

**ASIA-PACIFIC REGIONAL AVIATION SAFETY PLAN
2026-2028**

**Approved by and published under the authority of the Regional Director
INTERNATIONAL CIVIL AVIATION ORGANIZATION ASIA AND PACIFIC REGIONAL OFFICE**

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FOREWORD

Air transport is a key enabler for sustainable economic and social development across the Asia-Pacific (APAC) region. The region has largely recovered from the devastating impact of the COVID-19 pandemic and now faces an anticipated trajectory of rapid growth over the next two decades.

As traffic volumes grow and airspace complexity increases, stakeholders in the APAC region must accelerate efforts to manage and mitigate risks associated with increased airspace and airport congestion. A safe aviation system is intrinsic to the continued economic development of the States/Administrations and industries within the region.

Achieving safe and sustainable growth requires robust air navigation services, modern airport infrastructure, and a skilled workforce capable of operating and managing these services, as well as maintaining effective safety oversight in accordance with International Civil Aviation Organization (ICAO) standards.

In response to these needs, the APAC region has taken steps to establish several regional building blocks, including Safety Enhancement Initiatives (SEIs), following the creation of the Regional Aviation Safety Group (RASG-APAC), and its subsidiary bodies including the Asia Pacific Regional Aviation Safety Team (APRAST) and Asia Pacific Accident Investigation Group. Continued commitment and effort will be required to refine these frameworks and prioritize the implementation of safety initiatives.

Building on the first edition of the Asia Pacific Regional Aviation Safety Plan (AP-RASP) published in 2020, which outlined the region's strategic approach to reducing fatalities and associated risks, this document represents the second update to that initial publication. To facilitate better understanding among regional and external stakeholders, this edition of the AP-RASP has been restructured to be simpler, more systematic, and practical.

Through this plan, APAC aviation stakeholders such as States/Administrations, industry partners, International Organizations, and regional groupings reaffirm their commitment to aviation safety. This commitment focuses on strengthening regional collaboration and resourcing the necessary activities to resolve safety issues and drive the continuous improvement of aviation safety at the regional and State levels.

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DEFINITIONS

Critical elements (CEs). The critical elements of a safety oversight system encompass the whole spectrum of civil aviation activities. They are the building blocks upon which an effective safety oversight system is based. The level of effective implementation of the CEs is an indication of a State's capability for safety oversight.

Effective implementation (EI). A measure of the State's safety oversight capability, calculated for each critical element, each audit area or as an overall measure. The EI is expressed as a percentage.

Safety enhancement initiative (SEI). One or more actions to eliminate or mitigate operational safety risks or to address organizational challenges.

Safety management system (SMS). A systematic approach to managing safety, including the necessary organizational structures, accountability, responsibilities, policies and procedures.

Safety oversight. A function performed by a State to ensure that individuals and organizations performing an aviation activity comply with safety-related national laws and regulations.

Safety risk. The predicted probability and severity of the consequences or outcomes of a hazard.

Significant safety concern (SSC). Occurs when the State allows the holder of an authorization or approval to exercise the privileges attached to it, although the minimum requirements established by the State and by the Standards set forth in the Annexes to the Convention are not met, resulting in an immediate safety risk to international civil aviation.

State safety programme (SSP). An integrated set of regulations and activities aimed at improving safety.

ABBREVIATIONS AND ACRONYMS

AIA	Accident Investigation Authority
AAPA	Association of Asia-Pacific Airlines
ACI	Airports Council International
ADRM	Aerodrome
AGA	Aerodrome and Ground Aids
AIG	Aircraft Accident and Incident Investigation
ALAR	Approach and Landing Reduction
ANS	Air Navigation Services
ANSP	Air Navigation Service Provider
AOPSG	Aerodrome Operations and Planning Sub-Group
APAC	Asia-Pacific Region
APAC-AIG	Asia Pacific – Accident Investigation Group
APANPIRG	Asia-Pacific Air Navigation Planning and Implementation Regional Group
APEX in Safety	Airport Excellence in Safety Peer Assessment
APRAST	Asia-Pacific Regional Aviation Safety Team
AP-RASP	Asia-Pacific Regional Aviation Safety Plan
AP-SHARE	Asia-Pacific Regional Data Collection, Analysis and Information Sharing
APV	Approach with Vertical Guidance
ARC	Abnormal Runway Contact
ASBU	Aviation System Block Upgrade
ASEAN	Association of South East Asian Nations
ASIAP	Aviation Safety Implementation Assistance Partnership
ASR	Annual Safety Report
ATM	Air Traffic Management
ATS	Air Traffic Services
BIRD	Bird Strike

CAA	Civil Aviation Authority
CASI	Civil Aviation Safety Inspectors
CAT	Combined Action Team
CBTA	Asia-Pacific Competency-based Training and Assessment Task Force
CE	Critical Element
CFIT	Controlled Flight Into Terrain
CICTT	CAST/ICAO Common Taxonomy Team
CMA	Continuous Monitoring Approach
COSCAP	Cooperative Development of Operational Safety and Continuing Airworthiness Programme
CRM	Crew Resource Management
CTA	Chief Technical Advisor
DG	Drafting Group (sub-group of Asia-Pacific Regional Aviation Safety Plan ad-hoc Working Group)
DGCA	Conference of Directors General of Civil Aviation
e-CCBM	electronic COSCAPs Capacity Building Matrix (e-CCBM)
EI	Effective implementation
FDAP	Flight Data Analysis Programme
FDX	Flight Data Exchange
FIR	Flight Information Region
F-NI	Fire/ Smoke (Non-Impact)
GADSS	Global Aeronautical Distress and Safety System
GANP	Global Air Navigation Plan
GASOS	Global Aviation Safety Oversight System
GASP	Global Aviation Safety Plan
GASP-SG	Global Aviation Safety Plan Study Group

GEN	General aspects
G-HRC	Global High-Risk Categories of Occurrences
GPWS	Ground Proximity Warning System
HRC	High Risk Categories of Occurrences
IAT	Information Analysis Team
IATA	International Air Transport Association
ICAO	International Civil Aviation Organization
IDX	Incident Data Exchange
IFALPA	International Federation of Airline Pilots' Associations
IOSA	IATA Operational Safety Audit
ISAGO	IATA Safety Audit for Ground Operations
iSTARS	integrated Safety Trend Analysis and Reporting System
LOC-I	Loss of Control In-flight
MAC	AIRPROX/ TCAS alert/ loss of separation/ near miss collisions/ mid-air collisions
NASP	National Aviation Safety Plan
NCLB	No Country Left Behind
OPS	Flight Operations (USOAP Audit Area)
Ops	Operational (Safety)
ORG	Civil aviation organization (USOAP Audit Area)
Org	Organizational/ Systemic
PASO	Pacific Aviation Safety Office
PC	Project Coordinator
PDCA	Plan-Do-Check-Act methodology
RAMP	Ground Handling
RASG	Regional Aviation Safety Group
RASMAG	Regional Airspace Safety Monitoring Advisory Group
RASP	Regional Aviation Safety Plan
RAST	Regional Aviation Safety Team
RE	Runway excursion (departure or landing)
RG	Review Group (sub-group of Asia-Pacific Regional Aviation Safety Plan ad-hoc Working Group)
R-HRC	Regional High-Risk Categories of Occurrences
RI	Runway Incursion
RS	Runway Safety

RSOO	Regional Safety Oversight Organization
RST	Runway Safety Team
SAFE	ICAO Safety Fund
SARPs	Standards and Recommended Practices
SCBP	APAC Standardized Capacity Building Programme
SCF-NP	System/Component Failure or Malfunction – Non-powerplant
SCF-PP	System/Component Failure or Malfunction - Powerplant
SDCPS	Safety Data Collection and Processing System
SEA	South East Asia region
SEI	Safety enhancement initiatives
SISG	ICAO’s Safety Indicator Study Group
SMS	Safety Management Systems
SPI	Safety Performance Indicator
SSC	Significant Safety Concern
SSO	State Safety Oversight
SSP	State Safety Programme
SRP	Safety Reporting and Programme
TCAS	Traffic Collision and Avoidance System
TOR	Terms of Reference
UAS	Unmanned Aircraft Systems
UPRT	Upset Prevention and Recovery Training
USOAP	Universal Safety Oversight Audit Programme
USOS	Undershoot/ Overshoot
WG	Working Group

EXECUTIVE SUMMARY

- 1) The Asia-Pacific Regional Aviation Safety Plan (AP-RASP) 2026-2028 Edition outlines the regional strategy for States/Administrations, regional entities and industry in the Asia-Pacific (APAC) region to enhance aviation safety oversight and management capabilities. This edition builds upon the previous 2023-2025 AP-RASP and adopts a risk-based approach for managing safety at the regional level through coordinated collaboration between regional aviation stakeholders.
- 2) The plan supports APAC States/Administrations, regional entities and industry in implementing the Global Aviation Safety Plan (GASP) 2026-2028 Edition, the Global Aviation Safety Roadmap (ICAO Doc 10161), and safety-related air navigation services initiatives in the APAC Seamless ANS Plan, whilst meeting respective targets and the commitments of the Delhi Declaration 2024. The APAC region's strategic approach to managing safety is structured around Regional Goals that address the top APAC regional operational safety risks and organizational challenges.
- 3) In 2024, the APAC fatal accident rate rose to 0.32 per million departures, exceeding the global average of 0.27 per million departures. This indicates that the safety performance of the region continues to require focused attention in the face of the anticipated strong air traffic growth in the region. Based on analysis of the GASP global high-risk categories (G-HRCs) and regional safety data from 2020-2024, the top Regional High-Risk Categories (R-HRCs) for the APAC region are Runway Excursion (RE), Mid-Air Collision (MAC), Controlled Flight into Terrain (CFIT), Loss of Control In-flight (LOC-I), and Runway Incursion (RI). Additional regional risk categories include System/Component Failure Non-Powerplant/Powerplant (SCF-NP/PP), Abnormal Runway Contact (ARC,) and Turbulence Encounter (TURB).
- 4) Eight key regional organizational challenges were identified through comprehensive analysis of USOAP data, State Safety Programme (SSP) self-assessments and National Aviation Safety Plans (NASPs). These include the level of resources (including financial resources) for safety oversight authorities, the availability of qualified technical personnel (particularly aircraft accident investigators and aerodrome inspectors), and the need for independent accident investigation organizations. Further challenges involve regulatory processes for resolving safety issues, the level of SSP implementation and NASP publication by States/Administrations, as well as safety data collection, analysis and exchange. Finally, the region identified a need to expand leadership at and contribution to regional platforms, and provide States/Administrations targeted support.
- 5) Systemic oversight capabilities remain a vulnerability. The region's average Effective Implementation (EI) score of 66.6% lags behind the global average of 70.3%. This lag in EI score highlights the need for capacity building.
- 6) To address these challenges, the AP-RASP establishes six Regional Goals with specific targets. These goals are consistent with the goals given in ICAO GASP 2026 – 2028, and are as follows:
 - **Goal 1:** Achieve continuous reduction of operational safety risks
 - **Goal 2:** Strengthen States' safety oversight capabilities
 - **Goal 3:** Establish State Safety Programmes (SSPs)
 - **Goal 4:** Strengthen collaboration at regional and national levels
 - **Goal 5:** Strengthen aviation safety planning across the region
 - **Goal 6:** Expand the use of industry evaluation and safety data sharing programmes
- 7) The Plan includes comprehensive Safety Enhancement Initiatives (SEIs) which will be implemented through coordination amongst RASG-APAC, APRAST, and APAC-AIG, and supported by regional mechanisms including COSCAPs, PASO, and APANPIRG. States/Administrations are encouraged to use the AP-RASP, together with the GASP, as guidance for developing or updating their National Aviation Safety Plans (NASPs), whilst also addressing their specific operational safety risks and organizational challenges.
- 8) The successful implementation of this Plan is contingent upon high-level resource commitment. Limited manpower and financial resources are the primary constraints in the region. All stakeholders must actively facilitate support for under-resourced areas to ensure that the region as a whole can meet its safety targets.
- 9) The AP-RASP supports the GASP vision of achieving zero fatalities in commercial aviation by 2030 and beyond, with the region maintaining its commitment to continuous safety improvement through coordinated regional collaboration and evidence-based safety management approach.

