



ASSEMBLY — 42ND SESSION

EXECUTIVE COMMITTEE

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

GLOBAL AVIATION & AEROSPACE SKILLS TASKFORCE (GAAST)

(Presented by Airports Council International (ACI), Airport Services Association (ASA World), the International Air Transport Association (IATA), the International Coordinating Council of Aerospace Industries Associations (ICCAIA), JAA Training Organisation (JAA TO), the Royal Aeronautical Society (RAeS), and The International Air Cargo Association (TIACA) and co-sponsored by the African Civil Aviation Commission (AFCAC), Brazil, Japan, South Africa, the United Arab Emirates and the United Kingdom)

EXECUTIVE SUMMARY

This paper presents the work undertaken by the Global Aviation & Aerospace Skills Taskforce (GAAST) to address key challenges facing the current and future workforce in the aviation sector across the globe, and in collaboration with international partners. This Information Paper forms part of GAAST's endeavour to highlight workforce challenges as a key issue for the international aviation agenda.

<i>Strategic Goals:</i>	This working paper relates to all Strategic Goals and to Priority Enabler “ <i>Gender Equality and Attracting New Talent to Aviation</i> ”
<i>Financial implications:</i>	
<i>References:</i>	

1. INTRODUCTION

1.1 The aviation industry is a key driver of economic growth and innovation around the globe and is positioned to adopt and develop revolutionary technologies capable of transforming air travel and its impact on the environment.

1.2 In this era of growth, the aviation and aerospace workforce must also grow and adapt to meet increasing resource demands, evolving technologies, and enable innovation. Current workforce challenges threaten the resilience of the aviation and aerospace system, both in the present and in the long

term. Resources are needed to ensure that all sectors continue to grow sustainably, and reach their economic potential while maintaining safety, security, and operational resilience.

1.3 The Global Aviation & Aerospace Skills Taskforce (GAAST) is an international initiative focused on addressing the workforce challenges facing the aviation and aerospace sectors, bringing together states, regulators, international organizations, educational institutions, and industry. The goal of GAAST is to ensure workforce resilience through collaborative efforts, knowledge-sharing, and inclusive initiatives that address skills shortages and promote long-term sustainability.

1.4 GAAST aims to identify and develop resources to address skills shortages and training gaps, while promoting awareness of threats to resilience within the aviation system today and in the longer term.

1.5 This information paper describes the work of GAAST and its collaboration with the ICAO NGAP programme to develop and support the growth of a sustainable and skilled global workforce.

2. DISCUSSION

2.1 While the aviation industry predicts remarkable growth, development and innovation in the coming decades, the sector also faces unprecedented workforce-related challenges. According to the Air Transport Action Group (ATAG), the aviation workforce contracted by 43%, equating to 4.8 million jobs globally, during the pandemic. In the ground handling sector, although staffing has gradually recovered—reaching 88% of 2019 levels—it remains insufficient to meet the rising demand for ground and cargo handling services. By 2030, 44% of the aerospace workforce in Europe is expected to retire. By 2030, demand for data analysts, software engineers and systems architects is expected to grow by 35%, and by 2043, aircraft manufacturers have forecasted a need for around 70,000 new maintenance technicians.

2.2 The industry's efforts to adapt and innovate to address poor perception of the sectors have not been effectively communicated regarding its growth, innovation and sustainability potential. Job opportunities are similarly poorly understood or advertised, while, simultaneously, the industry is losing established expertise to other industries.

2.3 Through partnership and collaboration, GAAST aims to develop and support the growth of a sustainable and skilled global talent pool through outreach initiatives and by altering perceptions of the aviation industry as an early careers choice. GAAST places upmost importance on ensuring that the current and future workforce is ready to carry and drive aviation safety, innovation, and growth within a rapidly developing aviation industry.

2.4 GAAST brings together over 100 states and organizations working collaboratively on supporting the aviation industry's present and future workforce. It has cross-section of industry representation, ensuring each sector is covered, including aerospace, airlines, airports, air traffic management, cargo companies and ground handling as well as educational institutions and HR specialists.

