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Asia and Pacific Office

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Agenda Item 5: Presentations – State / Industry / ICAO

UPDATES ON ASIA-PACIFIC REGIONAL AVIATION SAFETY PLAN (AP-RASP) 2026-2028

(Presented by Secretariat)

SUMMARY

This paper provides updates on the Asia Pacific Regional Aviation Safety Plan (AP-RASP) 2026–2028 developed in line with ICAO Global Aviation Safety Plan (GASP) 2026–2028, to address high-risk categories of occurrences, other regional risk of categories of occurrences and organisation challenges at regional level.

The meeting may agree on the actions suggested in section 3 of this paper.

1. INTRODUCTION

1.1 In line with the Decision 23/5 adopted in APRAST/23 meeting to align upcoming Asia Pacific Regional Aviation Safety Plan (AP-RASP) 2026- 2028 with the ICAO Global Aviation Safety Plan (GASP) high-risk categories of occurrences, newly defined operational risk categories and the overall structure of the GASP 2026-2028, the ORG working Group (formerly known as AP-RASP WG) has developed the AP-RASP 2026-2028.

1.2 Target 5.1 of Goal 5 of ICAO GASP 2026-2028 requires that "by 2026, all regions to publish an updated regional aviation safety plan (RASP), taking into consideration the 2026–2028 edition of the GASP".

1.3 In RASG-APAC/15 meeting held on 27th-28th November 2025, the draft AP-RASP 2026-2028 along with Goals, Targets and Indicators was presented. It received an in-principle approval in RASG-APAC/15 (Decision RASG-APAC 15/04) subject to any modification which may be suggested in the APRAST/24 meeting.

1.4 This working paper provides updates on the development of AP-RASP 2026–2028. The development of the plan involved contributions from six States/Administrations (listed according to the chapters they amended) Hong Kong China, EASA, Australia, Thailand, Pakistan, Singapore, and India

2. DISCUSSION

2.1 Key Improvements

2.1.1 The ORG WG identified key enhancement opportunities for the 2026-2028 edition, building upon the successful foundation established in previous trienniums. These improvements include:

a) Strengthening alignment with the latest GASP 2026-2028 edition;
b) Updating the Operational safety risk and organisational challenges based on regional safety data and the corresponding goals and targets for managing those regional challenges;
c) Presenting AP-RASP goals, targets, and indicators in a tabular format to provide a clear reference for States and industry to understand the actions needed to achieve the expected outcomes;
d) Advancing data-driven safety oversight methodologies; and
e) Reinforcing the Safety Enhancement Initiatives (SEIs) in the OPS and ORG Roadmaps to address the identified Regional Goals through more focused and sustainable actions and metrics.

2.2 Regional Organisational Challenges:

2.21 Eight key regional organisational challenges were identified through comprehensive analysis of USOAP data, State Safety Programme (SSP) self assessment tool, and National Aviation Safety Plans (NASPs):

a) Insufficient financial resources for safety oversight authorities
b) Lack of qualified technical personnel (particularly aircraft accident investigators and aerodrome inspectors)
c) Lack of independent accident investigation organisations
d) Inadequate regulatory processes for resolving safety issues
e) Low level of SSP implementation
f) Low level of NASP publication by States
g) Deficiencies in safety data collection, analysis and exchange
h) Need to expand leadership and provide targeted regional support

2.3 Regional Operational Safety Risk:

2.3.1 A review of accidents and serious incidents that occurred in APAC, and those for aircraft registered in states located in APAC involved in commercial air transport, was undertaken by the APRAST Safety Reporting and Programme Working Group (SRP WG). Accident data sourced from ICAO and serious incident data was sourced from the Flight Safety Foundation aviation safety dashboard (aviation-safety.net/dashboard/apac).

2.3.2 Based on analysis of the GASP global high-risk categories (G-HRCs) and regional data from 2020-2024, the top Regional High-Risk Categories (R-HRCs) for the APAC region are: Runway Excursion (RE) and Mid-Air Collision (MAC), along with Controlled Flight into Terrain (CFIT), Loss of Control In-flight (LOC-I), and Runway Incursion (RI).

2.3.3 New "other regional risk categories of occurrences"[1] are added with reference to GASP which include System/Component Failure Non-Powerplant (SCF-NP), Abnormal Runway Contact (ARC), System/Component Failure Powerplant (SCF-PP), and Turbulence Encounter (TURB).

2.4 **Goals, Targets and Indicators:**

2.4.1 A new table to present the AP-RASP goals, targets, and indicators as appended below has been added in 2026–2028 edition of AP-RASP. It provides a clear reference for states and industry to understand the expected outcomes, timelines, and key performance measures, linking regional priorities to the global GASP framework. The AP-RASP targets are primarily aligned with the GASP and Asia Pacific Ministerial Declaration (Delhi Declaration 2024) targets to support the global goal. Targets 2.4, 4.1, 4.2 and 4.4 address unique APAC challenges.

Goal	***APAC Target***		**Indicators**
Goal 1: Achieve a continuous reduction of operational safety risks	*1.1*	By 2028, APAC Region to maintain a five-year moving average decreasing trend of regional accident rate	• 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)
	1.2	By 2028, APAC Region to maintain a five-year moving average decreasing trend of accidents and serious incidents for each regional high-risk category of occurrence (R-HRC)	• Accident rate by R-HRC • Serious incident rate by R-HRC • Percentage of accidents related to R-HRC compared to all accidents
	1.3	By 2028, APAC Region to maintain a five-year moving average decreasing trend of accidents and serious incidents related to the other regional risk categories of occurrences	• 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.
Goal 2: Strengthening States' safety oversight capabilities	*2.1*	By 2028, all APAC States to commit to national aviation safety plans (NASPs) that allocate to each safety oversight authority sufficient financial resources to meet national and international obligations, with at least 70 per cent of APAC States having sufficient financial resources	• Percentage of States with a "satisfactory" rating for the Universal Safety Oversight Audit Programme (USOAP) protocol question (PQ) 2.0512
	2.2	By 2028, all APAC States 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),	• Percentage of States that meet the EI score of equal or greater than the baseline global average for CE-4/AIG • Percentage of States that meet the EI score of equal or greater than the baseline global

[1] 2.3.5 "Other global risk categories of occurrences" are new in 2026-28 GASP which refer to incident types that do not have high fatality risks (i.e. not HRCs) but are the most frequent types of accidents and serious incidents across ICAO regions.

Goal	*APAC Target*		**Indicators**
		respectively, with a further commitment that no APAC State has a score of less than the baseline global average[3]	average for CE-4/AGA
	2.3	By 2028, APAC States 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[4]	• Percentage of States that meet the EI score of equal or greater than the baseline global average for CE-8/AGA
	2.4	By 2028, at least 70 percent of APAC States to establish independent Accident Investigation Authority (AIA)	• Percentage of States that establish the Independent AIA
Goal 3: Establish and manage State safety programmes (SSPs)	*3.1*	By 2026, all APAC States to assess the level of implementation of their SSP	• Percentage of States having completed their SSP PQ self-assessment, using the ICAO online framework (OLF)
	3.2	By 2028, all APAC States to establish an SSP	• Percentage of States having established an SSP • Percentage of States having established a safety data collection and processing system (SDCPS) • Percentage of States having established a framework for the protection of safety data and safety information
Goal 4: Strengthening collaboration at the regional and national levels to address safety issues	*4.1*	By 2026, the APAC region to identify APAC States that need assistance to address highest priority safety issues based on their effective Implementation (EI) as follows :as follows : - Group 1: EI < 50 %, - Group 2: 50 % < EI < 75 %,	• Percentage of APAC States within each group identified to require assistance in addressing the highest priority safety issues
	4.2	By 2028, the APAC region to facilitate the required assistance to the APAC States as identified from Target 4.1 to address the highest priority safety issues	• Percentage of APAC States within each group that receive the required assistance to address the highest priority safety issues
	4.3	By 2027, APAC region to 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	• Percentage of APAC States 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 # detailed in Section [5.5]
	4.4	By 2028, RASG-APAC to increase the percentage of States actively leading RASG activities.	• Percentage of APAC States to actively lead RASG-APAC's activities (Working Groups, Teams, Task Forces and SEI implementation)

Goal	*APAC Target*		**Indicators**
Goal 5: Strengthen aviation safety planning	*5.1*	By 2027, all APAC States to publish an updated national aviation safety plan (NASP), taking into consideration the 2026–2028 edition of the GASP and AP-RASP	• Percentage of States that published an updated NASP • Percentage of NASPs developed in consultation with industry
Goal 6: Expand the use of industry evaluation programmes and safety data sharing programmes	*6.1*	By 2028, industry in APAC to maintain an increasing trend * in its use of 1. industry evaluation programmes: - IATA IOSA - IATA ISAGO - ACI APEX in Safety - CANSO SoE in SMS 2. safety data sharing programmes: - IATA FDX - IATA IDX - FSF ASN * The trend is calculated using year 2025 as a baseline.	• Number of service providers in APAC States participating in the corresponding ICAO-recognized industry evaluation programmes • Number of service providers in APAC States participating in industry safety data sharing programmes

2.5 **APAC Roadmap (OPS and ORG):**

2.5.1 The SEIs in the APAC ORG and OPS roadmaps are being developed to address the organizational and operational challenges identified in the AP-RASP 2026-2028. These roadmaps will subsequently be reviewed for alignment with ICAO Global Aviation Safety Roadmap (Doc 10161) for consistency.

3. ACTION BY THE MEETING

3.1 The Meeting is invited to:

a) Note the information in this Working Paper; and

b) APRAST to review the draft AP-RASP 2026-2028 and provide comments so that it can be finalized and published in the first quarter of 2026.

— END —

ASIA-PACIFIC REGIONAL AVIATION SAFETY PLAN
2026-2028

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Approved by and published under the authority of the Regional Director

INTERNATIONAL CIVIL AVIATION ORGANIZATION ASIA AND PACIFIC REGIONAL OFFICE

SUMMARY OF AMENDMENTS

This table contains a summary of the amendments made to the 2026–2028 edition of the AP-RASP and their rationale.

Amendment	*Rationale*

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CONTENTS [to be updated]

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FOREWORD

Air transport is a key enabler for sustainable economic and social development of the Asia-Pacific (APAC) region. Furthermore, the APAC Region has become the world's largest aviation market and continues to grow rapidly in tandem with business andoperating models. Despite the devastating impact of the COVID-19 pandemic on international air travel in the last three years, the APAC Region is expected to continue to see in the mid- to long-term rapid growth in air traffic, and corresponding increased airspace and airport congestion.

A safe aviation system contributes to the economic development of the States/ Administrations and industries of the APAC region. Achieving safe and sustainable aviation growth requires well-developed air navigation services, modern airport infrastructure, and a skilled workforce capable of 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 put in place several regional building blocks, including Safety Enhancement Initiatives (SEIs) and tools, since the creation of the Regional Aviation Safety Group (RASG-APAC) and the Asia Pacific Regional Aviation Safety Team (APRAST) in 2011 and 2012 respectively. Continued efforts are necessary to refine these frameworks and prioritize the implementation of safety initiatives.

In 2020 ICAO APAC published its first edition of its Regional Aviation Safety Plan for the triennium 2020-2022 (hereinafter referred to as 'AP-RASP'). This strategic document outlined the region's approach to enhancing aviation safety management and reducing fatalities and associated risks. The current edition marks the second update since its initial publication.

To facilitate communication and understanding by all regional and external stakeholders, the AP-RASP has been restructured in a simple, systematic and practical manner.

By means of this AP-RASP, aviation stakeholders of the APAC region including States/ Administrations, Industry Partners, International Organizations and regional groupings, reaffirm their commitment to aviation safety, strengthening collaboration at the regional level, resourcing of activities and contribute to the continuous improvementof aviation at the global, regional and State levels.

