



ALTA AVIATION SAFETY FLIGHT OPS & TRAINING — SUMMIT —

LIMA, PERU - JUNE 18-20, 2024

Insights

for the aviation industry



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A message from ALTA

Virginio Corrieri, Head of Safety and Flight Ops at ALTA



"A robust safety culture is, by definition, comprehensive, and having experts in these areas gathered together in Lima was a privilege, as the exchange of knowledge and the discussions that took place over those days enriched the work we do on a daily basis to make our skies increasingly safer.

I would like to use some statistics to recognize the great work made by these dedicated group of professionals. 2023 was recorded as the safest year in the history of civil aviation. In the region, there were zero fatalities, and globally, the fatality risk significantly decreased, from 0.11 in 2022 to 0.03 in 2023, reflecting a notable improvement when compared to the average of the last five years. The level of safety achieved by aviation equates to a person taking a flight every day for 103,239 years to experience a fatal accident.

This impressive statistic confirms that air travel is the world's safest mode of transportation, surpassed only by elevators.

In Latin America and the Caribbean, the accident rate in 2023 was 0.37 per million takeoffs, a substantial improvement when compared to the 2022 accident rate of

4.47 per million takeoffs.

The challenge ahead for the industry is to maintain and further elevate these standards while introducing new technologies, new procedures, and incorporating new equipment that will allow this essential sector to grow at the pace that the population demands. We are together in this mission!

I thank Peru for its warm welcome. Our host country is the seventh largest economy in Latin America, with a stable currency performance and positive indicators such as the gradual decrease in the unemployment rate. Aviation plays an important role in Peru, contributing more than 1.4 billion dollars and generating over 36,000 direct jobs. Tourism, in turn, is essential, with 2.5 million international tourists visiting the country and generating revenues of 3.6 billion dollars, employing 1.2 million people in the sector.

At ALTA, we strive to build bridges of collaboration, bring technical knowledge, regional best practices, experts, and efforts to broadly develop this, which is the safest mode of transportation for the population and is also a powerful economic engine that generates wealth, development, opportunities, and growth for all people in any corner of the world where an airplane lands.

I am convinced that those days were of great benefit, and that we left Lima with new tools and renewed enthusiasm to face the challenges of our industry. I thank the hosts, speakers, sponsors, and each of you for your commitment and dedication".



A message from ALTA

Jaime Escobar, Head of Aviation Training



“The ALTA Aviation Training Committee was born from the need of member airlines to seek joint solutions to address the challenges of training operational personnel, especially pilots and mechanics, as well as to learn and share best practices using new trends in technologies and training programs. The Training Summit brought together an interdisciplinary forum where member airlines, training centers, training service and equipment providers, regulatory bodies and OEMs got together to discuss current trends and share experiences.

At the Summit the three pillars of the training committee were addressed: the improvement of knowledge and skills through the ALTA Educational Hub; the collaboration between various industry players in the region through the committee and its working subgroups, as well as international cooperation with key players such as ICAO, FAA, and EASA and finally, a strong focus on human factors and the well-being of our industry participants.

ALTA will strive with the mission of the Aviation Training Committee to promote safe, efficient and industry-aligned aviation training for its member airlines. The implementation of competency-based training, standardizing regulations for simulator equipment, develop a pilot project, and address the needs and growth of training centers. and the development of guidance documents for the certification and recognition of flight simulators and accreditation of training. industry-related courses, all aimed at continuing professional development”.



A message from the ALTA Safety & Flight Ops Committee Co-Chair Safety

Capt. Juan Carlos Curzio, SVP of Safety at Aeromexico – ALTA Safety & Flight Ops Committee Co-Chair Safety (2023-2024)



Dear members of the ALTA Safety & Flight Ops Committee,

I would like to personally thank everyone who has participated in or attended our safety meetings and events, and the organizations that have hosted them. The information shared in this closed forum proves that safety is our industry's most important value.

ALTA stands as the best forum for driving key initiatives in safety, security, and training, benefiting both attendees and the broader aviation community through shared lessons and bulletins. Numerous stakeholders have requested these learnings, underscoring the importance and value of these events.

While ALTA provides the platform, these meetings are driven by and for airlines, with active participation being essential. If you haven't attended a safety committee meeting yet, I encourage you to do so. If you've attended but haven't presented, consider sharing your story — we all benefit from hearing it.

Thank you for your dedication to safety.

Best regards".

A message from the ALTA Safety & Flight Ops Committee Co-Chair Flight Ops

Capt. Danilo Andrade, Director of Operations at Gol Linhas Aéreas – ALTA Safety & Flight Ops Committee Co-Chair Flight Ops (2023-2024)



Dear friends from the industry,

I would like to thank all ALTA members, attendees, and organization staff for such a magnificent event.

ALTA Safety & Flight Ops Committee is the best opportunity for leaders from all over the region to meet, share lessons learned, discuss ideas, and have the insights that will foster even better standards and safety indicators.

Bringing together safety, Flight Ops (and now Training) to the same forum only and reinforces the importance of working together to improve results.

I always wondered whether I would live to see a full year with zero fatalities in commercial aviation. Events like this make me believe that this goal is not only achievable, but it's in our hands!

It was an honor to serve!

Safe skies!

A message from the ALTA Pilot Training Committee Chair

Capt. Jorge Reyes, Director of Training at Copa Airlines – ALTA Pilot Training Committee Chair (2023-2024)



"I am honored to reflect on the recent ALTA Aviation Safety Flight Ops & Training Summit, which centered around the critical theme of enhancing safety and operational effectiveness within the aviation sector across the Latin American region. The summit represented a pivotal moment for our industry, focusing on collaborative advancements and shared experiences aimed at elevating aviation standards.

Summit Overview: The primary goal of this summit was to foster a robust exchange of knowledge and best practices that would drive safety improvements and operational effectiveness in aviation. This gathering was not only a forum for discussion but also a platform to shape the future of aviation in Latin America, emphasizing our collective commitment to maintaining the highest safety standards.

Key Highlights: This year's summit introduced a groundbreaking format, incorporating a dedicated Pilot Training Connect segment that was met with

enthusiastic reception. Building on the success of our inaugural Pilot Training event in Panama in September 2023, this summit marked a significant milestone in advancing aircrew training across the region.

Our discussions brought together experts in operational safety, who shared invaluable insights and sought collaborative solutions to ensure our skies remain safe. We explored a wide array of topics crucial to the aviation industry, including safety culture, the integration of innovative technologies, and evolving operational practices.

Particularly noteworthy were the sessions focused on Evidence-Based Training (EBT) and Competency-Based Training and Assessment (CBTA). These programs are revolutionizing pilot training and assessment by shifting from task-oriented approaches to a more comprehensive evaluation of pilot competencies. This transformation is crucial in enhancing pilot proficiency and adaptability, ensuring that our training methods meet contemporary needs and challenges.

Contributions: The summit benefitted immensely from the contributions of distinguished aviation training professionals and regulators. Their expertise and perspectives on advanced pilot training and regional requirements enriched our discussions, providing a deeper understanding of the complexities involved in modern pilot training. Their input was instrumental in addressing critical issues and shaping the future direction of our training programs.

Outcomes: As a result of our deliberations, we have identified several key areas for improvement to further aviation safety. A major outcome is the recognition of the need for regulatory harmonization across Latin America to streamline and elevate safety standards. Additionally, there is a clear consensus on shifting from a task-oriented training paradigm to one that emphasizes pilot competencies. This approach will enhance adaptability and proficiency, ensuring that pilots are better prepared for the dynamic nature of modern aviation.

Acknowledgements: I would like to extend my heartfelt gratitude to ALTA for their unwavering support and for promoting this invaluable event. Their commitment has been instrumental in making this summit a success.

Furthermore, I would like to personally thank the former ALTA Training Director, Ana Blanco Persiani, for her exceptional dedication and commitment to advancing aviation training in our region. Her tireless efforts have been crucial in driving our training committee's success and ensuring the continued progress of our initiatives.

In closing, the summit has set a new standard for collaboration and excellence in aviation training. I look forward to the continued advancements and partnerships that will emerge from this event, driving us toward a safer and more effective aviation future".



1. INTRODUCTION

The Latin American and Caribbean Air Transport Association (ALTA) is a private, non-profit organization at the service of the airline industry, with the aim of developing a safer, more efficient and environmentally responsible air transport.

Through various committees and working groups, ALTA coordinates collaborative efforts along the value chain, maximizing the impact of aviation on the economic and social development of countries in the region and generating benefits for its members, the industry, the countries, and the population served by air transport.

The ALTA Safety and Flight Operations Committee meets in person annually during the ALTA Aviation Safety, Flight Ops and Training Summit. In between, virtual meetings are held. The purpose of the Committee is to promote the exchange of information, experiences, good practices and statistical data between operators, manufacturers, and industry associations, in order to identify: the main risks to operations in the region, seeking measures to mitigate them; and operational standards of excellence. It also allows the sharing of best practices between operators and authorities, with the aim of improving operational and operational safety indicators in the region.

The ALTA Pilot Training Committee was born out of the need of member airlines to seek joint solutions to face the challenges in terms of training operational personnel, especially pilots, as well as knowing and sharing best practices using new trends in technologies and training programs. This Committee is an interdisciplinary forum whose members are airlines, training centers, service providers and training teams, regulatory bodies and OEMs.

The ALTA Aviation Safety, Flight Ops and Training Summit goes beyond being just another safety event; it's a deep dive into the critical issues influencing flight safety in the region.

During the private meetings on the first day, various airlines, manufacturers, experts and suppliers shared real-life case studies, solutions and best practices.

The agenda for the general session (second and third day) was comprehensive, covering all relevant contemporary themes.

For the first time, ALTA hosted an in-person gathering on the afternoon of the third day specifically for professionals managing emergency responses in airlines.

Undoubtedly, the Summit was a unique and highly valuable opportunity for our Safety, Flight Ops & Training professionals.

