



International Civil Aviation Organization

WORKING PAPER

A42-WP/21

EX/10

27/5/25

ASSEMBLY — 42ND SESSION

EXECUTIVE COMMITTEE

Agenda Item 21: Next Generation of Aviation Professionals (NGAP) initiative

ICAO'S NEXT GENERATION OF AVIATION PROFESSIONALS (NGAP) PROGRAMME

(Presented by the Council of ICAO)

EXECUTIVE SUMMARY

This Working Paper provides a progress report on the activities of ICAO's Next Generation of Aviation Professionals (NGAP) Programme, which was revitalized in 2023. It also highlights key components of the NGAP strategy approved by the Secretary General in June 2024 to ensure a sustainable pipeline of aviation talent.

In addition, the paper summarizes the outcomes of the 3rd ICAO Global NGAP Summit held in South Africa in August 2025, including the Call to Action, detailed in Appendix A, which was adopted at the summit.

Lastly, the Working Paper proposes an update to Assembly Resolution A39-29 on NGAP through a revised Resolution A42-xx, included in Appendix B. The new resolution emphasizes a more structured workforce development framework, aiming to expand the scope of NGAP across all categories of aviation personnel and age groups and integrate NGAP into national strategies to ensure a long-term pipeline of talents.

Action by the Assembly

The Assembly is invited to:

- Request States, and other relevant stakeholders to support the NGAP Programme by participating in events, contributing expertise in kind and financial resources, and by adopting strategies and policies that align with NGAP objectives and support aviation talent development at national and regional levels;
- Endorse the Call to Action detailed in Appendix A, which sets forth the strategic commitments and actions agreed upon at the 3rd ICAO Global NGAP Summit; and
- Adopt the revised resolution A42-xx, titled "Next Generation of Aviation Professionals (NGAP) and Aviation Talent development", contained in Appendix B. This resolution supersedes Assembly Resolution A39-29 and serves as a foundational reference for future actions.

<i>Strategic Objectives:</i>	This working paper relates to all Strategic Goals and High-Priority Enablers.
<i>Financial implications:</i>	The ICAO activities referred to in this paper are expected to be undertaken within the resources available in the 2026–2028 Regular Budget and/or from extrabudgetary contributions, as guided by the ICAO Business Plan 2026-2028.
<i>References:</i>	ICAO Business Plan for 2026-2027-2028 Doc 10184, Assembly Resolutions in Force (as of 7 October 2022) A39-WP/33 A39-WP/62 Doc 9956, <i>Global and Regional 20-year Forecasts</i>

1. INTRODUCTION

1.1 According to long-term forecasts, global passenger traffic is projected to grow to 7.2 billion by 2035 and reach 12.4 billion by 2050, compared to 4.6 billion in 2024. Meanwhile, cargo traffic is expected to double from 265 billion freight tonne kilometers (FTK) in 2024, to 638 billion FTK by 2050. This unprecedented growth will significantly increase the demand for aviation professionals. ICAO estimates that by 2043, the industry will require 670,000 additional pilots, 1,085,000 cabin crew, 698,000 maintenance personnel, and 137,000 air traffic controllers to sustain safe and efficient operations.

1.2 In response to the urgent global need for a resilient and future-ready aviation workforce, ICAO has revitalized its Next Generation of Aviation Professionals (NGAP) Programme and positioned “Attracting new talent” as a high priority within its 2026-2050 Strategic Plan and 2026-2028 Business Plan. In addition, ICAO has developed a global strategy on NGAP, which serves as a guiding framework to mobilize coordinated actions towards building a resilient workforce capable of meeting the evolving demands of the aviation industry.

2. NGAP STRATEGY AND ACTIVITIES UNDERTAKEN

2.1 The ICAO NGAP Strategy is structured around four key focus areas, providing a comprehensive framework to ensure a resilient and future-ready aviation workforce. ICAO’s strategic approach emphasizes collaboration among governments, industry leaders, academia and training centres to develop harmonized solutions and ensure that aviation remains an attractive, dynamic, and accessible career path for future generations.

Key Focus area 1: Workforce Monitoring & Forecasting – Using data-driven insights to anticipate future skill needs and address workforce gaps proactively

2.2 Accurately anticipating workforce needs is essential to ensuring a steady pipeline of aviation professionals. Currently, the Secretariat collects data on licensed personnel as part of preparing long-term forecasts in Document 9956, disaggregated by gender. To facilitate a more comprehensive analysis of future workforce requirements, the Secretariat is evaluating the feasibility of expanding data collection to cover additional key aviation roles as well emphasize the evolving nature of the industry by competency tracking. Aligning ICAO’s data collection and analysis processes with these changes is crucial for proactive workforce planning.