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GLOSSARY

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DEFINITIONS [to be updated]

Adequate. The state of fulfilling minimal requirements; satisfactory; acceptable; sufficient.

Audit. A systematic, independent and documented process for obtaining evidence and evaluating it objectively to determine the extent to which requirements and audit criteria are fulfilled.

Audit area. One of eight audit areas pertaining to the Universal Safety Oversight Audit Programme (USOAP), i.e. primary aviation legislation and civil aviation regulations (LEG), civil aviation organization (ORG); personnel licensing and training (PEL); aircraft operations (OPS); airworthiness of aircraft (AIR); aircraft accident and incident investigation (AIG); air navigation services (ANS); and aerodromes and ground aids (AGA).

Contributing factors. Actions, omissions, events, conditions, or a combination thereof, which, if eliminated, avoided or absent,would have reduced the probability of the accident or incident occurring, or mitigated the severity of the consequences of the accident or incident. The identification of contributing factors does not imply the assignment of fault or the determination of administrative, civil or criminal liability.

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, eachaudit area or as an overall measure. The EI is expressed as a percentage.

Safety. The state in which risks associated with aviation activities, related to, or in direct support of the operation of aircraft, are reduced and controlled to an acceptable level.

Safety data. A defined set of facts or set of safety values collected from various aviation related sources, which is used to maintain or improve safety.

Note.— Such safety data is collected from proactive or reactive safety-related activities, including but not limited to:

a) accident or incident investigations;
b) safety reporting;
c) continuing airworthiness reporting;
d) operational performance monitoring;
e) inspections, audits, surveys; or
f) safety studies and reviews.

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

Safety information. Safety data processed, organized or analysed in a given context so as to make it useful for safety management purposes.

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 activitycomply with safety-related national laws and regulations.

Safety performance. A State or a service provider's safety achievement as defined by its safety performance targets and safety performance indicators.

Safety performance indicator. A data-based parameter used for monitoring and assessing safety performance.

Safety performance target. The State or service provider's planned or intended target for a safety performance indicator overa given period that aligns with the safety objectives.

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.

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ABBREVIATIONS AND ACRONYMS [to be updated]

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
APEC	Asia-Pacific Economic Cooperation
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-RASPAT	Asia-Pacific Regional Aviation Safety Priorities and Targets
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
ASIAS	Aviation Safety Information Analysis and Sharing program
ASR	Annual Safety Report
ATM	Air Traffic Management
ATS	Air Traffic Services
BIRD	Bird Strike

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CAA	Civil Aviation Authority
CASI	Civil Aviation Safety Inspectors
CAST	Commercial Aviation Safety Team
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
CAST	US Commercial Aviation Safety Team
CST	Collaborative Safety Team
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)
G2B	Government-to-Business
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
GDP	Gross Domestic Product

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GEN	General aspects
G-HRC	Global High-Risk Categories of Occurrences
GPWS	Ground Proximity Warning System
HRC	High Risk Categories of Occurrences
IAOPA	International Council of Aircraft Owner and Pilot Associations
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
MTOW	Maximum Take-Off Weight
NASP	National Aviation Safety Plan
NCLB	No Country Left Behind
NDP	National development plan
OAG	Official Airline Guide
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)

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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
RTC	ICAO Regional Training Centre of Excellence
SAFE	ICAO Safety Fund
SARI	South Asian Regional Initiative
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
UNK	Unknown or Undetermined
UPRT	Upset Prevention and Recovery Training
USD	US Dollar
USOAP	Universal Safety Oversight Audit Programme
USOS	Undershoot/ Overshoot
WG	Working Group
XBT	Cross-Border Transferability

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EXECUTIVE SUMMARY

1) The Asia-Pacific Regional Aviation Safety Plan 2026-2028 Edition (AP-RASP) is regional strategy for States/Administrations 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. The plan supports APAC States/Administrations 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 (ANS) initiatives in the APAC Seamless ANS Plan, whilst meeting respective targets and the commitments of the Delhi Declaration 2024.

2) 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. The regional safety issues addressed through this plan have been identified based on comprehensive analysis of regional safety data drawn from multiple sources and adherence to GASP guidelines.

3) 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) and 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 (SCF-NP), Abnormal Runway Contact (ARC), System/Component Failure Powerplant (SCF-PP), 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):

   i. Insufficient financial resources for safety oversight authorities
   ii. Lack of qualified technical personnel (particularly aircraft accident investigators and aerodrome inspectors)
   iii. Lack of independent accident investigation organizations
   iv. Inadequate regulatory processes for resolving safety issues
   v. Low level of SSP implementation
   vi. Low level of NASP publication by States
   vii. Deficiencies in safety data collection, analysis and exchange
   viii. Need to expand leadership and provide targeted regional support

5) To address these operational safety risk and organisational challenges, the AP-RASP establishes six Regional Goals with specific targets. These goals are consistent with the goals given in ICAO GASP 2026 – 2028.

   - **Goal 1**: Achieve continuous reduction of operational safety risks
   - **Goal 2**: Strengthen States' safety oversight capabilities
   - **Goal 3**: Establish and manage 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 use of industry evaluation and safety data sharing programmes

6) The Plan includes comprehensive Safety Enhancement Initiatives (SEIs) identified by the OPS (operational) and ORG (organizational) roadmaps. Their implementation will be coordinated through RASG-APAC, APRAST Working Groups, APAC-AIG and supported by regional mechanisms including COSCAPs, PASO, and APANPIRG.

7) Progress monitoring of ORG and OPS roadmaps will be conducted through annual reporting at RASG-APAC/APRAST meetings, with detailed indicators measuring implementation of actions and achievement of targets. The APAC Annual Safety Report will provide regular updates on regional safety performance and goal achievement.

8) States/Administration are encouraged to use the AP-RASP as guidance for developing or updating their National Aviation Safety Plans (NASPs), ensuring alignment with GASP whilst addressing their specific operational safety risks and organisational challenges.

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.

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PART I – PLANNING

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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 enhancing aviation safety, resourcing of supporting activities and increasing collaboration at the regional level. The APAC Regional Aviation Safety Plan (AP-RASP) presents APAC's strategy for the continuous improvement of aviation safety. The AP-RASP aims to continually reduce fatalities, and the risk of fatalities, through the development and implementation of a regional aviation safety strategy. A safe, resilient, and sustainable aviation system contributes to the economic development of States across the APAC regions and their industries. The AP-RASP promotes the effective implementation of safety oversight systems of States in APAC, a risk-based approach to managing safety at the regional level, as well as a coordinated approach to collaboration between 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. The roles and responsibilities of ICAO bodies are updated by ICAO APAC Office[1]. All stakeholders are encouraged to support and implement the AP-RASP as the regional strategy for the continuous improvement of aviation safety.

1.1.2 The AP-RASP is in alignment with the ICAO Global Aviation Safety Plan (GASP, Doc 10004) and is developed in close adherence to other key global and regional reference. The AP-RASP supports the GASP vision "***Zero fatalities in commercial operations by 2030 and beyond***", mission "***To continually enhance global aviation safety performance and resilience by providing a collaborative framework for States, regions and industry***" and set of values incorporated in the plan. It serves as guiding principles for the national aviation safety plans of States in APAC, which in turns enable the GASP and AP-RASP to meet their purposes.

1.2 Structure of the AP-RASP

1.2.1 This AP-RASP comprises six Chapters. In addition to the introduction, chapters include: the purpose of AP-RASP, the regional operational safety risks identified in the plan; the regional organizational challenges identified in the plan; APAC's strategic direction for the management of aviation safety at the regional level, and a description of how the implementation of the safety enhancement initiatives (SEIs) listed in this AP-RASP will be monitored.

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

1.3.1 The RASG-APAC as supported by APRAST is responsible for developing, supporting implementation and monitoring the AP-RASP, together with the ICAO APAC Office, APAC States/ Administrations, entities listed in paragraph 1.1.1 and the aviation industry. The AP-RASP was developed in consultation with States, operators and other key aviation stakeholders in the region, and in alignment with the 2026-2028 Edition of the GASP. Its implementation requires a collaborative approach to achieve the regional safety strategy. To ensure its relevance, this plan is maintained by RASG-APAC as supported by the above groups, and in coordination with the above key aviation stakeholders and is updated at least every three years. **Figure 1** presents the AP-RASP development and review process, adapted from ICAO's process for GASP which may be adjusted as needed.

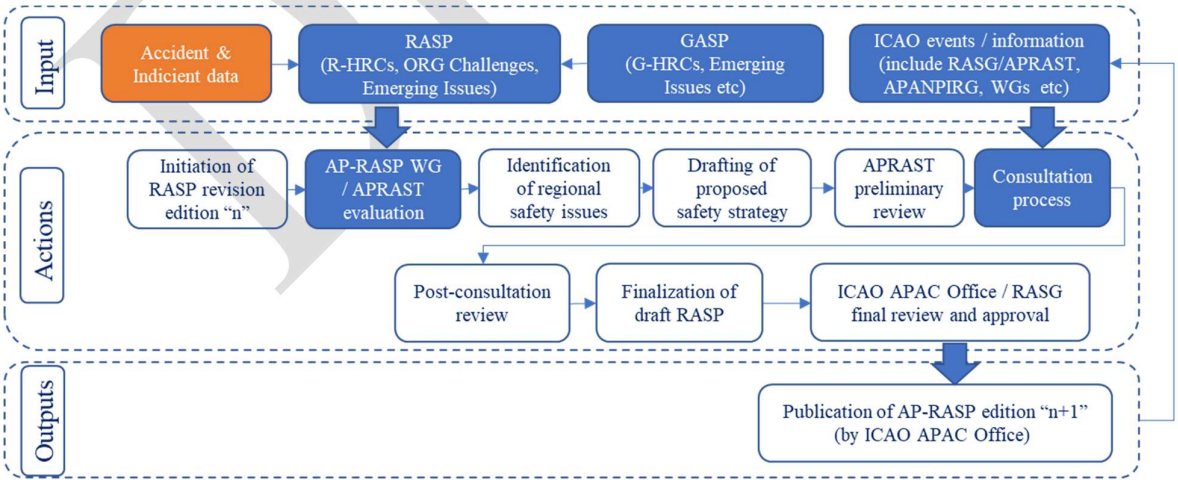

Figure 1: AP-RASP development and review process

[1] The ICAO APAC Office (https://www.icao.int/APAC) maintains and updates the Terms of References of ICAO bodies (e.g. RASG-APAC Procedural Handbook in [https://www.icao.int/APAC/rasg]) as required.

1.4 Regional Safety Issues, Goals and Targets

1.4.1 The AP-RASP was developed in congruence with the GASP, and supports the GASP aspirational goal of zero fatalities by 2030 and beyond and its objectives, goals, targets and indicators. The AP-RASP addresses the operational and organizational challenges as detailed in **Chapter 3** and **Chapter 4** and summarized below as regional safety challenges:

a) Operational: Five G-HRCs retained in 2026-2028 GASP (CFIT, LOC-I, MAC, RE and RI) to mitigate risk of fatalities. The APAC safety data showed RE and MAC had higher frequency ;

b) Operational: Four incident types that do not have high fatality risks but are the most frequent types of accidents and serious incidents across ICAO regions. Incorporating all "global risk categories of occurrences" in 2026-2028 Edition of GASP, APAC's "regional risk categories of occurrences" are abnormal runway contact; system/component failure or malfunction (non-powerplant/powerplant); and turbulence encounter) ; and

c) Organizational: Organizational challenges are detailed in **Chapter 4.4**, for example insufficient financial resources or qualified personnel for safety oversight, regulatory processes to address resolution of safety issues etc.

