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Presentation on

# APAC REGIONAL AVIATION SAFETY PLAN (AP-RASP)

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VTC, 09 June 2021, 0900-1200 Bangkok Time (UTC+7)



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## Background & Scope

- This webinar is intended to introduce the APAC Regional Aviation Safety Plan (AP-RASP), 2020-2022 edition. The AP-RASP was published in March 2020 and this plan charts the APAC Region's strategy to strengthen the management of aviation safety to continually reduce aviation risks. The webinar will present how the AP-RASP has been organized and how, by means of the AP-RASP, aviation stakeholders of the APAC Region should affirm their commitment to aviation safety.
- It will address how the GASP and the AP-RASP are related to the development of the NASP and why States should consider this relationship, as part of their NASP development process. In addition, the webinar will present considerations for States on the mapping between plans to support the achievement of the RASP and GASP goals, and the alignment of SEIs in each document. Finally, it will address monitor the progress of implementation for States' NASPs and AP-RASP, at the regional level.



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## Background & Scope

Where you shall find the Document AP-RASP, AP-RASPAT & Annual Safety Reports:

<https://www.icao.int/APAC/RASG/Pages/default.aspx>



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## Background & Scope

Why you need to know about these Documents (AP-RASP, AP-RASPAT & Annual Safety Reports):

- a. Because, States are urged to formulate their own National Aviation Safety Plan (NASP).
- b. Because, AP-RASP sits in between the GASP and NASP and there is a mapping requirement.
- c. Because, States urged to align themselves with the Global and Regional Plans in order to mitigate the Safety Risks.



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## Background – AP-RASP Decisions & Conclusions

### RASG/8 – Sep 2018:

RASG-APAC/8 (6-7 Sep 2018) first decided on formulating AP-RASP through WP 13 (See para 6.1 of RASG/8 Report) to find a suitable mechanism. The task was also inserted in the Yearly Work Programme 2018/2019 as item 4. Accordingly Decision 8/12 was taken;

#### ***Decision RASG-APAC 8/12 — Formulating a Regional Aviation Safety Plan (RASP) and role of RASG – (WP/13)***

*“That, APRAST be requested to look into formulating a Regional Aviation Safety Plan (RASP) for 2020-22 in collaboration with APAC-AIG (wherever required) by APRAST/14 and present the Draft RASP in RASG-APAC/9 for approval.”*



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## Background – AP-RASP Decisions & Conclusions

### APRAST/13 – Dec 2018:

APRAST 13 took place immediately after that (3-7 Dec 2018) came out Decision 13/2 and Conclusion 13/1 on AP-RASP (See para 6.1 and 7.1 of the APRAST-13 Report);

#### ***Conclusion APRAST 13/1 : Proposed Approach to Develop the Asia-Pacific Regional Aviation Safety Plan (AP-RASP)***

*“That, APRAST, with support from ICAO APAC Office and other regional mechanisms including the COSCAPs, establish an ad-hoc Working Group Comprising States/Administrations and Industry Organizations, with Singapore and AAPA as Co-Leads, to develop the Asia-Pacific Regional Aviation Safety Plan (AP-RASP) for endorsement at APRAST/14, with a view to seek approval at RASG-APAC/9.”*

#### ***Decision APRAST 13/2 : Confirmation of the Asia-Pacific Regional Aviation Safety Plan (AP-RASP) ad-hoc Working Group members***

*“That, participants of the first AP-RASP ad-hoc WG inform APRAST Secretary/ ICAO APAC Office ([APAC@icao.int](mailto:APAC@icao.int)) of the details of their designated Points-of-Contact by 31 December 2018.”*

**[AP-RASP ad-hoc WG was attended by Singapore and AAPA as Co-Leads + Australia, Bangladesh, Cambodia, China, Hong Kong (China), India, Macau (China), Nepal, Thailand, USA, ACI, Airbus, Boeing, IATA, IFALPA, and ICAO APAC]**



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## Background – AP-RASP Decisions & Conclusions

### APRAST/14 – May 2019:

APRAST-14 held between 27-31 May 2019 and Decision 14/1, 14/7, 14/8 and 14/9 was taken on AP-RASP (See Para 3.5 and 3.6 of the APRAST-14 Report and WP-9);