1. INTRODUCTION TO THE REGIONAL AVIATION SAFETY PLAN

1.1 Overview of the AP-RASP

1.1.1 The ICAO APAC region is committed to the continuous enhancement of aviation safety, the effective resourcing of safety activities, and the strengthening of regional collaboration. The APAC Regional Aviation Safety Plan (AP-RASP) articulates the region’s strategy for achieving these objectives. The AP-RASP aims to continually reduce fatalities, and the risk of fatalities, through the development and implementation of a coordinated regional aviation safety strategy.

1.1.2 A safe, resilient, and sustainable aviation system is a prerequisite for the economic development of APAC States/Administrations and their industries. To this end, the AP-RASP promotes the effective implementation of State safety oversight systems and risk-based approaches to managing safety. This requires a coordinated approach involving States/Administrations in the region, together with the ICAO APAC Office, APAC States/Administrations, International Organizations, regional groups (e.g. APRAST, APAC-AIG, COSCAPs, PASO, APANPIRG) and the aviation industry. All stakeholders are encouraged to support and implement the AP-RASP as the regional strategy for the continuous improvement of aviation safety.

1.1.3 The AP-RASP aligns with the ICAO Global Aviation Safety Plan (GASP, Doc 10004) and is developed in close adherence to other key global and regional references. The AP-RASP supports the GASP vision of “*Zero fatalities in commercial operations by 2030 and beyond*”, and its mission “*to continually enhance global aviation safety performance and resilience by providing a collaborative framework for States, regions and industry*”. Together with the GASP, the AP-RASP also serves as a set of guiding principles for the national aviation safety plans of APAC States/Administrations.

1.2 Structure of the AP-RASP

1.2.1 This AP-RASP comprises six chapters. Following the introduction, this document outlines the purpose of the AP-RASP, identifies regional operational safety risks (Chapter 3), and details regional organizational challenges (Chapter 4). It then establishes APAC’s strategic direction for the management of aviation safety at the regional level and describes the monitoring mechanism for safety enhancement initiatives (Chapter 5).

1.3 Process for the AP-RASP development, implementation and monitoring

1.3.1 The RASG-APAC, supported by APRAST, APAC-AIG and the ICAO APAC Office, is responsible for supporting the implementation and monitoring of the AP-RASP, in collaboration with the ICAO APAC Office and other stakeholders. The AP-RASP was developed in consultation with States/Administrations, operators and other key aviation stakeholders to ensure alignment with the 2026-2028 Edition of the GASP. To ensure continued relevance, this plan is maintained by RASG-APAC in coordination with the key aviation stakeholders and is updated every three years. **Figure 1** illustrates the AP-RASP development and review process, adapted from the GASP process.

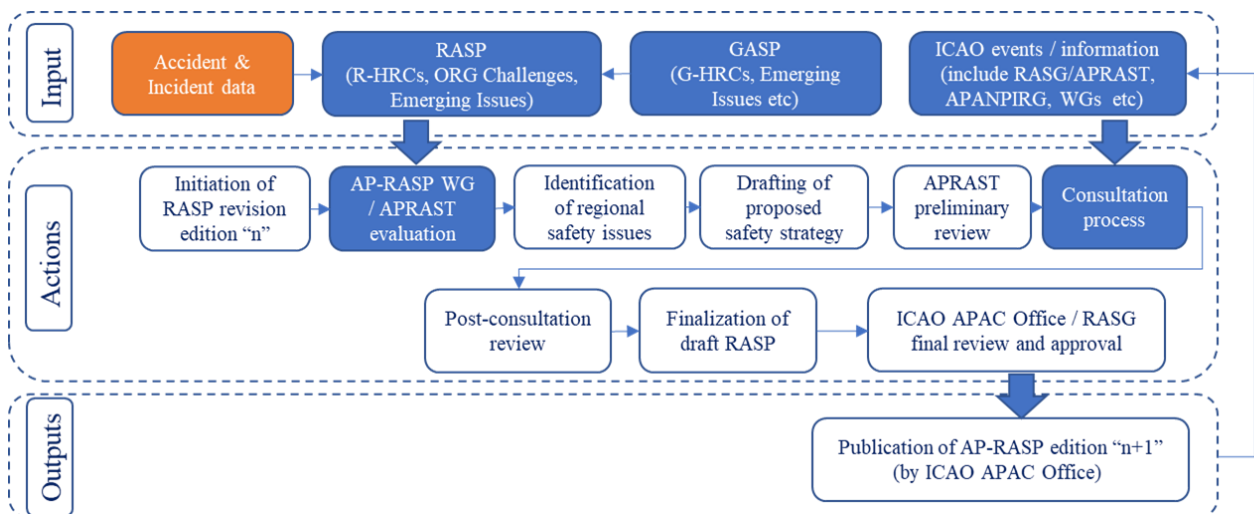


Figure 1: AP-RASP development and review process

1.4 Regional Safety Issues, Goals and Targets

1.4.1 The AP-RASP was developed in support of GASP’s vision of “zero fatalities in commercial operations by 2030 and beyond” and its goals, targets and indicators. The AP-RASP addresses the specific operational and organizational challenges detailed in **Chapter 3** and **Chapter 4**, as summarized below:

- a) *Operational risks with high fatality risk*: There are five global high-risk categories (G-HRCs) with high fatality risk, that reflect those contained in the GASP, viz. CFIT, LOC-I, MAC, RE and RI. The APAC safety data indicates that RE and MAC events exhibit higher frequency in the region;
- b) *Operational risks with high occurrence frequency*: There are also incident types that do not have high fatality risk but are the most frequent types of accidents and serious incidents across ICAO regions or in APAC, viz. abnormal runway contact, system/component failures (powerplant and non-powerplant), and turbulence encounters; and
- c) *Organizational challenges*: As detailed in **Chapter 4.4**, these include issues such as insufficient financial resources, shortage of qualified safety oversight personnel, and the need to improve regulatory processes for resolving safety issues.

1.4.2 To address the above challenges and enhance aviation safety at the regional level, the 2026-28 AP-RASP contains the following goals and targets as detailed below:

- Goal 1: Achieve a continuous reduction of operational safety risks.
- Goal 2: Strengthen the safety oversight capabilities of APAC States/Administrations.
- Goal 3: Establish and manage State Safety Programmes (SSPs).
- Goal 4: Strengthen collaboration at the regional and national levels to address safety issues.
- Goal 5: Strengthen aviation safety planning across the Asia-Pacific region.
- Goal 6: Expand the use of industry evaluation programmes and safety data sharing programmes.

1.5 Regional Context and Operating Environment

1.5.1 APAC is a diverse region, comprising 39 contracting States, two Special Administrative Regions of China and 13 other Territories (see <https://www.icao.int/APAC/apac-contracting-states>). Intrinsic variations in operational context, governance, sovereignty, geography and terrain, culture, language, level of development and expertise prevail among APAC States/Administrations and industry. The region covers a vast airspace with 49 Flight Information Regions (FIR). The operating environment varies significantly, for example the Pacific States where the air traffic capacity is less critical, compliance with ICAO SARPs and infrastructure development and maintenance remain major challenges due to low passenger volumes and remote geography.

1.5.2 In 2024, the APAC region reaffirmed its position as the world’s largest aviation market, accounting for 33.5% of global revenue passenger-kilometers (RPKs). Capacity, measured by available seat-kilometers (ASK), rose 12.3% year-on-year, driving the regional load factor to a record high of 83.4%, matching pre-pandemic levels¹. International traffic of APAC airlines rose 26.0% from 2023 to 2024, maintaining the strongest year-over-year growth among ICAO regions. Opportunities for further growth remain high, as international RPKs remain 8.7% below 2019 levels. Both Airbus and Boeing forecast continued strong growth for the APAC region through 2044. Stakeholders across the APAC aviation ecosystem must accelerate investments in infrastructure, operational efficiency and safety enhancements to sustain this dynamic recovery and growth.

1.5.3 Despite this growth, safety oversight challenges persist, and USOAP effective implementation (EI) scores vary significantly across the region due to diverse operational contexts, governance, geography, and development levels. Also, based on States/Administrations’ self-assessments (ICAO OLF or ICAO iSTARs), the level of implementation of State safety programme (SSP) could be low.

¹ Sources :

- i. Air Transport Action Group (ATAG) - Aviation Benefits Beyond Borders. December 2024.
(<https://aviationbenefits.org/downloads/aviation-benefits-beyond-borders-2024/>)
- ii. IATA Air Passenger Market Analysis. December 2024
(<https://www.iata.org/en/iata-repository/publications/economic-reports/air-passenger-market-analysis-december-2024/>)

2. PURPOSE OF THE REGIONAL AVIATION SAFETY PLAN

2.1 APAC Region’s strategic direction for the management of aviation safety

2.1.1 The AP-RASP serves as the master planning document setting the strategic direction of the APAC region for the management of aviation safety for the 3-year period of 2026 to 2028, in line with the GASP review cycle.

2.1.2 The primary purpose of the AP-RASP is to continually reduce fatalities and the risk of fatalities associated with accidents, by guiding the harmonized development and implementation of national aviation safety plans across the region. The AP-RASP assists States/Administrations and industry by:

- a) establishing a regional safety strategy, including defined goals, targets and indicators;
- b) supporting the development and implementation of NASPs and SSPs; and
- c) Identifying operational safety risks, organizational challenges and the development of safety goals, targets and indicators in national aviation safety plans.