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.
- 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 Safety Issues, Goals and Targets

1.5.1 The APAC region is diverse with 39 contracting States, two Special Administrative Regions of China and 13 other Territories (see https://www.icao.int/APAC/apac-contracting-states). The APAC region covers vast airspace, with 49 Flight Information Regions (FIR). For Pacific States with large areas of Oceanic airspace and geographical separation, the air traffic capacity and efficiency challenges are not so relevant. Pacific States rely on aviation for economic sustainability through tourism, trade and regional connections. Passenger and aircraft volumes are low compared to other APAC regions with compliance, infrastructure and ability to meet some ICAO SARPs are major challenges.

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 83.4% matching pre-pandemic efficiency levels[2]. APAC airlines posted a 26.0% rise in international 2024 traffic compared to 2023, maintaining the strongest year-over-year rate among the regions. Despite this strong growth, opportunities for further growth remain high, as international RPKs remain 8.7% below 2019 levels. Furthermore, Airbus Global Market Forecasts 2025-2044 expected stronger traffic growth in Asia by 2044 and Boeing Commercial Market Outlook 2025-2044 also forecasted various levels of growth for markets relating to APAC. As passenger volumes and network complexity continue to grow, stakeholders across the APAC aviation ecosystem must accelerate investments in infrastructure expansion, operational efficiency and safety enhancements to sustain this dynamic recovery.

1.5.3 As of [end 2025], [23] out of 41 States / Administrations in the APAC Region had a score below [75] per cent for the effective implementation (EI) of the critical elements (CEs) of the State's safety oversight system. As of [2025], [22] States provided inputs on ICAO iSTARs that they had had assessed the level of implementation of their State safety programme (SSP), and [6] States have established an SSP and completed their implementation.

[2] 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/)

1.5.4 On top of the challenges to be addressed by AP-RASP in **Chapter 1.4**, other common hazards, safety deficiencies or issues identified from other sources such as regional data, studies of NASPs in APAC Region are shown below as safety reference by all concerned stakeholders :

a) Operational: Fire/smoke (non-impact), bird/wildlife strike, ground operations/ramp safety etc., as detailed in **Chapter 3**.

b) Organizational: Workforce relating to the shortages of qualified technical personnel, RPAS, AAM, AI, new energy aircraft etc. as detailed in **Chapter 4**.

c) ANS:

- Shortage of aviation safety inspectors with operational and technical work experience that are commensurate with the services they are required to inspect, particularly of those with substantial ANS-related industry exposure, search and rescue; and

- Some states experienced delays in rolling out the key elements of Aeronautical Information Management (AIM), despite its designation as a priority in the Asia/Pacific Seamless ANS Plan Version 4.0. This affects the availability of reliable and standardized aeronautical data for all aviation stakeholders.

d) Diversity: Significant intrinsic diversity among APAC States/ Administrations and industry in terms of operational context, governance/ sovereignty, geography and terrain, culture, language, level of development and expertise. For Pacific States, passenger and aircraft volumes are low and face major challenges in compliance with ICAO SARPs or other infrastructure challenges.

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2. PURPOSE OF THE REGIONAL AVIATION SAFETY PLAN

2.1 Region´s strategic direction for the management of aviation safety

2.1.1 The AP-RASP is the master planning document containing the strategic direction of the APAC region for the management of aviation safety for a period of three years (2026 to 2028); This period coincides with the GASP review, to ensure continued alignment with the latest global plan. This plan lists regional safety issues, sets regional safety goals and targets, and presents a series of safety enhancement initiatives (SEIs) to achieve those goals.

2.1.2 The 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. States/ Administrations in the APAC region and industry facilitate the implementation of the strategy presented in the AP-RASP through their NASPs. The AP-RASP seeks to assist States/ Administrations and industry in their respective aviation safety planning by:

a) establishing a regional safety strategy, including goals, targets and indicators;

b) providing a framework for the development and implementation of NASPs;

c) providing guidance for the development of action plans to support the implementation of NASPs, through the use of the regional aviation safety roadmap (refer to **Appendix A**)

d) providing a methodology to guide the identification of operational safety risks, organizational challenges and the development of safety goals, targets and indicators in national aviation safety plans, through the use of standardized frameworks (refer to Doc 10131 'Manual on the Development of Regional and 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 includes targets for all States / Administrations (and in some cases, their industry), to enhance safety nationally and contribute to the improvement of aviation safety at the global level. The AP-RASP is developed in line with the GASP goals and targets. Its content is adapted to meet the needs of the region. The AP-RASP presents regional HRCs (R-HRCs) and regional organizational challenges, as well as regional safety goals and targets, some of which are additional to the ones listed in the GASP. Some of the SEIs in the AP-RASP may not apply directly to a State / Administration, as they may be addressed to the RASG or to another regional entity. However, some targets or SEIs in the AP-RASP may be applicable to individual States /Administrations in the APAC region. In such cases, the regional safety target(s) or specific SEI(s) should be included in the State's NASP, in addition to relevant information from the GASP.

2.2.2 The NASP presents the strategic direction for the management of aviation safety at the State / Administration level for a set period. It outlines to all stakeholders where the different national entities involved in the management of aviation safety should target resources over the coming years. The NASP should be based on the State /Administration's own risk assessment and address the specific operational safety risks and organizational challenges.

2.2.3 The NASP presents 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 (that is, an action plan). When preparing its NASP, the State / Administration should draw on both the GASP and the AP-RASP. While it is essential to consult the latest editions of these documents, they must not be the only inputs. Equally important is an in-depth review of the State / Administration's own operational safety risks and organizational challenges, using established processes and data—such as existing safety risk assessments—to ensure a fully tailored NASP. **Figure 2** illustrates the relationship between the GASP, the RASP and the NASP.

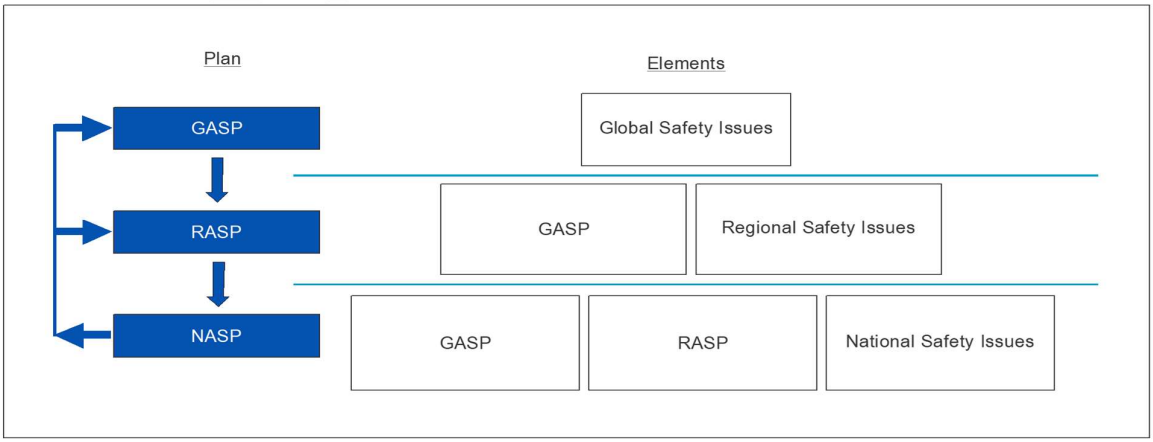

Figure 2: Relationship between the GASP, the RASP and the NASP

2.3 Initiatives to support the improvement of aviation safety

2.3.1 Two key elements need to be included in aviation safety planning:

a) 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

b) 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 global aviation safety road is now contained in a stand-alone manual – Global Aviation Safety Roadmap (Doc 10161). Doc 10161 serves as an action plan to assist the aviation community in developing RASPs and NASPs, in line with the GASP goals and targets, through a structured, common frame of reference for all relevant stakeholders. It defines how the goals and targets outlined in the strategy may be achieved. To do so, Doc 10161 outlines specific SEIs associated with the GASP goals and targets. 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 feed or complement national safety management activities and develop specific SEIs to support the strategy presented in their NASPs. The particularized safety roadmap region can be consulted in **Appendix A**. **Figure 3** illustrates the relationship between the GASP and the roadmap, in the context of aviation safety planning.

Aviation Safety Planning	
Global	
Strategy	*Action Plan*
Global Aviation Safety Plan (Doc 10004)	*Global Aviation Safety Roadmap* (Doc 10161)
Asia Pacific	
Strategy	*Action Plan*
Asia-Pacific Regional Aviation Safety Plan (AP-RASP)	

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

2.3.3 In addition to the global aviation safety roadmap, ICAO developed an updated suite of guidance material and tools related to the GASP, to support the improvement of aviation safety. They focus on the development and implementation of a NASP (with the same processes applying to a RASP, at the regional level). The guidance material and tools assist States to advance through the NASP development process. Electronic tools enable the identification of safety issues, as well as monitoring and reporting to measure safety performance. They are designed to monitor the implementation of the NASP and assess its actual effectiveness in terms of improving safety at the national level. **Figure 4** illustrates the suite of guidance material and tools that complement the GASP and support the development and implementation of NASPs.

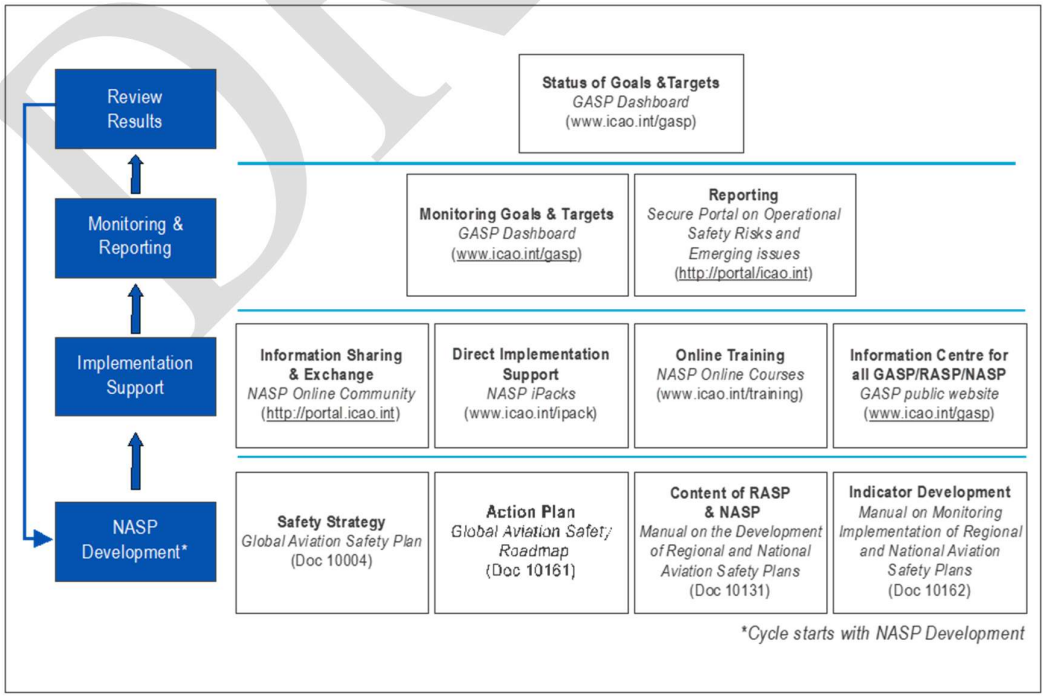

Figure 4: GASP-related guidance material and tools

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

2.3.5 At the Asia-Pacific level, the APAC Ministerial Conference on Civil Aviation held in Delhi, India from 11 to 12 September 2024 concluded with the unanimous adoption of the 2nd Asia and Pacific Ministerial Declaration on Civil Aviation—commonly known as the Delhi Declaration[3]—reaffirming 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 acknowledged the need to prioritizing and resourcing key activities aligned with the GASP, including, among others:

a) Improving EI scores of the critical elements (CEs) in each State's safety oversight system;

b) Implement and maintain an effective State Safety Programme (SSP);

c) Eliminate Significant Safety Concerns (SSCs) under USOAP – CMA and resolve any future SSCs within ICAO-agreed timeframes;

d) Develop, publish, and periodically update a NASP; and

e) Enhance human resource development by investing in quality-assured training and infrastructure to ensure a qualified, competent aviation workforce.

