



International Civil Aviation Organization
Asia and Pacific Office

**Twenty-fifth Meeting of the Asia Pacific Regional Aviation Safety Team
(APRAST/25)**

(Bangkok, Thailand, 22 to 26 June 2026)

Agenda Item 4: Presentations – State / Industry / ICAO / Focussed Discussion

**ADVANCING GLOBAL ATM SAFETY:
UPDATES ON CANSO SAFETY PROGRAMMES AND PUBLICATIONS**

(Presented by CANSO)

SUMMARY

This working paper provides an update on the latest safety programmes, and publications developed by CANSO to support Air Navigation Service Providers and the broader aviation safety community. Key updates highlight CANSO's strategic shift toward proactive, data-driven, and risk-based safety management systems.

1. INTRODUCTION

1.1 CANSO is committed to advancing global aviation safety. Under its strategic safety work programmes, the Safety Standing Committee (SSC) directs CANSO ANSP and associate members across four specialized workgroups:

- a) Safety Intelligence Workgroup (SIWG)
- b) Next Generation SMS Workgroup (NXGN WG)
- c) Human Performance Management Workgroup (HPMWG)
- d) Cyber Safety Workgroup (CSWG)

1.2 This paper highlights key recent outputs and initiatives from these four workgroups, highlighting valuable tools, benchmarks, and publications that CANSO members and the broader aviation safety community are invited to participate in or benefit from.

2. DISCUSSION

Safety Publication

2.1 CANSO/ACI Runway Safety Checklist.

2.1.1 Runway safety is a shared operational responsibility at the airport level. Developed in collaboration with Airports Council International (ACI), this checklist is designed to facilitate structured, meaningful dialogues between airport operators, ANSP staff, and aircraft operators at individual aerodromes.

2.1.2 Utilizing an accessible, direct-question format, the checklist addresses the prevention of runway incursions and excursions, the integrated operation of multiple service providers, effective runway maintenance, and clear stakeholder safety communication. The latest edition of the checklist,

published in 2026, incorporates ANSP recommendations from the Global Action Plan for the Prevention of Runway Incursions (GAPPRI). The checklist is divided into two distinct, targeted sections:

- ANSP Focus: Comprising 137 specific questions.
- Airport Focus: Comprising 82 specific questions.

2.2 Think Paper: Air Navigation Safety Performance: A Drive to Move Beyond Compliance Metrics.

2.2.1 Published in 2026, this CANSO Think Paper explores the inherent limitations of traditional, compliance-based safety metrics including losses of separation, runway incursions, airspace infringements and similar occurrences. It examines the potential of Time to Conflict (TTC) as a complementary, risk-based approach to modern safety management in air navigation, paving the way for predictive risk mitigation.

2.3 Global Navigation Satellite System Interference: Jamming and Spoofing

2.3.1 Published in 2026 this publication was intended to raise awareness among ANSP's and to support them in establishing effective strategies to mitigate potential safety hazards and impacts to airspace efficiency arising from GNSS interference. The document includes ANSP's safety intelligence activities to be considered to monitor GNSS interference related risks.

2.3.2 Further details can be found at <https://canso.fra1.digitaloceanspaces.com/app/uploads/2026/04/01173417/Global-Navigation-Satellite-System-Interference-Jamming-and-Spoofing.pdf>

2.4 CANSO Standard of Excellence in Human Performance Management

2.4.1 Originally published in 2019 and comprehensively updated in 2025, the CANSO Standard of Excellence (SoE) in Human Performance Management provides a structured framework for ANSPs to evaluate, develop, and mature their human performance strategies.

2.4.2 The publication serves as an objective self-assessment tool, enabling CANSO members to measure their organizational maturity across key human factors disciplines. To facilitate adoption, the Human Performance Management Workgroup (HPMWG) is available to support member organizations in initiating and executing their SoE assessments.

2.5 Additional Resources

2.5.1 A comprehensive library of safety publications and guidance material is accessible to the wider aviation community at canso.org

Safety Programme

2.6 CANSO Safety Culture Benchmarking Programme

2.6.1 Launched in 2025, this programme is available to all CANSO member ANSPs. Developed in partnership with the **Safety Intelligence Workgroup (SIWG)**, the initiative refines complex organizational safety culture into 16 focused questions—fully validated by leading ANSPs and strictly aligned with the ICAO Safety Management framework.

2.6.2 To reduce resource constraints on participating members, CANSO provides full-service deployment, including survey hosting, participant communications, and end-to-end rollout coordination. Survey results are anonymized and compiled into a shared benchmarking dashboard, allowing ANSPs to view their data in a global context rather than in isolation. Further details can be found at <https://canso.org/safety-culture-benchmarking-programme/>

2.7 CANSO Safety Performance Benchmarking Programme

2.7.1 CANSO Safety Performance Benchmarking Programme facilitates the voluntary sharing of identified safety data between member ANSPs, specifically focusing on IFR-IFR Losses of Separation and Runway Incursions. By allowing members to securely compare performance, the programme fosters peer dialogue and the exchange of best practices to analyze and mitigate systemic safety risks.