- *Decision APRAST 14/7 : Key contents of AP-RASP 2020-2022 Edition (WP/8).*
- *Decision APRAST 14/8 : Implementation arrangements for AP-RASP 2020-2022 Edition (WP/9).*
- *Decision APRAST 14/9 — Proposal to consider including Risk of mid-air collision and Wildlife hazards in the vicinity of aerodromes in the AP-RASP.*
- *Conclusion APRAST 14/1— Establishment of National Aviation Safety Plans (NASPs) by APAC States in line with AP-RASP 2020-2022 Edition.*



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## Background – AP-RASP Decisions & Conclusions

### RASG/9 – Nov 2019:

Then RASG-APAC/9 took place between 7-8 Nov 2019 had Decision 9/6 on AP-RASP and Yearly Work Program Item 2 to include MAC (see para 7.6 and attachment 4 of the RASG/9 Report);

#### ***Decision RASG-APAC 9/6 — Asia-Pacific Regional Aviation Safety Plan (AP-RASP) 2020-2022 (WP/7)***

*“That, RASG-APAC/9 endorsed the contents of the AP-RASP and its associated implementation arrangements and approved the AP-RASP for the 2020-2022 triennium; and allowed the ICAO APAC Regional Office and AP-RASP ad-hoc WG to further refine the details of the document prior to publication by early 2020; and urged the administrator, custodians and all stakeholders to act upon their respective roles and adhere to the prescribed timelines in the AP-RASP.”*





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## Background – AP-RASP Decisions & Conclusions

| TASKS                                                                                                                    | Decision<br>RASG-APAC          | YEARY WORK PROGRAMME 2020-2021<br>Brief Description                                                                                                                                                                                                                                                                                                                                   |
|--------------------------------------------------------------------------------------------------------------------------|--------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2                                                                                                                        | Decision<br>RASG-APAC<br>9/2.  | Revise Plan of AP-RASP: <ul style="list-style-type: none"><li>- Inclusion of Mid-Air Collision (MAC) in AP-RASP with data to be aligned with the GASP priorities.</li><li>- Better coordination with Air Navigation Capacity Building counterparts for ATM and Aerodromes and set out the risks and actions with targets integrating focal points from APANPIRG sub-groups.</li></ul> |
| STATUS TASK-2: SRP WG WORING THE TASK                                                                                    |                                |                                                                                                                                                                                                                                                                                                                                                                                       |
| 3                                                                                                                        | Decision<br>RASG-APAC<br>10/8. | Introduce the Mechanism to Monitor the Progress of NASP implementation by the States in the Monitoring Tools.                                                                                                                                                                                                                                                                         |
| STATUS TASK-3: BANGLADESH VOLUNTEERED TO INTRODUCE A TRACKING MECHANISM IN COORD WITH THE SECRETARIATE, WORK IN PROGRESS |                                |                                                                                                                                                                                                                                                                                                                                                                                       |
| 4                                                                                                                        |                                | Introduce the Mechanism to Monitor the Progress of RASP and NASP implementation mapping by the States in the Monitoring Tools                                                                                                                                                                                                                                                         |
| STATUS TASK-4: WORK IN PROGRESS                                                                                          |                                |                                                                                                                                                                                                                                                                                                                                                                                       |



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## AP-RASP ad-hoc WG

- 20 Members: 10 States/ Administrations, 10 Industry Partners, regional groupings and International Organisations

