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ASSEMBLY — 42ND SESSION

EXECUTIVE COMMITTEE

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

“YOUR WINGS START HERE”: STRENGTHENING YOUTH OUTREACH AND CAREER PATHWAYS IN AVIATION

(Presented by Portugal)

EXECUTIVE SUMMARY

This paper presents the “Your Wings start here” campaign, a national initiative designed by Portugal (namely by the Portuguese Civil Aviation Authority - ANAC) to foster early engagement with aviation among students, universities, young and not so young professionals, with a view to addressing global workforce shortages, advancing diversity, equality, and strengthening long-term sustainability and environmental responsibility, fostering green and sustainable career paths, in line with the strategic orientations and commitments of both ICAO and the European Union. The campaign contributes directly to ICAO’s Next Generation of Aviation Professionals (NGAP) to the Global Aviation Gender Summit and the Global Aviation Training Office (GAT) initiatives, as well as the Global Coalition for Sustainable Aviation.

<i>Strategic Goals:</i>	This information paper relates to all strategic goals and the high priority enabler of Gender Equality and Attracting New Talent.
<i>Financial implications:</i>	None
<i>References:</i>	Doc 10184 Assembly Resolutions in force (as of 7 October 2022)

1. INTRODUCTION

1.1 As global air transport recovers and evolves post-pandemic, the aviation sector faces a critical skills shortage across multiple domains and professions, including pilots, air traffic controllers, maintenance engineers, cybersecurity experts, sustainability specialists, among others.

1.2 The International Civil Aviation Organization (ICAO) has recognized this challenge through the Next Generation of Aviation Professionals (NGAP) Programme, the Global Aviation Training

(GAT) framework, the Global Aviation Gender Summit and the Global Coalition for Sustainable Aviation, each of which emphasizes the need to attract, educate and retain a new and diverse generation of aviation professionals.

1.3 Responding to this global imperative, the “Your Wings start here” campaign was launched on December 6th 2024 by Portugal to build awareness of aviation careers among youth, engage academic institutions, the aviation industry, the educational system, municipalities and social partners, and motivate professionals to consider transitions into the sector. This initiative provides a replicable framework that could be adopted in other countries. Member States can relate to the four main areas that were identified as key challenges: Advances in Technology; Sustainability and Environmental Concerns; Increased Complexity of Airspace and Operations; and a fast demand for highly skilled professionals. We believe these challenges must be proactively addressed, to ensure the resilience and progress that the aviation sector needs.

2. CAMPAIGN OBJECTIVES AND STRUCTURE

2.1 The core objectives of the campaign are:

- a) to inspire young people to consider careers in aviation and aerospace by awakening their dreams of a future in the aviation sector;
- b) to raise awareness of training and education opportunities in the sector;
- c) to support inclusion, gender equality and access to technical and STEM education;
- d) to promote aviation as a sector of innovation, climate responsibility and societal value;
- e) to help build a more sustainable, competitive, inclusive, and accessible aviation sector;
- f) to enhance the sector’s image among younger generations; and
- g) to improve public knowledge and understanding of aviation.

2.2 The campaign is structured around three complementary pillars, each encompassing a range of activities and actions that are planned to be implemented in the future, and which will be presented, and discussed by the various partners:

2.2.1 Youth and Schools Engagement

- a) delivery of aviation awareness in primary education schools (ages 6 – 10); lower secondary education schools (ages 11 – 15); upper secondary education schools (ages 16–18), in partnership with the educational system, to reinforce Science, Technology, Engineering and Mathematics (STEM) programs;
- b) organization of interactive visits to airports, control towers, training centers, industry partners, etc.;

- c) development of educational kits, both in Portuguese and English languages;
- d) feature of ambassadors (pilots, engineers, ATCOs, both male and female) to mentor and share career journeys.

2.2.2

Higher Education and University Partnerships

- a) establishment of university “aviation hubs” for career information, research exposure and innovation contests;
- b) development of ICAO-aligned aviation curricula and promotion of GAT-certified institutions;
- c) provision of internships and thesis opportunities with regulators, ANSPs, and industry partners;
- d) promoting scholarship opportunities for startups and startup projects in aviation-related initiatives developed by students within research and development centres and universities, covering areas such as environmental sustainability, robotics, artificial intelligence or other emerging technologies.

