



Achieving Safety Excellence in a Changing Aviation Landscape

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"In aviation, safety must always remain our highest priority and take precedence over all other considerations."

- Mr Hajime Sasaki, State Minister of Land, Infrastructure, Transport and Tourism, Japan

Aviation safety has improved through disciplined regulation, operational excellence and learning from past experience. Yet as the

industry becomes more interconnected, data-rich and technologically complex, past success alone is not sufficient. Sustaining safety excellence increasingly requires the ability to see risks across organisational boundaries, reinforce the human foundations of safety and anticipate emerging challenges before they lead to safety outcomes.

CAAS
Civil Aviation Authority of Singapore

Held from 4 to 6 August 2026 in Osaka, Japan, the Asia Pacific Summit for Aviation Safety (AP-SAS) 2026 brought together close to 500 aviation leaders, regulators and industry professionals from over 25 countries. Co-organised by the Civil Aviation Authority of Singapore (CAAS) and the Flight Safety Foundation (FSF) and hosted by the Japan Civil Aviation Bureau (JCAB), the Summit centred on the theme "Achieving Safety Excellence: Collaborate, Reinforce, Transform."

Opening the Summit, Japan's State Minister of Land, Infrastructure, Transport and Tourism, Mr Hajime Sasaki, reaffirmed that safety must remain aviation's highest priority amid growing operational complexity, workforce pressures, evolving weather patterns and emerging technologies. President of the ICAO Council, Mr Toshiyuki Onuma, similarly emphasised the importance of safety culture, workforce capability and organisational learning, themes that resonated throughout the Summit.

CAAS Director-General Mr Han Kok Juan highlighted that maintaining high aviation safety standards in a more challenging operating environment will require the industry to be more targeted, more technology-enabled and more collaborative. He pointed to the potential of artificial intelligence (AI) to strengthen safety oversight and identify emerging risks earlier, while emphasising that technology should augment, rather than replace, professional judgement. FSF President and CEO Dr Hassan Shahidi similarly underscored the importance of trusted partnerships and information sharing in identifying risks before they become systemic challenges.

Taken together, these opening messages framed a larger question for the Summit: how must aviation work differently to sustain safety excellence in a more interconnected and technologically complex operating environment? The discussions converged on three connected themes: the need to build a more complete picture of risk through stronger collaboration and information sharing, the importance of reinforcing the human and organisational foundations that underpin a strong safety culture, and the opportunity to use data, technology and new

analytical tools to move from reacting to past events towards anticipating future risks.

Collaborate: Seeing the Risks No One Sees Alone

From adverse weather and airspace disruptions to Global Navigation Satellite Systems (GNSS) interference, supply chain pressures and workforce constraints, many of today's aviation safety challenges are increasingly interconnected. The discussions highlighted a key point: when risks cut across organisations and borders, no single stakeholder sees the whole picture.

This need for collective visibility was reflected throughout the Summit, with participants identifying safety data exchange, reducing maintenance errors and mitigating Airprox as areas where stronger collaboration could improve safety outcomes across the region.

The Regional Aviation Safety Data and Information Sharing Initiative demonstrated how such collaboration can work in practice. Pioneered by Indonesia, Malaysia, the Philippines, Singapore and Thailand, the initiative enables participating States to share safety occurrence data through a trusted framework. By pooling these data, participating States can identify regional safety trends and emerging risks that may not be apparent from national datasets alone, supporting more coordinated and proactive safety interventions.

Runway safety brought this challenge into sharper focus. Despite years of attention and investment, runway incursions remain a persistent concern. Capt Peter Clemmow, General Manager, Group Safety and Operational Risk Management, Cathay Pacific, observed that the factors contributing to a runway incursion may be known to different stakeholders, but improvement depends on them sharing what they know and working together. Capt Nurcahyo Utomo, Director of Safety, Security and Standardization, AirNav Indonesia, captured the challenge succinctly: "no single actor holds the entire picture". The Global Action Plan for the Prevention of Runway Incursions (GAPPRI) and the Global Action Plan for the Prevention of Runway Excursions (GAPPRE) were highlighted as

examples of how collaboration can turn shared understanding of risks into action.

The same issue of trust emerged in a different form when the discussion turned to operational resilience. Mr Stephen Creamer, President and CEO, Air Traffic Control Association, observed that maintaining trust and confidence in safety-critical information may be one of the industry's most pressing resilience challenges. As threats such as GNSS jamming and spoofing, cyber-attacks and severe weather disruptions become more prevalent, the ability to verify, share and act on trusted information may become just as important as responding to the disruption itself. In a highly connected aviation system, resilience increasingly depends on maintaining confidence in the information upon which safety-critical decisions are made.

Across these discussions, collaboration was presented not as an end in itself, but as a means of building a more complete and trusted picture of risk. As aviation systems become increasingly interconnected, the ability to combine information, share perspectives and coordinate responses across organisational and national boundaries will become ever more important to sustaining safety and operational resilience.

Reinforce: Learning, Speaking Up and Keeping People at the Centre

Despite advances in technology, people remain at the heart of aviation safety. The Summit's interactive polls identified trust and open reporting as among the most significant leadership challenges. The discussions therefore moved beyond affirming the importance of safety culture to a more challenging question: how can organisations sustain trust, learning and open reporting over time, particularly as the operating environment continues to evolve?

Mr Hiroyuki Kometani, Member of the Board, Executive Vice President, Chief Safety Officer and Chair of Safety Promotion Committee, All Nippon Airways, offered one answer: keep past lessons alive while making it easier for people to speak up. He explained that passing lessons from past accidents to younger employees strengthens safety awareness and organisational

learning. He also shared how assertiveness training helps staff overcome cultural and psychological barriers and raise safety concerns with greater confidence. Together, these efforts illustrate how safety culture is reinforced through both organisational memory and everyday behaviour.