2.3 ICAO has already taken concrete steps in this direction with the first ICAO European and North Atlantic (EUR/NAT) Aviation Training and Skills Regional Workshop, held in March 2025 in collaboration with Joint Aviation Authorities (JAA) Training Organization. This workshop represented a key initiative in exploring the establishment of a regional skills monitoring framework to better forecast and plan for future workforce needs in the aviation industry. Building on this effort, a regional symposium will be held in Almaty, Kazakhstan in November 2025, which will bring together experts from industry, States, training organizations, academia and other key stakeholders to tackle workforce development challenges, share industry success stories and explore pan-regional and national strategies aligned with ICAO’s NGAP programme. Moving forward, efforts will focus on developing this approach, with the potential to scale it to other regions.

Key Focus area 2: Education & Training – Aligning education with industry requirements and fostering mutual recognition of qualifications across borders to create a more seamless talent pipeline

2.4 The Secretariat continues to work with relevant partners to strengthen aviation education, with a focus on bridging gaps between academic programmes and industry expectations. This includes fostering

stronger collaborations between academic and training institutions and employers to develop robust educational ecosystems that support competency-based training, practical learning experiences, and the use of emerging technologies to allow for realistic simulation environments. Additionally, facilitating mutual recognition of aviation qualifications remains a priority to foster mobility and improve employability.

2.5 To support these efforts, the inaugural ICAO Workshop for Aviation Universities, hosted in April 2025 by Universidad Politécnica in Madrid, served as the foundational platform for discussing how to enhance and harmonize academic offerings across institutions and set the stage for the creation of a Global Aviation Education Programme, assisting stakeholders in developing high-quality academic programs that align with current industry requirements. ICAO also developed NGAP-related training courses, including “Essential soft skills for NGAP and a Mentoring course in partnership with Eurocontrol”. Efforts are ongoing to expand this training portfolio by developing specialized programs dedicated to NGAP, ensuring comprehensive support and resources are available to meet the evolving needs of the global aviation workforce.

Key Focus Area 3: Capacity Building & Implementation Support & Resource Mobilization – Providing expertise to States, ensuring that no country is left behind in strengthening its aviation workforce

2.6 Even if developing countries invest to the best of their capability in educating, training and coaching new aviation professionals, which demand both high direct cost of education and training as well as indirect cost of wasting, breaking, damaging expensive parts/equipment and inefficiencies during practicing on the job for the first few years, when the aviation professionals become competent, they depart soon after abandoning their position for better pay elsewhere. As long as these trained professionals remain in the aviation industry, wherever they go, it is a contribution to the aviation industry. However, this reality is stifling the sustainable development of aviation in developing countries which necessitate comprehensive understanding of the situation and to set strategic approaches in providing support to ease the burden.

2.7 While improving education and training programmes is essential, equitable access to training opportunities must also be addressed. To support this, ICAO continues to promote stronger cooperation between aviation, education, and labor sectors, advocating for policies that reduce barriers to entry, including the expansion of scholarships, financial aid, tax incentives for training institutions, public-private partnerships, and regional training hubs where needed.

2.8 In this vein, ICAO is launching, as part of its aviation training portfolio, the first-ever dedicated workshop on NGAP/ Human Resources (HR) capacity building for aviation at the State level. The workshop will be offered for decision-makers as well as practitioners, each tailored to bridge understanding across strategic and operational levels within aviation authorities on the long-term benefits of NGAP and HR capacity building.

2.9 Strengthening participation in the ICAO Fellowship and Scholarship Programmes, as well as the Developing Country Training Programme (DCTP), remains a priority. Active participation by donors such as Singapore, Indonesia, the Republic of Korea, and United Arab Emirates has been instrumental in supporting NGAP and enhancing access to training. In addition, the APAC Regional Training Cooperation Framework (RTCF) established under ICAO’s Regional Cooperation Mechanism Task Force (RCM TF), directly supports the NGAP initiative through collaborative training efforts, including symposiums, training needs analyses, and Train-the-Trainer programmes to build a self-sufficient, sustainable aviation training ecosystem in the Asia-Pacific region.

2.10 Lastly, the NextGen Donor Network was created to engage donors interested in offering in-kind and financial contributions to support the NGAP programme initiatives.

Key Focus Area 4: Outreach & Knowledge Sharing – Securing Political Commitment, Sharing Best Practices, and Promoting Aviation Careers

2.11 Collaboration, knowledge sharing, and strategic advocacy are crucial in strengthening the global aviation workforce. ICAO facilitates these efforts through NGAP Summits, regional symposia, and workshops, fostering dialogue among key stakeholders and integrating workforce priorities into political and operational agendas. A key part of this effort is encouraging States to integrate NGAP into their National Aviation Plans, ensuring long-term planning and sustainability and advocating for the adoption of equitable and attractive Human Resources policies and compensation packages to make aviation a competitive career choice, aiming to improve the value proposition of the sector. Despite the broad range of career opportunities within aviation, awareness of these careers remains limited, and the sector faces significant competition from other industries. ICAO advocates for structured outreach programmes and early engagement initiatives from very early school levels to introduce young people to aviation careers.

