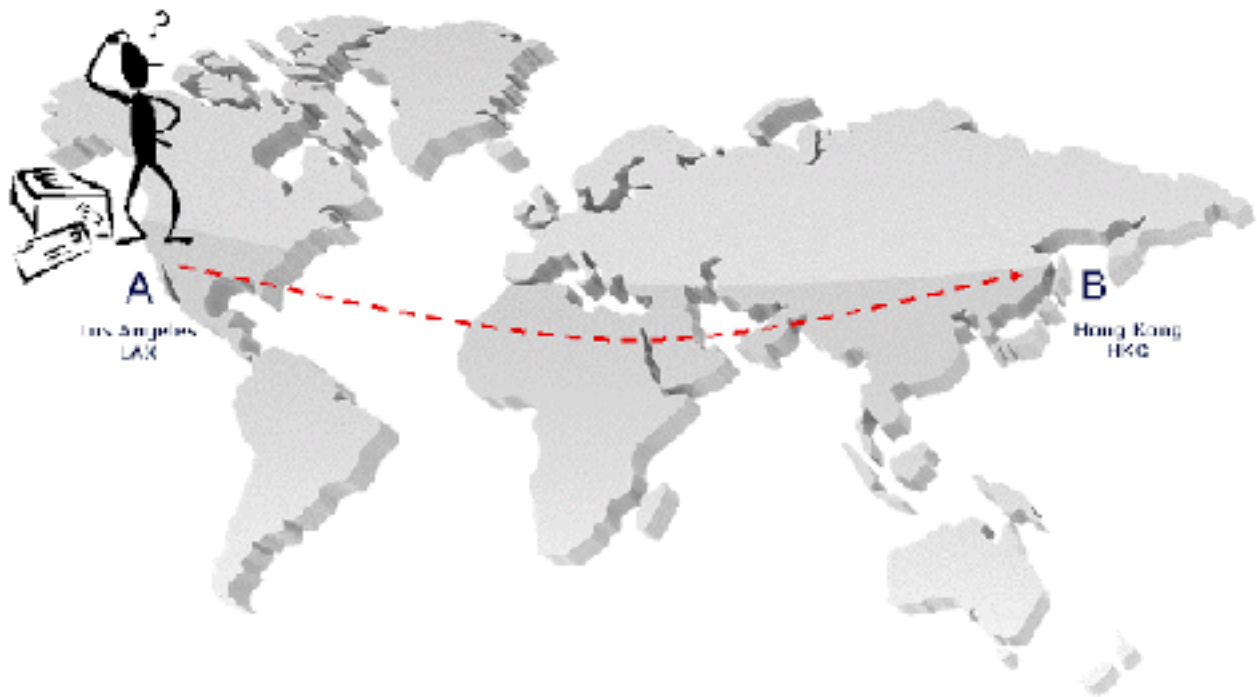
Air Cargo Facts

According to IATA, in 2016, airlines transported 52 million metric tons of goods, representing more than 35% of global trade by value but less than 1% of world trade by volume. That is equivalent to \$6.8 trillion worth of goods annually, or \$18.6 billion worth of goods every day.

According to plane maker Boeing in 2012, cargo-only aircraft or freighters handle about 60 percent of global airfreight shipments, while passenger planes fly the other 40 percent in their bellies.

On average, cargo business generates 9% of airline revenues, representing more than twice the revenues from the airlines' first class passenger segment.

Shipping By Air: Parties In The Market



Someone wants to ship a parcel from Los Angeles (LAX) to Hong Kong (HKG)

From a potential shipper's or customer's viewpoint, the International (door-to-door) air cargo market can be divided in four major supplier categories according to their core business:

- Postal companies using Airmail

 - Envelopes and parcels up to 30 kg

 - Air transport generally outsourced to airlines

 - Examples: EMS Worldwide Express Mail Service, Deutsche Post, La Poste, Singapore Post, TNT Mail, USPS, etc.

- International Courier* companies or: Couriers

 - Envelopes and parcels up to 75 kg

 - Air transport generally outsourced to airlines

 - Examples: City-Link, DPD, DPEX Worldwide, HKDC Royale Asia, Kangaroo Worldwide Express, KDZ Express, OCS - Overseas Courier Services, Quick International Courier, Sky Net

Worldwide Express, Speedlink International, World Courier,
UNEX - Universal Express, etc.

International Express companies or: Integrators

Envelopes and parcels up to 75 kg

Generally operate their own aircraft, some destinations
outsourced to airlines, aircraft operators or air charter
companies

Examples: DHL Express, FedEx, TNT Express, UPS, etc.

(Air Cargo) Forwarders

Parcels and consolidations > 75 kg or up to anything that fits in an
aircraft

Air transport generally outsourced to airlines and sometimes
aircraft operators or air charter companies

Examples: Agility, CEVA Logistics, C.H. Robinson, Damco, DB
Schenker, DHL Global Forwarding, DSV, Expeditors, Geodis,
Hellmann Worldwide Logistics, Kerry Logistics, KWE - Kintetsu
World Express, Kuehne + Nagel, Nippon Express, Panalpina,
Pantos Logistics, Rhenus Logistics, SDV, Sinotrans, UTi
Worldwide, UPS SCS, etc.

The real air transport (or: airport-to-airport) part is actually outsourced by these
companies to an air operator or airline (except in case of the Integrators, that
operate an in-house aircraft fleet for the main part of their air transport needs
and outsource only partially).

The combined airlines have the biggest share of this world wide air transport
market for cargo.

So the above mentioned Postal companies, Couriers, Integrators and Forwarders,
are the cargo customers of the airlines ; and thus the airlines are their suppliers or
partners.

The air cargo forwarders are the 'traditional' and still most important customers for
the airlines. According to FIATA, forwarders contract, book and process over 80 per
cent of international air cargo consignments. They compile the complete and
(where necessary) customised door-to-door (D2D) air cargo supply chains for their
customers, which are often called end-customers by the airlines. The airlines
deliver the airport-to-airport (A2A) transport in this chain.

The Air Cargo Supply Chain

When a demand on one place is supplied from another place with air transport as
the main transport mode, an air cargo supply chain must be compiled.

Air transport is relatively expensive, but often the fastest mode of transport
available to cover medium to long distances.

Therefore **typical air cargo** consists of goods with a high value and/or an operationally or commercially critical delivery time (high financial breakdown risk):

Airmail, diplomatic mail

Live animals, hatching eggs, human organs, human remains, medical supplies

Express parcels

Perishables (food, flowers, dry-ice shipments)

Pharmaceuticals

Valuables (money, gold bars, diamonds)

Technical supplies (high tech, oil & gas, aerospace, automotive, ship spares)

Luxury consumer goods (electronics, fashion goods, accessories)

A **typical air cargo supply chain** consists of the following steps:

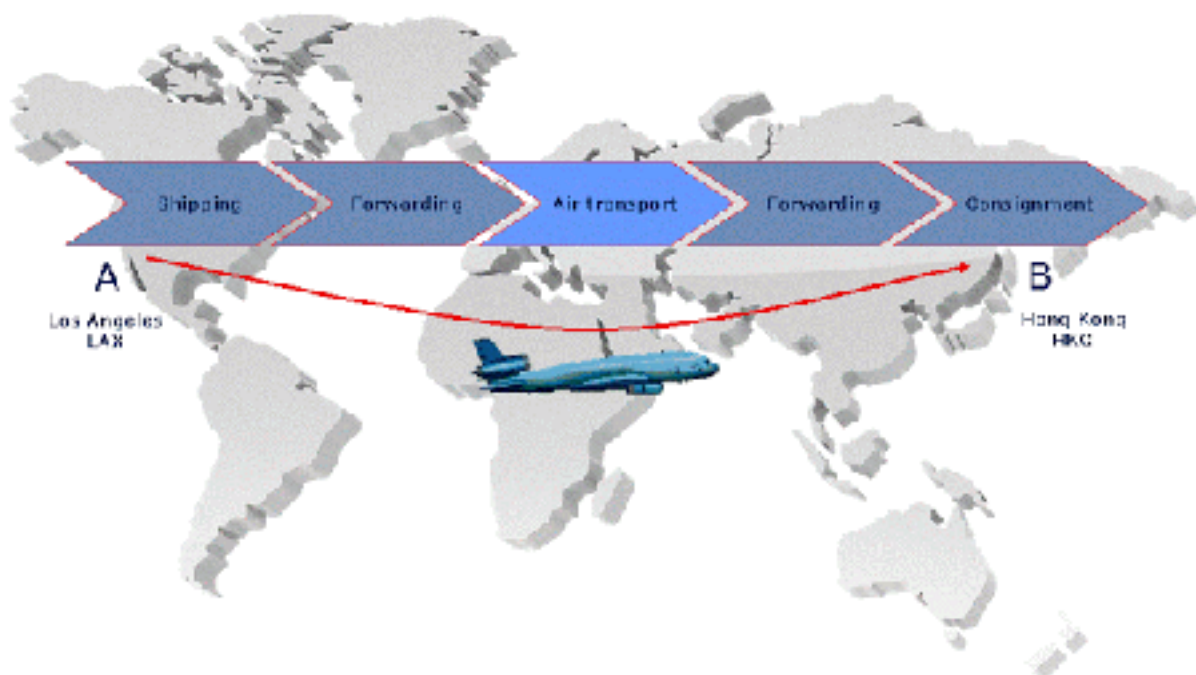
Shipping

Forwarding out

Air Transport

Forwarding in

Consignment



(yes I know you get to HKG quicker the other way round but this is the only map I've got!)

You are interested ? good, in the next article “jobs in the Air Cargo Supply Chain “



Cargolux Boeing 747-400F takeoff a Manston Regular in 2013

2 You are interested ! , “Good the journey begins” jobs in the Air Cargo Supply Chain

Cargo operations and ground handling staff, Station managers, Shippers, Cargo agents, Consolidators, Freight forwarders and other agencies involved in the transport of cargo.

Ok , sounds good but just what do these jobs do!



Now these guys know their stuff! , so thanks to them this is what they have to say: lets start with a Shipper :

The door-to-door air cargo process starts with the **shipper**.

A **shipper** is the person or company that is physically and administratively responsible for shipping the goods ; nothing more and nothing less.

Although in a lot of cases the shipper is also the customer of the forwarder, this is not necessarily so. The customer can just as well be the consignee, or a third party

that has ordered the goods stored at the shipper's location to be shipped from A to B. For this same reason, the shipper also does not need to be the owner of the goods. This all depends on the delivery terms "Incoterms" (International Commercial Terms) that are agreed between the parties involved, e.g. a buyer, owner of the goods, a seller, a maintenance company, a distributor, a transport company, a forwarder, etc.

For security reasons these days the shipper must be a known shipper for the forwarder and thus also for the next steps in the process.

About air freight costs and quotes

Before taking any further steps, in order to avoid surprises afterward, it is important for the shipper to be aware of the different cost elements of air freight..

Another important consideration for the shipper is whether or not to (let) consolidate goods into one shipment, or to send the goods as individual shipments. In most cases consolidation of goods is cheaper but also slower, especially if the forwarder consolidates goods of several shippers to a certain destination. In case of emergency freight, if speed is required, shipping the goods as individual shipments can be an advantage, because it is more easily traced and expedited during the process ; but it will probably be more expensive as well, because the costs cannot be spread over a bigger volume.

The next step for the shipper / customer will generally be to request a freight quote at one or more forwarders, and then select the forwarder that will become responsible for the shipment(s). Often there is a steady relationship and a financial / credit arrangement between a shipper / customer and one or more forwarders that take care of the worldwide transport of the shipped goods.

Shipping the air freight

The **shipper** is responsible for efficient assembly of the shipment in terms of volume, weight and packaging in order to ...

... get the best price / volume utilisation of the aircraft pallet or container

... avoid damage to goods, people and aircraft.

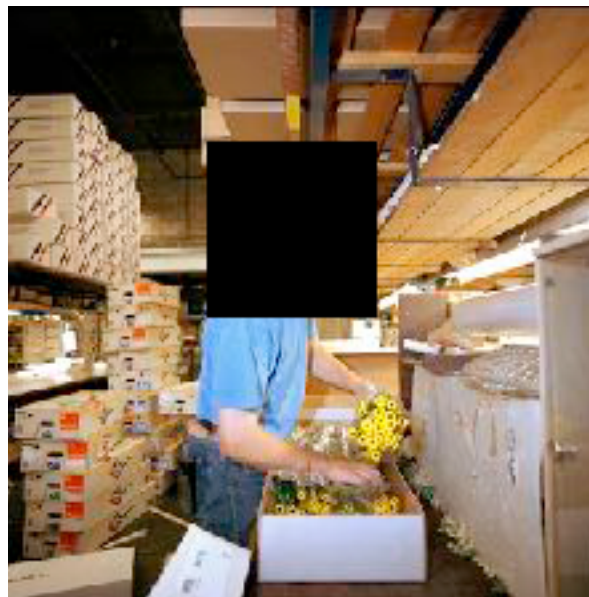
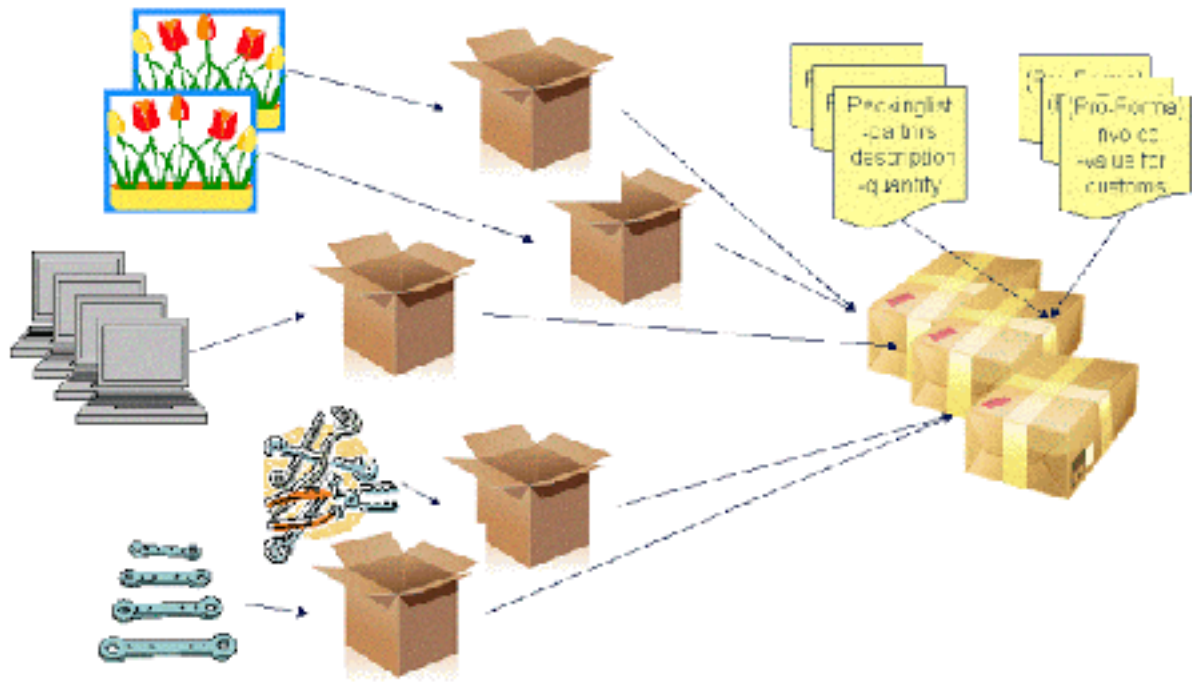


Photo source: Kuehne + Nagel

When the goods are ready for transport (RFT = correctly packed, labelled and with the right documents for forwarding as well as road transport as the next steps), the shipper orders transport of the goods.

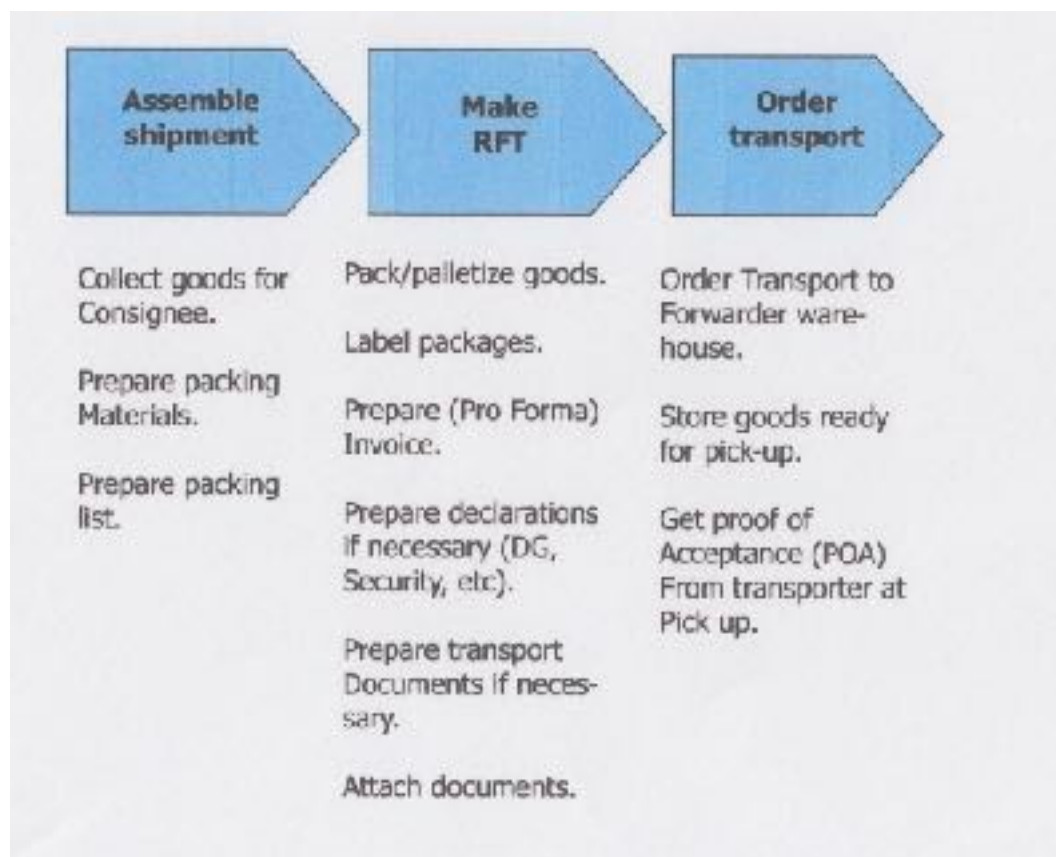
Depending on the transport agreement with the forwarder, this road transport can be organised by either the forwarder or the shipper.

The goods are picked up at the shipper's warehouse for delivery by road transport at the warehouse of the forwarder who organises the further air cargo process.

Depending on the internal organisation of the forwarder's or shipper's processes, the road transport can be executed either with in-house operated trucks, vans or personnel or by a third party-
The transport company (or the forwarder) will give the shipper a proof of acceptance (POA).



Process overview



Other important advice and considerations for the air cargo Shipper:

Your national or international shipping process should be part of your Logistics Plan (checklist). You want to control your logistics flow and

shipping terms (incoterms). Because your shipments will probably be part of your own or your customer's supply chain (being costs or a profit tool), you want to assure timely arrival of the shipment and consider your logistic timeline.

Another important thing is to take care to (let your forwarder) arrange the right customs documentation for clearance ease at destination, and be aware you will probably have to pay duty and VAT at import, unless you have arranged for special licenses or exemptions. The packing list is a good basis for your forwarder to arrange these matters with and for you.

Furthermore you may want to consider an air cargo insurance. Whether importing or exporting, using air freight (or road or ocean freight) for your international shipping, cargo insurance covers loss and/or damage of cargo while it is in transit between the points of origin and final destination. Many try to save a little money up front by not insuring their cargo, but here's just five of the many reasons why that's a bad idea.

So all in all it's important to be knowledgeable regarding your needs and be able to express your logistics requirements before you approach a forwarder or logistic provider, so that you can ask the right questions and the seller can offer you the right services.

Finally, take care to negotiate good (and complete) air freight rates with your forwarder and/or the airline, and check on the applicable surcharges (see the Forwarding Out page on these subjects also). The cost of your transport process, and so your profitability, are directly impacted by the concept of landed cost. In simple terms, landed cost is the cost of your product delivered to or from a foreign country. *There are significant additional costs that can drive up the landed price of your goods overseas.* Knowing these costs is crucial in order for exporters to ensure order profitability.

Once your logistics service provider started delivering services, it's important to regularly measure the agreed logistic performance (KPI's), as well as the customer service performance.



Cargolux Boeing 747 a Manston Regular in 2013

3 We will stick with these guys as they know their stuff! , so thanks to them this is what they have to say about a Freight Forwarder , starting with Forwarding out or export forwarding:



If you're an IT-literate graduate in business, geography or languages, a career in freight forwarding could be right up your street

A freight forwarder is an agent who acts on behalf of importers, exporters or other companies to organise the safe, efficient and cost-effective transportation of goods. You will use computer systems to arrange the best means of transport, taking into account the type of goods and the customers delivery requirements. You'll use the services of shipping lines, airlines and road and rail freight operators. In some cases, the freight forwarding company itself provides the service.

Companies vary in size and type, from those operating on a national and international basis to smaller, more specialised firms, which deal with particular types of goods or operate within particular geographical areas.

Responsibilities

Activities vary depending on the type and size of employer but typically include:

- investigating and planning the most appropriate route for a shipment, taking into account the perishable or hazardous nature of goods, cost, transit time and security;
- arranging appropriate packing, taking into account the climate, terrain, weight, cost and nature of goods and also the delivery and warehousing of goods at their final destination;
- negotiating contracts, transportation and handling costs;
- obtaining, checking and preparing documentation to meet customs and insurance requirements, packing specifications, and compliance with other countries' regulations and fiscal regimes;
- offering consolidation services by air, sea and road, ensuring cost-effective and secure solutions to small shippers who have insufficient cargo to require their own dedicated units;
- arranging insurance and assisting the client in the event of a claim;
- offering tailored IT solutions and electronic data interchange (EDI) connections;
- arranging payment of freight and other charges or collection of payment on behalf of the client;
- utilising e-commerce, internet technology and satellite systems to enable real-time tracking of goods;
- arranging air transport for urgent and high-value freight and managing the risk door-to-door;
- acting as broker in customs negotiations worldwide to guide the freight efficiently through complex procedures;
- dealing with special arrangements for transporting delicate cargoes, such as livestock, food and medical supplies;
- arranging courier and specialist hand-carry services;
- maintaining communication and control through all phases of the journey, including the production of management reports and statistical and unit-cost analysis;
- maintaining current knowledge of relevant legislation, political situations and other factors that could affect the movement of freight.

At more senior levels, the role may also involve managing staff and overseeing activities within a department or specialising in a particular area, such as sea freight or air freight.

Salary

- Starting salaries are in the region of £16,000 to £25,000. With experience this can progress to £28,000 to £30,000.
- At a middle management level, freight forwarders can earn £30,000 to £35,000, with this increasing to £35,000 to £45,000 at senior management level.

Ok so far? Then let's break the job down ,and get to the nitty gritty! :

Forwarding out or export forwarding process

The outgoing or export forwarding process

The goods are delivered at the forwarder's warehouse.

The forwarder, sometimes also called expeditor is the 'architect' of the air cargo supply chain. A forwarder or expeditor can be IATA certified ; in that case he is referred to as agent. An agent is an IATA certified expeditor or forwarder that ...

... has been thoroughly checked for financial status

... has enough air cargo potential

... has the right facilities for handling air cargo

... has trained personnel for handling air cargo and dangerous goods

... receives commission from the IATA associated airlines

... may use the airline's Air Waybills

Depending on the agreement with the forwarder's customer, the forwarder organises:

- Outgoing handling or export handling & customs clearance of the customer's shipment,
- Air transport from a nearby airport to an airport near destination
- (optional) Further incoming handling or import handling & customs clearance near destination
- (optional) Delivery at final destination (consignee)

The forwarder will buy space at the airline's sales or customer service department, or in case of a foreign airline sometimes through the airline's **General Sales Agent, a GSA**. (A short note about the GSA: An airline can decide to appoint a GSA when it proves beneficial to have the lower and more flexible costs of a hired local sales team instead of setting up an own sales-team, which is often more expensive and has fixed costs. Some sources claim the performance of a good airline sales-team will in the end always be better than the performance of a GSA ; I guess this can probably be managed upfront in a good tender, contract and performance review process though. Probably a good tip in selecting a GSA is for the airline to check with their potential local customers, the forwarders, in advance, because they know the market best.)

(Airline) Pricing

Air cargo is generally sold for a fixed price or a fixed rate per kilogram, often with a minimum charge to cover basic expenses of shipment handling. Customers (forwarders) with a continuous demand of space on one or more specific routes, or with a continuous turnover with the airline overall, will negotiate and contract their own space and pricing details with the airline. Sometimes also so-called 'spot rates' can be requested for ad-hoc shipments. And it is also possible the airline offers special rates to assure the aircraft's capacity will be filled. Basic air cargo rules and rates are laid down in IATA's TACT (The Air Cargo Tariff) ; rates are negotiable based on your shipped volumes and on capacity vs demand on the requested routes.

An important factor in air cargo pricing (with the airlines, but also with the large integrators DHL, FedEx, UPS and TNT) is the dimensional weight conversion. As stated: by charging only by weight, lightweight, low density packages become unprofitable for freight carriers due to the amount of space they take up in the (often very expensive) truck/aircraft/ship capacity in proportion to their actual weight. The concept of Dimensional Weight has therefore been adopted by the transportation industry worldwide as a uniform means of establishing a minimum charge for the cubic space a package occupies. Therefore the volume is converted into a (higher) weight / price class.

Another factor in air cargo pricing are the surcharges that can be added by the airline (and therefore also the forwarder). A fuel surcharge can be added to cover the additional costs of increasing fuel-prices ; these will generally follow a certain index. A security surcharge can be added to cover the additional costs of the increasing number of security checks and related administration that are legally required by the authorities.

There is a lot of discussion these days whether or not these costs should actually be a part of the overall air cargo rate, as these surcharges tend to be even higher than the actual air cargo rate sometimes.

Of course the airline will try to optimise their expensive cargo capacity on board of the aircraft, and try to sell this capacity at the highest revenues. This is called airline cargo revenue management.

Booking

First step after the pricing is obtained, is to make an airline booking for the shipment and get the airline's confirmation in order to assure space on board of an aircraft:

- Airline (Master) Air Waybill number assigned
- Origin and (final) destination
- Type of goods / commodity (especially important for dangerous goods, perishables and valuables)
- Flight date
- Flight number
- Weight, volume and dimensions of shipment

Number of Items
Issuing agent / contact details
Eventual assignment to customer (agent's) allotment

The reservation will be validated against the airline's capacity, commodity and revenue management criteria, and will be officially confirmed as soon as the booking is accepted. Now the booking process is complete.

In case of a so-called blocked-space agreement in which the forwarding agent has a continuous reservation (allotment) for space at one or more flight / date combinations with an airline the booking process may sometimes go slightly different, but the basics are the same.

There are a few recommendations in order to assure a smooth process for the airline and the customer:

Make the booking at the earliest possible stage, and ask for (and meet) the latest possible delivery time of your goods (esp. in case of dangerous goods, live animals, perishables, valuables, etc.) at the airline's handling agent
Check for specific commodity restrictions with the airline or the country of destination.

Do not make bookings for the same shipment at several agents or airlines ; if you have to cancel do this timely, also in case you are not going to use (part of) your allocation. Aircraft space is very expensive!

Do not exceed allotments and/or shipment weights without consulting the airline first. If noticed your shipment will certainly be stopped, and if unexpectedly unnoticed this is a potential air safety threat!

Make sure the information on your shipment documents are exactly in line with the actual shipment details, dimensions and weight.

Make sure you have made all the necessary security arrangements. Cargo from 'unknown shippers' or with otherwise suspicious characteristics will certainly be stopped.

Preparing the shipment

In order to keep track of the different customer's shipments from one exact address to another, the forwarder makes a House Air Waybill (HWB) for each such shipment. The House Airway bill is the shipment contract between the end-customer and the forwarder, so basically the forwarder acts as a carrier towards the shipper. *(This is also called a Non-Vessel Operating Common Carrier or NVOCC, which is a shipment consolidator or freight forwarder who does not own any vessel, but functions as a carrier by issuing its own bills of lading or air waybills and assuming responsibility for the shipments.)*

Next step is to make the goods ready for carriage (RFC)

Correctly packed, labelled and

Customs cleared for Export (if applicable), and

With the right documents and security checks for air transport as the next step, as well as for incoming or import handling and clearance (if applicable) at destination. Often the forwarder combines shipments of different shippers travelling the same airport-to-airport stretch into a consolidation, because ...

... consolidations are easier and faster to handle for the forwarders as well as the airline

... bigger volumes get better airline pricing (and also give more commercial freedom for the forwarder to play with cost- and selling prices)

... continuous bigger volumes facilitate blocked space agreements between the airlines and the forwarders to create guaranteed capacity and thus better reliability for the end-customer / shipper.

The AirWaybill

Consolidations or individual shipments get a Master Air Waybill (MAWB) for the airline. To start with, t

he Master Air Waybill is the shipment contract between the forwarder and the airline (which also means that towards the forwarder the airline is the carrier, and the airline considers the forwarder to be the shipper now...). Other functions of the MAWB are:

Communication of the applicable contract terms, conditions and liability to all parties involved (general on the back, or specific)

Proof of delivery (POD) of the goods to the carrier

Act as key for other related documents as required for customs or other authorities

Provide handling instructions to all parties involved

Provide a basis for invoicing for the airline and/or the forwarder

Act as an insurance certificate (if applicable and indicated on the AirWaybill)

The main contractual obligations of the carrier are to deliver a shipment:

In the same state in which they were accepted, undamaged

Complete: in number of colli, and in contents (contents only as far as checked and agreed)

On time

The Airway bills contains a.o. the following information :

The exact shipper's and consignee's address

The forwarder taking care of (c/o) the shipment at destination

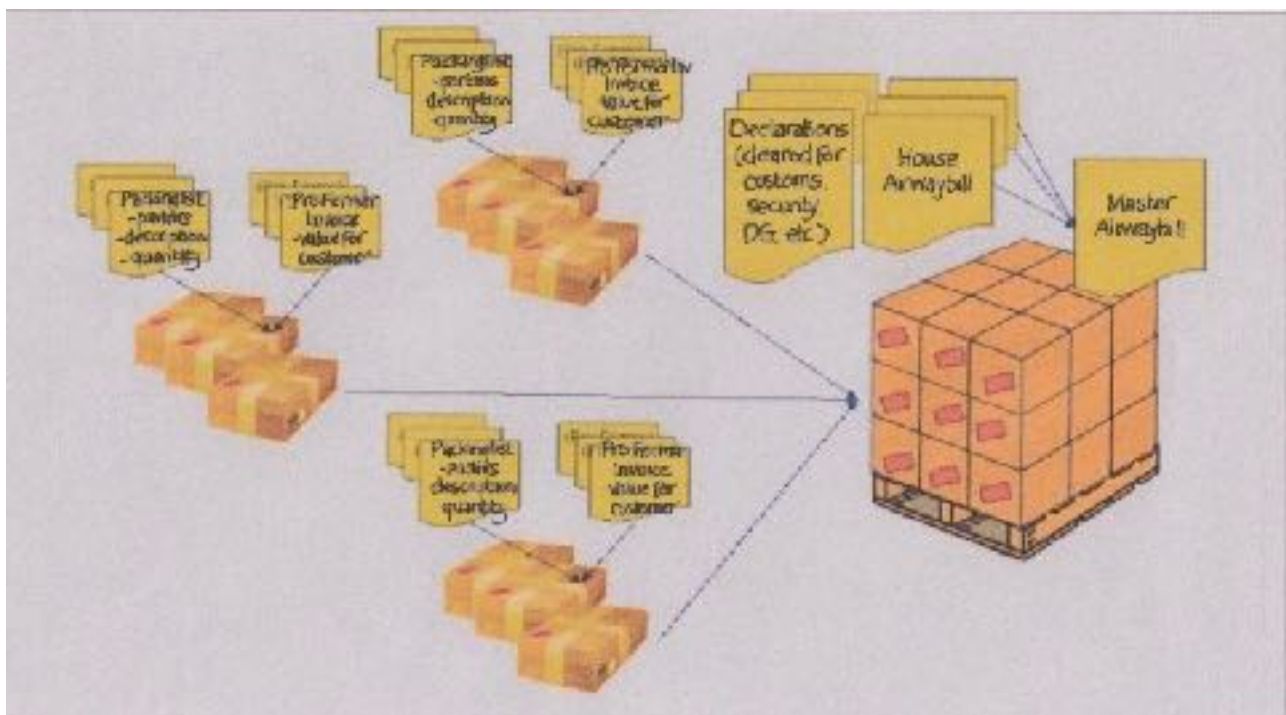
Carrier / agent

Airports of departure and destination

Flight date and -number

The overall kinds and values of the goods
Number of items, weights, volumes
Customs status
The agreed costs of transport and eventual other charges (also for customs purposes in order for them to see added value)
Insurance information
Signature (to validate contract)

The airline's Air Waybill or MAWB is a so-called non-negotiable transport document, so it is not a proof of ownership of (or document of title to) the goods ; the document + goods cannot be traded.



When the goods are ready for carriage, the forwarder orders transport of the goods. If needed the goods will be temporarily stored at the forwarder's warehouse.



K+N warehouse ; photos source: [Kuehne + Nagel](#)

In case of large volumes and blocked space agreements with the airline, the forwarder may already prepare ready for carriage aircraft pallets. This minimises the handling time for the airline, and so the overall throughput time of the shipments.



[Kerry Logistics](#) aircraft pallet station

The goods are picked up by road transport for delivery at the warehouse of the airline's handling agent who takes care of further cargo handling for the airline.

Again, depending on the internal organisation of the forwarder's processes, this road transport can be executed either with in-house operated trucks, vans or personnel or by a third party



K+N road transport ; photo source: [Kuehne + Nagel](#)

Normally the shipping forwarder will now inform or pre-alert the receiving forwarder about the shipment and flight details. This enables the receiving forwarder to prepare receipt of the shipment, e.g. by making connecting road-transport arrangements and/or perform pre-clearance of the shipment to ensure a smooth and fast flow of the goods through all the next steps.

The receiving forwarder will often be a branch of the same forwarding company, but it can just as well be a partner forwarder from another company, in which case an ad-hoc or longer term commercial agreement will be made

A network forwarder is a large company with worldwide branches

A forwarder network though is a network existing of different smaller to medium sized companies all over the world working together

Process overview:

Besides this basic process, other important functions or side-processes of the forwarder are:

To plan & control transport orders, airline slot-times, and the flows of goods, documents as well as information in all steps of the created supply chain in order to assure a smooth process and service as agreed with the end-customer

To repair or improvise immediately when something might go wrong in the often complex chain executed by many different parties, or in case of a sudden urgent or non-routine shipment

Change transport or airline bookings

*(Part) charters of trucks or aircraft
On-board couriers*

To continuously maintain a structured and standardised network of commercial and operational agreements where possible, in order to rely on these agreements and an operational routine for all parties involved
To handle claims on behalf of the (end-)customer in case goods are damaged or lost in the D2D or A2A process



"An oldie" Invicta Air Cargo DC4 based at Manston

4 Continuing with these guys as they know their stuff! , so thanks to them this is what they have to say about a Freight Forwarder , continuing with Forwarding in or import forwarding :



Forwarding in

The incoming or import forwarding process

The receiving forwarder picks up the shipment documents at the handling agent.

This pick-up can be done by the forwarder himself, or can be outsourced to a local courier.

The forwarder prepares import documents (if necessary), performs customs clearance for import (electronically or manually) and awaits approval from customs.

If the forwarder is also a certified customs agent, he will perform the clearance himself (forwarding agent) ; if not he can outsource these activities to a certified customs agent.

A certified customs agent will always have a financial / credit arrangement with customs to cover eventual import duties and/or VAT due, often by means of a deposit at customs.

A customs agent knows how to exactly classify the goods for import according to regulations ; this is done based on the packing list and (pro-forma) invoice, so the packages remain unopened.

Also a customs agent is trained and experienced in acquiring and applying special customs arrangements, licences and exemptions in order to lower or avoid import duties or to speed up the customs process where possible.

Customs clearance is never the end-responsibility of the customs agent though, this responsibility remains at the principal and depends on the agreed delivery terms.