2.5 By exchanging information, experiences and best practices, GAAST aims to help States and organizations globally create their own programmes for attraction, recruitment, skills development, and retention of the future workforce, thereby helping ensure the successful future of the sector. Through collaboration with the International Civil Aviation Organization (ICAO), GAAST will also be able to widen the audience it reaches as well as supporting the ICAO Next Generation of Aviation Professionals (NGAP) programme and Assembly Resolution A39-29. A sustainable and competent aviation workforce is also

essential to supporting ICAO's strategic objectives, including safety, security, environmental responsibility, and global connectivity.

2.6 GAAST's work is organised into five streams:

2.6.1 **The Value Proposition for the Industry**

2.6.1.1 The aviation and aerospace industries unlock opportunities for people of all backgrounds, embracing diverse skills, experiences, and identities. As a truly global sector, aviation connects individuals, communities, and cultures—driving social progress and economic growth. With an impact that spans supporting over 100 million jobs and significantly contributing to global GDP, the industry is a catalyst for personal advancement and global integration, helping people transcend boundaries and realize their potential in a dynamic, interconnected world. GAAST is working collaboratively to define a value proposition for aviation and aerospace, no matter what type of career path or job type.

2.6.2 **Attraction and Outreach**

2.6.2.1 The aviation and aerospace industry opens its doors through inclusive outreach and attraction efforts that span every stage of life. Whether exploring new pathways or reshaping how talent and education intersect, GAAST's case studies and guidance will offer adaptable tools, proven programs, and global stories that inspire connection and opportunity. GAAST champions creativity, critical thinking, and the lifelong journeys that fuel a vibrant, future-ready aviation workforce.

2.6.3 **Retention and Development**

2.6.3.1 Ensuring a sustainable, skilled, and engaged workforce is essential for aviation's present and future. Through case studies, examples and guidance, GAAST provides global insights and collaborative solutions to strengthen retention and growth strategies. By understanding the evolving needs of talent and offering access to real-world resources, GAAST aims to shape a workforce that is resilient, capable, and ready to meet tomorrow's challenges.

2.6.4 **Workplace Environment and Culture**

2.6.4.1 A career in aviation blends innovation with impact, offering purpose-driven roles in a fast-paced and evolving industry. From engineering and operations to customer service and global strategy, every role contributes to shaping the future of transportation. Yet, challenges persist—from high-pressure demands to equity and inclusion gaps. GAAST will provide examples and guidance for building a culture that supports well-being, fosters belonging, and empowers people to thrive in a collaborative, safety-driven environment.

2.6.5 **Evolution of Work**

2.6.5.1 Looking ahead to 2050, aviation is poised to lead with a sustainable, human-centric, and innovation-driven approach to work. Rooted in technology, environmental responsibility, and inclusive development, the industry is redefining how people, goods, and ideas move globally. Through bold collaboration and purpose-led action, aviation and aerospace will continue to inspire progress and connection—becoming a global model for what the future of work can be.

2.7 A global repository of best practices scheduled for launch by end-2025, supporting ICAO's NGAP programme More details are found in Appendix B.

2.8 By the end of 2025, GAAST will officially launch a wide-ranging repository of guidance and case studies put forward by contributing states and organisations that will enable new and existing materials to be added, and information shared across organisations. The GAAST repository will be a living resource and provide information adapted to current and future challenges as they are identified.

2.9 The repository and its materials will also be made available for use by the NGAP programme. The greater the number of contributions, and the wider its reach, the more value will be brought to all participants.

3. CONCLUSION

3.1 Current forecasts show that the aviation sector can expect significant loss of experience and expertise in the near future, with an insufficient pipeline of new talent to support the industry and take on new challenges and opportunities.

3.2 GAAST brings together partners to focus on the common goals of improving perceptions and understanding of the aviation industry, developing collaborative outreach initiatives and promoting an agenda that will ensure retention of current expertise within industry while attracting fresh talent to carry the sector forward into new resilience and technological challenges.

3.3 GAAST appreciates the essential role that ICAO plays in leading the development of a sustainable aviation workforce and GAAST members are committed to working with ICAO to achieve these goals.

3.4 GAAST welcomes contributions to our repository of best practice and case studies; the wider range and depth of resources that GAAST can gather, the greater the global impact it will have. Interested contributors may contact the GAAST Secretariat at secretariat@gaast.aero.

