



Aviation Centres of Excellence

Developing Tomorrow's workforce for a global community

9 October 2019



Outlook on industry, education and investment



Paul Maynard MP

Parliamentary Under-Secretary of State for Transport





Shortage of skills: The challenges facing aviation across Europe and the UK



Frederique Luca

Senior Communications Manager, European Business Aviation Association



Marc Bailey

CEO, British Business & General Aviation Association

A CRACK IN THE
PIPELINE
FACING AVIATION'S
SHORTAGE OF
SKILLS

Frederique Luca

Head of Communications

EBAA

Aviation Centres of Excellence:

Developing tomorrow's workforce for a

global community

October 2019

EBAA

WHO WE ARE

Founded in 1977 and based in Brussels, the European Business Aviation Association (EBAA) is the leading organisation of the Business Aviation industry in Europe.

We represent the **entire Business Aviation ecosystem**:





AIR TRAVEL IS STILL VERY MUCH IN DEMAND

Business Aviation

Signs of **Improvement**









Large jet programs coming

Commercial Aviation

All-Time High



Passenger traffic rising



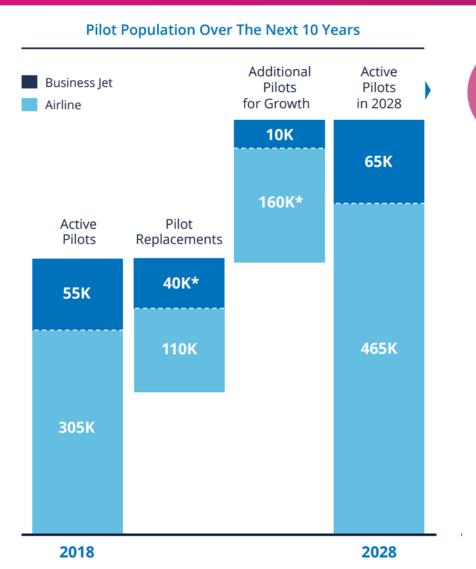
Direct city-pairs expanding



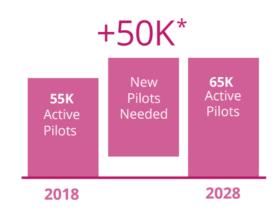
Average load factor increasing



CIVIL AVIATION PILOT DEMAND 10YRS







530k

Airline Pilots Needed



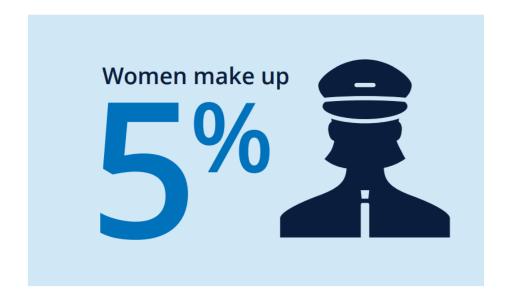


BOEING PILOT OUTLOOK: 2019 - 2038

Pilot Outlook by Region



WIDENING THE TALENT POOL



Of the 360,000+ active civil pilots worldwide





GLOBAL DEMAND FOR AVIATION SKILLS IS SET TO OVERTAKE SUPPLY BY 2027

Exhibit 1: Forecasted US Commercial MRO Maintenance Technician Demand and Supply by Year



Airlines and international MRO providers identify one clear reason: a lack of interest in aviation from younger talent pools.





Source: Oliver Wyman Commercial MRO Maintenance Technician Labor Model



BOEING'S TECHNICIAN OUTLOOK BY REGION



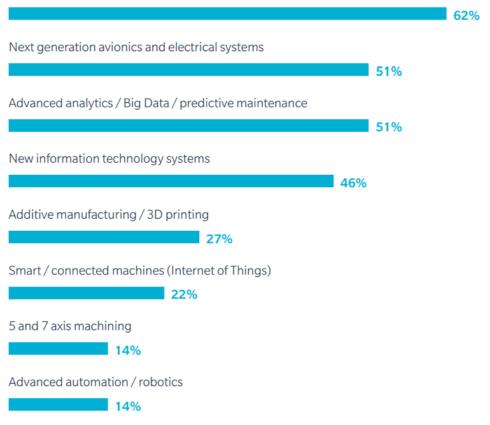


TRADITIONAL VS TECH SAVVY

Exhibit 7: Training Needed on Emerging Technologies

Q: Please identify emerging technologies affecting the skill requirements of your maintenance technicians PERCENT OF RESPONDENTS