2.2 Relationship with the GASP and the NASP of each State/Administration in the region

2.2.1 The GASP establishes global targets for all States/Administrations and industry. The AP-RASP is developed in alignment with the GASP goals and targets, but is adapted to address the specific needs of the region. While the AP-RASP incorporates the global HRCs, it also identifies regional HRCs (R-HRCs), regional organizational challenges, as well as regional safety goals and targets. Some targets or SEIs in the AP-RASP are addressed to the RASG or to other regional entities, while others are directly applicable to individual States/Administrations. In such cases, States/Administrations should take into account the regional safety target(s) or specific SEI(s) in their NASP, in addition to the relevant GASP goals and targets.

2.2.2 A NASP represents a State/Administration’s strategic direction for the management of aviation safety at a State/Administration level. It conveys to all stakeholders where resources should be deployed by the State/Administration’s various national agencies, based on their own risk assessment, in order to address their specific operational safety risks and organizational challenges.

2.2.3 A NASP should outline the national operational safety risks (including national HRCs or N-HRCs), national organizational challenges, the national safety goals and targets, as well as SEIs with specific actions to address the issues. **Figure 2** illustrates the relationship between the GASP, the RASP and the NASP.

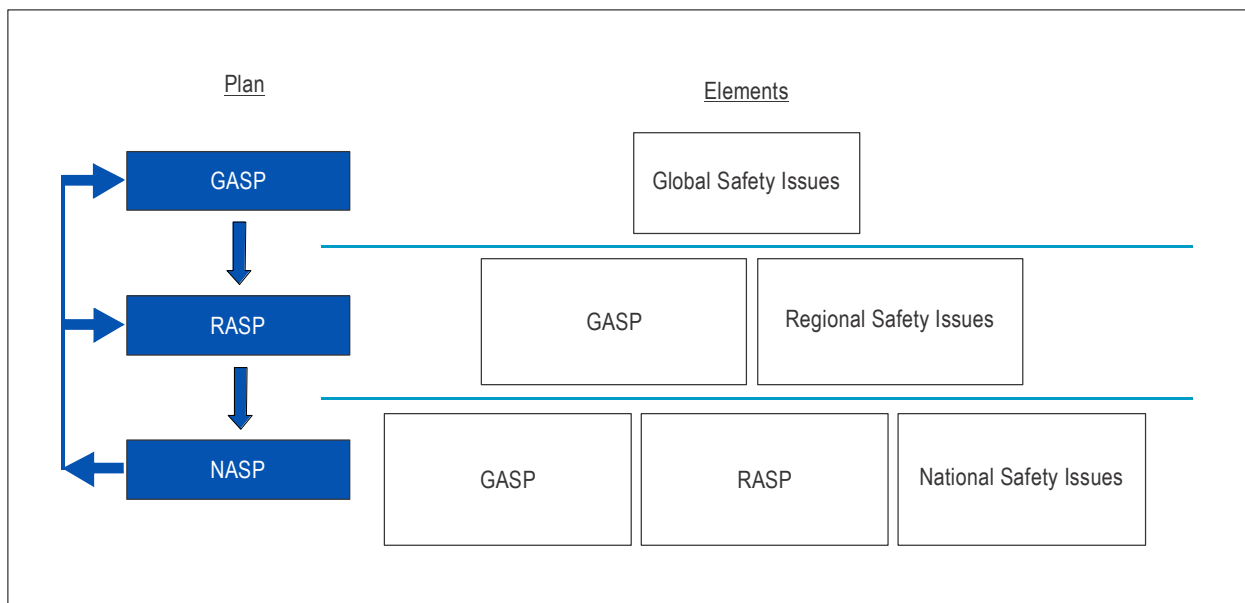


Figure 2: Relationship between the GASP, the RASP and the NASP

2.3 Initiatives to support the improvement of aviation safety

2.3.1 Effective aviation safety planning requires two key elements:

- a strategy: *what is to be achieved by a plan?* (e.g., the AP-RASP or the NASP). This includes the analysis of safety issues, the definition of goals and targets, and how to measure their achievement; and
- an action plan: *how will the goals and targets defined in the strategy be achieved?* This includes initiatives needed to achieve the goals and targets (referred to as SEIs).

2.3.2 The GASP contains the global safety strategy, while the action plan is detailed in the Global Aviation Safety Roadmap (Doc 10161). Doc 10161 outlines specific SEI associated with GASP goals and targets, and provides a structured frame of reference for the development of RASPs and NASPs. Each SEI includes a set of actions that stakeholders may use to develop and implement specific action plans. States/Administrations, in collaboration with industry, should use the roadmap to complement their national safety management activities and develop SEIs to support the strategy presented in their NASPs. **Figure 3** illustrates the linkage between the GASP and the Global Aviation Safety Roadmap, together with the AP-RASP and its associated safety roadmap. The regional aviation safety roadmap is part of the AP-RASP and is available via the link: <https://www.icao.int/APAC/rasg/Library/AP-RASP>.

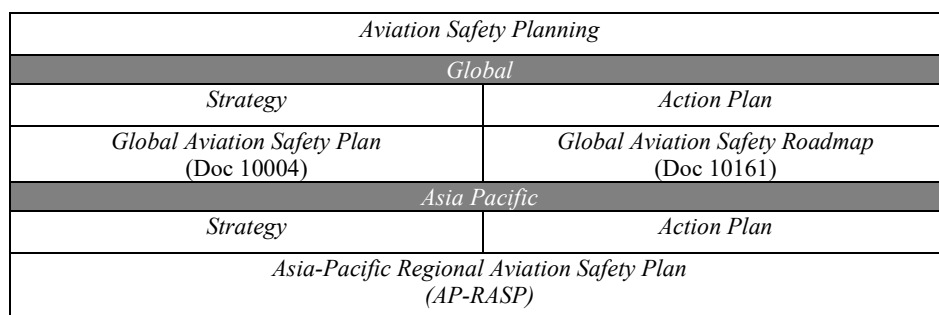


Figure 3: Relationship between the GASP, AP-RASP and the safety roadmap

2.4.1 To further support States/Administrations, ICAO has also developed a suite of guidance material and tools related to the GASP. This guidance and tools are aimed at assisting States/Administrations with the development and implementation of their NASP. The tools facilitate the identification of safety issues, and the monitoring of performance and effectiveness of the SEIs. **Figure 4** illustrates the suite of guidance material and tools.

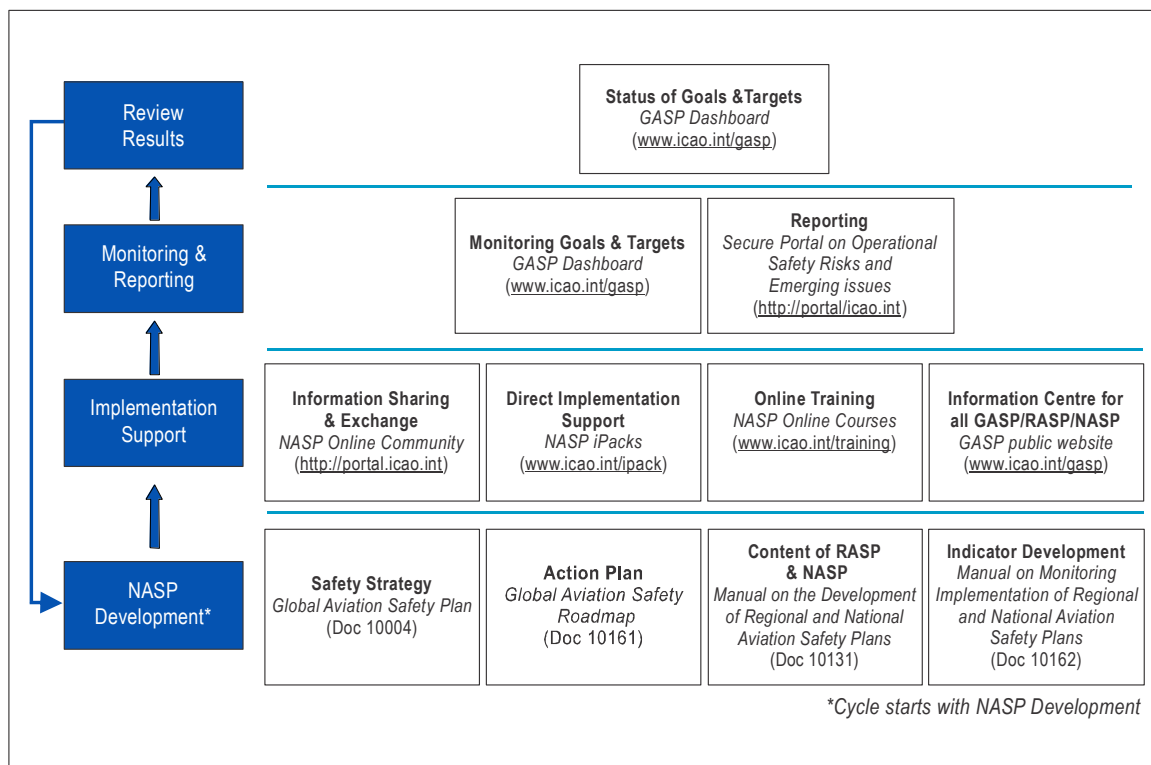


Figure 4: GASP-related guidance material and tools

2.4.2 More information on GASP-related guidance material and tools can be found on the ICAO website at www.icao.int/gasp.

2.4.3 At the regional level, the APAC Ministerial Conference on Civil Aviation (Delhi Declaration) adopted in September 2024, reinforced each Contracting State's obligations under the Chicago Convention to ensure the safety, security, efficiency and continuity of civil aviation across the region. Building on the landmark Beijing Declaration of 2018, the Delhi Declaration reaffirmed the commitment to prioritize and resource key activities aligned with the GASP, including:

- a) Improving the Effective Implementation (EI) scores of States' safety oversight systems;
- b) Implementing and maintaining effective State Safety Programmes (SSP);
- c) Eliminating Significant Safety Concerns (SSCs) and resolving any future SSCs within ICAO-agreed timeframes;
- d) Developing and updating NASPs; and
- e) Investing in human resource development to ensure a qualified, competent aviation workforce.

2.4 Other plans considered in the development of the AP-RASP

2.5.1 In addition to the GASP, the AP-RASP was also developed in consideration of other major planning documents to ensure alignment and avoid duplication:

- a) Global Air Navigation Plan (GANP). As the planning tool for the global air navigation system, the GASP and GANP complement each other. The GANP sets global priorities for air navigation and articulates the vision of an integrated, harmonized, globally interoperable and seamless system.
- b) APAC Seamless ANS Plan. This plan contains the strategy to facilitate ANS operations within the APAC region through the coordinated development and deployment of relevant ANS solutions across the region. The plan provides a framework for the transition to a seamless ANS environment in order to meet future performance requirements.