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APPENDIX A

GAAST STEERING GROUP

Name	Organization	Role
Nina Brooks	ICCAIA	Chair
Fiona Hau	UK Department for Transport	Vice Chair
Nathalie Herbelles	ACI World	Programme Oversight
Casey Ferriter	ACI World	Programme Manager
Ana Benevides	Brazil, ANAC	Steering Group (State)
Ingeborg Van Gasteren	Netherlands, Ministry of Infrastructure and Water Management	Steering Group (State)
Miri Iizuka	Ministry of Land, Infrastructure, Transport and Tourism, Japan	Steering Group (State)
Lean Nelson	South Africa, Civil Aviation Authority	Steering Group (State)
Mohammad Salem	UAE, GCAA	Steering Group (State)
Sophie Jones	UK Civil Aviation Authority	Steering Group (State)
Dr Waleed Youssef	Aviation Services Association	Steering Group (IO)
Jarcin Victoire	ACI World	Steering Group (IO)
Jane Hoskisson	IATA	Steering Group (IO)
Anouck Barreaux	ICCAIA	Steering Group (IO)
Glyn Hughes	The International Air Cargo Association	Steering Group (IO)
Dave Rogers	Swissport	Nominated ground handler
Helen Fuge	NATS	Nominated ANSP
Mildred Troegeler	The Boeing Company	Nominated Aerospace
Sherman Tan	Civil Aviation Authority of Singapore	WS Lead
Claudio Marturano	T-C-Alliance	WS Lead
Milena Bowman	EUROCONTROL	WS Lead
Milena Capeluppi	ANAC Brazil	WS Lead
Lean Nelson	South Africa Civil Aviation Authority	WS Lead
Antonio Gonzalez Gomez	EASA	WS Lead
Cate Bichara	Independent expert	WS Lead
Jo Watkinson	CAE	WS Lead
Suzanne Acton-Gervais	National Airlines Council of Canada	WS Lead
Alina Aronberga	Air Baltic	WS Lead

List of GAAST members (organizations):

ACI World	Firstfruits Services
Adelaide Airport	Fokker Next Gen
Aer Lingus	Fraport Greece
AeroShift	French Air Navigation Service Provider
African Civil Aviation Commission	GCAA UAE
Air Baltic	Heathrow Airport
Aircraft Electronics Association	IAG
Airport Services Association	IATA
Airports Authority of Trinidad and Tobago	ICCAIA
ANAC Brazil	JAA Training Organisation (JAA TO)
ASSA-i	EASA
Avianca	INTERPORTPOLICE
Aviation HR Excellence	InterVISTAS Consulting
Aviatrix-Aerial Training Solutions	Istanbul Airport
Azul Airline	Kenya Airports Authority
Boeing	Kenya Airways
Bologna Airport	Malaysia Aerospace Industry Association
Bolona Airport	MBS Techservices
CAA Bulgaria	Menopause360
CAAi	Ministry of Land, Infrastructure, Transport and Tourism, Japan
ChangeGroup & Prosegur Change	Netherlands, Ministry of Infrastructure and Water Management
Civil Aviation Authority of Singapore	National Airlines Council of Canada
CoESS	National Civil Aviation Agency - Brazil
Cormis Partners	NATS
Culmen International	Nigerian Meteorological Agency
Department for Transport, United Kingdom	Noida International Airport
DFW Airport	Pacific Aviation Safety Office
DG CAA Bulgaria	Roberts Tribe consulting
dnata	Rolls Royce
Dornier Group	SA Civil Aviation Authority
Dreams Soar	Safari Group
EASA	Safety & Security Instruction
Egis	Senior Quality Assurance Engineer
Elevate Aviation	SSCAA
Emirates Group	SkyTeam
EUROCONTROL	Strikitsa Consulting
Federal Airports Authority of Nigeria	Swissport
T-C-Alliance	
The International Air Cargo Association	

Travelport
National University for Science and
Technology POLITEHNICA BUCHAREST
University of Turku
Vamoose Technologies
Vaughn College
Windrose Training
Women in Aviation International
Women in Aviation Nigeria
Young Aviators Club of Africa
Zurich Airport International

