



**WORKING PAPER**

**ASSEMBLY — 40<sup>TH</sup> SESSION**

**EXECUTIVE COMMITTEE**

**Agenda Item 25: ICAO Civil Aviation Training and Capacity Building**

**ADDRESSING THE SHORTAGE OF PILOTS AND AVIATION PROFESSIONALS -  
A GLOBAL APPROACH TO A GLOBAL PROBLEM**

(Presented by Canada)

**EXECUTIVE SUMMARY**

This paper presents a brief overview of the emerging global shortage of pilots and aviation professionals, and details several ICAO initiatives currently underway to address this challenge. The issue of labour shortage presents a significant challenge for the international aviation industry. In response, many ICAO Member States, including Canada, are collaborating closely with other government departments, industry, academia and other various stakeholders to engage in outreach activities that highlight the importance of aviation and establish best practices in attracting, educating and retaining the next generation of aviation professionals.

**Action:** This Assembly is invited to:

- a) support ICAO’s initiatives, such as the Next Generation of Aviation Professionals (NGAP) programme, in promoting careers in aviation to future generations in order to ensure that enough qualified and competent aviation professionals are available to operate, manage and maintain the future international air transport system; and
- b) urge ICAO Member States to collaborate through the sharing of best practices and lessons learned regarding implementation of their own policies and legislation addressing the global shortage of aviation professionals and alleviating its wide-ranging effects.

<i>Strategic Objectives:</i>	This working paper relates to the all the Strategic Objectives.
<i>Financial implications:</i>	N/A
<i>References:</i>	A39-WP/33, <i>The ICAO Next Generation of Aviation Professionals (NGAP) Programme</i> , Presented by the Council of the International Civil Aviation Organization (ICAO) NGAP Programme, <i>Next Generation of Aviation Professionals</i> , International Civil Aviation Organization (ICAO) Young Aviation Professional Participants Announced, Young Aviation Professionals Programme, International Civil Aviation Organization (ICAO) Concept Note, <i>Global Aviation Gender Summit</i> , International Civil Aviation Organization (ICAO) Scholarship Program, <i>ICAO-IAWA Aviation Scholarship for Professional Women</i> , International Aviation Women’s Association (IAWA)

## 1. INTRODUCTION

1.1 It is universally recognized that skilled and qualified workers form the backbone of a safe, efficient and environmentally-friendly transportation system. Currently, there is a labour shortage that is expected to have wide-ranging consequences for the international aviation industry. Identifying and addressing factors that contribute to labour shortage, and participating in initiatives that support the recruitment of the next generation of aviation professionals is of paramount importance to ICAO and its States, including Canada.

1.2 Global forecasts predict a significant labour shortage in the aviation industry in the coming years. Multiple outlook reports indicate that, over the next 20 years, there is a need for over 500,000 new pilots, 622,000 maintenance technicians and 858,000 cabin crew in order to meet growing worldwide demand. This is taking place as international aviation continues to expand, with the global fleet of aircraft is expected to more than double over the next 20 years.<sup>1</sup> This trend is already forcing airlines to consider lowering their entry requirements, therefore recruiting less experienced aviators in order to fill these roles, which may have potential adverse impacts on global aviation safety. Labour shortages also apply to the high-skilled professions the aviation industry depends on, including those of engineers, technicians, air traffic controllers, and safety inspectors. As fleets continue to grow across the world, so too does the demand for these professionals who help to ensure safety in the aviation industry.

1.3 Work is underway in Canada to analyze this issue and Canada is collaborating closely with industry, academia and other various stakeholders to engage in outreach activities that highlight the importance of aviation, promote gender equality in the aviation industry, and establish best practices in attracting, educating and retaining the next generation of aviation professionals. This work is aligned with ICAO's commitment to international collaboration in order to better address the issue of global labour shortages that currently faces the aviation industry.

## 2. ICAO & INTERNATIONAL INITIATIVES

2.1 In collaboration with the aviation industry and international partners, ICAO launched several initiatives on this issue, to help facilitate global conversations relating to the evolving nature of the labour force in aviation, and to foster new ideas to help overcome the emergent challenges faced by the industry.

2.2 In 2009, ICAO created the *Next Generation of Aviation Professionals* (NGAP) initiative, which explores best practices to ensure that enough qualified and competent aviation professionals are available to operate, manage and maintain the future international air transport system. Following ICAO's 2016 General Assembly working paper encouraging greater participation, civil aviation authorities, industry and academia from around the globe have agreed to support the NGAP initiative.

2.3 In partnership with the International Air Transport Association (IATA), and the Airports Council International (ACI), ICAO established the *Young Aviation Professionals Programme* (YAPP) in 2013. Much like the NGAP initiative, this programme aims at enhancing the capacity of the international aviation community to meet emerging needs for young aviation professionals. YAPP allows selected candidates to work under the mentorship of ICAO subject-matter experts and work in collaboration with experts from the airline and airport industries.

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<sup>1</sup> Estimates from Boeing's *Pilot Outlook: 2018 – 2037* and Airbus' *Global Market Forecast 2018-2037*.

2.4 With the growing need for qualified aviation professionals and with women currently representing less than 5 percent of airline pilots globally, there has never been a more crucial time for the aviation industry to focus on the recruitment of women into its workforce.<sup>2</sup> ICAO is addressing this concern under its NGAP initiative, as well as through work on the Women in Aviation initiative, launched in 2016.

2.5 In August 2018, South Africa hosted ICAO's *Global Aviation Gender Summit*, the first-ever global summit dedicated to advancing gender equality in aviation. With its aim of empowering women in aviation by encouraging increased participation of women in the global aviation sector, this Summit is a great example of how ICAO Member States and the aviation industry can work together to demonstrate strong, determined leadership and commitment to gender equality throughout the world of aviation. Canada was proud to participate in the panel discussions and be represented at the Summit meetings, and is pleased to highlight that the Government of Canada was a collaborating sponsor to the success of the Summit.