2.2.3

Professional Career Transition and Outreach

- a) Promotion of re-skilling and up-skilling pathways for professionals in adjacent fields (e.g., IT, engineering, sustainability);
- b) Participation in National career fairs showcasing aviation roles and training programs;
- c) Integration of ICAO’s TRAINAIR PLUS materials and Human Resources Development strategies;
- d) Granting an Award – named after Maria de Lourdes Sá Teixeira, the first woman aviator in Portugal, who received her brevet on December 6th 1928 – to be given to a person or organization that excels in promoting equality and inclusion in civil aviation; it also intends to award a Scholarship, according to regulations yet to be approved, to a professional in civil aviation;
- e) Establishing a Dedicated Support Fund - to promote an equal access to professional opportunities within the aviation sector. This support fund is aimed at individuals from low-income backgrounds, who lack access to financial aid. The objective is to ensure that those with a genuine passion and aspiration to pursue a career in aviation – and who have the physical and psychological conditions required for such professions – are not held back by economic constraints. We cannot afford to lose those who are deeply passionate about aviation, simply because they lack the financial means. This Dedicated Support Fund would seek contributions from municipalities airlines, financial institutions, aviation training centres, national governments and dedicated environmental, social and educational funds or others, thereby creating a

collective commitment to widening access to aviation education and professional development.

2.3 Across all three (3) pillars, the campaign promotes collaboration between civil aviation authorities, training institutions, airlines, airports, air navigation service providers, industry associations, NGOs and other relevant stakeholders – including the national educational systems, academia, research and development centres, municipal authorities and trade unions – both nationally and internationally, because addressing the complex challenges facing the aviation sector requires coordinated, multi-stakeholder efforts to ensure coherent and impactful outcomes across all levels.

2.4 An online platform - currently being developed as part of the Portuguese campaign and recommended for adoption in all initiatives under the above pillars - will serve as a central hub for aviation career outreach (see also Appendix).

3. ALIGNMENT WITH ICAO FRAMEWORKS

3.1 The campaign directly supports the objectives of:

- a) NGAP: by fostering early career awareness and mentorship that helps attract, prepare and retain the next generation of aviation professionals, ensuring a skilled and diverse workforce for the future;
- b) GAT: by connecting learners to ICAO-recognized training and institutions that promote global standards, enhance competency-based learning and expand access to high-quality aviation education across all regions;
- c) ICAO Assembly Resolution A41-27: which calls for States to develop national aviation workforce plans;
- d) Gender Equality Program: by actively targeting women and girls in aviation STEM fields with concrete actions that promote gender equality, such as mentorship opportunities, skills development programs, and the visibility of female role models across the sector;
- e) Global Coalition for Sustainable Aviation: by connecting youth to the green transition in aviation, because empowering the next generation drives innovation, ensures a long-term environmental stewardship and fosters a more inclusive and resilient future for the sector.
- f) The campaign further complements the strategic discussions held during the Global Aviation Gender Summit and Global Aviation Dialogues (GLADs). It bridges global policy dialogue with on-the-ground initiatives, making sure that the outcomes of these strategic discussions are effectively implemented.

4. CONCLUSIONS

4.1 Recognizing the global nature of workforce challenges, the model offered by “Your Wings start here” is adaptable to other ICAO regions and socio-economic contexts, allowing contextual customization, while preserving its core objectives and impact.

4.2 “Your Wings start here” campaign, aligned with ICAO’s strategic goals, promotes collaboration between civil aviation authority(‘s), training institutions, airlines, airports, air navigation service providers, industry associations, NGOs and other relevant stakeholders – including the national educational systems, academia, research and development centres, municipal authorities and trade unions – both nationally and internationally, because addressing the complex challenges facing the aviation sector requires coordinated, multi-stakeholder efforts to ensure coherent and impactful outcomes across all levels.

4.3 Acknowledge the innovative and inclusive approach of the “Your Wings start here” campaign Portugal welcomes Member States interested in implementing or adapting similar outreach strategies, tailored to their national and regional needs. Contacts may be established with ANAC through yourwings@anac.pt.