2.7.2 To modernize safety data utility, CANSO member NAV CANADA developed an interactive Power BI dashboard solution for the CANSO Annual Safety Performance Benchmark Report. Fully operational since 2025, this platform successfully transforms raw, complex datasets into dynamic visual insights, enabling more intuitive performance tracking for participating ANSPs.

2.7.3 The right and obligations of participating ANSPs under this programme are strictly governed by the CANSO Safety Data Agreement—also referred to as the Data Identification Agreement (DIA)—alongside established CANSO Safety Data Governance protocols.

2.8 CANSO Safety Dashboard, powered by Aireon.

2.8.1 Launched in 2024, this web-based dashboard leverages Aireon’s space-based Automatic Dependent Surveillance-Broadcast (ADS-B) data to provide dynamic visual representations of critical operational risks. Updated monthly, this platform offers exclusive benchmarking features broken down by region across four key safety categories:

- Traffic Alert and Collision Avoidance System Resolution Advisory (TCAS RA)
- Risk of Runway Overrun (RORO)
- Rejected Take Off (RTO)
- Emergency Squawk Codes

2.8.2 Access to the CANSO Safety Dashboard remains exclusive to CANSO Members.

2.9 EUROCONTROL/CANSO Standard of Excellence in SMS Assessment

2.9.1 Established via a partnership in 2009, CANSO and EUROCONTROL (ECTRL) publish the SMS Standard of Excellence (SoE). EUROCONTROL executes the annual SMS maturity assessments, which are self-administered by ECTRL members and Non-ECTRL CANSO members via a dedicated online portal.

2.9.2 The assessment comprises approximately 200 questions spanning 12 distinct Safety Management System (SMS) study areas. Each response must be justified with verifiable objective evidence. Submissions are reviewed by an independent assessor who conducts follow-up interviews with the participating member, culminating in a confidential individual report detailing the organization's SMS maturity level and overall score.

2.9.3 The individual report also provides relevant and specific advice for improvement, based on the individual results of the ANSP, which are matched with best and good practices gathered through the survey. Thus, each ANSP can target its own improvement efforts as well as avail of the state of the art resources and intelligence. Best and good practices are made publicly available.

2.9.4 Last but not least, the EUROCONTROL/CANSO SoE is included in the list of ICAO-recognised programmes valid for Goal 6 of the GASP for 2026-2028 triennium (DOC 10004, para. 5.2.8.2 b), and DOC 10161). The GASP is calling on the industry to increase the participation in such programmes, which translates into ANSPs being expected to participate to the SoE.

2.10 **Programme Engagement**

2.10.1 To participate in or learn more about any of the safety initiatives, states and organization are encouraged to contact the CANSO Safety Programme Manager at safety@canso.org

CANSO Complete Air Traffic System (CATS)

2.11 **CATS Introduction**

2.11.1 In response to the challenges faced by the global aviation sector, the Complete Air Traffic System (CATS) Global Council — a coalition of over 80 organizations spanning Air Navigation Service Providers (ANSPs), airspace users, airports, academia, aerospace manufacturers, R&D centers, drone operators, and UTM service providers — has developed the Concept of Operations (CONOPS) for Future Skies. This CONOPS serves as a strategic guide to creating a safe, seamless, efficient, and sustainable airspace management framework. Building on the Council's Vision for 2045, introduced in 2021, and the high-level roadmap published in 2022, the CATS CONOPS charts the critical transformations needed for the future.

2.12 **CATS Work Packages**

2.12.1 The CATS programme comprises several work packages including Work Area 2 Elevating Safety. This work package is focused on the WA2 aims to support the evolution of aviation safety from predominantly reactive assurance toward a more predictive, data-driven, and system-wide safety performance approach, fully aligned with the CATS CONOPS and complementary to ICAO's evolving safety frameworks. The work is intentionally non-prescriptive, focusing instead on providing a common reference framework for States, service providers, operators, airports, and industry stakeholders to guide coordinated safety transformation. Key areas of work include:

- a) Development of Global Safety Intelligence capabilities (near real-time, system-wide awareness)
- b) Advancing integrated risk management and evolving risk acceptability
- c) Promoting safety-by-design for emerging operations (AAM, HAO, mixed environments)
- d) Supporting the transition toward more performance-based and data-enabled oversight

2.12.2 The alignment of the CATS Work Areas with other global aviation industry organisations and initiatives is critical including the interface with ICAO to ensure it remains aligned with emerging ICAO policies and SARPs.

3. ACTION BY THE MEETING

3.1 The Meeting is invited to:

- a) Note the comprehensive updates on CANSO safety programmes and publications contained in this paper;

- b) Encourage regional aviation safety communities to utilize CANSO safety publications—such as the updated 2026 Runway Safety Checklist—to fulfill local safety priorities; and
- c) Encourage CANSO ANSPs and associate members to actively participate in CANSO safety programmes, including the CATS Work Packages.

— END —