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

2.4.1 Other plans were considered in the development of the AP-RASP, including the following: the GASP, the GANP, and the APAC Seamless ANS Plan.

a) The GASP presents the global strategy for the continuous improvement of aviation safety and serves as the master planning document, upon which the AP-RASP and national aviation safety plans (NASPs) from the concerned States / Administrations, respectively, are developed and implemented. The GASP provides a collaborative framework for States /Administrations and the APAC region to manage operational safety risks and organizational challenges, through their respective NASPs and the AP-RASP, together with industry.

b) The GANP is the planning tool for setting global priorities to drive the evolution of the global air navigation system and ensure that the vision of an integrated, harmonized, globally interoperable and seamless system becomes a reality. The GASP and GANP are complementary in nature, and the GANP was considered during the revision of the GASP to enhance the alignment between both plans and avoid duplication of efforts.

c) The APAC Seamless ANS Plan presents the strategy to facilitate APAC Seamless ANS operations by developing and deploying ANS solutions capable of ensuring safety and efficiency of air transport throughout the APAC region. The Plan provides a framework for a transition to a Seamless ANS environment in order to meet future performance requirements. The Seamless ANS Plan supports the AP-RASP by improving the infrastructure and operational environment in which safety initiatives are implemented. For example, regional safety data sharing initiatives under AP-RASP rely on the ANS interoperable systems and collaborative frameworks promoted by the Seamless ANS Plan.

2.5 Leveraging on existing platforms and enhance collaboration among relevant stakeholders

2.5.1 The RASG-APAC/APRAST has, through the years, put in place several foundational building blocks of strategic safety management, which include the following:

a) RASG-APAC/ APRAST SEIs and the associated (Online) Monitoring Mechanism, which tracks the status of SEI implementation by States/ Administrations; and

b) APAC Annual Safety Report (APAC ASR)4, which contains several organizational and operational indicators and targets, regional USOAP Effective Implementation (EI) scores, and identifies safety-related challenges and the prioritization of areas that require action to enhance safety in the APAC region.

2.5.2 As in the previous triennium, not all APAC States/ Administrations have fully implemented the existing SEIs, and so there is still a need to further refine and better integrate the existing building blocks to ensure that they successfully track and analyse safety performance towards identifying and addressing safety risks, while proactively identifying new or emerging safety risks. The conceptual architecture of the envisioned Safety Data Collection and Processing System (SDCPS) for the APAC region is presented in **Figure 5**. For more details on the workings of an SDCPS, refer to the 4th Edition of the ICAO Safety Management Manual (Doc 9859).

[3] Delhi Declaration (https://www.icao.int/sites/default/files/inline-files/Asia%20Pacific%20Ministerial%20Declaration%20on%20Civil%20Aviation%20%28Delhi%20Declaration%29.pdf)

[4] APAC Annual Safety Report (APAC ASR) [(https://www.icao.int/APAC/rasg) [To be updated]

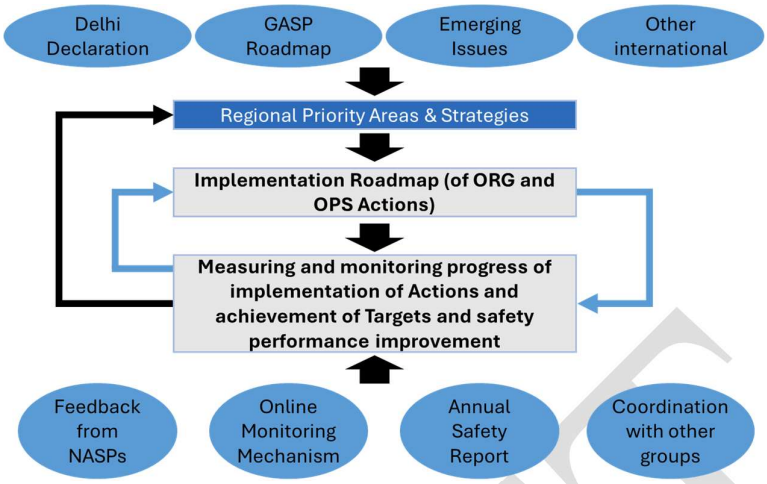

Figure 5: Conceptual architecture of the SDCPS for the APAC region

2.5.3 As a first step towards establishing this system and to facilitate AP-RASP implementation, it is necessary to enhance the communication and flow of safety data and information, as well as the coordination processes among RASG-APAC, APRAST WGs, and regional platforms, namely the ICAO-APAC, States/ Administrations, COSCAPs and PASO. Although progress has been achieved in this triennium, there is also still a need to continue to enhance collaboration with APANPIRG through coordinated processes to sustain the collection and sharing of regional air traffic management (ATM) data and the sharing and resolution of safety issues. This, in turn, will support the implementation of Aviation System Block Upgrade (ASBUs) and ensure that their implementation accounts for and properly manages existing and emerging risks, e.g. approaches with vertical guidance (APV) to mitigate risks associated with CFIT and runway excursions.

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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 do so, operational safety risks need to be identified and addressed. Operational safety risks are those which arise during aviation activities (for example, the operation of an aircraft or an airport, or the provision of air traffic services).

3.1.2 As there is a multitude of operational safety risks across the aviation system, and limited resources to address them, it is critical to adopt a mechanism to prioritize where efforts should be allocated. To help prioritize and focus actions to address operational safety risks, 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 unsafe outcomes across the world; as well as other global risk categories of occurrences that are trending up.

3.1.3 In line with the vision of the GASP, regional operational safety risks are listed in this chapter of the AP-RASP. They are addressed through action plans presented in the operational roadmap contained in Appendix A.

3.2 Summary of Operational Safety Risks at the Global Level

3.2.1 Within the 2026-2028 edition of the GASP, based on results from the analysis of global safety data and information, the following G-HRCs were identified. They are considered of the utmost priority, in the international context, based on global fatalities, fatality rates and the number of accidents and serious incidents. The G-HRCs for 2026-2028 are as follows:

- 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 listed above, the following additional global operational safety risks were identified as other global risk categories of occurrences (as per CICTT) for the 2026-2028 edition of the GASP. These may not have a high fatality risk, such as the G-HRCs, but figure prominently in the most frequent types of accidents and serious incidents across ICAO regions. The other global risk categories of occurrences for 2026-2028 are as follows:

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

3.2.3 The G-HRCs represent unsafe outcomes that are “end states”, which need to be avoided to prevent fatalities. Therefore, efforts by States, regions and industry should focus on addressing pre-cursors and contributing factors to these G- HRCs, to avoid accidents and serious incidents. While the identified other global risk categories above, may present themselves as precursor events to G-HRC and warrant specific risk mitigation in their own right.

3.3 Summary of Accidents and Serious Incidents at the Regional Level

3.3.1 A review of accidents and serious incidents that occurred in APAC, and those for aircraft registered in States located in APAC involved in commercial air transport, was undertaken by the APRAST Safety Reporting and Programme Working Group (SRP WG). Accident data was sourced from ICAO safety data and information using the Accident/Incident Data Reporting (ADREP) system and serious incident data was sourced from the Flight Safety Foundation aviation safety dashboard (aviation-safety.net/dashboard/apac). The occurrence classification was carried out using the Commercial Aviation Safety Team (CAST)/ICAO Common Taxonomy Team (CICTT) taxonomy for occurrence categories. The CICTT taxonomy is found on the ICAO website at https://www.icao.int/safety/airnavigation/AIG/Pages/Taxonomy.aspx.

3.3.2 Analysis of accident data and rates was undertaken to compare global and APAC accident trends. Compared to the global trend of fatal accident rates the APAC fatal accident rate has remained higher than the global average since 2023. With a 2024 APAC fatal accident rate of 0.32 per million departures, up from 0.09 in 2023, compared to the global rate of 0.27 in 2024 and 0.03 in 2023, as displayed in **Figure 6**.

3.3.3 While the APAC accident rate saw an increase in 2024, from 0.78 per million departures to 1.70, it remained lower than the global average. The accident rate and trend in the APAC region has consistently remained below the global rate over the last decade, as displayed in **Figure 7**.

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

Figure 7: Global vs APAC Accident Rate 2015-2024

3.3.4 Further combined analysis of accident and serious incident data within the APAC region for the 5-year period 2020-2024 identified the 10 highest occurrence categories (**Figure 8**). Within the APAC region, the top two highest occurrence categories were attributed to SCF-NP (54) and RE (46). These were followed by ARC (28), System/Component Failure or Malfunction Powerplant (SCF-PP) (26), TURB (25), and MAC (24). Apart from the TURB category, the majority of occurrences were relating to serious incidents as opposed to accidents.

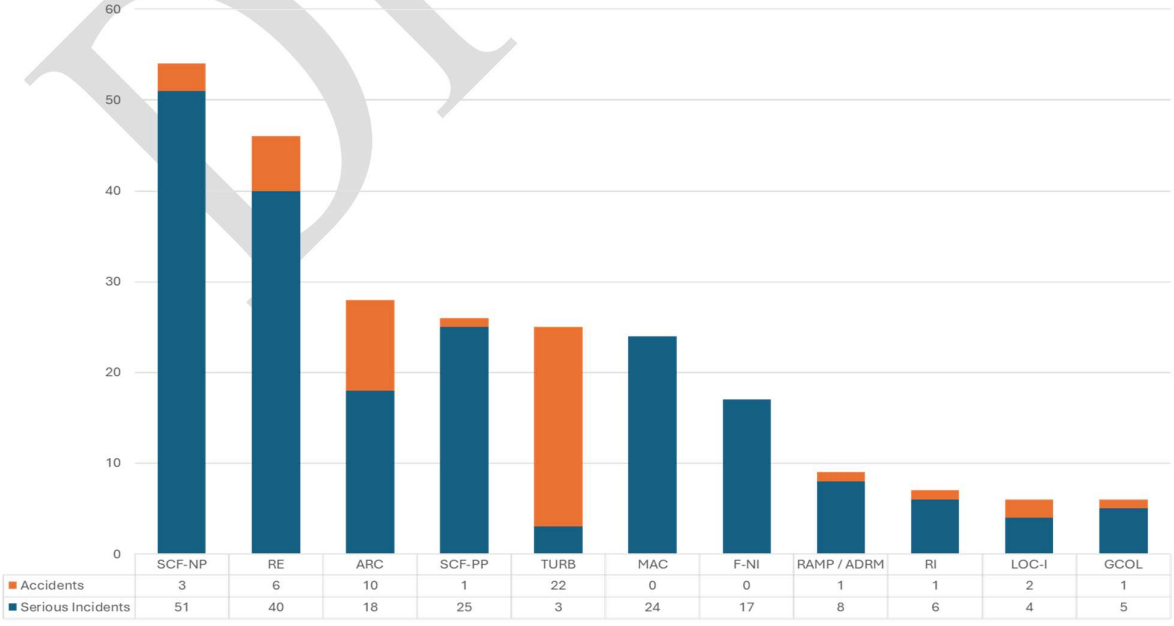

Figure 8: Top 10 occurrence categories (accidents and serious incidents)