APPENDIX B

EXAMPLE GAAST OUTPUTS

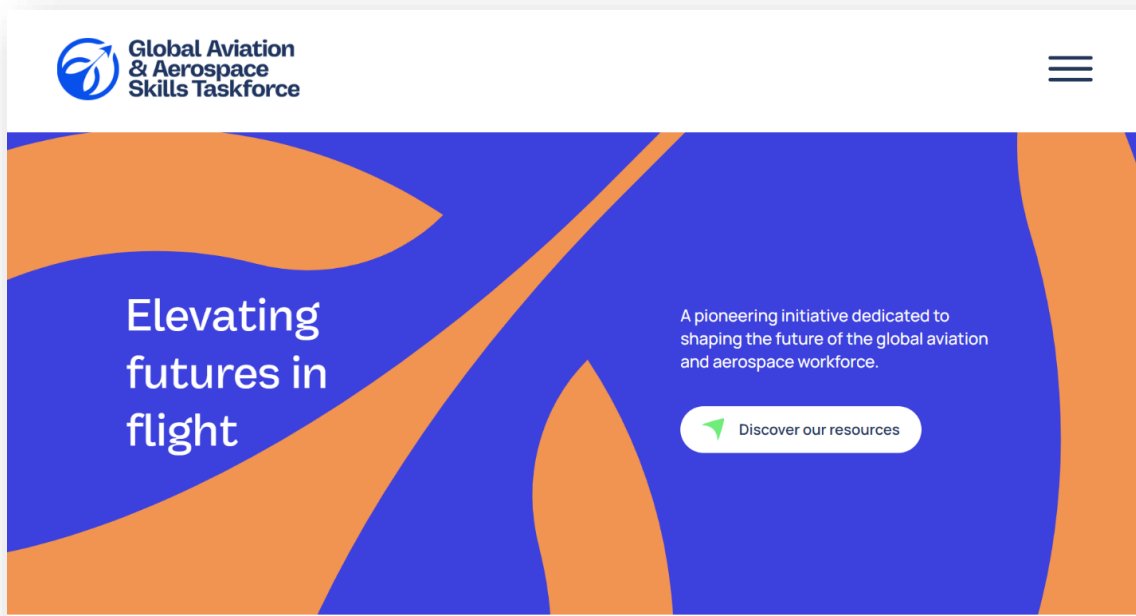


Figure 1 Global Aviation & Aerospace Skills Taskforce (GAAST) homepage

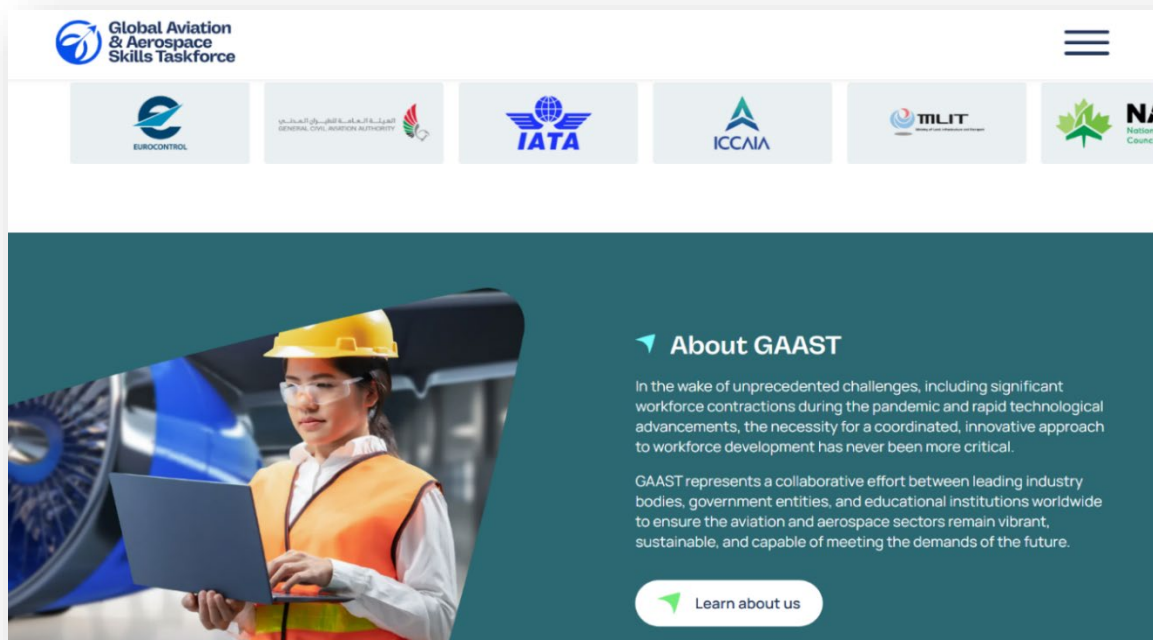


Figure 2 Draft GAAST Homepage 2

Value Proposition

Put the “mojo” back to aviation!

- Aviation often captures the dreams of many young people at an early age. With its glare, power to fascinate, and versatility, some young boys and girls choose to devote their vocations later on in their lives to any of the multiple occupations aviation offers through the different paths. There is a whole realm of diverse life choices that attracts young minds in this industry. What makes these young individuals decide to devote their passions and dreams to aviation? Is this becoming a thing of the past? Does aviation have that same allure at all these days?. During its glory days in the 50s and 60s aviation was about flying higher, faster and further. Now it is about cleaner, sustainably, efficiently and safely. But does the public know this?. Are we making a good job at communicating the new technological quest aviation is embarking on?. Do we need to bring “mojo” back to aviation?.

The problem - Aviation is at a crossroads

- Currently, the aviation and aerospace sector is grappling with a shortage of resources, struggling to both attract and retain skilled individuals. This challenge is compounded by various adverse factors, such as the negative perception resulting from a severe crisis triggered by the COVID-19 pandemic and the subsequent widespread layoffs. Additionally, the industry continues to be wrongly depicted as a significant environmental polluter. Additionally, the aerospace and aviation industry encounters difficulties in talent acquisition due to insufficient public understanding of the sector (especially amongst the young). Nevertheless, this does not seem to be the situation in other regions such as Asia and Africa, where there is an excess of qualified young aviation professionals who are in need of more work experience.