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APPENDIX A

PARTNERS OF THE CAMPAIGN “YOUR WINGS START HERE”

Logo	Organization	Logo	Organization
	AED Portugal Cluster		IPB – Polytechnic Institute of Bragança
	Bragança Aero Club		ISEC Lisbon - Higher Institute of Education and Sciences
	Aero Club of Portugal		Lusofly Academy
	Aero Club of Viseu		Municipality of Ponte de Sor
	Air Dream College		NAV Portugal
	ANA Airports in Portugal		OMNI – Executive Aviation
	ANQEP - National Agency for Qualification and Vocational Education		OMNI – Aviation Training Center
	APANT - Portuguese Association of Unmanned Aircraft		Oeiras Valley Portugal – Municipality of Oeiras
	APCTA - Portuguese Association of Air Traffic Controllers		Portugália Airlines
	APDRONE - Association of Pilots and Operators of Unmanned Vehicles		Portway
	APPLA - Association of Portuguese Airline Pilots		SATA Internacional Azores Airlines
	APTCA - Portuguese Association of Cabin Crew		SATA Air Açores
	Atlântica – University Institute		Sevenair Academy
	Aviation TV		SITEMA - Aircraft Maintenance Technicians Union
	AWA – Aeronautical Web Academy		TAP Air Portugal
	Bragança Municipality		The Race
	Euro Atlantic Airways		Vintage Aero Club
	Portuguese Aeronautical Federation		White
	HiFly		
	IFA – International Flight Academy		

APPENDIX B

EXAMPLES OF CONCRETE ACTIONS FOR EDUCATIONAL OUTREACH

1. CONCRETE ACTIONS FOR EDUCATIONAL OUREACH

1.1 This Appendix outlines scalable and adaptable actions targeting students and educational institutions across various levels of education. These activities are designed for implementation by individual States, regional blocs, or through global frameworks, in accordance with ICAO's guidance under the NGAP and GAT programs. They may be implemented in cooperation with civil aviation authorities, industry stakeholders, airlines, airport operators, training organizations, national educational systems, academia, research and development centres, municipalities and trade unions, associations, NGOs and other national and international entities.



2. PRIMARY EDUCATION (AGES-6-10)

2.1 **"Airport in a Box"**: mobile kits including model aircraft, runway puzzles, and animated videos introducing basic aviation concepts; - Classroom visits by aviation professionals, featuring storytelling and show-and-tell sessions with uniforms, radios, and models. These aviation professionals should be named ambassadors of the campaign. This would further strengthen their engagement, fostering a sense of ownership and pride in inspiring the next generation;

2.2 Partnership with schools for 'Aviation Week' featuring themed reading and simple STEM experiments;

2.3 Digital games or apps sponsored by CAAs or NGOs, to introduce aviation safety and sustainability ideas in young minds;

2.4 **“Guess Who in Aviation?”**: inspired by the classic “Guess Who?” format, it introduces young learners to the diverse professions in aviation in a playful and engaging way. Through observation and deduction, children identify aviation professionals by examining visual clues such as uniforms, tools, and accessories — gradually becoming familiar with roles like pilots, air traffic controllers, flight attendants, mechanics, and more. The game promotes curiosity, awareness of the aviation world, and early interest in STEM-related careers, all while encouraging inclusive and imaginative learning;



2.5 **“Dress the Profession”** is a hands-on, role-playing activity designed to introduce children to careers in aviation through imaginative play. Using real aviation uniforms and accessories, children are invited to, literally, step into the shoes of pilots, flight attendants, ground handlers, air traffic controllers, and other key professionals. A simple backdrop - a themed cardboard display - sets the scene, allowing participants to pose for fun and memorable photos, as they explore the world of aviation.

3. LOWER SECONDARY EDUCATION (AGES 11–15)

3.1 STEM aviation modules integrated into science, physics, engineering, geography, and technology curricula. Partnerships can be established with national associations of Physics, Engineering, Geography, Science and Biology, Mathematics, English, Psychology - in recognition of the critical role human factors play in aviation safety and performance, to co-develop content, promote teacher training, and ensure the necessary alignment with national education standards.

