



House of Commons, London, SW1A 0AA

Chair: The Rt Hon Grant Shapps MP. Ambassador: Carol Vorderman, MBE RAFAC

STEM Jobs & Skills Working Group

Terms of Reference

STEM Jobs & Skills Working Group purpose

The STEM Jobs & Skills Working Group will be established to educate Parliament and Government, carry out research and propose policy designed to further the aims of promoting high-tech science, technology, engineering and mathematics (STEM) related aviation jobs throughout the UK. The group will function as a dedicated team of experts and parliamentarians to greater inform and coordinate the action of the whole All-Party Parliamentary Group for General Aviation when representing STEM education issues to Government.

Working Group's Approach

As with the four existing APPG Working Groups, the STEM Jobs & Skills Group will be made up of the country's leading experts; in this case with knowledge of STEM-related aviation training and jobs. The group will meet, select its own Sector and Parliamentary Chairs and establish its own detailed programme of work. This will be published alongside the other Working Group programmes on the APPG website¹ and publicised across the aviation sector for further industry-wide input. The new STEM Jobs & Skills Working Group will work closely alongside our existing expert Working Groups to help develop cross-cutting policies.

Working Group's Focus

It will be for the formally constituted Working Group to publish its own programme as above. However, the APPG Management Team has chosen to establish the STEM Jobs & Skills Working Group with some key objectives in mind:

According to the respected 2018 Boeing industry forecast of personnel demand, the world will require 790,000 new civil aviation pilots, 754,000 new maintenance technicians, and 890,000 new cabin crew to fly and maintain the world aircraft fleet over the next 20 years. The forecast is inclusive of the commercial aviation, business aviation, and civil helicopter industries².

Pilot & Technician Outlook 2018-2037:

"The demand will stem from a mix of fleet growth, retirements, and attrition. Meeting this extraordinary demand will require proactive planning and collaboration within the global aviation industry. As several hundred thousand pilots and technicians reach retirement age over the next decade, educational outreach and career pathway programmes will be essential to inspiring and recruiting the next generation of personnel.

"The aviation industry will need to adopt innovative training solutions to enable optimum learning and knowledge retention. Immersive technologies, adaptive learning, schedule flexibility, and new teaching methods will be needed to effectively meet a wide range of learning styles. The growing diversity and

¹ www.generalaviationappg.uk/working-groups

² <https://www.boeing.com/commercial/market/pilot-technician-outlook/>

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mobility of aviation personnel will also require instructors to have cross-cultural, cross-generational, and multilingual skills to engage with tomorrow's workforce."

On a domestic level, the APPG recognises that the UK should be an ideal location for aviation training due to several inherent advantages. For example, English is the international language of aviation, our aviation heritage means the UK has pioneered a large number of aviation firsts and the recent vote to construct a third runway at Heathrow will further increase job demand with an estimated 180,000 new jobs across the UK³; many in STEM related aviation fields.

However, the APPG is aware that barriers exist to the recruitment of STEM qualified individuals to the UK aviation industry. The national problem with STEM recruitment is compounded by a lack of awareness of the opportunities available in the aviation industry. This issue is often exacerbated by the lack of a clear pipeline to many aviation careers and the often niche requirements that some jobs in the aviation sector require. Traditionally, some technical areas in the industry relied on recruiting skilled personnel from the armed forces. However, some organisations are concerned that this has become more difficult than it was in the past due to the reduced numbers of service personnel being recruited by the UK military.

The APPG recognises the diversity of roles required by the aviation industry if it is to thrive in the future. With this in mind, the Working Group should support organisations, both commercial and charitable, in the aviation industry to inspire, educate and empower young people to enter STEM industries with the aim of future-proofing the UK's aviation workforce. This should include the support for greater promotion of the opportunities afforded by the aviation sector through improving public and political awareness of the issue. The group should seek to engage directly with education bodies and businesses to create pathways for young people to follow into aviation related careers. The education system must be encouraged to produce a workforce that not only possesses a high level of theoretical knowledge but also has the necessary practical skills to support a world leading aviation sector in the UK.

The APPG acknowledges that there is already a vast breadth of different organisations offering valuable STEM programmes in the UK. Therefore, the working group should seek to foster industry-wide cooperation in support and promotion of these existing projects alongside efforts to deliver new opportunities in new areas. The group should also seek to address the high cost of some training for aviation subjects through encouraging scholarships and apprenticeships in key industry areas.

In addition, the APPG strongly believes that urgent action is needed to attract more women and girls to the sector as a career path. The Parliamentary Group understands that this will require specific actions on behalf of Parliament, government and the aviation industry itself. The APPG's own Ambassador is Carol Vorderman MBE. Carol takes a strong lead in supporting this agenda and the Management Team have determined that finding policy solutions to help promote women in aviation must be an essential part of the STEM Jobs & Skills Working Group's programme. In addition, the APPG is concerned to widen entrance into aviation careers for people from minority backgrounds and other harder to reach groups in the interest of promoting social mobility in the sector.

³ <https://www.heathrowexpansion.com/uk-growth-opportunities/job-opportunities/>

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