We had an amazing event, with speakers of great relevance to the industry, who brought current and relevant topics in the areas of Safety, Flight Operations, and Training, which, we all know, work in an integrated manner.

The ***Insights for the aviation industry*** provides a summary of what was presented and discussed during the event, highlighting the topics that deserve the attention of the aeronautical community in the region.

2. ALTA AVIATION SAFETY, FLIGHT OPS & TRAINING SUMMIT

a. ALTA Safety and Flight Ops Committee Meeting

The committee in person meeting brings together airlines, associations representing them, and the world's leading aircraft manufacturers. This is a closed meeting, conducted in a secure and highly confidential environment, allowing participants to share best practices and real-life aeronautical incident and accident cases (infoshare). As such, some topics discussed will not be mentioned in this document.

ALTA Safety Co-chair Forewords

Capt. Juan Carlos Curzio, Senior Vice President of Safety at Aeromexico, highlighted the recurring issues of Runway Safety and Turbulence in the region and how the industry is collaborating to analyze these cases. He also mentioned the advancements in Safety Intelligence, which are contributing to better risk management.

ALTA Flight Ops Co-chair Forewords

Capt. Danilo Andrade, Director of Operations at GOL, emphasized the relevance of the event in the regional context and the importance of adhering to the training outlined in the Summit's scope. He discussed the latest technological advancements in the industry and the challenges and benefits of the human interface in these developments.

ALTA Safety and Flight Ops Initiatives

Virginio Corrieri, Director of Safety and Flight Operations at ALTA, underscored the importance of the voluntary work carried out by committee members and the initiatives led by ALTA. These initiatives are always responsive to the demands of the industry and its users. Projects such as the creation of ALTA Emergency Response Group, ALTA ATR Operators Group, ALTA C208 Caravan Operators Group, and ALTA Cabin Safety Group aim to equip airlines in the region with the best global practices, as well as encouraging mutual support in the search for solutions to common problems.

ALTA Training Initiatives

Pablo Sgalla, Industry Alliances and Relations Analyst at ALTA, presented the operations of the ALTA Educational HUB, which involves 14 partners and offers over 110 industry-related courses, all aimed at continuous professional development. Another project introduced was the scholarship program "Girls with Goals" which seeks to attract and promote the career development of women in the aeronautical maintenance sector in Latin America and the Caribbean by providing access to world-class educational programs.

For more information about the ALTA educational Hub follow this link: <https://alta.aero/educacion/>

For more information about the "Girls with Goals" scholarship program follow this link: <https://alta.aero/girls-with-goals/>

LATAM/CAR Economics Overview

Juan Sarmiento, Head of Economics and Statistics at ALTA, presented encouraging figures for the civil aviation industry in the region, which has grown 18 times over 50 years, compared to a global growth of 14 times. He also discussed the operational costs of airlines in the region, with fuel costs leading



the rankings. Fuel represents 31.3% of costs in Latin America and the Caribbean, compared to 27% in the United States.

Project Related to Pilot Cognitive Performance on Flight Path Management and Crew Resource Management Tasks

Barbara Holder, Presidential Fellow and Associate Professor at Embry-Riddle Aeronautical University, discussed a study commissioned by the FAA, aimed at identifying ways to assess technical and non-technical skills reliably and objectively. The analytical lens for cognitive performance leverages new theoretical developments in cognitive science. The study involved three major airlines, three American (operating under the Advanced Qualification Program) and one European, all using EBT/CBTA (Evidence-based Training/Competency-Based Training and Assessment) methodologies. The study will develop an advanced framework for cognitive performance assessment of integrated technical and nontechnical skills. The new framework will be empirically validated with airlines in the U.S. and abroad.

Regional Aviation Safety Group – Pan America (RASG-PA) Safety Partners Program

Javier Puente, SAM Regional Officer for Safety Implementation at the International Civil Aviation Organization (ICAO), gave a presentation on the RASG-PA Safety Partners Program. Reflecting on the past 30 years, he noted that our region once had one of the highest accident rates in the world. However, with the advent of risk identification and safety information sharing, the region is now at the forefront of collaborative safety practices. With the involvement of airlines and other stakeholders, RASG-PA has become a solid source of Safety Enhancements for the industry.

Announcement of the New ALTA Safety & Flight Ops Co-Chairs for 2024-2025

ALTA Safety & Flight Ops Committee Co-Chair for Safety: Capt. Alvaro Pereira, Aviation Safety Manager at Copa Airlines.

ALTA Safety & Flight Ops Committee Co-Chair for Operations: Capt. Geraldo Meneses (Harley), Senior Director of Flight Operations and Training at LATAM Airlines Brazil.

In their opening speeches, the Captains discussed the maintenance of the good indicators that the region has had in recent years and the challenges in managing the infrastructure and its impacts on operations, in addition to the challenges arising from sustainability.

b. ALTA Pilot Training Committee Meeting

ALTA Presentation

The presentation by ALTA was led by the Director of Aviation Training, Ana Persiani. In her speech, she emphasized that the primary goal of the Aviation Training Committee is talent development. To achieve this, the committee's strategy is built on three pillars: the enhancement of knowledge, skills, and abilities (KSAs) through ALTA's Educational Hub; collaboration among various industry stakeholders in the region via the committee and its working subgroups, as well as international cooperation with key players; and finally, a strong focus on human factors and the well-being of industry participants.

Additionally, Ana highlighted that the mission of ALTA's Aviation Training Committee is to promote safe, efficient, and industry-aligned aviation training for its member airlines. She outlined the committee's key priorities over the past year, which included the implementation of competency-

based training, the standardization of regulations for simulator equipment, the development of a pilot pipeline, and addressing the needs and growth of training centers.

Lastly, she provided a summary of the main activities of each of the committee's working subgroups and highlighted the progress in international cooperation with organizations like ICAO, FAA, and EASA in forming an Ad-hoc Group to develop guidance documents for simulator certification and the recognition of training credits. She also noted advancements in collaboration with SRVSOP to harmonize regulations across the region.

Halldale Group Presentation: Heads of Training Meeting Briefing

Allyson Kukhel, Airline Engagement Lead at The Halldale Group, delivered a presentation focused on the challenges that training leaders are facing globally.

She highlighted several key trends for 2024, including pilot readiness, the development of non-technical competencies, the integration of new technologies in training, the challenges of command training, achieving instructor alignment, and ensuring regulatory compliance.

In this context, Allyson emphasized the need to develop clear career paths for instructors and to offer better incentives and career growth opportunities within the training sector. She also highlighted the importance of mentorship programs for enhancing pilot preparedness and stressed the necessity of a more rigorous selection process for training candidates.

Regarding the use of technology for pilot training, she pointed out several significant benefits, such as improved data collection, enhanced behavioral assessments, and increased engagement and efficiency. However, she emphasized that for the successful implementation of new technologies, certain conditions must be met, including the establishment of clear goals, proper calibration, and regulatory support.

Presentation: The complexity and consequences of language in crew performance: an integrated view

This presentation was led by retired Captain Alex Pérez Chavez.

The presentation began with a focus on critical industry questions that remain unanswered:

- ✓ What is the role of English in cockpits where it is not the native language?
- ✓ How does limited English proficiency affect a professional pilot's career trajectory?
- ✓ How should we understand the importance of language proficiency in relation to other core competencies?
- ✓ How can we effectively communicate the importance of language skills for safety to airlines in the region?

Drawing on research conducted within a major Latin American airline, Captain Pérez presented a report titled, "Low Performance Aligned with Low-Level English Proficiency: Ethnographic Data Collection in Three Recurrent Training Sessions." The report revealed that pilots with lower English proficiency, as a second language, were those who made the most in-flight errors. The ethnographic data underscored language as a critical factor in pilot performance, revealing patterns in crew dynamics such as:

- ✓ Poor execution of Standard Operating Procedures (SOPs);
- ✓ Inability to complete tasks within the allocated time during training sessions;

- ✓ Hesitation and difficulty in making crucial decisions related to task delegation.

Interviews with 50 instructors further highlighted that:

- ✓ Limited English proficiency hinders the development of other skills throughout a pilot's career, as most manuals and technical information in aviation are in English. This includes challenges in understanding automation systems and responding to instrument failures;
- ✓ Instructors faced challenges during type-rating training, often needing to translate key sections of manuals into Spanish during simulator briefings.

Captain Pérez introduced the concept of "verbal thinking" to describe the relationship between language proficiency and cognitive processes, such as thought, intellect, and concept development. He argued that fundamental aviation concepts taught in English are essential for building core competencies, particularly when operating in English-speaking airspace. He highlighted the communicative difficulties non-native English-speaking pilots may face when reporting system failures to Air Traffic Control (ATC) and coordinating actions in English.

In the second part of the presentation, Captain Pérez offered recommendations for educating and engaging airlines in the region on the importance of language skills for pilot competence and safety. He emphasized the need for an integrated training package that includes English language training as a core component. This should be supported by efforts to foster a regional identity—embracing symbolic, cultural, and technological aspects—that acknowledges common challenges. He advocated for collaboration through organizations like ALTA to address these issues, support national authorities, and facilitate the sharing of safety data.

Panel: Role of Regional Safety Oversight Organizations (RSOOs) in Training

This Panel was moderated by Fernando Camargo from ICAO – NACC.

The first speaker on the panel was Ana María Díaz, representing the Regional Safety Oversight Cooperation System (SRVSOP). She highlighted that the organization's mission is to support its twelve member states in the continuous improvement of safety oversight. In this context, she noted several key achievements: development of 48 Latin American Aeronautical Regulations (LARs), covering the PEL, OPS, AIR, AGA, and ANS specialties, 14 inspectors' manuals, and 45 advisory circulars, provision of 37 courses to member states, training of 7,971 safety inspectors and technical personnel over the past 10 years, a total of 36 multinational instructors currently available.

Additionally, Díaz mentioned that under the framework of the Multinational Agreement for AMO Certifications, seven AMOs have already been certified in the region, recognized by the signatory states to the agreement. Eight states have signed the Multinational Agreement for ATO, training centers, and aeronautical medical centers recognition, while six states have signed the Multinational Agreement for Automatic License Validation.