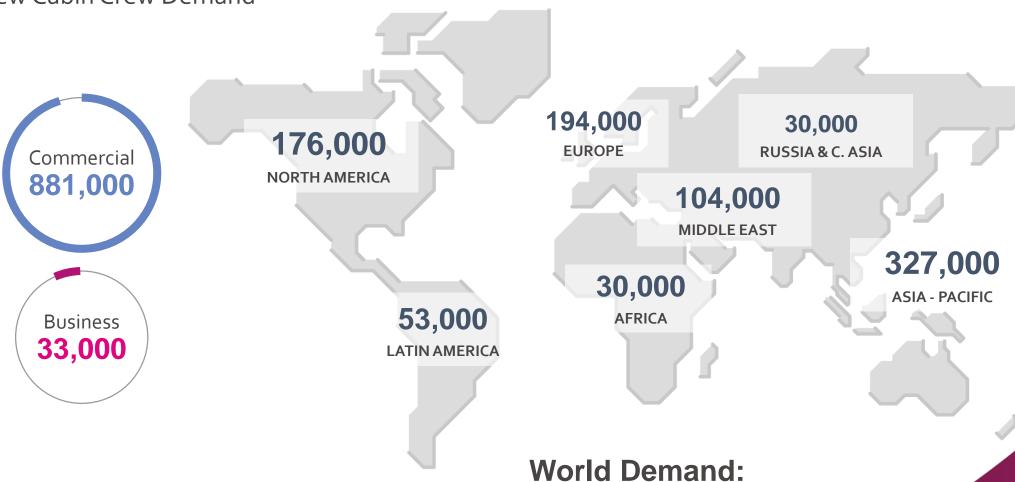
Composite material repair / manufacturing





AND WHAT ABOUT THE CABIN CREW?





914,000





Ground Handling International Skills Survey

"More than 50% of European stations afflicted by skills shortages."



THE ROOT PROBLEM

The demand for aviation professionals will exceed supply. Factors include:

- wholesale retirements in the current generation of aviation professionals
- aviation professions not attractive enough to potential candidates
- competition with other industry sectors for skilled employees
- training capacity insufficient to meet demand learning methodologies not responsive to new evolving learning style
- accessibility to affordable training
- lack of harmonization of competencies in some aviation disciplines, and
- **little awareness** by the "next generation" of types of aviation professions available.



THE SOLUTION

Solutions must be globally-harmonized in nature and include:

- accredited training and educational programmes adapted to the next generation
- human resource planning tools
- and wide-ranging cooperation among concerned stakeholders.



Frederique Luca

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https://expandinghorizons.com



@EBAAorg



European Business Aviation Association



@EuropeanBusinessAviationAssociation



ExpandingHorizons



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Levelling up - A Model for Pre-training Training Karen Spencer Principal and CEO, Harlow College and Stansted Airport College



Not just courses. **Careers**

Stansted Airport College



Karen Spencer – Principal & Chief Executive Harlow College



October 2017





































"Stansted Airport College is working closely with local employers to give our learners the best possible start in the aviation industry. There is a massive demand for engineers and we've been working closely with the College to see how we can help support those trainees once they've qualified. We're taking 16 trainees next year on Apprenticeship programmes, which we hope will be the start of a long term relationship with the College."