2.6 In conjunction with the International Aviation Women's Association (IAWA), ICAO began offering the *ICAO-IAWA Aviation Scholarship for Professional Women* in 2016. The scholarship offers selected candidates the opportunity to augment their professional experience in aviation by working on and contributing to the work of ICAO at the international level for a period of nine months. This programme allows women from around the world to work under the guidance of experienced professionals at the ICAO Headquarters in Montreal, providing them with invaluable experience that they then take back home as they continue their career paths in aviation.

2.7 ICAO's continued leadership in investing in the future of the global aviation industry's workforce and its collaboration with Member States and industry stakeholders on the issue of labour shortages, provide concrete examples of actions the international aviation community may consider when addressing these needs.

2.8 Members of the global aviation industry have begun taking steps to counter labour shortages. In recent years, wage increases of up to 23 percent by large American and European carriers, paired with innovative alternative recruiting and training approaches have been adopted. This includes more airlines offering in-house training programs and academies, where entry level pilots are hired after successfully completing programs that incorporates extensive real-world flying experience, flight simulator instruction and classroom learning. The introduction of industry-led sponsorships and bursaries, as well as efforts to expand governmental assistance for student loans have also been organized to encourage recruitment internationally.<sup>3</sup>

2.9 We also see other civil aviation authorities, such as the Federal Aviation Administration (FAA), begin implementing measures to address the growing need of well-trained aviation professionals by making career technical education a priority. For example, in 2018, the government of the United States passed the *Federal Aviation Administration Reauthorization Act*, which created two new grant programs to recruit and train the next generation of aerospace workers and pilots.<sup>4</sup>

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<sup>2</sup> Estimates from the Canadian Aviation Electronics' (CAE) Airline Pilot Demand Outlook forecast

<sup>3</sup> Provided by the Conference Board of Canada (CBoC).

<sup>4</sup> Information from the Congress of the United States of America.

### **3. CANADA & THE SHORTAGE OF AVIATION PROFESSIONALS**

3.1 The aviation sector is key to the economic fabric of Canada, contributing over \$35 billion in Gross Domestic Product and employing close to 140,000 people. The effects of this emerging labour shortage within the trades that are essential to keeping aircraft flying and operational, such as aircraft maintenance engineers, flight instructors, and air traffic controllers, are already translating into reduced capacity, and a decrease in service and competition in Canada. Latest estimates from industry partners and government research indicate that Canadian aviation may need as many as 55,000 new workers, including 7,300 pilots and 5,300 aircraft maintenance engineers by 2025.<sup>5</sup> With respect to pilots, engineers, and flight instructors, estimates predict that by 2030 Canada will face shortages of approximately 550 personnel (4.5 percent of demand).<sup>6</sup>

3.2 Regional carriers, traditionally seen as stepping stones for many new pilots leading to careers with larger airlines, are now experiencing the effects of these shortages as national carriers are targeting their pilots for hiring. These smaller carriers are currently experiencing unprecedented refusals of job offers from new pilots, as their mid-tier pilots are departing at an alarming rate to join larger airlines. As the pilot shortage continues to increase in the coming years, it is expected that these larger airlines will continue seek to hire captains from the smaller carriers in order to raise their experience levels, further intensifying the problem for regional operators.

3.1 Staff shortages have forced remote carriers to ground flights and, in recent years, many have dropped their experience requirements in order to maintain a functioning number of pilots. This trend represents a critical challenge for Canada's northern and remote communities, which count on pilots and airlines to deliver essential services and supplies, including food and healthcare. While some of Canada's major carriers, such as Air Canada, may be starting to increase salaries and incentives, these regional airlines must now consider wage increases in order to offset the costly training and experience requirements to attract new pilots.<sup>7</sup>

3.2 Canada has taken steps to address this trend, such as working with industry representatives and other stakeholders to establish a better understanding of their needs and perspectives. Canada is also actively monitoring and engaging in domestic and international events designed to promote the recruitment of professionals in the aviation industry, equality among genders, and the inclusion of underrepresented groups, while maintaining an open dialogue between key players in Canada.

3.3 In an effort to expand the discussion of labour issues in aviation and seek viable solutions, Canada organized events such as the Aviation Labour Shortage Forum in October 2018, which hosted representatives from academia, the aviation industry, government departments, and various other stakeholders. One of the core themes of the Summit was to encourage participation of underrepresented groups in the Canadian aviation industry, specifically indigenous peoples and women. Key takeaways included the need for the aviation industry to consider new approaches to attract and retain new generations of employees. These include more flexible work arrangements, innovative approaches to training, and increasing efforts at exposing future generations to the possible careers available in aviation.

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<sup>5</sup> Estimates provided by the Canadian Council for Aviation and Aerospace (CCAA).

<sup>6</sup> Estimates provided by CBoC.

<sup>7</sup> Provided by CBoC.

#### **4. CONCLUSION**

4.1 The emerging global shortage of aviation professionals affects the entirety of the international aviation industry. Well-trained, experienced pools of pilots, engineers, air traffic controllers, technicians, inspectors and more are essential to maintaining the safety and viability of international aviation. It will therefore require a collective effort, both on the local and global levels, to effectively overcome its increasing affects. If not adequately addressed, these labour shortages could represent critical challenges to aviation safety around the world.

4.2 Canada calls on all ICAO Member States to work with key stakeholders, both domestically and internationally, to develop approaches to help alleviate the global labour market shortage and promote greater inclusiveness across the aviation industry. Collaboration between States, through sharing of best practices and lessons learned, will be critical in addressing this challenge for the future.

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