

**61<sup>ST</sup> CONFERENCE OF  
DIRECTORS GENERAL OF CIVIL AVIATION  
ASIA AND PACIFIC REGION**

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**AGENDA ITEM 3: AVIATION SAFETY**

**MALAYSIA AVIATION SAFETY PLAN (MASP) 2026–2028: A  
NATIONAL SAFETY INTELLIGENCE AND RISK  
MANAGEMENT FRAMEWORK ALIGNED WITH GLOBAL  
AVIATION SAFETY PLAN (GASP) AND ASIA-PACIFIC  
REGIONAL AVIATION SAFETY PLAN (AP-RASP)**

(Presented by Malaysia)

**INFORMATION PAPER**

**SUMMARY**

Malaysia has developed its National Aviation Safety Plan, the Malaysia Aviation Safety Plan (MASP) 2026–2028, in accordance with Annex 19 — Safety Management, aligned with the International Civil Aviation Organisation (ICAO) ICAO Global Aviation Safety Plan (GASP) 2026–2028 and the Asia-Pacific Regional Aviation Safety Plan (AP-RASP). The MASP sets six State Safety Objectives, a National High-Risk Category (N-HRC) framework, and a three-year State Safety Programme (SSP) maturity roadmap. This paper shares Malaysia's safety priorities, targets, and regional cooperation strategy for the information of the Conference.

# **MALAYSIA AVIATION SAFETY PLAN (MASP) 2026–2028: A NATIONAL SAFETY INTELLIGENCE AND RISK MANAGEMENT FRAMEWORK ALIGNED WITH GLOBAL AVIATION SAFETY PLAN (GASP) AND ASIA-PACIFIC REGIONAL AVIATION SAFETY PLAN (AP-RASP)**

## **1. INTRODUCTION**

1.1 In accordance with Annex 19 — Safety Management, Malaysia maintains a State Safety Programme (SSP) that includes a National Aviation Safety Plan. The Malaysia Aviation Safety Plan (MASP) 2026–2028, developed by the Civil Aviation Authority of Malaysia (CAAM) with participation from its regulatory and compliance divisions and national aviation stakeholders, translates the priorities of the ICAO Global Aviation Safety Plan (GASP) 2026–2028 and the Asia-Pacific Regional Aviation Safety Plan (AP-RASP) into Malaysia-specific safety actions.

1.2 The MASP establishes a national safety intelligence and risk management framework built on data-driven decision-making and proactive risk identification. It sets out five aims: strengthening risk-based safety oversight; enabling proactive risk identification through integrated data systems; enhancing safety performance monitoring and accountability through explicit linkage to Safety Performance Indicators (SPIs); promoting a positive safety culture grounded in Just Culture principles; and addressing human factors as a cross-cutting systemic driver of national safety occurrences.

## **2. DISCUSSION**

### **2.1 State Safety Objectives and Targets**

2.1.1 The MASP defines Malaysia's Acceptable Level of Safety Performance (ALoSP) through six State Safety Objectives (SO-1 to SO-6), each with a corresponding Safety Performance Target, including zero fatal accidents in commercial operations by Malaysian AOC Holders throughout 2026–2028; an ICAO Effective Implementation (EI) score of at least 90% by December 2028, to be validated under the Universal Safety Oversight Audit Programme (USOAP) Continuous Monitoring Approach (CMA); a 15% reduction in serious incidents per 10,000 movements by 2028 against a 2024 baseline; and a 30% reduction in the top five high-risk runway safety events over the same period. More than 20 State Safety Performance Indicators (SPIs) linked to these objectives are set out in the MASP, measured principally per 10,000 aircraft movements.

### **2.2 National High-Risk Category Framework**

2.2.1 National safety risks are identified from occurrence reporting (Mandatory Occurrence Reporting/ Voluntary Reporting (MOR/VOR) via CAAM Aviation Reporting System (CAREs)), surveillance and audit findings, flight data monitoring, air traffic data, and industry and international safety intelligence. The MASP groups N-HRCs into three categories: core operational risks aligned with global priorities (Runway Excursion/Incursion, Loss of Control In-Flight (LOC-I), and Mid-Air Collision (MAC)); emerging and systematic risks (Turbulence Encounter, Global Navigation Satellite System (GNSS) Radio Frequency Interference (RFI), lithium-ion battery fire risk, and aviation cybersecurity); and technical and ground risks (System/Component Failure – Non-Powerplant, and ground safety and ramp operations).