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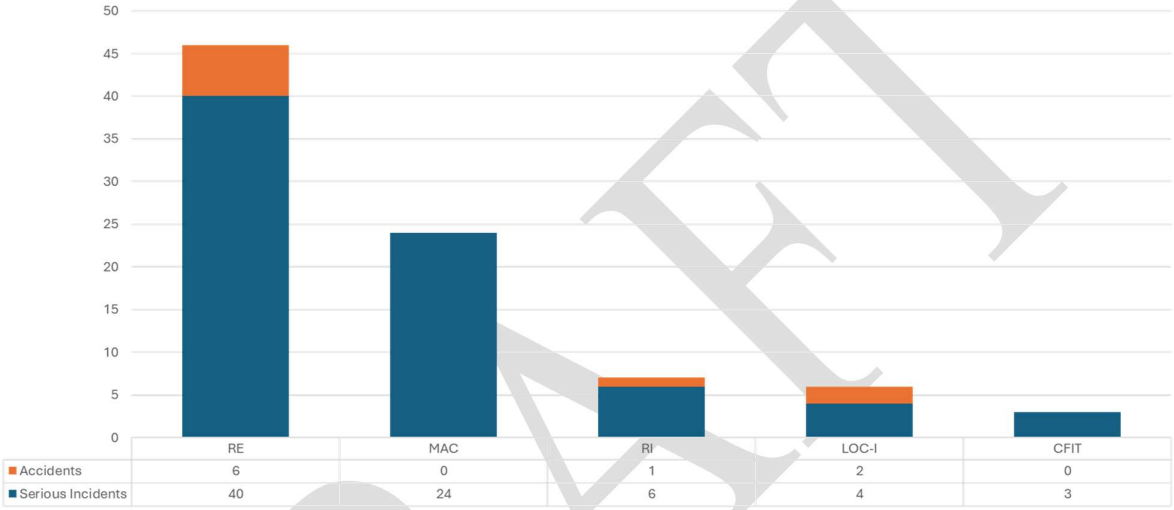
3.4 Regional High-Risk Categories of Occurrences

3.4.1 While all G-HRCs remain relevant across the APAC region, additional analysis of safety data on APAC regional number of accidents and serious incidents was undertaken to determine any APAC specific operational safety risks, as shown in **Figure 9**.

3.4.2 Within the APAC region over the 5-year period 2020-2024, the highest number of G-HRC occurrences were within the RE category with 46 events, the majority being serious incidents (40). Followed by MAC with 24 events, with all occurrences being serious incidents. The remaining three G-HRC experienced low numbers of occurrences and mostly were classified as serious incidents.

3.4.3 The HRC of occurrences of CFIT, LOC-I, MAC, RE and RI, are all relevant for inclusion as regional high-risk categories of occurrences (R-HRCs) and are in line with the G-HRCs listed in the 2026-2028 edition of the GASP.

3.4.4 However, RE and MAC are the R-HRCs in the APAC context considered of the utmost priority for safety enhancement initiatives, as they have resulted or could result in a high number of fatalities, or because they pose a risk since they comprise the largest number of accidents or serious incidents in comparison to the overall number of occurrences.



	RE	MAC	RI	LOC-I	CFIT
Accidents	6	0	1	2	0
Serious Incidents	40	24	6	4	3

Figure 9: APAC G-HRC Occurrences

3.5 Other Regional Risk Categories of Occurrences

3.5.1 In addition to the R-HRCs listed above, the following were identified as other regional risk categories of occurrences (as per CICTT) for the AP-RASP 2026-28. These may not have a high fatality risk, such as the G-HRC and R-HRCs, but figure prominently in the most frequent types of accidents and serious incidents across the APAC region. These other regional risk categories may present themselves as precursor events to G-HRC or R-HRCs and warrant specific risk mitigation in their own right.

3.5.2 Within the APAC region over the 5-year period 2020-2024, the top five highest number of other category occurrences were similar to the global other risk occurrences. However, within the APAC region the third highest number of other category occurrences were attributed to SCF-PP (26), as indicated in **Figure 10**.

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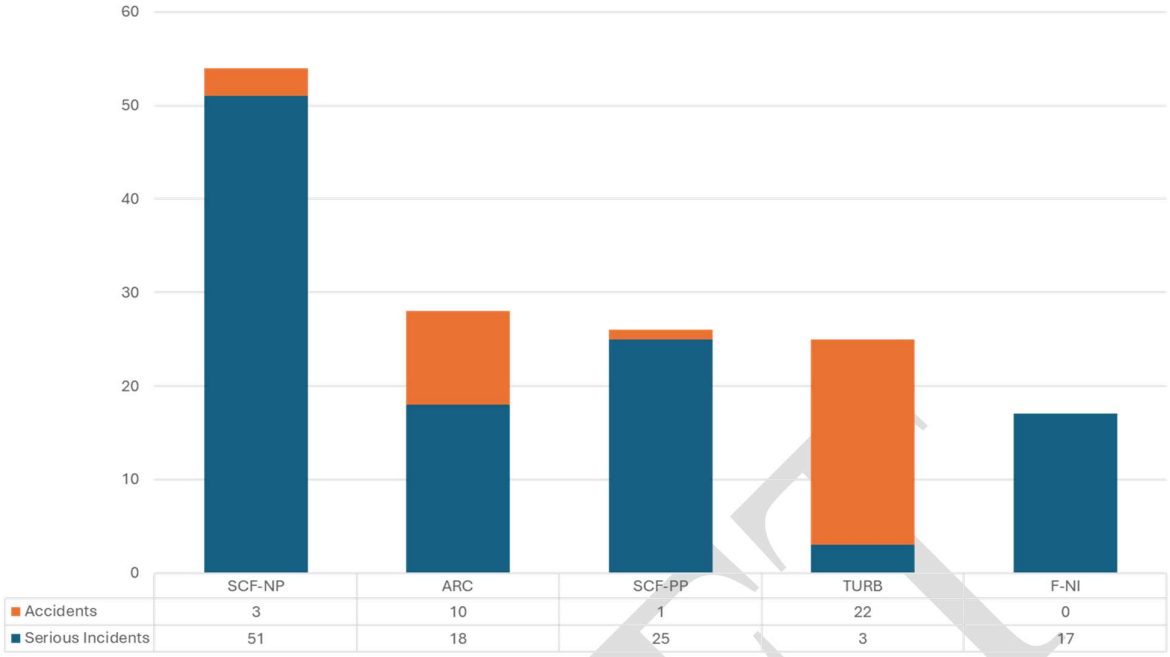

	SCF-NP	ARC	SCF-PP	TURB	F-NI
Accidents	3	10	1	22	0
Serious Incidents	51	18	25	3	17

Figure 10: Other Regional Risk Category Occurrences

3.5.3 Thematic analysis of State's National Aviation Safety Plans (NASP) within the APAC region, was conducted by the APRAST Organizational Working Group (ORG WG), sourced from the ICAO NASP Portal as of July 2025. Within the APAC region 16 States had published NASPs, of these 12 identified additional National operational safety risks beyond the G-HRCs. The two most common National operational safety risks across the APAC region were Bird/Wildlife strike (8 States) and Ground operations/Ramp safety (5 States).

3.5.4 The other regional risk categories of occurrences for AP-RASP 2026-28 considered of priority for safety enhancement initiatives are as follows:

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

3.5.6 The AP-RASP will address the identified regional risk areas, including the R-HRCs and other risk categories, through the operational (OPS) roadmap contained in Appendix A. The OPS roadmap will be supported via a series of operational risk task forces. With each task force designed to address specific risk areas as follows:

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

3.5.7 Additional consideration, as identified via APAC States safety analysis, is also warranted in the areas of:

- Bird/Wildlife strike
- Ground operations/Ramp safety.

3.5.8 These additional considerations are areas that APAC States are recommended to review at a National level as current APAC regional data is not reflective of these categories warranting additional focus within the AP-RASP this triennium. This could be due many occurrences in these categories not reaching the level of accidents or serious incidents. However, it would appear within several APAC States that incident level data exists to indicate emerging or latent safety risks. It is recommended that States continue to address these risk areas at a National level and access Regional assistance to enhance National approaches where necessary. While the AP-RASP recognises Bird/Wildlife strike and Ground operations/Ramp safety as being risks of concern, for the next triennium it is recommended these be reviewed by States to manage collaboratively across regional stakeholders in a coordinated manner, to facilitate the sharing of information and best practises among APAC aviation stakeholders via avenues such as the Wildlife Hazard Management Working Group (AP-WHM WG) and APANPIRG.

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3.6 Contributing Factors

3.6.1 For each of the R-HRCs identified in the AP-RASP, the main contributing factors are identified in **Table 1**. These contributing factors are areas the Region, States and industry should consider when looking to address pre-cursors and contributing factors to R-HRCs, to reduce accidents and serious incidents. The example list is not exhaustive and is presented in no particular order.

R-HRC	*Examples of contributing factors to R-HRC*
RE	• 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	• 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 of 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	• 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	• 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	• 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

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R-HRC	*Examples of contributing factors to R-HRC*
	• 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**

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4. REGIONAL ORGANIZATIONAL CHALLENGES

4.1 General

4.1.1 In addition to the regional operational safety risks listed in **Chapter 3**, the regional organizational challenges unique to the APAC region are identified. 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 AP-RASP context, "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 CEs of a safety oversight system and corresponding audit areas (AAs) that collectively measure a State's safety oversight capability. These CEs encompass the whole spectrum of civil aviation activities. They are the building blocks upon which an effective safety oversight system is based. The eight CEs are presented in **Figure 11**.

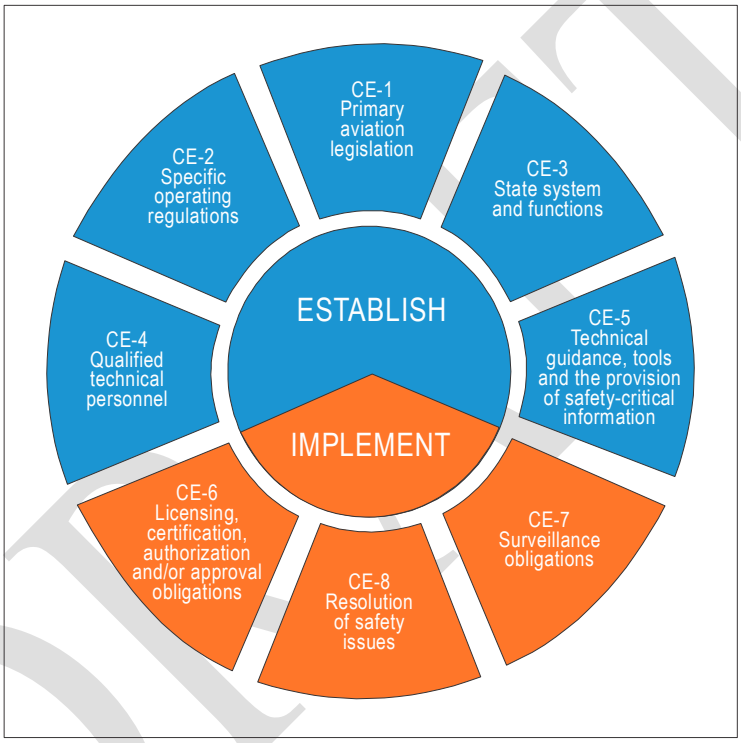

Figure 11: Critical elements of a State's safety oversight system

4.1.4 Deficiencies related to Critical Elements (CEs) and their corresponding Audit Areas (AAs) represent systemic organizational challenges. In the AP-RASP context, these common deficiencies are considered of the utmost priority for the region, as they significantly impact the ability of States to fulfill their safety oversight responsibilities.