K+N office ; photo source: [Kuehne + Nagel](#)

At this stage customs can decide to release or hold the shipment for inspection, whereby the packages are opened, and can demand payment of import duties or

even fines depending on the customs regulations and judging the type of information given by the customs agent against these regulations and the actual commodity of the goods to be imported



Drug detector dog ; photo source [New Zealand Customs](#)

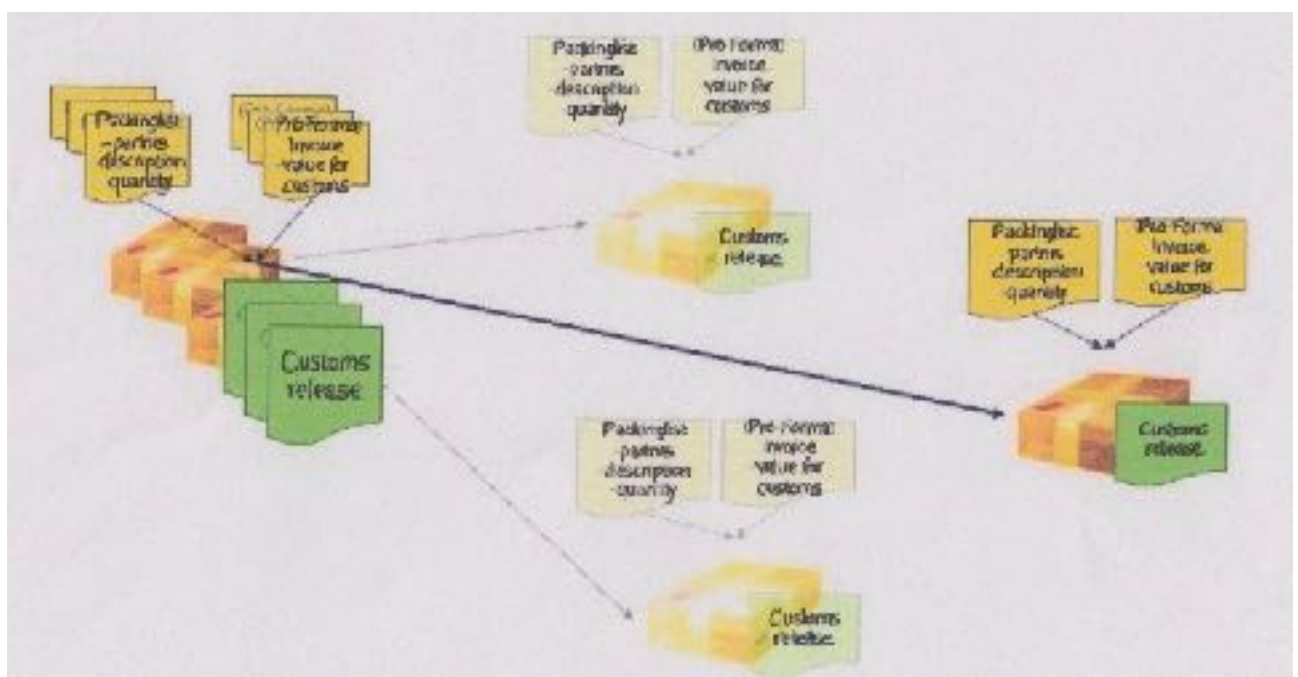
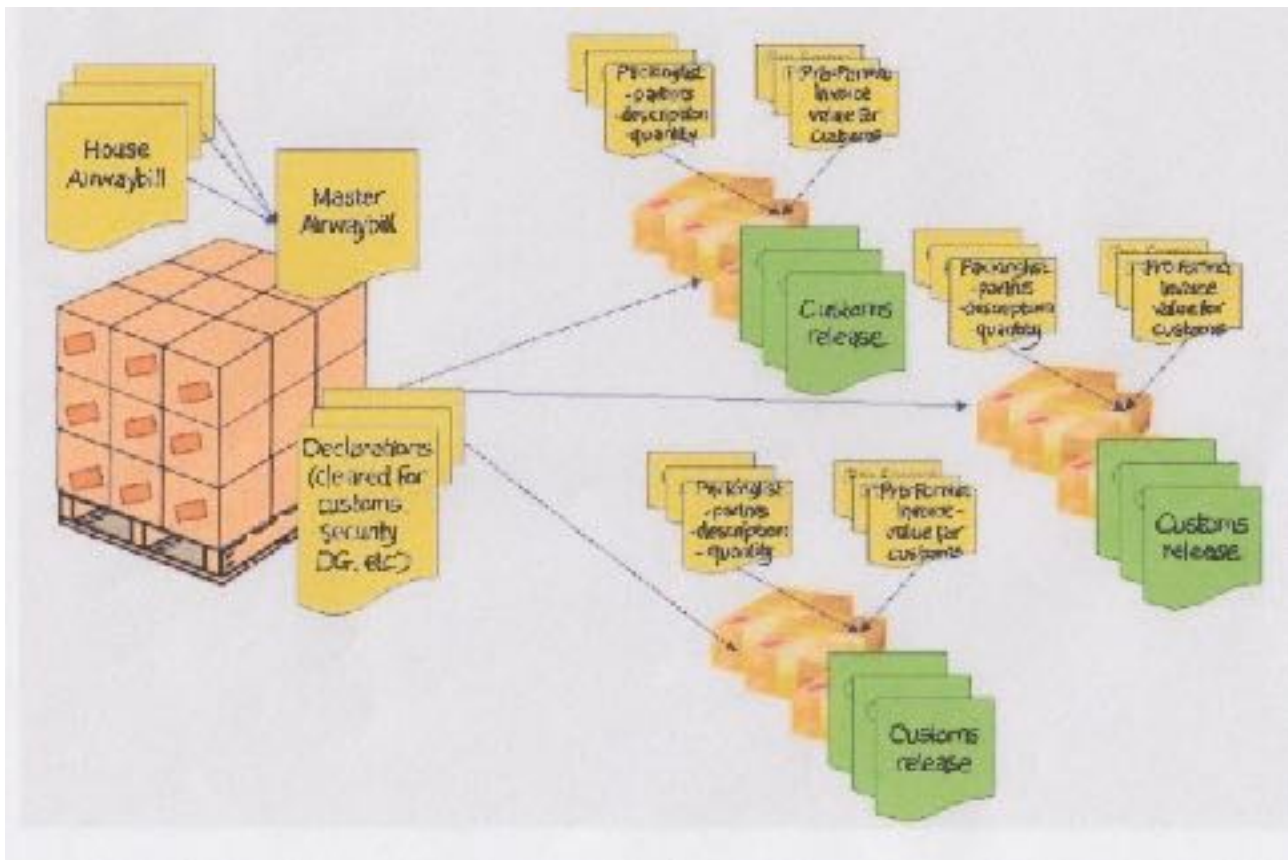
After approval by customs (which must be proven to the handling agent, because the goods are stored under supervision of customs), the pick-up of the goods at the handling agent is ordered, and the goods are delivered at the forwarder's warehouse

Again, depending on the internal organisation of the forwarder's processes, this road transport can be executed either with in-house operated trucks, vans or personnel or by a third party



Panalpina warehouse barcode scanning ; photo source: [Panalpina](#)

The forwarder splits the shipments, makes them ready for transport again, and orders connecting transport to the consignee.





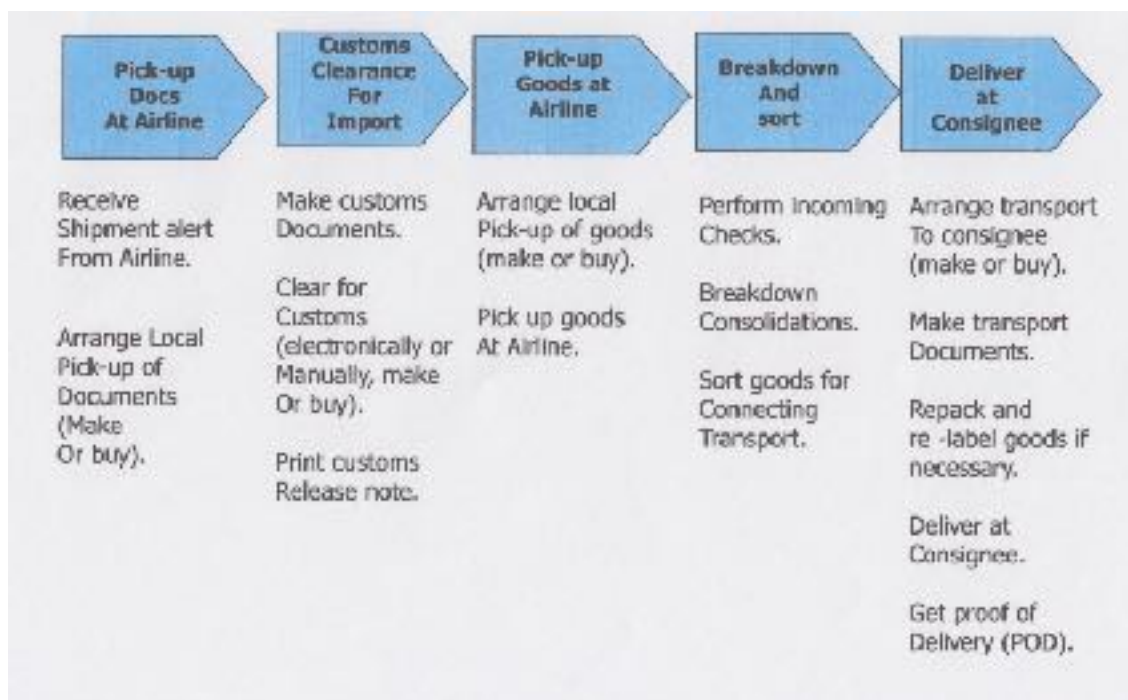
Panalpina warehouse ; photo source: [Panalpina](#)

The goods are picked up by road transport for delivery at the consignee, where the air cargo process will finish

Again, depending on the transport agreement with the forwarder, this road transport can be organised by either the forwarder or the consignee.

And again, depending on the internal organisation of the forwarder's or consignee's processes, the road transport can be executed either with in-house operated trucks, vans or personnel or by a third party.

Process overview:





A KLM Fokker loading Air France Parcels in the 1930s

5 We will now get to what moves all this cargo and has been doing the job for many years Air Transport :

The goods (or consolidations) are received at the airline's handling agent warehouse.

The handling agent will often be a separate company contracted by the airline, but cargo handling can also be an in-house function of the airline, especially at a major hub

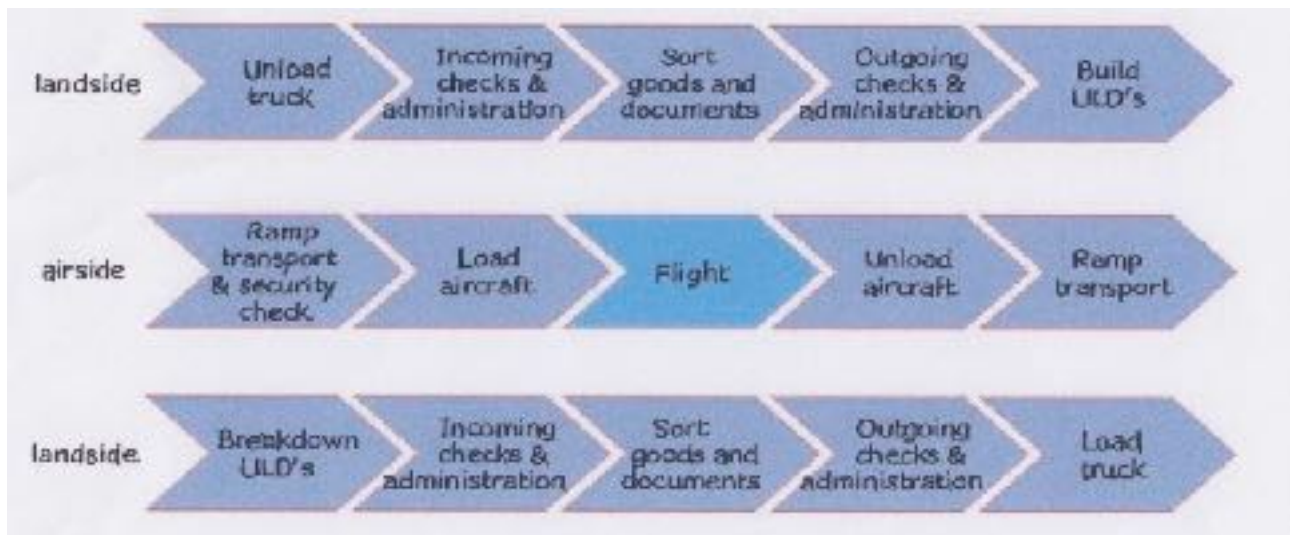
Examples of separate handling agents are: Aviance, Aviapartner, Menzies Aviation, Servisair, Swissport Cargo Services, WFS - Worldwide Flight Services, etc.

Also the airlines often offer their in-house cargo handling as a commercial service to other airlines.

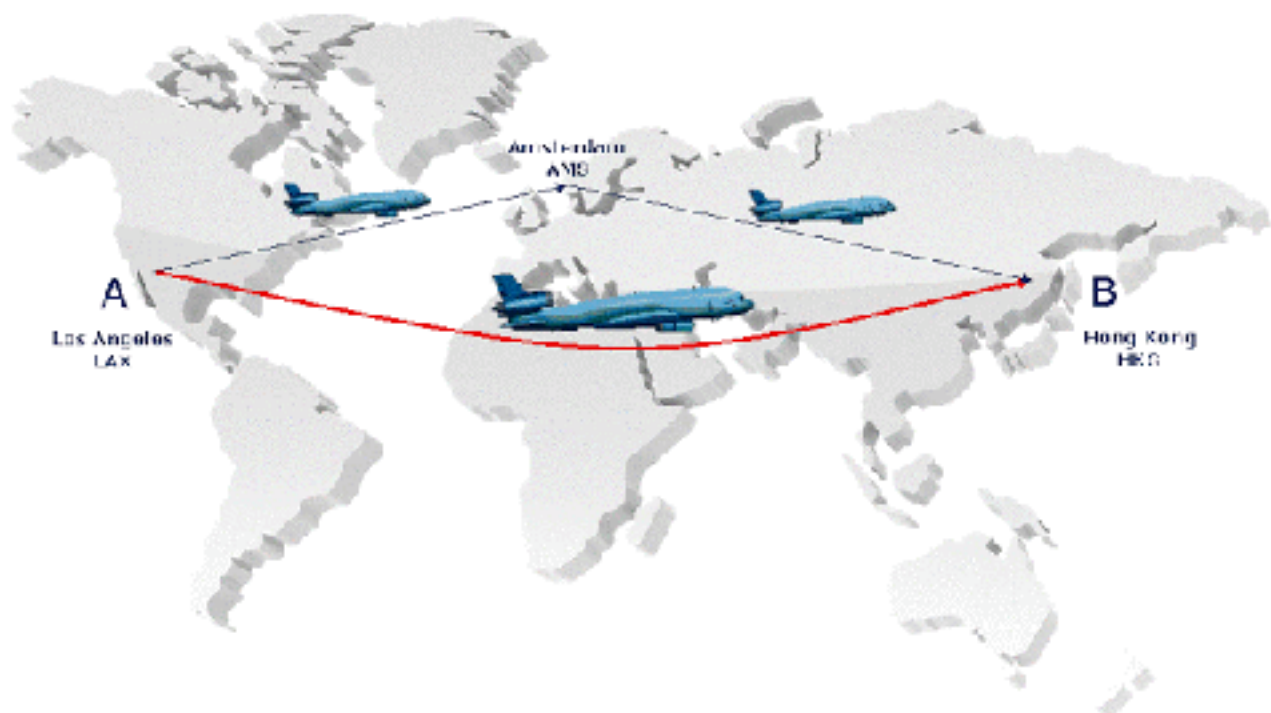
The handling agent takes care of the air cargo handling at the airport, to and from the aircraft.

Depending on the kind of goods, destination (flight number) and urgency, delivery at the handling agent has to be done within a certain norm-time before departure (TBD) of the aircraft, also called a slot or a slot-time.

The whole physical air transport process can be pictured by the following steps:



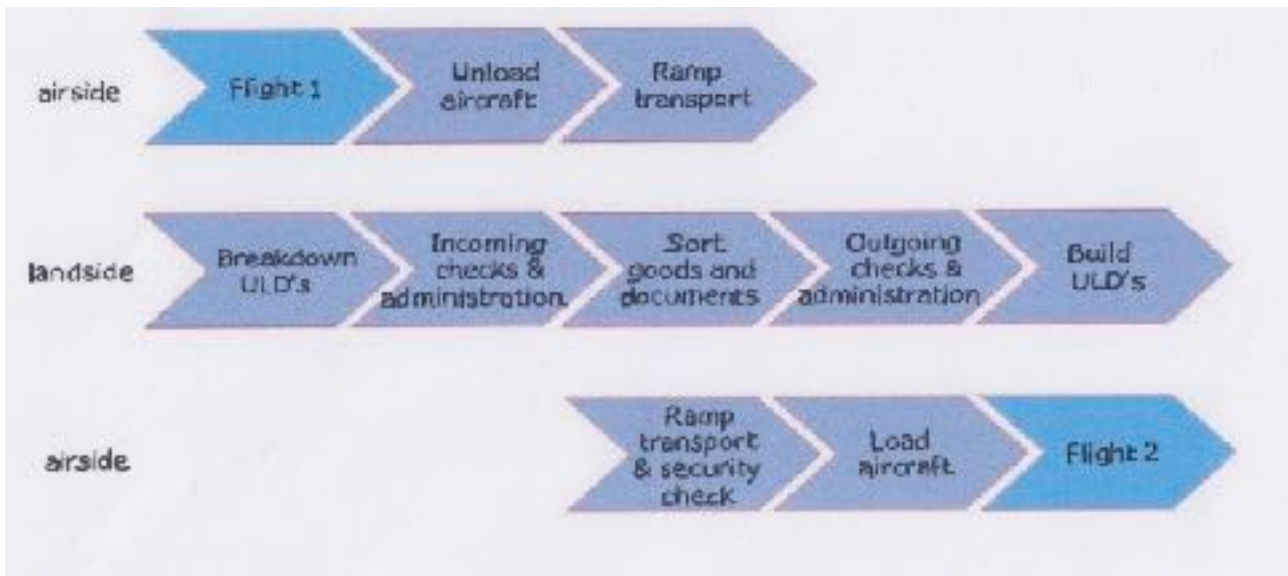
A variant in the air cargo process can be to get to the destination in two or more steps instead of one, then the shipment goes into a transit:



Whether a direct or a transit process should be used is up to the forwarder (where necessary in communication with the shipper) and depends on required price,

through put time (also in relation to flight schedules of different airlines) or special cargo requirements (security, live animals, etc.)

In case of a transit shipment the process in between the flights will look like this:



Or in some special cases or high priority cargo services, if the connection time allows, the transit process can even look like this:



Besides the physical handling, other important functions of the handling agent are:

To control the overall weight & balance of the airline's aircraft on the cargo side, make a load sheet and assure flight safety

To make a cargo manifest for all the goods on board, for the airline's import and export declaration to customs

- *This is a high level customs declaration as opposed to detailed customs declaration by the forwarder or customs agent*

To make a notification to the captain of the aircraft (NOTOC) to inform the crew about potential risks of the cargo on board in case of emergencies (dangerous goods, live animals, valuables, etc.), as well as for the right conditioning (temperature) of the cargo holds

To plan & control bookings, slot-times, goods flows in the warehouse, and ULD and flight bag flows from and to the aircraft in order to prevent delays and assure correct execution of the airline's time-table

To plan & control worldwide ULD stock

The incoming checks before loading and departure of the aircraft are of vital importance for the airline as well as rest of the process :

Commercial checks

According to booking

Correct weights, numbers and volumes of goods indicated

Logistics checks

Delivered RFC

Flight safety checks

Correct weights, numbers and volumes of goods indicated

Correct and undamaged packaging

Potentially hazardous materials declared and correctly labelled and visible

Correct and complete documents and labels

Security checks

Known shipper and forwarder declared

Correct and undamaged packaging

Correct and complete documents and labels

Next the goods and documents are separately handled, sorted for destination + outgoing flight number.

Goods and documents are administratively connected by means of labels

Documents are administrated and temporarily stored

Goods are handled and temporarily stored

At a certain TBD the building of the ULD's for the flight will start, and the documents will be gathered in the flight bag.

ULD = Unit Load Device = standardised air cargo loading equipment, e.g.

Main deck pallets

Lower deck pallets

Lower deck containers

Animal stables or containers

Security containers

Environmentally controlled containers

ULD's are designed to fit exactly in different aircraft types, and are considered part of the aircraft structure during flight..

Now the ULD's and documents are transported to the aircraft at the ramp.

The ULD's are loaded in the aircraft at the planned positions, and the flight bag, including cargo manifest and NOTOC's, is handed over to the crew



During flight the crew will control the temperature in the aircraft cargo holds according to NOTOC or load sheet ; in most aircraft the temperature and air circulation of the cargo compartments can be set per compartment. In case a steady cool temperature is required for the transport, containers with cooling equipment, insulation equipment or dry-ice can be used. Look here for an example document about air freight / cold chain handling of perishables.

In case of transport of bigger live animals (like horses or elephants), an animal attendant may fly on board and check and look after the animals during flight ; airlines that deliver these services, will often also have special areas at the airport where the animals or pets are taken care of before or after the flight.

Normally, at a certain time before arrival (TBA), the handling agent at origin will now inform or pre-alert the airline's handling agent at destination about the shipments and flight details. This enables the receiving handling agent to prepare receipt of the shipment, e.g. by planning the breakdown priority of the ULD's to ensure a smooth and fast flow of the shipments through the next steps.

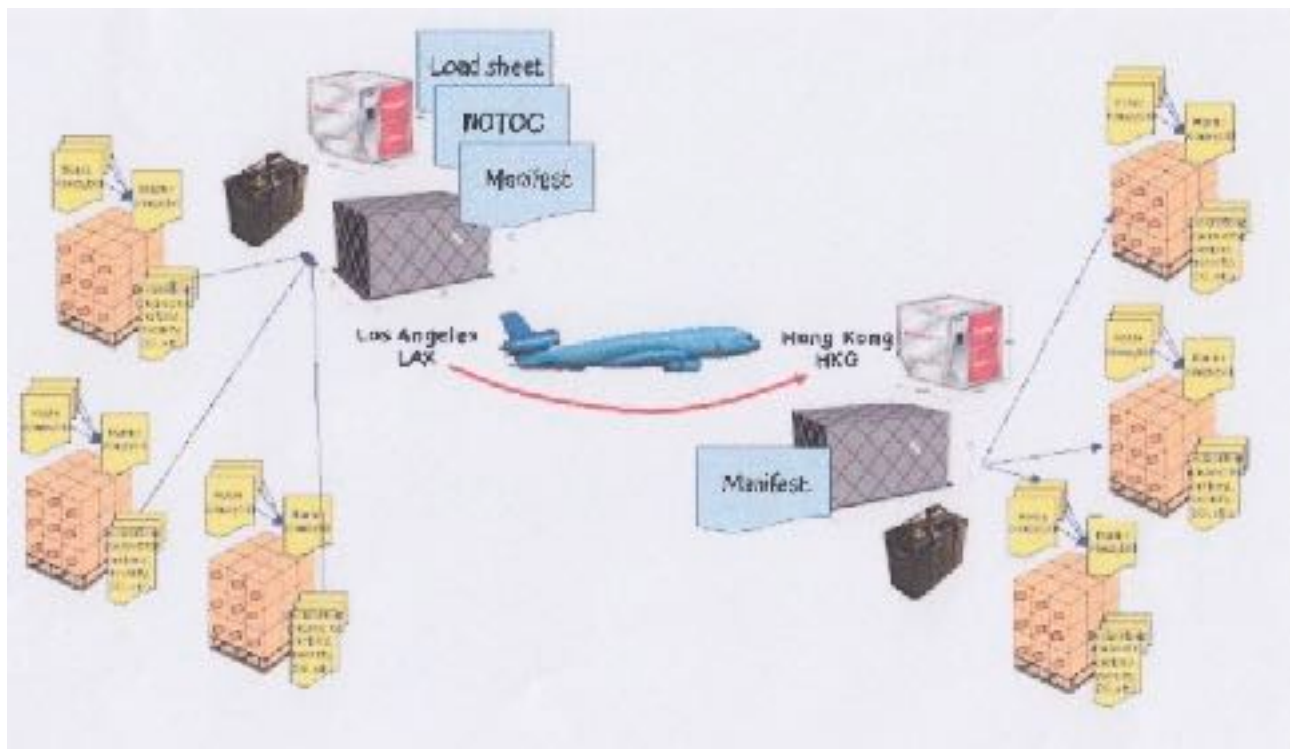
This pre-alert is the freight forwarding message (FFM).

At the airport of destination, the cargo and flight bag will go through the whole process again, but then 'in reversal'.



At receipt of the ULD's and flight bag in the warehouse and office, the handling agent will inform the receiving forwarding agent that the shipment has arrived and the documents can be picked up.

The manifest is cleared for customs when all individual shipments have been cleared and picked-up by the forwarder.



Not all air cargo travels in ULD's ; smaller cargo packages can also be carried as loose cargo in the belly of the aircraft, just like the passenger's luggage. Air mail for example, is often carried in mail-bags as loose cargo in the belly hold. Loading, unloading and handling loose cargo can be much faster than the the ULD process but it is also less efficient, and requires different handling equipment ; therefore loose cargo is often used for the urgent or highest priority cargo products, and in practice only on narrow-body aircraft.

Finally it is the airline's responsibility to handle claims on behalf of the customer (=forwarder) in case goods are damaged or lost in the A2A process.



Source: Air France Cargo

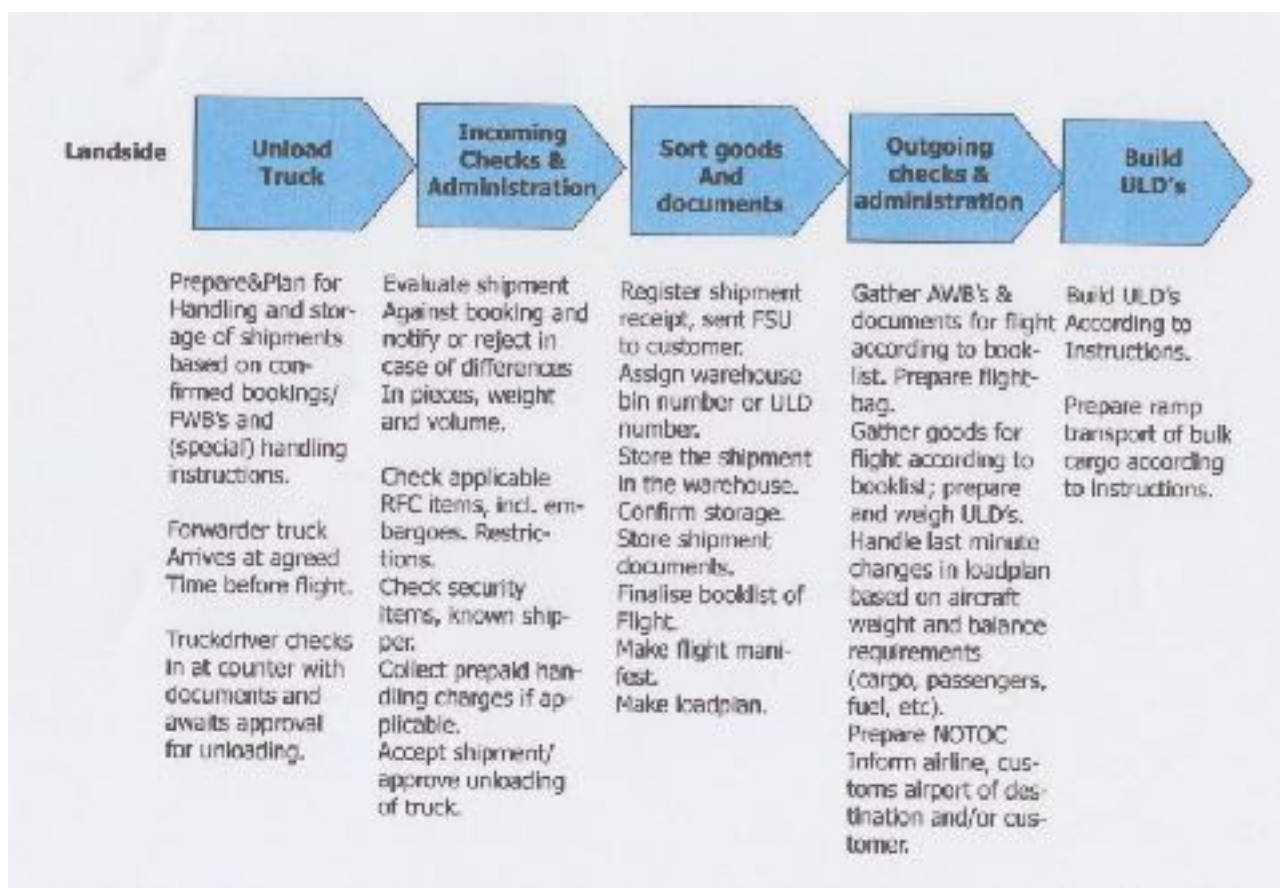


Future Air Cargo for Manston ?

6 A bit more on Air Transport & Consignment :

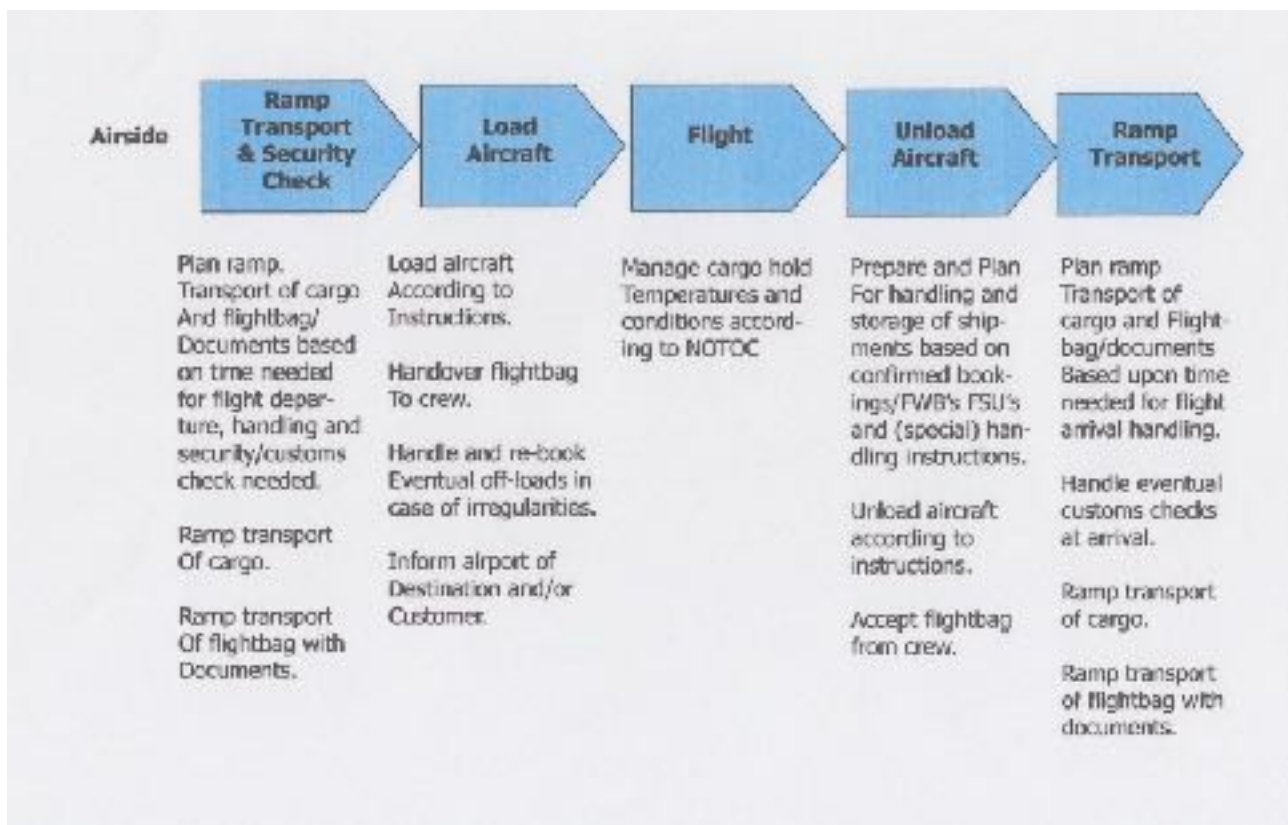
The air transport process further explained - *one step deeper into the process*

The export / outgoing shipments are received from the customer / forwarder at land side and prepared and consolidated for flight:



Menzies cargo handling

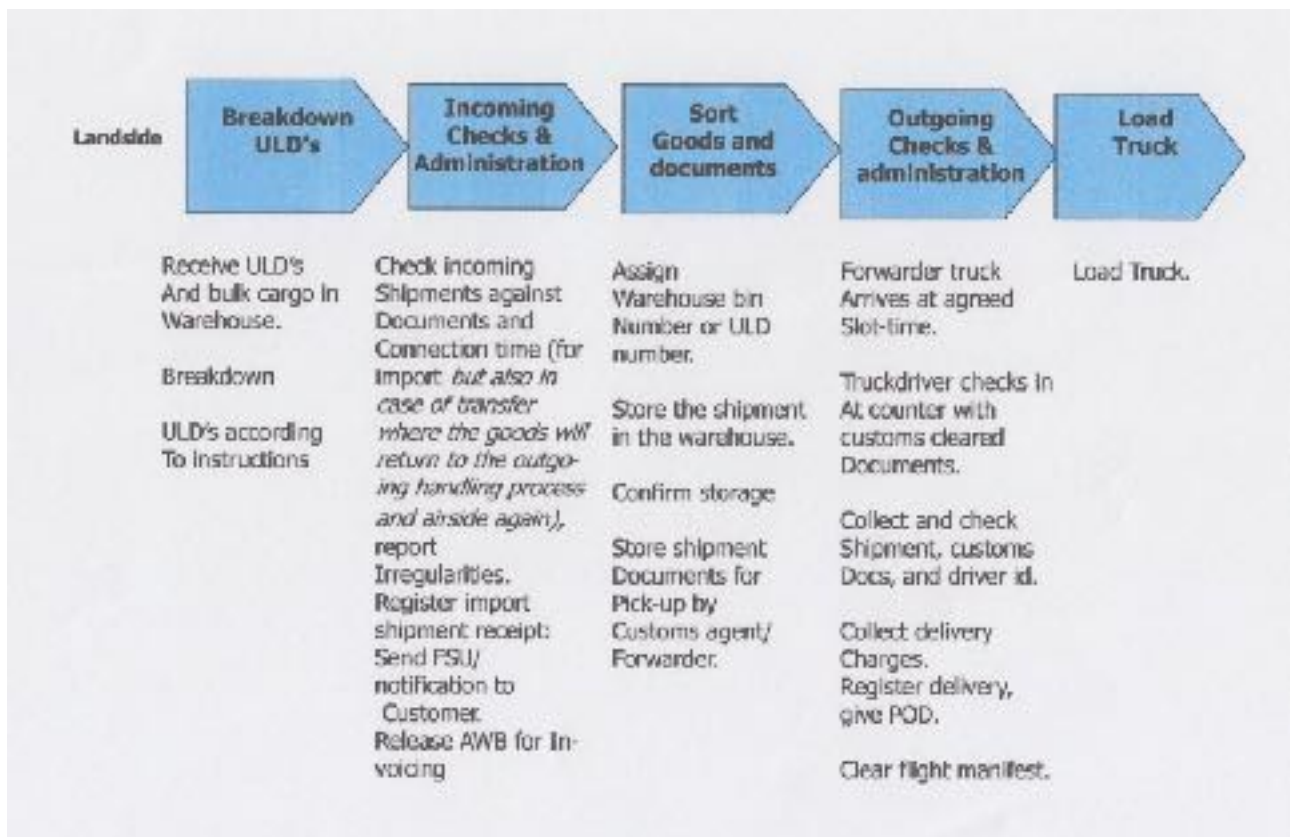
Then the consolidated cargo is moved in ULD's or bulk to airside and loaded in the aircraft for transport to the airport of destination:



Menzies ground handling

The incoming / import cargo is broken down again at land side and first the documents and then the shipments are handed over to the customer / forwarder:

Consignment



The consignment process

The door-to-door air cargo process ends with the consignee.

A consignee is the person or company that is physically and administratively responsible for accepting the goods at final delivery ; nothing more and nothing less.

Although in a lot of cases the consignee is also the customer of the forwarder, just as with the shipper, this is not necessarily so. Also here, the customer can just as well be the shipper, or a third party that has ordered the goods stored at the shipper's location to be shipped from A to B. For this same reason, the consignee also does not need to be the owner of the goods. This all depends on the delivery terms that are agreed between the parties involved, e.g. a buyer, owner of the goods, a seller, a maintenance company, a distributor, a transport company, a forwarder, etc.

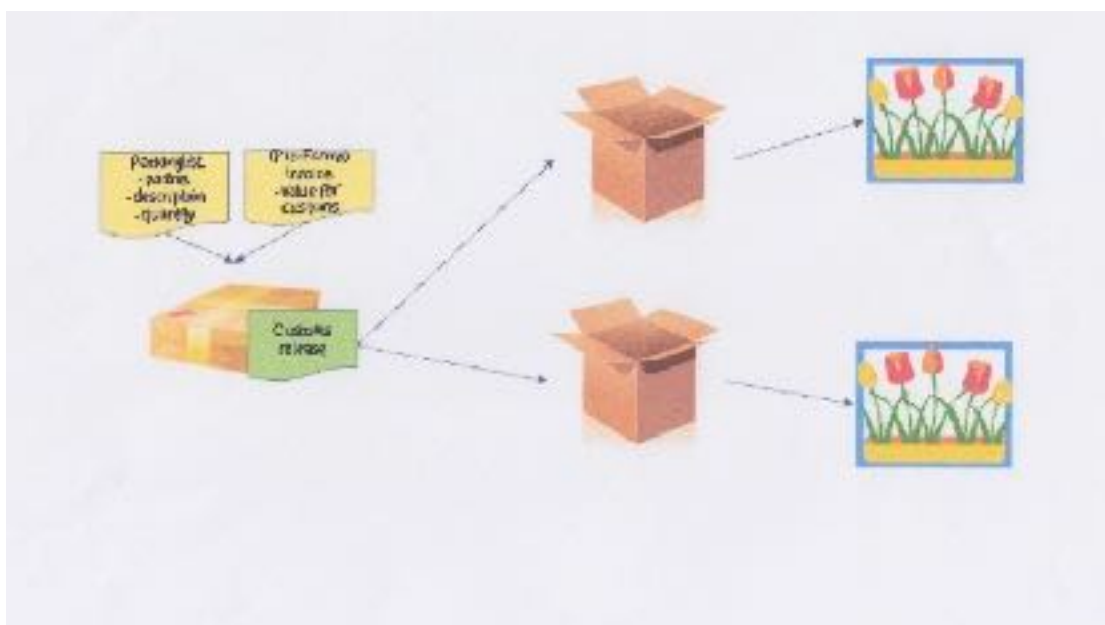


K+N delivery in Hong Kong ; photo source: [Kuehne + Nagel](#)

The consignee will give a proof of delivery (POD) to the forwarder's transporter.

After receipt, the packages are opened and the contents are checked against the packing list and invoice.

In case of payment at receipt, and if the goods are received in good order and the right quantities, the goods will be released for payment by the consignee.



If the quantity received is not correct, the financial as well as the customs administration should be corrected afterward, which is the responsibility of the consignee.