2.5 Leveraging existing platforms and enhancing collaboration

2.6.1 The RASG-APAC and APRAST have established key elements for strategic safety management, including:

- a) SEIs and the Online Monitoring Mechanism, which tracks the status of SEI implementation by States/Administrations; and
- b) APAC Annual Safety Report (APAC ASR), which reports on organizational and operational indicators and targets and USOAP EI scores, and identifies safety challenges and priority areas for action.

2.6.2 However, as in the previous triennium, implementation of the SEIs remains inconsistent across the region. There is a need to further integrate the existing key elements introduced above to ensure that they successfully track and analyse safety performance towards identifying and addressing safety risks, while proactively identifying new or emerging safety risks. This includes collecting the relevant safety data related to implementation across the APAC region, as shown in **Figure 5**.

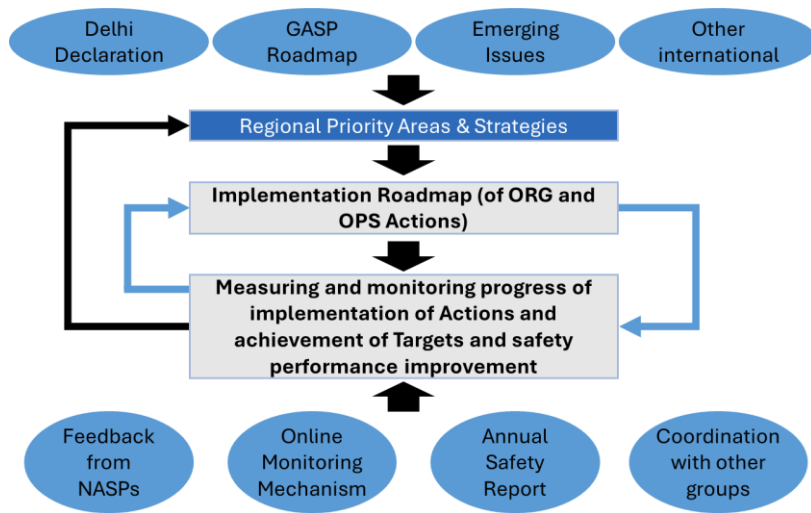


Figure 5: Conceptual architecture of the SDCPS for the APAC region

2.6.3 To facilitate this, the region should enhance the communication and flow of safety data and information, as well as the coordination processes among RASG-APAC, APRAST WGs, regional platforms such as COSCAPs and Pacific Aviation Safety Office (PASO), States/Administrations, and industry. Continued collaboration and coordination between RASG-APAC and APANPIRG is also essential, to ensure, for example, that the implementation of Aviation System Block Upgrade (ASBUs) properly accounts for safety risks, and that the safety of aircraft operations can be assured as the airspace becomes more congested and complex.

3. REGIONAL OPERATIONAL SAFETY RISKS

3.1 General

3.1.1 The vision of the GASP is to achieve and maintain the goal of zero fatalities in commercial operations by 2030 and beyond. To achieve this, operational safety risks, i.e. those arising during the operation of an aircraft, aerodrome, or provision of air traffic services, need to be identified and addressed.

3.1.2 Given the multitude of operational safety risks across the aviation system, and limited resources to address them, a prioritization mechanism is critical. To focus safety efforts, ICAO conducted an analysis to identify the highest priority occurrence categories, referred to as global high-risk categories of occurrences (G-HRCs) which have historically resulted in the highest fatality rates or unsafe outcomes globally, as well as other global risk categories of occurrences that are exhibiting an upward trend.

3.1.3 In line with the GASP vision, this chapter details the operational safety risks for the APAC Region.

3.2 Summary of Operational Safety Risks at the Global Level

3.2.1 The 2026-2028 Edition of the GASP identifies the following G-HRCs. These are considered the utmost priority in the international context, based on global fatalities, fatality rates and the number of accidents and serious incidents:

- Controlled flight into terrain (CFIT);
- Loss of control in-flight (LOC-I);
- Mid-air collision (MAC);
- Runway excursion (RE); and
- Runway incursion (RI).

3.2.2 In addition to the G-HRCs, the GASP also identifies “Other Global Risk Categories” of occurrences. While these may not have the same fatality risk as the G-HRCs, they represent the most frequent types of accidents and serious incidents across ICAO regions:

- Abnormal Runway Contact (ARC)
- System/Component Failure or Malfunction (Non-Powerplant) (SCF-NP), and
- Turbulence Encounter (TURB).

3.2.3 Given that the G-HRCs represent the ultimate unsafe outcomes States/Administrations and industry efforts should be focused on addressing pre-cursors and contributing factors to these G-HRCs. As the identified “Other Global Risk Categories” listed above may be precursor events to G-HRCs, they too warrant specific risk mitigation in their own right.

3.3 Summary of Accidents and Serious Incidents at the Regional Level

3.3.1 The RASG-APAC undertook a review of accidents and serious incidents involving commercial air transport within the APAC region, and aircraft registered in APAC States/Administrations.

3.3.2 Analysis was undertaken to compare global and APAC accident trends.

- Fatal accident rate: The APAC fatal accident rate remained higher than the global average since 2023. In 2024, the APAC fatal accident rate rose to 0.32 per million departures (up from 0.09 in 2023), compared to the global rate of 0.27 in 2024 (up from 0.03 in 2023), as shown in **Figure 6**.
- Overall accident rate: While the overall APAC accident rate increased in 2024 (from 0.78 to 1.70 per million departures), it remained lower than the global average. Notably, the accident rate in the APAC region has consistently remained below the global rate over the last decade, as shown in **Figure 7**.

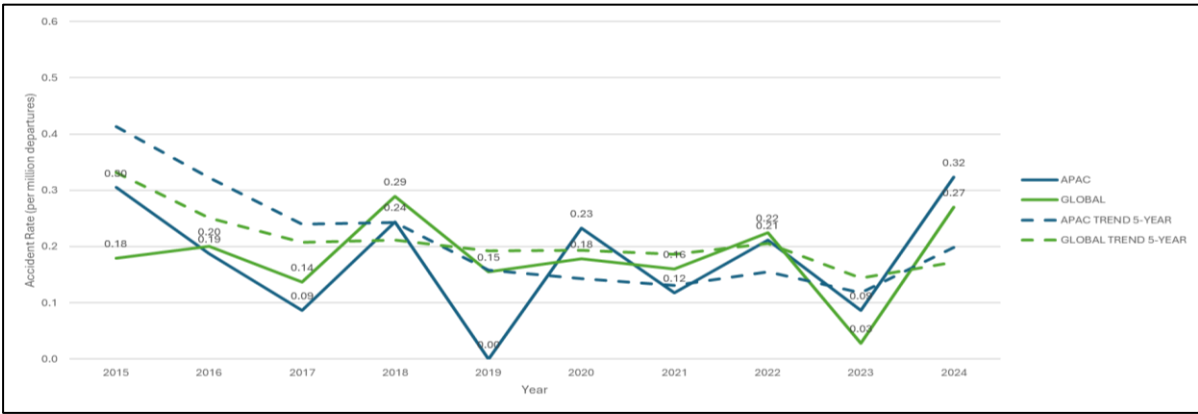


Figure 6: Global vs APAC Fatal Accident Rate 2015-2024

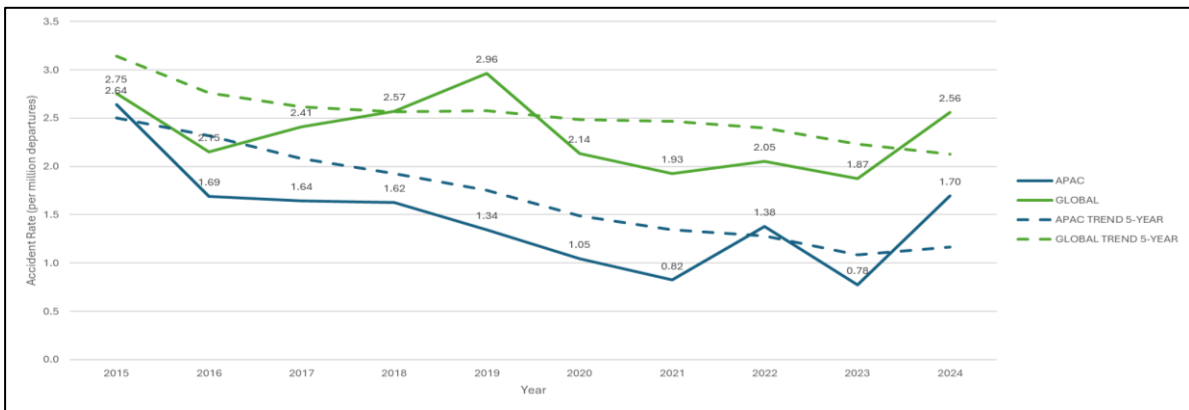


Figure 7: Global vs APAC Accident Rate 2015-2024

3.3.3 A combined analysis of accidents and serious incidents within the APAC region for the 2020-2024 period identified the 10 highest occurrence categories (Figure 8). The top two highest occurrence categories were SCF-NP (54 occurrences) and RE (46 occurrences). These were followed by ARC (28 occurrences), SCF-PP (26 occurrences), TURB (25 occurrences), and MAC (24 occurrences). Aside from the TURB category, the majority of occurrences were serious incidents.