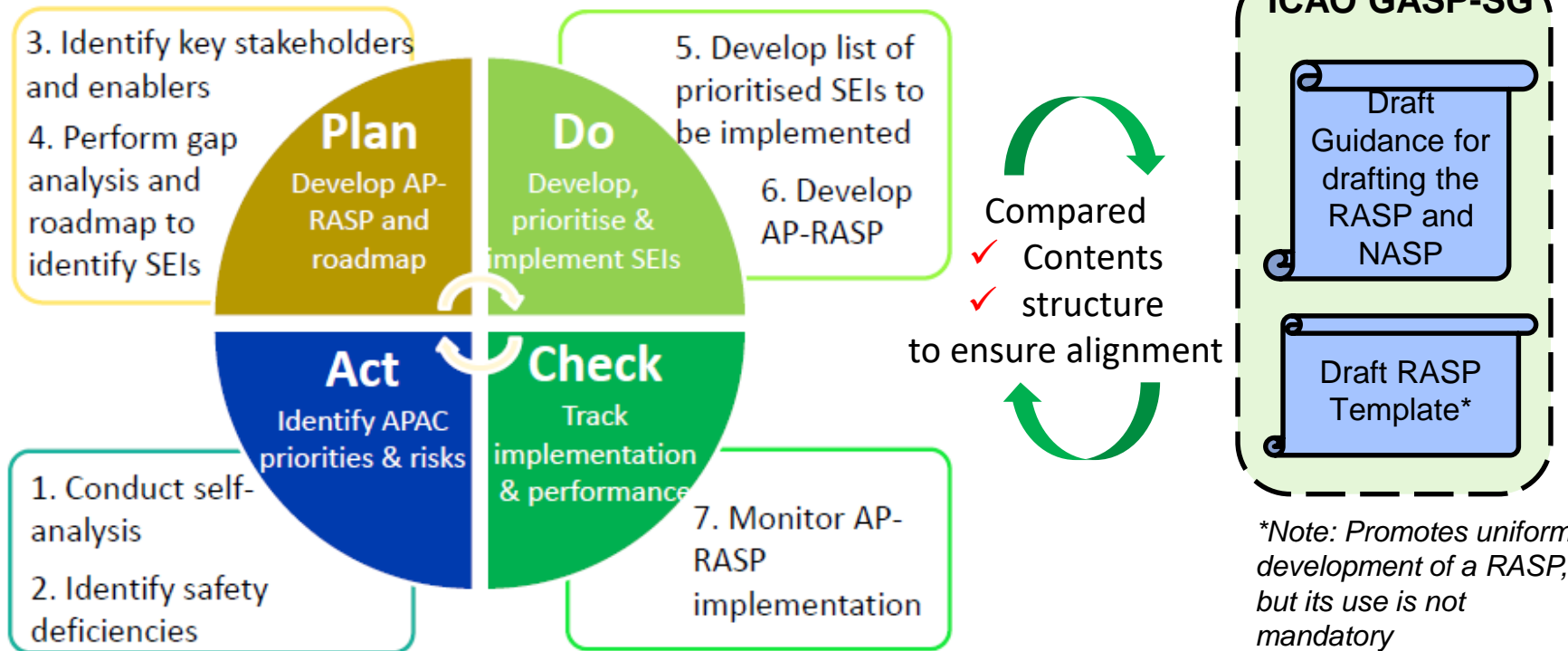
| State/ Administrations |                  | Industry Partners and International Organisations |                      |
|------------------------|------------------|---------------------------------------------------|----------------------|
| Singapore (Co-Lead)*   | Hong Kong, China | AAPA (Co-Lead)*                                   | IFALPA               |
| Australia*             | Macao, China*    | Airbus*                                           | APAC-AIG             |
| Bangladesh             | Nepal            | Boeing*                                           | ICAO (incl. COSCAPs) |
| Cambodia               | Thailand*        | IATA*                                             | PASO                 |
| China*                 | United States*   | ACI                                               |                      |
| India                  |                  |                                                   |                      |