Process overview:

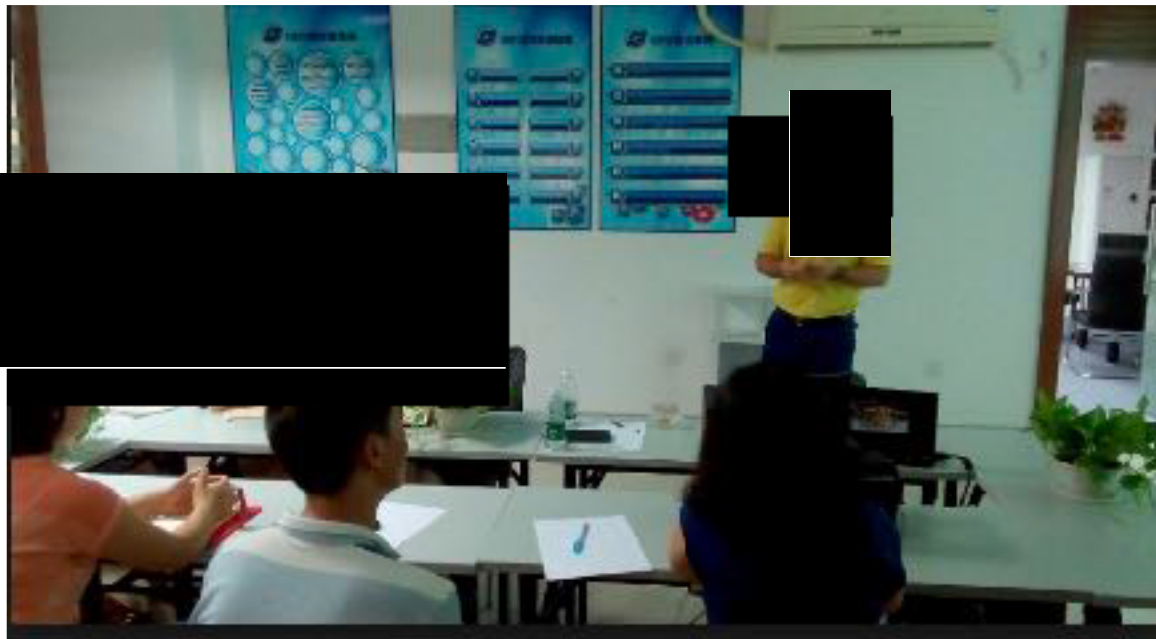
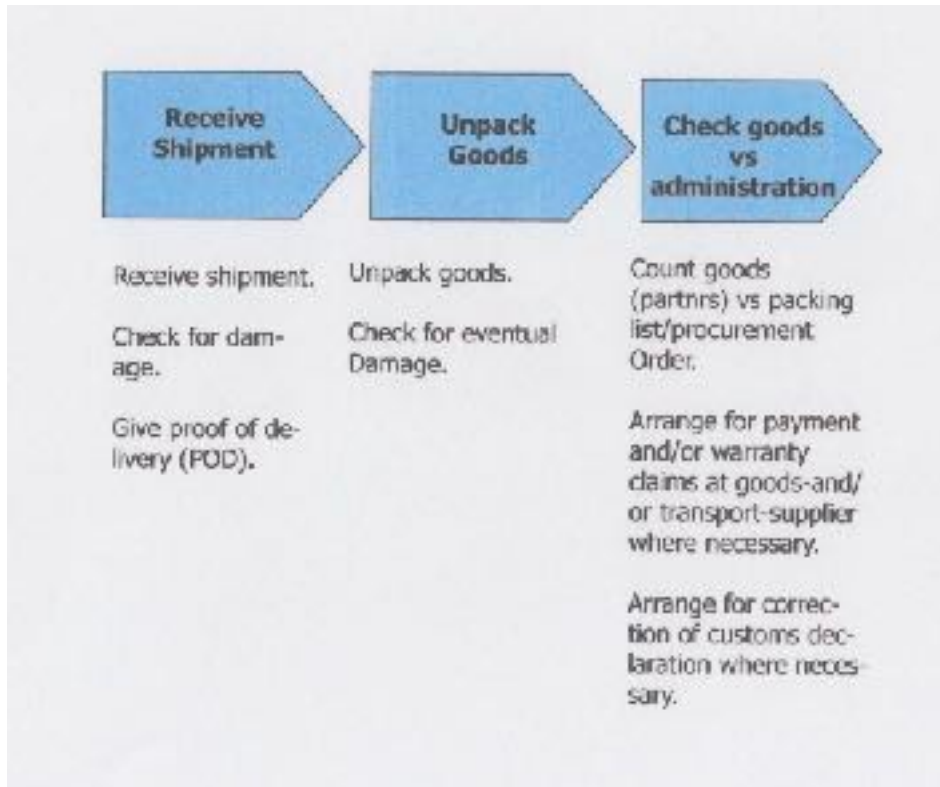


Photo Sunny World Wide Logistics

7 *Ok I've read all of this so far , so what do I need to know and where do I get it from :*



OR

Courses are available from both of these organisations and are available at various locations and some are available on line .

The following are **British International Freight Association Courses** .

FREIGHT FORWARDING PROCEDURES COURSES

Training courses relating to Freight Forwarding Procedures are listed below, for details of the course and upcoming dates and venues simply click the title. If available the next scheduled course is also listed, click it's link for more specific details.

INTRODUCTION TO EXPORT AND IMPORT

BTEC INTERMEDIATE AWARD IN MULTIMODAL INTERNATIONAL FREIGHT PROCEDURES

UNDERSTANDING LETTERS OF CREDIT

CUSTOMS PROCEDURES COURSES

INTRODUCTION TO CUSTOMS FOR EXPORT & IMPORT

BTEC INTERMEDIATE AWARD IN CUSTOMS EXPORT AND IMPORT PROCEDURES

CUSTOMS PROCEDURES FOR EXPORT CARGO

CUSTOMS PROCEDURES FOR IMPORT CARGO

ONLINE AIR CARGO SECURITY & KNOWN CONSIGNOR COURSES

Online AIR CARGO SECURITY (only for levels up to and including Cargo Operative) and KNOWN CONSIGNOR courses are listed below.

CASP - CARGO AVIATION SECURITY PRINCIPLES (REGULATED AGENT)

This course is delivered on line and is always available

REFRESHER CASP - CARGO AVIATION SECURITY PRINCIPLES (REGULATED AGENT)

This course is delivered on line and is always available

CASPD - CARGO AVIATION SECURITY PRINCIPLES - DRIVER (REGULATED AGENT)

This course is delivered on line and is always available

REFRESHER CASPD - CARGO AVIATION SECURITY PRINCIPLES - DRIVER (REGULATED AGENT)

This course is delivered on line and is always available

CO - CARGO OPERATIVE (REGULATED AGENT)

This course is delivered on line and is always available

REFRESHER CO - CARGO OPERATIVE (REGULATED AGENT)

This course is delivered on line and is always available

KCB - KNOWN CONSIGNOR - BASIC

This course is delivered on line and is always available

KCD - KNOWN CONSIGNOR - DRIVER

This course is delivered on line and is always available

KCSD - KNOWN CONSIGNOR - SECURITY DOCUMENTATION

This course is delivered on line and is always available

KCSM - KNOWN CONSIGNOR - SUPERVISOR/MANAGER

This course is delivered on line and is always available

AIR CARGO SECURITY COURSES

Training courses relating to AIR CARGO SECURITY are listed below

<u>OLD COURSE</u>	<u>NEW COURSE</u>
<i>Level A – General Awareness</i>	<i>CASP – Cargo Aviation Security Principles</i>

<i>Level B – Driver</i>	<i>CASPD (Online) or CO – Cargo Operative</i>
<i>Level D – Handling & Preparation of Air Cargo</i>	<i>CO – Cargo Operative</i>
<i>Level E – Screening of Air Cargo</i>	<i>COS – Cargo Operative Screening</i>
<i>Level F – Supervisor</i>	<i>CS – Cargo Supervisor</i>
<i>Level G – Manager</i>	<i>CM – Cargo Manager</i>

CASPD – CARGO AVIATION SECURITY PRINCIPLES - DRIVER (REGULATED AGENT)

REFRESHER CASPD – CARGO AVIATION SECURITY PRINCIPLES - DRIVER (REGULATED AGENT). AVAILABLE ONLINE ONLY.

CO – CARGO OPERATIVE (REGULATED AGENT)

REFRESHER CO – CARGO OPERATIVE (REGULATED AGENT). AVAILABLE ONLINE ONLY.

COS – CARGO OPERATIVE SCREENING (REGULATED AGENT)

REFRESHER COS – CARGO OPERATIVE SCREENING (REGULATED AGENT)
CS – CARGO SUPERVISOR (REGULATED AGENT)

REFRESHER CS – CARGO SUPERVISOR (REGULATED AGENT)

CM – CARGO MANAGER (REGULATED AGENT)

REFRESHER CM – CARGO MANAGER (REGULATED AGENT)

NXCT - NATIONAL X-RAY COMPETENCY TEST

KNOWN CONSIGNOR AVAILABLE ONLINE ONLY.

DANGEROUS GOODS COURSES

Training courses relating to Dangerous Goods are listed below,

DANGEROUS GOODS BY AIR

DANGEROUS GOODS BY AIR - REVALIDATION

RADIOACTIVE MATERIALS BY AIR

RADIOACTIVE MATERIALS BY AIR - REVALIDATION

INFECTIOUS SUBSTANCES BY AIR

DANGEROUS GOODS BY ROAD

DANGEROUS GOODS BY ROAD - REVALIDATION

DANGEROUS GOODS BY SEA

DANGEROUS GOODS SAFETY ADVISOR

CARRIAGE OF LITHIUM BATTERIES BY AIR

CARRIAGE OF LITHIUM BATTERIES BY ROAD

CARRIAGE OF LITHIUM BATTERIES BY SEA

CARRIAGE OF LITHIUM BATTERIES BY ROAD & SEA

CARRIAGE OF LITHIUM BATTERIES - ALL MODES

The following is an IATA Course

Cargo Skills and Procedures (Classroom, 5 days)

About

Do you want to become an air cargo expert and understand the operational framework and processes to ship cargo by air? Air cargo transportation is all about ensuring critical supply chains are not disrupted, meanwhile guaranteeing the transportation is conducted in a safe and profitable way. At the same time the applicable laws and regulations need to be respected. Over five days you will greatly enhance your knowledge on the complex methods and procedures applied in the global air cargo industry. You will acquire solid cargo knowledge, helping you and your company to face the challenges of your highly competitive working environment.

This course is available at IATA Training Centers, Regional Training Partner locations, and on-demand as in-company training.

Course format

This classroom course provides 5 days (40 hours) of instruction delivered by an official IATA Instructor.

Student performance will be based on an examination

Prerequisites

There are no prerequisites for this course

Recommended level is Entry-level and Intermediate

The recommended level of language proficiency is ICAO Operational Level 4 for courses in English or equivalent for other languages.

What you will learn

Upon completion of this course you will be able to:

- Understand the specific air cargo 'language' and terms
- Outline the end-to-end process overview of air cargo transportation from booking up to delivery to the consignee
- Use IATA's The Air Cargo Tariff and Rules (TACT) manuals for specific country and carrier regulations
- Apply the correct cargo acceptance procedures
- Understand the conditions of carriage
- Complete an air waybill, the official contract of carriage
- Calculate air transportation charges
- Provide a basic customer service skills set to participants

Course content

- Overview of air cargo industry regulations
- World geography and calculation of transportation times
- Aircraft structure, layout, limitation, and Unit Load Device (ULD)
- Handling facilities
- Procedures
- Special cargo
- Cargo documentation
- Basic rating
- Carrier's liability and valuation
- Customer service skills

Who should attend

This course is recommended for:

- Cargo operations and ground handling staff
- Station managers
- Shippers, cargo agents, consolidators, freight forwarders and other agencies involved in the transport of cargo
- Cargo instructors and instructional designers responsible for cargo training

Certificate awarded

An IATA Certificate of Completion is awarded to participants obtaining a grade of 70% or higher on all exercises and exams. A special distinction is awarded to participants obtaining a grade of 90% or higher.

This course is a step toward earning an [IATA](#) Diploma in:

- Dangerous Goods Operations Diploma
- Special Cargo Handling Diploma

Additional information

About IATA Classroom Training

We train more than 10,000 aviation professionals annually through our global network of IATA Training Centers, Regional Training Partners, and in private in-



company sessions. Our 200+ classroom courses are developed using IATA's unique industry insight and delivered by IATA Instructors, experts in their fields.

A Happy Team at Manston although this was as the Airport closed! (KLM Fokker)

8 Airside how it works and its employment opportunities **So you would like to join a new “happy” team at a re-opened Manston? ,Ok lets look at whats on offer in the way of jobs ,and you want to work outside?**
How about a “Ramp Agent !”referred to affectionately as “Rampers” and whatever your gender you will be able to do any of the jobs .

Ok so lets get started

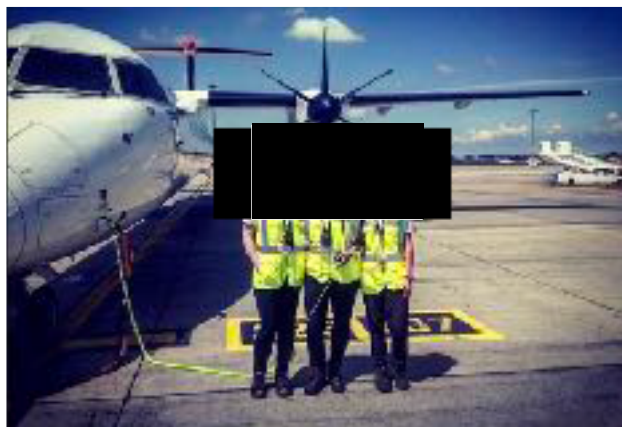
What you will be doing...

Ramp Agents are part of the Ground Operations Team Reporting to Supervisor and Lead Ramp Agent, this role provides essential operational support to aircraft for :

arrivals



turnarounds



and **departures**.



Key responsibilities include -

Supporting the **safe arrival, positioning** and **turnaround** of aircraft

Ensuring all specialist airside vehicles and ground equipment are in the right place at the right time.

Loading of aircraft, adhering to **loading instructions** and **weight** and **balance** parameters.

Working to legal regulations and your company requirements; **operating all equipment** in a safe manner and maintaining a clear and **safe working environment** for you and your colleagues.

Ensuring the delivery of an effective and **friendly service** that meets the needs of **customers**.

Working in **all weather conditions**, this is a varied and **physically demanding** role involving loading **high volumes of items** up to **32kg** in weight into passenger aircraft. The job involves working on a **rostered** shift basis and requires **flexibility** to support operations.

You will need to acquire knowledge of :

pushback,



marshalling



towing of aircraft



and will be **headset** trained.



For all airside roles you must hold a full **UK Driving Licence Operations (load control) agent.**

An aircraft has weight and balance limitations in order to ensure safe operation. There is a limit to how much a loaded aircraft can weigh; in addition, the cargo, passenger and fuel load must be distributed so that the aircraft is "in balance"—in other words, not to nose-heavy or tail-heavy. One of the jobs of the operations agent is to ensure that the aircraft—as finally loaded—is "legal" (within safe limits) before the aircraft departs the gate. Upon satisfaction of this mandated requirement, that data is used to generate information which the [pilot](#) requires in order to ensure the safe operation of the aircraft.
Salary about £20k-£24k per year

Warehouse agent

The air freight warehouse is where inbound and outbound air freight is processed. It is usually located on or adjacent to airport property and is usually separate from the passenger terminal. This is a secure (sterile) area where only authorised persons are allowed access. If inbound international shipments are involved and have not been cleared by customs, those shipments (and the warehouse) may be "in bond", which requires additional security clearance/authorisation of employees.
Salary about £20k-£24k per year.

Crew chief

Responsible for many different job functions; usually a team of "**rampers**" who report directly to him or her. Crew chiefs are responsible for ensuring that an aircraft has been loaded to the specifications of the load agent, and reporting any discrepancies to management. Usually this job has a premium rate of pay for the extra responsibilities.
Salary about £35k-£40k per year.

Ramp agent

The people working on the ramp, typically seen loading bags, are referred to as "ramp agents". Inter alia, they must ensure that arriving aircraft are unloaded promptly. The ramp agents will also load departing aircraft. They must sometimes account for the baggage loaded into each compartment to ensure proper weight and balance, although this job is often the responsibility of flight operations staff.
Salary about £21k-£22k per year.

Transfer agent

This term is loosely used to refer to any agent who operates a vehicle that is used to transfer bags from one aircraft to another or to carry bags from the "bag room" to the correct aircraft. Another common term for this position is "runner". At the airline's hub locations, the agent responsible for meeting aircraft and transferring baggage directly from an inbound aircraft to the correct outbound aircraft is termed a "connections runner", often shortened to "connects" and abbreviated as "conx".
Salary about £20k-£23k per year.

Inbound runner

The agent in charge of delivering bags from an inbound aircraft to the [baggage claim](#) carousel.

Lavatory agent

Of course I knew you would want to see a picture of this job!



The lavatory or "lav" agent is responsible for removing waste matter from the lavatories of incoming aircraft, by flushing the lavatory system. Surprisingly, the lesser physical demands of this position put it in equal or higher demand with other positions. In stations with higher volumes of passenger traffic, lavatory agents will usually use trucks adapted with large tanks on board that do not need to be emptied as often. These are also configured to facilitate access to the waste ports of the aircraft, which can be out of reach by other means. In places where fewer or smaller aircraft are being serviced, a "lav cart" (essentially a small 'lav' trailer pulled behind a tug) is used to service the lavatories.

Salary about £14k-£22k per year.

Mail/freight Agent

As mail and freight arrives at a destination to either terminate at that location or continue on to another destination, certified agents handle and deliver it. They are responsible for scanning each package and delivering it to its proper aircraft.

Salary about £17-£29k per year.

Bag room agent

As baggage is delivered into the bag room via conveyor belt it is the Bag Room agent's job to sort bags into carts according to routing.

Salary about £20k-£21k per year.

Station agent

Station agents are cross-trained to work both as a baggage handler, and also work in positions involving customer service. Typically, station agents are used at smaller airports that do not handle as many flights as major airports. For example, an airline that has a smaller operation at Southend Airport might have its employees check in passengers, then have the same employees load, and push the aircraft.

Salary about £28k-£36k per year.



Airbus A380 at Manston (British Airways)

9 *Airside so here are some more important jobs to be filled at a re-opened Manston*

Ground Support Equipment Technician



HGV/Plant/ Ground Support Equipment Technician

The technicians are required to service and repair equipment such as portable stairs, fuel and food trucks, towing tractors, aircraft tugs, man lifts, APU's and Company vehicles.

Main Purpose of the Job

Undertake repairs and maintenance of vehicles to the required standard. Adhere to corporate Health and Safety guidelines, ISO 9001 framework and guidelines on vehicle maintenance.

Qualifications

Motor Mechanics – LGV (essential)

LGV 2 (desirable)

Forklift (desirable)

The salary for this position is from £28,000 to £32,000 per annum

Airport Firefighter



Fire Section Job Descriptions

Aviation poses unique challenges for firefighters. Aircraft crashes and fire-causing incidents involve hazardous materials, conditions that differ from building fires and hundreds of passengers to evacuate simultaneously. Airport firefighters specialise in equipment and procedures to handle passenger- and cargo-carrying aircraft fires and emergencies.

Core Responsibilities

As an airport firefighter, your core responsibility is responding to aircraft fires, hazardous spills and structural fires on airport property. You and your team members also serve as the airport's emergency medical service first responders. Staying prepared requires regular testing and maintenance of your equipment and firefighting apparatus. Fire prevention tasks you perform include inspecting fuelling vehicles, runways, taxiways and lighting. You also conduct periodic tests of fire

alarms and fire extinguisher inspections located in the terminals and other airport buildings.

Other Roles;

Some airports assign safety training for fuel handlers to their aviation firefighters. Others involve their ARFF (Airfield Rescue Fire Fighting) units with bird and other wildlife hazard management. Snow emergencies may require airport firefighters to assist with snow removal. They must follow proper evidence-handling and preservation procedures when removing victims from the scene and may be asked to assist in debris cleanup. Attending fire prevention activities, record keeping and communication with government agencies round out the functions performed in this position.

Fit-for-Duty Qualifications

Airport authorities require ARFF team candidates to pass a rigorous physical agility test,

Professional Certification, Education and Experience

Candidates should have a,

CAO Annex 14, § 9.2.34 directs that: All rescue and fire fighting personnel shall be properly trained to perform their duties in an efficient manner and shall participate in live fire drills commensurate with the types of aircraft and type of rescue and fire fighting equipment in use at the aerodrome, including pressure-fed fuel fires.

Airport fire fighters specialise in dealing with complex fires and rescues from aircraft. A great deal of their daily routine is spent training and drilling for such eventualities.

Unlike their local authority counterparts Airport Firefighters have to re-qualify every four years to be deemed as competent.

There are a number of reasons for this:

- Airport firefighters, due to the geographical size of the area they cover, do not respond to as many incidents as Local Authority Firefighters.
- The four yearly re-qualification policy acts to ensure continued competency in certain areas of the role in which they perform.
- Conversely Local Authority firefighter can demonstrate continued competency generally by the number of calls they deal with each year.
- Most airport firefighters are also trained Emergency Medical Technicians to render medical care and first aid within the airport.

Salary about £28k per year

Aviation Security Officer

Scope of Job: To carry out the appropriate defined security processes and procedures in accordance with company policies and values.



Aviation Security Services on a shift by shift basis across

- Aviation Security (Passenger Security)
- Corporate Security (Employee and Infrastructure Security including ANSP facilities)
- Third party oversight of Airport stakeholders including airside operators/tenants.
- Oversight of cargo security operations.

Working primarily at the following locations:

- Central Search.
- Airfield and other Airport facilities as required.

Accountabilities / Responsibilities:

Safety.

- To ensure knowledge and understanding of all appropriate safety responsibilities as detailed in the Aerodrome Manual.
- Ensure you operate in a safe environment and demonstrate a clear understanding of the Health and Safety policies and procedures.
- To minimise the incidents and accidents within your area, particularly promoting a safe working environment.

Security.

- To ensure knowledge and understanding of all appropriate security responsibilities as detailed in job description and other relevant policy documents.
- To ensure that standards set at security training courses are adhered to. To ensure a knowledge and understanding of all appropriate security responsibilities as detailed in the Airport/Aerodrome Manual.
- To advise the Security Supervisor of any security occurrence or system failure and to identify and report any situation of potential risk or concern affecting security.
- Perform duties in a manner that supports both the team and individual's performance.
- Carry out appropriate facility inspections in accordance with departmental procedures.
- Carry out patrols and searches in accordance with departmental procedures.
- Maintain, operate and test security equipment in accordance with and at intervals prescribed in relevant departmental instructions and highlight or act upon any equipment failures or performance deterioration in accordance with departmental instructions.

- Provide a high standard of customer service acting in a professional manner at all times, in line with the Customer Service Commitment
 - Monitoring GP A property utilising the GP A security monitoring facilities.
 - Keep appropriate records as required by departmental procedures.
 - To maintain Level 1 Security Compliance.
- Salary about £14k-£16k per year

Aircraft Cleaners



As an Aircraft Cleaner, you will be required to clean the inside of the aircraft within a specific time frame, in order to ensure an efficient turnaround. You must be able to work at a fast pace as well as under pressure.

Salary about £16k-£22k per year.

Airport Custodians / Servicepersons

Airport service people, or airport custodial services attendants, are the maintenance personnel at the airport. They cut grass, water plants, clean windows, maintain lighting, perform janitorial work, and are responsible for the airport's general upkeep and cleanliness.

Airfield Maintenance



Carrying out a full range of operations on the manoeuvring area using mowers .

Other operations include fertilizer/lime application, selective weed control using a boom sprayer, strimming around all manoeuvring areas, obstructions and spraying all cracks and joints for total weed control.Hedge/Ditch cutting.

Airfield reinstatement to CAP 772 standard.

Operators need to be fully conversant with CAA procedures (CAP 772) and hold the relevant licences required along with VHF/UHF.

£20000.00 - £28000.00 per year

Airfield Lighting Engineer



Working on an active airfield you will be required to carry out planned and reactive maintenance tasks and remedial works as required.

You will be electrically qualified (City & Guilds, 17th Edition etc.) and you must have an Airfield Electrical AGL for MOD installations.

£29000.00 - £31000.00 per year.

10 UK Controls & Catering

Border force officer

Border Force officers secure the UK border by carrying out immigration and customs controls for people and goods entering the UK.

You'll need to:



- be a UK national with no restrictions on your stay
- have lived in the UK for the last 5 years
- pass background and security checks
- pass a medical examination
- have a good level of physical fitness

To enter at officer level, you'll also need to have one of the following:

- experience of serving in the army or the police
- 2 A levels at grade E or above

You could also start out as an assistant officer and work your way up. For an assistant officer role you'll usually need 5 GCSEs at grades 9 to 4 (A* to C) or equivalent, including English and maths.

[GOV.UK](https://www.gov.uk) has more information about careers in the civil service and how to apply.

If you're a graduate, you can apply through the [Civil Service Fast Stream](#).

2. Skills required

You'll need:

- excellent spoken and written communication skills
- decision making skills
- the ability to manage challenging situations in a calm and professional manner
- leadership skills
- team working skills

3. What you'll do

You'll protect UK border entry points like ports, airports, postal depots and the rail network.

You'll check passengers for immigration control purposes, and you'll enforce customs regulations by making sure the right tax is paid on goods. You'll also be looking for and removing illegal items like drugs, firearms, and counterfeit goods. Your duties will depend on which part of the country you're based in. Your day-to-day work could include:

- checking travel documents and passports
- questioning passengers about their travel plans, and deciding if they need further questioning
- searching people, luggage and vehicles
- writing case notes
- working with the police on major cases
- attending court as a witness

You might also take part in counter-terrorism activities or prevention of human trafficking.

4. Salary

Starter: £23,000

Experienced: £27,000

Highly Experienced: £31,000

Overtime working may mean you can earn more.

These figures are a guide.

5. Working hours, patterns and environment

You'll usually work 40 hours a week on a shift system, which could include nights, weekends and bank holidays.

You'll mainly work indoors, based at a port or airport, but you'll spend time away when working on investigations or attending court. You'll usually need a full UK driving licence.

The role can be physically demanding.

6. Career path and progression

You'll get continuous training during your first 6 to 12 months. Once you've developed your skills and passed your probationary period, you'll have the full responsibilities of a [Border Force](#) officer.

With experience you could then become a team leader, or move into a management position. You could also use your skills in training and working with new staff.

You may also be able to apply for roles in other departments of the [Home Office](#) or [Civil Service](#).

Customs officer

Customs officers stop banned items coming in or out of the country, and collect taxes and duties.

1. Entry requirements

You'll usually work your way up by starting as:



- an administrative assistant, for which you'll need 2 GCSEs at grades 9 to 4 (A* to C)
- an assistant officer, for which you'll need 5 GCSEs at grades 9 to 4 (A* to C) including English and maths

To start as an officer, you'll usually need:

- 5 GCSEs at grades 9 to 4 (A* to C) including English and maths
- A levels (or equivalent)

If you don't have the qualifications, you may be able to take a test to prove your skills and abilities in areas like teamwork and communication.

You'll also need to meet the Civil Service [nationality requirements](#)

2. Skills required

You'll need:

- sound judgement
- confident decision-making ability
- accuracy and attention to detail
- listening and questioning skills
- a tactful but firm manner

3. What you'll do

You'll work in airports and seaports, collecting customs duties and preventing smuggling and illegal trade.

Your day-to-day duties may include:

- searching luggage, vehicles and travellers
- checking customs documents
- questioning people found with illegal items or goods over the allowance
- arresting and charging people
- preparing reports and witness statements
- taking on specialist roles like dog handling or undercover and surveillance work

You may also need to go to court as a witness, and work closely with other agencies, like the police and the Home Office.

4. Salary

Starter: £16,000 to £21,000 (Assistant officer)

Experienced: £22,000

Highly Experienced: £26,000 or more

You'll get extra allowances for working unsocial hours, like evenings, weekends and public holidays. You'll get a higher rate of pay if you work in London.

These figures are a guide.

5. Working hours, patterns and environment

You'll usually work 36 hours a week over 5 days. If you're in a border protection role you'll work shifts to provide 24/7 cover.

6. Career path and progression

With experience, you could move up within the civil service grade structure, but you may need to relocate to progress to higher grades.

Airport Catering



Most of these jobs would be off site, however where there are passengers services there would be Restaurant chef's, waiters and cleaning staff .

Salaries from about £16k-£30k per year

Ok so the journey ends or is this just the beginning for you ?



Kent Needs Manston (KNMA) ,hopes that this has proved informative to the layperson and of guidance to the future employee within the Air Cargo Industry

This series of articles has only looked at those employed people at a reopened Manston airport , the jobs created for business's outside of the airport are many , but here are a few:

Taxi's

Coach's

Bus's

Drivers Lorry and Van

In a nut shell,Butchers,Baker's and Candle Stick makers an AIRPORT is a City within itself.

We hope you have found this series of articles informative ,and maybe pointed you toward a career at **MANSTON AIRPORT**

air cargo related terms and abbreviations, then take a look at this list:

A2A	Airport-to-airport
A2D	Airport-to-door
ADV	Advise, Advised, Advising
AEA	Association of European Airlines (see the page "Interest Organisations" of this website also)
Airline	Company operating aircraft between steady origin and destination airports
Airmail	Mail travelling by air
Air Operator	Company operating aircraft
Airport-to-airport	Transport from an airport of origin to an airport of destination
Allotment	Assigned volume on board of a flight / day
AOG	Aircraft On Ground ; materials expedited for repair of a grounded aircraft
AP	Airport
ARR	Arrive, Arrived, Arrival Also a C2K milestone: ARR = cargo and documents arrived at airport of destination
ATA	Air Transport Association (see the page "Interest Organisations" of this website also)
ATA	Actual Time of Arrival

ATD	Actual Time of Departure
Authorisation	The commission to a certain person or body to act on behalf of another person or body ; the person or body can be authorised e.g. to issue air waybills or to collect freight
AVI	Live Animal(s)
AWB	Air Waybill
Backlog	Amount of goods still to be delivered or received and for which the planned or agreed date has expired
BAG	Baggage
Belly	Lower-deck cargo hold of an aircraft
BIG	Outsized cargo
Blocked-space agreement	A continuous reservation (allotment) for space at one or more flight / date combinations with an airline
Bonded Goods	Goods on which the customs duty has not yet been paid, and which therefore, are under the control of customs; usually in a Bonded warehouse.
Bonded warehouse	A depository for goods on which the customs duty has not been paid ; the warehouse proprietor must provide a bond (often in the form of a bank warranty or a mortgage) to the customs authorities as a security for any duties which may not be paid by the customer
Booking	Request for reservation of space on a flight/day, (to be) confirmed by the airline
Break Bulk Agent	A forwarder breaking the bulk: taking care of the unpacking and sorting of goods after the flight
Breakdown List	List of shipments carried in one consolidation (see also: Consolidation Manifest)
Broker	Person who acts as an agent or intermediary in negotiating contracts ; sometimes refers to a forwarder role
Bulk Cargo	Loose cargo not loaded on an ULD
C2K	Cargo 2000 (see the “Cargo 2000” page of this website)
Cargo Aircraft	Aircraft built with the purpose of carrying nothing else than cargo
Cargo assembly	The separate reception of parcels or packages and the holding of them for later dispatch as one consignment ; consolidator role

Cargo disassembly	The separation of one or more of the parcels or packages that are part of a consignment for further distribution ; break bulk role
Carriage	Transport ; the process of conveying cargo from one point to another
Carrier	The party responsible for transport of goods from one point to another, this can be for example an airline or a forwarder (as a NVOCC)
CASS	Cargo Accounts Settlement System
CAO	Cargo Aircraft Only
CC	Charges Collect ; pay at moment of collection of the goods
CCS	Cargo Community System ; information system integrating the communication between air cargo parties at an airport
Certificate of Origin	A certificate proving the country of original production of goods ; used for customs declaration purposes
Charges collect	Charges as stated on the air waybill to be collected from the consignee
Charges prepaid	Charges as stated on the air waybill to be collected from the shipper
Claim	A written complaint about the execution of a contract of transportation by a carrier, combined with a demand for financial compensation
Classifying	Assigning the right import classification number to goods as part of the customs declaration process
CLR	Clear
CNEE	Consignee
COLL	Collect, Collected, Collecting
COMAT	Company Material (non revenue cargo)
Combi	Combi Aircraft, combining transport of passengers and cargo on the main-deck
Commodity	Indication of the type of goods ; commodities are coded according to the harmonised system
Commodity code	Code used in the Harmonised System for the classification of goods, which are mostcommonly produced and traded
Complaint	An official statement from a customer to a carrier about his unhappiness with the service or operation of the service provider

Consignee	The person or company that is physically and administratively responsible for accepting the goods at final delivery (see the “Consignment” page of this website also)
Consolidation	A collection of shipments belonging to different shippers travelling to one destination or area to be distributed to several consignees
Consolidation Manifest	List of shipments carried in one consolidation
Consolidation Rates	Rates as given by a consolidator / forwarder
Consolidator	A forwarder consolidating shipments before a flight ; these shipments belonging to different shippers and travelling to one destination or area in order to be distributed to several consignees after the flight
Courier	Company that carries envelopes and parcels up to 75 kg from door to door ; air transport is generally outsourced to airlines
Courier Rates	Rates as given by a courier
CPTY	Capacity
CRN	Customs Release Note
Customs Agent / Broker (Certified)	Party certified to handle the customs clearance on account of importers / exporters
Customs invoice	(Pro forma) Invoice for import declaration (customs and statistics) purposes, stating the commercial price, added with the costs for freight, insurance and packing etc., terms of delivery and payment
Customs value	Value of goods to be imported for import declaration (customs and statistics) purposes
D2A	Door-to-airport
D2D	Door-to-door
Dangerous Goods	Goods that can be hazardous for health, flight-safety or materials
DAP	A C2K key performance indicator: DAP = Delivered As Promised (NFD in full and on time statuses are achieved)
DEP	A C2K milestone: DEP = cargo and documents departed at airport of origin
DEPT	Department
DG	Dangerous Goods

DGR	Dangerous Goods Regulations (IATA)
Dimensional Weight (Conversion)	Concept adopted by the transportation industry worldwide as a uniform means of establishing a minimum charge for the cubic space a package occupies ; the volume is converted into a (higher) weight / price class (See the “Forwarding Out” page of this website also)
DIMS	Dimensions
DIP	Diplomatic mail
DLV	Deliver, Delivered, Delivering Also a C2K milestone: DLV = cargo and documents delivered to customer (forwarder)
DOCS	Document(s), Documentation
Domestic transport	Transport within a country
Door-to-door	Transport from an initial shipper’s house address to a final consignee’s house address
Duty	Tax imposed on goods imported from another country
EDI	Electronic Data Interchange
EDIFACT	Electronic Data Interchange For Administration, Commerce and Transport ; a specific EDI protocol
e-Freight	Electronic freight documents project from IATA ; e-Freight aims to take the paper out of the air cargo supply chain and -processes and replace it with cheaper, more accurate and more reliable electronic messaging ; facilitated by IATA, the project is an industry-wide initiative involving carriers, freight forwarders, ground handlers, shippers and customs authorities (See the “e-Freight” page of this website also)
Electronic Data Interchange	The interchange of electronic data, structured following an agreed protocol, between the automated information system of different parties
Embargo	An embargo on a certain kind of goods means these goods will not be transported by the airline, often for flight-safety reasons
Equipment	Materials needed to handle or transport goods
ESC	European Shippers’ Council (see the page “Interest Organisations” of this website also)
ETA	Estimated Time of Arrival

ETD	Estimated Time of Departure
Expediting	Forwarding goods (in less than the normal lead time)
Expeditor	Forwarder
FAK	Freight All Kinds
FAK-Rates	Rates for Freight All Kinds
FAP	A C2K key performance indicator: FAP = Flown As Planned (the complete shipment has flown at or before the last planned flight with a maximum 12 hour delay)
FCL	Full Container Load
FDCA	Found Cargo
FFM	Freight Forwarding Message (electronic)
FIATA	International Federation of Freight Forwarders Associations (see the page “Interest Organisations” of this website also)
FLT	Flight
Forwarder	Company specialized in providing door-to-airport transport, arranging connecting air transport and/or airport-to-door transport for parcels and consolidations > 75 kg or up to anything that fits in an aircraft ; the air transport is generally outsourced to airlines and sometimes aircraft operators or air charter companies (See the pages “Forwarding In” and “Forwarding Out” of this website also)
Forwarder network	A network existing of different smaller to medium sized forwarding companies all over the world working together
Freighter	Aircraft built with the purpose of carrying nothing else than cargo
FSU	Freight Status Update
Fuel surcharge	Surcharge added to the cargo rate to cover the additional costs of increasing fuel-prices ; these will generally follow a certain index
Full charter	Chartering the full available volume of an aircraft or flight/day
Full Container Load	Container fully loaded, generally with goods belonging to one party
Full freighter	Aircraft built with the purpose of carrying nothing else than cargo

FWB	Electronic air waybill message Also a C2K milestone: FWB = the shipment is booked at the airline, next an electronic air waybill is generated by agent (forwarder) ; this creates the so-called route map in C2K in which all the steps are followed
FYI	For Your Information
General Cargo Rates	Rates for all different kinds of cargo, not falling into a specific handling and/or rate category
GSA	General Sales Agent
GSF	Global Shippers Forum (see the page “Interest Organisations” of this website also)
Handling Agent	Agent handling the ramp and/or warehouse cargo operation for an airline
Harmonised System	A numeric multi purpose system for the classification of goods with its six digits covering about 5000 descriptions of the products or groups of products most commonly produced and traded, designed for customs purposes, but can also be used for statistics, transport purposes, export, import and manufacturing; the international convention on the HS was established under auspices of the World Customs Organisation in 1983
Haulage	Inland transport of cargo
Haulier	Road carrier
HEA	Heavy Cargo
HAWB	House Air Waybill
House Air Waybill	The shipment contract between the end-customer and the forwarder (see the page “Forwarding Out” of this website for further purposes and explanation)
Hub	Central point in a transport system or network
HUM	Human remains
HWB	House Waybill
IATA	International Air Transport Association (see the page “Interest Organisations” of this website also)
IATA-Agent	An IATA certified agent
ICAL	Inbound Cargo Action List

ICAO	International Civil Aviation Organisation (see the page “Interest Organisations” of this website also)
ICE	Dry Ice Shipment
IN	Inches
Inco terms	Internationally agreed set of standard delivery terms
Integrator	Carrier integrating different modes of transport to form a door-to-door transport or supply chain ; this term mostly refers to the large international express companies who’s core business is to carry envelopes and parcels up to 75 kg, often overnight or even same day
Intermodal Transport	The movement of cargo in a supply chain by more than one mode of transport ; for example road/air or sea/air transport
INV	Invoice
ISA	If Space Available
KG	Kilos
L/C	Letter of Credit
LCL	Less than Container Load
Less than Container Load	Container partly filled with goods from one party, or an amount of goods that is not sufficient to fill one container and will therefore likely be consolidated
LHO	Living Human Organs / Blood
License, import / export	Governmental permit to import / export certain goods under certain conditions
Line item	Order line, each line on a packing list or invoice to be declared for customs
Load factor	The extent to which the aircraft (weight-, volume-, ULD-) capacity is efficiently utilized (to generate profit)
LOC	Location
Loose cargo / shipments	Cargo / shipments not loaded on an ULD
Lower deck	The (cargo) deck below the main deck or upper deck of an aircraft
LT	Local Time
Main deck	Upper deck ; the (cargo) deck above the lower deck of an aircraft

Manifest, flight	Document listing the air waybills and a specification of the related goods carried on a flight
Master Air Waybill	The shipment contract between the forwarder and the airline (see the page “Forwarding Out” of this website for further purposes and explanation)
MAWB	Master Air Waybill
MFST	Manifest
Minimum Rate	Rate to cover the basic costs of carrying a shipment
MSG	Message(s)
Network Forwarder	A large forwarding company with worldwide branches
NFD	A C2K milestone: NFD = cargo and documents ready for pick-up at airline (handler), the customer (forwarder) is notified
NND	Notice of Non Delivery
NON-IATA	Airline or agent that is not a member of IATA
Nose loading	Loading cargo through the cargo door in the nose of an aircraft
Notify address	Address of a party other than the consignee to be notified of arrival of the goods
Notify party	Party other than the consignee to be notified of arrival of the goods
NOTOC	Notification To Captain ; list for the captain of the aircraft with goods carried on board
N-Rates	Rates for shipments with weights up to 45 kg
NVOCC	Non Vessel Operating/Owning Cargo Carrier ; in case of Air Cargo a Carrier (e.g. a Forwarder or Consolidator) who issues Air Waybills for the carriage of cargo on aircraft which he does not operate or own
OAG	Official Airlines Guide
OB	On Board
Oversized cargo	Cargo that exceeds the dimensions of an ULD
Package	Packed piece of cargo
Packing list	A list for customs declaration and consignment purposes stating number and kinds of packages being shipped, totals of gross, legal, and net weights of the packages, marks and numbers on the packages, contents and part-/serialnumbers

