



WORKING PAPER

**SEVENTH WORLDWIDE AIR TRANSPORT CONFERENCE
(ATCONF/7)**

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Agenda Item 2: Fostering aviation growth and air connectivity through investments in infrastructure, human capital and partnerships

2.2: Investment for the development and modernization of civil aviation infrastructure

BUILDING AFRICA'S AVIATION WORKFORCE: FROM PEOPLE TO CAPABILITY

(Presented by Uganda on behalf of 54 Member States of the African Civil Aviation Commission²)

EXECUTIVE SUMMARY

Africa has a large and increasingly educated youth population and significant untapped female talent. However, implementation of the Single African Air Transport Market (SAATM), infrastructure modernization and future aviation technologies require more than available people: they require aviation-specific competence, certification, operational experience and clear pathways into employment and leadership. Persistent shortages in critical occupations, high training costs, uneven training capacity, limited recognition of equivalent qualifications and barriers affecting women and youth constrain the continent's ability to convert human potential and investment into sustainable capability. Independent industry projections by Boeing put the projected African technical personnel gap at approximately 22,000 pilots, 25,000 maintenance technicians and 28,000 cabin crew by 2045, against a related services and support market estimated at USD 140 billion over the period. These projections illustrate the scale of the continent's future aviation workforce and capability requirements.

This paper proposes an African Aviation Skills and Inclusion Acceleration Package, coordinated by the African Civil Aviation Commission (AFCAC), to connect workforce intelligence, future skills, training and technology transfer, professional mobility, and measurable inclusion. It positions African Women and Youth in Aviation (AWAYA) as the continental platform for mentorship, leadership, networking and career advancement, integrated with existing African and the International Civil Aviation Organization (ICAO) capacity-building initiatives.

Action: The Conference is invited to adopt actions in paragraph 5.

<i>Strategic Goal:</i>	This working paper relates to the ICAO Strategic Goals concerning safe, secure and sustainable aviation and the economic development of air transport.
<i>Financial implications:</i>	Implementation will require workforce data, training and instructor development, scholarships, apprenticeships, digital systems and technical assistance. Costs should, wherever possible, be integrated into existing capacity-building, procurement and aviation-investment programmes and reduced through partnerships and shared regional facilities.

¹ English and French versions provided by AFCAC.

² Algeria, Angola, Benin, Botswana, Burkina Faso, Burundi, Cameroon, Cabo Verde, Central African Republic, Chad, Comoros, Congo, Côte d'Ivoire, Democratic Republic of the Congo, Djibouti, Egypt, Equatorial Guinea, Eritrea, Eswatini, Ethiopia, Gabon, Gambia, Ghana, Guinea, Guinea-Bissau, Kenya, Lesotho, Liberia, Libya, Madagascar, Malawi, Mali, Mauritania, Mauritius, Morocco, Mozambique, Namibia, Niger, Nigeria, Rwanda, Sao Tome and Principe, Senegal, Seychelles, Sierra Leone, Somalia, South Africa, South Sudan, Sudan, Togo, Tunisia, Uganda, United Republic of Tanzania, Zambia, Zimbabwe.

<i>References:</i>	ICAO Assembly Resolution A42-24, Global Aviation Talent Development ICAO Assembly Resolution A41-26, ICAO Gender Equality Program ICAO Assembly Resolution A39-29, Next Generation of Aviation Professionals ICAO NGAP Program African Union (AU) Agenda 2063 and Single African Air Transport Market (SAATM) AFCAC Strategic Plan 2025-2027 Lome Air Transport Declaration and Implementation Matrix Boeing, 2026 Pilot and Technician Outlook, 2026–2045 Boeing, 2026 Commercial Market Outlook for Africa, 2026–2045
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1. INTRODUCTION

1.1 Africa possesses a substantial and increasingly educated human-capital base, including a large youth population and significant untapped female talent. Aviation already supports millions of jobs across the continent, and workforce requirements will increase as States implement Single African Air Transport Market (SAATM), expand intra-African connectivity, modernize infrastructure and adopt new technologies.

