

**61ST CONFERENCE OF
DIRECTORS GENERAL OF CIVIL AVIATION
ASIA AND PACIFIC REGION**

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AGENDA ITEM 3: AVIATION SAFETY

**MEANINGFUL ACTIONS TO PREVENT
RUNWAY INCURSIONS**

Presented by the International Air Transport Association (IATA)

SUMMARY

Runway safety remains one of the highest priorities for global aviation safety. The Global Action Plan for the Prevention of Runway Incursions (GAPPRI), published in 2024, provides a comprehensive framework of 127 recommendations across four stakeholder groups. However, implementation across the Asia Pacific region remains uneven, with significant gaps observed between regulatory requirements and operational practice.

This paper presents the current status of GAPPRI implementation, identifies key implementation gaps at both State and industry levels, and proposes meaningful collaborative actions across Air Navigation Service Providers (ANSPs), airport operators, and Civil Aviation Authorities (CAAs). The paper highlights the role of the IATA Operational Safety Audit (IOSA) program in continuously assessing and monitoring the robustness of airline safety standards for runway incursion prevention. Concrete recommendations are presented to strengthen regional collaboration and accelerate meaningful progress in runway incursion prevention.

MEANINGFUL ACTIONS TO PREVENT RUNWAY INCURSIONS

1. INTRODUCTION

1.1 Runway incursions represent one of the most significant threats to aviation safety globally. A single runway collision has the potential for catastrophic loss of life, aircraft, and public confidence in the aviation system. For Directors General of Civil Aviation, addressing runway incursions is not merely a technical challenge but a fundamental responsibility to ensure the safety and integrity of national aviation systems.

1.2 The Asia Pacific region, accounting for more than one-third of global air traffic, faces particular challenges given its rapid traffic growth, diverse operational environments, and varying levels of infrastructure development across States. Runway incursion rates in the region continue to exceed global averages, underscoring the urgency of coordinated, meaningful action at both national and regional levels.

1.3 The publication of GAPPRI represented a significant milestone in global runway safety efforts. Developed through collaboration between ICAO, IATA, ACI, CANSO, and the Flight Safety Foundation, GAPPRI provides a structured framework that all States and industry stakeholders can adopt. However, the publication of guidance alone does not deliver safety improvements, effective implementation across all stakeholder groups which are essential.

1.4 This paper provides a high-level assessment of GAPPRI implementation progress, identifies the most critical gaps that require senior leadership attention, and proposes collaborative actions that CAAs, ANSPs, and airport operators can take together to deliver tangible safety outcomes.

2. DISCUSSION

2.1 GAPPRI Alignment with IOSA Standards

From an IATA IOSA programme perspective, the GAPPRI recommendations addressed to air operators are closely aligned with existing IOSA safety standards, particularly those in the ORG (Safety Management) and FLT (Flight Operations) series. This alignment means that IOSA conformance data provides meaningful insight into the level of implementation of GAPPRI recommendations among IOSA-registered operators.

Key areas of alignment include:

- Safety Management standards (ORG 3.1.1, ORG 3.1.2, ORG 3.2.1, ORG 2.4.3) corresponding to GAPPRI AO1 and AO3 recommendations
- Line Operations standards (FLT 3.12.7, FLT 3.11.59, FLT 3.11.23, FLT 3.11.18, FLT 3.11.17, FLT 3.10.4) corresponding to multiple GAPPRI AO recommendations covering ground operations, runway operations, and approach/landing phases
- Training and Qualifications standards (FLT 2.2.26, FLT 2.2.14, FLT 2.2.1A) corresponding to GAPPRI AO4 through AO8 and AO14 recommendations

2.2 Risk-Based IOSA Audit Findings Trend

Since the introduction of Risk-Based IOSA (RBI), an increasing trend of non-compliance has been observed against the subset of IOSA standards directly related to runway incursion prevention. This trend has motivated a detailed analysis of common and recurring systemic weaknesses in runway incursion controls from the air operator's standpoint. The shift

to risk-based auditing, which focuses audit effort on higher-risk areas, has revealed deeper systemic issues that were previously less visible under conventional audit approaches.

2.3 Managing Runway Incursion Risk: Key Risk Control Insights from IOSA 2024-2025

The IOSA analysis of runway incursion-related standards reveals a concerning increase in non-compliance trends among operators, despite widespread existence of documented policies and procedures. The findings indicate that the industry's primary challenge is no longer the absence of requirements, but rather the ineffective implementation, integration, monitoring, and assurance of critical runway safety controls. These insights align closely with the Global Action Plan for the Prevention of Runway Incursions (GAPPRI) and provide a valuable perspective on systemic weaknesses affecting runway safety performance.