The second speaker on the panel was Alejandro Mena, representing the Central American Aviation Safety Agency (ACSA). Mena emphasized the importance of regional approaches, highlighting the following key points: states worldwide are increasingly struggling to adapt to ICAO standards and meet their safety oversight responsibilities, future challenges will demand more specialized knowledge and resources, and the industry is calling for greater regional harmonization to enhance competitiveness.

In this context, Mena cited an example of how COCESNA has collaborated with EASA through the EU-Latin America and Caribbean Aviation Partnership Project (EU-LAC APP) on several high-impact

initiatives, such as supporting organizational processes, rulemaking, standardization, and implementation, assisting with the development and implementation of the State Safety Program (SSP) in the region and providing support in aircrew matters, particularly in Flight Simulation Training Devices (FSTD) and Aviation Medicine.

Panel: Recruiting Talent with Inclusion

Allyson Kukhel started this panel by presenting three global initiatives focused on improving the inclusion of women in the aviation industry.

The first project she referenced was “Breaking Barriers for Women in Aviation: Flight Plan for the Future” by the FAA. This initiative provides general statistics on the percentage of women in the aviation workforce, revealing that less than 10% of pilots, CEOs, and maintenance technicians are women. It also highlights various tools that can be used to promote the inclusion of women at different stages of their aviation careers. The project concludes that increasing women's representation is crucial for fostering diversity of thought, avoiding groupthink, addressing workforce shortages, driving innovation, and ensuring psychological safety and trust within organizations.

The second project presented was “Women in Aviation Training” developed by the Halldale Group. This initiative is focused on providing practical support for women in the aviation training sector. The group conducted a survey to better understand perceptions of diversity, equity, and inclusion (DE&I) within the training community.

Lastly, she highlighted the “Diversity, Equity & Inclusion Toolkit” developed by EUROCONTROL. This toolkit is designed to assist aviation companies in their DE&I activities, serving as a practical and pragmatic guide tailored specifically to the needs of the aviation industry.

The second speaker was Patricia Castellón, President of the Peruvian Association of Women Aviators (ASPEAV).

She emphasized that the organization's mission is to promote the participation of women in the aeronautical industry and to maintain a high standard of professional growth through continuous knowledge and study. Additionally, she outlined the primary goals of the association, which are to foster the professional development of pilots and to promote lifelong learning by organizing webinars, seminars, virtual talks, symposiums, and courses with the support of experts in the aeronautical field.

Lastly, she highlighted three key projects of the organization: expansion and integration into the aerospace sector, the Military Aviators Project, and a pilot mentoring program.

Presentation: Artificial Intelligence in Aviation

This presentation was delivered by William Aranda, CEO of TOEFA. Its main objectives were to provide an overview of the applications and relevance of artificial intelligence (AI) in the aviation industry and to raise awareness about the potential benefits of AI in aviation instruction.

In this context, Aranda highlighted several examples of AI use in airports, such as the chatbot at Barajas Airport in Madrid, which has facilitated interactions with over 940,000 users, the use of drones, 5G, and AI to detect foreign objects on runways at San Sebastián Airport, and Delta's introduction of facial recognition technology at airport checkpoints to optimize passengers' travel experiences.

Aranda also emphasized the potential of enhancing situational awareness with AI, particularly in areas such as weather monitoring, traffic awareness, and system status. He further explained how AI

can be used to improve crew resource management, noting that AI-enabled tools can facilitate better communication and information-sharing, optimize the distribution of tasks and responsibilities among the crew, and even offer AI-powered recommendations for resolving conflicts or disagreements within the crew.

Finally, Aranda outlined the benefits of AI in aviation training, pointing out that AI tools can provide personalized feedback, allow for practicing high-risk maneuvers in a safe, controlled environment, and create immersive experiences through realistic flight simulations with dynamic weather, traffic, and emergency scenarios

Panel: Virtual Reality, is it a reality in our region?

The panel was moderated by Eduardo Cristelo (Associate at Motta Fernandes Advogados).

The first speaker was Sergio Agudelo from Venturi Aerospace, who emphasized the critical role of Competency-Based Training and Assessment (CBTA) in pilot training, especially when integrated with emerging technologies such as Augmented Reality (AR) and Extended Reality (XR). He explained that this combination offers significant opportunities for developing key pilot competencies, including the Application of Procedures (PRO) and the Management of Automated and Manual Flight Paths (FPA-FPM). These technologies enable high-fidelity simulation environments where pilots can practice and refine their skills in realistic scenarios. Agudelo stressed that the integration of advanced technological tools with a solid theoretical foundation ensures that pilots can accurately interpret scenarios and respond effectively to complex situations.

He underscored the importance of high-quality theoretical training and immersive learning experiences. According to Agudelo, a deep understanding of theoretical principles is essential to fully leverage advanced tools like Virtual Reality (VR). Without a solid theoretical base, pilots may struggle to maximize the potential of VR for decision-making in critical situations. He also highlighted the value of cinematic-quality audiovisual materials as an effective way to simplify complex flight procedures into clear visual steps, aiding pilots in acquiring knowledge (KNO) before engaging in interactive modules that require advanced decision-making and management skills in simulated environments. Agudelo pointed out that Virtual Reality, while powerful for immersive practice, is most effective when paired with thorough theoretical preparation. This combined approach ensures that pilots transition smoothly into VR training, making practical use of their knowledge in dynamic and controlled settings.

The second speaker was Carlos Moran from ProSim-AR, who presented the ViXR system, an advanced training solution that merges augmented reality (AR) with flight simulation technology. The ViXR system guides pilots through aircraft procedural training using AR, offering step-by-step visual cues, voice instructions, and real-time interaction with aircraft systems. This technology enables training to be conducted with or without the direct presence of an instructor, thus increasing flexibility and accessibility for aviation training programs.

Moran explained that ViXR addresses several industry needs, such as enhancing training quality and consistency, reducing training time, and minimizing reliance on instructor availability. By offering both normal and non-normal procedural training, the system allows for detailed monitoring of pilot performance, which can be integrated into a Learning Management System (LMS) for analysis and feedback. This data-driven approach is particularly useful for CBTA and Evidence-Based Training (EBT), providing a tailored training experience. ViXR also supports customized training procedures, making it a versatile solution for various airline training requirements. He highlighted challenges such as achieving proper spatial orientation in simulations and overcoming pilot resistance to wearing AR

equipment. However, Moran noted the system's potential for scalability, including the use of machine learning for predictive training and the ability to manage multiple training units with a single instructor. As ViXR continues to integrate AI and mixed reality solutions, it aims to revolutionize pilot training by offering a more immersive and effective learning experience.

Christian Monsalves Fernandez, Senior Manager of Standards and Instruction at LATAM was the third speaker of this panel. He discussed the role of Virtual Reality (VR) in pilot training across Latin America, highlighting the numerous advantages VR offers in improving pilot education while reducing costs. VR-based flight simulators enable pilots to experience immersive flight situations, which enhances their information retention and ability to respond to critical scenarios. Beyond practical flight training, VR is also valuable for teaching theoretical subjects, maintenance procedures, and emergency protocols. Interactive virtual tours of the cockpit and detailed tutorials contribute to more efficient learning processes.

VR-based training also facilitates practical assessments and customized training scenarios. By incorporating knowledge tests in virtual environments, trainees can apply what they have learned in simulated situations. VR allows the creation of tailored training scenarios that mirror specific regional flight conditions, such as mountainous terrain or tropical weather. This approach is particularly beneficial for small airlines or operators with limited resources, as VR offers lower costs and greater accessibility compared to traditional flight simulators. Remote access further enhances training opportunities, allowing students to participate from any location, which is especially useful in regions with limited infrastructure.

Performance analysis and continuous improvement are critical components of VR-based training. Monsalves emphasized the importance of implementing systems that track pilot performance during VR sessions, providing detailed and personalized feedback. The data gathered can be used to refine training programs and target specific areas for improvement, ensuring that training remains aligned with individual needs and evolving industry standards.

Monsalves concluded that while VR represents a unique opportunity to transform pilot training in Latin America through innovative and effective tools, traditional full-flight simulators still play an essential role. In his view, a simulator that accurately replicates the aircraft's cockpit and systems remains a highly effective training tool, providing a level of precision and realism that is yet unmatched by VR. However, he stressed that investing in new technologies and fostering collaboration between educational institutions and the aviation industry is crucial for realizing the full potential of VR in pilot training.

The final speaker was Andres Ospina, CEO of The Aeronaut Magazine, who discussed the evolution of virtual reality and its application in aviation training. He noted that while virtual reality has been utilized since 1956, recent advancements have led to more sophisticated training models and interactions. However, Ospina highlighted a major challenge: the lack of regulatory support for new technologies. Without regulatory approval for alternative methods of accessing information or utilizing resources beyond traditional simulators and computers, these advancements risk being underutilized. This is particularly true if the technologies do not receive recognition or credit for training or licensing, which diminishes the incentive for investment.

Ospina further emphasized the need for virtual reality to advance by collaborating with video game developers, an industry that excels in image quality and user experience. He pointed out that current VR applications in aviation are limited in comparison. While he expressed optimism about the potential of these technologies, he stressed that for them to be truly effective, they must ultimately contribute to the licensing process and be recognized as valuable components of pilot training.

c. General session – Safety and Flight Ops

Safety Culture: What is it and why is it so important?

- **Don Enrique Rosende, VP of Safety, Security & HSE / LATAM Airlines Group**

Don Enrique Rosende, VP of Safety, Security & HSE at LATAM Airlines Group, emphasized that safety culture is everyone's responsibility and discussed how the company's KPIs have evolved in recent times.

From a "Half Full Glass" perspective, he highlighted several positive aspects: the rapid post-COVID recovery, the risk of fatalities being below the global average, a stable accident indicator, and the LATAM region's Universal Safety Oversight Audit Programme (USOAP) performance being above the worldwide average.