- Moreover, the aviation sector remains fraught with regulatory complexities and economic uncertainties and potential job instability, high training costs, limited educational opportunities, gender (and other sectors) inequalities, and inadequate integration between academia and industry (both skills and competences-wise).
- More systemically, in Europe, there is also a unique situation in the area of demographics, with the aging of the population in general in the continent. Additionally, a significant challenge in attracting younger generations is the expectation for them to address very pressing global issues.
- All of this is no doubt it's a ballast in the success of aviation's innovation plans over the next years. All of this will be critical in the way we propose value in aviation as a career option.

Aviation resilience

- Aviation is not a stranger to crises and has always used them to rethink itself and come back stronger and better. The current technological evolution aviation is fascinating and very much intended to improve its sustainability, with its Electric and Hybrid Aircraft, Autonomous Aircraft, sustainable Supersonic and hypersonic Travel, Advanced Materials, Sustainable Aviation Fuels (SAFs), Urban Air Mobility (UAM), Digitalisation e.g., Blockchain in Aviation, Augmented Reality (AR) and Virtual Reality (VR) not only in Training but also in design and maintenance, etc. It needs to be paired with making the public, passengers, and especially the next generation, much more aware of the efforts being made by the aviation community to make aviation genuinely

more sustainable. The youth of today is more conscious than ever of the legacy they will need to deal with and are the ultimate judges of how right (...or wrong) we are getting it as an industry in this endeavour!