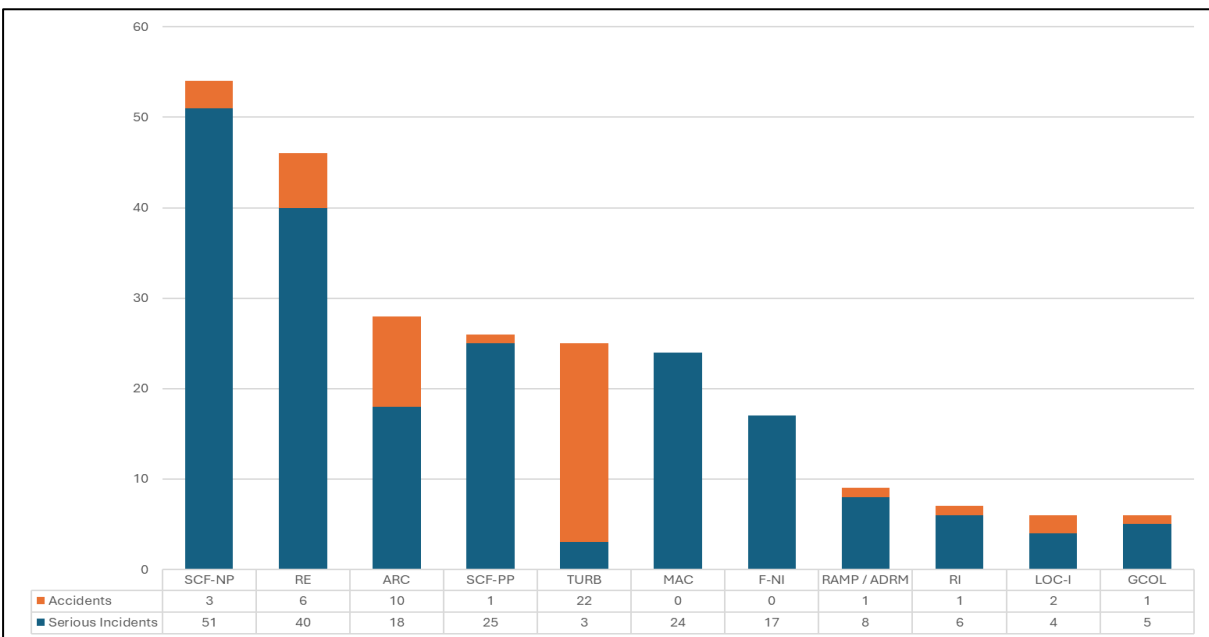


Figure 8: Top 10 occurrence categories (accidents and serious incidents)

3.4 Regional High-Risk Categories of Occurrences

3.4.1 While all G-HRCs remain relevant to the APAC region, additional analysis was undertaken to determine APAC-specific operational safety risks (see **Figure 9**).

3.4.2 Over the 2020-2024 period, Runway Excursion (RE) recorded the highest number of G-HRC occurrences (46 events, 40 of which were serious incidents). This was followed by occurrences related to Mid-Air Collisions (MAC) with 24 events (all serious incidents). The remaining three G-HRCs (CFIT, LOC-I, and RI) experienced lower numbers of occurrences.

3.4.3 Consequently, occurrences related to the G-HRCs of CFIT, LOC-I, MAC, RE and RI, are all included as regional high-risk categories (R-HRCs), aligning with the GASP G-HRCs.

3.4.4 However, within the APAC context, RE and MAC are considered the utmost priority for safety enhancement initiatives due to the high frequency of occurrence and the significant potential for fatalities if not mitigated.

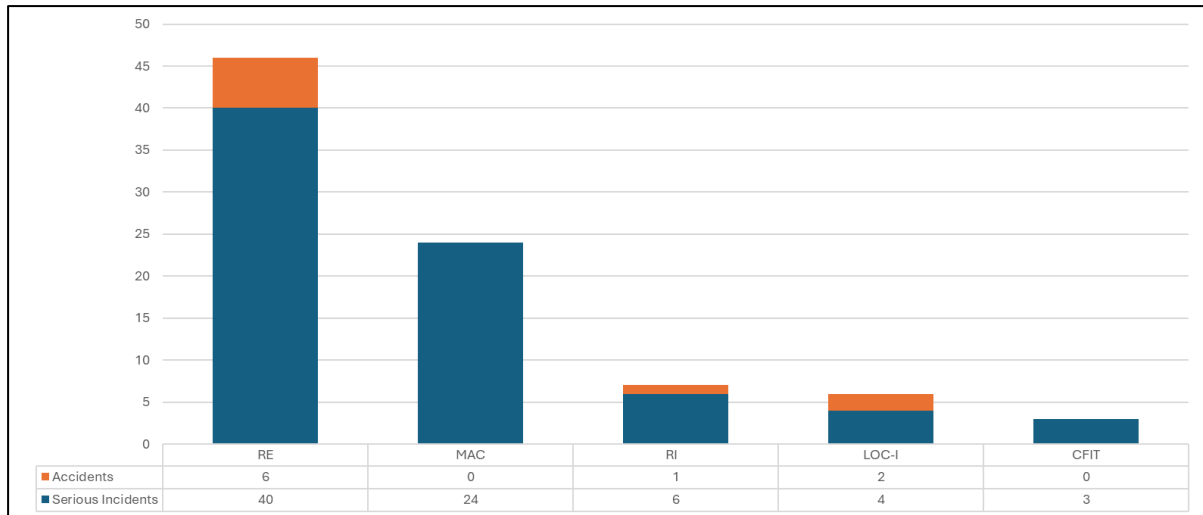


Figure 9: APAC G-HRC Occurrences

3.5 Other Regional Risk Categories of Occurrences

3.5.1 In addition to the R-HRCs, Other Regional Risk Categories (as per CICTT) have also been identified for the APAC region. While these may not have the high fatality risk of G-HRC and R-HRCs, they figure prominently in the most frequent types of accidents and serious incidents across the APAC region. They may also present themselves as precursor events to G-HRC or R-HRCs and warrant specific risk mitigation in their own right.

3.5.2 As shown in **Figure 10**, the top five occurrence types were similar to the global Other Risk Categories of occurrences. Notably, the third highest number of these “Other Risk Category” occurrences were related to SCF-PP (26 occurrences).

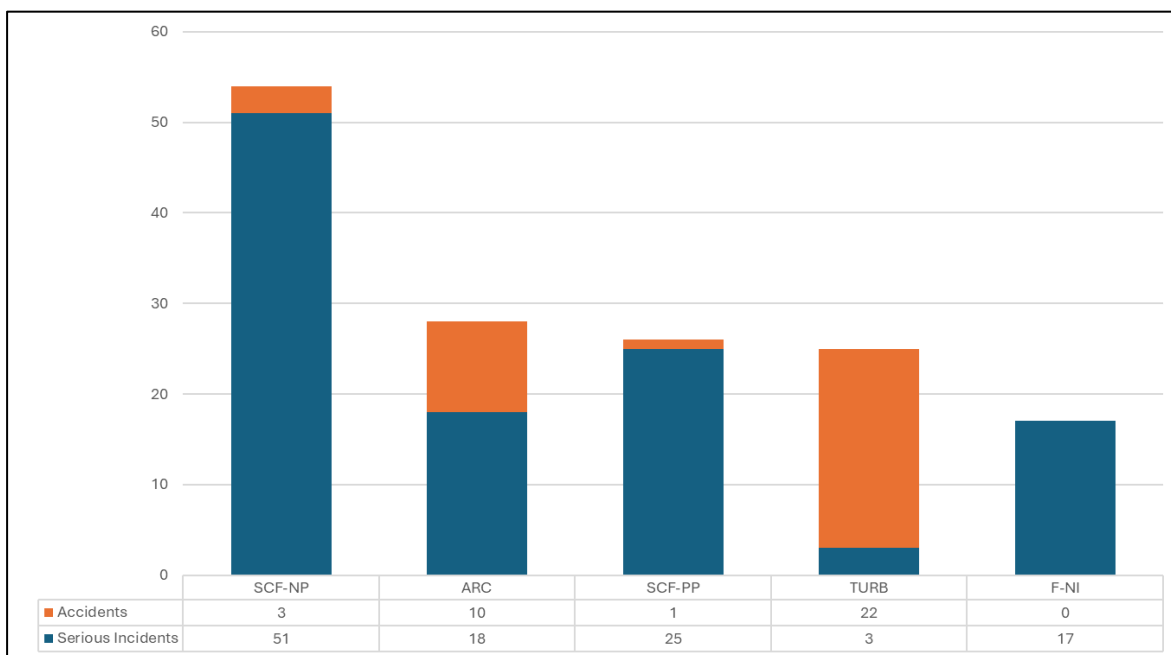


Figure 10: Other Regional Risk Category Occurrences

3.5.3 A thematic analysis of the NASPs published by 14 APAC States/Administrations (based on the ICAO NASP portal, as of July 2025) revealed the additional areas of concern to the respective States/Administrations. 12 States/Administrations identified operational safety risks beyond the G-HRCs. The two most common national risks were Bird/Wildlife strike (identified by 8 States/Administrations) and Ground operations/Ramp safety (identified by 5 States/Administrations).

3.5.4 Based on the analyses carried out, the following Other Regional Risk Categories of occurrences have been identified as the highest priorities for safety enhancement initiatives in the APAC region, due to the high frequency and the significant potential for fatalities if not mitigated:

- SCF-NP
- ARC
- SCF-PP, and
- TURB.

3.5.5 The AP-RASP addresses these risk areas through the operational (OPS) roadmap, which addresses each of the following operational risks:

- CFIT
- LOC-I, including TURB
- MAC
- RE, including ARC
- RI
- SCF, including NP and PP.

Note: While Bird/Wildlife Strikes and Ground Operations/Ramp Safety are recognised in several NASPs published by APAC States/Administrations as areas of safety concern, the thematic analyse indicates that most occurrences within these categories did not reach accident or serious-incident severity. Nevertheless, the available safety information demonstrates the presence of latent systemic risk associated with these hazards and States/Administrations should look to consider Bird/Wildlife and Ground Operations/Ramp Safety hazards when developing their National Aviation Safety Plan (NASP). Therefore, for the 2026-2028 triennium, it is recommended that States/Administrations continue to address Bird/Wildlife Strike and Ground Operations/Ramp Safety risks at the National level. States/Administrations and industry are encouraged to manage these risks collaboratively by sharing information and best practises through avenues such as the Wildlife Hazard Management Working Group (AP-WHM WG) and APANPIRG.

3.6 Contributing Factors

3.6.1 To effectively reduce accidents in the APAC Region, States/Administrations and industry need to address the precursors and contributing factors for each R-HRC. **Table 1** identifies the main contributing factors for each R-HRC. This list is not exhaustive but serves as a guide for developing mitigation strategies.