On the "Half Empty Glass" side, he pointed out ongoing challenges: turbulence continues to be the leading category of accidents, weak infrastructure, the importance of Collaborative Safety Teams (CST), a lack of regulatory standardization in the region, and the normalization of deviations.

From the analysis of these key points, he identified the three most concerning issues for the region:

- ✓ The status of CST implementation, highlighting the significant untapped potential in the region;
- ✓ Severe weather conditions;
- ✓ Poor infrastructure.

The operational system of LATAM Airlines Group is built on leadership and operational excellence as its fundamental pillars. At the core of the system is the company's culture, which is surrounded by a commitment to safety, the quality of services provided, and sustainability.

A passion for the job is the greatest strength of an operational leader, while complacent leadership poses the greatest threat.

In conclusion, Don Enrique also outlined five reasons why safety is of paramount importance:

- ✓ The company is an airline;
- ✓ The safety of employees is a major responsibility;
- ✓ Safety is a valuable asset for the company;
- ✓ The company continuously strives to be an industry leader in safety;
- ✓ Without safety, an airline is nothing.

Human Factors key points – Panel

The panel was moderated by Mónica Gómez Caniella, President / Latin American Union of Aeronautical Psychology Associations (ULAPA).

- **“Mental Health and Aviation Medical Clearances Aviation Rulemaking Committee update” – Presented by Dr. Penny Giovanetti, D.O., Director, Medical Specialties Division, Office of Aerospace Medicine - Medical Specialties Division at the Federal Aviation Administration (FAA)**

With humans at the center of aviation operations, their mental health is crucial for safety. Dr. Penny emphasized this by stating, *“We should not only focus critically on the pilots but also on the system surrounding them.”*

To illustrate the progress made in addressing mental health in aviation, a timeline was presented, starting in the 1970s with the Human Intervention Motivation Study (HIMS), and continuing through to the FAA's Mental Health and Aviation Medical Clearances Aviation Rulemaking Committee (ARC). The timeline included significant events such as the Germanwings aircraft crash in 2015, which brought the issue to the forefront, along with various studies and seminars.

Dr. Penny highlighted that the biggest challenge lies in dispelling the myths and breaking down the barriers that surround this issue.

She also presented the recommendations from the ARC 2024, emphasizing their importance:

- ✓ Make all conditions treated only with “talk therapy” not reportable;
- ✓ Establish a period of non-enforcement;
- ✓ Minimize use of neurocognitive testing;
- ✓ Evaluate use of ADHD medications;
- ✓ Justify certification decisions to stakeholders;
- ✓ Employ SMS principals in certification;
- ✓ Consider Society’s safety expectations;
- ✓ Publish practical guidelines for applicants;
- ✓ Improve AME training and oversight;
- ✓ Incorporate Mental Health Awareness Training into job training and testing events;
- ✓ Encourage use of dual pilot restrictions.

In conclusion, Dr. Penny showcased several educational initiatives by the FAA, such as the "Pilot Minute" and the organization's social media campaigns on the subject. She also noted that certain antidepressants are approved for use by aviators in the United States.

- **“Fatigue – What is affecting pilots currently”? – Presented by Capt. Don Wykoff, Retired from Delta Air Lines**

Capt. Wykoff discussed the current conversations around the topic of fatigue. He highlighted the key components, the processes involved in the Safety Management System (SMS), the regulatory aspects, and more.

Currently, airlines operate in a data-driven environment focused on fixing larger problems rather than a punitive approach that addresses smaller, more localized issues. They aim to address the core problem, not just the symptoms. This approach also applies to fatigue risks. Therefore, it's crucial to shift from a proactive to a predictive attitude in managing fatigue risks.

He emphasized that the Fatigue Risk Management System (FRMS) may not be suitable for every operator. Each operator should focus on the basics and ensure they have a solid grasp of fatigue risks before venturing into the world of FRMS.

Two examples of fatigue management were cited:

- ✓ EASA ORO.FTL.110 (Fatigue Management);
- ✓ FAA FAR 121, Info 10013 (Fatigue Risk Management Plan).

Identifying fatigue risks is one of the major challenges within the SMS. With a prescriptive approach, fatigue is one of the possible hazards that the SMS should consider, and the operator reacts when a fatigue hazard is identified.

On the other hand, with FRMS, the operator must not only identify and assess potential fatigue risks before conducting operations but also proactively identify and assess actual fatigue risks during operations.

It is necessary to find a better path to strengthen trust, develop synergy, and improve data collection and its usage.

Regarding data usage, he emphasized:

- ✓ Remember the Objective - Enhance safety and increase alertness by reducing the fatigue threat and use the data for what it is intended for;
- ✓ Do not use data for industrial purposes. The temptation will be strong at times;
- ✓ When possible, establish mutually agreed upon methods to codify protections.

Finally, he shared some important thoughts for moving forward:

- ✓ Use the available guidance;
- ✓ Learn from previous regulatory efforts;
- ✓ Share experiences with other stakeholders;
- ✓ Develop a strong relationship with your regulator;
- ✓ A collaborative approach is essential to success.

- **“Single Pilot Operations” – Presented by Capt. Wendy Morse, First Vice President, and National Safety Coordinator at the Air Line Pilots Association, International**

Capt. Morse began her presentation by highlighting that Reduced Crew Operations (RCO) is a critical safety issue and that the current aviation safety record is a direct result of having two rested, well-qualified, well-trained pilots on the flight deck at all times.

She emphasized four key implications of RCO:

- ✓ Human – With over 30 million global flights per year, safety data shows that pilots very often intervene in the face of multiple challenges and create safe outcomes;

- ✓ Technological – Technology is not a replacement tool; it is a support tool that further enhances safety and efficiency when thoughtfully integrated into the two-pilot flight deck;
- ✓ Economic – Safety *cannot* take second place to profitability;
- ✓ Safety – Safety comes first in everything we do, and operational safety is directly linked to business success.

To ensure safe operations, Capt. Morse stressed that having two pilots on the flight deck allows for:

- ✓ Flight deck coordination – communications, monitoring, incapacitation events;
- ✓ Adaptation to changing conditions – conduct risk analysis to adapt to equipment malfunctions, ATC changes, weather, and other unforeseen circumstances;
- ✓ Workload sharing - Two pilots share tasks, especially during busier phases of flight or emergency situations;
- ✓ Handling emergencies - Two pilots are there to back each other up, provide blended experience and expertise and awareness for decision-making decisions, and ensure a safe recovery.

Capt. Morse also shared the results of an ALPA survey, showing that at least 80% of passengers would not be comfortable flying in an aircraft operated by only one pilot.

In conclusion, she emphasized that the human pilots pilot, with their unique blend of skills, training, and adaptability, cannot be replaced by technology.

Link to the ALPA White Paper: <https://www.alpa.org/-/media/ALPA/Files/pdfs/news-events/white-papers/white-paper-reduced-crew-operations.pdf>

The Role of Manufacturers and their Operators in Air Transport Safety – Panel

The panel was moderated by Julie Mailhot, Regional Director Operations, Safety and Security , The Americas at International Air Transport Association (IATA)

- **Airbus – Presented by Santiago Saltos, Regional Safety Director for Latin America, and the Caribbean**

Santiago began his presentation by showcasing Airbus' Aviation Safety Strategy:

- ✓ Continuously enhance the safety of our products;
- ✓ Continuously proactively improve the safety of operations of our products;
- ✓ Continuously enhance the safety culture within Airbus;
- ✓ Lead by example in safety initiatives across the Air Transport System;
- ✓ Anticipate for safety.

The industry has been facing numerous challenges due to a significant increase in demand, with particular emphasis on supply chain, very dynamic geopolitical situations, and operational challenges (technical staff demand, infrastructure, weather related events, amongst other).

Airbus promotes a culture of safety through various initiatives, such as the Safety First app and website, the WIN (Worldwide Instructor News) app and website, its Flight Safety Conference, and the Flight Safety website (<https://flightsafety.airbus.com/>).



Airbus is going above and beyond regulatory requirements to enhance safety. As part of this goal, Airbus launched “Safety Beyond Standard” (SBS). This initiative marks the latest step in their continuous improvement approach to safety. “Safety Beyond Standard” initiative takes the most innovative technology developed for the Airbus A350 and makes it available for the other Airbus FBW family to the latest technology in terms of operational capability, assistance to flight crews and resilience capability of the aircraft against abnormal conditions. SBS seeks to mitigate and address the three major identified threats:

- ✓ Loss of Control In-flight;
- ✓ Controlled Flight Into Terrain;
- ✓ Runway Excursion.

Other points of attention are fire, smoke, pressurization, ground control, and fuel issues.

- **ATR – Presented by Riccardo Petrucci, VP Technical Support & Regional Safety Manager**

Riccardo highlighted the technical evolutions that ATR incorporated to address the specific challenges of regional aviation. In particular, he discussed that ATR often operates in regional environments where many airfields have inadequate infrastructure. A significant portion of flights are still conducted under Visual Flight Rules (VFR) conditions.

In this context, over the years, ATR has been developing and supporting various technologies and new procedures to mitigate the risks associated with this type of operation. The following can be highlighted:

- ✓ Baro-VNAV for continuous descent;
- ✓ LPV for approach with vertical guidance;
- ✓ RNP-AR 0.3/0.3 for challenging airports.

Petrucci presented a success *case* where, through the Regional Aviation Safety Group – Pan America (RASG-PA), authorities, operators, and ATR collaborated to implement the "Transition from VFR to Performance Based Navigation (PBN)" project, demonstrating that safety requires mutual cooperation.

Finally, he emphasized that emerging technologies, when combined with effective training, can provide significant benefits.

For further information: <https://safety.atr-aircraft.com/>

- **Boeing – Presented by David Zwegers, Executive Director, Global Safety Strategy**

David Zwegers began his presentation by outlining the pillars of Boeing's Commitment to Global Aerospace Safety:

- ✓ Boeing Enterprise Safety Management System (SMS);
- ✓ New Airplane Delivery Support;
- ✓ Enhance Pilot and Maintainer Competency;
- ✓ Deployment of Flight Operations Representatives to Operator Sites;
- ✓ Global Safety and Regulatory Engagement;

- ✓ Operational Aspects of Design.