The challenge presented for the future aviation workforce

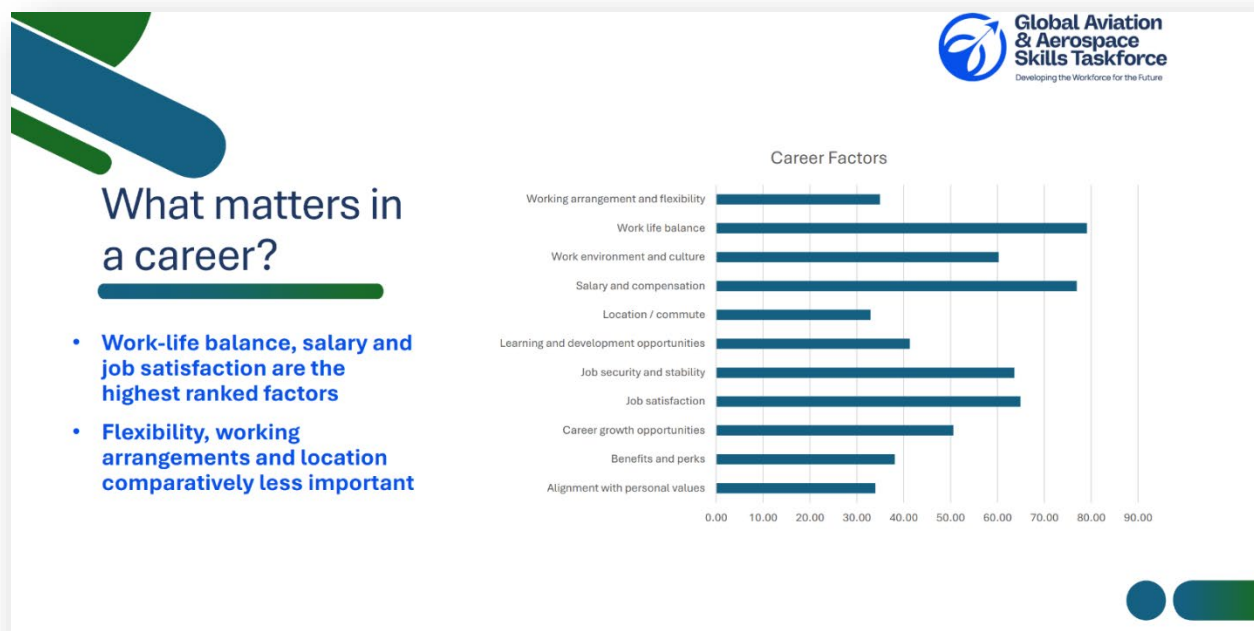
- Promoting career opportunities throughout the aviation sector requires a collaborative effort spanning the entire aviation community and different domains. It's essential to present aviation as an innovative, integrated industry, with humans at the heart, embracing cutting-edge technologies, and actively working to attract, engage, and retain employees. Moreover, fostering diversity and inclusion within the aviation community can bring significant benefits to the industry as a whole.
- The industry must tackle existing negative perceptions and adeptly convey its value proposition to various audiences. This primarily involves engaging younger generations (it remains to be determined how young young is!). Nevertheless, a value proposition can encompass reaching out to unexpected influential forces such as: parents, school educators, policymakers, governmental bodies, media outlets (oftentimes, amplifying aviation's setbacks and misfortunes in the least favourable manner possible), and even critics of aviation. Moreover, it's crucial to recognise that these approaches and audiences may have differing perspectives on what a value proposition for aviation should look like and what needs to be done, varying across regions and continents.

Way Forward

- Benchmark and align the ideas and concepts WS1 develops for a value proposition package with initiatives the industry and stakeholder in the entire aviation community are putting in place or can actually benefit from.
- Launch targeted audience campaigns, educational programs, and outreach efforts, to highlight the diverse and rewarding career opportunities in aviation, emphasising economic and other workplace benefits (while ensuring they remain realistic), career growth. The societal long-term impact of the actual occupations needs to be tailored into the message to show how aviation and aerospace empowers economic and technological progress, inspires innovation, and enriches lives around the globe and addresses varying perceptions across regions, demographics, and job roles. This communication campaign needs to promote the value proposition and engage effectively diverse audiences (with the right message, tone of voice and using the right media), including students, professionals, policymakers, and the public. Embed sustainability principles into all aspects of aviation career development, prioritising environmental stewardship, social responsibility, and ethical leadership.
- Develop specialised aviation programs, expand hands-on training opportunities (i.e. apprenticeships), and establish mentorship programs to bridge the gap between education and industry requirements.
- Implement initiatives to promote gender equality, diversity, and inclusion within the industry (at all levels of the hierarchy), to inspire, attract and retain talent from diverse backgrounds. This could include recruitment drives, mentorship programs, and support networks for underrepresented groups.