Some **example activities** include:

- a) **Physics**: exploring the principles of lift and thrust, through simple wind tunnel experiments or paper plane challenges; or building and testing balloon-powered jet models to explore the principle of action and reaction (Newton’s Third Law) — helping students understand how thrust propels an aircraft forward;
- b) **Engineering**: developing and testing student-designed model of aircrafts and drones, as part of a school challenge. Students can work in teams to define the tasks. The initiative may involve partnerships with universities to support learning and inspire real-world applications.
- c) **Geography**: mapping global flight routes and analysing climate impacts of aviation across regions; or simulating a flight plan across continents, where students choose departure and arrival cities, plot the route on a world map, and research the different time zones, climates, and terrains the aircraft would cross;
- d) **Science & Biology**: Investigating bird flight vs. aircraft flight, comparing biological and mechanical flight through model-building and observation; or learning about airport ecosystems, including how animals and plants live near airports and the measures taken to protect them.
- e) **Mathematics**: calculating fuel consumption or flight times using distance, speed and time formulas; or designing a passenger seating layout for an aircraft, where students

use area and perimeter calculations to determine how many seats fit in different aircraft sections, introducing basic geometry and spatial reasoning.

- f) **English (as a foreign language):** Practicing aviation-related vocabulary (e.g. pilot, runway, boarding pass...) through matching games, flashcards, or classroom airport role-plays; or listening to short announcements of flight instructions, then answering basic comprehension questions or mimicking the announcements.
- g) **Psychology:** Discussing emotions: What do pilots or cabin crew feel when things go wrong?; How do they stay calm?; or understanding how people feel in new or stressful situations, like flying for the first time, through guided discussions about emotions and coping strategies; promoting vocational and oriental process to guide young students;

3.2 Student essay or drawing contests on topics like "The Future of Flight", "Women in Aviation" or "Green Aviation". Engaging students through creative contests fosters critical thinking and personal expression. To strengthen local relevance, cultural connection, each contest could be named after a prominent aviator or aviation pioneer from the respective country, as a way of honouring their legacy and also inspiring the next generation. In the case of the "Green Aviation" contest, and to offer an opportunity to highlight ongoing efforts toward sustainable technologies and eco-friendly practices in the sector. Prizes may include short discovery flights or cockpit visits, made possible through the campaign's partnerships with national airlines.

These partnerships serve as a visible demonstration of the industry's commitment such as:

- a) school field trips to airports, airfields, control towers, aviation museums, national aviation authorities, etc.;
- b) creation of Junior Aviation Clubs, supported by national stakeholders (airlines, airports, ANSPs, etc.);
- c) promotion ICAO's online resources for kids and educators.

4. UPPER SECONDARY EDUCATION (AGES 16–18)



4.1 Pre-university summer schools hosted by aviation academies or training centers. These academies can offer immersive learning experiences for students interested in aviation careers. It's recommended that these institutions are official partners of the national campaigns, providing a concrete way for them to demonstrate their commitment to youth engagement and the broader goals of the initiative;

4.2 Aviation Career Days at secondary schools, with booths from regulators, airlines and training providers or others. These events should include clear, accessible information about the qualifications, skills, and training paths required for each aviation profession. This way, students can make informed decisions about their future while showcasing the wide range of career opportunities within the sector.



4.3 Launch of mentorship schemes pairing students with professionals (pilots, engineers, flight dispatchers, flight attendants, TMAs ATCOs...), to provide guidance, share career experiences, and offer inspiration. These mentors should be officially recognized as ambassadors of the campaign, reinforcing their role as positive models and also strengthening their long-term engagement with the initiative.

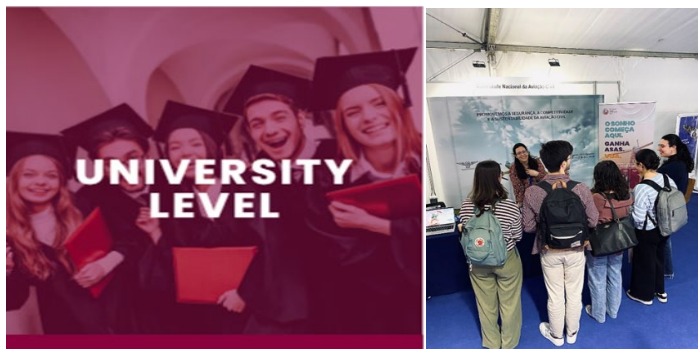
4.4 Inclusion of sustainability and innovation in aviation as elective course topics.