Pallet	A (standardized) platform on which goods can be stacked for transport or warehouse handling purposes
Pallet, aircraft	A (standardized) platform on which goods can be stacked for air transport purposes
Pallet net	A net used to secure the cargo on the aircraft pallet
Parcel	Package
Part charter	Chartering of a part of the available volume on an aircraft or flight/day
Part shipment	Part of a shipment that travels on a different flight and/or day than the rest of the shipment due to available capacity with the airline
PAX	Passenger(s)
Payload	The (cargo) load that can be carried by an aircraft (to generate revenue)
PC	Piece(s)
PER	Perishable Cargo
PFI	Pro Forma Invoice
POA	Proof Of Acceptance ; legal proof a shipment has been accepted by a party
POD	Proof Of Delivery ; legal proof a shipment has been delivered by a party
POD	Place Of Delivery
PP	Charges Prepaid
PPD	Prepaid
Pre-alert	Message stating the current and or expected status of the goods
Principal	The customer ordering the transport or related services
PSH	Part Shipment
QNTY	Quantity
Q-Rates	Rates with a quantity discount
RCF	A C2K milestone: RCF = cargo has arrived in the cargo bay at final destination ; cargo and airwaybill are administratively received in the system
RCPT	Receipt, Reception
RCS	A C2K milestone: RCS = cargo and documents are received 'Ready For Carriage' and accepted by airline (handler)

Ready For Carriage	(By Air) The goods are correctly packed and labeled, and customs cleared, with the right documents attached
Ready For Transport	(By Road) The goods are correctly packed and labeled, with the right documents attached
RFC	Ready For Carriage
RFT	Ready For Transport
Routing	The path that is (to be) followed by the goods from shipper to consignee
RUSHR	Rush Reply
SASPO	As Soon As Possible
SAWB	Substitute Air Waybill
Security surcharge	Surcharge added to the cargo rate to cover the additional costs of the increasing number of security checks and related administration that are legally required by the authorities
Shipper	The person or company that is physically and administratively responsible for shipping the goods ; for an airline in most cases a forwarder will be the shipper, for a forwarder the shipper is a third party, for example a trading company, a manufacturer, etc. (see the “Shipping” page of this website also)
Shipper’s Letter of Instruction	Document issued by the shipper to instruct and authorize the forwarder to forward and declare goods on his behalf ; contains all shipment details needed to facilitate these services
SHPMNT	Shipment
Side loading	Loading cargo through a cargo door in the side of an aircraft
Skid	Pallet
S/L	Short Loaded
SLI	Shipper’s Letter of Instruction
SSPD	Short Shipped ; stayed behind
TACT	The Air Cargo Tariff ; publication of official airline tariffs
TBA	Time Before Arrival
TBD	Time Before Departure
TEMP	Temperature

TIACA	The International Air Cargo Association (see the page “Interest Organisations” of this website also)
TILNA	Tilting Not Allowed
TILTA	Tilting Allowed
Time Slot	The agreed time to collect or deliver goods
Tonne Kilometer	One tonne (1000 kg or 2204.6 lb) metric flown one kilometer ; productivity indicator
TRA	Transit
Tracing	Retrieving (information on) the status of goods and documents
Tracking	Regular checking on the status of goods and documents
Track & Trace	Automated regular retrieval of (information on) the status of goods and documents and checking these against the agreed norms
Transfer cargo	Transfer of cargo from one flight to another
Transito / Transit cargo	Transfer of cargo from one flight to another
TRM	Transfer Manifest
TTL	Total
ULD	Unit Load Device
ULD, contoured	Unit Load Device shaped to exactly fit in an aircraft
UNACC	Unaccompanied
Unit Load Device	Standardized air cargo loading equipment (pallet, container)
Upper deck	Main deck ; the (cargo) deck above the lower deck of an aircraft
VAL	Valuable cargo
VAT	Value Added Tax
VOL	Volume
Volume charge	Air transport charge based on the volume of goods instead of the actual weight (see “Dimensional Weight” and “Weight charge” also)
VUN	Vulnerable cargo
Weight charge	Air transport charge based on the actual weight of the goods (see “Dimensional Weight” and “Volume charge” also)
Weight & Balance	Management of the weight and allocation of cargo, passengers and fuel for a flight

W/H	Warehouse
XPS	Priority Small Package
XS	In Excess
Yield management	The process of maximizing the contribution (revenue) of the (transport & handling) network, equipment, infrastructure and resources

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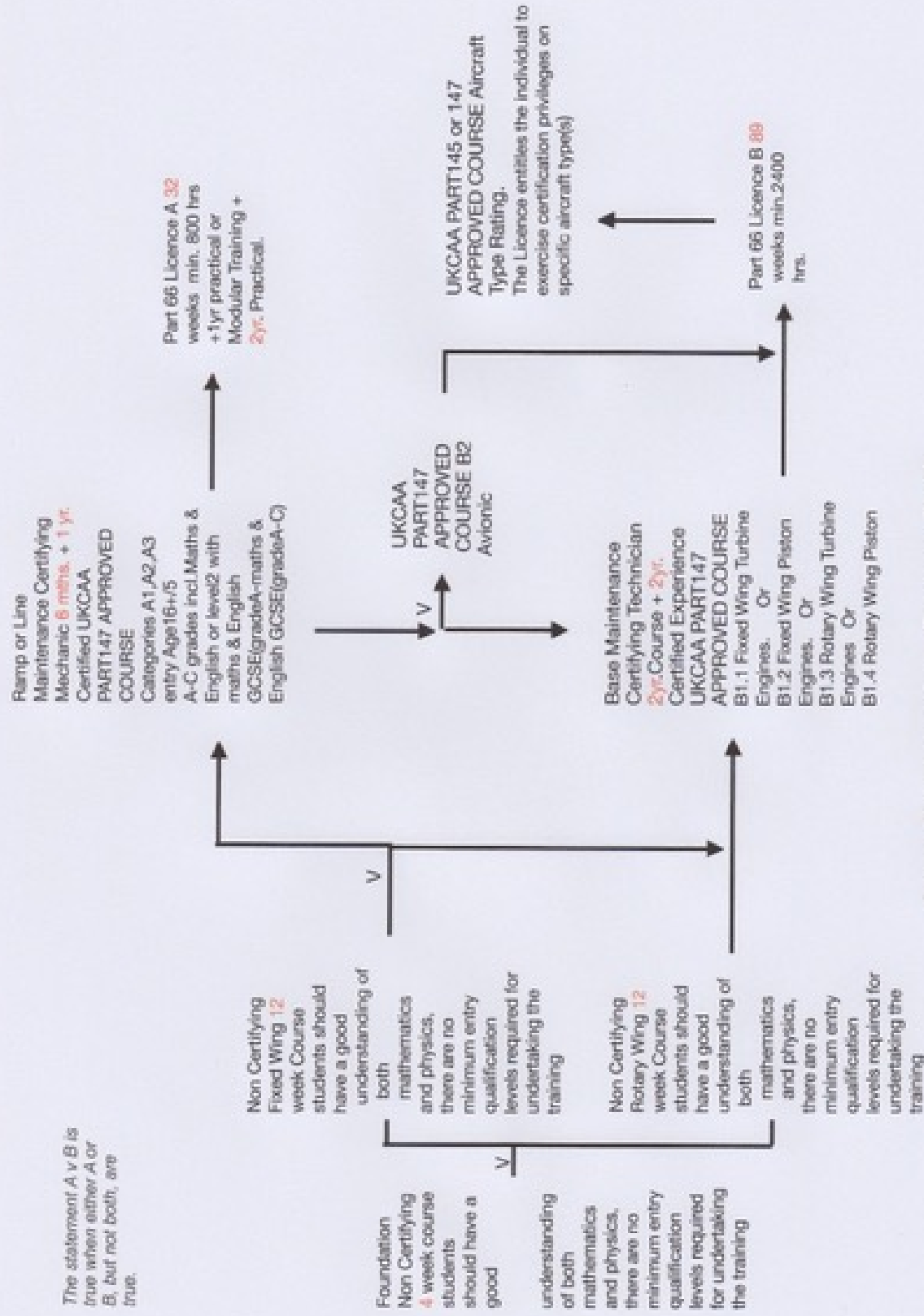
Aeronautical Engineering Training and Career Development
Pathways:

“Going Hither, Thither and Beyond”

Scoping Preliminaries



The statement A v B is true when either A or B, but not both, are true.



Aero Engineering Career Path

This document is intended to identify approved engineering knowledge and skills that the Operators of Manston Airport may require on site to comply with up-to-date statutory regulations. These may be deliverable by a Manston Airport Aviation Academy in-house or through out-sourcing. Non-engineering Aviation training requirements that such an Academy may need are **not** considered in this document but also need to be scoped and provided for well before airport operations commence. Many but not all of these may be undertaken through fully-funded bursaries by full-time trainees or via a mix of 'sandwich courses' and 'apprenticeships'. The quantification of costs, facilities, training materials, plant, room & board, and other resources required lies beyond the scope of this document.

Aircraft Engineering Training Entry Requirements

Potential students should have a good understanding of both Mathematics and Physics.

There are no minimum entry qualification levels required for undertaking the training.

Qualifications for Aircraft Engineering

What type of Engineer do you want to be? What qualification will you require?

To help you make your choice, you will first need to understand something of the process of certification.

The European Aviation Safety Agency (EASA) is the organisation that regulates all aviation activity within Europe and it delegates authority for implementation of its regulations to National Aviation Authorities; in our case the UK Civil Aviation Authority (CAA).

To assure safety within the industry, engineering personnel are licensed in the same way as pilots and air traffic controllers. If suitably licensed an engineer can certify the work that has been carried out on an aircraft and return it to service.

There are a number of categories of licence which cover different levels and skills and, as in other trades and professions, a variety of routes exist to acquire them.

Understanding the type of work and the licences required

A **Ramp** or **Line Maintenance Certifying Mechanic** is an engineer who is qualified to work on operational aircraft performing relatively minor maintenance tasks and part replacements that are required between major service overhauls and on completion to certify these tasks; this work is generally done while the aircraft is in service, during turnarounds or overnight. A Category A Licence is required for this. It is attained after graduation from a 6 month approved course and after 1 year of appropriate certified experience.

A **Base Maintenance Certifying Technician** is a person who is qualified to work on aircraft that require more complex maintenance tasks or have been withdrawn from service for routine periodic servicing or major overhauls and re-fits and who can then subsequently certify their own and other work that has been carried out. A Category B Licence is required for this. It is attained after graduation from a 2 year approved course and after appropriate certified experience. Category B Licences are further divided into specialist skills i.e. mechanical or avionics.

What Subjects do these licences cover?

To be a **Mechanical Engineer** specialising in scheduled maintenance, restoration and re-fit of airframes, power plants, fuel systems and associated pneumatic, hydraulic and air-conditioning systems then you can choose from both *Category A* & *Category B Licence* routes.

The licence issued will identify the category of aircraft to which it applies. That will be one of the following:

B1.1 Fixed Wing: Aeroplanes with Turbine Engines

Turbine Engines: (often referred to as jet engines) and also called combustion turbines, are rotary engines that extract energy from a flow of combustion gas. It has an upstream compressor coupled to a downstream turbine, and a combustion chamber in-between. Turbine aircraft may be propeller or jet driven.

B1.2 Fixed Wing: Aeroplanes with Piston Engines.

Piston Engines: (otherwise known as reciprocating engines) use fundamentally similar technology to those used by cars and motorcycles where pistons in cylinders are used to generate motive force for propulsion by turning pressure into a rotating motion. These engines are always propeller driven.

B1.3 Rotary Wing: Helicopters with Turbine Engines.

B1.4 Rotary Wing: Helicopters with Piston Engines.

To be an *Avionics Engineer* specialising in scheduled maintenance, restoration and modification of communication, navigation, radar equipment; guidance and control systems including auto-pilot/ auto-land and cabin entertainment then this discipline is only licensed at Category B level.

B2 Avionic: Electronic systems fitted to all aircraft.

Those who wish to pursue a career in aviation engineering will need to know about how to obtain the qualification that they will require to achieve to be permitted to do so.

Training to be an engineer

The following is a list of the courses

- Aircraft Mechanics Course
- Aeroplane Fundamentals Course (Fixed Wing)
- Helicopter Fundamentals Course (Rotary Wing)
- Foundation Courses
- Part 66 Aircraft Maintenance Licence Category A, (Aeroplanes, Helicopters, Piston or Turbine)
- Part 66 Aircraft Maintenance Licence Category B, (Aeroplanes, Helicopters, Piston or Turbine; and Avionics)
- National Certificate in Aeronautical Engineering
- Higher National Certificate [HNC] in Aeronautical Engineering
- Higher National Diploma [HND] in Aeronautical Engineering
- B.Eng. (Hons) degree in Aircraft Maintenance

Aircraft Mechanics course.

This course is designed to provide a taster experience of the aviation maintenance environment for anyone with engineering skills developed in a non-aircraft related environment.

It provides an overview of aircraft systems and maintenance processes, and basic hand skills such as metal shaping and forming, wire locking and general aircraft handling to offer a potential employer evidence of understanding of the industry and commitment to employment within it. It is not a qualification. The normal duration of this course is **4 weeks**.

Aeroplane Fundamentals course.

(Fixed Wing)

Designed for those new to the industry, such as graduates from schools, colleges or non-engineering backgrounds, this course uses the same model as the Mechanics course. It provides a taster of the aviation maintenance environment as a bridging course to the full Category A programme.

This course places greater emphasis on the development of basic engineering skills, with approximately 50% of the course being used for practical work. It also includes 3 *modules* from the Category A programme. This course offers a potential employer evidence of understanding of the industry and commitment to employment within it. It is not, however, a qualification. The normal duration is **12 weeks**.

Helicopter Fundamentals course.

(Rotary Wing)

Similar to the ***Aeroplane Fundamentals course***, this is designed for those new to the helicopter industry such as graduates from schools, colleges or non-engineering backgrounds. It provides a taster of the aviation maintenance environment as a bridging course to the full Category A programme.

This course offers theoretical and practical training in all aspects of helicopter engineering with attention to the unique problems encountered by rotorcraft. It places emphasis on the development of basic engineering skills, with approximately 50% of the course being used for practical work. It also includes 3 *modules* from the Category A programme.

This course offers a potential employer evidence of understanding of the industry and commitment to employment within it. It is not, however, a qualification. The normal duration is **12 weeks**.

Part 66 Courses

Part 66 Courses are approved by the UKCAA under Part 147 for training and examination to meet the knowledge requirements of the Part 66, **Aircraft Maintenance Licence (AML)** in Categories A1, A2, A3, B1.1, B1.2, B1.3, & B2.

Part 66 Licensing Routes

To become a **Licensed Aircraft Engineer**, there are two licensing routes that candidates may follow, each of which have both basic knowledge and experience requirements that must be met before the regulating authority will issue a licence.

An “Approved Course”

- Must provide a minimum number of training hours: 800 hours for Category A or 2400 hours for Category B.
- Each Category B course is therefore equivalent to three Category A modules.
- Every course must be taught by a training provider holding Part 147 approval issued by the relevant national aviation authority, in Great Britain the UKCAA.

An Approved Course also must provide the required percentage of training hours for the development of practical skills on representative aircraft and systems.

This includes Aircraft Maintenance Environment Training (AMET), at a Part 145-approved maintenance organisation.

UKCAA approved training providers are also examining authorities, and they examine all Part 66 trainees through formal assessments of practical competence during taught course modules.

On successful completion graduates are issued a Certificate of Recognition of Approved Training.

The Certificate of Recognition certifies that the holder has passed all the requirements of the course including each module examination and has also been assessed practically to be competent and safe when working with aircraft.

The benefit of undertaking an “Approved Course” is that the students on it are given a thorough knowledge of aircraft structures, systems and operating phenomena, and the experience requirement following graduation is reduced. For example the normal minimum experience requirement prior to application for an Part 66 Category B licence is reduced from 5 years to 2 years for graduates an approved course.

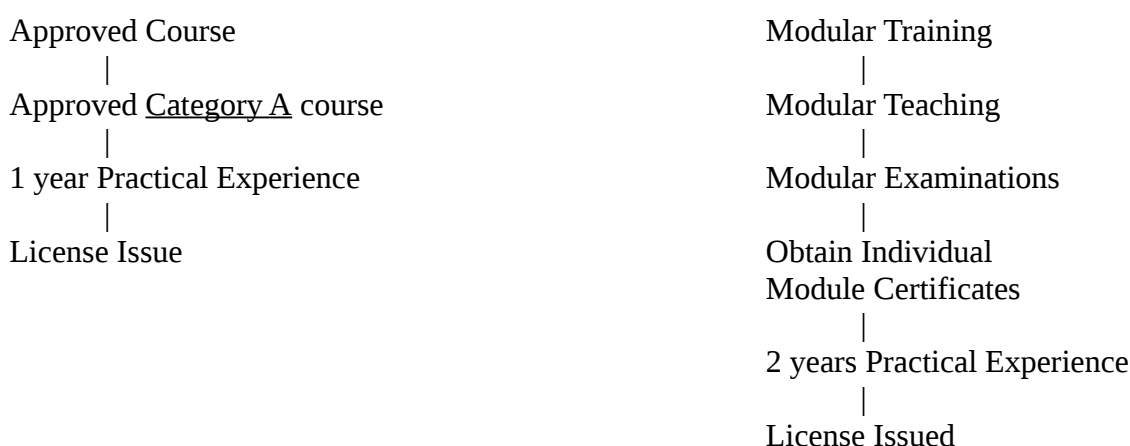
This experience may be gained before, during or after the “Approved Course”. Those entering an approved course after having already gained 2 years’ prior experience must complete some further experience following graduation before applying for licence issue: the actual amount of additional experience required can only be decided by the licensing authority, not the course provider.

Approved Part 66 Category A course.

Category A courses take **30 weeks, of which 25 weeks are spent on theory and practical lessons**, and **5 weeks** on an Aircraft Maintenance Environment Training placement. The **first 19 weeks of the course are common** to both Helicopter and Fixed Wing aircraft, with **the remaining time at the school being used for subjects particular to each specialisation**.

Successful graduates will also be required to provide evidence of a minimum of 1 year appropriate maintenance experience, acceptable to the licensing authority, before application for licence issue can be made.

Category A License Path

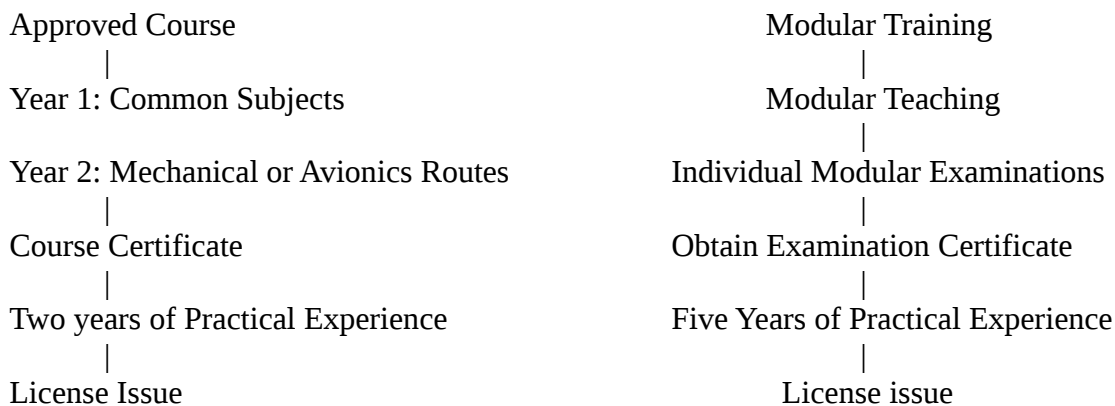


An Approved Part 66 Category B course

Category B courses take **89 weeks plus annual leave of 5 weeks** each year and public holidays. A placement of **8 Weeks** of Aircraft Maintenance Environment Training is included in the **89 week** programme.

The *first 60 weeks of the course are common to all licence types*, therefore sponsors do not need to make a decision regarding whether to follow Mechanical or Avionic licensing until the second year of the course.

Category B License path



Comprehensive List of Category A/B Course Modules

- M1 Maths
- M2 Physics
- M3 Electrical Fundamentals
- M4 Electronic Fundamentals
- M5 Digital Techniques
- M6 Materials & Hardware
- M7 Maintenance Practices
- M8 Aerodynamics
- M9 Human Factors
- M10 Aviation Legislation
- M11 PartA Aeroplane Aerodynamics, Structures & Systems (Jet Engine)
- M11 Part B Aeroplane Aerodynamics, Structures & Systems (Piston Engine)
- M12 Helicopter Aerodynamics, Structures & Systems
- M13 Aeroplanes Aerodynamics, Structures & Systems
- M14 Propulsion
- M15 Gas Turbine Engine
- M16 Piston Engine
- M17 Propeller

Higher Qualifications

The Category C License.

The UKCAA **Category C Licence** permits the release of an aircraft to service in its entirety by a single certificate of release-to-service by one overall signatory, once all base maintenance work and checks have been completed in accordance with Part-145.

The Category C licence certifier will act primarily in a maintenance management role controlling the progress of aircraft maintenance work.

A Category C licence alone does not permit the holder to act as a B1 or B2 certifier.

An applicant for a Category C licence must have completed a prescribed period of aircraft maintenance experience. The Category C licence may be obtained via one of two available routes:

- through experience gained through holding a Category B1 or B2 licence, or
- as a graduate entrant with a degree that is considered to be acceptable to the UKCAA.

Pre-Requisites for holding a Category C License

You must hold a type-rated a valid Part 66 Aircraft Maintenance Licence and have been exercising Category B1/B2 privileges for 3 years or more, namely in relation to B1.1, B1.3 or B2.

Category C requires, with respect to large aircraft:

- 3 years of experience exercising Category B1.1, B1.3 or B2 privileges on large aircraft, or as Part-145 Category B1.1, B1.3 or B2 support staff, or
- 5 years experience of exercising Category B1.2 or B1.4 privileges on large aircraft, or as Part-145 Category B1.2 or B1.4 support staff
- or a combination of both.

For Category C with respect to Non-Large Aircraft:

- 3 years of experience exercising category B1 or B2 privileges on other-than-large aircraft, or
- as Part-145 B1 or B2 support staff, or
- a combination of both.

Graduate Route

To qualify for a Category C License who holds an undergraduate **Degree in Aeronautical Engineering**, or in a similar discipline that is considered by the CAA relevant to aircraft maintenance that has been accepted for this purpose by the CAA, also must have at least 3 years' experience in a civil aircraft maintenance environment including 6 months of observation of base maintenance tasks.

Degree-route graduate engineers seeking employment would be well-advised to confirm that the class of degree they have been awarded meets or exceeds the airport operator's minimum expectations.

There are currently no standard assessment terms for these applications and therefore applicants are advised, before applying for licence issue, to ensure they meet the experience criteria in accordance with Part-66.A.30 and related AMC.

A person qualifying for a Category C Licence via this route will **not** be entitled to a Category B1 or B2 licence unless the requirements for those Categories are **also** met.

Other Considerations

We are fully aware that HNC/HND, and City & Guilds sandwich courses and opportunities for distance learning before entry or as part of continuing education and career development merit full and careful consideration in their own rights in further revisions or in a separate document.

We certainly hope to gather a great deal more information about the strengths, weaknesses, opportunities and threats that relate to each of these pathways, not only in Engineering but in a variety of other fields including hospitality & housekeeping, health & safety, emergency management, travel & tourism, financial management, office skills, computer services and cyber security, the identification and need for foreign language skills to deal with eventualities, medical & nursing cover. The extent of hard work involved in this must not be under-estimated nor the time required to deal with the issues proactively and effectively.

Within the near future, RSP will wish to engage with aviation specialist companies in locally and perhaps further afield regarding training of personnel and consider how working together to achieve accreditation and certification of persons should be dealt with systematically and organically so that it meets all corporate needs and is compliant with national and internationally mandated standards of performance, monitoring and measurement.

KNMA stands ready to do what it can to facilitate or participate in liaison with schools, commercial training establishments, colleges of further education and universities, locally, nationally and internationally, but at all times we fully appreciate that our thoughts and findings must be subject to oversight and decision-making by RSP.

© KNMA, 18 August 2017

Notes:

Dear Sirs, thank-you for giving us the opportunity to let you hear and consider our opinions and thoughts of this project. Being a 20 year old employee of a major airline, as well as a long-term committee member for the association, this project especially, has personal individual significance.

To summarise my statement, the project will provide a **significant positive impact on the local youth population**, including **encouragement to take up flight training and careers in aviation**. It also highlights the importance of **history and remembrance**, as well as provide **apprenticeship, training and educational possibility**.

Individually, Thanet has always suffered from high rates of unemployment and skills shortages. Firstly, Thanet is a deprived area, which means there's limited options for people of all ages hoping to take up careers. As a result, the local region suffers lower than average levels of qualifications -**10% of the working age 16-64 have no qualifications, lower than Kent and the SouthEast as a whole**;

6.1.3 In Thanet, the working age population:

"is less well qualified than across Kent and the South East as a whole. Of its population aged 16-64, 10% have no qualifications, figures, which are lower than Kent and the South East. The proportion of the Thanet working age population holding each respective qualification level is lower than the two other comparator areas. This situation is most acute for the highest qualification level: NVQ4+." (TDC, 2016, p. A-2)

1

- there simply isn't enough local prospect of career development, especially within the STEM subjects such as Engineering and Technology.

Manston Airport has been an airfield for approximately 100 years, serving in both World Wars and the Cold War. There has always been a large emphasis on the crucial role Manston played in WWII, as well as in the Battle Of Britain. This is why it is so vitally important to keep provisions in place for heritage and remembrance, which includes multiple memorial sites and museums around the airport, local area and further afield in the region.

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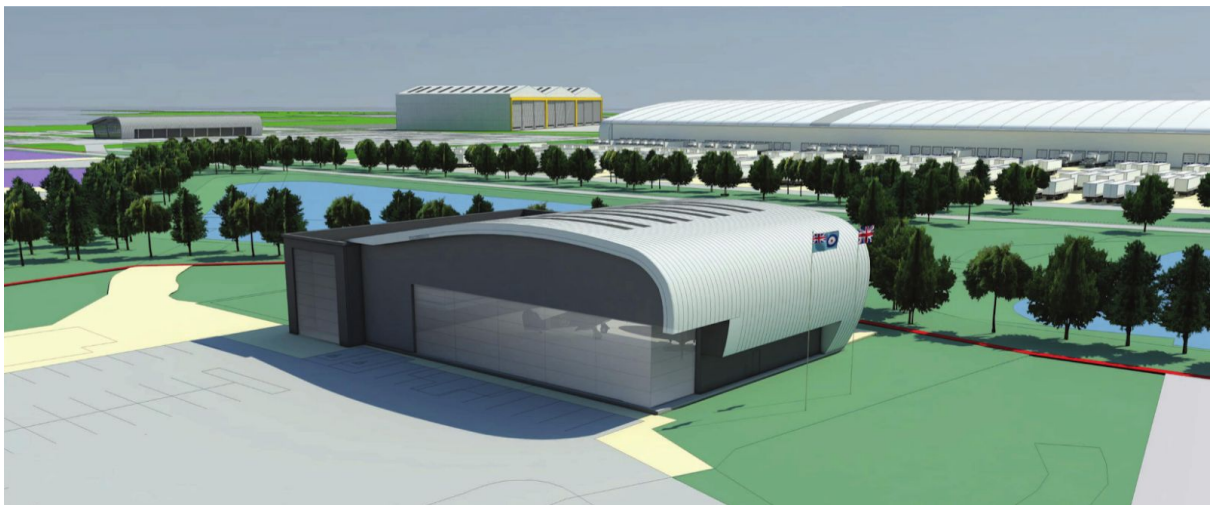
6.5.1 The two museums at Manston Airport, RAF Manston History Museum and the Spitfire & Hurricane Memorial Museum have, *"the task of remembering the past and educating for the future through its presentation of the history of WW11 to its current and future audiences."* (Submission to the statutory consultation on behalf of the RAF Manston Spitfire & Hurricane Memorial Trust)

¹ MANSTON AIRPORT: A NATIONAL AND REGIONAL AVIATION ASSET ; VOLUME IV; The economic and social impacts of airport operations; Section 6: Training and Education'. pg34

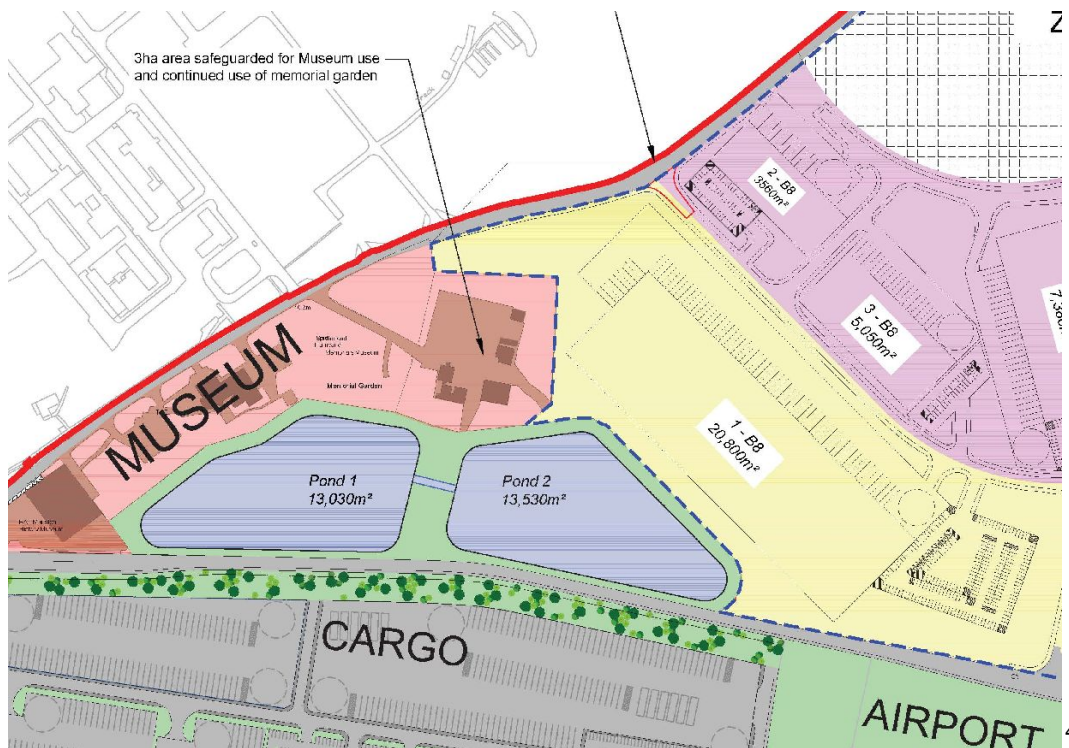
² MANSTON AIRPORT: A NATIONAL AND REGIONAL AVIATION ASSET ; VOLUME IV; The economic and social impacts of airport operations; Section 6: Training and Education'; 6.5.1; pg37

We agree with RSP's application in regards to the museum and heritage planning. We are happy that a location where they stand has been safeguarded, and with speculation of a new building, the museums have expressed great admiration as it will greatly improve the impact these museums have on the local community. There are multiple possibilities when it comes to how the museums can connect with local communities, public services, volunteer organisations and schools, as well as links to the national education and remembrance system.

They can offer educational days and special events where children of all ages can learn about the war, the aircraft, and maybe more technical for older students, regarding the development of aircraft and engineering through the years.



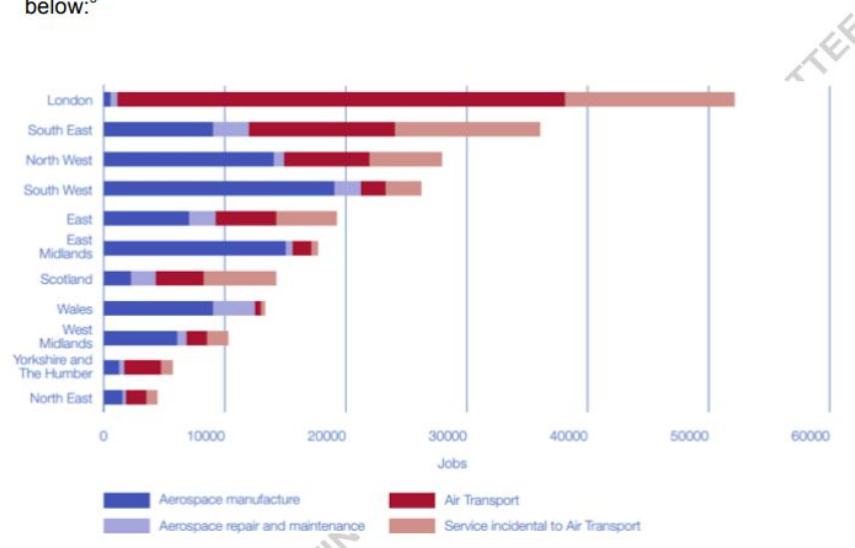
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Onto Flight Training; aviation is a big contributor to the UK economy, directly contributing at least £22 billion, as well as creating over half a million jobs within the aviation and aerospace sectors.

5

6. Taken together, the aviation and aerospace sectors combined provide the UK with over half a million jobs, either directly or indirectly and often in high value roles.⁸ Employment in the aviation sector is spread across all regions of the UK, as shown below.⁹



⁴RSP Masterplan 7.1. pg10

⁵<https://www.parliament.uk/documents/commons-committees/Exiting-the-European-Union/17-19/Sectoral-Analyses/5-Sectoral-Analyses-Aviation-Report.pdf>

There are many jobs available within the aviation industry such as cabin crew, aircraft engineering, turnaround manager, dispatcher Ops, airfield Ops and many more; but the most sought after job is Pilot; whether it be for a large passenger airline flying the Airbus A320 or Boeing 737 aircraft, flying Freight for a cargo airline in the brand new 747-8F Freighter aircraft, or being a flight instructor on the Cessna 172 or Robinson R22 helicopter.

It is a great, rewarding job to have, but it comes after many years of hard work and training. And Manston airport can supply the capacity and services for flight training. RSP's plan for a Manston Airport Training Facility (MATF) are supported by us, the Save Manston Airport association

The General Aviation sector generates £1.4billion for the UK economy, contributing 12,000 jobs, and growing.

A local based Flying School, TG Aviation, were based at the Manston Airport site, and provided flight training services to aspiring pilots. They had a fleet of C152s and PA28 Piper Warriors. This enables you to build hours for a number of licences, including PPL, mLR, CPL, fATPL. Pilot training, to full commercial legality and licence, costs around £100,000; which is an incredible financial investment. Most of the time this includes a large amount of groundschool, lots of theory. It then comprises of around 9 months flying, normally in Spain, USA or New Zealand. In growing popularity, many FTOs (Flight Training Organisations) are encouraging students to take up a university degree alongside their pilot training, a Bsc in Aviation Studies - one of the many opportunities that a re-opened Manston airport and MATF can provide.

6

6.6.3 Previous owners of Manston Airport developed and funded a highly successful BSc Business Studies with Airport Operations degree at the Broadstairs Campus of Canterbury Christ Church University. The success of this degree course lay in the ability of the course to attract local students from first generation university families. These highly motivated students were attracted by the involvement of the airport with their local HE provider. The course acted as a pilot for a dedicated Manston facility, which will help match the need for skills by industry with provision by HE and FE and training institutions in the area. In addition and given the Government's agenda for 14 to 19 year olds, this may also include schools.

⁶ MANSTON AIRPORT: A NATIONAL AND REGIONAL AVIATION ASSET ; VOLUME IV; The economic and social impacts of airport operations; Section 6: Training and Education'; 6.6.3; pg38

To achieve a PPL, it requires a minimum of 45 hours flying and costs approximately £9000 - but in order to encourage people to take up flying, they need to have access to it, so linking apprenticeships - exchanging work for flying, or offering scholarships is a great way of helping and enabling youth to fly. For this you need rooms for study, access to airside in order to go flying as well as hangarage for storage of aircraft.

A state of the art college linked to Manston Airport will have incredible, positive effects on the local youth population in a number of ways. It will give young people a great opportunity to take up study in a sector/subject of which they have high interest in - This will increase enthusiasm to study and will encourage young people to take up further education and higher education, in order to achieve dreams or develop their knowledge in a particular field. It will also help them in securing a long-term high prosperous job within the aviation and STEM community.

The MATF can also provide for local businesses by raising the profile of the local area, attracting investment and creating development opportunity. It will also present the ability to hire apprentices relating to airline/airport management and engineering apprenticeships to name a few.

In summary, this project is crucial to the points raised earlier when it comes to providing a **significant positive impact on the local youth population**, including **encouragement to take up flight training** and **careers in aviation**, as well as provide **apprenticeship, training** and **educational possibility**. - demonstrated by RSP's plan to include a state of the art Training Facility.

It also highlights the importance of **history and remembrance**, as well as provide **apprenticeship, training** and **educational possibility**. We hope to see a re-opened Manston Airport with state-of-the-art facilities to help the youth of the local area enter education that will lead to a long term career, increasing the prosperity of our area and providing the much needed capacity for airports and general aviation airfields in the South East and the UK.

SMAa & KNMA - Training and Apprenticeships

We will make further submissions on Jobs, Training and Apprenticeships throughout the Examination Process, in conjunction with partner organisation Kent Needs Manston Airport (KNMA).



*Employment at a re-opened
Manston Airport*

Taken from a series of weekly articles by Kent Needs
Manston Airport and the employment opportunities at
a reopened airport . **Riveroak Strategic Partners**



are applying to the Secretary of State for a
Development Consent Order (DCO) to re-open Manston Airport
as an Air Cargo Airport , it will also include passenger services ,
Maintenance Repair & Overhaul (MRO) , Aircraft Recycling
facilities ,Fixed Base Operation (FBO) and a Flight Training
School.

- 1: Air cargo and how it works.
 - 2: The Shipper.
 - 3:The Freight forwarder (Export).
 - 4: The Freight forwarder (Import).
 - 5: Cargo Air transport.
 - 6: Cargo Air transport and Consignment.
 - 7: What you need to know and where you get it from.
 - 8: The Ramp Agent.
 - 9: GSE Technician, Firefighter, Security Officer,
Catering,Airfield Maintenance & Lighting.
 - 10:Other airport employers Border Force Officer,Customs
officer.
- Air cargo related terms and abbreviations



Cargolux Boeing 747 Manston

1 This is the first of a series of 10 **Kent Needs Manston Airport** articles on Air Cargo how it works and its employment opportunities . **Riveroak Strategic Partners** are applying to the Secretary of State for a Development Consent Order (DCO) to re-open Manston Airport as an Air Cargo Airport , it will also include passenger services , Maintenance Repair & Overhaul (MRO) , Aircraft Recycling facilities ,Fixed Base Operation (FBO) and a Flight Training School. Welcome to this short introduction to Air Cargo .

The purpose is to provide general information or a framework on the setup of air cargo processes, for people new to the business, of course details of the processes will vary by company, also new methods evolve over time, and documentation can change ,and here in the UK with the advent of “Brexit” this could bring more changes to the documentation, **Riveroak Strategic Partners** tell us they will be using the latest digital and scanning technologies.

In preparing this series of articles acknowledgement is made to Air-Cargo-How-it Works and The British International Freight Association for supplying much of the content.

Ok enough waffle , lets begin:

The Air Cargo process :

- 1 Introduction
- 2 Shipping
- 3 Forwarding out
- 4 Forwarding in
- 5 Air transport
- 6 Air transport and Consignment



So who carry's out this work , who are they ? And there are jobs!