Boeing has a dedicated support channel for airlines, which includes field service representatives and flight operations representatives. In the area of training, Boeing has been providing specific training on safety for airlines through Competency-Based Training and Assessment (CBTA). Additionally, Boeing promotes Regional Airline Safety Infoshares and workshops

The company also supports civil aviation authorities through regulatory audit support (such as FAA IASA audits, and USOAP, SSP-IA audits), accident investigation training, and active participation in collaborative safety teams (CSTs).

In the areas of environment and infrastructure, Boeing has supported regulators on issues related to 5G and assisted airlines in discussions regarding GNSS RFI interference.

In conclusion, David highlighted Boeing's future areas of engagement:

- ✓ Support for the Regional Safety Oversight Cooperation System (SRVSOP), RASG-PA, and FAA Regional Offices in the regulatory environment;
- ✓ Enhancement and support for Upset Prevention and Recovery Training (UPRT);
- ✓ Collaboration on issues related to SMS (Safety Management System) and Safety Risk Management (SRM);
- ✓ Collaboration on Safety Data Analytics with operators;
- ✓ Promoting the implementation of new Collaborative Safety Teams (CSTs) in the region.

- **Embraer – Dirceu Moreira Ribeiro, Sr. Engineer & Air Safety investigator**

Dirceu began his presentation emphasizing that the civil aviation system is quite complex. Then, he highlighted the challenges of the collaborative work between operators and Embraer around the world and how Embraer deals with that:

- ✓ Cultural Resistance – Building a culture of trust and transparency;
- ✓ Technological Hurdle – Investing in standardized data platforms;
- ✓ Regulatory – Clear guidelines can enable secure and compliant data sharing;
- ✓ Organizational – Promoting a culture of data-driven decision making.

Embraer strives to act proactively and predictively with operators, preparing technical materials and solutions to mitigate risks. Safety communication with operators includes Release of Field Report, Air Safety Reports Summary, Special Attention Items, and regular safety meetings.

The company also supports authorities in the investigation of occurrences (ICAO Annex 13), identifying and involving experts to contribute to each area of investigative expertise.

Collaboration between aircraft manufacturers and operators is essential to continuously enhancing aviation safety.

Effective data sharing requires close collaboration and trust among industry partners to overcome technical, legal, and cultural barriers.

Airline preparedness for crisis – Reflexion on Safety

- **Waleska Fortini, Emergency Response Manager at LATAM Airlines Group and ALTA Emergency Response Group Chair**

Waleska began her presentation by emphasizing the importance of compassion in providing support to victims and family members after an aviation accident. She also emphasized the need for clear procedures to ensure quality assistance. She noted that Brazil and Colombia are currently the only countries in the region with established regulations for assisting families affected by disasters. Effective regulatory frameworks require cooperation between regulators and specialized organizations, particularly those that are able to navigate the complexities of crisis situations.

In the context of aviation disasters, assisting families requires a well-coordinated and sensitive response from all agencies involved. Local regulations play a critical role in standardizing responses, defining roles, and streamlining communication among governmental, nongovernmental, and private organizations. By establishing clear protocols, these regulations minimize confusion and ensure that families receive consistent and timely information during their most difficult time. In addition, incorporating training requirements for staff helps them handle sensitive issues with professionalism and empathy, ultimately fostering trust and improving the overall quality of support provided to affected families.

- **Heloisa Diniz, Business Continuity and Crisis Management Coordinator at GOL Linhas Aéreas**

Heloisa demonstrated that crisis management over the last decade has evolved beyond dealing solely with aviation incidents. It now encompasses the continuity of business operations, particularly the air service. It operates as a management system in the following areas:

- ✓ Complying with relevant regulations;
- ✓ Reducing the costs of business interruptions;
- ✓ Implementing crisis plans when incidents occur;
- ✓ Integrating risk management (corporate, operational, and cyber);
- ✓ Resuming normal operations as soon as possible.

Using business continuity as a system ensures a systematic approach to operations and their outcomes.

Airmanship, the consistent use of good judgment and well-developed skills to accomplish flight objectives

- **Robert L. Sumwalt, Executive Director, Boeing Center for Aviation and Aerospace Safety at Embry-Riddle Aeronautical University / Former Chairman, NTSB**

With 32 years of experience in commercial aircraft operations and 15 years with the National Transportation Safety Board (NTSB), Robert Sumwalt shared various lessons learned from the investigations he participated in. These investigations demonstrate how deviations in any operational area related to aviation, no matter how small or seemingly harmless, inherently open the door to systemic failures, potentially leading to an incident or accident.

The antidote to these operational deviations is the proper application of airmanship and professionalism. To illustrate this point, Robert used the same acronym as the NTSB:

- ✓ **N** – Negative Publicity Avoidance;
- ✓ **T** – Take the most conservative approach;
- ✓ **S** – Standard Operating Procedures (SOP) Adherence;
- ✓ **B** – Be professional.

Line Operations Safety Audits (LOSA) studies have proven that pilots who do not adhere to SOPs are three times more likely to make errors, mismanage more errors, and found themselves in more undesired aircraft states. Moreover, being professional is essential for maintaining operational standards, as this mindset is crucial for safe operations.

Robert also highlighted the mindset of a good professional:

- ✓ Precise checklist usage;
- ✓ Precise callouts;
- ✓ Precise compliance with SOPs and regulations;
- ✓ Staying abreast and current with knowledge and skills;
- ✓ The ability and willingness to say “I don’t know” or “I am wrong”.

At its core, professionalism, according to Sumwalt, is: “Doing the right things, even when no one is watching.”

Peruvian Civil Aviation Safety & Flight Ops Challenges – Panel

The panel was moderated by Carlos Gutiérrez Laguna, General Manager at International Air Transport Companies Association of Peru (AETAI)

Panelists:

- ✓ **DGAC: Donald Castillo, General Director of Civil Aeronautics**
- ✓ **JetSMART: Manuel Felipe Muñoz M, Corporate Manager of Operational Safety**
- ✓ **LATAM: Capt. Alexander Welsch, Safety Manager Peru**
- ✓ **SKY: Liliana Yaipen, Corporate Safety and Security Manager**
- ✓ **Star Peru: John Oliver Paez Camarena, Head of SMS & QMS**
- ✓ **TALMA: César Matos Díaz, Corporate Integrated Management Systems and SMS Manager**

With the participation of the Peruvian civil aviation authority, the main airlines operating in the country, and an airport services operator, the panel provided important insights into the progress already achieved and the challenges that still need to be addressed in Peru.

In a broad and rich discussion, the moderator and panelists highlighted the importance of collaborative work and the participation of the authority in global discussions and updates through ICAO. It was noted that the Peruvian Collaborative Safety Team (PCAST) was established in 2023 and has been progressing well in seeking solutions to the existing challenges in Peru.

Among the main challenges highlighted are:

- ✓ Addressing infrastructure concerns, including those managed by the state and those under concession management;

- ✓ Promoting and training professionals to meet the growing demand;
- ✓ Managing the increased traffic in the capital, which serves as the major hub of the country and the region;
- ✓ The completion of the construction of the new Lima airport and the transition of operations to the new runway and terminal.

The Director General of Civil Aviation emphasized the importance of listening to the industry in planning and decision-making processes.

Aviation Safety & Flight Ops overview at Latin America and Caribbean

The panel was moderated by Mark Millam, Director, Technical Programs and Events at Flight Safety Foundation

- **The High-Risk Categories (HRC) and the PA-RAST achievements – Presented by Michel Roy, Chief, Strategic Risk Assessment at Transport Canada and PA-RAST States Co-Chair**

The GASP is a global strategy for improving aviation safety, and its purpose is to reduce the risk of fatalities. The GASP includes a global aviation safety roadmap (GASR), which is an action plan to help the aviation community achieve its goals. The GASR is intended to reduce duplication of effort and inconsistencies by providing a common frame of reference for all relevant stakeholders.

The GASP is reviewed and updated every three years before each session of the ICAO Assembly. The 2026-2028 edition of the GASP still in development will include new and revised targets, as well as amendments based on feedback.

The 2026-2028 Global Aviation Safety Plan (GASP) from the International Civil Aviation Organization (ICAO) will identify the following five global high-risk categories of occurrences (G-HRCs) in aviation:

- ✓ Controlled flight into terrain (CFIT);
- ✓ Loss of control in flight (LOC-I);
- ✓ Mid-air collision (MAC);
- ✓ Runway excursion (RE);
- ✓ Runway incursion (RI).

As well as new additional risk categories to be monitored:

- ✓ Abnormal Runway Contact (ARC);
- ✓ System/Component Failure - Non Powerplant (SCF-NP);
- ✓ Turbulence (TURB).

The HRC identification framework includes consideration of :

- ✓ Fatalities (by accident);
- ✓ Fatality Risk (by accident and serious incident);
- ✓ Accidents and serious incidents (by occurrence category);
- ✓ Accident type frequency and commonality across ICAO Regions;
- ✓ R-HRCs and N-HRCs (categories in RASPs and NASPs);

✓ Resource considerations.

Using a data-driven approach, the Pan America – Regional Aviation Safety Team (PA-RAST) is working on projects targeting the following High-Risk Categories (HRCs): Controlled Flight Into Terrain (CFIT), Loss of Control In-flight (LOC-I), Mid-Air Collision (MAC), and Runway Excursion/Runway Incursion (RE/RI). These projects include safety alerts, studies, tool kits, and regional safety advisories, all carried out through collaborative efforts between states and the aviation industry.

PA-RAST also promotes and supports the implementation of Collaborative Safety Teams (CSTs) by states within the region. In 2023, the team developed a guide to assist in this implementation effort.