2.2.2 Based on national data showing no accidents or serious incidents in 2023–2024, Controlled Flight into Terrain (CFIT) is not currently designated a N-HRC, but remains under active monitoring given its status as a Global High-Risk Category (G-HRC) and its catastrophic severity potential.

2.2.3 Analysis of 2024–2025 occurrence data identified turbulence encounters and GNSS RFI as the fastest-growing categories, with turbulence reports increasing 77.78% and GNSS RFI accounting for 48.17% of technical occurrences reported through CAREs — trends that inform Malaysia's emerging-risk prioritisation and its regional data-sharing engagement (paragraph 2.5 refers).

### 2.3 **Safety Intelligence System: CARES 2.0**

2.3.1 The MASP is operationalised through CARES 2.0, an enhancement of Malaysia's Safety Data Collection and Processing System (SDCPS) that introduces stronger data quality controls, multi-agency data input, an occurrence taxonomy aligned with ICAO's Accident/Incident Data Reporting (ADREP) standards, and algorithmically derived Safety Performance Indicators. Deployment milestones include requirements sign-off (Q2 2026), development and testing (Q3 2026), internal deployment (Q4 2026), and a stakeholder portal rollout to operators and the air navigation service provider (Q1 2027).

### 2.4 **SSP Maturity Roadmap**

2.4.1 Malaysia's SSP maturity is assessed at Level 3 (Proactive Implementation) under the 2025 ICAO Integrated Safety Trend Analysis and Reporting System (iSTARS) self-assessment. The MASP targets Level 4 (Predictive/Integrated SSP) by December 2028 through a three-phase programme: Phase 1 (2026), foundation and data integration, including CARES 2.0 deployment and the establishment of a dedicated SSP Unit staffed with at least eight qualified safety analysts; Phase 2 (2027), predictive risk modelling, risk-based oversight refinement and international data sharing, including a GNSS RFI international data link; and Phase 3 (2028), full SSP integration, automated SPI reporting, EI  $\geq 90\%$  validated by USOAP CMA, and the commencement of MASP 2029–2031.

### 2.5 **Regional and International Cooperation Strategy**

2.5.1 The MASP sets out a dedicated regional and international cooperation strategy, identifying priority engagement across Regional Aviation Safety Group-Asia Pacific (RASG-APAC) (N-HRC alignment and SPI benchmarking with regional peers), Cooperative Development of Operational Safety and Continuing Airworthiness Programme South East Asia (COSCAP-SEA) (regulatory harmonisation), bilateral arrangements with Singapore, Thailand and Indonesia on GNSS RFI and turbulence data sharing, and participation in the Asia Pacific Regional Aviation Safety Team (AP-RAST) and the South-East Asia Regional Aviation Safety Team (SEARAST).

2.5.2 Malaysia is already a participating State, alongside Indonesia, the Philippines, Singapore and Thailand, in the Regional Aviation Safety Data and Information Sharing Initiative, established under a Memorandum of Understanding signed on the margins of the 59th DGCA Conference in Cebu, Philippines, on 16 October 2024. Under this arrangement, the five States share de-identified safety data across an initial seven categories of safety occurrence, with the Civil Aviation Authority of Thailand serving as Data Custodian and the Civil Aviation Authority of Singapore as Data Analyst.

2.5.3 The MASP identifies further deepening of this regional data-sharing capability, including the development of predictive analytics as a target under its Regional Data Sharing Initiative workstream by 2027, a direction consistent with and supportive of the regional collaborative framework on AI-driven safety intelligence proposed in the companion Discussion Paper presented by Malaysia to this Conference.

## 3. **ACTION BY THE CONFERENCE**

3.1 The Conference is invited to note the information contained in this Paper.

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