Definitions

Shipping : (Shipper **a person** or company that transports or receives goods by sea, land, or air.

Forward in / out : (a **person** or organisation that dispatches or delivers goods. "a freight forwarder")

Consignment: (a **person** or firm (usually the seller) who delivers a consignment to a carrier for transporting it to a **consignee** (usually the buyer) named in the transportation documents. Ownership (title) of the goods remains with the **consignor** until the **consignee** pays for them in full.

Integrators : **Cargo** transporter who uses its own equipment (aircraft, ships, trucks, etc.) ie DHL and Fedex , instead of the scheduled airlines door-to-door transport .

The Air Transport

For someone who wants to send a shipment door-to-door and over a medium to long distance fast, the air transport mode will best fit this purpose.

With air transport, cargo can be transported in different types of aircraft:

Passenger aircraft :

In the cargo area below the passengers, the so-called "belly" cargo



An example the **Airbus A320** (Lufthansa)



An example **Boeing 737** (Easyjet)



An example **Airbus A380** (British Airways)



An example **Airbus A330** (Virgin)

in the passenger cabin as hand-carry by a so-called "on-board courier" (OBC) flying as a passenger, sometimes also called "hand-carry services" the OBC is mostly an employee working for a forwarder or courier service (see below*) and can also take care of the total door-to-door transport, all eventual customs formalities for export or import, as well as the hand-over at destination this type of service is mainly used for very urgent or valuable documents and small goods ; as with all cargo services, also here the entry requirements and customs regulations of the country of import, as well as the regulations for restricted articles on board of the aircraft must be known and adhered to .

Cargo aircraft, or: Freighters

On the main-deck or in the belly ; by means of nose-loading, where the whole nose is opened, or side loading, through a large cargo door



An example *Boeing 767-300F* (Fed Ex)an integrator company. An example *Boeing 747-400ERF* (Cargolux



An example *Airbus A330-200F* (Airbus)



An example *ATR72* (Fedex)an integrator company

Combi aircraft :

on the main-deck behind the passengers' area with side loading through a large cargo door, and in the belly



An example *Boeing 737-400 Combi* (Alaska Airlines)



An example *Boeing 747-400M Combi*

As you can see in the examples above, the dimensions of the aircraft can vary, which of course also influences the amount of passengers and/or cargo that can be taken. The amount and weight of cargo that can be carried depends on the fuselage dimensions (esp. the diameter) of the aircraft. For the bigger aircraft or airliners a difference is made between narrow body and wide body aircraft.

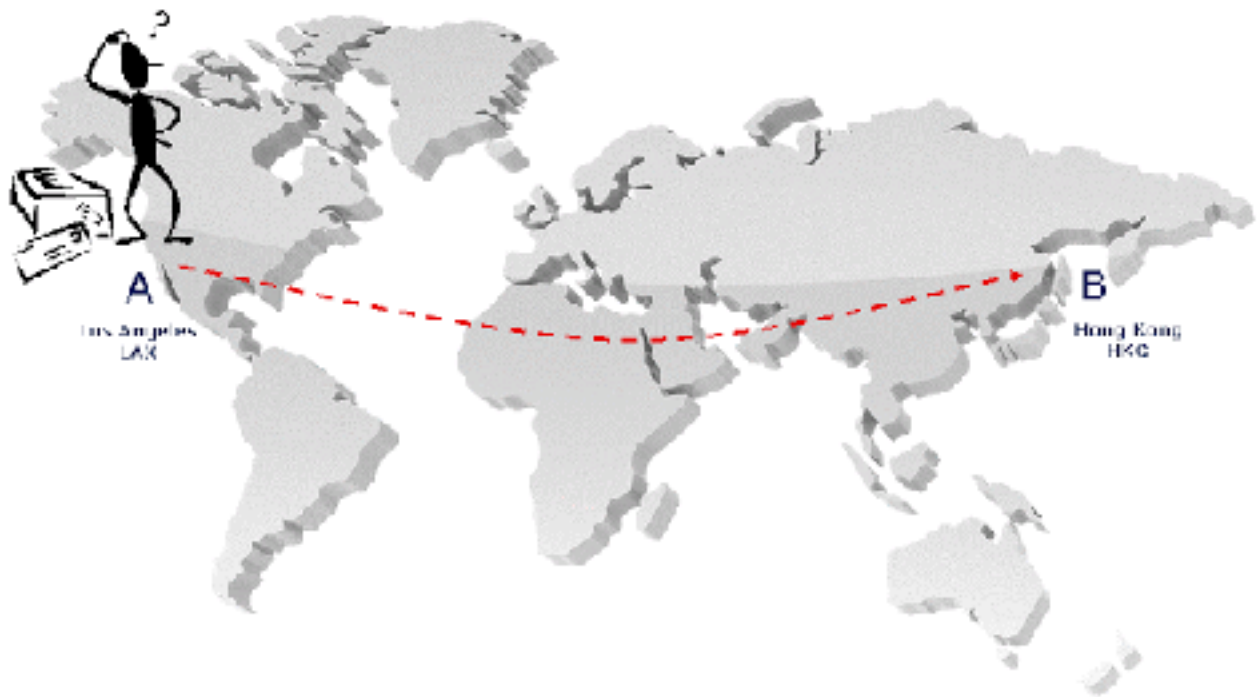
Air Cargo Facts

According to IATA, in 2016, airlines transported 52 million metric tons of goods, representing more than 35% of global trade by value but less than 1% of world trade by volume. That is equivalent to \$6.8 trillion worth of goods annually, or \$18.6 billion worth of goods every day.

According to plane maker Boeing in 2012, cargo-only aircraft or freighters handle about 60 percent of global airfreight shipments, while passenger planes fly the other 40 percent in their bellies.

On average, cargo business generates 9% of airline revenues, representing more than twice the revenues from the airlines' first class passenger segment.

Shipping By Air: Parties In The Market



Someone wants to ship a parcel from Los Angeles (LAX) to Hong Kong (HKG)

From a potential shipper's or customer's viewpoint, the International (door-to-door) air cargo market can be divided in four major supplier categories according to their core business:

- Postal companies using Airmail

 - Envelopes and parcels up to 30 kg

 - Air transport generally outsourced to airlines

 - Examples: EMS Worldwide Express Mail Service, Deutsche Post, La Poste, Singapore Post, TNT Mail, USPS, etc.

- International Courier* companies or: Couriers

 - Envelopes and parcels up to 75 kg

 - Air transport generally outsourced to airlines

 - Examples: City-Link, DPD, DPEX Worldwide, HKDC Royale Asia, Kangaroo Worldwide Express, KDZ Express, OCS -

 - Overseas Courier Services, Quick International Courier, Sky Net

Worldwide Express, Speedlink International, World Courier,
UNEX - Universal Express, etc.

International Express companies or: Integrators

Envelopes and parcels up to 75 kg

Generally operate their own aircraft, some destinations
outsourced to airlines, aircraft operators or air charter
companies

Examples: DHL Express, FedEx, TNT Express, UPS, etc.

(Air Cargo) Forwarders

Parcels and consolidations > 75 kg or up to anything that fits in an
aircraft

Air transport generally outsourced to airlines and sometimes
aircraft operators or air charter companies

Examples: Agility, CEVA Logistics, C.H. Robinson, Damco, DB
Schenker, DHL Global Forwarding, DSV, Expeditors, Geodis,
Hellmann Worldwide Logistics, Kerry Logistics, KWE - Kintetsu
World Express, Kuehne + Nagel, Nippon Express, Panalpina,
Pantos Logistics, Rhenus Logistics, SDV, Sinotrans, UTi
Worldwide, UPS SCS, etc.

The real air transport (or: airport-to-airport) part is actually outsourced by these
companies to an air operator or airline (except in case of the Integrators, that
operate an in-house aircraft fleet for the main part of their air transport needs
and outsource only partially).

The combined airlines have the biggest share of this world wide air transport
market for cargo.

So the above mentioned Postal companies, Couriers, Integrators and Forwarders,
are the cargo customers of the airlines ; and thus the airlines are their suppliers or
partners.

The air cargo forwarders are the 'traditional' and still most important customers for
the airlines. According to FIATA, forwarders contract, book and process over 80 per
cent of international air cargo consignments. They compile the complete and
(where necessary) customised door-to-door (D2D) air cargo supply chains for their
customers, which are often called end-customers by the airlines. The airlines
deliver the airport-to-airport (A2A) transport in this chain.

The Air Cargo Supply Chain

When a demand on one place is supplied from another place with air transport as
the main transport mode, an air cargo supply chain must be compiled.

Air transport is relatively expensive, but often the fastest mode of transport
available to cover medium to long distances.

Therefore **typical air cargo** consists of goods with a high value and/or an operationally or commercially critical delivery time (high financial breakdown risk):

Airmail, diplomatic mail

Live animals, hatching eggs, human organs, human remains, medical supplies

Express parcels

Perishables (food, flowers, dry-ice shipments)

Pharmaceuticals

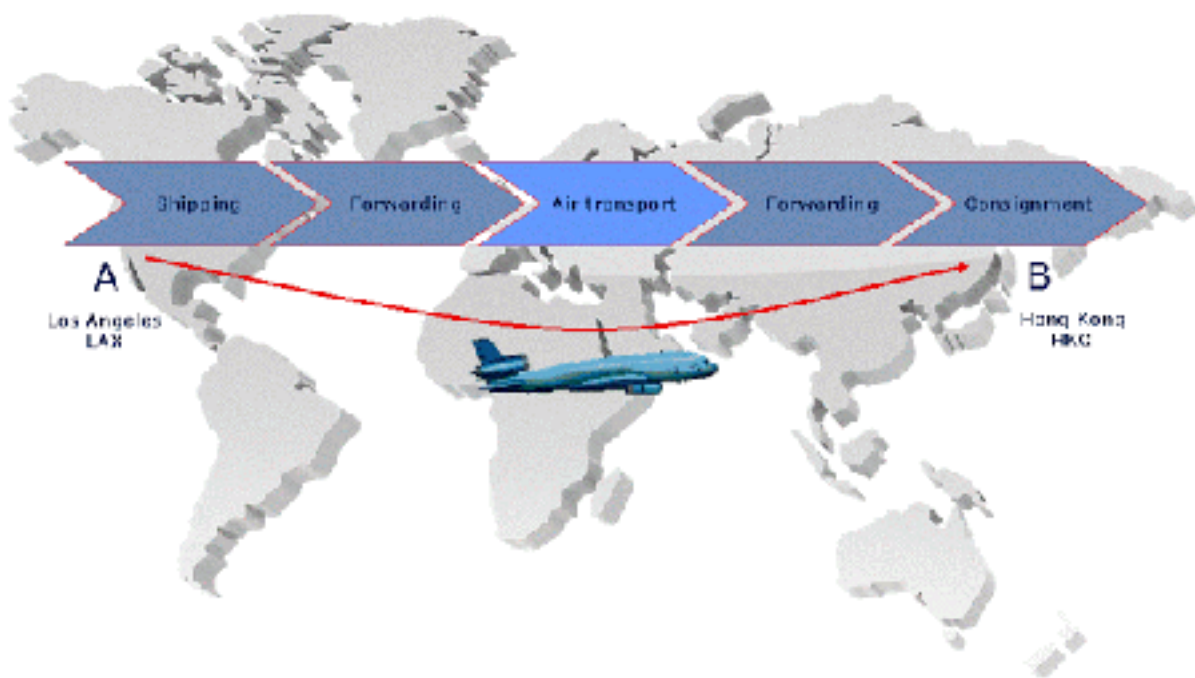
Valuables (money, gold bars, diamonds)

Technical supplies (high tech, oil & gas, aerospace, automotive, ship spares)

Luxury consumer goods (electronics, fashion goods, accessories)

A **typical air cargo supply chain** consists of the following steps:

Shipping
Forwarding out
Air Transport
Forwarding in
Consignment



(yes I know you get to HKG quicker the other way round but this is the only map I've got!)

You are interested ? good, in the next article “jobs in the Air Cargo Supply Chain “



Cargolux Boeing 747-400F takeoff a Manston Regular in 2013

2 You are interested ! , “Good the journey begins” jobs in the Air Cargo Supply Chain

Cargo operations and ground handling staff, Station managers, Shippers, Cargo agents, Consolidators, Freight forwarders and other agencies involved in the transport of cargo.

Ok , sounds good but just what do these jobs do!



Now these guys know their stuff! , so thanks to them this is what they have to say: lets start with a Shipper :

The door-to-door air cargo process starts with the **shipper**.

A **shipper** is the person or company that is physically and administratively responsible for shipping the goods ; nothing more and nothing less.

Although in a lot of cases the shipper is also the customer of the forwarder, this is not necessarily so. The customer can just as well be the consignee, or a third party

that has ordered the goods stored at the shipper's location to be shipped from A to B. For this same reason, the shipper also does not need to be the owner of the goods. This all depends on the delivery terms "Incoterms" (International Commercial Terms) that are agreed between the parties involved, e.g. a buyer, owner of the goods, a seller, a maintenance company, a distributor, a transport company, a forwarder, etc.

For security reasons these days the shipper must be a known shipper for the forwarder and thus also for the next steps in the process.

About air freight costs and quotes

Before taking any further steps, in order to avoid surprises afterward, it is important for the shipper to be aware of the different cost elements of air freight..

Another important consideration for the shipper is whether or not to (let) consolidate goods into one shipment, or to send the goods as individual shipments. In most cases consolidation of goods is cheaper but also slower, especially if the forwarder consolidates goods of several shippers to a certain destination. In case of emergency freight, if speed is required, shipping the goods as individual shipments can be an advantage, because it is more easily traced and expedited during the process ; but it will probably be more expensive as well, because the costs cannot be spread over a bigger volume.

The next step for the shipper / customer will generally be to request a freight quote at one or more forwarders, and then select the forwarder that will become responsible for the shipment(s). Often there is a steady relationship and a financial / credit arrangement between a shipper / customer and one or more forwarders that take care of the worldwide transport of the shipped goods.

Shipping the air freight

The **shipper** is responsible for efficient assembly of the shipment in terms of volume, weight and packaging in order to ...

... get the best price / volume utilisation of the aircraft pallet or container

... avoid damage to goods, people and aircraft.

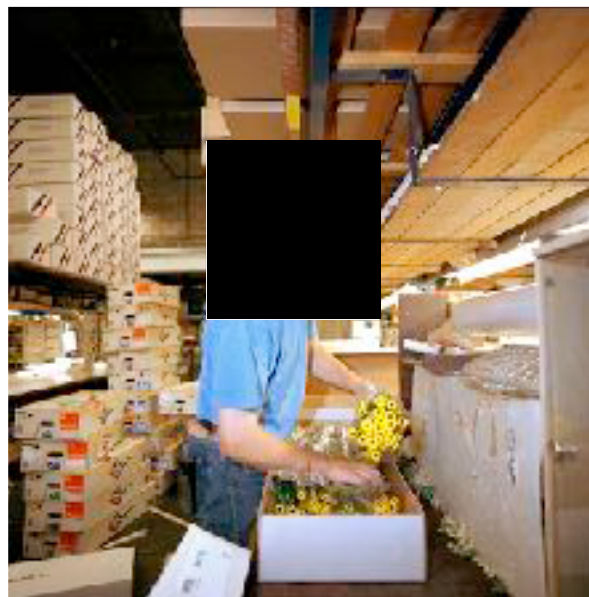
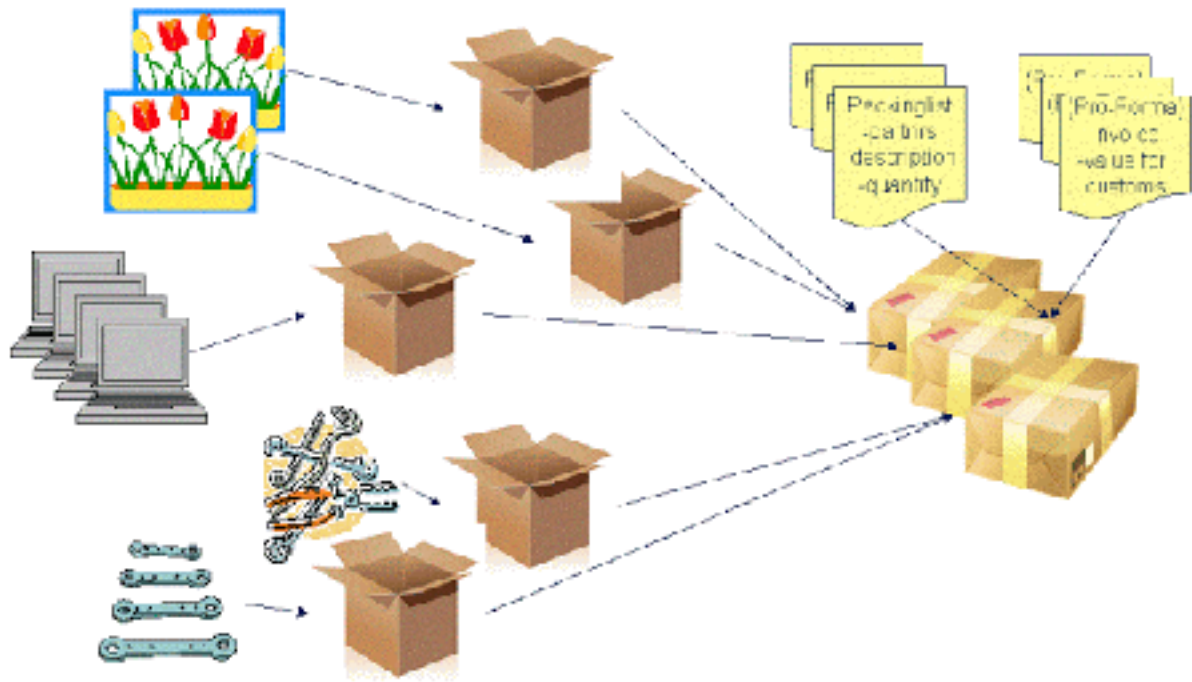


Photo source: Kuehne + Nagel

When the goods are ready for transport (RFT = correctly packed, labelled and with the right documents for forwarding as well as road transport as the next steps), the shipper orders transport of the goods.

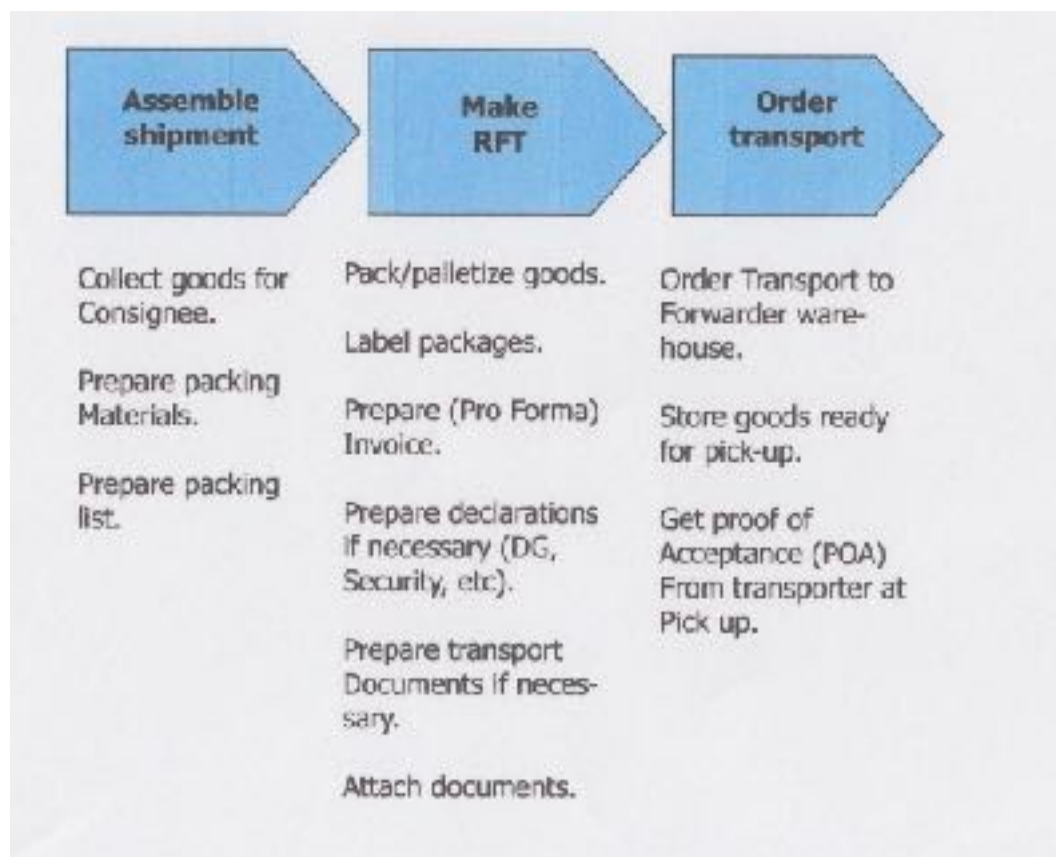
Depending on the transport agreement with the forwarder, this road transport can be organised by either the forwarder or the shipper.

The goods are picked up at the shipper's warehouse for delivery by road transport at the warehouse of the forwarder who organises the further air cargo process.

Depending on the internal organisation of the forwarder's or shipper's processes, the road transport can be executed either with in-house operated trucks, vans or personnel or by a third party-
The transport company (or the forwarder) will give the shipper a proof of acceptance (POA).



Process overview



Other important advice and considerations for the air cargo Shipper:

Your national or international shipping process should be part of your Logistics Plan (checklist). You want to control your logistics flow and

shipping terms (incoterms). Because your shipments will probably be part of your own or your customer's supply chain (being costs or a profit tool), you want to assure timely arrival of the shipment and consider your logistic timeline.

Another important thing is to take care to (let your forwarder) arrange the right customs documentation for clearance ease at destination, and be aware you will probably have to pay duty and VAT at import, unless you have arranged for special licenses or exemptions. The packing list is a good basis for your forwarder to arrange these matters with and for you.

Furthermore you may want to consider an air cargo insurance. Whether importing or exporting, using air freight (or road or ocean freight) for your international shipping, cargo insurance covers loss and/or damage of cargo while it is in transit between the points of origin and final destination. Many try to save a little money up front by not insuring their cargo, but here's just five of the many reasons why that's a bad idea.

So all in all it's important to be knowledgeable regarding your needs and be able to express your logistics requirements before you approach a forwarder or logistic provider, so that you can ask the right questions and the seller can offer you the right services.

Finally, take care to negotiate good (and complete) air freight rates with your forwarder and/or the airline, and check on the applicable surcharges (see the Forwarding Out page on these subjects also). The cost of your transport process, and so your profitability, are directly impacted by the concept of landed cost. In simple terms, landed cost is the cost of your product delivered to or from a foreign country. *There are significant additional costs that can drive up the landed price of your goods overseas.* Knowing these costs is crucial in order for exporters to ensure order profitability.

Once your logistics service provider started delivering services, it's important to regularly measure the agreed logistic performance (KPI's), as well as the customer service performance.



Cargolux Boeing 747 a Manston Regular in 2013

3 We will stick with these guys as they know their stuff! , so thanks to them this is what they have to say about a Freight Forwarder , starting with Forwarding out or export forwarding:



If you're an IT-literate graduate in business, geography or languages, a career in freight forwarding could be right up your street

A freight forwarder is an agent who acts on behalf of importers, exporters or other companies to organise the safe, efficient and cost-effective transportation of goods. You will use computer systems to arrange the best means of transport, taking into account the type of goods and the customers delivery requirements. You'll use the services of shipping lines, airlines and road and rail freight operators. In some cases, the freight forwarding company itself provides the service.

Companies vary in size and type, from those operating on a national and international basis to smaller, more specialised firms, which deal with particular types of goods or operate within particular geographical areas.

Responsibilities

Activities vary depending on the type and size of employer but typically include:

- investigating and planning the most appropriate route for a shipment, taking into account the perishable or hazardous nature of goods, cost, transit time and security;
- arranging appropriate packing, taking into account the climate, terrain, weight, cost and nature of goods and also the delivery and warehousing of goods at their final destination;
- negotiating contracts, transportation and handling costs;
- obtaining, checking and preparing documentation to meet customs and insurance requirements, packing specifications, and compliance with other countries' regulations and fiscal regimes;
- offering consolidation services by air, sea and road, ensuring cost-effective and secure solutions to small shippers who have insufficient cargo to require their own dedicated units;
- arranging insurance and assisting the client in the event of a claim;
- offering tailored IT solutions and electronic data interchange (EDI) connections;
- arranging payment of freight and other charges or collection of payment on behalf of the client;
- utilising e-commerce, internet technology and satellite systems to enable real-time tracking of goods;
- arranging air transport for urgent and high-value freight and managing the risk door-to-door;
- acting as broker in customs negotiations worldwide to guide the freight efficiently through complex procedures;
- dealing with special arrangements for transporting delicate cargoes, such as livestock, food and medical supplies;
- arranging courier and specialist hand-carry services;
- maintaining communication and control through all phases of the journey, including the production of management reports and statistical and unit-cost analysis;
- maintaining current knowledge of relevant legislation, political situations and other factors that could affect the movement of freight.

At more senior levels, the role may also involve managing staff and overseeing activities within a department or specialising in a particular area, such as sea freight or air freight.

Salary

- Starting salaries are in the region of £16,000 to £25,000. With experience this can progress to £28,000 to £30,000.
- At a middle management level, freight forwarders can earn £30,000 to £35,000, with this increasing to £35,000 to £45,000 at senior management level.

Ok so far? Then let's break the job down ,and get to the nitty gritty! :

Forwarding out or export forwarding process

The outgoing or export forwarding process

The goods are delivered at the forwarder's warehouse.

The forwarder, sometimes also called expeditor is the 'architect' of the air cargo supply chain. A forwarder or expeditor can be IATA certified ; in that case he is referred to as agent. An agent is an IATA certified expeditor or forwarder that ...

... has been thoroughly checked for financial status

... has enough air cargo potential

... has the right facilities for handling air cargo

... has trained personnel for handling air cargo and dangerous goods

... receives commission from the IATA associated airlines

... may use the airline's Air Waybills

Depending on the agreement with the forwarder's customer, the forwarder organises:

- Outgoing handling or export handling & customs clearance of the customer's shipment,
- Air transport from a nearby airport to an airport near destination
- (optional) Further incoming handling or import handling & customs clearance near destination
- (optional) Delivery at final destination (consignee)

The forwarder will buy space at the airline's sales or customer service department, or in case of a foreign airline sometimes through the airline's **General Sales Agent, a GSA**. (A short note about the GSA: An airline can decide to appoint a GSA when it proves beneficial to have the lower and more flexible costs of a hired local sales team instead of setting up an own sales-team, which is often more expensive and has fixed costs. Some sources claim the performance of a good airline sales-team will in the end always be better than the performance of a GSA ; I guess this can probably be managed upfront in a good tender, contract and performance review process though. Probably a good tip in selecting a GSA is for the airline to check with their potential local customers, the forwarders, in advance, because they know the market best.)

(Airline) Pricing

Air cargo is generally sold for a fixed price or a fixed rate per kilogram, often with a minimum charge to cover basic expenses of shipment handling. Customers (forwarders) with a continuous demand of space on one or more specific routes, or with a continuous turnover with the airline overall, will negotiate and contract their own space and pricing details with the airline. Sometimes also so-called 'spot rates' can be requested for ad-hoc shipments. And it is also possible the airline offers special rates to assure the aircraft's capacity will be filled. Basic air cargo rules and rates are laid down in IATA's TACT (The Air Cargo Tariff) ; rates are negotiable based on your shipped volumes and on capacity vs demand on the requested routes.

An important factor in air cargo pricing (with the airlines, but also with the large integrators DHL, FedEx, UPS and TNT) is the dimensional weight conversion. As stated: by charging only by weight, lightweight, low density packages become unprofitable for freight carriers due to the amount of space they take up in the (often very expensive) truck/aircraft/ship capacity in proportion to their actual weight. The concept of Dimensional Weight has therefore been adopted by the transportation industry worldwide as a uniform means of establishing a minimum charge for the cubic space a package occupies. Therefore the volume is converted into a (higher) weight / price class.

Another factor in air cargo pricing are the surcharges that can be added by the airline (and therefore also the forwarder). A fuel surcharge can be added to cover the additional costs of increasing fuel-prices ; these will generally follow a certain index. A security surcharge can be added to cover the additional costs of the increasing number of security checks and related administration that are legally required by the authorities.

There is a lot of discussion these days whether or not these costs should actually be a part of the overall air cargo rate, as these surcharges tend to be even higher than the actual air cargo rate sometimes.

Of course the airline will try to optimise their expensive cargo capacity on board of the aircraft, and try to sell this capacity at the highest revenues. This is called airline cargo revenue management.

Booking

First step after the pricing is obtained, is to make an airline booking for the shipment and get the airline's confirmation in order to assure space on board of an aircraft:

- Airline (Master) Air Waybill number assigned
- Origin and (final) destination
- Type of goods / commodity (especially important for dangerous goods, perishables and valuables)
- Flight date
- Flight number
- Weight, volume and dimensions of shipment

Number of Items
Issuing agent / contact details
Eventual assignment to customer (agent's) allotment

The reservation will be validated against the airline's capacity, commodity and revenue management criteria, and will be officially confirmed as soon as the booking is accepted. Now the booking process is complete.

In case of a so-called blocked-space agreement in which the forwarding agent has a continuous reservation (allotment) for space at one or more flight / date combinations with an airline the booking process may sometimes go slightly different, but the basics are the same.

There are a few recommendations in order to assure a smooth process for the airline and the customer:

Make the booking at the earliest possible stage, and ask for (and meet) the latest possible delivery time of your goods (esp. in case of dangerous goods, live animals, perishables, valuables, etc.) at the airline's handling agent
Check for specific commodity restrictions with the airline or the country of destination.

Do not make bookings for the same shipment at several agents or airlines ; if you have to cancel do this timely, also in case you are not going to use (part of) your allocation. Aircraft space is very expensive!

Do not exceed allotments and/or shipment weights without consulting the airline first. If noticed your shipment will certainly be stopped, and if unexpectedly unnoticed this is a potential air safety threat!

Make sure the information on your shipment documents are exactly in line with the actual shipment details, dimensions and weight.

Make sure you have made all the necessary security arrangements. Cargo from 'unknown shippers' or with otherwise suspicious characteristics will certainly be stopped.

Preparing the shipment

In order to keep track of the different customer's shipments from one exact address to another, the forwarder makes a House Air Waybill (HWB) for each such shipment. The House Airway bill is the shipment contract between the end-customer and the forwarder, so basically the forwarder acts as a carrier towards the shipper. *(This is also called a Non-Vessel Operating Common Carrier or NVOCC, which is a shipment consolidator or freight forwarder who does not own any vessel, but functions as a carrier by issuing its own bills of lading or air waybills and assuming responsibility for the shipments.)*

Next step is to make the goods ready for carriage (RFC)

Correctly packed, labelled and

Customs cleared for Export (if applicable), and

With the right documents and security checks for air transport as the next step, as well as for incoming or import handling and clearance (if applicable) at destination. Often the forwarder combines shipments of different shippers travelling the same airport-to-airport stretch into a consolidation, because ...

... consolidations are easier and faster to handle for the forwarders as well as the airline

... bigger volumes get better airline pricing (and also give more commercial freedom for the forwarder to play with cost- and selling prices)

... continuous bigger volumes facilitate blocked space agreements between the airlines and the forwarders to create guaranteed capacity and thus better reliability for the end-customer / shipper.

The AirWaybill

Consolidations or individual shipments get a Master Air Waybill (MAWB) for the airline. To start with, t

he Master Air Waybill is the shipment contract between the forwarder and the airline (which also means that towards the forwarder the airline is the carrier, and the airline considers the forwarder to be the shipper now...). Other functions of the MAWB are:

Communication of the applicable contract terms, conditions and liability to all parties involved (general on the back, or specific)

Proof of delivery (POD) of the goods to the carrier

Act as key for other related documents as required for customs or other authorities

Provide handling instructions to all parties involved

Provide a basis for invoicing for the airline and/or the forwarder

Act as an insurance certificate (if applicable and indicated on the AirWaybill)

The main contractual obligations of the carrier are to deliver a shipment:

In the same state in which they were accepted, undamaged

Complete: in number of colli, and in contents (contents only as far as checked and agreed)

On time

The Airway bills contains a.o. the following information :

The exact shipper's and consignee's address

The forwarder taking care of (c/o) the shipment at destination

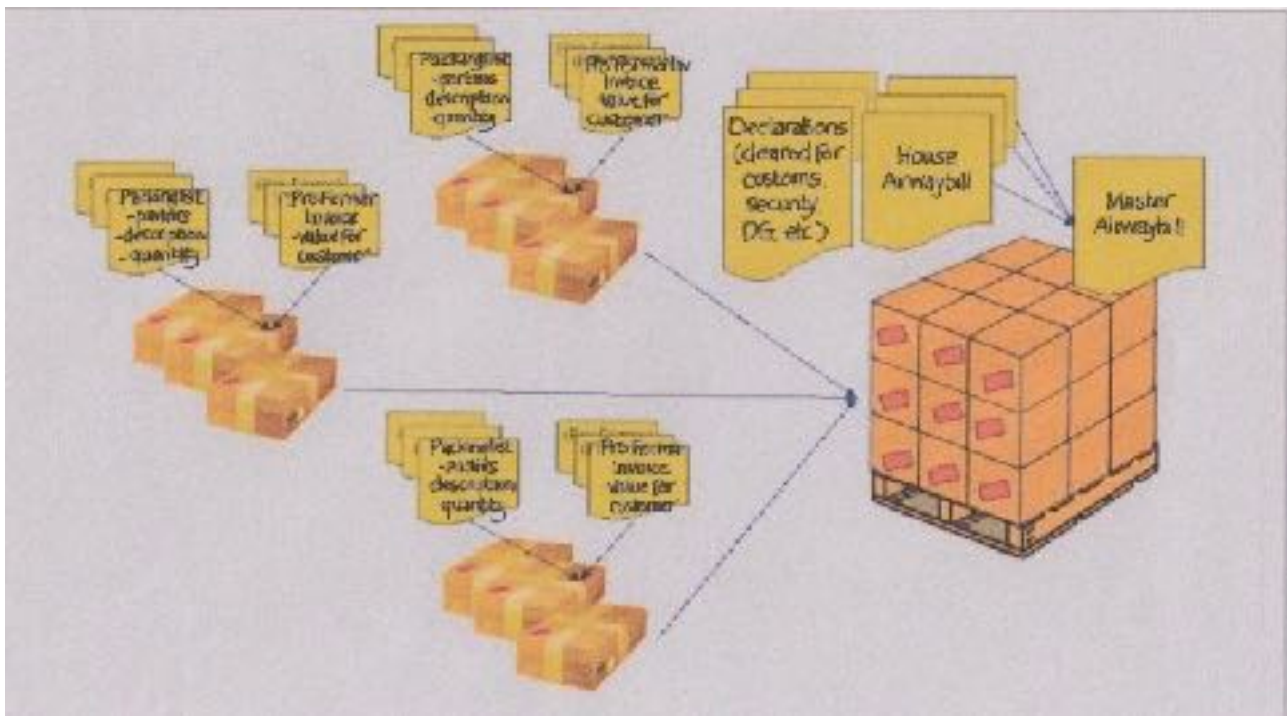
Carrier / agent

Airports of departure and destination

Flight date and -number

Signature (to validate contract)

The airline's Air Waybill or MAWB is a so-called non-negotiable transport document, so it is not a proof of ownership of (or document of title to) the goods ; the document + goods cannot be traded.



When the goods are ready for carriage, the forwarder orders transport of the goods. If needed the goods will be temporarily stored at the forwarder's warehouse.



K+N warehouse ; photos source: [Kuehne + Nagel](#)

In case of large volumes and blocked space agreements with the airline, the forwarder may already prepare ready for carriage aircraft pallets. This minimises the handling time for the airline, and so the overall throughput time of the shipments.



[Kerry Logistics](#) aircraft pallet station

The goods are picked up by road transport for delivery at the warehouse of the airline's handling agent who takes care of further cargo handling for the airline.

Again, depending on the internal organisation of the forwarder's processes, this road transport can be executed either with in-house operated trucks, vans or personnel or by a third party



K+N road transport ; photo source: [Kuehne + Nagel](#)

Normally the shipping forwarder will now inform or pre-alert the receiving forwarder about the shipment and flight details. This enables the receiving forwarder to prepare receipt of the shipment, e.g. by making connecting road-transport arrangements and/or perform pre-clearance of the shipment to ensure a smooth and fast flow of the goods through all the next steps.

The receiving forwarder will often be a branch of the same forwarding company, but it can just as well be a partner forwarder from another company, in which case an ad-hoc or longer term commercial agreement will be made

A network forwarder is a large company with worldwide branches

A forwarder network though is a network existing of different smaller to medium sized companies all over the world working together

Process overview:

Besides this basic process, other important functions or side-processes of the forwarder are:

To plan & control transport orders, airline slot-times, and the flows of goods, documents as well as information in all steps of the created supply chain in order to assure a smooth process and service as agreed with the end-customer

To repair or improvise immediately when something might go wrong in the often complex chain executed by many different parties, or in case of a sudden urgent or non-routine shipment

Change transport or airline bookings

*(Part) charters of trucks or aircraft
On-board couriers*

To continuously maintain a structured and standardised network of commercial and operational agreements where possible, in order to rely on these agreements and an operational routine for all parties involved
To handle claims on behalf of the (end-)customer in case goods are damaged or lost in the D2D or A2A process



"An oldie" Invicta Air Cargo DC4 based at Manston

4 Continuing with these guys as they know their stuff! , so thanks to them this is what they have to say about a Freight Forwarder , continuing with Forwarding in or import forwarding :



Forwarding in

The incoming or import forwarding process

The receiving forwarder picks up the shipment documents at the handling agent.

This pick-up can be done by the forwarder himself, or can be outsourced to a local courier.

The forwarder prepares import documents (if necessary), performs customs clearance for import (electronically or manually) and awaits approval from customs.

If the forwarder is also a certified customs agent, he will perform the clearance himself (forwarding agent) ; if not he can outsource these activities to a certified customs agent.

A certified customs agent will always have a financial / credit arrangement with customs to cover eventual import duties and/or VAT due, often by means of a deposit at customs.

A customs agent knows how to exactly classify the goods for import according to regulations ; this is done based on the packing list and (pro-forma) invoice, so the packages remain unopened.

Also a customs agent is trained and experienced in acquiring and applying special customs arrangements, licences and exemptions in order to lower or avoid import duties or to speed up the customs process where possible.

Customs clearance is never the end-responsibility of the customs agent though, this responsibility remains at the principal and depends on the agreed delivery terms.