<i>R-HRC</i>	<i>Examples of contributing factors to R-HRC</i>
RE	<ul style="list-style-type: none"> • Ineffective SOPs • Lack of adherence to SOPs • Long/floated/bounced/firm/off-centre/crabbed landing • Unstabilized approach • Inadequate reporting of runway surface conditions • Inadequate approach procedures design • Inadequate regulatory oversight
RI	<ul style="list-style-type: none"> • Operations in low visibility conditions • Complex or inadequate aerodrome design, equipment and signage • Diversity and complexity of traffic (such as, multiple simultaneous line-ups) • Conditional clearances • Simultaneous use of intersecting runways • Late issue or late changes to departure clearances • Unintentional deviations from ATC clearances by flight and ground crew • Phraseology use (such as, non-standard versus standard; call-sign confusion) • Concurrent use of more than one language for ATC communications • English language proficiency • Inadequate manoeuvring area driver training and assessment programme
LOC-I	<ul style="list-style-type: none"> • Distraction • Adverse weather • Complacency • Inadequate standard operating procedures (SOPs) for effective flight management • Insufficient height above terrain for recovery • Automation dependency leading to degraded pilot proficiency in manual flying, lack of awareness or competence in procedures for recovery from unusual aircraft attitudes • Startle effect, inappropriate flight control inputs in response to sudden awareness of an abnormal aircraft state (such as, bank angle, angle of attack or stall)
CFIT	<ul style="list-style-type: none"> • Flight in adverse environmental conditions • Inaccurate approach design and inadequate documentation (for approaches with vertical guidance (APV) or localizer performance with vertical guidance (LPV) approaches) • Phraseology used (standard versus non-standard) • Pilot fatigue, sensory illusion, and loss of situational awareness • Global navigation satellite system (GNSS) radio frequency interference (RFI)
MAC	<ul style="list-style-type: none"> • Traffic conditions: considerations include traffic density, complexity, and the mixture of aircraft types and capabilities • Air traffic control (ATC) performance: factors such as workload, competence, teamwork, and adherence to procedures. Additionally, the influence of the air navigation services provider's (ANSP) safety management system (SMS) • Flight crew training and organizational (corporate) culture: aspects such as workload management, competence, teamwork, adherence to procedures, and the impact of the operator's SMS • ATC systems: elements such as, flight data processing, communication systems, short-term conflict alert (STCA) systems, as well as the interaction between the human operators and the aircraft systems, and the procurement policies of ANSPs • Aircraft equipment: considerations include autopilot systems, transponders and airborne collision avoidance system (ACAS), as well as aircraft performance characteristics (such as, rate-of-climb) and their physical dimension • Navigation infrastructure: both coverage and quality of surveillance technologies used to monitor aircraft position movements • Surveillance systems: coverage and quality of surveillance technologies used to monitor aircraft positions and movements • Flight plan processing: the efficiency and reliability of processes related to flight plan submission, approval, and distribution • Airspace design: the complexity of airspace structure, route layouts, and the extent of controlled or uncontrolled airspace and proximity of military operational or training areas • Flight in adverse environmental conditions that may influence conflict management and collision avoidance • GNSS RFI.

Table 1: Examples of contributing factors associated with R-HRCs

4. REGIONAL ORGANIZATIONAL CHALLENGES

4.1 General

4.1.1 In addition to the regional operational safety risks listed in **Chapter 3**, this chapter identifies the organizational challenges specific to the APAC region. These focus areas aim to strengthen aviation safety management at the regional level and enhance overall safety performance.

4.1.2 Organizational challenges are systemic issues that influence a State’s ability to effectively oversee and manage safety. They include factors such as organizational culture, policies and procedures, staff competence, and allocation of resources. In the context of the AP-RASP, “organization” refers primarily to a State’s aviation entities, including the Civil Aviation Authority and the Accident Investigation Authority.

4.1.3 ICAO defines eight Critical Elements (CEs) of a safety oversight system and corresponding audit areas that collectively measure a State’s safety oversight capability. These CEs, presented in **Figure 11**, encompass the whole spectrum of civil aviation activities and constitute the building blocks of an effective safety oversight system.

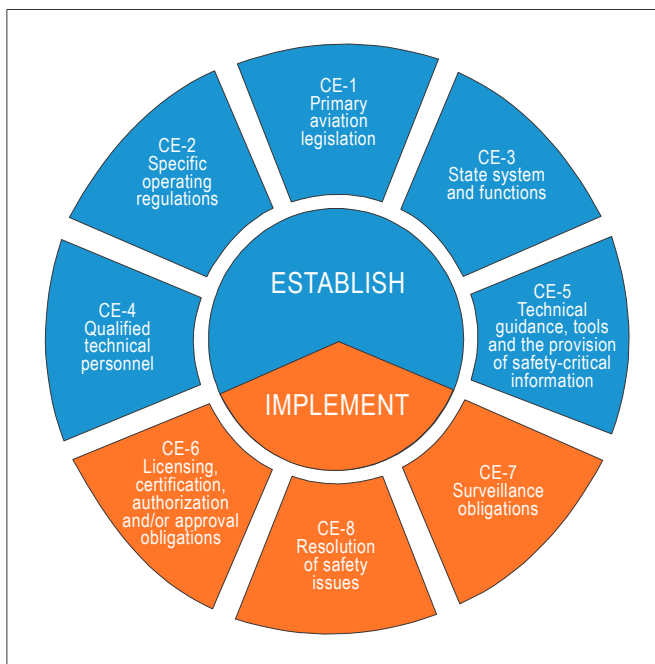


Figure 11: Critical elements of a State’s safety oversight system

4.1.4 Deficiencies related to these CEs represent systemic organizational challenges. For the AP-RASP, these deficiencies are considered the utmost priority as they significantly impact the ability of States/Administrations to fulfill their safety oversight responsibilities.

4.1.5 Based on ICAO USOAP CMA data from July 2025 (see **Table 2**), the APAC region’s EI score is 66.6%. This represents only a marginal improvement from the 66.35% reported in the RASG-APAC Annual Safety Report 2022, and remains below the global average of 70.3%. **Table 2** presents a comprehensive breakdown of EI scores by Critical Element and audit area. CE-4 (Qualified Technical Personnel) and CE-8 (Resolution of Safety Issues) are key areas of concern. In addition, the Aircraft Accident and Incident Investigation (AIG) audit area shows historically low scores, indicating significant systemic challenges.

Overall EI score for APAC region							
66.60%							
EI score by CE							
CE-1	CE-2	CE-3	CE-4	CE-5	CE-6	CE-7	CE-8
68.42%	69.30%	65.80%	56.01%	66.13%	73.80%	61.38%	54.88%
EI score by audit area							
LEG	ORG	PEL	OPS	AIR	AIG	ANS	AGA
69.97%	63.99%	71.22%	68.35%	79.21%	49.02%	65.40%	62.16%

Table 2: EI score for APAC region

4.1.6 EI scores vary significantly across the region due to diverse operational contexts, governance, geography, and development levels. As demonstrated in **Table 3**, only 18 have achieved the GASP target of 75% EI. Conversely, 23 States/Administrations remain below this benchmark.

4.1.7 The data reveals a distinct geographical pattern. Most States/Administrations in Group 1 (EI < 50%) are Pacific Small Island Developing States (PSIDS), while the majority in Group 2 (50% < EI < 75%) are States from Southeast Asia (SEA) and South Asia (SA). This trend highlights the critical need for targeted capacity-building, technical assistance, and support for these States/Administrations.

EI Score Group	State/Administration
Group 1: Below 50%	[12] States/Administrations from PSIDs, ranging from [4 % - 46.92 %], and [2] have yet to be audited
Group 2: 50% to 75%	[11] States/Administrations ranging [50.74% – 74.34 %]
Group 3: Above 75%	[18] States/Administrations ranging from [75.73% - 99.69%]

Table 3: EI scores of APAC States/Administration in Group

Note [*] – Based on EI score from the draft USOAP audit reports in 2025

4.2 Summary of Effective Safety Oversight Capabilities in APAC

4.2.1 To identify systemic organizational issues, the AP-RASP development team conducted an analysis guided by the *Standardized Framework for the Identification of ORG Challenges* (refer to Doc 10131). The analysis considered the aggregated status of States/Administrations’ safety oversight systems and capabilities at the regional level; States/Administrations’ organizational challenges; and the status of State safety programme (SSP) implementation.

4.2.2 Information generated by the USOAP CMA OLF was the primary source for the analysis, focusing on the relevant Priority Protocol Questions (PPQs). The main aspects analyzed include:

- the three lowest-scoring PPQs by audit areas and CE combinations regionally (via a consolidated “Heat Map”), analysed against the three weakest areas globally listed in the GASP (AIG/CE-4, AGA/CE-4, and AGA/CE-8), to assess alignment between regional challenges and global safety concerns;
- the PQs used to assess ORG/CE-3;
- organizational challenges frequently cited in APAC NASPs; and
- results from the SSP self-assessment tool and SSP gap analysis application (accessed through iSTARS).

4.2.3 The main findings from the analysis were as follows:

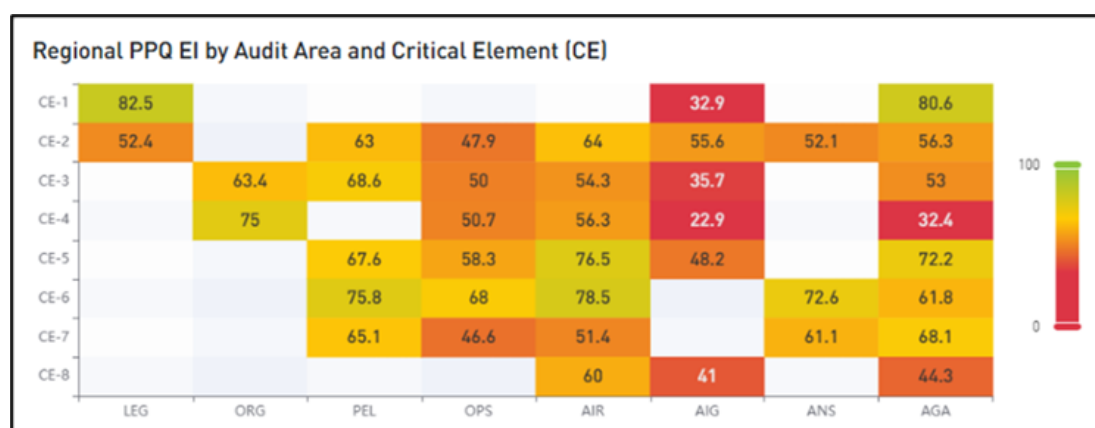


Figure 12. Regional Heat Map of APAC PPQ EI by AA and CE

- Weaknesses in CEs. As shown in the heat map (see **Figure 12**), the three lowest scoring PPQs by AA and CE combination regionally (in ascending order) were:

- 1) qualified technical personnel for aircraft accident and incident investigation (AIG/CE-4);
- 2) qualified technical personnel for aerodromes and ground aids (AGA/CE-4); and
- 3) primary aviation legislation for aircraft accident and incident investigation (AIG/CE-1);

While the shortage of qualified technical personnel (CE-4), particularly in relation to AGA and AIG, aligns with global trends, the weakness in primary aviation legislation for accident and incident investigation (AIG/CE-1) is specific to the APAC region. This is further corroborated by low scores in AIG/CE-3 and AIG/CE-8, which rank fourth and fifth, highlighting the lack of independent Accident Investigation Authorities (AIA) in the region.

It is also noted that the third lowest-scoring PPQ globally (AGA/CE-8) is also a concern in APAC, ranking as the second lowest-scoring PPQ regionally when AIG is excluded.

