International Civil Aviation Organization
Asia and Pacific Office

Twenty-third Meeting of the Asia Pacific Regional Aviation Safety Team (APRAST/23)

(Bangkok, Thailand, 7 to 11 April 2025)

Agenda Item 5: Presentations – State / Industry / ICAO

NURTURING A POSITIVE SAFETY CULTURE

(Presented by the International Air Transport Association)

SUMMARY

The Asia-Pacific aviation industry is experiencing rapid growth, confirming a consistent need for demand–capacity balancing while sustaining and enhancing Safety. This paper discusses challenges, presents case study examples and examines strategies to foster a positive safety culture, aligning with ICAO Annex 19 recommendations.

1. INTRODUCTION

1.1 The aviation outlook for the Asia-Pacific region remains highly dynamic, driven by strong passenger demand, expanding air connectivity, and rapid fleet growth. However, challenges persist, including infrastructure constraints, airspace congestion, workforce shortages, and the need for sustainable operations. Airlines and regulators are focusing on digital transformation, ATM modernisation, and environmental initiatives to balance growth with efficiency and sustainability.

1.2 Amendment 1 to Annex 19 – *Safety Management* recognizes the importance of safety culture in the effectiveness of a Safety Management System (SMS) and State Safety Programme (SSP), it introduced recommendations for States to promote and support the development of a positive safety culture, reinforcing safety as a fundamental priority.

1.3 Aviation organizations, mandated to implement a Safety Management System (SMS), are encouraged to assess and continuously enhance their internal safety culture. This applies to airlines, manufacturers, training organizations, ANSPs, and airports, all already covered under Annex 19's SMS provisions.

1.4 This paper explores key issues, challenges, and approaches in fostering a positive safety culture. It discusses ways to assess and measure safety culture, along with best practices that have gained recognition across the global airline industry.

2. DISCUSSION

2.1 ***Correlation Between Safety Culture and Accidents***:

2.1.1 The effectiveness of Safety Management Systems (SMS) depends on a strong safety culture. Despite a significant global commitment to safety, an organization without a robust safety culture undermines its SMS investment.

2.1.2 If procedures exist but employees are not encouraged to follow them, report deviations and suggest improvements, safety weakens. When unsafe practices go unreported due to fear of reprisal, variations in safety risk perceptions or perceived lack of responsibility, compliance cannot be assured, and management of safety risks is negatively affected. Similarly, if employees raise safety concerns or suggest improvements but receive no feedback or see no action, it signals that safety is not a priority. A weak safety culture creates gaps that increase the risk of incidents and accidents, regardless of regulatory compliance.

2.1.3 Refer to Annexure A that discusses challenges, success stories, and case study examples highlighting the need for strengthening Safety Culture.

2.2 ***Best practices to measure the current state of the organization's safety culture***:

2.2.1 With the Annex 19 amendment, organizations must demonstrate efforts to foster a positive safety culture. This would require establishing a baseline and tracking progress. While culture is often seen as abstract, well-developed surveys can effectively quantify and assess it.

2.2.2 To determine what to measure, it is essential to identify the key drivers of safety culture. A clear framework, collective commitment, including senior management, and a continuous evaluation and improvement—all are vital for achieving safety.

2.2.3 Refer to Annexure B for insights from the I-ASC (IATA Aviation Safety Culture Survey) Program on assessing the current state of the organization's safety culture.

2.3 ***Safety Leadership:***

2.3.1 A strong safety culture starts at the top. While safety is a collective responsibility, leadership sets the tone, influencing priorities, behaviours, and decision-making across the organization.

2.3.2 To support this, IATA introduced the Safety Leadership Charter[1]. This initiative reinforces that while all employees play a role in safety, leadership engagement is key—their actions and mindset drive a culture where safety is not just a requirement but a core value that enables continuous improvement in safety performance and a successful business.

3. ACTION BY THE MEETING

3.1 The Meeting is invited to:

a) Note the information contained in this paper; and

b) Discuss the following:

i. Challenges and successes in integrating safety into business strategies, processes and performance measures.

ii. Strategies for fostering trust and enabling open reporting of and learning from safety-related information.

iii. Assessment of Safety Culture and Top-Down Approach

c) Any other relevant matters as appropriate.

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[1] IATA Safety Leadership Program link: https://www.iata.org/en/programs/safety/safety-leadership/#

Strengthening Safety Culture – Challenges, Success Stories, Case Studies, and Key Insights:

i. Alpha Numeric Call Sign: Call sign confusion poses serious safety risks. ICAO's 2012 Flight Plan format introduced alphanumeric call signs to enhance ATC clarity, yet many Asia-Pacific airports have not adopted them as of 2025. Regulators that implemented the system are now warning airlines overflying their airspace to switch, but non-acceptance at key airports in the APAC region prevents compliance. Strengthening safety culture through regulatory enforcement, industry collaboration, and technological advancements is essential for seamless implementation and risk mitigation.

ii. AIM Documentation, Markings and Signages: The persistence of old NOTAMs leads to information overload, increasing the chances of pilots missing critical updates. Similarly, poorly maintained or unclear airport markings and signages, especially during airside work in progress, can lead to confusion and may create erroneous situational awareness, affecting safe ground operations. Addressing these issues requires a strong safety culture that prioritizes effective safety reporting, regular data review, efficient information management, and cross-agency collaboration and monitoring to ensure accurate, up-to-date aeronautical information.