4.1.5 Based on ICAO USOAP CMA data from July 2025 (**Table 2**), the APAC region's Effective Implementation (EI) score is 66.6%, showing only a slight improvement from 66.35% reported in the RASG-APAC Annual Safety Report 2022, and remaining below the global average of 70.3%. **Table 2** presents a comprehensive breakdown of EI scores by Critical Element and audit area. CE-4 and CE-8 are key areas of concern, while the Aircraft Accident and Incident Investigation (AIG) audit area also shows notably low scores, indicating significant challenges

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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 across the region vary significantly due to diverse operational contexts, governance, geography, and development levels. As demonstrated in **Table 3**, which classifies 41 APAC States/Administrations into 3 different EI groups, only 18 have achieved the GASP target of 75% EI. There are 23 States/Administrations that still remain below this benchmark.

4.1.7 The data presented in the table establishes a geographical pattern. Most States 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 underperforming States.

EI Score Group	State/Administration
Group 1: Below 50%	[12] States from PSIDs, ranging from [4 % - 46.92 %], and [2] have yet to be audited
Group 2: 50% to 75%	[11] States ranging [50.74% – 74.34 %]
Group 3: Above 75%	[18] States 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 issues, considered to be regional organizational challenges in APAC, the AP-RASP development team conducted an analysis, guided by the criteria defined in the *Standardized Framework for the Identification of ORG Challenges* (refer to Doc 10131). These criteria include, but are not limited to, aggregated status of States' safety oversight systems and capabilities at the regional level; consideration of States' organizational challenges in setting regional ones; and State safety programme (SSP) implementation and maintenance.

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

e) the three lowest-scoring PPQs by AA and CE combinations regionally (as identified by 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;

f) the PQs used to assess the civil aviation organization & State system and functions (ORG/CE-3) at the regional level, as recommended in the GASP;

g) organizational challenges that appear in several NASPs published by APAC States;

h) results from the SSP self-assessment tool (on OLF) and the SSP gap analysis application (on the Integrated Safety Trend Analysis and Reporting System (iSTARS).

4.2.3 The main findings from the analysis included the following:

a) As specified in the heat map in **Figure 12**, the three lowest scoring PPQs by AA and CE combination regionally (in ascending order) were:

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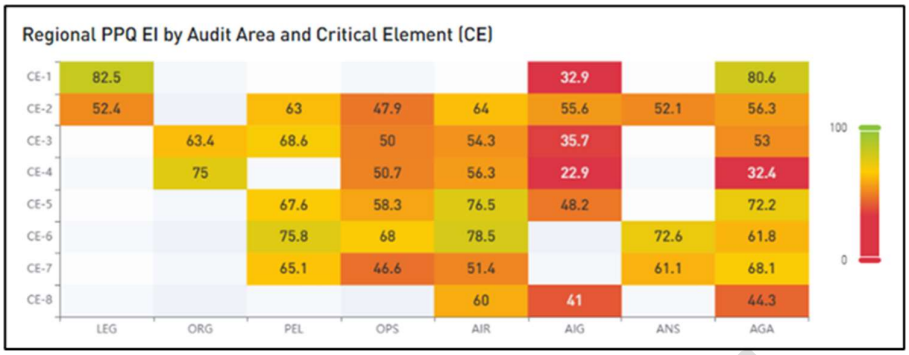

Figure 12. Regional Heat Map of APAC PPQ EI by AA and CE

1) aircraft accident and incident investigation & qualified technical personnel (AIG/CE-4);

2) aerodromes and ground aids & qualified technical personnel (AGA/CE-4);

3) aircraft accident and incident investigation & primary aviation legislation (AIG/CE-1);

4) While the top two regional issues (AIG/CE-4 and AGA/CE-4) align with the global concerns for technical personnel in AIG and AGA, the third issue (AIG/CE-1) does not correspond to the third lowest area (AGA/CE-8) cited in the GASP, underscoring a systemic AIG deficiency in the region. The specific weakness is further highlighted by AIG/CE-3 and AIG/CE-8, which rank fourth and fifth, respectively. These results underscore the overall low performance in AIG and the absence of an independent Aviation Investigation Authority (AIA) in the region.

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

b) **PQ 2.051**[5], which was the PPQ in ORG/CE-3, was used to assess if a State has sufficient financial resources to meet its national and international obligations. The regional score was 55.56 percent, which is below the global score at 65.41 percent, and below the regional overall EI score at the time of this analysis;

c) **organizational** challenges appearing in several NASPs:

1) Review of NASPs published by APAC States/Administration reveals recurring organizational challenges. While aligned with global issues outlined in the GASP, these challenges also highlight regional priorities that require attention:

- Resources and Infrastructure: Limited budgets and financial resources remain key challenges, contributing to issues such as ageing infrastructure, airport congestion, and delays in development.
- SSP: Several States cited a low level of SSP/SMS maturity, which is evidenced by limited collection, analysis, and sharing of safety data, as well as weak safety culture and insufficient just-culture practices that hinder proactive risk management.
- Workforce: Shortages of qualified technical personnel, impacts of COVID-19, staff retirements, and difficulties in recruitment and retention affect oversight capability.
- Regional collaboration: Weak regional collaboration constrains States' ability to manage safety effectively by preventing a collective and coordinated approach that is essential for the sharing of support, expertise, and resources.

Addressing these common issues will require regional support, capacity-building, and collaboration to strengthen safety oversight and management capabilities across APAC.

2) There are also challenges from the emergence of new technologies highlighted in several NASPs, including rapid introduction of Remotely piloted aircraft systems (RPAS), AAM (Advanced Air Mobility), Artificial Intelligence (AI), and new energy aircraft. States need updated regulations, new competencies, and digital tools to balance innovation with safety assurance. Due to the speed of their development, the challenges from these emerging technologies require continuous attention from States/Administrations.

[5] **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)

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d) results from the SSP self-assessment tool (on the OLF) and the SSP gap analysis application:

1) it was not possible to ascertain the maturity level of SSP among States via SSP self-assessment (due to unavailability of information at the time of this analysis); and

2) the SSP gap analysis application showed that under five per cent of States self-reported having achieved a Level 4 ("SSP implementation completed"), as per the application's levels.

4.3 Other Systemic Issues in APAC

4.3.1 Self-evaluation to identify additional systemic issues unique to APAC was also conducted. The evaluation drew on several sources including AP-RASP 2023-2025, and data from RASG-APAC, APANPIRG, APRAST, AIG and various regional reports.

4.3.2 The collected data was analysed quantitatively and qualitatively by the AP-RASP development team. Three key areas were in the focus:

a) NASP publication by APAC States and Administrations

b) level of safety data and safety information collection, analysis and exchange, to support safety management activities in APAC

c) level of regional collaboration

- number of APAC States actively lead the RASG activities;

- effectiveness of assistance provided to APAC States.

4.3.3 The main findings from the analysis included the following:

a) only 16 out of 41 States/Administrations in APAC published their NASPs to date;

b) despite the effort to increase participation in flight data sharing initiatives in AP-RASP 2023-2025,

- ICAO-recognized industry evaluation programmes and other safety data sharing programme are still under-utilized by industry in APAC, they include:

  i. industry evaluation programmes:
     1. IATA IOSA
     2. ACI APEX
     3. IATA ISAGO

  ii. safety data sharing programmes:
     1. IATA Flight Data eXchange (FDX)
     2. IATA Incident Data eXchange (IDX)
     3. FSF Aviation Safety Network;

- a regional mechanism that allows for data collection, analysis and sharing benchmarking of information at the regional level is still below regional expectation.

c) the need to increase regional collaboration at the regional level:

- Expanding Leadership: Sustained support for RASG/APRAST implementation activities demands continuous commitment and participation from all stakeholders, from regional entities, States and industry. While appreciation is given to the 13 States and 6 international organizations/industry members currently holding leadership roles (**Table 4**), more States are actively encouraged to assume leading roles (such as Chairs, Vice-Chairs, Co-Chairs, Task Force Leaders, and AP-RASP Action Custodians) to strengthen the regional framework.

- Targeting Assistance: Given the APAC region's diversity in safety oversight capability (4.1.6–4.1.7), States face varying needs and challenges. Effectively addressing these differences requires a strategic approach: specific challenges must be identified within State groups to customize, coordinate, and develop targeted assistance for members of each group.

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	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 consolidated results from the analysis detailed in **Chapter 4.2** and the systemic issues identified in **Chapter 4.3,** the following eight regional organizational challenges were identified for the 2026–2028 edition of the AP-RASP. All the challenges are considered the utmost priority, in the regional context, because they impact APAC States' safety oversight and safety management capabilities and, consequently, aviation safety at the regional level. The APAC organizational challenges for 2026–2028 are as follows:

a) lack of sufficient financial resources for the safety oversight authority to meet its national and international obligations;

b) lack of qualified technical personnel, primarily
- aircraft accident investigators;
- aerodrome inspectors;

c) lack of independent accident investigation organizations in APAC;

d) lack of a regulatory process to address the resolution of safety issues, primarily related to aerodrome operations;

e) low level of SSP implementation at the regional level;

f) low level of NASP publication by States;

g) deficiencies in safety data and safety information collection, analysis and exchange, to support safety management activities;

h) the need to expand leadership and targeted support in the regional level:
- expand active leadership in RASG activities
- provide customized, targeted assistance for States with similar needs and challenges.

4.4.2 Most organizational challenges align directly with the global challenges outlined in GASP 2026-2028, except for item c) and item h), which reflect needs unique to the APAC region.

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PART II – IMPLEMENTATION

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5. APAC'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 framework tailored to the Asia Pacific (APAC) context. The AP-RASP provides goals, targets and indicators that help States and industry work together in a coordinated and performance-based manner. It provides regional goals, targets, and indicators that States may use for development or updating of their NASPs. The AP-RASP also outlines Safety Enhancement Initiatives (SEIs) as practical measures to support the APAC 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 and includes specific targets and indicators that are adapted to the APAC context. Targets are specific desired outcomes from the actions taken by States, region and industry to achieve the goals, at a certain point in time. AP-RASP targets includes indicators to measure progress towards its achievement. The indicators provide evidence on whether the desired outcomes occurred and measure the progress in the activities related to the AP-RASP targets. The AP-RASP bases its strategy on a detailed analysis of regional safety data being a sub part of global safety data, focusing on recurring high-risk events and organizational challenges. It also considers the region's resource limitations and varying levels of safety maturity. This evidence-based and structured approach ensures that APAC's safety actions are practical, targeted, and effective. It enables States 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 supports the GASP vision, AP-RASP follows the GASP framework to build on existing progress and maintain 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. For developing these goals and targets, operational safety risk and organizational challenges have been analyzed and identified in **Chapter 3** and **Chapter 4** respectively, 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 Accident/Incident Data Reporting (ADREP), USOAP CMA, and iSTARS. It reviews progress against each target and considers interdependency, such as the need to establish effective state safety oversight system, which is fundamental to effective SSP implementation. The plan follows a step-by-step approach recommended in ICAO Doc 10131 that allows States 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 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, as the regional goals are derived from the GASP. Exceptions include targets 2.4, 4.1, 4.2 and 4.4, which address unique APAC challenges.