*\*Drafting Group members*



Reference: GASP  
2020-2022 Edition

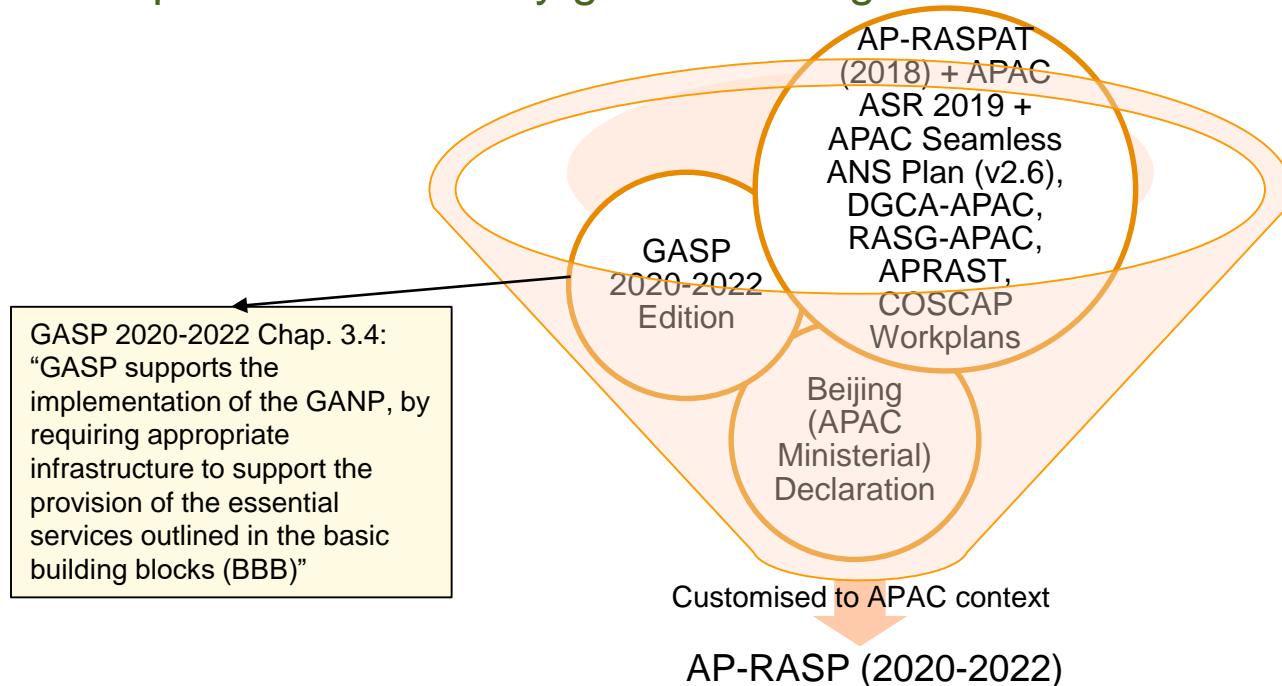
## Development process





## Development process

Developed from latest key global and regional documents





## Development process

- GASP ORG Roadmap SEIs considered in developing AP-RASP
  - No particular schematic for GASP OPS Roadmap



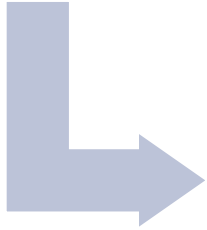
Scope of AP-RASP and Roadmap 2020-2022



## Overview: Structure (Document)

Foreword, Glossary,  
Executive Summary

- Comprehensive summary for high-level readers (Director-Generals and above)



### Part I - Planning: 4 Chapters

1. Introduction
2. Strategic approach
3. Ops risks and roadmap
4. Org challenges and roadmap

### Part II - Implementation: 2 Chapters

5. Responsibilities
6. Monitoring implementation)

- Elaboration for management-level



11 Appendices (A-K)

- Further details for working level reference



## Regional Operational Context

### Air transport is key enabler for sustainable economic and social development in APAC region

- Accounts for 30.2m jobs (1.6% of employment) and contributes USD684b (2.7%) of APAC GDP
- Compared to 65.5m jobs and USD2.7tr globally, equivalent to 3.6% of global GDP and USD704.4b aviation direct economic impact

### APAC region is world's largest aviation market (in available seat-km)

- World's largest share of international revenue passenger-km, with 9.5% y-o-y growth in 2018
- World's largest market share of 38.8% passengers, expected to increase to 48.7% by 2035

### APAC region comprises diverse regulatory landscape and operating environments

- 39 States, 41 CAAs and 42 ANSPs
- 50 FIRs (or 40% of the world's FIRs), vast oceanic airspace covering some 197.3mil sq km
- USOAP EI scores range from 5% to over 90%
- 8 States with a safety oversight index below 1 in all categories
- 1.6 accidents per million departures in scheduled CAT operations (over 5.7 tonnes)
- Diverse operational context, governance/sovereignty, geography and terrain, culture, language, level of development and expertise