The regional organizational challenges identified in this Chapter focus on the lowest-scoring systemic deficiencies to ensure resources are directed where they are most needed. It should however be noted that several other audit areas and Critical Elements also require improvement. Recognizing that it may not be possible to address all safety gaps concurrently and prioritization would be needed, further analysis and actions to bridge this gap will be progressively commenced.

- b) Financial resources. PQ 2.051² (a PPQ in ORG/CE-3), which assesses if a State has sufficient financial resources to meet its safety obligations, shows an regional EI score of 55.56%. This is below the global EI score of 65.41%, indicating a lack of financial (and potentially manpower) resources within States/Administrations in the APAC region.
- c) NASP-identified challenges. A review of the APAC-published NASPs identified the following organizational challenges at the national level:
 - 1) Resources and infrastructure: Limited budgets and financial resources contribute to issues such as ageing infrastructure, airport congestion, and delays in development.
 - 2) SSP maturity: Several States/Administrations cited a low SSP/SMS maturity, evidenced by limited collection, analysis, and sharing of safety data, as well as weak safety culture and insufficient just-culture practices hindering proactive risk management.
 - 3) Workforce: Shortages of qualified technical personnel, difficulties in recruitment and retention, and the long-term impact of COVID-19-related staff retirements.
 - 4) Regional collaboration: Weak collaboration constrains States/Administrations' ability to manage safety effectively, hindering the collective sharing of support, expertise, and resources.
 - 5) Emerging technologies: States/Administrations highlighted challenges in putting in place regulatory frameworks for Remotely piloted aircraft systems (RPAS), AAM (Advanced Air Mobility), Artificial Intelligence (AI), and new energy aircraft.
- d) SSP implementation. Current data from the SSP self-assessments (on the OLF) and SSP gap analyses indicates that less than 5% of States/Administrations self-report having achieved "Level 4" (SSP implementation completed). (It should be noted that it is not possible to conclusively ascertain the maturity level of States/Administrations' SSP through the self-assessment tools.)

4.3 Other Systemic Issues in APAC

4.3.1 Self-evaluation was conducted to identify additional systemic issues unique to APAC, utilizing data from RASG-APAC, APANPIRG, and regional reports.

² PQ 2.051 : Has the State established and implemented a mechanism to ensure that each safety oversight authority has sufficient financial resources to meet its national and international obligations? (Source : ICAO USOAP CMA 2024 PQ - ORG)

4.3.2 The analysis focused on three key areas:

- a) Status of NASP publication by APAC States/Administrations;
- b) Level of safety data and safety information collection, analysis and exchange; and
- c) Level of regional collaboration and leadership (e.g. number of APAC States/Administrations actively leading RASG activities, and effectiveness of assistance provided to APAC States/Administrations).

4.3.3 The main findings include:

- a) Low number of NASPs published: Only 19 out of 41 States/Administrations in APAC published their NASPs to date;
- b) Under-utilization of industry programmes. Despite efforts to increase participation, ICAO-recognized industry evaluation and data sharing programmes remain under-utilized. These include IATA IOSA, ACI APEX and IATA ISAGO in relation to industry evaluation programmes, and IATA FDX, IATA IDX and FSF ASN in relation to data sharing programmes.
- c) Need for expanded leadership. While 13 States/Administrations and 6 international organizations/industry members currently hold leadership roles (see **Table 4**), sustained support requires more States/Administrations to actively lead or contribute to Working Groups and Task Forces, in order to support the implementation of the AP-RASP.
- d) Need for targeted assistance: Given the diversity in oversight capability and operations, States/Administrations face varying needs and challenges. Effectively addressing these differences requires specific challenges to be identified and assistance customized and targeted.

	Group	States/Administrations currently leading RASG activities
1	APAC (13)	Singapore, Australia, Philippines, Hong Kong China, India, Pakistan, Thailand, Bangladesh, Bhutan, Indonesia, Malaysia, Sri Lanka
2	Non-APAC/ Industry (7)	EASA, FAA, AAPA, Airbus, Boeing, IATA, FSF

Table 4: List of States/Administrations actively lead the RASG activities

4.4 Regional Organizational Challenges

4.4.1 Based on the analysis in Sections 4.2 and 4.3, the following eight regional organizational challenges were identified as priority areas for the 2026–2028 AP-RASP. These challenges directly impact the region’s ability to effectively oversee and manage safety:

- a) lack of sufficient resources, including financial resources, for safety oversight authorities to meet national and international obligations;
- b) lack of qualified technical personnel, primarily aerodrome inspectors and aircraft accident investigators;
- c) lack of independent accident investigation authorities in many APAC States/Administrations;
- d) lack of a regulatory process to resolve safety issues, primarily related to aerodrome operations;
- e) low level of SSP implementation by States/Administrations and limited maturity level of SSPs that have been implemented;
- f) low number of NASPs published by States/Administrations;
- g) inadequate collection, analysis and exchange of safety data and information that are needed to support safety management activities; and
- h) the need to expand leadership and contribution to RASG activities and to provide customized, targeted assistance to States/Administrations with specific needs.

4.4.2 Most of these challenges align with the global priorities outlined in GASP 2026-2028. However, item (c) (independent accident investigation organizations) and item (h) (leadership, contribution and technical assistance) reflect needs that are specific to the APAC Region.

5. APAC REGION’S STRATEGIC DIRECTION FOR THE MANAGEMENT OF AVIATION SAFETY

5.1 General

5.1.1 The AP-RASP 2026–2028 builds on the GASP framework to turn global aviation safety goals into a framework tailored to the APAC context. The AP-RASP provides goals, targets and indicators that help States/Administrations and industry work together in a coordinated and performance-based manner. These elements serve as a reference for States/Administrations when developing or updating their NASPs. The AP-RASP also outlines SEIs that are measures to support the region in achieving the defined targets. By doing so, the AP-RASP strengthens regional safety management and supports the shared goal of achieving zero fatalities in commercial aviation by 2030 and beyond.

5.1.2 Each AP-RASP goal is consistent with GASP but includes targets and indicators adapted to the APAC context. Targets define the desired outcomes of actions taken by States/Administrations, the region, and industry to achieve the goals by a certain point in time. AP-RASP targets include indicators to measure progress towards their achievement. These indicators measure the progress toward the achievement of the AP-RASP targets and provide evidence on whether the desired outcomes have occurred. The AP-RASP strategy is based on a detailed analysis of regional safety data, which is a subset of global safety data, focusing on recurring high-risk events and organizational challenges. By considering the region’s resource limitations and varying levels of safety maturity, this evidence-based and structured approach ensures that APAC’s safety actions are targeted, and effective. It enables States/Administrations and industry to focus on their key risks while contributing to a stronger, more unified regional and global aviation safety system.

5.2 RASP Goals, Targets, And Indicators

5.2.1 To support the GASP vision, AP-RASP follows the GASP framework to build on existing progress and ensure continuity in safety initiatives. The GASP 2026–2028 Edition focuses on reducing the five Global High-Risk Categories (G-HRCs) and addressing organizational challenges such as limited oversight capacity and limited SSP implementation. These goals and targets are derived from operational safety risks and organizational challenges analyzed and identified in **Chapter 3** and **Chapter 4**, ensuring the plan directly addresses the region’s safety concerns.

5.2.2 While customizing global targets to regional needs, the AP-RASP evaluates their relevance using data from tools such as ADREP, USOAP CMA, and iSTARS. It reviews progress against each target and considers interdependencies, such as the need to establish effective state safety oversight system, which is required for effective SSP implementation. The plan follows a step-by-step approach recommended in ICAO Doc 10131, allowing States/Administrations to progress based on their maturity, capacity, and available resources.

5.2.3 **Table 5** summarizes the AP-RASP goals, targets, and indicators for 2026–2028. It provides a clear reference for States/Administrations and industry to understand the expected outcomes, timelines, and key performance measures, linking regional safety issues to the global GASP framework. The AP-RASP targets are primarily aligned with the GASP targets to support the global goal, while targets 2.4, 4.1, 4.2 and 4.4 have been adapted to address unique APAC challenges.

<i>Goal</i>	<i>APAC Target</i>		<i>Indicators</i>
Goal 1: Achieve a continuous reduction of operational safety risks	<i>1.1</i>	By 2028, APAC Region to maintain a 5-year moving average decreasing trend of regional accident rate	<ul style="list-style-type: none"> • Accident rate (number of accidents per million departures) • Fatal accident rate (number of fatal accidents per million departures) • Fatality rate (number of fatalities per billion passengers carried)
	<i>1.2</i>	By 2028, APAC Region to maintain a 5-year moving average decreasing trend of accidents and serious incidents for each regional high-risk category of occurrence (R-HRC)	<ul style="list-style-type: none"> • Accident rate by R-HRC • Serious incident rate by R-HRC • Percentage of accidents related to R-HRC compared to all accidents • Percentage of serious incident related to R-HRC compared to all serious incident

Goal	APAC Target		Indicators
	1.3	By 2028, APAC Region to maintain a 5-year moving average decreasing trend of accidents and serious incidents related to the other regional risk categories of occurrences	<ul style="list-style-type: none"> • Accident rate by other regional risk category of occurrence • Serious incident rate by other regional risk category of occurrence • Fatal accident rate by other regional risk category of occurrence. • Fatality rate by other regional risk category of occurrence.
Goal 2: <i>Strengthening States' safety oversight capabilities</i>	2.1	By 2028, all APAC States/Administrations to commit to ensuring that each of their safety oversight authorities are allocated with sufficient financial resources to meet national and international obligations, with at least 70 per cent of APAC States/Administrations having sufficient financial resources	<ul style="list-style-type: none"> • Percentage of States/Administrations with a “satisfactory” rating for the Universal Safety Oversight Audit Programme (USOAP) protocol question (PQ) 2.051 [^] <p>[^] Please see Chapter 4.2.3b) for details</p>
	2.2	By 2028, all APAC States/Administrations to improve their effective implementation (EI) score for qualified technical personnel (CE-4) for aircraft accident and incident investigation (AIG) and for aerodromes and ground aids (AGA), respectively, with a further commitment that no APAC State has a score of less than the baseline global average ³	<ul style="list-style-type: none"> • Percentage of States/Administrations that meet the EI score of equal or greater than the baseline global average⁶ for CE-4/AIG • Percentage of States/Administrations that meet the EI score of equal or greater than the baseline global average⁶ for CE-4/AGA
	2.3	By 2028, APAC States/Administrations to improve their EI score for the resolution of safety issues (CE-8) in AGA with a further commitment that no State has a score of less than the baseline global average ⁶	<ul style="list-style-type: none"> • Percentage of States/Administrations that meet the EI score of equal or greater than the baseline global average⁶ for CE-8/AGA
	2.4	By 2028, at least 70 percent of APAC States/Administrations to establish independent an Accident Investigation Authority (AIA)	<ul style="list-style-type: none"> • Percentage of States/Administrations that establish the Independent AIA
Goal 3: <i>Establish and manage State safety programmes (SSPs)</i>	3.1	By 2026, all APAC States/Administrations to assess the level of implementation of their SSP	<ul style="list-style-type: none"> • Percentage of States/Administrations having completed their SSP PQ self-assessment, using the ICAO online framework (OLF)
	3.2	By 2028, all APAC States/Administrations to establish an SSP	<ul style="list-style-type: none"> • Percentage of States/Administrations having established an SSP • Percentage of States/Administrations having established a safety data collection and processing system (SDCPS) • Percentage of States/Administrations having established a framework for the protection of safety data and safety information
Goal 4: <i>Strengthening collaboration at the regional and national levels to address safety issues</i>	4.1	By 2026, the APAC region to identify APAC States/Administrations that need assistance to address highest priority safety issues based on their effective Implementation (EI) as follows: <ul style="list-style-type: none"> - Group 1: EI < 50 %, - Group 2: 50 % < EI < 75 % 	<ul style="list-style-type: none"> • Percentage of APAC States/Administrations within each group identified to require assistance in addressing the highest priority safety issues