Goal	*APAC Target*		Indicators
Goal 1: Achieve a continuous reduction of operational safety risks	*1.1*	By 2028, APAC Region to maintain a 5-year moving average decreasing trend of regional accident rate	• 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)
	1.2	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)	• Accident rate by R-HRC • Serious incident rate by R-HRC • Percentage of accidents related to R-HRC compared to all accidents
	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	• 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.
Goal 2: *Strengthening States' safety*	*2.1*	By 2028, all APAC States to commit to national aviation safety plans (NASPs) that allocate to each safety oversight authority	• Percentage of States with a "satisfactory" rating for the Universal Safety Oversight Audit Programme (USOAP) protocol question (PQ)

Goal	*APAC Target*		Indicators
oversight capabilities		sufficient financial resources to meet national and international obligations, with at least 70 per cent of APAC States having sufficient financial resources	2.051 ^ ^ *Please see* ***Chapter 4.2.3b)*** *for details*
	2.2	By 2028, all APAC States 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[6]	• Percentage of States that meet the EI score of equal or greater than the baseline global average[6] for CE-4/AIG • Percentage of States that meet the EI score of equal or greater than the baseline global average[6] for CE-4/AGA
	2.3	By 2028, APAC States 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]	• Percentage of States that meet the EI score of equal or greater than the baseline global average[6] for CE-8/AGA
	2.4	By 2028, at least 70 percent of APAC States to establish independent Accident Investigation Authority (AIA)	• Percentage of States that establish the Independent AIA
Goal 3: *Establish and manage State safety programmes (SSPs)*	*3.1*	By 2026, all APAC States to assess the level of implementation of their SSP	• Percentage of States having completed their SSP PQ self-assessment, using the ICAO online framework (OLF)
	3.2	By 2028, all APAC States to establish an SSP	• Percentage of States having established an SSP • Percentage of States having established a safety data collection and processing system (SDCPS) • Percentage of States having established a framework for the protection of safety data and safety information
Goal 4: *Strengthening collaboration at the regional and national levels to address safety issues*	*4.1*	By 2026, the APAC region to identify APAC States that need assistance to address highest priority safety issues based on their effective Implementation (EI) as follows :as follows : - Group 1: EI < 50 %, - Group 2: 50 % < EI < 75 %	• Percentage of APAC States within each group identified to require assistance in addressing the highest priority safety issues
	4.2	By 2028, the APAC region to facilitate the required assistance to the APAC States as identified from Target 4.1 to address the highest priority safety issues	• Percentage of APAC States within each group that receive the required assistance to address the highest priority safety issues
	4.3	By 2027, APAC region to 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	• Percentage of APAC States 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 # *Please see* ***Chapter 5.5*** *for details*
Goal 4: *(Cont'd)*	*4.4*	By 2028, RASG-APAC to increase the percentage of States actively leading RASG	• Percentage of APAC States to actively lead RASG-APAC's activities (Working Groups,

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

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Goal	*APAC Target*		**Indicators**
		activities.	Teams, Task Forces and SEI implementation)
Goal 5: *Strengthen aviation safety planning*	*5.1*	By 2027, all APAC States to publish an updated national aviation safety plan (NASP), taking into consideration the 2026–2028 edition of the GASP and AP-RASP	• Percentage of States that published an updated NASP • Percentage of NASPs developed in consultation with industry
Goal 6: *Expand the use of industry evaluation programmes and safety data sharing programmes*	*6.1*	By 2028, industry in APAC to maintain an increasing trend * in its use of 1. industry evaluation programmes: - IATA IOSA - IATA ISAGO - ACI APEX in Safety - CANSO SoE in SMS 2. safety data sharing programmes: - IATA FDX - IATA IDX - FSF ASN * *The trend is calculated using year 2025 as a baseline.*	• Number of service providers in APAC States participating in the corresponding ICAO-recognized industry evaluation programmes • Number of service providers in APAC States 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 in the development or update of their National Aviation Safety Plans (NASPs). States are encouraged to align their NASPs with the global and regional safety goals and targets defined in the GASP and AP-RASP for management of aviation safety. Cross-referencing of regional and global targets is further encouraged to facilitate consistent monitoring and performance assessment, as appropriate.

5.3.2 States 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 ORG and OPS roadmap, composed of a list of Safety Enhancement Initiatives (SEIs) adopted from ICAO Doc 10161, tailored to regional needs, and newly developed to address specific Asia-Pacific safety issues. Collectively, these SEIs translate global safety goals and targets into practical regional and national actions. Recognizing the differing capacities and risk profiles among States, the AP-RASP promotes a flexible, context-based approach that ensures alignment with GASP goals. The complete list of the SEIs is presented in the **Appendix A to the 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 the Asia Pacific Regional Aviation Safety Team (APRAST), in coordination with States, ICAO APAC Office, the COSCAP programmes, and other relevant technical entities. These mechanisms facilitate collaboration among States, develop and share guidance material, and monitor progress to ensure that actions remain data-driven/informed, harmonized, and aligned with regional safety objectives. The active participation and commitment of all regional stakeholders is essential for the effective implementation of these SEIs.

5.4.3 At the national level, States are responsible for integrating relevant SEIs in their National Aviation Safety Plans (NASPs) and safety oversight systems. Service providers, including air operators, aerodrome operators, and air navigation service providers (ANSPs), are encouraged to incorporate applicable SEIs within their Safety Management Systems (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.

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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 (AI) in automation and in safety-critical activities that may introduce potential new hazards when integrated in 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.

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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 by metrics and indicators, to determine the progress made by States and the region in achieving the plan's goals. The SEIs in the AP-RASP are implemented through the working processes and initiatives of the APRAST and RASG-APAC, activities conducted by APAC regional bodies such as the COSCAPs, PASO, APANPIRG and APAC-AIG as well as the by States/Administrations

6.1.2 APRAST monitors the implementation of the SEIs listed in this AP-RASP and measures the safety performance of the regional civil aviation system to ensure the intended targets are achieved. Effective implementation of the OPS and ORG roadmap relies upon the close collaboration and cooperation of all stakeholders, especially in contributing the relevant data and information for monitoring purposes in a timely manner.

6.1.3 APRAST reviews the AP-RASP every three years, to keep the identified regional operational safety risks, organizational challenges, and SEIs (found in the roadmap) updated and relevant. The safety performance of the initiatives listed in the AP-RASP roadmap will be periodically reviewed to ensure the achievement of the stipulated goals. 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.

6.1.4 APRAST uses the indicators listed in the roadmap (presented in Appendix A) to monitor each target and measure implementation of AP-RASP Actions. An APAC Annual Safety Report is published which will provide the relevant up-to-date information on the progress made in achieving the AP-RASP goals. These goals and targets are selected in alignment with those in the GASP applicable to the Regions and Industry, which would be appropriately addressed the RASG-/ APAC / regional-level. The Targets are also aligned with those from the Delhi Declaration 2024 and reflect the intended focus on both organizational challenges and the addressing of operational safety risks

6.1.5 If the AP-RASP goals are not met, the contributing factors will be presented to stakeholders. If new critical operational safety risks are identified, reasonable measures will be taken to mitigate them as soon as practicable, possibly leading to an issuance of new RASG-APAC Safety Advisory (RSA) or identification of a new SEI, as applicable.

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 collated from the Champions / Custodians of the respective Action items. As for the OPS Actions, the updates will be tracked by the OPS WG, which includes the Task Force leads., SEI implementation will be tracked through the Online Monitoring Mechanism made available to all APAC States/ Administrations. This process will be overseen by the various APRAST WG Co-Chairs, who will provide clearer guidance, where necessary, to assist States/ Administrations in indicating their implementation status for each Action.

6.2.2 The abovementioned information will culminate in a report on progress of implementation of the AP-RASP Actionsand achievement of Targets will be presented at every APRAST and RASG-APAC meeting. The progress report should coverminimally the following aspects:

a) Brief overview of the overall implementation of the AP-RASP;

b) Analysis on delay/ challenges encountered in implementation of Actions; and

c) If regional safety goals and targets are not met, , the contributory factor will be presented.

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6.3 Process for amendment to the AP-RASP

6.2.3 Any proposed corrections or adjustments to the AP-RASP will be initiated by ORG WG (until year 2028 when it is handed to SRP WG), in coordination with the APRAST and submitted thereafter for approval by RASG-APAC. Review of the AP-RASP may be triggered under two circumstances:

a) **New Edition**. Review and update the AP-RASP every three years by ORG WG in line with the corresponding updates of the GASP and based on the outcomes of the relevant high-level/regional safety meetings and commitments/declarations W/P 14, presented during APRAST/23, introduced the proposed new APRAST structure. The new framework is designed to enhance coordination and streamline operational processes. From the year 2029, the responsibilities for amending the AP-RASP will change accordingly to SRP WG.

b) **Ad-hoc Amendment**. At any time during the triennium. if new critical regional issues are identified and reasonable measures are required to mitigate the safety risks as soon as practicable, ORG WG in coordination with other WGs of APRAST may propose the changes in the existing AP-RASP for approval of RASG-APAC. The amended version of the AP-RASP will be indicated as a revised Edition.

6.2.4 Key aspects to be considered during the review include the following:

a) Continuity with the existing AP-RASP Edition;

b) Justifications for any Actions not yet implemented or Targets not met, and any corrective actions to be taken

c) Alignment with new draft GASP edition and revised APAC Ministerial Declaration (Declaration), including a gap analysis;

d) Regional safety risks and challenges identified by RASG-APAC and or APRAST, and

e) Any existing AP-RASP Actions and Targets that need to be revised or new ones introduced.

6.3.1 Prior to the endorsement of the revised AP-RASP by APRAST and then approval by RASG-APAC, adequateconsultation of the proposed contents and amendments should be undertaken by ORG WG among APRAST WGs, APAC-AIG, COSCAPs, APAC States/ Administrations, Industry Partners, International Organizations.

6.3.2 The typical timeline for the review process of the AP-RASP is described in **Table 6**. In case of an exigency requiringswift major changes to particular Actions, it is recommended that deviations from this process, such as seeking approval in writing instead of at an RASG-APAC meeting, may be allowable depending on the circumstances and upon recommendationby the ICAO-APAC RO and approval by RASG-APAC and APRAST Co-Chairs.

Time	Task	Custodian
At least 2 APRAST meetings or 1 year before the end of existing validity period (to coincide with GASP*), e.g. at the second APRAST meeting in 2027*, or If new critical regional issues are identified and reasonable measures arerequired to mitigate the safety risks as soon as practicable	Review AP-RASP in accordance with the above stated guidelines, and insert this as an agenda item in the upcoming APRAST meeting.	ORG WG (until year 2028 when it is handed to SRP WG)
Before the end of the existing validity period, *e.g. at APRAST meeting before RASG- APAC/18 in 2028*	Submit the revised AP-RASP for endorsement by APRAST either by tabling at APRAST meeting or via email circulation to Co-Chairs.	ORG WG
At RASG-APAC meeting before end of existing validity period, *e.g. at RASG-APAC/18 in 2028*	Seek approval for the revised AP-RASP. Upon approval, AP-RASP to be put into implementation.	APRAST Co-Chairs
At every APRAST and RASG-APAC Meeting and in APAC ASR during validity period	Report achievement of AP-RASP milestones and targets as aroutine agenda item.	Respective APRAST WGs
Within validity period, *e.g. 2026-2028*	Propose changes to the Actions and Targets if necessary forAPRAST's endorsement and RASG-APAC's approval.	ORG WG

Table 6: Typical timeline for AP-RASP review process

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6.4 Project risks and challenges associated with AP-RASP implementation

6.3.3 Successful implementation of the AP-RASP Actions will require the commitment of resources from stakeholders within the APAC region, availability of data to effectively monitor the achievement of AP-RASP Targets, and proper projectgovernance and coordination. **Table 7** lists some anticipated project risks and their respective proposed mitigation measures, which typically pertain to the aforementioned two areas.