2.3.1 Key Executive Findings

2.3.1.1 Safety Management Systems Are Not Converting Data into Risk Intelligence

The most significant weakness identified is the ineffective implementation of Safety Management Systems (SMS). Many operators have documented hazard identification and reporting processes, yet demonstrate limited practical application. Hazard logs are often incomplete, proactive hazard identification methods are underutilized, and occurrence reports are frequently closed without identifying underlying hazards or systemic risks. Risk assessments are often inconsistent, mitigations are not effectively tracked, and safety data is not translated into actionable runway safety improvements.

2.3.1.2 Reporting Culture and Risk Management Remain Weak

Across multiple IOSA audits, reporting systems failed to generate reporting levels commensurate with operational activity. Significant backlogs of uninvestigated reports, incomplete root cause analyses, fragmented reporting tools, and weak trend monitoring were common themes. Furthermore, risk mitigation actions are often not implemented, monitored, or evaluated for effectiveness, reducing the organisation's ability to proactively manage runway incursion threats.

2.3.1.3 Operational Procedures Exist but Are Not Consistently Embedded

A recurring pattern throughout line operations findings is the gap between documented procedures and operational execution. Operators commonly lacked comprehensive and integrated runway safety guidance covering taxi, takeoff, landing, runway crossings, hotspot management, reduced visibility operations, and ATC communication management. In many cases, auditors observed appropriate crew behaviours; however, the absence of documented, standardized, and auditable procedures resulted in non-compliance and weakened safety assurance.

2.3.1.4 Crew Coordination and Human Factors Defenses Require Strengthening

Several findings highlighted deficiencies in crew resource management, task sharing, sterile cockpit procedures, briefing standards, and flight deck-cabin crew coordination. Monitoring and cross-verification of ATC clearances, effective PM/PF task segregation, and communication protocols during critical phases of flight were frequently insufficiently documented or inconsistently applied. These weaknesses directly reduce the effectiveness of barriers designed to prevent runway incursions and operational errors.

2.3.1.5 Training Programs Demonstrate Significant Assurance Gaps

While training is generally being conducted, operators frequently struggle to demonstrate comprehensive and documented coverage of runway safety-related competencies

across all training phases. Gaps were identified in CRM, TEM, task prioritization, automation management, stabilized approach management, recurrent training requirements, instructor qualification oversight, and training record traceability. The result is diminished confidence that critical runway safety behaviours are consistently reinforced across the organisation.

2.3.2 Strategic Implications for Airlines

The IOSA findings suggest that runway incursion risk is increasingly driven by organisational and cultural factors rather than solely by frontline operational errors. Operators should prioritize:

- Strengthening proactive hazard identification and safety reporting programs.
- Improving conversion of safety reports into actionable hazard and risk management activities.
- Standardizing runway safety procedures across manuals, training, and operational practice.
- Reinforcing crew coordination, ATC communication discipline, and situational awareness defenses.
- Enhancing governance, accountability, and effectiveness monitoring of risk mitigation actions.
- Ensuring training programs fully integrate GAPPRI recommendations and demonstrate measurable competency outcomes.
- Using Flight Data Monitoring (FDM), trend analysis, and safety intelligence to continuously identify emerging runway safety threats.

2.3.3 Executive Takeaway

The IOSA 2024-2025 analysis demonstrates that the industry's runway incursion challenge is fundamentally an execution and assurance issue. Safety barriers often exist on paper but are not consistently embedded, monitored, or verified in daily operations. Airlines that successfully integrate SMS, operational procedures, human factors defenses, and training into a cohesive runway safety strategy will be best positioned to reduce runway incursion risk and strengthen operational resilience.

3. ACTION BY THE CONFERENCE

3.1 The Conference is invited to:

- a) encourage air operators to participate more actively in safety information-sharing programs (IDX) that would allow them to benchmark their safety performance (including runway incursions) with the industry and get a better awareness of existing and emerging safety risks, and strengthen standard operating procedures / stabilized approach policies to avoid wrong-surface landings and parallel runway systems, special risk mitigation;
- b) encourage all States to establish or strengthen multi-stakeholder National Runway Safety Committees to oversee GAPPRI implementation and coordinate collaborative actions;

- c) request Directors General to prioritise the following high-impact measures:
 - i) Mandatory 24/7 stopbar operation at all international aerodromes
 - ii) Establishment of effective Local Runway Safety Teams
 - iii) Integration of GAPPRI into national regulations and State Safety Programmes
 - iv) Enhanced runway safety performance monitoring and reporting;
- d) support the establishment of regional runway safety capacity building initiatives, including peer review programmes and centres of excellence, to support States with constrained resources in GAPPRI implementation; and
- e) request ICAO APAC to facilitate regional collaboration on runway safety through RASG-APAC and APRAST mechanisms, including regular implementation progress reporting and best practice sharing.

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