K+N office ; photo source: [Kuehne + Nagel](#)

At this stage customs can decide to release or hold the shipment for inspection, whereby the packages are opened, and can demand payment of import duties or

even fines depending on the customs regulations and judging the type of information given by the customs agent against these regulations and the actual commodity of the goods to be imported



Drug detector dog ; photo source [New Zealand Customs](#)

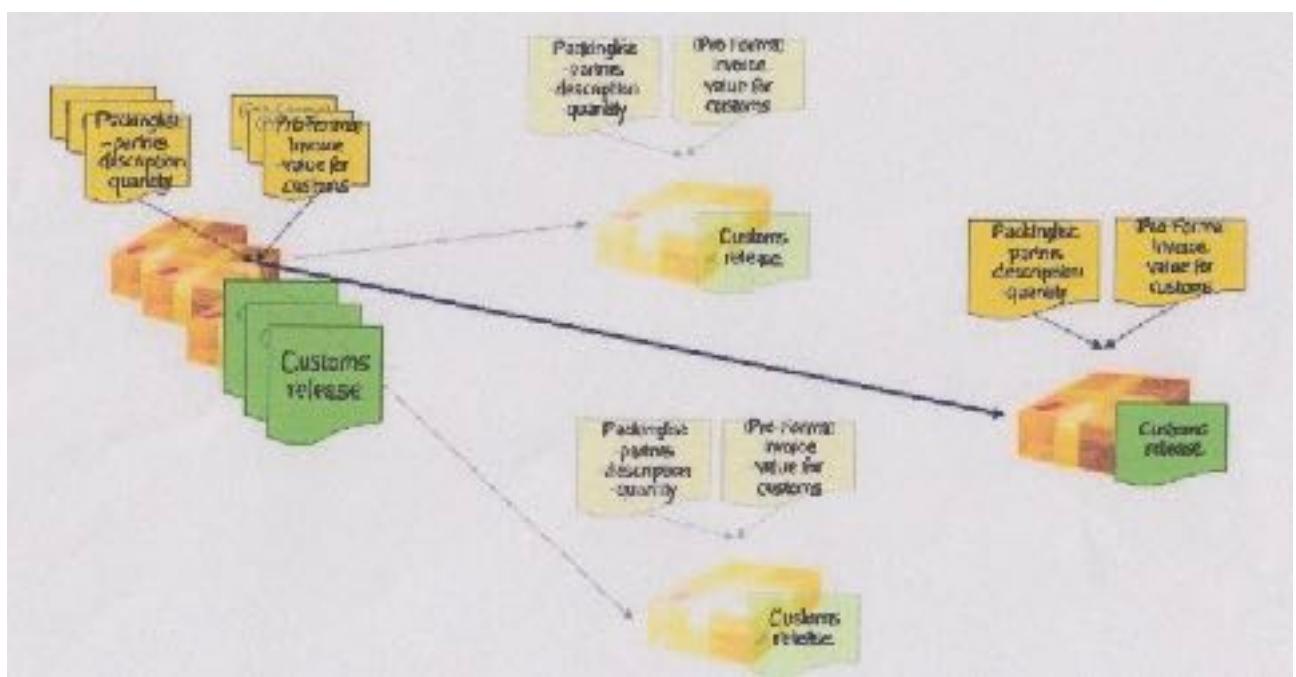
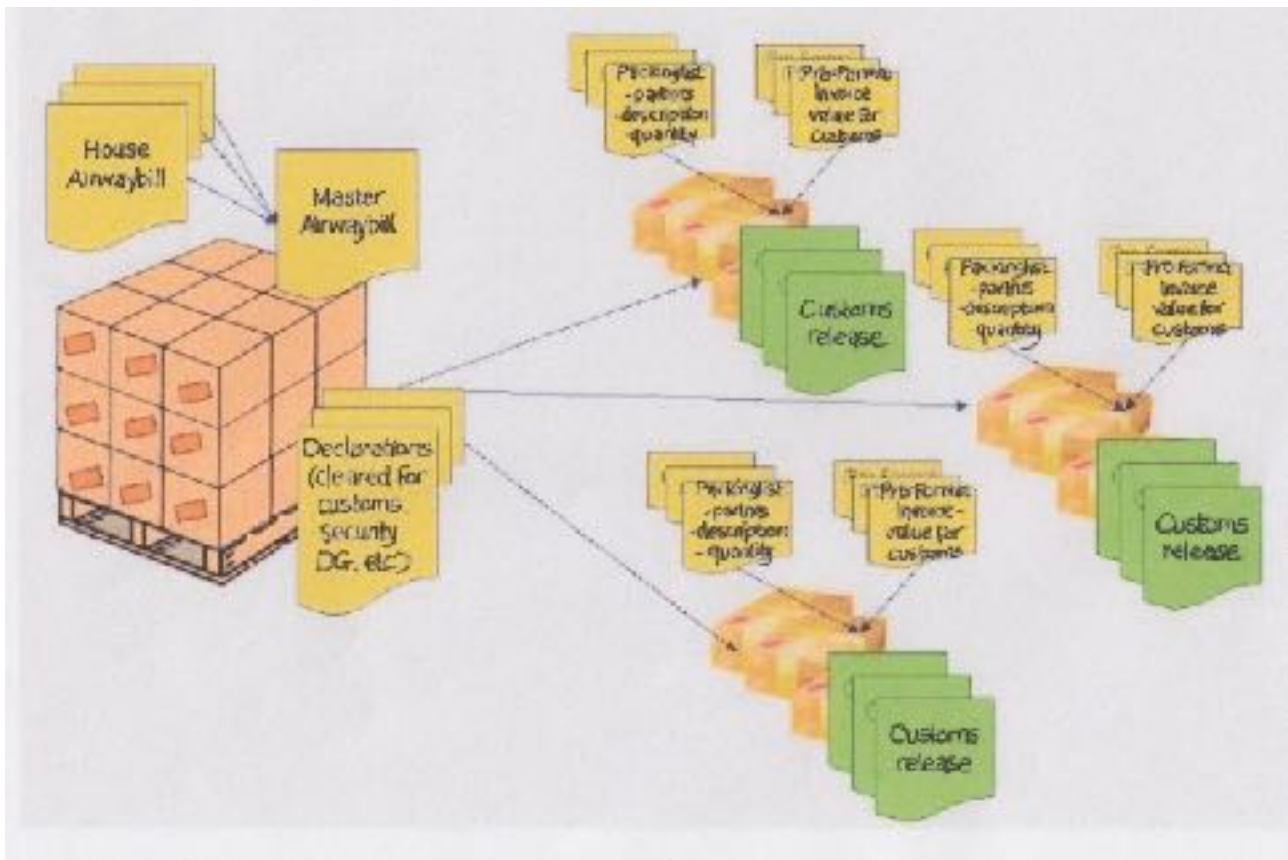
After approval by customs (which must be proven to the handling agent, because the goods are stored under supervision of customs), the pick-up of the goods at the handling agent is ordered, and the goods are delivered at the forwarder's warehouse

Again, depending on the internal organisation of the forwarder's processes, this road transport can be executed either with in-house operated trucks, vans or personnel or by a third party



Panalpina warehouse barcode scanning ; photo source: [Panalpina](#)

The forwarder splits the shipments, makes them ready for transport again, and orders connecting transport to the consignee.





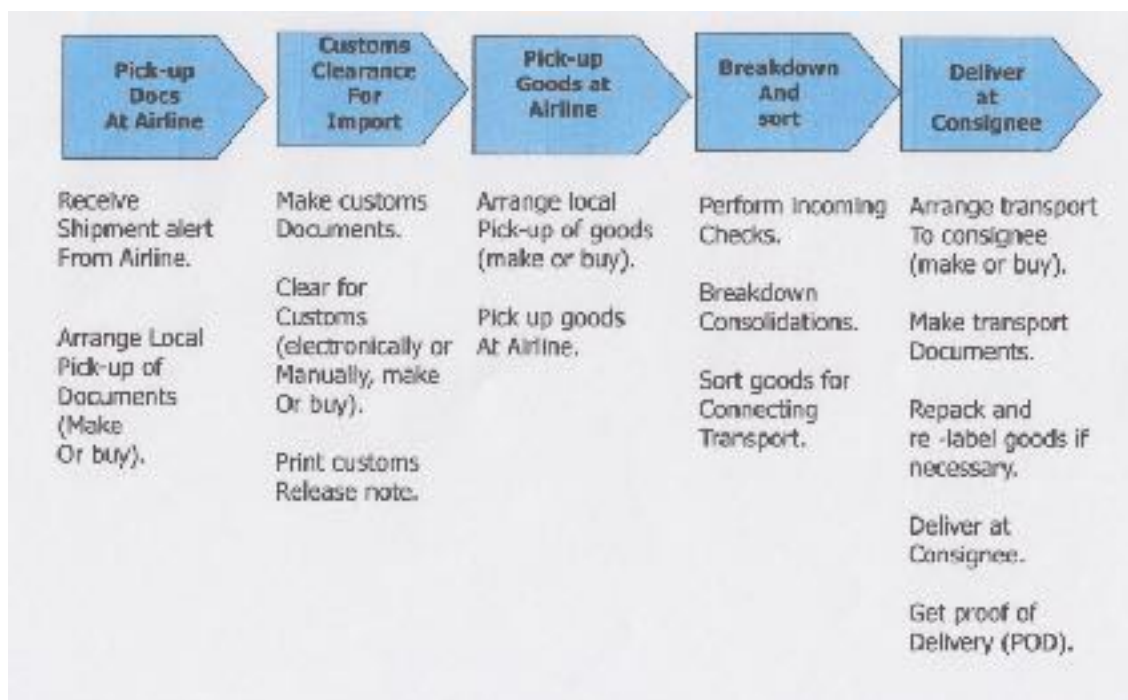
Panalpina warehouse ; photo source: [Panalpina](#)

The goods are picked up by road transport for delivery at the consignee, where the air cargo process will finish

Again, depending on the transport agreement with the forwarder, this road transport can be organised by either the forwarder or the consignee.

And again, depending on the internal organisation of the forwarder's or consignee's processes, the road transport can be executed either with in-house operated trucks, vans or personnel or by a third party.

Process overview:





A KLM Fokker loading Air France Parcels in the 1930s

5 We will now get to what moves all this cargo and has been doing the job for many years Air Transport :

The goods (or consolidations) are received at the airline's handling agent warehouse.

The handling agent will often be a separate company contracted by the airline, but cargo handling can also be an in-house function of the airline, especially at a major hub

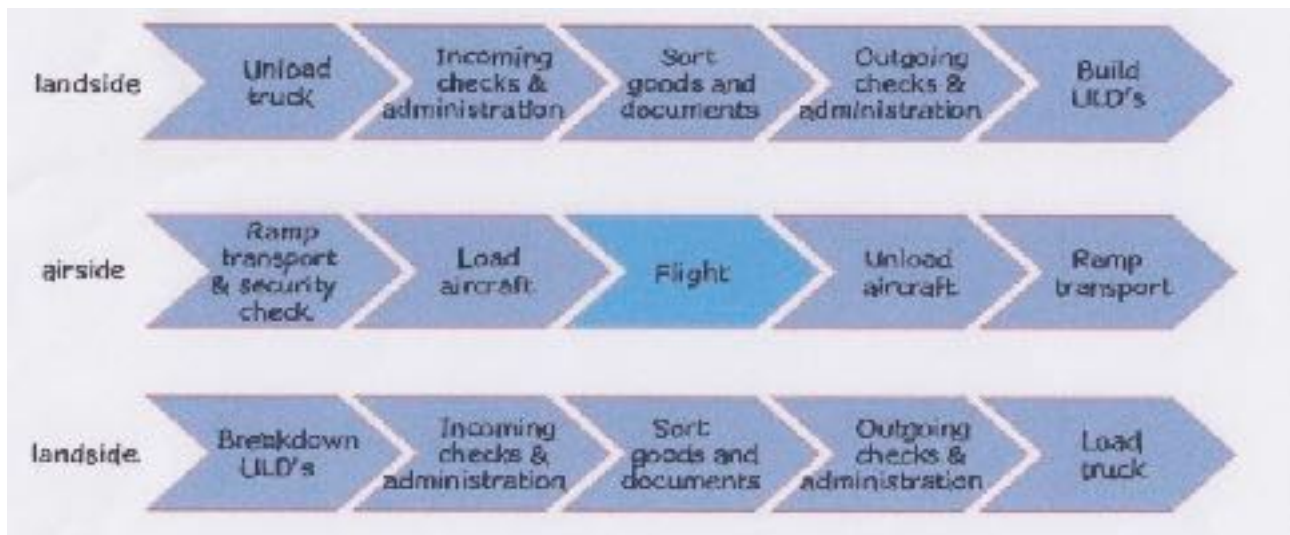
Examples of separate handling agents are: Aviance, Aviapartner, Menzies Aviation, Servisair, Swissport Cargo Services, WFS - Worldwide Flight Services, etc.

Also the airlines often offer their in-house cargo handling as a commercial service to other airlines.

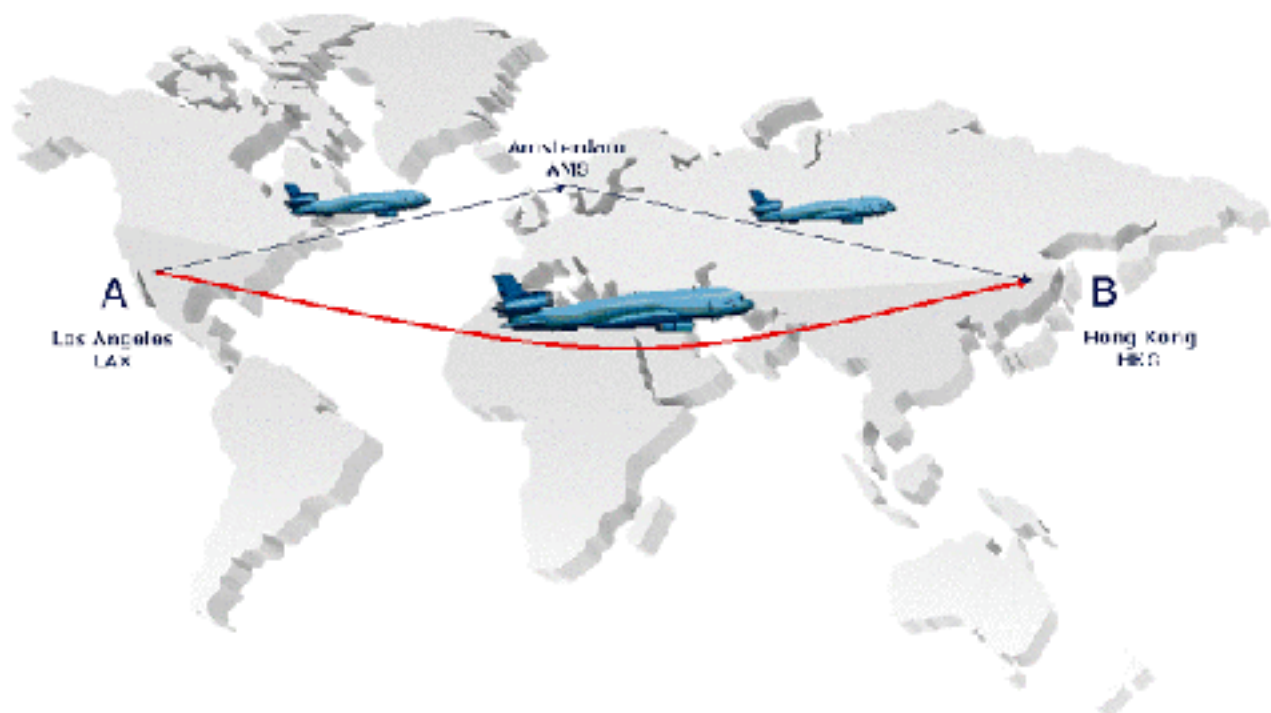
The handling agent takes care of the air cargo handling at the airport, to and from the aircraft.

Depending on the kind of goods, destination (flight number) and urgency, delivery at the handling agent has to be done within a certain norm-time before departure (TBD) of the aircraft, also called a slot or a slot-time.

The whole physical air transport process can be pictured by the following steps:



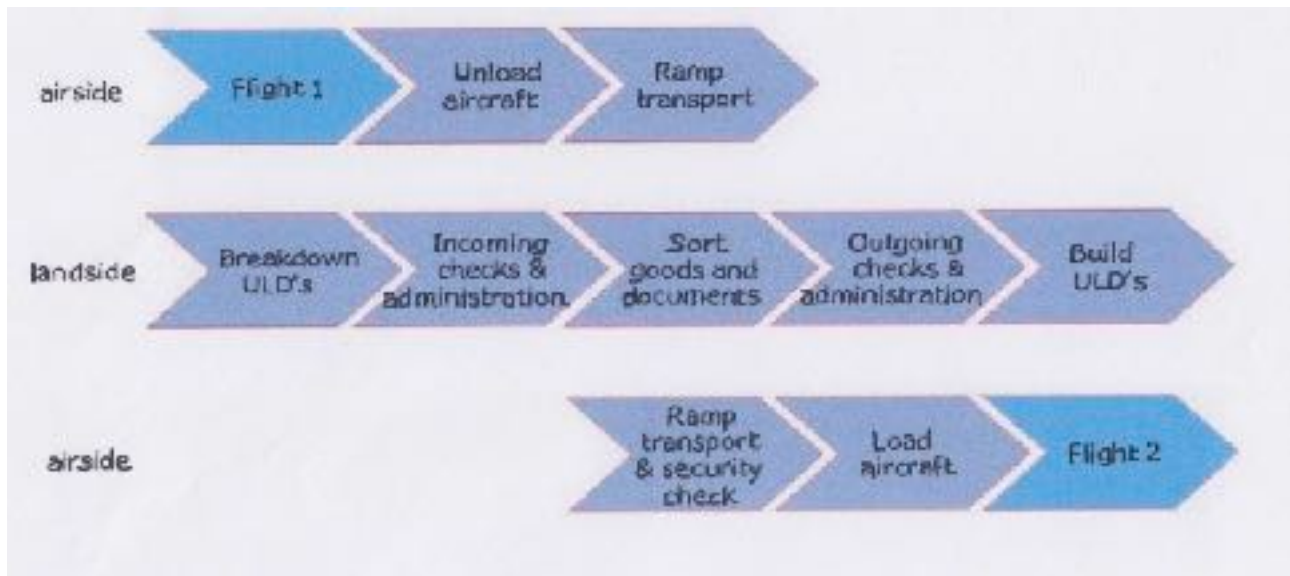
A variant in the air cargo process can be to get to the destination in two or more steps instead of one, then the shipment goes into a transit:



Whether a direct or a transit process should be used is up to the forwarder (where necessary in communication with the shipper) and depends on required price,

through put time (also in relation to flight schedules of different airlines) or special cargo requirements (security, live animals, etc.)

In case of a transit shipment the process in between the flights will look like this:



Or in some special cases or high priority cargo services, if the connection time allows, the transit process can even look like this:



Besides the physical handling, other important functions of the handling agent are:

To control the overall weight & balance of the airline's aircraft on the cargo side, make a load sheet and assure flight safety

To make a cargo manifest for all the goods on board, for the airline's import and export declaration to customs

- *This is a high level customs declaration as opposed to detailed customs declaration by the forwarder or customs agent*

To make a notification to the captain of the aircraft (NOTOC) to inform the crew about potential risks of the cargo on board in case of emergencies (dangerous goods, live animals, valuables, etc.), as well as for the right conditioning (temperature) of the cargo holds

To plan & control bookings, slot-times, goods flows in the warehouse, and ULD and flight bag flows from and to the aircraft in order to prevent delays and assure correct execution of the airline's time-table

To plan & control worldwide ULD stock

The incoming checks before loading and departure of the aircraft are of vital importance for the airline as well as rest of the process :

Commercial checks

According to booking

Correct weights, numbers and volumes of goods indicated

Logistics checks

Delivered RFC

Flight safety checks

Correct weights, numbers and volumes of goods indicated

Correct and undamaged packaging

Potentially hazardous materials declared and correctly labelled and visible

Correct and complete documents and labels

Security checks

Known shipper and forwarder declared

Correct and undamaged packaging

Correct and complete documents and labels

Next the goods and documents are separately handled, sorted for destination + outgoing flight number.

Goods and documents are administratively connected by means of labels

Documents are administrated and temporarily stored

Goods are handled and temporarily stored

At a certain TBD the building of the ULD's for the flight will start, and the documents will be gathered in the flight bag.

ULD = Unit Load Device = standardised air cargo loading equipment, e.g.

Main deck pallets

Lower deck pallets

Lower deck containers

Animal stables or containers

Security containers

Environmentally controlled containers

ULD's are designed to fit exactly in different aircraft types, and are considered part of the aircraft structure during flight..

Now the ULD's and documents are transported to the aircraft at the ramp.

The ULD's are loaded in the aircraft at the planned positions, and the flight bag, including cargo manifest and NOTOC's, is handed over to the crew



During flight the crew will control the temperature in the aircraft cargo holds according to NOTOC or load sheet ; in most aircraft the temperature and air circulation of the cargo compartments can be set per compartment. In case a steady cool temperature is required for the transport, containers with cooling equipment, insulation equipment or dry-ice can be used. Look here for an example document about air freight / cold chain handling of perishables.

In case of transport of bigger live animals (like horses or elephants), an animal attendant may fly on board and check and look after the animals during flight ; airlines that deliver these services, will often also have special areas at the airport where the animals or pets are taken care of before or after the flight.

Normally, at a certain time before arrival (TBA), the handling agent at origin will now inform or pre-alert the airline's handling agent at destination about the shipments and flight details. This enables the receiving handling agent to prepare receipt of the shipment, e.g. by planning the breakdown priority of the ULD's to ensure a smooth and fast flow of the shipments through the next steps.

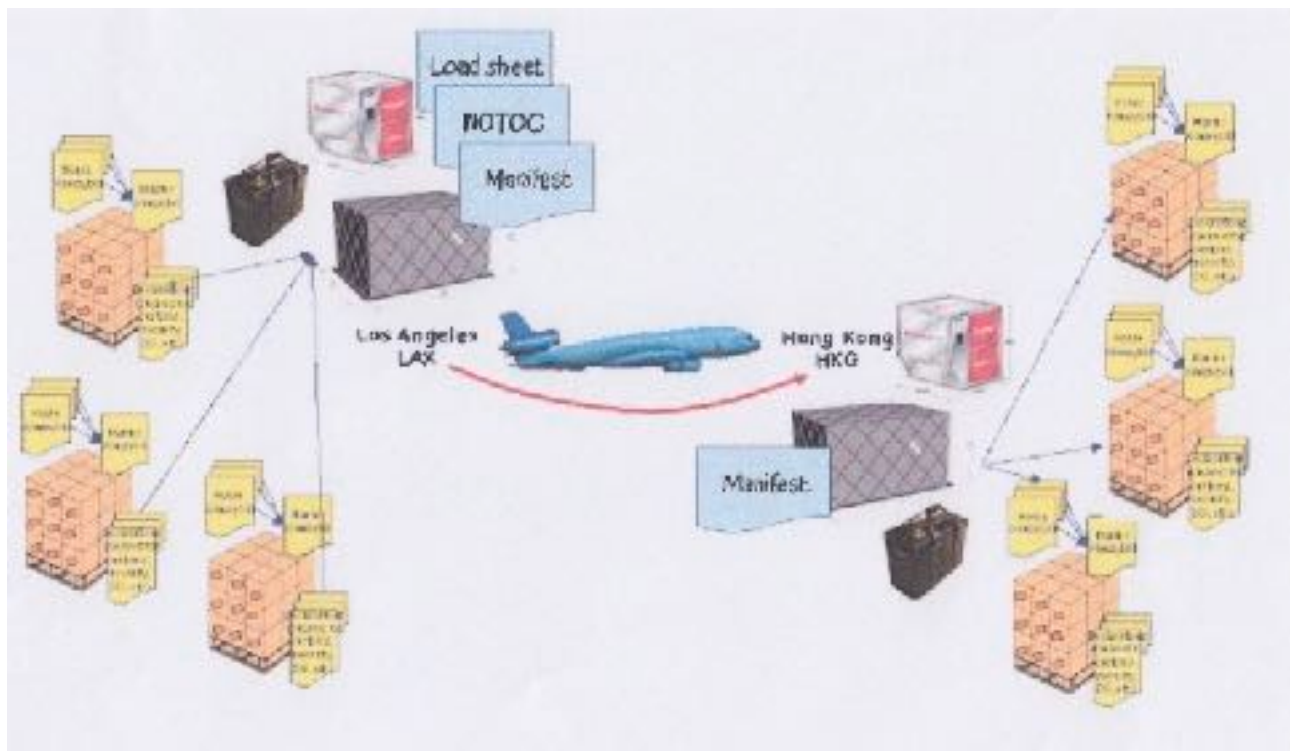
This pre-alert is the freight forwarding message (FFM).

At the airport of destination, the cargo and flight bag will go through the whole process again, but then 'in reversal'.



At receipt of the ULD's and flight bag in the warehouse and office, the handling agent will inform the receiving forwarding agent that the shipment has arrived and the documents can be picked up.

The manifest is cleared for customs when all individual shipments have been cleared and picked-up by the forwarder.



Not all air cargo travels in ULD's ; smaller cargo packages can also be carried as loose cargo in the belly of the aircraft, just like the passenger's luggage. Air mail for example, is often carried in mail-bags as loose cargo in the belly hold. Loading, unloading and handling loose cargo can be much faster than the the ULD process but it is also less efficient, and requires different handling equipment ; therefore loose cargo is often used for the urgent or highest priority cargo products, and in practice only on narrow-body aircraft.

Finally it is the airline's responsibility to handle claims on behalf of the customer (=forwarder) in case goods are damaged or lost in the A2A process.



Source: Air France Cargo

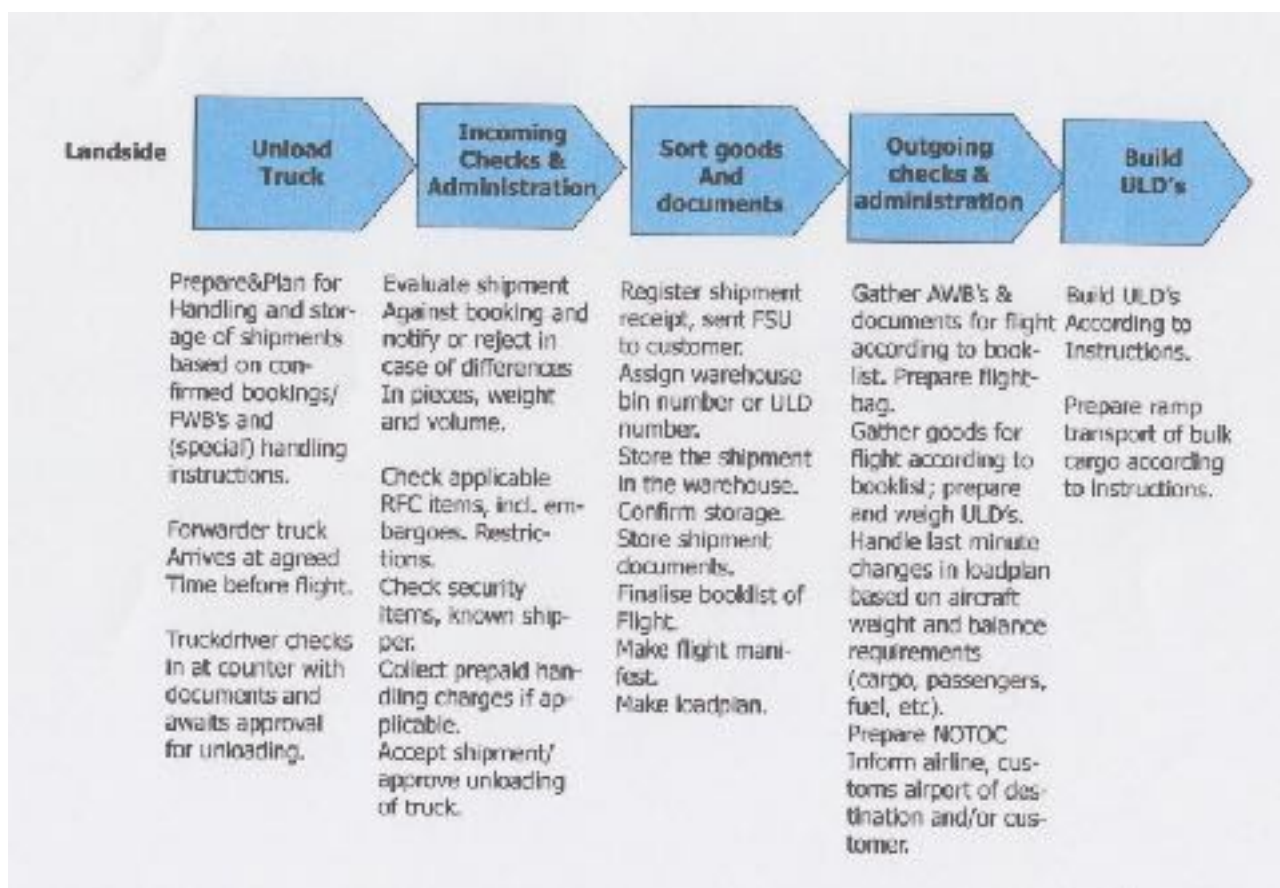


Future Air Cargo for Manston ?

6 A bit more on Air Transport & Consignment :

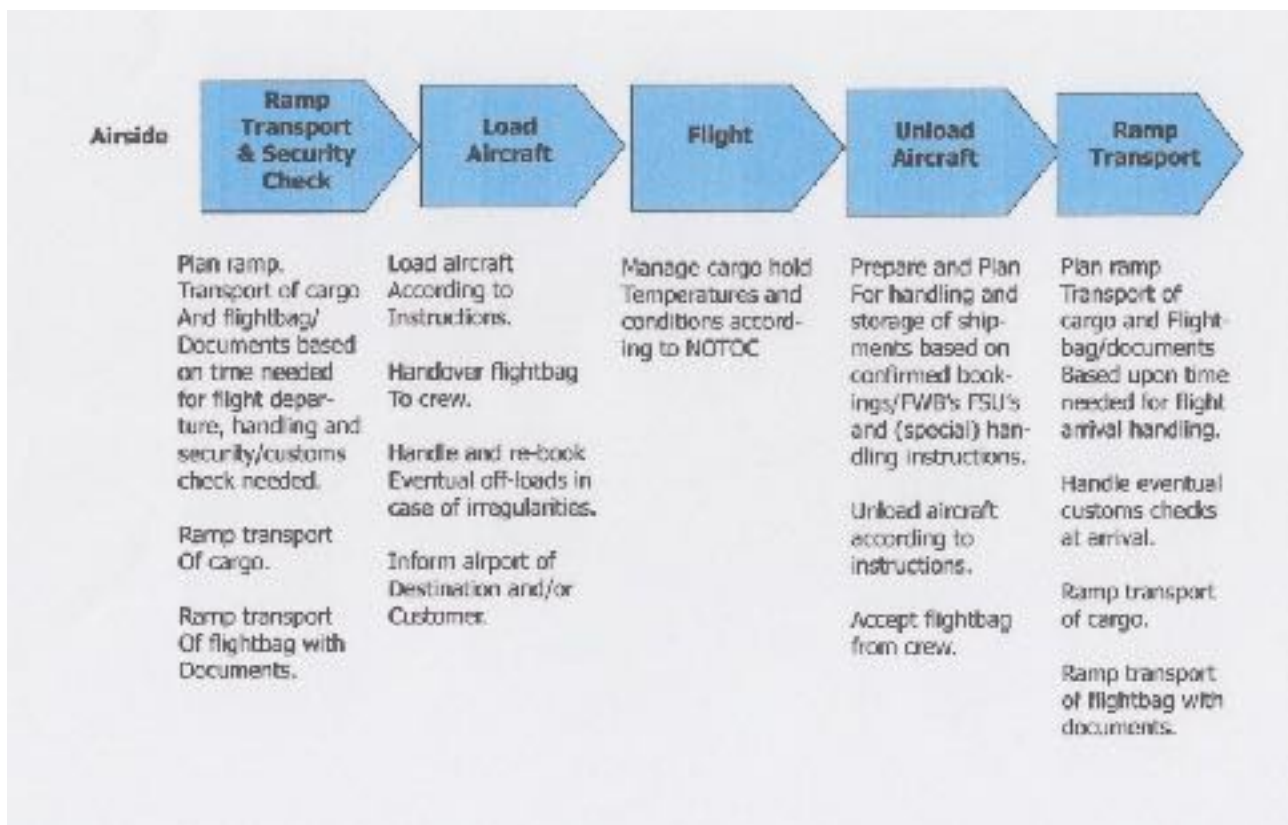
The air transport process further explained - *one step deeper into the process*

The export / outgoing shipments are received from the customer / forwarder at land side and prepared and consolidated for flight:



Menzies cargo handling

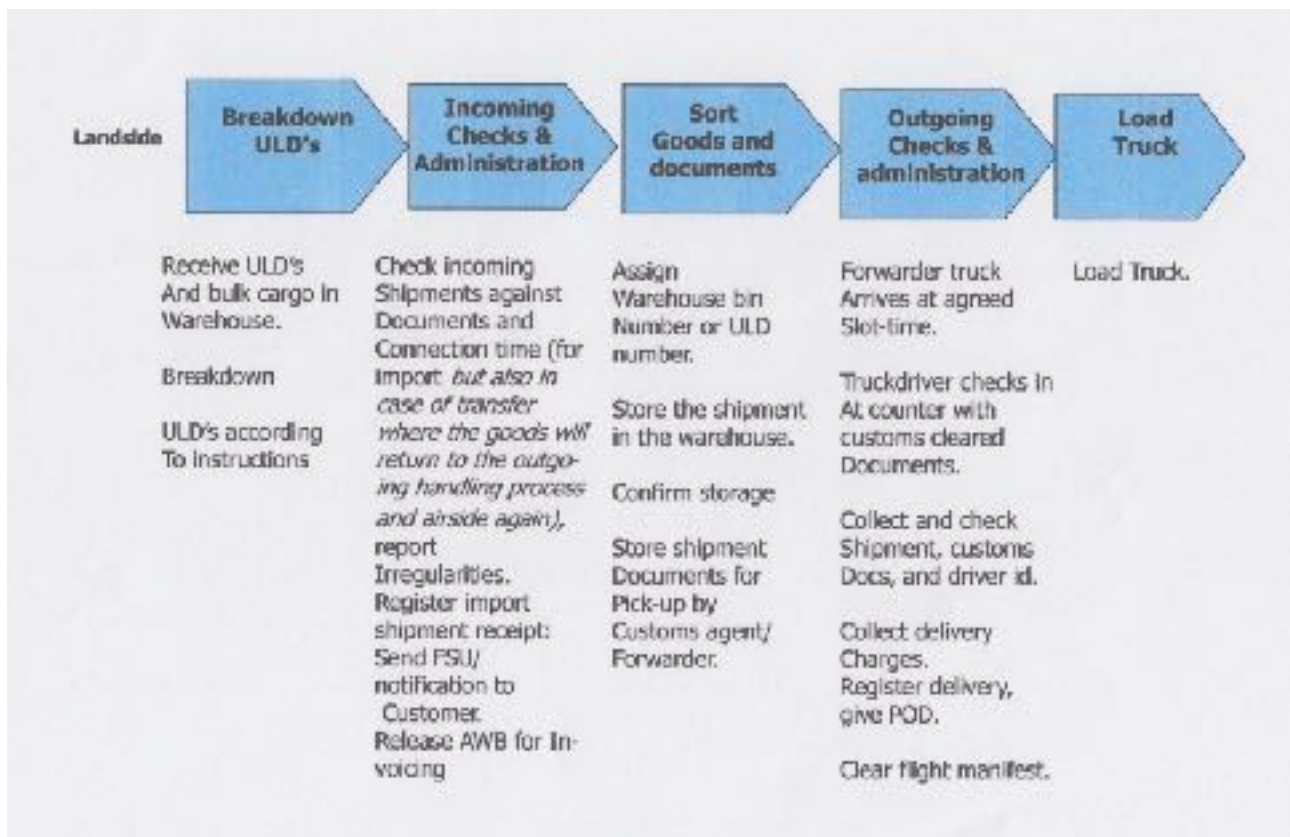
Then the consolidated cargo is moved in ULD's or bulk to airside and loaded in the aircraft for transport to the airport of destination:



Menzies ground handling

The incoming / import cargo is broken down again at land side and first the documents and then the shipments are handed over to the customer / forwarder:

Consignment



The consignment process

The door-to-door air cargo process ends with the consignee.

A consignee is the person or company that is physically and administratively responsible for accepting the goods at final delivery ; nothing more and nothing less.

Although in a lot of cases the consignee is also the customer of the forwarder, just as with the shipper, this is not necessarily so. Also here, the customer can just as well be the shipper, or a third party that has ordered the goods stored at the shipper's location to be shipped from A to B. For this same reason, the consignee also does not need to be the owner of the goods. This all depends on the delivery terms that are agreed between the parties involved, e.g. a buyer, owner of the goods, a seller, a maintenance company, a distributor, a transport company, a forwarder, etc.

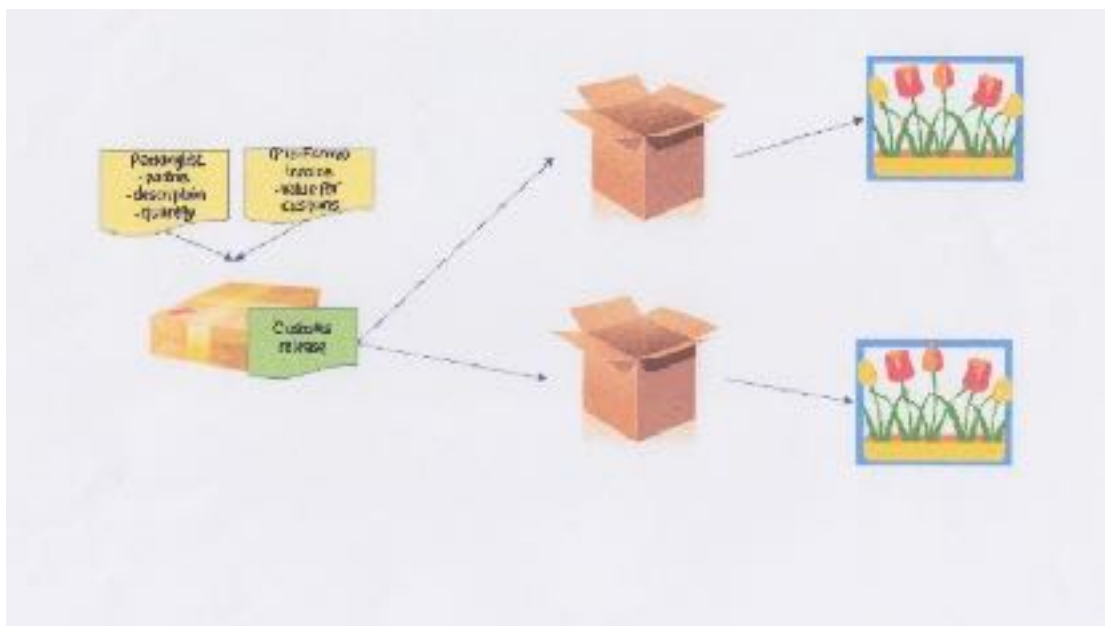


K+N delivery in Hong Kong ; photo source: [Kuehne + Nagel](#)

The consignee will give a proof of delivery (POD) to the forwarder's transporter.

After receipt, the packages are opened and the contents are checked against the packing list and invoice.