Andy Daines, Engineering Training Manager at Ryanair



Nationally there will be over 2.5m engineering jobs by 2022



4,300 engineering companies in Essex



High demand for skilled workers continues to grow



58% of jobs advertised salaries are £30,000+

	Course Title	Level	Duration
v o	Pre-Apprenticeship in Engineering Operations	2	1 yr
Ø	Extended Diploma in Operations and Maintenance Engineering	3	2 yrs
v o	Extended Diploma in Aeronautical Engineering	3	2 yrs
ap	Engineering Technician – Aircraft Maintenance Fitter	3	48 mths
ар	Engineering Technician – Mechatronics Maintenance	3	48 mths
ap	Aircraft Maintenance	4	48 mths
he	Engineering (various pathways)	4	2 yrs





















Year 1 activity (Sept 2018 – July 2019)

16-19 Full time learners	278
Adults	389
Apprenticeships	27
Jobs	98

Yr 1 Achievement rate	96%

Year 2 activity & planning

Full-time	429
Apprenticeships	52

Adult learner target	500
Job outcomes	300

Current building capacity 530	
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Thank you and Questions

Networking Break





Levelling up – Trailblazers



John Bool

Technical Director, Harrods Aviation



Sandra Kelly

UK Director of Skills and Policy, People 1st International



Roger Gault

Chairman, Pilot Apprenticeship Special Interest Group (SIG), Aviation Industry Skills Board









Aviation Industry Skills Board A collaborative working partnership

Sandra Kelly
UK Director – People1st International



Background Information to AISB



The employer led Aviation Industry Skills Board (AISB) was formed in 2007 and is facilitated by People 1st as part of a joint working collaborative skills partnership for the industry.

It includes in its membership aviation industry employers, trade associations and government bodies.

Current AISB Chair:

Karen Hewitt - British Airways

Manager Apprenticeships & Emerging Talent Leadership

Talent & Capability Development





Message from the AISB Chair







What happens when a group of likeminded and passionate aviation experts come together to raise skills and help professionalise their sector? That was the question I asked myself 9 years ago when I first joined the Aviation Industry Skills Board (AISB) representing British Airways. Having been nominated Chair of this unique group in 2017, I'm tremendously proud of what we've achieved.

Over the years, our members have acted collectively to drive skills related activities and although we exist in a highly competitive sector, there is no doubting the value our joined up approach brings to our businesses and the sector, helping us to maximise the skills of existing talent and build a pipeline for the future.



With our valued partners, we are committed to drive and tackle the challenges we meet along the way.

Core AISB employer members and associations



Core employer members

- British Airways
- Heathrow Airport
- TUI
- Virgin Atlantic
- Gatwick Airport
- Easyjet
- Menzies Aviation
- Flybe
- Bristow Group
- RAF



Association members

- Royal Aeronautical Society
- Honourable Company of Air Pilots
- Department for Transport (DFT)
- Association of Employment & Learning providers (AELP)
- Civil Aviation Authority (CAA)
- Aerospace Growth Partnership (AGP)



AISB and People 1st International





People 1st International as an impartial, trusted and effective strategic partner facilitate all AISB and Special Interest Group meetings, providing expertise and guidance in policy, to develop the apprenticeship standards and programmes which are required by the AISB for their industry.

People 1st International was approved by the Institute for Apprenticeships and Technical Education (IFATE) in 2017 as an External Quality Assurance (EQA) provider







Aviation Industry Skills Board



AISB Membership Structure

Strategic Partner and facilitator of AISB: People 1st

Aviation Employer Members

Airlines
Airports
Ground Handling Agents
Military

Influencing Bodies

DfT

DfE

IfATE

CAA

EASA

Information sharing

Trade Associations
Societies

FULL MEMBERS VOTING RIGHTS

EXTERNAL ASSOCIATE MEMBERS – NON VOTING

Current AISB – Special Interest working groups

internationa



In order to deliver all its objectives the AISB establishes and dissolves special interest groups (SIGs).