1.2 The central challenge is a capability-conversion gap. Education, aviation training, certification, workplace experience and employment are not sufficiently connected or scaled. A person may have technical potential but lack an affordable pathway to aviation competence and certification; a qualified professional may be unable to move efficiently to where skills are required; and a major infrastructure or technology investment may be delivered without adequate local capability to regulate, operate, maintain and improve it.

1.3 The aviation sector must therefore plan the workforce for the integrated market it is building, while developing competencies in digital air traffic management, data analytics, artificial intelligence, cybersecurity, automation, predictive maintenance, unmanned aircraft systems, sustainable aviation fuels, climate resilience and infrastructure finance. This approach is consistent with the International Civil Aviation Organization (ICAO) Assembly Resolution A39-29 on the Next Generation of Aviation Professionals (NGAP) Program, ICAO Assembly Resolution A42-24 on Global Aviation Talent Development and African Union (AU) Agenda 2063's vision of a people-driven Africa.

2. THE AFRICAN SKILLS CHALLENGE

2.1 Africa experiences significant shortages of technical personnel including pilots, aircraft maintenance personnel, air traffic services personnel, safety inspectors, aerodrome and security specialists, as well as technical and managerial leadership. The lack of harmonized African data on workforce size, age, vacancies, qualifications, gender, training capacity and forecast demand prevents precise planning and investment. A common evidence mechanism built on this baseline and on the quantified findings of the Human Resources Development Fund (HRDF) Task Force, is therefore an urgent enabling action.

2.2 High training costs, scarce scholarships, limited instructors and simulators, uneven geographic access and weak alignment between curricula and industry demand restrict entry and progression. The objective must be not only to train more people, but to reduce the cost and time required to produce competent professionals while maintaining safety, security and quality.

2.3 Mobility is also constrained. ICAO Annex 1 provides the international framework for personnel licensing, but licenses are issued by States and remain subject to national validation or conversion arrangements. While mandatory safeguards must be retained, repeated document verification, examinations, checks and training can duplicate assessments of already demonstrated competence and delay productive deployment. Progressive recognition of equivalent competencies, supported by secure digital verification and regional arrangements, can improve mobility without lowering standards or weakening national accountability.

2.4 Inclusion is both an equity objective and a workforce strategy. Women and youth need visible pathways from awareness and education to training, certification, employment, retention and leadership. Outreach interventions have been undertaken through the African Women and Youth in Aviation (AWAYA) Program however outreaches alone are insufficient where training remains unaffordable, workplace experience is unavailable, recruitment is opaque, or mentoring and progression systems are weak.

2.5 The African Union is pushing for collaboration with AFCAC, ICAO and other relevant stakeholders to establish a structured cooperation framework with the African Association of Aviation Training Organizations (AATO), to standardize and harmonize aviation training in Africa, support the implementation of the African Aviation Training Roadmap, and strengthen the development of aviation professionals across Africa.

2.6 While ICAO Annex 1 provides the international framework for personnel licensing, differences in national validation and conversion requirements can create duplication, additional costs and delays in the mobility of qualified aviation professionals. Building on existing ICAO provisions and emerging digital licensing capabilities, greater harmonization and trusted recognition arrangements could facilitate the progressive recognition and validation of licenses, qualifications and certificates of competence, while preserving States' licensing, competency-assurance and safety oversight responsibilities.