2.12 Furthering these efforts, ICAO has undertaken several key outreach activities at the global, and regional and national levels, including:

2.12.1 During the ICAO Global Implementation Support Symposium (GISS) held in Abu Dhabi, United Arab Emirates, in February 2025, a panel session on NGAP was organized, focusing on the critical elements of attracting, recruiting, training, and retaining talent essential for sustaining the aviation ecosystem. The programme also facilitated a roundtable discussion as part of the training workshop to engage with training centers of the TRAINAIR PLUS Programme (TPP) network to explore practical NGAP solutions.

2.12.2 ICAO has formed a partnership with the Global Aviation and Aerospace Skills Taskforce (GAAST), who have committed to developing a dedicated online repository of best practices. Once completed, GAAST will share the repository with ICAO, enabling broader access for all aviation stakeholders by the end of 2025. This initiative will provide Member States and industry partners with comprehensive resources to foster shared knowledge and enhance workforce development strategies across the sector.

2.12.3 The NGAP initiative in the Eastern and Southern Africa (ESAF) region included a panel discussion during the Aviation Symposium at AFI Aviation Week in May 2025, engagement with ICAO-accredited training schools, and collaboration with States to establish a network of NGAP focal points where needed. These efforts aim to strengthen aviation workforce development in the region.

2.12.4 The ICAO Asia Pacific Regional Aviation Training Symposium in July 2025 in Singapore under the theme “Enhancing Training Cooperation: Building Human Capital for the Sustainable Development of Civil Aviation,” convened authorities and experts from across the Asia and Pacific (APAC) region. The symposium fostered collaboration in human resource development and aviation training, supported ICAO’s NGAP programme, and focused on Pacific Small Island Developing States (PSIDS) human resources capacity development. A key side event, the ICAO-Singapore APAC ‘Youth For Aviation’ Programme (YFA), played a pivotal role by engaging and sponsoring 80 youths in a three-day NGAP-focused event.

2.12.5 The celebration of the 80th anniversary of the signing of the Chicago Convention in ICAO Western and Central African (WACAF) Region offered the opportunity to encourage Civil Aviation Authorities (CAAs) to partner with aviation industry stakeholders in their respective States in organizing a series of visits to airports for students to familiarize themselves with the aviation industry, including airlines, airport and air navigation services and infrastructure in several States. In the SAM Region, a targeted work programme has been initiated to strengthen Human Resources (HR) management within CAAs and an NGAP session will be held at the 23rd meeting of the Directors of Civil Aviation Instruction Centers of the South American Region (CIAC) to facilitate the formulating National NGAP Programs and fostering the exchange of best practices.

2.12.6 On the sidelines of the United Nations Summit of the Future Action Days held in September 2024, the General Authority of Civil Aviation of the Kingdom of Saudi Arabia (GACA) and ICAO in partnership with the International Air Transport Association (IATA) organized a webinar entitled “Empowering Youth and

Future Generations in Civil Aviation,” that brought together senior officials from ICAO, GACA, IATA, Airports Council International (ACI), the United Nations Assistant Secretary General for Youth Affairs, industry, academia, and hundreds of young participants. Discussions highlighted the importance of youth engagement in shaping the future of the aviation industry and the need for collaborative actions to support the NGAP.

2.12.7 Going forward, the ICAO Global Ambassador Programme and the #JoinAviation social media campaign are under development to leverage role models from the aviation sector to inspire and engage new talents. These initiatives, subject to the availability of funding and resources, aim to enhance industry visibility and attract the next generation of aviation professionals. To further promote best practices, ICAO will highlight and feature successful initiatives implemented by its Member States through ICAO TV and the Uniting Aviation platform.

3. OUTCOME OF THE NGAP GLOBAL SUMMIT

3.1 [This section will serve as placeholder to add a paragraph on the outcomes of the NGAP summit to be held in South Africa (12-14 August 2025), and the Call for Action will be enclosed in Appendix A].

4. UPDATE OF ASSEMBLY RESOLUTION A39-29

4.1 It is proposed that Assembly Resolution A39-29 on NGAP, adopted during the 39th ICAO Assembly in 2016, be updated to reflect the ongoing transformations and emerging challenges within the aviation industry. This revision aims to realign with ICAO’s long-term strategic goals and evolving global aviation demands.

5. CONCLUSION

5.1 In conclusion, the NGAP Strategy, alongside the updated Assembly resolution and Call to Action from the 3rd ICAO NGAP Global Summit, provide a comprehensive framework that addresses the global and regional workforce challenges in aviation. These initiatives are vital for fostering an environment that enables the development of a resilient and adaptive aviation workforce, equipped to meet future demands.