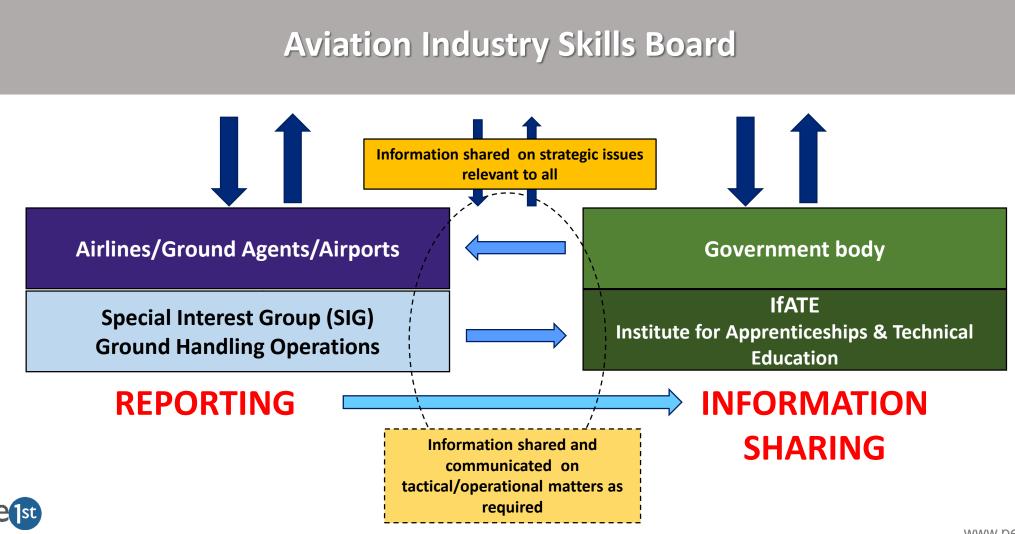
The chairs of the SIG groups are responsible for reporting back to the AISB against agreed outcomes at, and between, scheduled meetings. The terms of reference of sub groups are agreed by the AISB to ensure clear objectives, and efficient and effective outcomes in accordance with the AISB strategic plan.



Example of AISB & SIG reporting & information structure

internationa





Some of the working partnerships which have been formed by the AISB during their SIG work within the Aviation sector





























Bristol Airport

























PART OF MLA.G. www.people1st.co.uk

AISB strategic plan for 2019/20 Aviation Apprenticeship Standard development 2019/20/21



AVIATION GROUND OPERATIVE LEVEL 2

Propose to withdraw in favour of 2 standalone standards

AVIATION GROUND
SPECIALIST LEVEL 3

Propose to withdraw current standard in favour of 6 standalone

AVIATION MANAGER
LEVEL 4

CABIN CREW

PILOT

Aviation Above Wing Operative L2 Aviation Below Wing Operative L2

Aviation Security L3
Aviation Movement L3
Aviation Fueling L3
Aviation Dispatch L3
Aviation Flight Operator L3
Aviation Planner L3

Aviation Operations Manager L4

Cabin Crew L3
Senior cabin crew member L4

First Officer Pilot L6

Proposals submitted to IfATE September 2019

Phase 1 All Proposals submitted to IfATE January 2020

Phase 2 Consultation to prioritise standard and EPA development 2020/21

Standard remains valid but there will be minor / major changes planned

Amendments to EPA submitted August Decision to continue with SCCM proposal required following feedback from IfATE

Standard published February 19
Financial deficit continuing to be addressed

AISB strategic plan 2019/20 continued...



- As part of their strategic plan for 2019/20 the AISB will also align with other industries outside the Aviation sector to work collaboratively in regard to a broader debate on future flexible work trends and how apprenticeships may align with this in the future.
- Undertake revision of the National Certificate in Airside Operations (NCAO)
- Working in partnership with the Department for Transport to explore how the current skills gaps will evolve over time, and where the industry sees future demand. This is a crucial piece of work which the AISB believe will show the strength of the AISB's collaborative partnership across the whole industry





If you require more information on the Aviation Industry Skills Board and their work for the industry



julie.blasbery@people1st.co.uk











First Officer Apprenticeship



AISB member Roger Gault Special Interest Group Chair - Pilot





First Officer Apprenticeship



- Employed from the start of apprenticeship
- Airline pays for apprenticeship training
- Standards based on Competency
- ATPL(A) or MPL
- £27,000 Levy funding
- Offers Social Mobility
- Independent Assessment after Line Cx