Useful links:

RASG-PA LinkedIn Page: <https://www.linkedin.com/company/rasg-pa/>

RASG-PA Safety Advisories: <https://www.icao.int/RASGPA/Pages/RASGPA-SA.aspx>

Turbulence toolkit: <https://www.icao.int/RASGPA/Pages/TurbulenceToolkit.aspx>

RASG-PA Library (e.g. CST guidance): <https://www.icao.int/RASGPA/Pages/Library.aspx>

- **LATAM/CAR Safety performance – Presented by Gerardo Hueto, Assistant Director, Safety, The Americas at International Air Transport Association (IATA)**

Gerardo Hueto emphasized that the industry has improved its overall safety performance over the last ten years by:

- ✓ 61%, with an accident rate in 2023 of 0.80 per million sectors, compared to 2.06 in 2014;
- ✓ 52%, with a 5-year (2010-2014) rolling average of 2.49, compared to the current 5-year (2019-2023) average of 1.19 accidents per million sectors.

The 2023 industry accident rate of 0.80 is below the 5-year (2019-2023) accident rolling average rate of 1.19 per million sectors.

In 2023, when considering accidents per region of operator, the accident rate and fatality risk for the Latin America and Caribbean (LATAM/CAR) region saw an improvement; the accident rate per million sectors decreased from 4.47 in 2022 to 0.37 in 2023 and remained ahead of the 5-year accident average rate of 1.91. The fatality risk rate dropped from 0.02 to 0.00 accidents per million sectors. The IATA Annual Safety Report highlights its evolution over the decades.

Full information can be found at <https://www.iata.org/en/publications/safety-report/>. Since its launch in 1964, the IATA Safety Report has become an indispensable tool for tracking and enhancing commercial aviation safety.

- **Best practice: Relationship between Safety and Flight Ops teams alongside the regulator and associations – Presented by Capt. Christopher Collins, Director of Flight Safety at Delta Air Lines**

Capt. Collins began his presentation by highlighting the long history of safety advancements in the United States, emphasizing the following:

- ✓ Infoshare began in 1995 out of the desire to share information learned from reporting systems between the Federal Aviation Administration (FAA) and industry;
- ✓ Commercial Aviation Safety Team (CAST) was formed in 1997 after several high profile accidents with the goal to reduce the accident rate by 80% in 10 years;

- ✓ CAST/ICAO Common Taxonomy Team (CICTT) was formed in 1999 to help establish an international safety data taxonomy;
- ✓ Aviation Safety Information Analysis and Sharing (ASIAS) was formed in 2007 out of former data sharing programs to form a government-industry initiative on data sharing and analysis to proactively discover safety concerns before incidents and accidents occur, leading to timely mitigations and protections;
- ✓ General Aviation Joint Safety Committee (GAJSC) originally launched in 1997, went dormant until 2011;
- ✓ Safety Management System (SMS) for commercial operators officially began in the mid 2010's and continues to evolve today;
- ✓ The FAA began their SMS journey in 2004, with implementation starting in 2008. This includes Air Traffic (ATO), Flight Standards, and other Agency Level programs. These efforts by the FAA continue with a focus on safety management and safety culture through centralized oversight and continuous improvement efforts.

The Aviation Safety Teams (ASTs) operate under a unified governance structure, addressing national safety issues. Through constant monitoring, they are able to manage risks using data-driven expertise and the involvement of key stakeholders.

The COVID-19 pandemic and the post-pandemic period marked a turning point, revealing internal needs and introducing new high-visibility factors. To answer the need for change, CAST members established a Strategic Work Group to formulate strategies for working together to continue to advance aviation safety considering emerging technologies, entrants, and new aviators.

The collaborative efforts during this period brought together the FAA, operators, OEMs, and industry associations, yielding excellent results, and proving that working together further enhances safety.

- **Navigating Complexity: Strategies for SMS implementation in airline groups with multiple AOCs – Presented by Capt. Marcelo Marcusso, Safety Manager at LATAM Airlines Group**

LATAM Airlines is one of the largest airline groups in the world and the largest in Latin America. The company has operations in 6 countries, flies to 148 destinations, and employs over 35,000 people.

Having multiple Air Operator Certificates (AOCs) provides LATAM with benefits such as flexibility in resource allocation, brand valuation, network optimization, and cost reduction. However, it also presents several challenges, including the following:

- ✓ Optimal centralization versus decision making;
- ✓ AOC performance and follow-up;
- ✓ Harmonization of operations;
- ✓ Regulations;
- ✓ Employee engagement and communication;
- ✓ Organizational culture;
- ✓ Audits.

To overcome these challenges, LATAM has a single CEO for the entire group, with a CEO for each AOC who reports to the group CEO. Additionally, there is a corporate vice president for Safety and Security, along with safety and security managers assigned to each AOC.

The decision-making structure includes:

- ✓ Operational Safety Committee at AOC level plus Board at corporate level;
- ✓ Safety Review Board at corporate level plus representative from AOC;
- ✓ Safety Action Group at corporate level plus representative from AOC, when applicable;
- ✓ Identification of hazards (reporting, flight data monitoring, investigation, etc.) at AOC level.

LATAM also has an Infrastructure Committee. The airline is seeking to standardize the infrastructure committees so that all subsidiaries operate in a proactive and standardized manner, acting to mitigate the specific operational risks of each country. All the runways operated have been mapped using the same methodology that classifies the operation's risk score.

The various regulations to which LATAM is subject pose a challenge to be overcome. The company advocates for the need for greater regulatory harmonization in the region as a means to enhance safety and reduce costs, allowing:

- ✓ Single approval for manuals and requirements that are identical (e.g. MEL);
- ✓ Aircraft interchange process and operational supervision;
- ✓ Opportunities in terms of crew licensing;
- ✓ SMS Processes and Procedures (risk based supervision).

Leadership, teamwork, and resilience in complex situations

- **Don Pedro Algorta, one of the 16 survivors of the plane crash in the Andes in 1972 and businessman**

Pedro Algorta's experience was unlike anything ever endured before, set in the context of a tragic plane crash that claimed the lives of 29 people and pushed its survivors to their limits for 72 days in the unforgiving Andes Mountains. With every word, Algorta conveyed a glimpse of the intense emotions he and the others experienced during their ordeal, describing it as living in a "parallel world", where values, time and life seemed to be different.

From the first moments of shock and terror after the crash, when the violent impact claimed the lives of colleagues and other passengers, the survivors had to grapple with the unknown, summoning the strength to face an incredibly challenging situation. This harrowing experience is a profound testament to the power of resilience in the face of life's toughest challenges.

Over the course of those long days, the survivors' emotions fluctuated between anxious anticipation for rescue and deep sadness, as they received updates about the dwindling search efforts. The situation grew even more dire when, on the 16th day, an avalanche struck, forcing the group to confront yet another deadly obstacle in their fight for survival.

Rescue only came after the survivors themselves took the daring initiative to embark on an expedition to seek help. By the time they were found, many believed the group had perished, and their return was nothing short of miraculous, as families and friends had all but lost hope due to the nature of the crash and the many days that had passed.

Beyond sharing this extraordinary story of resilience, Pedro Algorta highlighted the critical importance of mental health care, which was essential for the survivors to regain normalcy in their lives after such an unimaginable ordeal.

d. General session – Training

The Aircraft Manufacturer Flight Training Association (AMFTA): Vision & Strategy

- **Capt. Jean-Michel Bigarre, President at Aircraft Manufacturers Flight Training Association (AMFTA)**

This presentation was led by Captain Jean-Michel Bigarre, President of AMFTA. Bigarre emphasized that the vision of AMFTA—an organization comprising Airbus, Boeing, Comac, and Embraer—is to “enhance global safety by providing unified recommendations for flight training.” He highlighted that the primary reasons behind the formation of AMFTA include the increasing volume of requests for aircraft manufacturer training recommendations, the need to provide guidelines for technological evolution by integrating the common vision of Approved Training Organizations (ATOs) at an early stage.

In this context, Bigarre outlined the organization’s key achievements, including the development of the first set of recommendations focused on “Multi-Engine Skills as a Pre-Requisite for the Issuance of a Type Rating on Multi-Pilot Turbo-Jet Transport” and the establishment of five working groups: CBTA (Competency-Based Training and Assessment), Multi-Crew Competence, PLM (Pilot Lifecycle Management), Instructors, and Pilot Landing Capabilities.

Finally, Bigarre stressed that for AMFTA, pilot competencies are paramount. The organization is actively working on this aspect from basic to advanced training and is committed to supporting the industry in implementing global pilot competencies. Additionally, AMFTA aims to ensure the right environment for pilots and aircraft to operate safely and efficiently.

Advanced Pilot Training Programs – How can we reach a Regional Implementation?

The panel was moderated by Capt. Aldo Bien, Technical Training Coordinator at LATAM Airlines Group

Panelists:

- ✓ **Capt. Francisco Arenas, Project Manager / European Union Aviation Safety Agency (EASA)**
- ✓ **Frederik Mohrmann, Competency-Based Training and Assessment (CBTA) Instructor Evaluator & Regulatory Focal / Boeing**
- ✓ **Capt. Miguel Rosas, Flight Instructors Manager / Viva Aerobus**
- ✓ **Capt. Oscar González, EBT Manager / avianca**
- ✓ **Capt. Mike Varney, CEO / Salient**

The panel discussion focused on the path towards implementing advanced pilot training programs across Latin America. The conversation centered on various training methodologies such as Advanced Qualification Program (AQP), Alternative Qualification Training Program (AQTP), Competency-Based Training and Assessment (CBTA), and Evidence-Based Training (EBT). Participants emphasized the critical role of aviation authorities in regulating and supporting these training approaches, ensuring that standards evolve alongside the latest methodologies. The use of data, simulators, and effective



management of human resources were highlighted as key factors in delivering successful advanced training programs.