In a separate discussion, Dr Kristy Kiernan, Associate Professor, Embry-Riddle Aeronautical University, also challenged the industry to broaden what it learns from. She encouraged the industry to learn not only from accidents, but also from the everyday work that keeps operations safe. "We need to study error and we also need to study performance that builds safety," she said. Her point was that safety learning should extend beyond understanding why things go wrong to examining what people routinely do right to keep complex operations safe and resilient.

Reinforcing safety culture is also about ensuring that the industry continues to attract, develop and retain the people who will sustain the system in the years ahead. Workforce capability, experience, staffing and training were identified as key factors in an organisation's ability to manage disruptions safely. On attracting and retaining the next generation of aviation professionals to support the industry's future growth, Ms Cheryl Chen, Executive Vice President, Asia Pacific, International Federation of Air Traffic Controllers' Associations, noted that "people may join the aviation industry because they are inspired, but they stay when they feel a sense of belonging and are able to achieve work-life balance."

Taken together, the discussions reinforced that resilient organisations are not built solely on procedures, compliance requirements or technology. They depend on people who are willing to speak up, organisations that preserve and apply hard-won lessons and leaders who create environments in which learning and adaptation can flourish. In this sense, safety culture is not merely an organisational value, but an operational capability that must be continuously reinforced.



Transform: From Looking Back to Anticipating What Comes Next

The technology discussions were most compelling when they moved beyond broad promises about AI and focused on a harder question: can aviation use growing volumes of operational data to recognise risk before an occurrence provides the lesson? This opportunity, however, must be accompanied by appropriate safeguards. Mr Nick Fuller, Associate Administrator for Aviation Safety Management, Federal Aviation Administration, stressed that AI-generated insights must be reliable and that the workforce must be able to challenge or override AI systems when necessary.

Discussions repeatedly returned to the growing role of AI-enabled decision support and predictive analytics. Yet they also reinforced a more fundamental point: technology intended to improve safety must itself be safely developed, governed and applied. As Mr Vishwajeet Uddanwadiker, Vice President/Chief Artificial Intelligence & Autonomy Officer for Engineering Test and

Technology, The Boeing Company, summed it up, AI has safety applications, but those applications must themselves be safe.

One of the more forward-looking ideas came from Mr Kohei Funabiki, Senior Research Engineer, Aeronautical Facility Research Unit, Aeronautical Technology Directorate, Japan Aerospace Exploration Agency. Using the 2024 Haneda runway incursion accident as context, he challenged participants to look beyond historical safety data and consider how model-based simulations could be used to explore future accident scenarios. The concept offered a glimpse of a different approach to safety management: using models of physical and human-performance mechanisms not only to understand what has happened, but also to explore how future accident scenarios might develop before they occur.

The discussions on the insurance-safety nexus offered another lens on anticipating risk. These discussions highlighted how risk assessment, financial protection and operational safety are connected and how aviation insurance is evolving beyond reactive claims payment to

become a more proactive partner in safety. Aviation insurance can also encourage stronger risk management practices, support targeted safety initiatives and provide insights that may help operators reduce future losses.

Advanced air mobility (AAM) brought the discussion from theory into practice. The central question was not simply how new aircraft technologies would enter service, but how a new operating ecosystem could be integrated safely into an already complex aviation system. Japan's AAM roadmap provided a concrete view of that transition, with early commercial operations envisaged from 2027 or 2028 and a longer-term vision of air mobility becoming part of everyday life in the 2040s and beyond. As Mr Simon Whalley, Chief Regulatory and Safety Officer, Skyports Infrastructure, said, the task is to "integrate a new ecosystem into the well-established system we have today".

During the technical visit to OSAKAKO Vertiport, participants could see how this emerging ecosystem is beginning to take

shape. The facility provided a tangible illustration of the infrastructure, operational procedures and supporting services that will need to function together if AAM is to be integrated safely alongside existing aviation operations.

The common thread across the AI, data and AAM discussions was therefore not technology for its own sake, but how new tools and capabilities can be governed, tested and integrated to support better decisions and earlier identification of risk. Collectively, the discussions explored a more anticipatory model of safety management, one that complements professional judgement with stronger data and deeper insights.

Beyond Osaka: The Conversations Continue

Across three days in Osaka, AP-SAS 2026 did more than revisit familiar safety priorities. Its discussions explored how aviation safety may need to evolve in response to a more interconnected and technologically complex operating environment. A common thread was

the need to build a more complete picture of risk through collaboration, strengthening the human and organisational foundations of safety, and using data and technology to anticipate emerging risks before they become occurrences.

Importantly, these themes are not independent of one another. New technologies depend on trusted data and capable people. Open reporting and information sharing depend on organisational trust. Emerging operations such as advanced air mobility must be integrated into the aviation system in ways that preserve and strengthen existing safety outcomes. Together, these interdependencies underscore the importance of advancing collaboration, human capability and innovation in step with one another.

Many of the questions raised in Osaka will not have a single answer. Different organisations, sectors and States will approach them differently, reflecting their own operating environments and experiences. Yet the challenges themselves are increasingly shared. As aviation continues to

evolve, continued dialogue, learning and exchange of perspectives will remain important in helping the industry build collective understanding and strengthen its ability to manage risk effectively.

AP-SAS 2027 will be held in Singapore, providing an opportunity for these conversations to continue as the aviation community works through many of the issues that are shaping the future of safety. The discussions will continue to evolve, but the objective remains unchanged: ensuring that aviation continues to adapt and grow without losing sight of the commitment to safety that underpins the industry.



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