Airline engagement in Development & Delivery







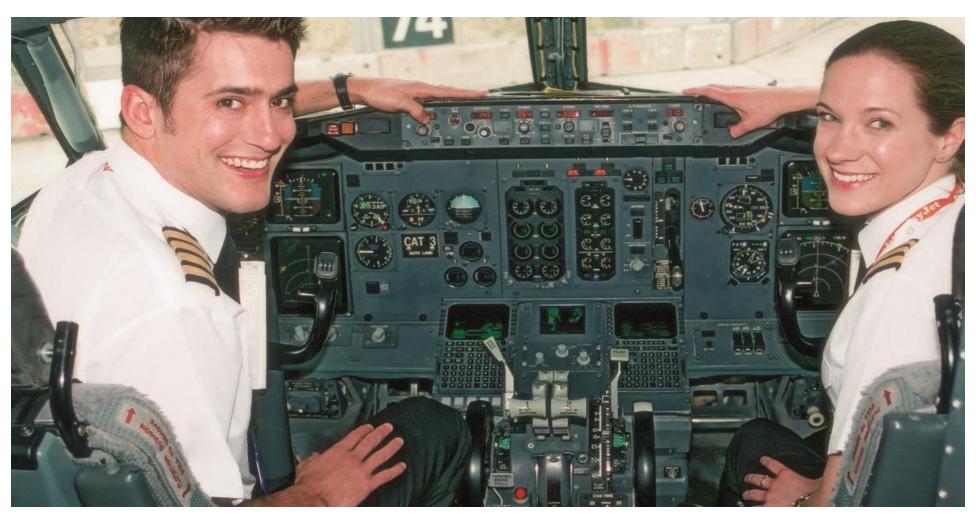
Open to all with skill/aptitude - eliminate the £100k barrier





MAKE IT WORK!









Any Questions?

roger@rgault.co.uk





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@p1stgroup



People 1st



Aviation Education - a snapshot across the UK



Rosalind Azouzi

Head of Skills and Careers, Royal Aeronautical Society



Lisa Almond

Regulatory Approval Manager, BAE Systems Military and Civil Training - Part 147/66