In case of payment at receipt, and if the goods are received in good order and the right quantities, the goods will be released for payment by the consignee.



If the quantity received is not correct, the financial as well as the customs administration should be corrected afterward, which is the responsibility of the consignee.

Process overview:

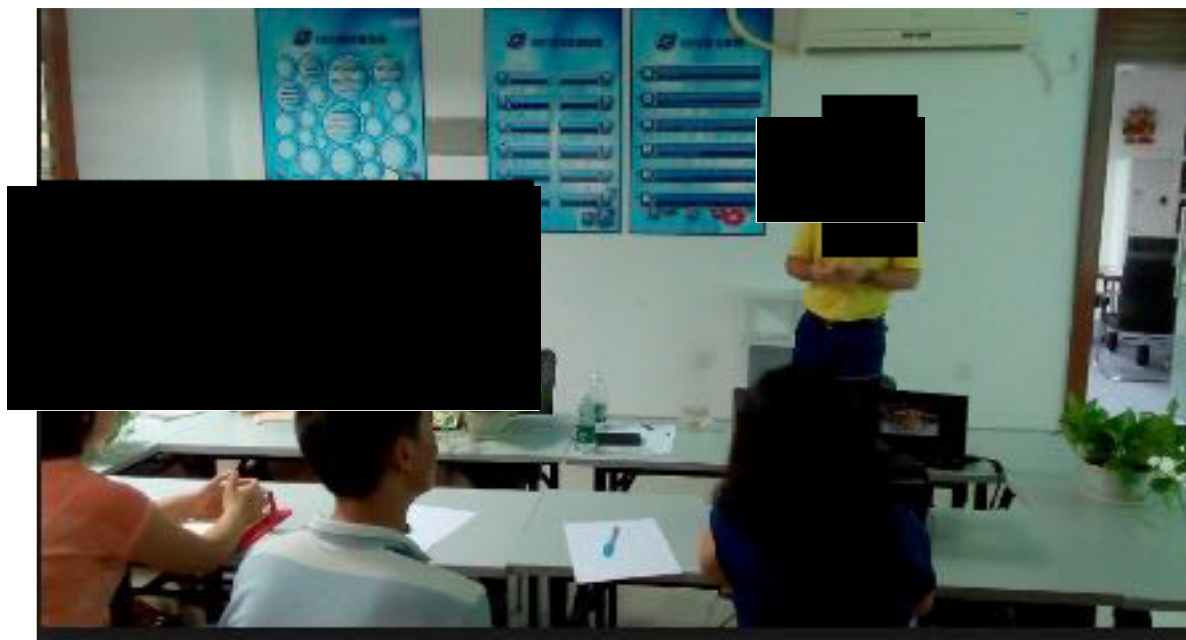
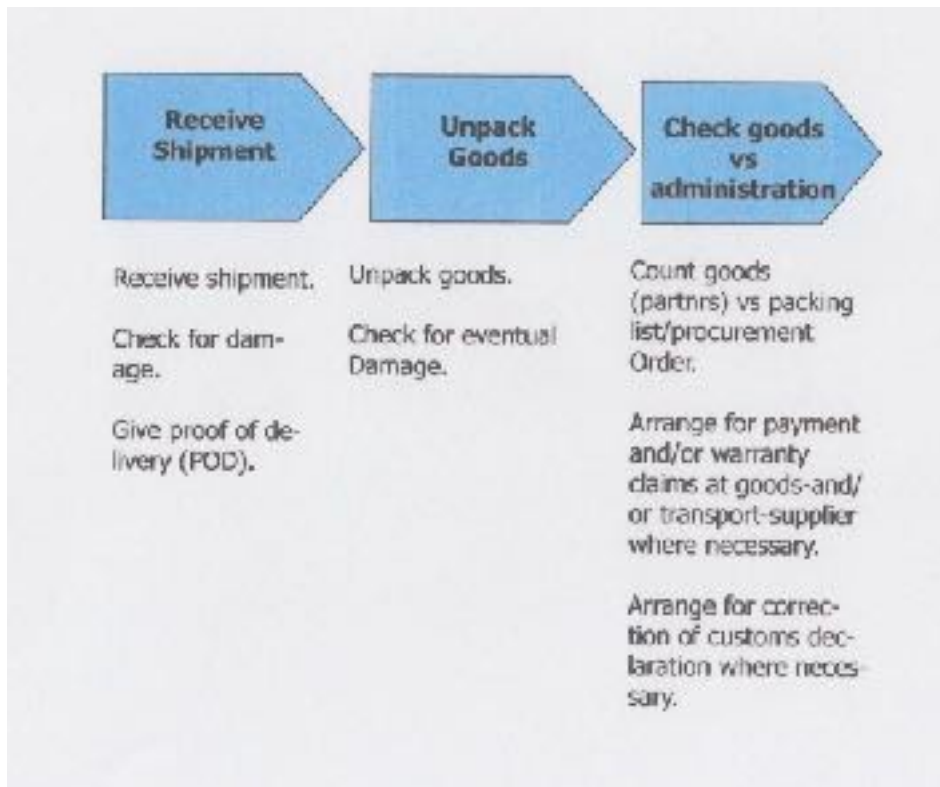


Photo Sunny World Wide Logistics

7 *Ok I've read all of this so far , so what do I need to know and where do I get it from :*



OR

Courses are available from both of these organisations and are available at various locations and some are available on line .

The following are **British International Freight Association Courses** .

FREIGHT FORWARDING PROCEDURES COURSES

Training courses relating to Freight Forwarding Procedures are listed below, for details of the course and upcoming dates and venues simply click the title. If available the next scheduled course is also listed, click it's link for more specific details.

INTRODUCTION TO EXPORT AND IMPORT

BTEC INTERMEDIATE AWARD IN MULTIMODAL INTERNATIONAL FREIGHT PROCEDURES

UNDERSTANDING LETTERS OF CREDIT

CUSTOMS PROCEDURES COURSES

INTRODUCTION TO CUSTOMS FOR EXPORT & IMPORT

BTEC INTERMEDIATE AWARD IN CUSTOMS EXPORT AND IMPORT PROCEDURES

CUSTOMS PROCEDURES FOR EXPORT CARGO

CUSTOMS PROCEDURES FOR IMPORT CARGO

ONLINE AIR CARGO SECURITY & KNOWN CONSIGNOR COURSES

Online AIR CARGO SECURITY (only for levels up to and including Cargo Operative) and KNOWN CONSIGNOR courses are listed below.

CASP - CARGO AVIATION SECURITY PRINCIPLES (REGULATED AGENT)

This course is delivered on line and is always available

REFRESHER CASP - CARGO AVIATION SECURITY PRINCIPLES (REGULATED AGENT)

This course is delivered on line and is always available

CASPD - CARGO AVIATION SECURITY PRINCIPLES - DRIVER (REGULATED AGENT)

This course is delivered on line and is always available

REFRESHER CASPD - CARGO AVIATION SECURITY PRINCIPLES - DRIVER (REGULATED AGENT)

This course is delivered on line and is always available

CO - CARGO OPERATIVE (REGULATED AGENT)

This course is delivered on line and is always available

REFRESHER CO - CARGO OPERATIVE (REGULATED AGENT)

This course is delivered on line and is always available

KCB - KNOWN CONSIGNOR - BASIC

This course is delivered on line and is always available

KCD - KNOWN CONSIGNOR - DRIVER

This course is delivered on line and is always available

KCSD - KNOWN CONSIGNOR - SECURITY DOCUMENTATION

This course is delivered on line and is always available

KCSM - KNOWN CONSIGNOR - SUPERVISOR/MANAGER

This course is delivered on line and is always available

AIR CARGO SECURITY COURSES

Training courses relating to AIR CARGO SECURITY are listed below

<u>OLD COURSE</u>	<u>NEW COURSE</u>
<i>Level A – General Awareness</i>	<i>CASP – Cargo Aviation Security Principles</i>

<i>Level B – Driver</i>	<i>CASPD (Online) or CO – Cargo Operative</i>
<i>Level D – Handling & Preparation of Air Cargo</i>	<i>CO – Cargo Operative</i>
<i>Level E – Screening of Air Cargo</i>	<i>COS – Cargo Operative Screening</i>
<i>Level F – Supervisor</i>	<i>CS – Cargo Supervisor</i>
<i>Level G – Manager</i>	<i>CM – Cargo Manager</i>

CASPD – CARGO AVIATION SECURITY PRINCIPLES - DRIVER (REGULATED AGENT)

REFRESHER CASPD – CARGO AVIATION SECURITY PRINCIPLES - DRIVER (REGULATED AGENT). AVAILABLE ONLINE ONLY.

CO – CARGO OPERATIVE (REGULATED AGENT)

REFRESHER CO – CARGO OPERATIVE (REGULATED AGENT). AVAILABLE ONLINE ONLY.

COS – CARGO OPERATIVE SCREENING (REGULATED AGENT)

REFRESHER COS – CARGO OPERATIVE SCREENING (REGULATED AGENT)
CS – CARGO SUPERVISOR (REGULATED AGENT)

REFRESHER CS – CARGO SUPERVISOR (REGULATED AGENT)

CM – CARGO MANAGER (REGULATED AGENT)

REFRESHER CM – CARGO MANAGER (REGULATED AGENT)

NXCT - NATIONAL X-RAY COMPETENCY TEST

KNOWN CONSIGNOR AVAILABLE ONLINE ONLY.

DANGEROUS GOODS COURSES

Training courses relating to Dangerous Goods are listed below,

DANGEROUS GOODS BY AIR

DANGEROUS GOODS BY AIR - REVALIDATION

RADIOACTIVE MATERIALS BY AIR

RADIOACTIVE MATERIALS BY AIR - REVALIDATION

INFECTIOUS SUBSTANCES BY AIR

DANGEROUS GOODS BY ROAD

DANGEROUS GOODS BY ROAD - REVALIDATION

DANGEROUS GOODS BY SEA

DANGEROUS GOODS SAFETY ADVISOR

CARRIAGE OF LITHIUM BATTERIES BY AIR

CARRIAGE OF LITHIUM BATTERIES BY ROAD

CARRIAGE OF LITHIUM BATTERIES BY SEA

CARRIAGE OF LITHIUM BATTERIES BY ROAD & SEA

CARRIAGE OF LITHIUM BATTERIES - ALL MODES

The following is an IATA Course

Cargo Skills and Procedures (Classroom, 5 days)

About

Do you want to become an air cargo expert and understand the operational framework and processes to ship cargo by air? Air cargo transportation is all about ensuring critical supply chains are not disrupted, meanwhile guaranteeing the transportation is conducted in a safe and profitable way. At the same time the applicable laws and regulations need to be respected. Over five days you will greatly enhance your knowledge on the complex methods and procedures applied in the global air cargo industry. You will acquire solid cargo knowledge, helping you and your company to face the challenges of your highly competitive working environment.

This course is available at IATA Training Centers, Regional Training Partner locations, and on-demand as in-company training.

Course format

This classroom course provides 5 days (40 hours) of instruction delivered by an official IATA Instructor.

Student performance will be based on an examination

Prerequisites

There are no prerequisites for this course

Recommended level is Entry-level and Intermediate

The recommended level of language proficiency is ICAO Operational Level 4 for courses in English or equivalent for other languages.

What you will learn

Upon completion of this course you will be able to:

- Understand the specific air cargo 'language' and terms
- Outline the end-to-end process overview of air cargo transportation from booking up to delivery to the consignee
- Use IATA's The Air Cargo Tariff and Rules (TACT) manuals for specific country and carrier regulations
- Apply the correct cargo acceptance procedures
- Understand the conditions of carriage
- Complete an air waybill, the official contract of carriage
- Calculate air transportation charges
- Provide a basic customer service skills set to participants

Course content

- Overview of air cargo industry regulations
- World geography and calculation of transportation times
- Aircraft structure, layout, limitation, and Unit Load Device (ULD)
- Handling facilities
- Procedures
- Special cargo
- Cargo documentation
- Basic rating
- Carrier's liability and valuation
- Customer service skills

Who should attend

This course is recommended for:

- Cargo operations and ground handling staff
- Station managers
- Shippers, cargo agents, consolidators, freight forwarders and other agencies involved in the transport of cargo
- Cargo instructors and instructional designers responsible for cargo training

Certificate awarded

An IATA Certificate of Completion is awarded to participants obtaining a grade of 70% or higher on all exercises and exams. A special distinction is awarded to participants obtaining a grade of 90% or higher.

This course is a step toward earning an [IATA](#) Diploma in:

- Dangerous Goods Operations Diploma
- Special Cargo Handling Diploma

Additional information

About IATA Classroom Training

We train more than 10,000 aviation professionals annually through our global network of IATA Training Centers, Regional Training Partners, and in private in-



company sessions. Our 200+ classroom courses are developed using IATA's unique industry insight and delivered by IATA Instructors, experts in their fields.

A Happy Team at Manston although this was as the Airport closed! (KLM Fokker)

8 Airside how it works and its employment opportunities **So you would like to join a new “happy” team at a re-opened Manston? ,Ok lets look at whats on offer in the way of jobs ,and you want to work outside?**
How about a “Ramp Agent !”referred to affectionately as “Rampers” and whatever your gender you will be able to do any of the jobs .

Ok so lets get started

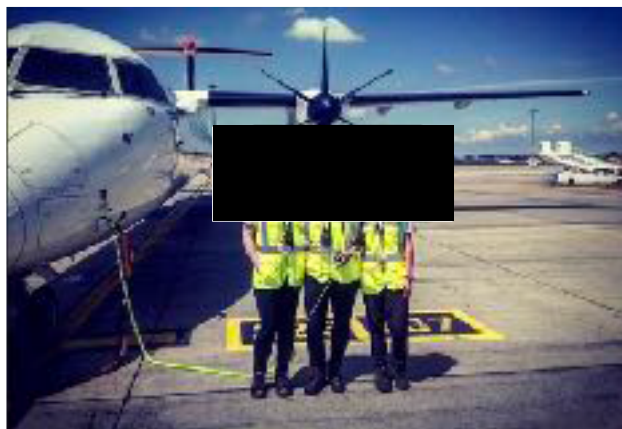
What you will be doing...

Ramp Agents are part of the Ground Operations Team Reporting to Supervisor and Lead Ramp Agent, this role provides essential operational support to aircraft for :

arrivals



turnarounds



and **departures**.



Key responsibilities include -

Supporting the **safe arrival, positioning** and **turnaround** of aircraft

Ensuring all specialist airside vehicles and ground equipment are in the right place at the right time.

Loading of aircraft, adhering to **loading instructions** and **weight** and **balance** parameters.

Working to legal regulations and your company requirements; **operating all equipment** in a safe manner and maintaining a clear and **safe working environment** for you and your colleagues.

Ensuring the delivery of an effective and **friendly service** that meets the needs of **customers**.

Working in **all weather conditions**, this is a varied and **physically demanding** role involving loading **high volumes of items** up to **32kg** in weight into passenger aircraft. The job involves working on a **rostered** shift basis and requires **flexibility** to support operations.

You will need to acquire knowledge of :

pushback,



marshalling



towing of aircraft



and will be **headset** trained.



For all airside roles you must hold a full **UK Driving Licence**
Operations (load control) agent.

An aircraft has weight and balance limitations in order to ensure safe operation. There is a limit to how much a loaded aircraft can weigh; in addition, the cargo, passenger and fuel load must be distributed so that the aircraft is "in balance"—in other words, not to nose-heavy or tail-heavy. One of the jobs of the operations agent is to ensure that the aircraft—as finally loaded—is "legal" (within safe limits) before the aircraft departs the gate. Upon satisfaction of this mandated requirement, that data is used to generate information which the [pilot](#) requires in order to ensure the safe operation of the aircraft.
Salary about £20k-£24k per year

Warehouse agent

The air freight warehouse is where inbound and outbound air freight is processed. It is usually located on or adjacent to airport property and is usually separate from the passenger terminal. This is a secure (sterile) area where only authorised persons are allowed access. If inbound international shipments are involved and have not been cleared by customs, those shipments (and the warehouse) may be "in bond", which requires additional security clearance/authorisation of employees.
Salary about £20k-£24k per year.

Crew chief

Responsible for many different job functions; usually a team of "**rampers**" who report directly to him or her. Crew chiefs are responsible for ensuring that an aircraft has been loaded to the specifications of the load agent, and reporting any discrepancies to management. Usually this job has a premium rate of pay for the extra responsibilities.
Salary about £35k-£40k per year.

Ramp agent

The people working on the ramp, typically seen loading bags, are referred to as "ramp agents". Inter alia, they must ensure that arriving aircraft are unloaded promptly. The ramp agents will also load departing aircraft. They must sometimes account for the baggage loaded into each compartment to ensure proper weight and balance, although this job is often the responsibility of flight operations staff.
Salary about £21k-£22k per year.

Transfer agent

This term is loosely used to refer to any agent who operates a vehicle that is used to transfer bags from one aircraft to another or to carry bags from the "bag room" to the correct aircraft. Another common term for this position is "runner". At the airline's hub locations, the agent responsible for meeting aircraft and transferring baggage directly from an inbound aircraft to the correct outbound aircraft is termed a "connections runner", often shortened to "connects" and abbreviated as "conx".
Salary about £20k-£23k per year.

Inbound runner

The agent in charge of delivering bags from an inbound aircraft to the [baggage claim](#) carousel.

Lavatory agent

Of course I knew you would want to see a picture of this job!



The lavatory or "lav" agent is responsible for removing waste matter from the lavatories of incoming aircraft, by flushing the lavatory system. Surprisingly, the lesser physical demands of this position put it in equal or higher demand with other positions. In stations with higher volumes of passenger traffic, lavatory agents will usually use trucks adapted with large tanks on board that do not need to be emptied as often. These are also configured to facilitate access to the waste ports of the aircraft, which can be out of reach by other means. In places where fewer or smaller aircraft are being serviced, a "lav cart" (essentially a small 'lav' trailer pulled behind a tug) is used to service the lavatories.

Salary about £14k-£22k per year.

Mail/freight Agent

As mail and freight arrives at a destination to either terminate at that location or continue on to another destination, certified agents handle and deliver it. They are responsible for scanning each package and delivering it to its proper aircraft.

Salary about £17-£29k per year.

Bag room agent

As baggage is delivered into the bag room via conveyor belt it is the Bag Room agent's job to sort bags into carts according to routing.

Salary about £20k-£21k per year.

Station agent

Station agents are cross-trained to work both as a baggage handler, and also work in positions involving customer service. Typically, station agents are used at smaller airports that do not handle as many flights as major airports. For example, an airline that has a smaller operation at Southend Airport might have its employees check in passengers, then have the same employees load, and push the aircraft.

Salary about £28k-£36k per year.



Airbus A380 at Manston (British Airways)

9 *Airside so here are some more important jobs to be filled at a re-opened Manston*

Ground Support Equipment Technician



HGV/Plant/ Ground Support Equipment Technician

The technicians are required to service and repair equipment such as portable stairs, fuel and food trucks, towing tractors, aircraft tugs, man lifts, APU's and Company vehicles.

Main Purpose of the Job

Undertake repairs and maintenance of vehicles to the required standard. Adhere to corporate Health and Safety guidelines, ISO 9001 framework and guidelines on vehicle maintenance.

Qualifications

Motor Mechanics – LGV (essential)

LGV 2 (desirable)

Forklift (desirable)

The salary for this position is from £28,000 to £32,000 per annum

Airport Firefighter



Fire Section Job Descriptions

Aviation poses unique challenges for firefighters. Aircraft crashes and fire-causing incidents involve hazardous materials, conditions that differ from building fires and hundreds of passengers to evacuate simultaneously. Airport firefighters specialise in equipment and procedures to handle passenger- and cargo-carrying aircraft fires and emergencies.

Core Responsibilities

As an airport firefighter, your core responsibility is responding to aircraft fires, hazardous spills and structural fires on airport property. You and your team members also serve as the airport's emergency medical service first responders. Staying prepared requires regular testing and maintenance of your equipment and firefighting apparatus. Fire prevention tasks you perform include inspecting fuelling vehicles, runways, taxiways and lighting. You also conduct periodic tests of fire

alarms and fire extinguisher inspections located in the terminals and other airport buildings.

Other Roles;

Some airports assign safety training for fuel handlers to their aviation firefighters. Others involve their ARFF (Airfield Rescue Fire Fighting) units with bird and other wildlife hazard management. Snow emergencies may require airport firefighters to assist with snow removal. They must follow proper evidence-handling and preservation procedures when removing victims from the scene and may be asked to assist in debris cleanup. Attending fire prevention activities, record keeping and communication with government agencies round out the functions performed in this position.

Fit-for-Duty Qualifications

Airport authorities require ARFF team candidates to pass a rigorous physical agility test,

Professional Certification, Education and Experience

Candidates should have a,

CAO Annex 14, § 9.2.34 directs that: All rescue and fire fighting personnel shall be properly trained to perform their duties in an efficient manner and shall participate in live fire drills commensurate with the types of aircraft and type of rescue and fire fighting equipment in use at the aerodrome, including pressure-fed fuel fires.

Airport fire fighters specialise in dealing with complex fires and rescues from aircraft. A great deal of their daily routine is spent training and drilling for such eventualities.

Unlike their local authority counterparts Airport Firefighters have to re-qualify every four years to be deemed as competent.

There are a number of reasons for this:

- Airport firefighters, due to the geographical size of the area they cover, do not respond to as many incidents as Local Authority Firefighters.
- The four yearly re-qualification policy acts to ensure continued competency in certain areas of the role in which they perform.
- Conversely Local Authority firefighter can demonstrate continued competency generally by the number of calls they deal with each year.
- Most airport firefighters are also trained Emergency Medical Technicians to render medical care and first aid within the airport.

Salary about £28k per year

Aviation Security Officer

Scope of Job: To carry out the appropriate defined security processes and procedures in accordance with company policies and values.



Aviation Security Services on a shift by shift basis across

- Aviation Security (Passenger Security)
- Corporate Security (Employee and Infrastructure Security including ANSP facilities)
- Third party oversight of Airport stakeholders including airside operators/tenants.
- Oversight of cargo security operations.

Working primarily at the following locations:

- Central Search.
- Airfield and other Airport facilities as required.

Accountabilities / Responsibilities:

Safety.

- To ensure knowledge and understanding of all appropriate safety responsibilities as detailed in the Aerodrome Manual.
- Ensure you operate in a safe environment and demonstrate a clear understanding of the Health and Safety policies and procedures.
- To minimise the incidents and accidents within your area, particularly promoting a safe working environment.

Security.

- To ensure knowledge and understanding of all appropriate security responsibilities as detailed in job description and other relevant policy documents.
- To ensure that standards set at security training courses are adhered to. To ensure a knowledge and understanding of all appropriate security responsibilities as detailed in the Airport/Aerodrome Manual.
- To advise the Security Supervisor of any security occurrence or system failure and to identify and report any situation of potential risk or concern affecting security.
- Perform duties in a manner that supports both the team and individual's performance.
- Carry out appropriate facility inspections in accordance with departmental procedures.
- Carry out patrols and searches in accordance with departmental procedures.
- Maintain, operate and test security equipment in accordance with and at intervals prescribed in relevant departmental instructions and highlight or act upon any equipment failures or performance deterioration in accordance with departmental instructions.

- Provide a high standard of customer service acting in a professional manner at all times, in line with the Customer Service Commitment
 - Monitoring GP A property utilising the GP A security monitoring facilities.
 - Keep appropriate records as required by departmental procedures.
 - To maintain Level 1 Security Compliance.
- Salary about £14k-£16k per year

Aircraft Cleaners



As an Aircraft Cleaner, you will be required to clean the inside of the aircraft within a specific time frame, in order to ensure an efficient turnaround. You must be able to work at a fast pace as well as under pressure.

Salary about £16k-£22k per year.

Airport Custodians / Servicepersons

Airport service people, or airport custodial services attendants, are the maintenance personnel at the airport. They cut grass, water plants, clean windows, maintain lighting, perform janitorial work, and are responsible for the airport's general upkeep and cleanliness.

Airfield Maintenance



Carrying out a full range of operations on the manoeuvring area using mowers .

Other operations include fertilizer/lime application, selective weed control using a boom sprayer, strimming around all manoeuvring areas, obstructions and spraying all cracks and joints for total weed control. Hedge/Ditch cutting.

Airfield reinstatement to CAP 772 standard.

Operators need to be fully conversant with CAA procedures (CAP 772) and hold the relevant licences required along with VHF/UHF.

£20000.00 - £28000.00 per year

Airfield Lighting Engineer



Working on an active airfield you will be required to carry out planned and reactive maintenance tasks and remedial works as required.

You will be electrically qualified (City & Guilds, 17th Edition etc.) and you must have an Airfield Electrical AGL for MOD installations.

£29000.00 - £31000.00 per year.

10 UK Controls & Catering

Border force officer

Border Force officers secure the UK border by carrying out immigration and customs controls for people and goods entering the UK.

You'll need to:



- be a UK national with no restrictions on your stay
- have lived in the UK for the last 5 years
- pass background and security checks
- pass a medical examination
- have a good level of physical fitness

To enter at officer level, you'll also need to have one of the following:

- experience of serving in the army or the police
- 2 A levels at grade E or above

You could also start out as an assistant officer and work your way up. For an assistant officer role you'll usually need 5 GCSEs at grades 9 to 4 (A* to C) or equivalent, including English and maths.

[GOV.UK](https://www.gov.uk) has more information about careers in the civil service and how to apply.

If you're a graduate, you can apply through the Civil Service Fast Stream.

2. Skills required

You'll need:

- excellent spoken and written communication skills
- decision making skills
- the ability to manage challenging situations in a calm and professional manner
- leadership skills
- team working skills

3. What you'll do

You'll protect UK border entry points like ports, airports, postal depots and the rail network.

You'll check passengers for immigration control purposes, and you'll enforce customs regulations by making sure the right tax is paid on goods. You'll also be looking for and removing illegal items like drugs, firearms, and counterfeit goods. Your duties will depend on which part of the country you're based in. Your day-to-day work could include:

- checking travel documents and passports
- questioning passengers about their travel plans, and deciding if they need further questioning
- searching people, luggage and vehicles
- writing case notes
- working with the police on major cases
- attending court as a witness

You might also take part in counter-terrorism activities or prevention of human trafficking.

4. Salary

Starter: £23,000

Experienced: £27,000

Highly Experienced: £31,000

Overtime working may mean you can earn more.

These figures are a guide.

5. Working hours, patterns and environment

You'll usually work 40 hours a week on a shift system, which could include nights, weekends and bank holidays.

You'll mainly work indoors, based at a port or airport, but you'll spend time away when working on investigations or attending court. You'll usually need a full UK driving licence.

The role can be physically demanding.

6. Career path and progression

You'll get continuous training during your first 6 to 12 months. Once you've developed your skills and passed your probationary period, you'll have the full responsibilities of a [Border Force](#) officer.

With experience you could then become a team leader, or move into a management position. You could also use your skills in training and working with new staff.

You may also be able to apply for roles in other departments of the [Home Office](#) or [Civil Service](#).

Customs officer

Customs officers stop banned items coming in or out of the country, and collect taxes and duties.

1. Entry requirements

You'll usually work your way up by starting as:



- an administrative assistant, for which you'll need 2 GCSEs at grades 9 to 4 (A* to C)
- an assistant officer, for which you'll need 5 GCSEs at grades 9 to 4 (A* to C) including English and maths

To start as an officer, you'll usually need:

- 5 GCSEs at grades 9 to 4 (A* to C) including English and maths
- A levels (or equivalent)

If you don't have the qualifications, you may be able to take a test to prove your skills and abilities in areas like teamwork and communication.

You'll also need to meet the Civil Service [nationality requirements](#)

2. Skills required

You'll need:

- sound judgement
- confident decision-making ability
- accuracy and attention to detail
- listening and questioning skills
- a tactful but firm manner

3. What you'll do

You'll work in airports and seaports, collecting customs duties and preventing smuggling and illegal trade.

Your day-to-day duties may include:

- searching luggage, vehicles and travellers
- checking customs documents
- questioning people found with illegal items or goods over the allowance
- arresting and charging people
- preparing reports and witness statements
- taking on specialist roles like dog handling or undercover and surveillance work

You may also need to go to court as a witness, and work closely with other agencies, like the police and the Home Office.

4. Salary

Starter: £16,000 to £21,000 (Assistant officer)

Experienced: £22,000

Highly Experienced: £26,000 or more

You'll get extra allowances for working unsocial hours, like evenings, weekends and public holidays. You'll get a higher rate of pay if you work in London.

These figures are a guide.

5. Working hours, patterns and environment

You'll usually work 36 hours a week over 5 days. If you're in a border protection role you'll work shifts to provide 24/7 cover.

6. Career path and progression

With experience, you could move up within the civil service grade structure, but you may need to relocate to progress to higher grades.

Airport Catering



Most of these jobs would be off site, however where there are passengers services there would be Restaurant chef's, waiters and cleaning staff .

Salaries from about £16k-£30k per year

Ok so the journey ends or is this just the beginning for you ?

Recommended and sites used in the compilation of this article



Kent Needs Manston (KNMA) ,hopes that this has proved informative to the layperson and of guidance to the future employee within the Air Cargo Industry

This series of articles has only looked at those employed people at a reopened Manston airport , the jobs created for business's outside of the airport are many , but here are a few:

Taxi's

Coach's

Bus's

Drivers Lorry and Van

In a nut shell,Butchers,Baker's and Candle Stick makers an AIRPORT is a City within itself.

We hope you have found this series of articles informative ,and maybe pointed you toward a career at **MANSTON AIRPORT**

air cargo related terms and abbreviations, then take a look at this list:

A2A	Airport-to-airport
A2D	Airport-to-door
ADV	Advise, Advised, Advising
AEA	Association of European Airlines (see the page "Interest Organisations" of this website also)
Airline	Company operating aircraft between steady origin and destination airports
Airmail	Mail travelling by air
Air Operator	Company operating aircraft
Airport-to-airport	Transport from an airport of origin to an airport of destination
Allotment	Assigned volume on board of a flight / day
AOG	Aircraft On Ground ; materials expedited for repair of a grounded aircraft
AP	Airport
ARR	Arrive, Arrived, Arrival Also a C2K milestone: ARR = cargo and documents arrived at airport of destination
ATA	Air Transport Association (see the page "Interest Organisations" of this website also)
ATA	Actual Time of Arrival

ATD	Actual Time of Departure
Authorisation	The commission to a certain person or body to act on behalf of another person or body ; the person or body can be authorised e.g. to issue air waybills or to collect freight
AVI	Live Animal(s)
AWB	Air Waybill
Backlog	Amount of goods still to be delivered or received and for which the planned or agreed date has expired
BAG	Baggage
Belly	Lower-deck cargo hold of an aircraft
BIG	Outsized cargo
Blocked-space agreement	A continuous reservation (allotment) for space at one or more flight / date combinations with an airline
Bonded Goods	Goods on which the customs duty has not yet been paid, and which therefore, are under the control of customs; usually in a Bonded warehouse.
Bonded warehouse	A depository for goods on which the customs duty has not been paid ; the warehouse proprietor must provide a bond (often in the form of a bank warranty or a mortgage) to the customs authorities as a security for any duties which may not be paid by the customer
Booking	Request for reservation of space on a flight/day, (to be) confirmed by the airline
Break Bulk Agent	A forwarder breaking the bulk: taking care of the unpacking and sorting of goods after the flight
Breakdown List	List of shipments carried in one consolidation (see also: Consolidation Manifest)
Broker	Person who acts as an agent or intermediary in negotiating contracts ; sometimes refers to a forwarder role
Bulk Cargo	Loose cargo not loaded on an ULD
C2K	Cargo 2000 (see the “Cargo 2000” page of this website)
Cargo Aircraft	Aircraft built with the purpose of carrying nothing else than cargo
Cargo assembly	The separate reception of parcels or packages and the holding of them for later dispatch as one consignment ; consolidator role

Cargo disassembly	The separation of one or more of the parcels or packages that are part of a consignment for further distribution ; break bulk role
Carriage	Transport ; the process of conveying cargo from one point to another
Carrier	The party responsible for transport of goods from one point to another, this can be for example an airline or a forwarder (as a NVOCC)
CASS	Cargo Accounts Settlement System
CAO	Cargo Aircraft Only
CC	Charges Collect ; pay at moment of collection of the goods
CCS	Cargo Community System ; information system integrating the communication between air cargo parties at an airport
Certificate of Origin	A certificate proving the country of original production of goods ; used for customs declaration purposes
Charges collect	Charges as stated on the air waybill to be collected from the consignee
Charges prepaid	Charges as stated on the air waybill to be collected from the shipper
Claim	A written complaint about the execution of a contract of transportation by a carrier, combined with a demand for financial compensation
Classifying	Assigning the right import classification number to goods as part of the customs declaration process
CLR	Clear
CNEE	Consignee
COLL	Collect, Collected, Collecting
COMAT	Company Material (non revenue cargo)
Combi	Combi Aircraft, combining transport of passengers and cargo on the main-deck
Commodity	Indication of the type of goods ; commodities are coded according to the harmonised system
Commodity code	Code used in the Harmonised System for the classification of goods, which are mostcommonly produced and traded
Complaint	An official statement from a customer to a carrier about his unhappiness with the service or operation of the service provider

Consignee	The person or company that is physically and administratively responsible for accepting the goods at final delivery (see the “Consignment” page of this website also)
Consolidation	A collection of shipments belonging to different shippers travelling to one destination or area to be distributed to several consignees
Consolidation Manifest	List of shipments carried in one consolidation
Consolidation Rates	Rates as given by a consolidator / forwarder
Consolidator	A forwarder consolidating shipments before a flight ; these shipments belonging to different shippers and travelling to one destination or area in order to be distributed to several consignees after the flight
Courier	Company that carries envelopes and parcels up to 75 kg from door to door ; air transport is generally outsourced to airlines
Courier Rates	Rates as given by a courier
CPTY	Capacity
CRN	Customs Release Note
Customs Agent / Broker (Certified)	Party certified to handle the customs clearance on account of importers / exporters
Customs invoice	(Pro forma) Invoice for import declaration (customs and statistics) purposes, stating the commercial price, added with the costs for freight, insurance and packing etc., terms of delivery and payment
Customs value	Value of goods to be imported for import declaration (customs and statistics) purposes
D2A	Door-to-airport
D2D	Door-to-door
Dangerous Goods	Goods that can be hazardous for health, flight-safety or materials
DAP	A C2K key performance indicator: DAP = Delivered As Promised (NFD in full and on time statuses are achieved)
DEP	A C2K milestone: DEP = cargo and documents departed at airport of origin
DEPT	Department
DG	Dangerous Goods

DGR	Dangerous Goods Regulations (IATA)
Dimensional Weight (Conversion)	Concept adopted by the transportation industry worldwide as a uniform means of establishing a minimum charge for the cubic space a package occupies ; the volume is converted into a (higher) weight / price class (See the “Forwarding Out” page of this website also)
DIMS	Dimensions
DIP	Diplomatic mail
DLV	Deliver, Delivered, Delivering Also a C2K milestone: DLV = cargo and documents delivered to customer (forwarder)
DOCS	Document(s), Documentation
Domestic transport	Transport within a country
Door-to-door	Transport from an initial shipper’s house address to a final consignee’s house address
Duty	Tax imposed on goods imported from another country
EDI	Electronic Data Interchange
EDIFACT	Electronic Data Interchange For Administration, Commerce and Transport ; a specific EDI protocol
e-Freight	Electronic freight documents project from IATA ; e-Freight aims to take the paper out of the air cargo supply chain and -processes and replace it with cheaper, more accurate and more reliable electronic messaging ; facilitated by IATA, the project is an industry-wide initiative involving carriers, freight forwarders, ground handlers, shippers and customs authorities (See the “e-Freight” page of this website also)
Electronic Data Interchange	The interchange of electronic data, structured following an agreed protocol, between the automated information system of different parties
Embargo	An embargo on a certain kind of goods means these goods will not be transported by the airline, often for flight-safety reasons
Equipment	Materials needed to handle or transport goods
ESC	European Shippers’ Council (see the page “Interest Organisations” of this website also)
ETA	Estimated Time of Arrival

ETD	Estimated Time of Departure
Expediting	Forwarding goods (in less than the normal lead time)
Expeditor	Forwarder
FAK	Freight All Kinds
FAK-Rates	Rates for Freight All Kinds
FAP	A C2K key performance indicator: FAP = Flown As Planned (the complete shipment has flown at or before the last planned flight with a maximum 12 hour delay)
FCL	Full Container Load
FDCA	Found Cargo
FFM	Freight Forwarding Message (electronic)
FIATA	International Federation of Freight Forwarders Associations (see the page “Interest Organisations” of this website also)
FLT	Flight
Forwarder	Company specialized in providing door-to-airport transport, arranging connecting air transport and/or airport-to-door transport for parcels and consolidations > 75 kg or up to anything that fits in an aircraft ; the air transport is generally outsourced to airlines and sometimes aircraft operators or air charter companies (See the pages “Forwarding In” and “Forwarding Out” of this website also)
Forwarder network	A network existing of different smaller to medium sized forwarding companies all over the world working together
Freighter	Aircraft built with the purpose of carrying nothing else than cargo
FSU	Freight Status Update
Fuel surcharge	Surcharge added to the cargo rate to cover the additional costs of increasing fuel-prices ; these will generally follow a certain index
Full charter	Chartering the full available volume of an aircraft or flight/day
Full Container Load	Container fully loaded, generally with goods belonging to one party
Full freighter	Aircraft built with the purpose of carrying nothing else than cargo

FWB	Electronic air waybill message Also a C2K milestone: FWB = the shipment is booked at the airline, next an electronic air waybill is generated by agent (forwarder) ; this creates the so-called route map in C2K in which all the steps are followed
FYI	For Your Information
General Cargo Rates	Rates for all different kinds of cargo, not falling into a specific handling and/or rate category
GSA	General Sales Agent
GSF	Global Shippers Forum (see the page “Interest Organisations” of this website also)
Handling Agent	Agent handling the ramp and/or warehouse cargo operation for an airline
Harmonised System	A numeric multi purpose system for the classification of goods with its six digits covering about 5000 descriptions of the products or groups of products most commonly produced and traded, designed for customs purposes, but can also be used for statistics, transport purposes, export, import and manufacturing; the international convention on the HS was established under auspices of the World Customs Organisation in 1983
Haulage	Inland transport of cargo
Haulier	Road carrier
HEA	Heavy Cargo
HAWB	House Air Waybill
House Air Waybill	The shipment contract between the end-customer and the forwarder (see the page “Forwarding Out” of this website for further purposes and explanation)
Hub	Central point in a transport system or network
HUM	Human remains
HWB	House Waybill
IATA	International Air Transport Association (see the page “Interest Organisations” of this website also)
IATA-Agent	An IATA certified agent
ICAL	Inbound Cargo Action List