- Foment or establish online platforms for industry-academia collaboration, including joint research projects, STEM education, competitions, internships, and transition to work initiatives, CV and interview clinics, etc.
- Advocate for sustainable practices within the industry, including community engagement programs, and partnerships with environmental and technology organisations fomenting STEM.
- Encourage participation and feedback from employees, students, and industry professionals to ensure the relevance and effectiveness of initiatives.
- Address how educational institutions and government agencies can align training and promotion programs as well as policies with actual industry needs. Foster ongoing dialogue and collaboration between industry stakeholders, educational institutions, government bodies, and youth representatives to ensure alignment.
- Consider monitoring and evaluating mechanisms to find other opportunities, track progress, measure impact, and adapt strategies in response to evolving trends and opportunities.

Sample Survey Results



Future of Work – Draft Vision**Key Pillars of Our Vision****1. Sustainability as the Core Driver**

By 2050, aviation will achieve net-zero emissions through widespread adoption of green technologies such as hydrogen-powered aircraft, electric propulsion, remotely piloted aircraft systems, and sustainable aviation fuels. Ground operations, manufacturing, and maintenance will transition to fully carbon-neutral practices, supported by circular economies that minimize waste.

2. Technology-Enhanced Workplaces

Artificial intelligence, advanced robotics, and autonomous systems will transform operational efficiency. Jobs will shift from manual-intensive tasks to roles that emphasize oversight, innovation, and systems integration. Human-machine collaboration will enhance safety and precision, enabling smarter decision-making and real-time problem-solving.

3. A Globally Inclusive Workforce

The aviation workforce will reflect the diversity of the world it serves. By fostering inclusive recruitment, equitable career pathways, and ongoing upskilling, the industry will ensure that opportunities are accessible to all, regardless of geography, gender, or socioeconomic background. Cross-cultural collaboration will drive innovation and creativity.

4. Human-Centered Innovation

By prioritizing human factors in design and operations, aviation will create safer and more comfortable environments for both workers and passengers. Ergonomics, mental health, and well-being will be integrated into every aspect of the workplace, ensuring a thriving workforce and enhanced customer experience.

5. Resilient and Agile Work Models

The workforce will adapt to emerging challenges, from climate impacts to geopolitical shifts. Flexible work structures, including remote operations for non-flight roles and digital twins for training and simulation, will allow the industry to respond dynamically to global trends.

6. Continuous Learning and Development

Lifelong learning will be a cornerstone of aviation careers, supported by digital platforms, augmented reality, and immersive simulations. Employees will continually develop their skills to stay ahead of technological advancements, ensuring personal growth and industry competitiveness.

Example Case Studies



WINGS FOR ALL - ANAC (GOVERNMENT INITIATIVE)

- In **Brazil**, we have “Wings for All”, an ANAC program created to promote diversity, inclusion in Brazilian civil aviation;
- It was designed to increase the participation of all segments of the population in the civil aviation sector;
- The activities are aimed at low-income students, women, professionals in the field, passengers and Agency employees;
- With the union of the Government, the aviation sector, universities and society, the program aims to promote a great pact for diversity and social inclusion in the country's civil aviation.

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Case Study: UK Aviation Ambassadors

Introduction

The UK's Department for Transport (DfT) has volunteer Aviation Ambassadors, part of the Generation Aviation program, to raise the profile of aviation, inspire the next generation of professionals, and promote diverse career pathways in the industry.

Purpose of the program / objectives

- **Raise the profile of aviation:** The ambassadors help to showcase the aviation industry and its opportunities.
- **Inspire the next generation:** They aim to encourage young people to consider careers in aviation.
- **Promote diverse career pathways:** The program seeks to attract individuals from all backgrounds to the aviation sector.
- **Build a skilled, diverse, and sustainable aviation workforce:** The program aims to help the UK aviation sector be ready for the future.
- **Develop enhanced outreach activities:** The ambassadors help develop and deliver outreach programs to engage with young people and the wider community.
- **Provide policy support:** The ambassadors use their expertise in their area to provide advice to the Department for Transport.
- **Engage industry:** They engage with key industry stakeholders on the issues they care about to build relationships on behalf of Department.

Intended audience

- Young people who may be interested in a career in aviation, from diverse backgrounds.