Rachel Gardner-Poole

Head of General Aviation, Civil Aviation Authority



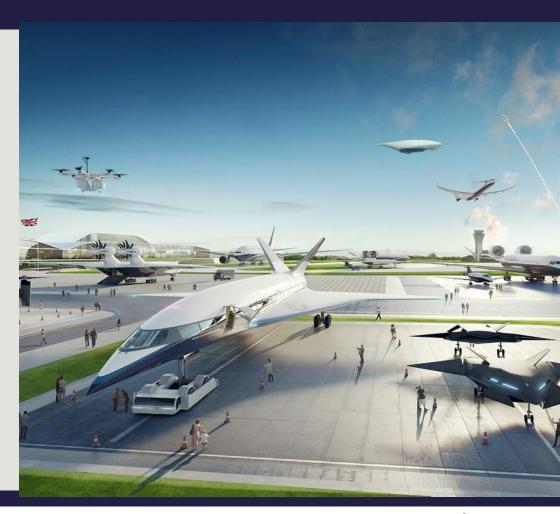




Royal Aeronautical Society

OUTREACH, CAREERS & SKILLS TO SUPPORT THE TALENT PIPELINE

Ros Azouzi | Head of Skills and Careers rosalind.azouzi@aerosociety.com



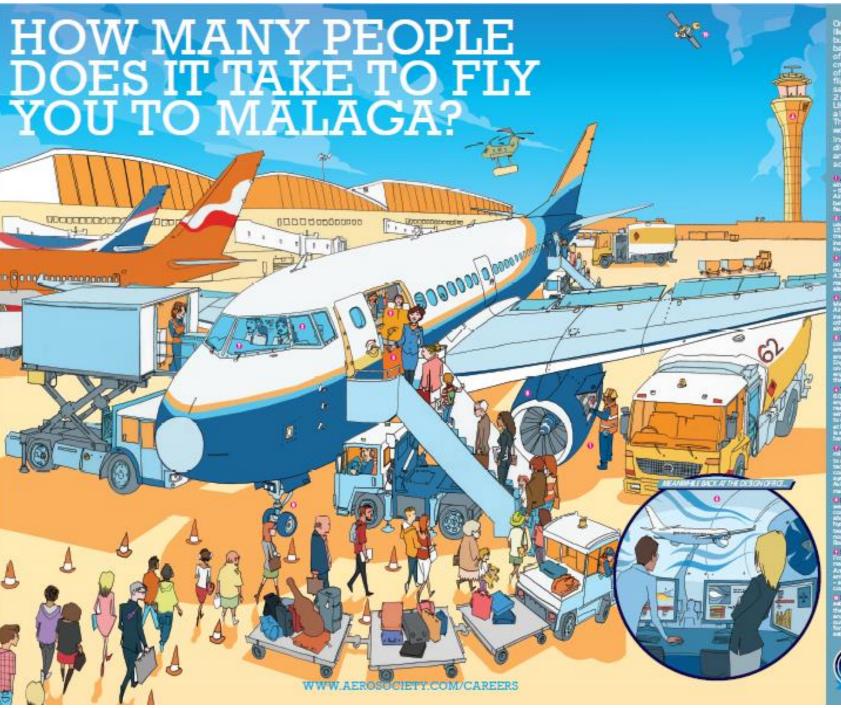


ABOUT US

RAeS is the world's only professional body and learned society dedicated to the aerospace and aviation community

- Professional recognition for all professionals
- Professional Engineering registration
- Accreditation of university courses and employer training programmes
- Influencing opinion on aerospace and aviation matters
- Conferences, events and networking
- Learned publications
- Dedicated Careers and Skills department
- World's foremost library collection
- 23 Specialist Groups and 60+ Branches
- Registered Charity 313708 public benefit duty





On your way to Malage you're more likely to be thinking about your holdery, but you might notice the plans, sport beggage handlars on the ground and, or ourse, you'll meat some of the cabin crow in fact, it requires many hundreds of professionals to ensure that your flight is able to depart and antive safety and on time. Every year, over 2 million passengers travel from the LIK's major singers to Malage - that's about of flights to just one destination. The sines amount of flights allower the world means the semispace and availar industries are huge. And with so many diverser rose sequiring of flights allower the sites and qualifications, maybe there is necessaria.

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TALENT PIPELINE: THE DILEMMA

EMPLOYERS

We can't get the right skilled people

Not enough young people are interested in STEM subjects

Teachers don't know about engineering pathways

Aerospace and aviation no longer excite/inspire the current generation of young people

Etc.

RAeS ... piggy in the middle:



... but thinking about attraction and retention of younger members post-education and training

YOUNG PEOPLE

I don't have time to complete online applications

Employers don't reply to my applications

I can't get an apprenticeship

I don't have enough relevant work experience

Apprenticeship or university?

I want to be a pilot but don't have funds

How do I demonstrate 'soft skills'?



RAeS 'cradle to grave' approach

A full Careers and Skills service from outreach in primary schools to secondary, college university, college and beyond, working closely with industry and educational partners

Primary Secondary Further Education and beyond

Cool Aeronautics programme sponsored by AAR

Amy's Aviation – Fun Kids Radio Series X 3 - available via iTunes and on YouTube (free)

Reach for the Sky booklet with the Yorkshire Air Museum

Falcon 2 Flight Simulator Initiative with Aerobility and Boeing

(Schools Build-a-Plane Challenge)

UK Rocketry Competition led by ADS

Exhibiting at regional and national STEM and Skills events

www.careersinaerospace.com

Career Flightpath magazine

www.careersinaerospace.com

Careers in Aerospace & Aviation LIVE

Free 1-2-1 Careers Service (all ages)

University and College Careers

& CV Workshops

Centennial Scholarships

Young Member network

Alta mentoring scheme

Apprenticeship EPA and Trailblazers

Industry partnerships/sponsorship

CPD, membership and registration

Working with employers on skills

Aerospace Growth Partnership - Skills Working Group

Reports into the AGP Board:

- Partnership with BEIS, ADS and industry
- Comprised of aerospace manufacturer primes, Tier 1-2 suppliers, some SMEs
- Organisations like the RAeS, regional trade associations and SEMTA
- Recent sector deal
- Aerospace Technology Institute
- Supply Chain 21
- Skills WG focus on outreach, skills planning, Apprenticeship levy and new Aerospace Standards, Future skills, retention of knowledge