5.2 To ensure these strategies are effective, it is imperative that all involved parties collaborate closely, and sufficient financial and in-kind support are available to fully realize the NGAP’s objectives and maximize its impact. This will require robust partnerships among governments, industry, academia, and training institutions. Regional and national implementations need to be tailored to the specific contexts and requirements of each area, ensuring that the approaches are not only comprehensive but also relevant and responsive to local challenges.

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APPENDIX A

CALL TO ACTION FROM NGAP GLOBAL SUMMIT 2025

[Note: The Call to Action resulting from the NGAP Global Summit (12–14 August 2025, South Africa) will be included in this appendix following the event, as referenced in Section 3.1 of this paper.]

APPENDIX B

DRAFT ASSEMBLY RESOLUTION

1. ~~A39-29 NGAP: Next Generation of Aviation Professionals~~

~~A42-xx:~~ 6. Global Aviation Talent Development– Next Generation of Aviation Professionals

Recognizing that aviation is a growing industry that is critical for promoting global connectivity while supporting economic development and growth around the world;

Recognizing that in order to support growing aviation needs and ensure the safe and efficient operation of the air transportation system, qualified and competent aviation professionals, ~~as well as a~~ encompassing a diverse aviation workforce, are required;

Noting that workforce shortages may impact safety, security, and the ability to achieve ICAO's strategic goals, ~~including but not limited to zero fatalities, net zero carbon emissions by 2050, and No Country Left Behind;~~

Considering the importance of attracting, training, and retaining talent across various roles in aviation, including licensed personnel, professionals, and general aviation workers, it is crucial to comprehensively address the industry's needs.

Considering that, to meet current and future human resources needs, it is important for States and industry to engage with ~~next generation of aviation professionals~~ not only young entrants but also to adopt an age-agnostic approach that values the contributions of workers from all generational cohorts, and attracts and train talents from other industries,

Recognizing that Developing States are facing peculiar challenge in losing aviation professionals with faster rate than replacement due to high demand of skilled aviation professionals in the international market, it is crucial to comprehensively understand the situation and address it through setting strategic initiatives under NGAP,

Recognizing that improving the perception of the aviation sector is critical to attracting and retaining a sustainable talent pipeline, requiring targeted strategies to promote aviation as a career of choice that is competitive and rewarding at all levels;

Noting that partnerships between ~~government~~–Member States, regional organizations, industry and educational organizations are important to attracting, educating and retaining the next generation of aviation professionals, ~~considering gender equality;~~

The Assembly:

1. Urges Member States to work with the ~~aviation community~~ relevant stakeholders to identify long-term human resources needs and establish strategies to attract, educate and retain ~~in the sector~~ aviation professionals talents; ~~aviation professionals, considering gender equality;~~

2. Encourages Civil Aviation Authorities to communicate and cooperate with government education and labour bodies, the TRAINAIR PLUS Programme (TPP) network, [the network of Aviation Security Training Centres \(ASTCs\)](#) aviation academic institutions and research centers, and the aviation industry to develop strategies for promoting aviation and developing competent aviation professionals and general workers and retaining them within States the sector;
3. Encourages Member States to facilitate, through internationally agreed upon guidance and assessment practices for mutual recognition of qualifications and licenses, administrative procedures to allow for the seamless movement ~~free-flow~~ of professionals across borders;
4. Urges Member States, academia, and industry to implement targeted initiatives that reduce barriers to entry, including enhancing access to affordable education, providing scholarships, and offering flexible training options;
5. Urges Member States, academia, and industry to collaboratively develop and implement clearly defined initiatives, such as knowledge exchange programmes, joint training projects, capacity-building workshops, and technical advisory support, aimed specifically at strengthening training capabilities within Developing States. These efforts should aim to mitigate challenges arising from the retention difficulties of skilled aviation professionals, thereby contributing positively to the sustainable development and resilience of aviation workforces in these regions.
6. Recommends that the scope of the NGAP Programme be expanded to attract, develop, and retain aviation talent from all generations, backgrounds, and experience levels;
7. Encourages Member States to promote best practices that focus on meeting the evolving needs and values of aviation talents ~~the next generation of aviation professionals to~~, thereby enhancing ~~enable~~ employee attraction and retention, productivity, performance, ~~recruitment~~, and safety;
8. Instructs the Council to ensure a continued leadership role for ICAO, in facilitating communication and collaboration with States and industry to support the development of forecasts, strategies, sharing of best practices, planning tools, and guidelines for engaging and cultivating the next generation of aviation professionals; and
9. Encourages Member States, international and regional organizations, academia and industry to support the NGAP Programme, as one of the integral elements of capacity building, by providing technical expertise and guidance, and resources (human, financial and data) to help achieve the Programme's objectives.

— END —