3. The global average is calculated using year 2025 as a baseline.

Goal	APAC Target		Indicators
	4.2	By 2028, the APAC region to facilitate the required assistance to the APAC States/Administrations as identified from Target 4.1 to address the highest priority safety issues	<ul style="list-style-type: none"> Percentage of APAC States/Administrations within each group that receive the required assistance to address the highest priority safety issues
	4.3	By 2027, APAC region to establish and implement a mechanism within APAC to make use of the information on operational safety risks and emerging issues for the purpose of aviation safety planning	<ul style="list-style-type: none"> Percentage of APAC States/Administrations registered to ICAO’s Secure Portal on “Operational Safety Risks and Emerging Issues” # Number of reports received via the Secure Portal on Operational Safety Risks and Emerging Issues Number of studies or analyses conducted by RASG-APAC based on reports received via Secure Portal on Operational Safety Risks and Emerging Issues <p># Please see Chapter 5.5 for details</p>
	4.4	By 2028, RASG-APAC to increase the percentage of States/Administrations actively leading RASG activities.	<ul style="list-style-type: none"> Percentage of APAC States/Administrations to actively lead RASG-APAC’s activities (Working Groups, Teams, Task Forces and SEI implementation)
Goal 5: <i>Strengthen aviation safety planning</i>	5.1	By 2027, all APAC States/Administrations to publish an updated national aviation safety plan (NASP), taking into consideration the 2026–2028 edition of the GASP and AP-RASP	<ul style="list-style-type: none"> Percentage of States/Administrations that published an updated NASP Percentage of NASPs developed in consultation with industry
Goal 6: <i>Expand the use of industry evaluation programmes and safety data sharing programmes</i>	6.1	By 2028, industry in APAC to maintain an increasing trend in its use of industry evaluation programmes and safety data sharing programmes in the below area: <ul style="list-style-type: none"> Aerodrome Aircraft operations ANSP Ground Handling <p>* The trend is calculated using year 2025 as a baseline.</p>	<ul style="list-style-type: none"> Number of service providers in APAC States/Administrations participating in the corresponding ICAO-recognized industry evaluation programmes Number of service providers in APAC States/Administrations participating in industry safety data sharing programmes

Table 5: APAC goals, targets and indicators aligned with GASP

5.3 Adapting RASP Goals, Targets, and Indicators to the NASP

5.3.1 The AP-RASP 2026–2028 establishes a framework of regional safety goals, targets, and indicators to be considered by States/Administrations in the development or update of their NASPs. States/Administrations are encouraged to align their NASPs with the global and regional safety goals and targets defined in the GASP and AP-RASP. Cross-referencing of regional and global targets is further encouraged to facilitate consistent monitoring and performance assessment, as appropriate.

5.3.2 States/Administrations should adapt global and regional indicators in accordance with their respective national contexts. Such an approach promotes harmonization, traceability, and effective implementation, while preserving the flexibility required to address national safety issues.

5.4 Regional Safety Enhancement Initiatives

5.4.1 The AP-RASP 2026–28 includes both ORG and OPS safety roadmaps, composed of a list of SEIs adopted from ICAO Doc 10161, tailored to regional needs, and newly developed to address specific APAC safety issues. Collectively, these SEIs translate global safety goals and targets into regional and national actions. The complete list of the SEIs is presented in the Safety Roadmaps at link: <https://www.icao.int/APAC/rasg/Library/AP-RASP>.

5.4.2 Implementation of SEIs in the Asia-Pacific region is organized through a coordinated two-tier structure. At the regional level, RASG-APAC oversees the delivery and monitoring of SEIs through APRAST and APAC-AIG, in coordination with States/Administrations, ICAO APAC Office, the COSCAP programmes, and other relevant technical entities. These mechanisms facilitate collaboration among States/Administrations, develop and share guidance material, and monitor progress to ensure that actions remain data-driven/informed, harmonized, and aligned with regional safety goals. Active participation and commitment from all regional stakeholders is essential for the effective implementation of these SEIs.

5.4.3 At the national level, States/Administrations are responsible for integrating relevant SEIs into their NASPs and safety oversight systems. Industry, including air operators, aerodrome operators, and air navigation service providers, are encouraged to incorporate applicable SEIs within their SMS to enhance risk management, operational safety, and alignment with national safety priorities. This coordination between regional and national mechanisms supports effective implementation and promotes measurable improvements in aviation safety performance across the region.

Note.— The manuals listed in this chapter are found on the ICAO website at: www.icao.int/gasp.

5.5 Emerging Issues and Safety Risks

5.5.1 This AP-RASP notes the emerging safety issues identified in Section 5.5 of GASP, for example the increasing use of innovations or Artificial Intelligence in automation and in safety-critical activities that may introduce potential new hazards when integrated into the aviation system. This AP-RASP also urges all stakeholders to stay vigilant and follow GASP's call for the aviation community to proactively identify hazards, mitigate risks, and share information, for example, through ICAO's Secure Portal on Operational Safety Risks and Emerging Issues at <https://www.icao.int/safety/GASP/Pages/Secure-Portal.aspx> in order to enable collaborative learning and coordinate mitigation strategies for globally or within the APAC region.

6. MONITORING IMPLEMENTATION AND EFFECTIVENESS

6.1 Monitoring of progress and effectiveness of AP-RASP Actions and Targets

6.1.1 The safety performance of the AP-RASP is measured using metrics consisting goals, targets and indicators listed in chapter 5 of this plan to determine the progress made by States/Administrations and the region in achieving the plan's goals. The SEIs in the AP-RASP are implemented through the working processes and initiatives of RASG-APAC, APRAST and APAC-AIG, as well as activities conducted by APAC regional bodies such as the COSCAPs, PASO, APANPIRG and by individual States/Administrations.

6.1.2 APRAST and APAC-AIG monitor the implementation of the SEIs listed in this AP-RASP and measures the safety performance of the regional civil aviation system against the intended targets. Effective implementation of the OPS and ORG safety roadmap relies upon the close collaboration among all stakeholders, particularly with regard to the timely provision of data and information for monitoring purposes. If required, the ICAO APAC Office will seek the support of States/Administrations, industry partners, international organizations, and expert groups to ensure the timely implementation of SEIs to address safety issues.

6.1.3 APRAST and APAC-AIG use the indicators listed in Table 5 to monitor each target. An APAC Annual Safety Report is the primary means to report up-to-date information on the progress toward AP-RASP goals. These goals and targets are aligned with the GASP, the Beijing and Delhi Declarations, reflecting the region's focus on both organizational and operational challenges. This will be monitored by the various Custodians and overseeing WGs under the RASG-APAC. The performance of AP-RASP will be presented to stakeholders in the APAC Annual Safety Report. If new critical operational safety risks are identified, measures will be taken to mitigate them as soon as practicable, potentially with the issuance of a RASG-APAC Safety Advisory (RSA) or a new SEI.

6.2 Standardized Approach to Provide Information at a Regional Level

6.2.1 The progress of implementation of the AP-RASP ORG Actions will be tracked by the ORG WG and its Action Custodians, while the OPS Actions will be tracked by the OPS WG and its Task Force leads. SEI implementation will be tracked through the Online Monitoring Mechanism made available to all APAC States/Administrations. This process is overseen by the APRAST Co-Chairs and the ORG and OPS WG Co-Chairs, who will provide periodic progress reports to RASG-APAC. The APAC-AIG will provide updates on the progress of AIG-related Actions, some of which may be related to ORG Actions, to RASG-APAC.

6.3 Process for amendment to the AP-RASP

6.3.1 Proposed corrections or adjustments to the AP-RASP can be initiated by APRAST or APAC-AIG. As APRAST is the custodian of the AP-RASP on behalf of APAC-RASG, APAC-AIG will coordinate with APRAST on its proposed changes. All amendments are submitted to RASG-APAC for approval. Reviews may be triggered under two circumstances:

- a) **New Edition (Triennial Review).** The AP-RASP is reviewed and updated every three years to align with the corresponding GASP update and the outcomes of the high-level regional safety meetings.
- b) **Ad-hoc Amendment.** At any time during the triennium, if new critical regional issues are identified (for example a new R-HRC) requiring immediate mitigation, APRAST or APAC-AIG may propose the changes in the existing AP-RASP for approval of RASG-APAC. The amended version will be indicated as a Revised Edition.

6.4 Process for amendment to the AP-RASP OPS and ORG Safety Roadmaps

Proposed corrections or adjustments to the AP-RASP OPS and ORG safety roadmaps will be initiated by the OPS Working Group (WG) and ORG Working Group (WG) respectively. Whenever a change or amendment to the safety roadmap is required, the responsible WG will prepare and present the proposal in the form of a Working Paper to APRAST for approval, along with justification. To ensure tracking and accountability, these safety roadmaps will be maintained under a controlled revision number, which will record and monitor the number of revisions made throughout the triennium.

6.5 Critical Success Factors

6.5.1 The successful implementation of the AP-RASP relies on several critical success factors. Failure to address these factors poses a significant risk to the region's ability to meet its safety targets:

- a) Resource commitment. The primary constraint in the region is limited manpower and financial resources. Regional bodies must actively facilitate support for under-resourced States/Administrations to drive implementation.
- b) Data and information availability. Monitoring is impossible without timely, consistent, and quality data. States/Administrations and industry will need to commit to provide the necessary data and information when requested to enable objective tracking of targets.
- c) Governance and continuity. Given the voluntary nature of regional working groups, sustained leadership and commitment from States/Administrations and industry are essential to ensure that momentum is maintained between meeting.