Support from DfE

Other groups include Engagement looking at government relations

Aerospace & Airworthiness Trailblazer Group

- Comprised of aviation and aero employers, training providers, universities and professional bodies and IFATE
- 5 year + journey to develop aero engineering related standards incl Level 3 Engineering Technician with 13 pathways, and L6 Aerospace Engineer
- Works closely with AGP Skills WG
- Review /re-write Standards in line with changing requirements

Women in Aviation & Aerospace Charter Steering Group

- Workstreams focusing on supporting the commitments made by Charter Signatories incl new research
- Aerospace and aviation organisations incl manufacturers, law firms, airlines, airports, universities, professional bodies and trade associations



Aviation Industry Skills Board

- Led by aviation employers incl airlines, airports and ground service providers and People 1st
- Supported by DfT
- Representatives from organisations like RAeS and Honourable Company of Air Pilots
- Special Interest Groups led by employer members to develop aviation apprenticeship standards Incl Cabin Crew and First Officer Apprenticeship
 - Careers mapping work with DfT to identify key career pathways and future skills in aviation supported by AGP Skills WG

APPG General Aviation STEM Jobs And Skills Group

- Led by general and business aviation employers incl aviation service providers training providers and BBGA
 Supported by DfT
- Making landscape work for GA & BizAv

RAES INTERNAL COMMITTEES AND STRATEGY



Education and Skills Committee

- Oversees our outreach, careers programmes and skills policy e.g. responses to Govt consultations
- Chaired by Alisdair Wood, Leonardo

Women in Aerospace & Aviation Committee

- Alta mentoring programme for women
- Range of events from networking to seminars
- Chaired by Sarah Minett, Collins Aerospace

Diversity & Inclusion Working Group

- Using Royal Academy of Engineering Progression Framework to steer our D&I strategy and work across the Society and wider sector
- Chaired by Lt Cdr Richard Gearing, Royal Navy











RAeS OUTREACH PROGRAMME

Cool Aeronautics Primary School Programme

 One-day events with talks from pilots, aeronautical engineers and space experts and interactive workshops around the UK and beyond, supported by AAR

'Amy's Aviation' Fun Kids Radio Series

Three series featuring Amy's journey through aircraft design and flight

UK Rocketry Challenge (UKAYRoC) with ADS

Rocket design competition for 11-18 year-olds

Schools Build-a-Plane Challenge

Six aircraft now built by UK secondary schools, supported by Boeing UK

Falcon 2 initiative – second programme launching this November

Working with disabled flying charity Aerobility to encourage school kids
to design and build a mobile flight simulator which addresses different
disabilities including visual, hearing, physical and hidden





SUPPORTING THE JOURNEY

RAeS Careers Guidance Service

- Expert and impartial information, advice and guidance on aerospace and aviation opportunities all career stages and all aspects of aerospace an aviation covered by RAeS footprint:
 - Education and training pathways
 - Job-hunting techniques
 - CVs, online applications and interview prep
 - Career Development
- Free University and College Careers & CV workshops – job search, writing CVs, networking
- Free 1-2-1 service in person and by phone, open to all
- Centennial Scholarships for tuition fee support





RESOURCES AND EVENTS

Attraction and information

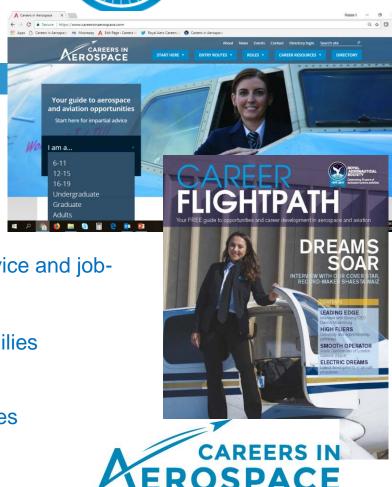
- Career Flightpath magazine
 Published every two years online and in print
- Schools 'Malaga' poster
 Highlights number of roles involved in a holiday flight
- Careers in Aerospace website with ADS
 Dedicated website for aerospace and aviation careers advice and jobhunting resources
- Air shows, STEM and careers events around the UK
 Promoting the industry to young people, teachers and families
 Employment support and retention
- Careers in Aerospace & Aviation LIVE
 Our annual recruitment fair for job and training opportunities
 Free entry to visitors