A significant portion of the discussion revolved around the conclusions from previous ALTA workshops, which stressed the need for widespread adoption of advanced training programs like AQP, EBT, and CBTA by airlines throughout the region. To achieve this, the development of updated regulatory frameworks is essential, allowing for the adoption of innovative training techniques. The importance of collaboration between companies, particularly in terms of sharing data and best practices while respecting confidentiality, was seen as a crucial aspect of fostering consistent and high-quality training across different operators.

The discussion also covered the critical insights gained from a five-year analysis of global Evidence-Based Training (EBT) data. This analysis drew on various data sources, including accident and incident reports, Line Operations Safety Audit (LOSA) data, pilot surveys, and extensive flight performance data. These findings underscored the value of a data-driven approach to developing training programs that are closely aligned with real-world performance needs. Emphasis was placed on scenario-based training and tailored learning, allowing programs to address the specific competency gaps identified through ongoing evaluations.

The panel further explored the structure and benefits of EBT and CBTA modules, which typically span two days. Day 1 involves a non-jeopardy assessment, simulating realistic yet challenging scenarios, while Day 2 focuses on customized training exercises derived from the initial assessment. This format ensures that each pilot receives training tailored to their specific needs. The discussion highlighted the importance of instructor training and standardization, recognizing instructors as a fundamental component of successful training delivery. A non-judgmental, supportive approach to evaluations was identified as key to fostering a positive learning environment where pilots can improve their skills effectively.

The panel concluded by emphasizing that the future of pilot training in the region depends on a collaborative effort between regulators, airlines, and training providers. By adopting a flexible, competency-based approach and leveraging advanced technologies, the industry can better prepare pilots for the evolving demands of aviation. The shift from traditional, event-based training to a model that focuses on developing competencies is seen as essential for enhancing safety, efficiency, and overall training quality in the region.

Changing paradigms on the use of Flight Training Devices (FTDs) in our region

The panel was moderated by Capt. Esteban Kerz, Safety and Flight Operations Specialist / AviatDO Consulting Group

Panelists:

- ✓ **Sereya Schotborough, Regional Officer, Safety Implementation at International Civil Aviation Organization (ICAO) – North American, Central American and Caribbean (NACC) Office**
- ✓ **Capt. Francisco Arenas, Project Manager at European Union Aviation Safety Agency (EASA)**
- ✓ **Ana Maria Diaz, License Expert at Regional Safety Oversight Cooperation System (SRVSOP)**
- ✓ **Alejandro Mena, Aviation Safety Manager at Central America Aviation Safety Agency (ACSA)**
- ✓ **Capt. Aldo Bien, Technical Training Coordinator at LATAM Airlines Group**
- ✓ **Capt. Jorge Reyes, Director of Training at Copa Airlines**

It was highlighted that the evolution of Flight Training Devices (FTDs) allows operators to shift many training hours from Full Flight Simulators (FFSs) across all phases of pilot training. In this context, details were provided on a project aimed at standardizing regulations in the region, based on ICAO Doc 9625, to optimize the use of FSTDs (Flight Simulation Training Devices). This initiative, carried out in collaboration with ICAO, FAA, EASA, ALTA, and COCESNA, seeks to enhance training, oversight, and certification processes.

The benefits of this program for both airlines and civil aviation authorities were emphasized. These benefits include economic advantages, such as reducing travel expenses and eliminating dependency on slot availability at third-party training centers. Moreover, the program improves training quality by enabling re-training, self-training, and remote training, as well as utilizing new tools to support competency achievement.

Additionally, it was underscored that this type of project supports States by providing guidance on how to approve FSTDs, ensuring consistency in the approval process, and facilitating training for States with the support of ICAO and industry organizations.

In a presentation, the progress made by EASA, in collaboration with National Aviation Authorities (NAAs) and the industry, to advance the ICAO Doc 9625 Flight Crew Simulation (FCS) concept through the “EASA-RMT.0196” project was highlighted. The project aims to enhance the connection between training tasks and tools, accommodate innovative training solutions, and improve the standardization of training tools while offering flexible and efficient training solutions.

The FCS concept was explained, which categorizes simulation features into three main areas: aircraft, environment, and cueing simulations. It defines four levels of fidelity to analyze and categorize each FSTD, allowing for more flexible and tailored training solutions. This approach shifts the focus from tools to tasks, providing a more customized training experience.

It was also clarified that the RMT.0196 regulation introduces a new framework without altering the existing conditions or operational requirements for current training programs and FSTDs in use. For existing programs and devices, adopting the new FCS (Flight Simulation Training Device Capability Signature) regulation is optional. However, adherence to the new regulation is mandatory for new FSTDs. Operators with existing devices may apply for an FCS, and if their devices do not meet the new

specifications or if no additional benefits are realized, they have the option to continue with the current standards.

An overview was also provided of the process led by SRVSOP, in collaboration with States, from 2015 to the present, for the design and approval of LAR 60, the regulation focused on the qualification of Flight Simulation Training Devices. It was noted that this document is now harmonized and approved by seven States in the region: Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, and Peru.

Additionally, it was highlighted that in 2023, a total of 17 inspectors from six States received training on this regulation, with further training sessions planned for 2024 to expand its reach.

An innovative flight training project from LATAM Airlines, the LATAM Homemade FTD Project, was also presented. The project stands out for its low implementation cost, high flexibility in both hardware and software, and its capability to support multiple aircraft types, including the A320, B767, B777, and B787. Key features include touchscreen functionality, ease of maintenance, and its ability to integrate external accessories such as sticks and levers. Designed to be FTD 4 certifiable, the device can enhance pilot preparation for Full Flight Simulator (FFS) sessions, increasing training efficiency and safety, with a significant reduction in the number of unsuccessful training sessions.

Flying new wings – EVTOL operations, what can we expect in our region?

The panel was moderated by Eduardo Cristelo, Associate Lawyer at Motta Fernandes Advogados

- **Christopher Petras, Legal Officer at International Civil Aviation Organization (ICAO)**

Christopher Petras, Legal Officer at ICAO's Legal Affairs & External Relations Bureau, provided a comprehensive overview of ICAO's critical role in establishing international aviation standards and regulations. He detailed the process for developing new standards under the Chicago Convention, emphasizing ICAO's global structure, which comprises 193 Member States.

His presentation underscored the work of several key ICAO panels and expert groups focused on advancing aviation technologies:

- ✓ Aerodrome Design and Operations Panel (ADOP) – This group is dedicated to developing the infrastructure requirements for vertiports, supporting both piloted and pilotless electric VTOL (Vertical Take-Off and Landing) operations, including the need for recharging facilities;
- ✓ Airworthiness Panel (AIRP) – Currently assessing existing SARPs (Standards and Recommended Practices) to identify regulatory gaps for the certification and operation of electric and hybrid propulsion systems, with recommendations anticipated by the end of 2026;
- ✓ AAM Study Group – Providing guidance for the early implementation of electric VTOL (eVTOL) aircraft;
- ✓ Secretariat Study Group on Legal Issues Related to Pilotless Aircraft (SSG-LIPA) – Focused on addressing the legal frameworks necessary for the operation of pilotless aircraft.

In addition, Petras focused on the regulatory approach to unmanned aircraft, outlining two primary technical workstreams:

Remotely Piloted Aircraft Systems (RPAS): This initiative follows a comprehensive aviation regulatory framework for international IFR (Instrument Flight Rules) operations, with the RPAS Panel leading the development of these regulations.

Advanced Air Mobility (AAM): The AAM Study Group is conducting an in-depth assessment of AAM technology, including a gap analysis in relation to the existing regulatory framework.

Both approaches adopt an operation-centric, risk-based model to ensure the safe and effective integration of unmanned aircraft into international airspace.

- **Capt. Sérgio Quito, Safety and Flight Operations Senior Advisor at Gol Linhas Aéreas**

Capt. Sérgio Quito, Senior Advisor for Safety & Flight Operations at GOL Linhas Aéreas, delivered a presentation outlining the possibilities and emerging markets for eVTOL (electric Vertical Take-Off and Landing) operations in Brazil.

He began by highlighting GOL's strategic steps towards Advanced Air Mobility (AAM), which commenced with the signing of a Memorandum of Understanding (MoU) with Avolon in 2021. This agreement encompasses the leasing of up to 150 VX4 eVTOLs, with an option for an additional 100 aircraft. In conjunction with this, GOL formed a working group with Grupo Comporte, Avolon, and Vertical to analyze the Brazilian ecosystem and its suitability for AAM operations.

A significant aspect of the presentation was the strong public acceptance of eVTOL technology. Surveys conducted among GOL's Smiles customers revealed that 97% are open to flying in eVTOLs. These studies also underscored the importance of time savings and safety as key priorities for both passengers and industry stakeholders.

The presentation further explored the practical benefits of eVTOLs, such as reducing travel time by up to 85% between Congonhas and Guarulhos airports, connecting urban centers with rural or coastal areas, and improving the first and last mile passenger experience for GOL's customers. The success of these initiatives, however, will be contingent upon the simultaneous development of the necessary infrastructure to support widespread eVTOL operations.

- **Diego Medeiros, CEO at Helipark**

The presentation of Diego Medeiros was titled "São Paulo's Infrastructure Dilemma". It provided a comprehensive overview of the current aviation landscape in São Paulo, particularly focusing on the region's landing sites, helicopter operations, and the potential future role of eVTOLs.

He began by outlining the extensive infrastructure for air mobility in the state of São Paulo, which includes over 800 landing locations—such as helipads, heliports, airports, and private airstrips. The metropolitan area of São Paulo is a leader in helipad density, with more than 200 helipads, though only around 30 are used regularly on a daily or weekly basis. This reflects the complexity of São Paulo's aviation landscape, and the operational challenges posed by high air traffic density and regulatory constraints.

Medeiros presented a detailed comparison between helicopters and eVTOLs, highlighting the potential shift toward democratizing air mobility through the latter. Unlike helicopters, which are often reserved for wealthy individuals and specialized industries, eVTOLs are designed for mass use, offering the possibility of more affordable and accessible air transport. Additionally, eVTOLs promise quieter operations, which would be beneficial in urban environments sensitive to noise pollution from traditional helicopters. However, despite their potential, eVTOLs face significant challenges related to technological reliability and infrastructure development, particularly the need for vertiports and electric charging stations to support widespread adoption.