3. AFRICAN AVIATION SKILLS AND INCLUSION ACCELERATION PATHWAY

3.1 AFCAC, in coordination with the African Union Commission (AUC), ICAO, States, Regional Economic Communities (RECs), Regional Safety Oversight Organizations (RSOOs), AATO, industry and development partners, should establish one integrated implementation pathway rather than parallel initiatives. The Pathway should contain four workstreams:

- a) *Workforce intelligence and future skills*: establish common occupational definitions, national baselines, demand and supply forecasts, a verified training-capacity inventory, and an African Aviation Future Skills Framework linked to traffic, infrastructure and technology plans. This can be complemented by a rotating Model ICAO Assembly similar to the Model United Nations (UN) simulation under NGAP, hosted through Regional Offices to provide practical exposure to aviation decision-making, negotiation, leadership and career pathways, broaden participation and strengthen regional youth engagement and future aviation leadership;
- b) *Capability through investment and training*: require major aviation infrastructure, technology and procurement projects to include a Human Capability and Technology Transfer Plan covering required roles, competencies, training, instructor development, apprenticeships, knowledge transfer, local maintenance and measurable pathways into employment. Shared facilities, digital learning, train-the-trainer programs and industry-academia partnerships should be used where they improve quality and value;
- c) *Inclusion and talent advancement*: recognize and strengthen AWAYA, under AFCAC's leadership, as the continental platform for mentorship, leadership development, professional networking, visibility and career advancement. The workstream should mobilize scholarships, internships, apprenticeships, secondments, mentoring and enabling workplace policies, and integrate women and youth participation into existing HRDF, AFI-Cooperative Inspectorate Scheme (AFI-CIS), AFI-Collaborative Expert Scheme (AFI-CES) and other technical programmes instead of treating inclusion as a standalone activity; and

- d) *Professional mobility and recognition*: progressively harmonize and recognize equivalent competencies and qualifications in priority occupations, consistent with Annex 1 and national responsibilities. Initial measures should include regulatory mapping, model procedures, common competency approaches, electronic personnel-license interoperability, secure verification, exchanges and short-term expert placements.

3.2 The Pathway should be governed through existing AFCAC and AU structures, supported by national focal points, ICAO and partner commitments. A compact African Aviation Skills and Inclusion Dashboard should report workforce demand, training and certification, employment, mentorship and apprenticeships, retention, leadership progression and participation of women, youth and, where appropriate, persons with disabilities. Baselines should precede the adoption of realistic, time-bound targets.

4. IMPLEMENTATION AND FINANCING

4.1 Upon successful establishment of the integrated implementation pathway, AFCAC and partners should agree on the data methodology, designate focal points, complete the training-capacity inventory, establish the AWAYA talent and mentorship network, select priority occupations for mobility work and identify demonstrator projects that can embed capability and technology transfer.

4.2 States should integrate workforce plans into national aviation, education, infrastructure and investment strategies. Industry and training institutions should co-design competency-based curricula and expand structured workplace learning. ICAO is invited to support regulatory mapping, data methodology, NGAP and gender-equality alignment, training resources, technical assistance and international knowledge exchange.

4.3 Financing needs should be clearly identified, together with a resource mobilization plan specifying the expected shares of national budgets, industry cost-sharing, HRDF and technical-cooperation mechanisms, development-finance support, scholarships and pooled regional arrangements. Every major aviation investment should budget for the personnel required to regulate, operate and maintain it throughout its lifecycle.

5. ACTION BY THE CONFERENCE

5.1 The Conference is invited to:

- a) note Africa's skills-conversion gap and the need to connect workforce planning, training, certification, employment, mobility, inclusion and aviation investment;
- b) support the establishment, under AFCAC coordination, of an African Aviation Skills and Inclusion Acceleration Package benchmarked against international best practices;
- c) encourage Member States to establish or update aviation workforce plans, improve disaggregated data, integrate human-capability requirements and implement measurable pathways for women and youth;
- d) encourage industry, training institutions and development partners to support competency-based training, scholarships, apprenticeships, mentorship, secondments, to support women and youth; and
- e) request ICAO to develop guidance material and model procedures to facilitate, on a voluntary basis, the validation and conversion of foreign personnel licenses, consistent with Annex 1 and without prejudice to Articles 32 and 33 of the Chicago Convention and States' national licensing, competency-assurance and safety-oversight responsibilities.