ICAO	International Civil Aviation Organisation (see the page “Interest Organisations” of this website also)
ICE	Dry Ice Shipment
IN	Inches
Inco terms	Internationally agreed set of standard delivery terms
Integrator	Carrier integrating different modes of transport to form a door-to-door transport or supply chain ; this term mostly refers to the large international express companies who’s core business is to carry envelopes and parcels up to 75 kg, often overnight or even same day
Intermodal Transport	The movement of cargo in a supply chain by more than one mode of transport ; for example road/air or sea/air transport
INV	Invoice
ISA	If Space Available
KG	Kilos
L/C	Letter of Credit
LCL	Less than Container Load
Less than Container Load	Container partly filled with goods from one party, or an amount of goods that is not sufficient to fill one container and will therefore likely be consolidated
LHO	Living Human Organs / Blood
License, import / export	Governmental permit to import / export certain goods under certain conditions
Line item	Order line, each line on a packing list or invoice to be declared for customs
Load factor	The extent to which the aircraft (weight-, volume-, ULD-) capacity is efficiently utilized (to generate profit)
LOC	Location
Loose cargo / shipments	Cargo / shipments not loaded on an ULD
Lower deck	The (cargo) deck below the main deck or upper deck of an aircraft
LT	Local Time
Main deck	Upper deck ; the (cargo) deck above the lower deck of an aircraft

Manifest, flight	Document listing the air waybills and a specification of the related goods carried on a flight
Master Air Waybill	The shipment contract between the forwarder and the airline (see the page “Forwarding Out” of this website for further purposes and explanation)
MAWB	Master Air Waybill
MFST	Manifest
Minimum Rate	Rate to cover the basic costs of carrying a shipment
MSG	Message(s)
Network Forwarder	A large forwarding company with worldwide branches
NFD	A C2K milestone: NFD = cargo and documents ready for pick-up at airline (handler), the customer (forwarder) is notified
NND	Notice of Non Delivery
NON-IATA	Airline or agent that is not a member of IATA
Nose loading	Loading cargo through the cargo door in the nose of an aircraft
Notify address	Address of a party other than the consignee to be notified of arrival of the goods
Notify party	Party other than the consignee to be notified of arrival of the goods
NOTOC	Notification To Captain ; list for the captain of the aircraft with goods carried on board
N-Rates	Rates for shipments with weights up to 45 kg
NVOCC	Non Vessel Operating/Owning Cargo Carrier ; in case of Air Cargo a Carrier (e.g. a Forwarder or Consolidator) who issues Air Waybills for the carriage of cargo on aircraft which he does not operate or own
OAG	Official Airlines Guide
OB	On Board
Oversized cargo	Cargo that exceeds the dimensions of an ULD
Package	Packed piece of cargo
Packing list	A list for customs declaration and consignment purposes stating number and kinds of packages being shipped, totals of gross, legal, and net weights of the packages, marks and numbers on the packages, contents and part-/serialnumbers

Pallet	A (standardized) platform on which goods can be stacked for transport or warehouse handling purposes
Pallet, aircraft	A (standardized) platform on which goods can be stacked for air transport purposes
Pallet net	A net used to secure the cargo on the aircraft pallet
Parcel	Package
Part charter	Chartering of a part of the available volume on an aircraft or flight/day
Part shipment	Part of a shipment that travels on a different flight and/or day than the rest of the shipment due to available capacity with the airline
PAX	Passenger(s)
Payload	The (cargo) load that can be carried by an aircraft (to generate revenue)
PC	Piece(s)
PER	Perishable Cargo
PFI	Pro Forma Invoice
POA	Proof Of Acceptance ; legal proof a shipment has been accepted by a party
POD	Proof Of Delivery ; legal proof a shipment has been delivered by a party
POD	Place Of Delivery
PP	Charges Prepaid
PPD	Prepaid
Pre-alert	Message stating the current and or expected status of the goods
Principal	The customer ordering the transport or related services
PSH	Part Shipment
QNTY	Quantity
Q-Rates	Rates with a quantity discount
RCF	A C2K milestone: RCF = cargo has arrived in the cargo bay at final destination ; cargo and airwaybill are administratively received in the system
RCPT	Receipt, Reception
RCS	A C2K milestone: RCS = cargo and documents are received 'Ready For Carriage' and accepted by airline (handler)

Ready For Carriage	(By Air) The goods are correctly packed and labeled, and customs cleared, with the right documents attached
Ready For Transport	(By Road) The goods are correctly packed and labeled, with the right documents attached
RFC	Ready For Carriage
RFT	Ready For Transport
Routing	The path that is (to be) followed by the goods from shipper to consignee
RUSHR	Rush Reply
SASPO	As Soon As Possible
SAWB	Substitute Air Waybill
Security surcharge	Surcharge added to the cargo rate to cover the additional costs of the increasing number of security checks and related administration that are legally required by the authorities
Shipper	The person or company that is physically and administratively responsible for shipping the goods ; for an airline in most cases a forwarder will be the shipper, for a forwarder the shipper is a third party, for example a trading company, a manufacturer, etc. (see the “Shipping” page of this website also)
Shipper’s Letter of Instruction	Document issued by the shipper to instruct and authorize the forwarder to forward and declare goods on his behalf ; contains all shipment details needed to facilitate these services
SHPMNT	Shipment
Side loading	Loading cargo through a cargo door in the side of an aircraft
Skid	Pallet
S/L	Short Loaded
SLI	Shipper’s Letter of Instruction
SSPD	Short Shipped ; stayed behind
TACT	The Air Cargo Tariff ; publication of official airline tariffs
TBA	Time Before Arrival
TBD	Time Before Departure
TEMP	Temperature

TIACA	The International Air Cargo Association (see the page “Interest Organisations” of this website also)
TILNA	Tilting Not Allowed
TILTA	Tilting Allowed
Time Slot	The agreed time to collect or deliver goods
Tonne Kilometer	One tonne (1000 kg or 2204.6 lb) metric flown one kilometer ; productivity indicator
TRA	Transit
Tracing	Retrieving (information on) the status of goods and documents
Tracking	Regular checking on the status of goods and documents
Track & Trace	Automated regular retrieval of (information on) the status of goods and documents and checking these against the agreed norms
Transfer cargo	Transfer of cargo from one flight to another
Transito / Transit cargo	Transfer of cargo from one flight to another
TRM	Transfer Manifest
TTL	Total
ULD	Unit Load Device
ULD, contoured	Unit Load Device shaped to exactly fit in an aircraft
UNACC	Unaccompanied
Unit Load Device	Standardized air cargo loading equipment (pallet, container)
Upper deck	Main deck ; the (cargo) deck above the lower deck of an aircraft
VAL	Valuable cargo
VAT	Value Added Tax
VOL	Volume
Volume charge	Air transport charge based on the volume of goods instead of the actual weight (see “Dimensional Weight” and “Weight charge” also)
VUN	Vulnerable cargo
Weight charge	Air transport charge based on the actual weight of the goods (see “Dimensional Weight” and “Volume charge” also)
Weight & Balance	Management of the weight and allocation of cargo, passengers and fuel for a flight

W/H	Warehouse
XPS	Priority Small Package
XS	In Excess
Yield management	The process of maximizing the contribution (revenue) of the (transport & handling) network, equipment, infrastructure and resources

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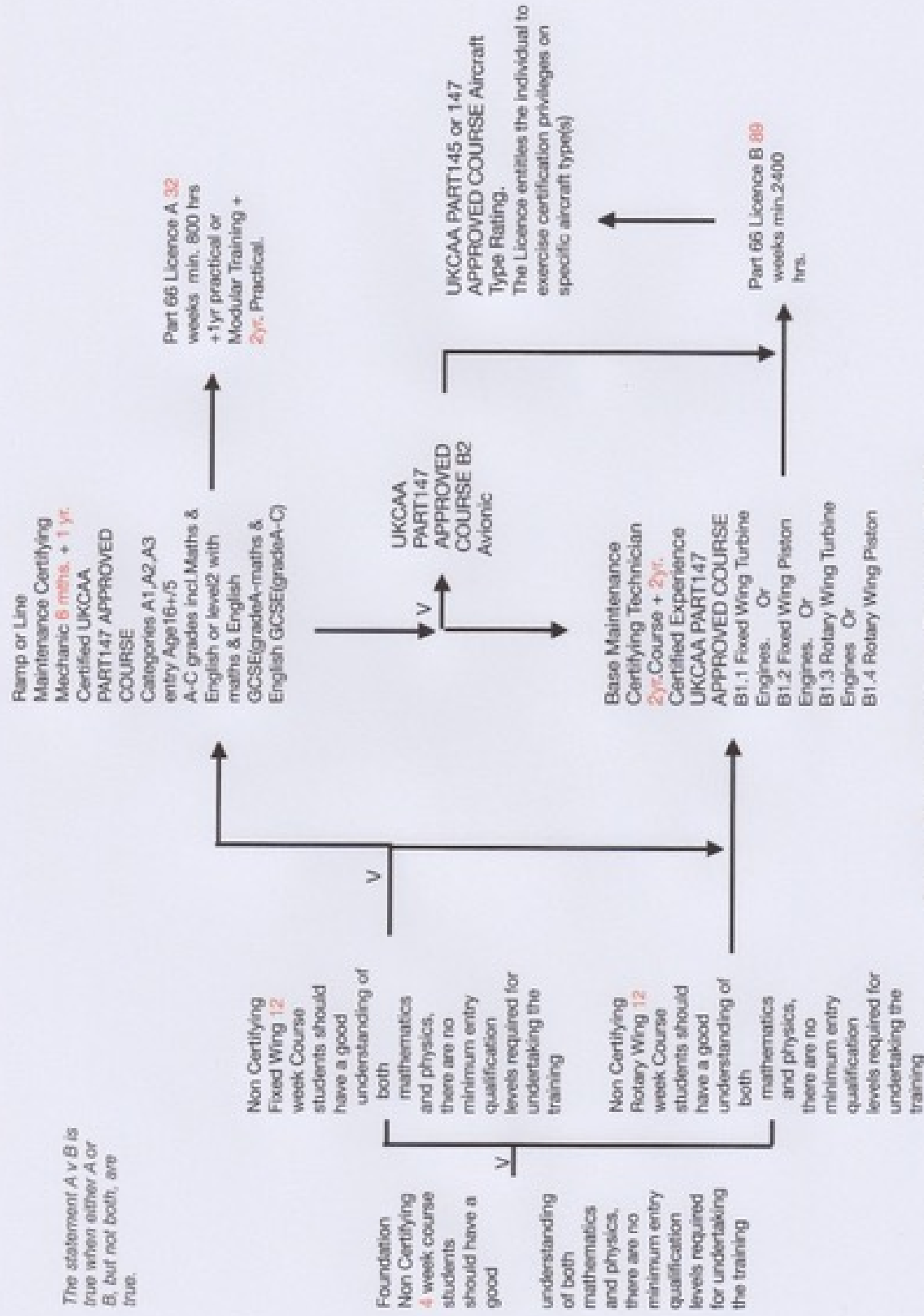
Aeronautical Engineering Training and Career Development
Pathways:

“Going Hither, Thither and Beyond”

Scoping Preliminaries



The statement A v B is true when either A or B, but not both, are true.



Aero Engineering Career Path

This document is intended to identify approved engineering knowledge and skills that the Operators of Manston Airport may require on site to comply with up-to-date statutory regulations. These may be deliverable by a Manston Airport Aviation Academy in-house or through out-sourcing. Non-engineering Aviation training requirements that such an Academy may need are **not** considered in this document but also need to be scoped and provided for well before airport operations commence. Many but not all of these may be undertaken through fully-funded bursaries by full-time trainees or via a mix of 'sandwich courses' and 'apprenticeships'. The quantification of costs, facilities, training materials, plant, room & board, and other resources required lies beyond the scope of this document.

Aircraft Engineering Training Entry Requirements

Potential students should have a good understanding of both Mathematics and Physics.

There are no minimum entry qualification levels required for undertaking the training.

Qualifications for Aircraft Engineering

What type of Engineer do you want to be? What qualification will you require?

To help you make your choice, you will first need to understand something of the process of certification.

The European Aviation Safety Agency (EASA) is the organisation that regulates all aviation activity within Europe and it delegates authority for implementation of its regulations to National Aviation Authorities; in our case the UK Civil Aviation Authority (CAA).

To assure safety within the industry, engineering personnel are licensed in the same way as pilots and air traffic controllers. If suitably licensed an engineer can certify the work that has been carried out on an aircraft and return it to service.

There are a number of categories of licence which cover different levels and skills and, as in other trades and professions, a variety of routes exist to acquire them.

Understanding the type of work and the licences required

A **Ramp** or **Line Maintenance Certifying Mechanic** is an engineer who is qualified to work on operational aircraft performing relatively minor maintenance tasks and part replacements that are required between major service overhauls and on completion to certify these tasks; this work is generally done while the aircraft is in service, during turnarounds or overnight. A Category A Licence is required for this. It is attained after graduation from a 6 month approved course and after 1 year of appropriate certified experience.

A **Base Maintenance Certifying Technician** is a person who is qualified to work on aircraft that require more complex maintenance tasks or have been withdrawn from service for routine periodic servicing or major overhauls and re-fits and who can then subsequently certify their own and other work that has been carried out. A Category B Licence is required for this. It is attained after graduation from a 2 year approved course and after appropriate certified experience. Category B Licences are further divided into specialist skills i.e. mechanical or avionic.

What Subjects do these licences cover?

To be a **Mechanical Engineer** specialising in scheduled maintenance, restoration and re-fit of airframes, power plants, fuel systems and associated pneumatic, hydraulic and air-conditioning systems then you can choose from both *Category A & Category B Licence* routes.

The licence issued will identify the category of aircraft to which it applies. That will be one of the following:

B1.1 Fixed Wing: Aeroplanes with Turbine Engines

Turbine Engines: (often referred to as jet engines) and also called combustion turbines, are rotary engines that extract energy from a flow of combustion gas. It has an upstream compressor coupled to a downstream turbine, and a combustion chamber in-between. Turbine aircraft may be propeller or jet driven.

B1.2 Fixed Wing: Aeroplanes with Piston Engines.

Piston Engines: (otherwise known as reciprocating engines) use fundamentally similar technology to those used by cars and motorcycles where pistons in cylinders are used to generate motive force for propulsion by turning pressure into a rotating motion. These engines are always propeller driven.

B1.3 Rotary Wing: Helicopters with Turbine Engines.

B1.4 Rotary Wing: Helicopters with Piston Engines.

To be an *Avionics Engineer* specialising in scheduled maintenance, restoration and modification of communication, navigation, radar equipment; guidance and control systems including auto-pilot/ auto-land and cabin entertainment then this discipline is only licensed at Category B level.

B2 Avionic: Electronic systems fitted to all aircraft.

Those who wish to pursue a career in aviation engineering will need to know about how to obtain the qualification that they will require to achieve to be permitted to do so.

Training to be an engineer

The following is a list of the courses

- Aircraft Mechanics Course
- Aeroplane Fundamentals Course (Fixed Wing)
- Helicopter Fundamentals Course (Rotary Wing)
- Foundation Courses
- Part 66 Aircraft Maintenance Licence Category A, (Aeroplanes, Helicopters, Piston or Turbine)
- Part 66 Aircraft Maintenance Licence Category B, (Aeroplanes, Helicopters, Piston or Turbine; and Avionics)
- National Certificate in Aeronautical Engineering
- Higher National Certificate [HNC] in Aeronautical Engineering
- Higher National Diploma [HND] in Aeronautical Engineering
- B.Eng. (Hons) degree in Aircraft Maintenance

Aircraft Mechanics course.

This course is designed to provide a taster experience of the aviation maintenance environment for anyone with engineering skills developed in a non-aircraft related environment.

It provides an overview of aircraft systems and maintenance processes, and basic hand skills such as metal shaping and forming, wire locking and general aircraft handling to offer a potential employer evidence of understanding of the industry and commitment to employment within it. It is not a qualification. The normal duration of this course is **4 weeks**.

Aeroplane Fundamentals course.

(Fixed Wing)

Designed for those new to the industry, such as graduates from schools, colleges or non-engineering backgrounds, this course uses the same model as the Mechanics course. It provides a taster of the aviation maintenance environment as a bridging course to the full Category A programme.

This course places greater emphasis on the development of basic engineering skills, with approximately 50% of the course being used for practical work. It also includes 3 *modules* from the Category A programme. This course offers a potential employer evidence of understanding of the industry and commitment to employment within it. It is not, however, a qualification. The normal duration is **12 weeks**.

Helicopter Fundamentals course.

(Rotary Wing)

Similar to the ***Aeroplane Fundamentals course***, this is designed for those new to the helicopter industry such as graduates from schools, colleges or non-engineering backgrounds. It provides a taster of the aviation maintenance environment as a bridging course to the full Category A programme.

This course offers theoretical and practical training in all aspects of helicopter engineering with attention to the unique problems encountered by rotorcraft. It places emphasis on the development of basic engineering skills, with approximately 50% of the course being used for practical work. It also includes 3 *modules* from the Category A programme.

This course offers a potential employer evidence of understanding of the industry and commitment to employment within it. It is not, however, a qualification. The normal duration is **12 weeks**.

Part 66 Courses

Part 66 Courses are approved by the UKCAA under Part 147 for training and examination to meet the knowledge requirements of the Part 66, **Aircraft Maintenance Licence (AML)** in Categories A1, A2, A3, B1.1, B1.2, B1.3, & B2.

Part 66 Licensing Routes

To become a **Licensed Aircraft Engineer**, there are two licensing routes that candidates may follow, each of which have both basic knowledge and experience requirements that must be met before the regulating authority will issue a licence.

An “Approved Course”

- Must provide a minimum number of training hours: 800 hours for Category A or 2400 hours for Category B.
- Each Category B course is therefore equivalent to three Category A modules.
- Every course must be taught by a training provider holding Part 147 approval issued by the relevant national aviation authority, in Great Britain the UKCAA.

An Approved Course also must provide the required percentage of training hours for the development of practical skills on representative aircraft and systems.

This includes Aircraft Maintenance Environment Training (AMET), at a Part 145-approved maintenance organisation.

UKCAA approved training providers are also examining authorities, and they examine all Part 66 trainees through formal assessments of practical competence during taught course modules.

On successful completion graduates are issued a Certificate of Recognition of Approved Training.

The Certificate of Recognition certifies that the holder has passed all the requirements of the course including each module examination and has also been assessed practically to be competent and safe when working with aircraft.

The benefit of undertaking an “Approved Course” is that the students on it are given a thorough knowledge of aircraft structures, systems and operating phenomena, and the experience requirement following graduation is reduced. For example the normal minimum experience requirement prior to application for an Part 66 Category B licence is reduced from 5 years to 2 years for graduates an approved course.

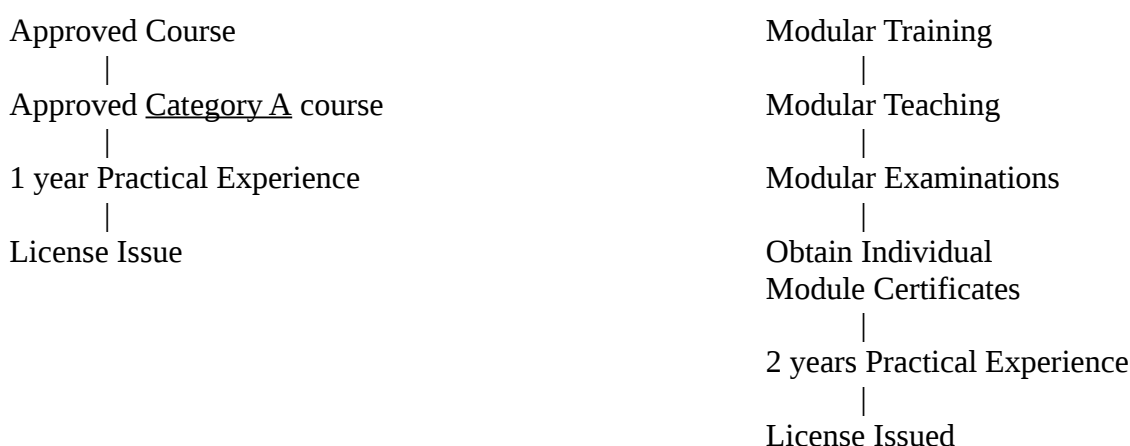
This experience may be gained before, during or after the “Approved Course”. Those entering an approved course after having already gained 2 years’ prior experience must complete some further experience following graduation before applying for licence issue: the actual amount of additional experience required can only be decided by the licensing authority, not the course provider.

Approved Part 66 Category A course.

Category A courses take **30 weeks, of which 25 weeks are spent on theory and practical lessons**, and **5 weeks** on an Aircraft Maintenance Environment Training placement. The **first 19 weeks of the course are common** to both Helicopter and Fixed Wing aircraft, with **the remaining time at the school being used for subjects particular to each specialisation**.

Successful graduates will also be required to provide evidence of a minimum of 1 year appropriate maintenance experience, acceptable to the licensing authority, before application for licence issue can be made.

Category A License Path

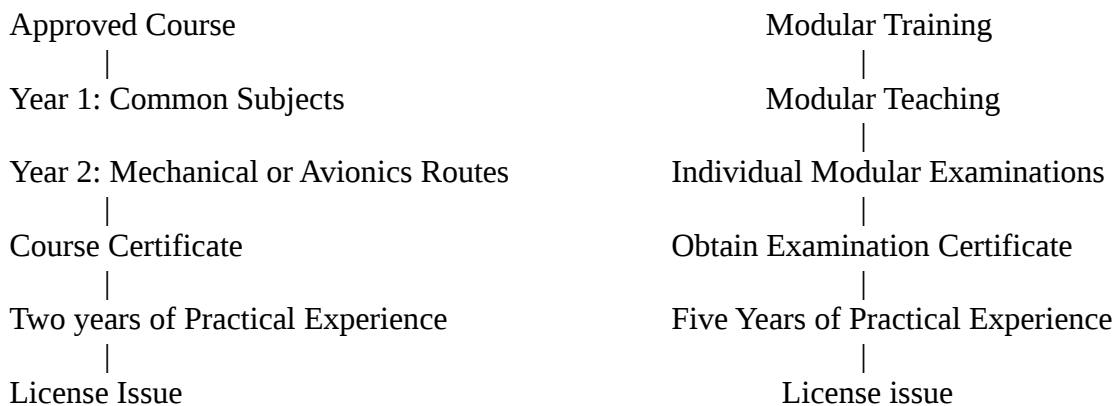


An Approved Part 66 Category B course

Category B courses take **89 weeks plus annual leave of 5 weeks** each year and public holidays. A placement of **8 Weeks** of Aircraft Maintenance Environment Training is included in the **89 week** programme.

The *first 60 weeks of the course are common to all licence types*, therefore sponsors do not need to make a decision regarding whether to follow Mechanical or Avionic licensing until the second year of the course.

Category B License path



Comprehensive List of Category A/B Course Modules

- M1 Maths
- M2 Physics
- M3 Electrical Fundamentals
- M4 Electronic Fundamentals
- M5 Digital Techniques
- M6 Materials & Hardware
- M7 Maintenance Practices
- M8 Aerodynamics
- M9 Human Factors
- M10 Aviation Legislation
- M11 PartA Aeroplane Aerodynamics, Structures & Systems (Jet Engine)
- M11 Part B Aeroplane Aerodynamics, Structures & Systems (Piston Engine)
- M12 Helicopter Aerodynamics, Structures & Systems
- M13 Aeroplanes Aerodynamics, Structures & Systems
- M14 Propulsion
- M15 Gas Turbine Engine
- M16 Piston Engine
- M17 Propeller

Higher Qualifications

The Category C License.

The UKCAA **Category C Licence** permits the release of an aircraft to service in its entirety by a single certificate of release-to-service by one overall signatory, once all base maintenance work and checks have been completed in accordance with Part-145.

The Category C licence certifier will act primarily in a maintenance management role controlling the progress of aircraft maintenance work.

A Category C licence alone does not permit the holder to act as a B1 or B2 certifier.

An applicant for a Category C licence must have completed a prescribed period of aircraft maintenance experience. The Category C licence may be obtained via one of two available routes:

- through experience gained through holding a Category B1 or B2 licence, or
- as a graduate entrant with a degree that is considered to be acceptable to the UKCAA.

Pre-Requisites for holding a Category C License

You must hold a type-rated a valid Part 66 Aircraft Maintenance Licence and have been exercising Category B1/B2 privileges for 3 years or more, namely in relation to B1.1, B1.3 or B2.

Category C requires, with respect to large aircraft:

- 3 years of experience exercising Category B1.1, B1.3 or B2 privileges on large aircraft, or as Part-145 Category B1.1, B1.3 or B2 support staff, or
- 5 years experience of exercising Category B1.2 or B1.4 privileges on large aircraft, or as Part-145 Category B1.2 or B1.4 support staff
- or a combination of both.

For Category C with respect to Non-Large Aircraft:

- 3 years of experience exercising category B1 or B2 privileges on other-than-large aircraft, or
- as Part-145 B1 or B2 support staff, or
- a combination of both.

Graduate Route

To qualify for a Category C License who holds an undergraduate **Degree in Aeronautical Engineering**, or in a similar discipline that is considered by the CAA relevant to aircraft maintenance that has been accepted for this purpose by the CAA, also must have at least 3 years' experience in a civil aircraft maintenance environment including 6 months of observation of base maintenance tasks.

Degree-route graduate engineers seeking employment would be well-advised to confirm that the class of degree they have been awarded meets or exceeds the airport operator's minimum expectations.

There are currently no standard assessment terms for these applications and therefore applicants are advised, before applying for licence issue, to ensure they meet the experience criteria in accordance with Part-66.A.30 and related AMC.

A person qualifying for a Category C Licence via this route will **not** be entitled to a Category B1 or B2 licence unless the requirements for those Categories are **also** met.

Other Considerations

We are fully aware that HNC/HND, and City & Guilds sandwich courses and opportunities for distance learning before entry or as part of continuing education and career development merit full and careful consideration in their own rights in further revisions or in a separate document.

We certainly hope to gather a great deal more information about the strengths, weaknesses, opportunities and threats that relate to each of these pathways, not only in Engineering but in a variety of other fields including hospitality & housekeeping, health & safety, emergency management, travel & tourism, financial management, office skills, computer services and cyber security, the identification and need for foreign language skills to deal with eventualities, medical & nursing cover. The extent of hard work involved in this must not be under-estimated nor the time required to deal with the issues proactively and effectively.

Within the near future, RSP will wish to engage with aviation specialist companies in locally and perhaps further afield regarding training of personnel and consider how working together to achieve accreditation and certification of persons should be dealt with systematically and organically so that it meets all corporate needs and is compliant with national and internationally mandated standards of performance, monitoring and measurement.

KNMA stands ready to do what it can to facilitate or participate in liaison with schools, commercial training establishments, colleges of further education and universities, locally, nationally and internationally, but at all times we fully appreciate that our thoughts and findings must be subject to oversight and decision-making by RSP.

© KNMA, 18 August 2017

Notes:

Dear Sirs, thank-you for giving us the opportunity to let you hear and consider our opinions and thoughts of this project. Being a 20 year old employee of a major airline, as well as a long-term committee member for the association, this project especially, has personal individual significance.

To summarise my statement, the project will provide a **significant positive impact on the local youth population**, including **encouragement to take up flight training and careers in aviation**. It also highlights the importance of **history and remembrance**, as well as provide **apprenticeship, training and educational possibility**.

Individually, Thanet has always suffered from high rates of unemployment and skills shortages. Firstly, Thanet is a deprived area, which means there's limited options for people of all ages hoping to take up careers. As a result, the local region suffers lower than average levels of qualifications -**10% of the working age 16-64 have no qualifications, lower than Kent and the SouthEast as a whole**;

6.1.3 In Thanet, the working age population:

"is less well qualified than across Kent and the South East as a whole. Of its population aged 16-64, 10% have no qualifications, figures, which are lower than Kent and the South East. The proportion of the Thanet working age population holding each respective qualification level is lower than the two other comparator areas. This situation is most acute for the highest qualification level: NVQ4+." (TDC, 2016, p. A-2)

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- there simply isn't enough local prospect of career development, especially within the STEM subjects such as Engineering and Technology.

Manston Airport has been an airfield for approximately 100 years, serving in both World Wars and the Cold War. There has always been a large emphasis on the crucial role Manston played in WWII, as well as in the Battle Of Britain. This is why it is so vitally important to keep provisions in place for heritage and remembrance, which includes multiple memorial sites and museums around the airport, local area and further afield in the region.

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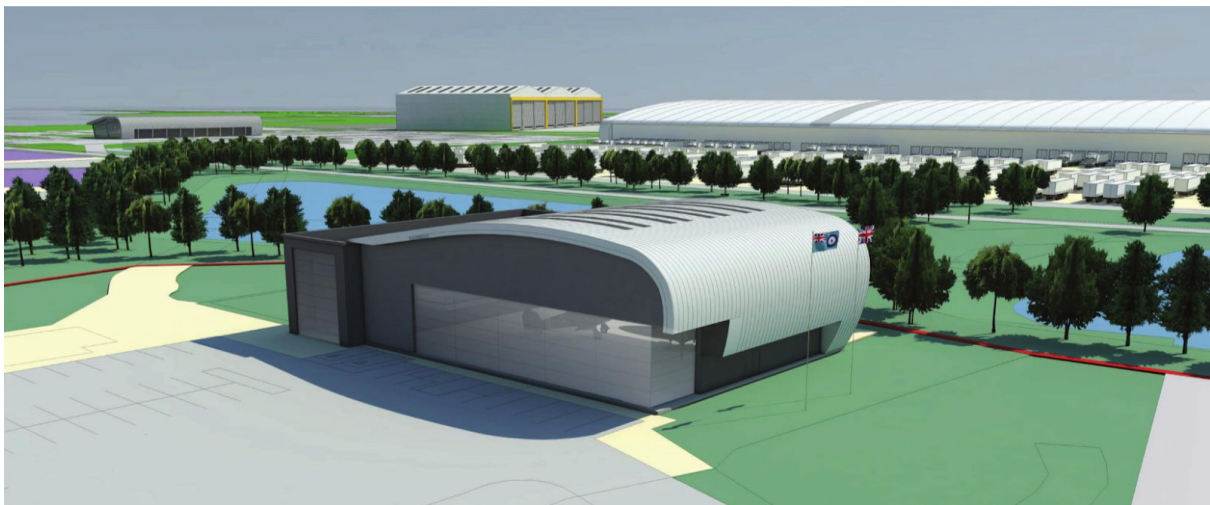
6.5.1 The two museums at Manston Airport, RAF Manston History Museum and the Spitfire & Hurricane Memorial Museum have, *"the task of remembering the past and educating for the future through its presentation of the history of WW11 to its current and future audiences."* (Submission to the statutory consultation on behalf of the RAF Manston Spitfire & Hurricane Memorial Trust)

¹ MANSTON AIRPORT: A NATIONAL AND REGIONAL AVIATION ASSET ; VOLUME IV; The economic and social impacts of airport operations; Section 6: Training and Education'. pg34

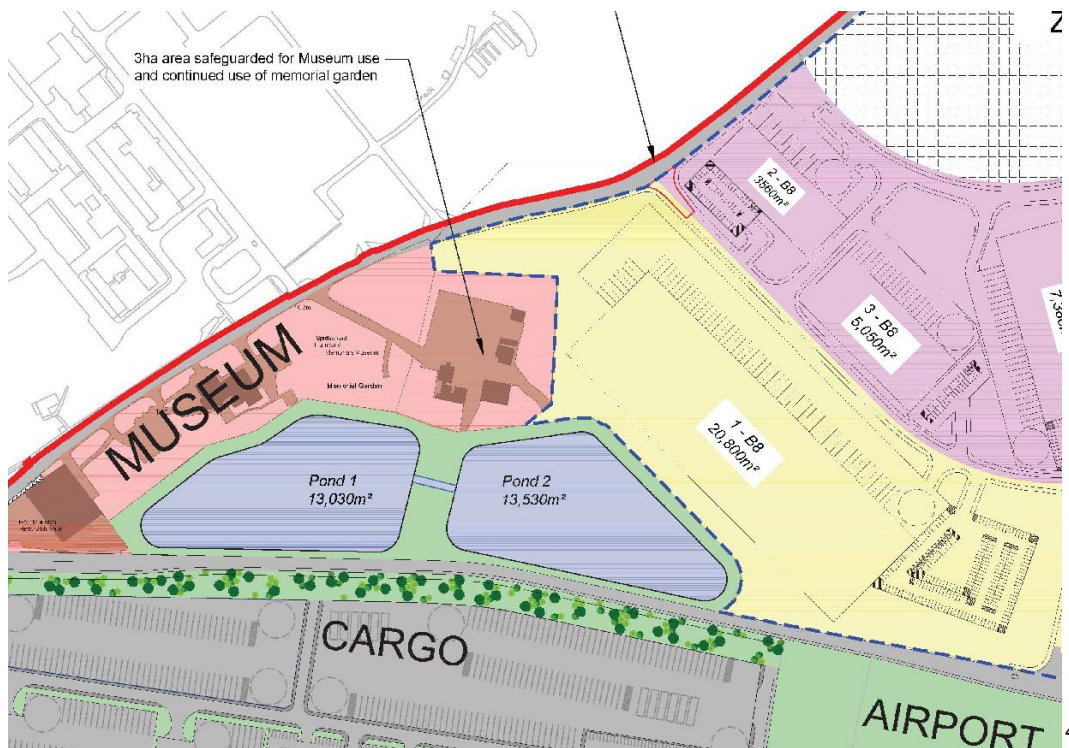
² MANSTON AIRPORT: A NATIONAL AND REGIONAL AVIATION ASSET ; VOLUME IV; The economic and social impacts of airport operations; Section 6: Training and Education'; 6.5.1; pg37

We agree with RSP's application in regards to the museum and heritage planning. We are happy that a location where they stand has been safeguarded, and with speculation of a new building, the museums have expressed great admiration as it will greatly improve the impact these museums have on the local community. There are multiple possibilities when it comes to how the museums can connect with local communities, public services, volunteer organisations and schools, as well as links to the national education and remembrance system.

They can offer educational days and special events where children of all ages can learn about the war, the aircraft, and maybe more technical for older students, regarding the development of aircraft and engineering through the years.



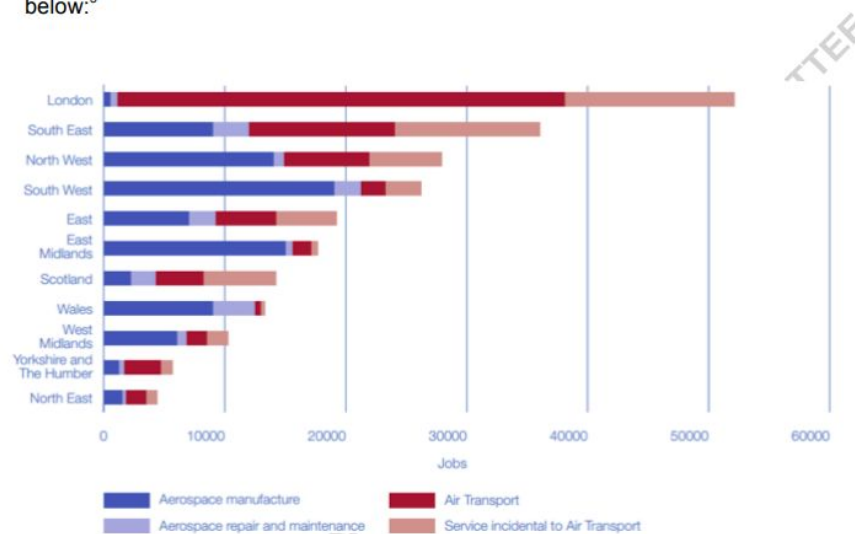
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Onto Flight Training; aviation is a big contributor to the UK economy, directly contributing at least £22 billion, as well as creating over half a million jobs within the aviation and aerospace sectors.

5

6. Taken together, the aviation and aerospace sectors combined provide the UK with over half a million jobs, either directly or indirectly and often in high value roles.⁸ Employment in the aviation sector is spread across all regions of the UK, as shown below.⁹



⁴RSP Masterplan 7.1. pg10

There are many jobs available within the aviation industry such as cabin crew, aircraft engineering, turnaround manager, dispatcher Ops, airfield Ops and many more; but the most sought after job is Pilot; whether it be for a large passenger airline flying the Airbus A320 or Boeing 737 aircraft, flying Freight for a cargo airline in the brand new 747-8F Freighter aircraft, or being a flight instructor on the Cessna 172 or Robinson R22 helicopter.

It is a great, rewarding job to have, but it comes after many years of hard work and training. And Manston airport can supply the capacity and services for flight training. RSP's plan for a Manston Airport Training Facility (MATF) are supported by us, the Save Manston Airport association

The General Aviation sector generates £1.4billion for the UK economy, contributing 12,000 jobs, and growing.

A local based Flying School, TG Aviation, were based at the Manston Airport site, and provided flight training services to aspiring pilots. They had a fleet of C152s and PA28 Piper Warriors. This enables you to build hours for a number of licences, including PPL, mLR, CPL, fATPL. Pilot training, to full commercial legality and licence, costs around £100,000; which is an incredible financial investment. Most of the time this includes a large amount of groundschool, lots of theory. It then comprises of around 9 months flying, normally in Spain, USA or New Zealand. In growing popularity, many FTOs (Flight Training Organisations) are encouraging students to take up a university degree alongside their pilot training, a Bsc in Aviation Studies - one of the many opportunities that a re-opened Manston airport and MATF can provide.

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6.6.3 Previous owners of Manston Airport developed and funded a highly successful BSc Business Studies with Airport Operations degree at the Broadstairs Campus of Canterbury Christ Church University. The success of this degree course lay in the ability of the course to attract local students from first generation university families. These highly motivated students were attracted by the involvement of the airport with their local HE provider. The course acted as a pilot for a dedicated Manston facility, which will help match the need for skills by industry with provision by HE and FE and training institutions in the area. In addition and given the Government's agenda for 14 to 19 year olds, this may also include schools.

⁶ MANSTON AIRPORT: A NATIONAL AND REGIONAL AVIATION ASSET ; VOLUME IV; The economic and social impacts of airport operations; Section 6: Training and Education'; 6.6.3; pg38

To achieve a PPL, it requires a minimum of 45 hours flying and costs approximately £9000 - but in order to encourage people to take up flying, they need to have access to it, so linking apprenticeships - exchanging work for flying, or offering scholarships is a great way of helping and enabling youth to fly. For this you need rooms for study, access to airside in order to go flying as well as hangarage for storage of aircraft.

A state of the art college linked to Manston Airport will have incredible, positive effects on the local youth population in a number of ways. It will give young people a great opportunity to take up study in a sector/subject of which they have high interest in - This will increase enthusiasm to study and will encourage young people to take up further education and higher education, in order to achieve dreams or develop their knowledge in a particular field. It will also help them in securing a long-term high prosperous job within the aviation and STEM community.

The MATF can also provide for local businesses by raising the profile of the local area, attracting investment and creating development opportunity. It will also present the ability to hire apprentices relating to airline/airport management and engineering apprenticeships to name a few.

In summary, this project is crucial to the points raised earlier when it comes to providing a **significant positive impact on the local youth population**, including **encouragement to take up flight training** and **careers in aviation**, as well as provide **apprenticeship, training** and **educational possibility**. - demonstrated by RSP's plan to include a state of the art Training Facility.

It also highlights the importance of **history and remembrance**, as well as provide **apprenticeship, training** and **educational possibility**. We hope to see a re-opened Manston Airport with state-of-the-art facilities to help the youth of the local area enter education that will lead to a long term career, increasing the prosperity of our area and providing the much needed capacity for airports and general aviation airfields in the South East and the UK.