In contrast, helicopters—though noisier and more costly—benefit from a well-established operational and maintenance infrastructure. Their proven technology makes them reliable for both

short and long-distance trips, positioning helicopters as the current leaders in urban air mobility, despite their exclusivity and noise-related issues.

The presentation concluded with a forward-looking view, emphasizing that while eVTOLs hold great promise for the future, especially in terms of accessibility, shared use, and noise reduction, their success will depend on overcoming current technological and infrastructural challenges. Meanwhile, helicopters, with their reliable technology and existing infrastructure, continue to play a critical role in regional air mobility. The next steps will involve the development of public policies and partnerships to integrate eVTOLs into urban environments, while simultaneously improving infrastructure to support both eVTOLs and helicopters in the future.

- **Roberto Honorato, Head of Airworthiness at ANAC Brazil**

Roberto Honorato, Head of Airworthiness at ANAC, delivered a presentation focused on the certification process and regulatory landscape for eVTOL (electric Vertical Takeoff and Landing) aircraft in Brazil. He began by addressing the growing interest from various operators in establishing eVTOL operations within the country, emphasizing that innovation in the aviation industry often progresses faster than the regulatory frameworks designed to govern it.

However, he clarified that existing regulations in Brazil already support the certification of eVTOLs. Certification requirements, he noted, are being developed on a case-by-case basis, with a focus on maintaining transparency through public consultation. This approach ensures that regulatory frameworks can evolve alongside technological developments.

Honorato also discussed ongoing public consultations regarding pilot licensing and the establishment of certification standards. These consultations aim to align regulatory efforts with industry needs while ensuring safety and compliance. He concluded by emphasizing that education is essential for the successful development of the eVTOL market. For eVTOLs to become a practical component of urban mobility, both industry professionals and the public must be well-informed about the technology and its operational implications.

- **Robert M. Ruiz, Deputy Executive Director, Flight Standards Service at/ Federal Aviation Administration (FAA)**

Robert Ruiz from presented advancements in integrating powered-lift and eVTOL aircraft into U.S. airspace, with operations expected by 2025. He highlighted key initiatives, including the "Innovate 28" and the AAM Implementation Plan, published in 2023, alongside ConOps v2.0 for Urban Air Mobility. Ruiz emphasized infrastructure updates, such as the Vertiport Design Guide, set for a 2024 update, and the finalized Special Class Airworthiness Criteria for powered-lift aircraft

The FAA is also preparing a Special Federal Aviation Regulation (SFAR), expected by late 2024, to outline certification and operational standards for powered-lift vehicles. Ruiz noted the importance of collaboration in Advanced Air Mobility (AAM) efforts, including global partnerships with Brazil's ANAC and Eve Air Mobility.

The FAA's focus remains on regulatory updates, infrastructure development, and international cooperation to ensure the safe and efficient integration of these technologies into urban airspace.

3. INSIGHTS FOR THE AVIATION INDUSTRY

a. Safety and Flight Operations

The ALTA Safety and Flight Ops Committee will continue addressing their specific issues under the supervision of its Co-chairs.

Safety is the number one value in the aviation industry and a shared responsibility among all its members. It must be built on the pillars of leadership and operational excellence. Complacency in leadership can pose a significant risk. Airlines must adopt robust and effective programs to disseminate their safety culture among all employees.

Deficient infrastructure, severe weather conditions during certain times of the year, and regulatory inconsistencies are persistent challenges affecting safety in Latin America and the Caribbean. Investment in infrastructure, in the development of technologies, and procedures to prevent severe turbulence events, along with support for initiatives aimed at regulatory harmonization across the region, are essential.

Human factors continue to be a key focus within the aviation industry in our region. Mental health is a crucial topic to aviation safety. Initiatives to destigmatize the treatment of psychological conditions, promote mental health awareness training, and implement peer support programs within airlines are of great importance. Fatigue management must continue evolving from a reactive to a predictive approach. Regulations should be collaboratively developed, respecting the regional cultural context and the Fatigue Risk Management Systems (FRMS) implemented by each operator.

The topic of reduced crew operations and single-pilot operations is a sensitive subject and must be discussed collaboratively. Any decision in this direction must be carefully studied with thorough collaboration.

Professionalism and adherence to Standard Operating Procedures (SOPs) are essential to prevent operational failures. Therefore, airlines must implement processes to ensure the effectiveness and compliance with their SOPs.

Collaboration between aircraft manufacturers and operators, as well as mutual trust, is key to the successful implementation of new technologies and improving operational safety. Manufacturers have been developing advanced technologies to mitigate risks such as Loss of Control In-flight (LOC-I), Controlled Flight Into Terrain (CFIT), and Runway Excursions (RE). However, these technologies and automation features should not replace pilots' manual interaction with the aircraft. Manual flight training remains fundamental to operational safety.

Support for victims and families following an aircraft accident must be compassionate, and clear local regulations implemented by States are essential to ensure prompt and effective responses in such complex situations. Crisis management must extend beyond the incidents themselves, encompassing the continuity of the affected airline's commercial operations.

Collaborative Safety Teams (CSTs) have proven to be the most effective way to identify and implement actions that enhance safety. In this context, data sharing is crucial to addressing the most critical safety risks in the region.

The ALTA Safety and Flight Ops Committee's agenda is to include the following topics, among others:

- ✓ Identifying and sharing best practices and experiences among committee members for the benefit of all, while respecting confidentiality policies;
- ✓ Continuing the work of the Emergency Response and Cabin Safety groups to identify best practices and mitigate common risks faced by airlines;
- ✓ Supporting initiatives aimed at harmonizing regulations in the region;
- ✓ Encouraging and supporting the implementation of Collaborative Safety Teams in States within the region, as well as contributing to the work of already established teams;
- ✓ Actively participating in safety initiatives led by ICAO and other regional organizations;
- ✓ Gathering feedback from ALTA member airlines on the main risks faced in the region and proposing measures to mitigate them;
- ✓ Supporting ALTA member airlines with their safety and operational needs.

b. Aviation Training

The subcommittees will continue working on their specific issues under the supervision of the Aviation Training Committee.

Best practices and experiences are to be identified and shared with members of the committee for the benefit of all involved, while respecting confidentiality policies.

The issue of standardization of regulations in the region is to be pursued with the interaction with regional entities, the Latin American Civil Aviation Commission (LACAC), the regional ICAO offices in the region, and the Regional Safety Oversight Cooperation System (SRVSOP).

The need for the implementation of advanced training programs like AQP, EBT, and CBTA across various airlines in Latin America.

Education and new training trends are to be articulated with the support of the international organizations such as ICAO, civil aviation authorities and the necessity for regulatory frameworks to keep pace with these advanced training methods. Keeping in mind the crucial role of instructor training and standardization, as instructors are a fundamental pillar of advanced training.

The ALTA Aviation Training Committee agenda is to include the following topics among others:

- ✓ Competency-based training is the latest trend in the industry;
- ✓ Regulations standardization is a main issue as different nationals train in locally certified centers and their qualifications need to be recognized in different countries;
- ✓ Pilot pipeline development;
- ✓ Training centers need a steady growth. As airlines grow their operations, there is a need for training centers to increase their pilot base preparation. More mechanics need to be trained to cater to the ever increasing MRO capacity in the region;
- ✓ English language proficiency training for pilots continues to be a main issue that can affect the safety of operations and performance in the Latin American region.

4. NEXT SUMMIT

The ALTA Aviation Safety, Flight Ops & Training Summit will be a unique meeting for all professionals who dedicate themselves daily to seeking the highest levels of aviation safety and operational standards in the region.

After a successful Pilot Training Connect in September 2023, which was the first event of its kind in the Latin America and Caribbean region, the pilot training discussion will be joined again by ALTA's long time recognized Aviation Safety Summit, which incorporated Flight Operations aspects at its latest event in June 2024, thus integrating all airline operational aspects at a single event.

Safety, Flight Operations, and Aviation Training professionals from different sectors of the industry will come together to discuss current and relevant topics in these areas. Representatives of airlines, manufacturers, civil aviation authorities, airports, air traffic control organizations, aviation schools, associations, training facilities as well as other sectors of the industry will be present.

The ALTA Aviation Safety, Flight Ops & Training Summit will be held in Mexico City, 10-12 of June 2025.



In 2023, the GDP of the air transport sector in Mexico was approximately \$150 billion MXN, representing approximately 0.36% of the country's total GDP. This is a sector that has been steadily gaining strength and importance in the Mexican economy year after year. Twenty years ago, in 2003, air transport accounted for just 0.16% of Mexico's total GDP, meaning the sector has doubled its contribution to the economy.

The Mexican market is one of the most dynamic globally. In 2023, measured by passengers transported, it was the largest in Latin America and the Caribbean (LAC), and when measured by available seat-



kilometers, it was the second largest after Brazil. Remarkably, by 2022, the Mexican market was one of the few worldwide to have already regained its pre-pandemic traffic levels.

This market still holds enormous growth potential. Its travel indicator stands at 0.87 trips per capita, almost three times lower than that of its neighbor, the USA, which has 2.53 trips per capita.

Mexico is the best-connected country in the LAC region. Compared to 2019, Mexico has seen the addition of 72 new routes, while 58 have been discontinued. Its air traffic has doubled in the past 15 years, growing from 53 million passengers in 2008 to more than 118 million in 2023.

It is also interesting to note the strength of the Mexico-USA market, which is the most important international market in the region. In fact, only the domestic markets of Brazil and Mexico are larger than Mexico-USA. This market moves more passengers than other major domestic markets, such as those of Colombia, Argentina, Chile, and Peru.

In the region, 2 out of every 10 passengers travel on a flight between Mexico and the USA. The Mexico-USA market is even larger than the Canada-USA market, with 30.2 million passengers compared to 24.1 million (from January to September 2024).

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