Project Risks	**Mitigation measures**
Lack of understanding of the expectations of the Actions	APRAST WG Co-Chairs to ensure Actions have clear metrics and milestones during the AP-RASP drafting and to provide additional clarification Action Champions / Custodians.
Limited manpower and financial resources to fully implement Action	APRAST to work with ICAO APAC RO, COSCAPs, PASO, APAC-AIG and APANPIRG Sub-Groups where relevant to provide support States/Administrations or other stakeholders to drive implementation.
Lack of relevant tools and knowledge to effectively implement and monitor targets and indicators at aregional level	APRAST WG Co-Chairs, with support of ICAO APAC RO to collate relevant documentation/material to support the development of tools and knowledge where these are inadequate
Lack of timely, consistent, quality data and systems to support monitoring of targets and indicators	APRAST WGs, with support of ICAO APAC RO to collect relevant data or safety information, or develop collection and tracking mechanisms, to monitor of targets and indicators. To this end, all APRAST members should contribute to requested updates when required, or otherwise communicate the reason(s) for not being able to do so, so that such reasons can be addressed
Ineffective approval processes (given that there are only 2 APRAST and 1 RASG-APAC meetings annually) for Actions which may require swifter decision-making and actions to be taken	APRAST WG Co-Chairs or Action Custodians / Champions will organize inter-session virtual meetings and/or email correspondences to ensure achievement of milestones or expedite decisions to drive timely implementation of the AP-RASP Actions. To this end, all APRAST members should support the efforts of their WG Co-Chairs.
Lack of coordination or continuity between Administrator, Custodians and Stakeholders, including States/ Administrations, Industry Partners and International Organizations for the development of the AP-RASP or achievement of Actions	APRAST WG Co-Chairs, with support of Action Custodians / Champions, to establish communication mechanisms toensure that there is a coordinated effort to support information flow and encourage cooperation between stakeholders. APRAST members should attend APRAST meetings and inter-session meetings of their WGs regularly to ensure continuity in outputs.

Table 7: Project risks associated with AP-RASP implementation and their mitigation measures

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APPENDIX A. AP-RASP 2026-28 EDITION ROADMAPS

The AP-RASP ORG Roadmap is detailed below, with each Roadmap covers the following points:

a) **Regional Goals**. The APAC Regional Goals support the APAC region's strategic approach to managing safety at the regional level.
b) **Target(s)**. Targets which serve to fulfil their respective Regional Goal, including the year(s) in which the respective Target is expected to be achieved.
c) **GASP SEI**. Where the Actions stem from the SEIs in the GASP Roadmap, specific references are made for easier reference.
d) **Action**. A description of the specific SEI or initiative, and the tasks required for its implementation. The Actions support the Targets of the Regional Goals.
e) **Action Custodian**. Appointed by APRAST to lead the group of stakeholders identified to further develop specific details for implementation of the respective Action.
f) **Timeline**. The year(s) in which the respective Action is expected to be implemented.
g) **Stakeholders**. The entities/ stakeholders in the APAC region, to which the Actions is addressed.
h) **Metrics**. A description of the specific Target, and the indicators required for performance measurement.
i) **Source/ fulfils**. Indicates key existing global or regional documents from which the Action is adopted or adapted, if applicable.
j) **Asterisk (*)**. Actions and Targets which States should consider for inclusion in their NASPs the GASP SEIs applicable to States and Industry (domestic), as well as those in the AP-RASP Edition mentioned in Chapter 5.
k) **Colour scheme**. ORG Roadmap is coloured yellow.

The AP-RASP OPS Roadmap is detailed below, with each Roadmap covers the following points:

a) **Regional Goals**. The APAC Regional Goals I-V support the APAC region's strategic approach to managing safety at the regional level.
b) **Target(s)**. Targets which serve to fulfil their respective Regional Goal, including the year(s) in which the respective Target is expected to be achieved.
c) **GASP SEI**. Denotes the specific reference of the SEI found in the GASP OPS Roadmap for Regions.
d) **Precursor Events.** A condition, a series of events, or an action that increases the likelihood of an occurrence.
e) **Regional SEI**. The title to the specific safety enhancement initiative and/or related safety output.
f) **Stakeholder & OPS Action**. A description of the tasks required by each respective domain (e.g., regulator, service providers) for the SEI's implementation. The Actions support the Targets of the Regional Goals.
g) **SEI Custodian**. Appointed by APRAST to lead and oversee the development, implementation and effectiveness of a Regional SEI.
h) **Metrics**. A description of the measurable indicators used to track and assess performance, progress, or effectiveness. Specific thresholds/targets for the respective metric are set and monitored internally by the OPS WG.
i) **Timeline**. The timeframe in which the respective Metric is expected to meet its respective threshold/target.
j) **Metric Information Mechanism**. A data source needed to inform the Metrics.
k) **Colour scheme**. OPS Roadmap is coloured green.

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ORG Roadmap

Regional Goal 2: Strengthening the safety oversight capabilities of APAC States Target 2.1 – Strategic allocation of financial resources to meet national and international obligations, Target 2.2 – Enhancing CE-4 Scores for AIG and AGA in the APAC Region Target 2.3 – Strengthening CE-8 (Resolution of Safety Issues) in AGA for APAC States Target 2.4 – Establishing Independent Aircraft Investigation Authority (AIA)							
GASP SEI	**AP-RASP Target / Action**	**Action Custodian**	**Timeline**	**Stakeholders**	**Metrics**	**Source/Fulfils**	**MonitoringActivity**
SEI-1 to SEI-4	A.I.1 States to ensure qualified technical personnel for safety oversight and safety management activities	ORG WG States / Administrations	2028	APRAST, COSCAPs, ICAO-APAC, States/ Administrations	Completion of gap analysis & follow-up assistance to adapt/implement model ICBF	GASP	USOAP CMA monitoring iSTARS – Solution Centre & State Safety Briefing
SEI-1 to SEI-4, SEI-6 to SEI-18	A.I.2 Develop regional training programmes and for AIG and AGA capacity building	APAC-AIG, ICAO RTCF	2028	APRAST, APAC-AIG, ICAO-APAC (in coordination with the RTCF), Training Organisations, States/ Administrations	No. of training programmes developed and/or conducted No. of studies and gap analyses conducted	GASP	Progress report to APRAST and RASG-APAC meetings iSTARS – Global Aviation Training Briefing
SEI-6, SEI-21	A.I.3 Conducted Activities to promote commitment to establish independent accident and incident investigation authorities as required by Annex 13	APAC-AIG	2028	APRAST, APAC-AIG, States/Administrations	Number of activities conducted	GASP, Delhi Declaration	Progress report to APRAST and RASG-APAC meetings

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Regional Goal 3: Establishing and Strengthening State Safety Programmes (SSPs) Target 3.1 – Assess SSP Implementation Progress in the APAC Region by 2026 Target 3.2 – States to establish State Safety Programme (SSP) and a Safety Data Collection and Processing System (SDCPS) by 2028							
GASP SEI	**AP-RASP Target / Action**	**Action Custodian**	**Timeline**	**Stakeholders**	**Metrics**	**Source/Fulfils**	**MonitoringActivity**
SEI-30 to SEI-34, SEI-39 to SEI-41	A.III.1 Conducting activities to support States/Administrations' for completion of USOAP SSP PQ	ORG WG ICAO APRO	2026	APRAST, ICAO-APAC, States/Administrations	Number of activities conducted to support the completion of SSP PQs.	GASP	USOAP CMA Online Framework Progress report to APRAST and RASG-APAC meetings
SEI-30 to SEI-33, SEI-39 to SEI-41	A.III.2 Conduct periodic reviews of SSP implementation for States/Administrations who have established and fully implemented SSP	ICAO APRO	2028	APRAST, ICAO-APAC, States/Administrations	No. of periodic review reports and/or sharing sessions	GASP	Progress report to APRAST and RASG-APAC meetings
SEI 39	A.III.3 Guide and support establishment of SSPs by States: - Collect results of the SSP PQ self-assessments (completed via the ICAO USOAP CMA Online Framework) - Identify and promote safety management best practices in coordination with States and/or other regions - Follow-up on progress and attain updated SSP PQ self-assessments - Support more advanced States in implementation of SDCPS	ORG WG ICAO RO	2028	APRAST, ICAO-APAC, States/Administrations	No. of periodic review reports and/or sharing sessions	GASP	Progress report to APRAST and RASG-APAC meetings

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Regional Goal 4: Stronger collaboration at both regional and national levels **Targets** Target 4.1 – Identification of Assistance required by States to Address Safety Issues by 2026 Target 4.2 – Facilitating Assistance to States Identified Under Target 4.1 by 2028 Target 4.3 – Enhancement of Mechanism to Use Operational Safety Risk and Emerging Issue Data for Safety Planning by 2027 Target 4.4 – Increase the number of States/Administration leading RASG activities by 2028							
GASP SEI	**Action**	**Action Custodian**	**Timeline**	**Stakeholders**	**Metrics**	**Source/Fulfils**	**MonitoringActivity**
SEI-30 to SEI-34, SEI-39 to SEI-41, SEI-49 to SEI-53	A.IV.1 Enhance existing APRAST mechanism for regional aviation safety data collection and sharing and support States'/Administrations' participation in regional aviation safety data-sharing projects	SRP WG	2027	APRAST, States/Administrations, Industry	No. of contributors to safety info / data sharing sessions during APRAST meetings No. of contributors for Focused Discussions Usage / reference to APRAST data-sharing governance framework	GASP	Progress report to APRAST and RASG-APAC meetings
SEI-25, SEI-42 to SEI-45	A.IV.2 Develop and/or enhance safety performance indicators for tracking of regional safety performance	SRP WG	2026-2027	APRAST, States/Administrations, Industry	Commence tracking updated SPIs and ORG goals in APAC Annual Safety Report	GASP	Progress report to APRAST and RASG-APAC meetings
SEI-1 to SEI-5, SEI-20 to SEI-24	A.IV.3 Support States in identifying and addressing most pressing areas with resource / capability constraints	ORG WG, ICAO APRO, COSCAPs	2026, 2028	APRAST, ICAO-APAC, COSCAPs, States/Administrations,	% of identified States receiving technical assistance (e.g. ICAO SAFE Fund, Combined Action Team Missions, etc.)	GASP	Progress report to APRAST and RASG-APAC meetings

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Regional Goal 5: Strengthen aviation safety planning across the region Target 5.1 – Publication of Updated NASPs by States by 2027, in Alignment with the 2026-2028 GASP and Corresponding RASP							
GASP SEI	**Action**	**Action Custodian**	**Timeline**	**Stakeholders**	**Metrics**	**Source/ Fulfils**	**Monitoring Activity**
	A.V.1 Guide and support establishment of NASPs by States: - Identify common deficiencies - Develop regional strategies, including collaboration and resources, to assist States with the establishment of NASPs - Identify and promote NASP best practices in coordination with States and/or other regions - Follow-up on progress and attain updated of NASPs	ORG WG ICAO APRO	2027	APRAST, ICAO-APAC, COSCAPs, States/ Administrations	No. of updates by ICAO on APAC States' NASP update and/or publication status	GASP	Progress report to APRAST and RASG-APAC meetings

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Regional Goal 6: – Expand the use of industry evaluation and data sharing programme Target 6.1 – Increase Participation in Evaluation and Safety Data Sharing Programmes by 2028							
GASP SEI	**Action**	**Action Custodian**	**Timeline**	**Stakeholders**	**Metrics**	**Source/ Fulfils**	**Monitoring Activity**
SEI-25-SEI-29 SEI-35, SEI-42	A.VI.1 Promote participation in industry safety programmes	Industry and IOs (e.g. IATA, CANSO, ACI, FSF etc.)	2027-2028	APRAST, Industry, States/Administrations, Industry / IOs	Number of promotion activities conducted by Custodians % increase in participation as reported by Industry leads	GASP	Progress report to APRAST and RASG-APAC meetings

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