iii. Apron Safety: Safe and efficient ground operations require a clean apron, proper positioning of ground handling equipment, and controlled airside vehicle movements. Hazards such as Foreign Object Debris (FOD), misplaced equipment, and uncontrolled vehicle movement can lead to accidents and aircraft damage. Establishing a strong safety culture fosters accountability, proactive risk management, including effective safety reporting and learning cultures, and strict adherence to safety protocols, ensuring a safer and more efficient operational environment.

iv. Accident Investigation: A strong safety culture is crucial for learning from past events and preventing future accidents. Timely and thorough accident investigations, as required by ICAO Annex 13 (meeting the timeline requirement of the preliminary report in 30 days and the final report in 12 months), provide vital safety insights. The 2024 IATA Annual Safety Report shows that between 2018 and 2023, 57% of the 269 recorded accidents had completed investigations, with the remaining 43% still lacking final reports. In the ICAO Asia Pacific region, out of the 49 accidents that occurred in that region, 27 (55%) investigations were completed, while 22 (45%) remain pending.

v. OLS Infringement: OLS infringement is a critical safety challenge, as obstacles in the flight paths pose risks to aircraft operations during take-off and landing. While regulations exist to prevent such violations, enforcement may remain weak due to urban expansion, conflicting development interests, and challenges with the legal enforcement process. Strengthening regulatory enforcement through stricter compliance, proactive monitoring, and better coordination with urban planners is essential. A strong safety culture plays a key role in addressing these challenges by promoting awareness, prioritizing airspace protection in town planning, and ensuring that aviation safety remains a top priority in policy decisions.

vi. Wildlife Hazards: Wildlife hazards pose a significant safety risk to aviation, especially in areas surrounding airports where control over wildlife diminishes beyond airport boundaries. While airports implement rigorous wildlife management programs, the birds and animals do not recognize jurisdictional limits, making such external threats difficult to mitigate. Effective risk reduction requires a comprehensive, multi-agency approach involving local government agencies like Municipal corporations, district bodies, environmental authorities, and conservation groups beyond the aviation sector. Promoting a strong safety culture is crucial in driving this collaborative effort, ensuring that all stakeholders understand their role in mitigating wildlife hazards and fostering the integration of aviation safety with ecological management.

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Measuring Safety Culture:

i. Measuring the current state of the organization's safety culture – Insights from I-ASC (IATA Aviation Safety Culture) Program:

Culture is abstract and can't be directly measured — but it can be quantified and assessed through safety culture surveys. A clear framework, collective engagement across hierarchies, continuous assessment and improvement cycles are among the essential elements that help develop and evolve a strong safety culture.

ii. **I-ASC drivers of safety culture:**

1. **Safety Awareness**	2. **Reporting and Feedback**
3. **Senior Management Commitment**	4. **Policies, Processes and Procedures**
5. **Communication**	6. **Management Commitment**
7. **Just Culture**	8. **Learning Organization**
9. Employee Empowerment	

iii. Drafting Survey Questions: Start by crafting clear, precise statements to measure safety drivers and its overall perception within your organization. These should be straightforward, unambiguous, and designed to uncover the reasons behind specific views.

iv. Socio-cultural differences: Consider social and cultural differences that may influence responses. One of the simplest ways to address this is by offering the survey in respondents' native languages, ensuring inclusivity across all levels of your organization. Since not all employees may speak English, budgeting for localization can improve accuracy and engagement.

v. Survey Tool and anonymity: Choose a survey tool that guarantees anonymity and reassures respondents that their data cannot be traced to their device, location, or workstation, ensuring privacy and security.

vi. Reaching out: Reaching All Employees, especially to those who work in operational areas and have no/limited access to computer stations or internet. Paper Survey, availability of the survey on mobile devices or a dedicated survey station might be helpful in these cases.

vii. Encouraging Participation: A strong communication campaign is essential to maximize survey engagement. Announcements from senior and line management can reinforce the importance of participation. Reminder communications after the launch can further boost response rates.

viii. Obtaining meaningful information: Well-defined parameters allow for a clearer breakdown of survey results, enabling more precise analysis and action planning. Combining both quantitative and qualitative data is essential for providing context to the collected results.

ix. Analysing Results: Survey tools with built-in analytics can help interpret results and present them effectively to leadership. Alternatively, results can be imported into existing analytics software or correlated with Safety Management System (SMS) data to assess broader gap analysis and safety impacts, uncovering meaningful insights.

x. Turning Insights into Action: Develop a clear action plan that outlines responsibilities, required resources (including training), stakeholder involvement, and timelines. A follow-up communication campaign throughout the improvement cycle will support an increase in commitment and engagement at all levels.

xi. Tracking Progress and Benchmarking: Regular surveys allow organizations to measure improvements in safety culture over time and enable organizations to demonstrate evolution. Benchmarking assessment results against past performance and across various organizational areas helps identify best practices and performance gaps. Benchmarking against industry peers, when available, helps better position internal results. Such insights could help determine whether safety issues are influenced by factors like geography, culture, or economic conditions.

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