4.5 Simulation activities (e.g., flight simulators, ATC scenarios) offered through national education partnerships.

4.6 Talks, workshops, and conferences with professionals and organizations from the aviation sector to share experiences, career journeys, and emerging opportunities with students and educators.

4.7 Soft skills training sessions facilitated by psychologists, focusing on communication, teamwork, stress management, and decision-making under pressure — all critical soft skills competencies for future aviation professionals.

5. UNIVERSITY LEVEL



5.1 Development of aviation-focused degrees in collaboration with ICAO-endorsed training centers and GAT partners;

5.2 Funding support for research on aviation sustainability, safety and human factors;

5.3 Student internships within CAAs, airlines, or airport operators via national programs, to provide hands-on experience and early exposure to the aviation sector. These entities should be official partners of the campaign, reinforcing their commitment to developing future talent and contributing to a more sustainable and inclusive aviation workforce.

5.4 ICAO Model Assembly simulations organized regionally for aviation policy awareness. This initiative proposes a model simulation of an ICAO Assembly, specifically designed for university students pursuing studies in aviation, engineering, international relations, environmental science, or related fields. Participants assume the role of Member State representatives, industry observers, or NGO delegates, and engage in structured debates and negotiations on key aviation topics – such as sustainable fuels, decarbonization pathways, airspace management or global climate commitments. Through guided research, collaborative drafting of working papers, and consensus-building exercises, students gain a practical understanding of ICAO's governance mechanisms, the complexity of international aviation policy, and the environmental challenges facing the sector. By mirroring real ICAO processes and aligning with the goals of the UN 2030 Agenda, this educational simulation strengthens youth engagement in global aviation governance and empowers the next generation of aviation leaders.

- a) Coordination with UN SDG education efforts to maximize reach and impact;
- b) Support for university incubators focused on green aviation technology and digitalization;
- c) Talks, workshops, and conferences with professionals and organizations from the aviation sector to share experiences, career journeys, and emerging opportunities with students and educators.
- d) Advanced soft skills development workshops led by psychologists or human factors specialists, focusing on high-stakes communication, leadership in team settings, emotional regulation, and decision-making under operational pressure – all key transversal competencies in safety-critical aviation environments.





6. MULTI-STAKEHOLDER COLLABORATION

6.1 Establishment of National Aviation Education Networks involving regulators, industry and academia;

6.2 Joint development of outreach materials, branding and campaigns with ICAO regional offices;

6.3 Integration of civil aviation themes into national education strategies. This helps build early awareness of the sector and its relevance to science, technology, sustainability, and global connectivity. Establishing strong partnerships with national Ministries of Education is essential to ensure alignment with curricula, promote long-term implementation and also to support teacher engagement across all regions;

6.4 Use of ICAO tools (e.g., NGAP toolkit, TRAINAIR PLUS) to ensure alignment and quality assurance, if possible.



Image: SITEMA - Aircraft Maintenance Technicians Union presentation of the campaign

7. ATTRACTION AND RETENTION OF PROFESSIONALS

- 7.1 Launch national re-skilling programs for professionals from adjacent industries (e.g., IT, mechanical engineering, environmental sciences) to transition into aviation careers;
- 7.2 Create fast-track certification and training pathways for adult learners, leveraging ICAO's TRAINAIR PLUS and GAT frameworks;
- 7.3 Promote academic recognition of aviation training programmes with certification and formal recognition – including those for pilots, flight dispatchers, maintenance technicians, air traffic controllers– as equivalent to higher education degrees. This process should be developed in close collaboration with universities and polytechnic institutes, enhancing the attractiveness of aviation careers, by linking them to formal academic credentials;
- 7.4 Promote aviation as a second-career option for veterans, educators, or skilled technicians through awareness campaigns;
- 7.5 Provide financial incentives (e.g., scholarships, relocation support) for career changers to pursue accredited aviation training;
- 7.6 Organize job fairs and webinars featuring real career stories, industry demand, and long-term job outlook in aviation sectors;
- 7.7 Develop Regional Mobility Programmes to attract professionals internationally and fill shortages across borders;
- 7.8 Engage professional associations, unions, and chambers of commerce in aviation career promotion and integration.
- 7.9 These initiatives are intended to support global workforce development, strengthen the attractiveness of aviation careers, and ensure long-term alignment with ICAO's Strategic Objectives and the United Nations Sustainable Development Goals. They also aim to strengthen the attraction, integration and retention of professionals in the aviation ecosystem, including those transitioning from other sectors.