RAeS Young Person Network events

Conference, competitions and lectures for young members

External shows and events

incl Farnborough, World Skills UK and more

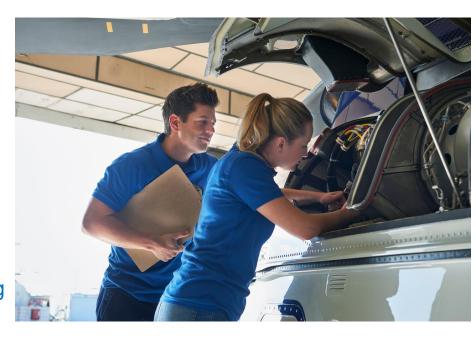




APPRENTICESHIPS

RAeS recently approved to provide End Point Assessment services for the following Standards:

- Engineering Technician (Level 3 ST0457)
- Aircraft Maintenance Certifying Engineer (Level 4 ST0019)
- Aerospace Engineer (Level 6 ST0010)
- Aerospace Software Engineer (Level 6 ST0013)
- Post Graduate Engineer (Level 7 ST456)
- Work now in progress with employers and training providers
- Insight into the challenges of implementing educational legislation which affect both training provider and employer





DISCUSSION

 Not all employers in the sector respond to our programmes for older ages, especially recruitment events.

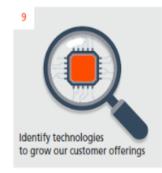
- DfE / IFATE awareness of aviation workplace and high training costs
- More support from Ofsted to teachers and schools engaging with enrichment events and programmes
- DfT increased support to skills agenda is very positive step
- Support for SMEs to give up time for employer-led programmes
- T Levels: possible impact on apprenticeships, challenge for work placements
- FE under pressure
- Balancing regional investment in training against national context
- Understanding values of next gen from D&I to climate change
- Outreach not just about STEM (or STEAM) but aids understanding and appreciation of our industry and values
- Multitude of activities mean people care and want to help ©
- Anyone can host a Cool Aeronautics event!
- General aviation has been the first source of inspiration for many of today's professionals in industry



BAE Systems - Maintenance Technician Training



- Granted the first CAA Part 147 approval within BAE Systems for delivery of maintenance training
- Delivered the first CAA aligned basic aircraft maintenance training course deployed in a Military environment



- Developed the first Part 66 aligned aircraft Type course for Typhoon to meet UK145 & export customers training requirements
- Delivered the Typhoon Type course with first use of Typhoon Virtual Maintenance Trainer (TVMT)



- Developed & introduced a BAE Systems licensing framework and process
- Created a BAE Systems Military Aircraft Maintenance Licence
- Licensing process has introduced efficiencies relating to trade scope and signatory privilege enhancements



- Commenced first CAA
 & MAA Trailblazer
 apprenticeship
 pathway in BAE
 Systems
- Involved in the Trailblazer development across various disciplines for military industry

BAE Systems – Training Services



- Maintenance Technician Training
- Aircrew Training linked to continual assessment/skill fade analysis
- Electronic Warfare Training
- Operational Mission Training
- Support Personnel Training
- Training Device Management



- STEM Events
- Intergenerational Diversity
- Learning & Development
- Promote cooperation & coordination within the global aviation & education community to attract, educate & retain the next generation of aviation professionals

Aviation Education - a snapshot across the UK



Rosalind Azouzi

Head of Skills and Careers, Royal Aeronautical Society



Lisa Almond

Regulatory Approval Manager, BAE Systems Military and Civil Training - Part 147/66



Rachel Gardner-Poole

Head of General Aviation, Civil Aviation Authority





Plenary Discussion





Networking Lunch







Transfer to Stansted College