8. SOCIAL MEDIA STRATEGY

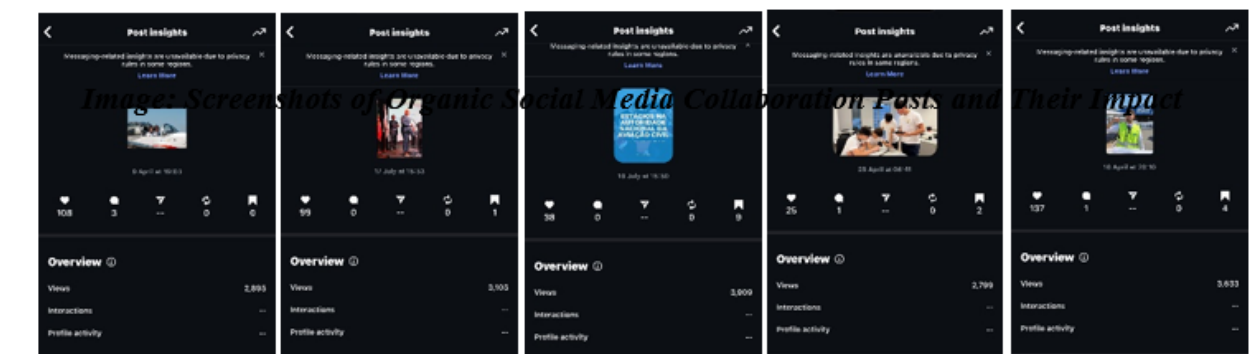
8.1 No campaign of this kind can succeed without a robust and well-targeted social media strategy. In today's digital landscape, where social platforms play a central role in shaping how young (and not so young) people access information, form aspirations and engage with different causes, social media has to be at the heart of any outreach effort.

8.2 All aviation authorities must recognize the significant influence that social media has on young audiences, shaping their interests and also their perceptions of career paths. Therefore, social media should serve as both a communication and engagement tool, connecting young people to opportunities and shaping a modern and inclusive narrative around civil aviation.



The main objectives of the social media strategy for a campaign like “Your Wings start here” are:

- a) to increase the visibility of the civil aviation sector and the overall recognition of the campaign;
- b) to engage audiences through inspiring, informative, and youth-oriented content with the perfect Hashtag# for each kind of content;
- c) to promote the image of national aviation authorities as inclusive, forward-thinking institutions;
- d) to encourage active participation and interaction with campaign partners and aviation organizations;
- e) to actively counter misinformation and fake news by providing trustworthy, fact-based content, thereby reinforcing the credibility of the campaign and its institutional partners.



9. ONLINE PLATFORM

9.1 An online platform - currently being developed as part of the Portuguese campaign and recommended for adoption in all other initiatives - should serve as a central hub for aviation career outreach. Its key functions are going to be:

- a) to centralize content, events, and educational resources related to careers in aviation;
- b) to share real-life stories of passion and dedication within the sector, in order to inspire and motivate young people;
- c) to humanize the aviation industry by showcasing its positive impact on individual lives and professional journeys;
- d) to serve as a trusted source of verified information, ensuring that all content published on the platform is accurate and aligned with official aviation standards and policies, in order to actively contribute to the prevention of misinformation and fake news and the promotion of informed public engagement.

9.2 This platform supports continuity, inclusiveness, and visibility, offering a space where students, educators, and also families can connect with the aviation world in an accessible and engaging way.



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