**Sources:** Various ICAO and ICAO-APAC Office 2018 reports, Airbus and Boeing global market forecasts 2016-2035



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## GASP Goals & Targets – Current Status

| Goal                                                                  | Target |                                                                                                                                                                                                                                                                                                                          | Status of Target                                                                                                                                                                                                                                                                      |
|-----------------------------------------------------------------------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Goal 1:<br>Achieve a continuous reduction of operational safety risks | 1.1    | Maintain a decreasing trend of global accident rate                                                                                                                                                                                                                                                                      | In-progress – target is on track to being achieved. The global accident rate decreased by 28% in 2020, compared to the previous year (2019)                                                                                                                                           |
| Goal 2:<br>Strengthen States' safety oversight capabilities           | 2.1    | All States to improve their score for the effective implementation (EI) of the critical elements (CEs) of the State's safety oversight system (with focus on priority PQs) as follows: <ul style="list-style-type: none"><li>by 2022 – 75 per cent</li><li>by 2026 – 85 per cent</li><li>by 2030 – 95 per cent</li></ul> | In-progress – Less than half of audited States (46.52%) meet Target 2.1 (EI > 75%) as of the end of 2020. In the period between 2017 and 2020, inclusive, the global EI increased by 2.42%, to reach 68.86% average. If this trend continues, the target will not be achieved by 2022 |
|                                                                       | 2.2    | By 2022, all States to reach a safety oversight index greater than 1, in all categories                                                                                                                                                                                                                                  | In-progress – The majority of States (80.21%) meet Target 2.2 (SOI>1) as of the end of 2020. However, scores are affected by significant drop in traffic due to COVID-19, which skews the results related to this target                                                              |





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## GASP Goals & Targets – Current Status

| Goal                                                          | Target |                                                                                                                                                                                                                                                                       | Status of Target                                                                                                                                                                                            |
|---------------------------------------------------------------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Goal 3:<br>Implement effective State safety programmes (SSPs) | 3.1    | By 2022, all States to implement the foundation of an SSP                                                                                                                                                                                                             | In-progress – As of end of 2020, no State had satisfactorily completed all SSP Foundational PQs. However, 19 States have above 90% completion (which is considered satisfactory when measuring this target) |
|                                                               | 3.2    | By 2025, all States to implement an effective SSP, as appropriate to their aviation system complexity                                                                                                                                                                 | In progress – ICAO to redefine metrics for measuring of this target based on the SSP Implementation Assessment (SSPIA), as part of the 2023-2025 edition of the GASP                                        |
| Goal 4:<br>Increase collaboration at the regional level       | 4.1    | By 2020, States that do not expect to meet GASP Goals 2 and 3, to use a regional safety oversight mechanism, another State or other safety oversight organization's ICAO-recognized functions in seeking assistance to strengthen their safety oversight capabilities | Not achieved – target impacted by COVID-19 pandemic.                                                                                                                                                        |
|                                                               | 4.2    | By 2022, all States to contribute information on safety risks, including SSP safety performance indicators (SPIs), to their respective regional aviation safety group (RASGs)                                                                                         | In-progress – integrated into regional aviation safety plans                                                                                                                                                |
|                                                               | 4.3    | By 2022, all States with effective safety oversight capabilities and an effective SSP, to actively lead RASGs' safety risk management activities                                                                                                                      | In-progress – integrated into regional aviation safety plans                                                                                                                                                |



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## GASP Goals & Targets – Current Status

| Goal                                                                                         | Target |                                                                                                                                     | Status of Target                                                                                                                                                                                                   |
|----------------------------------------------------------------------------------------------|--------|-------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Goal 5:<br><br>Expand the use of industry programmes                                         | 5.1    | By 2020, all service providers to use globally harmonized SPIs as part of their safety management system (SMS)                      | Not achieved – target impacted by COVID-19 pandemic                                                                                                                                                                |
|                                                                                              | 5.2    | By 2022, increase the number of service providers participating in the corresponding ICAO-recognized industry assessment programmes | In-progress – target impacted by COVID-19 pandemic, as many onsite activities of industry assessment programmes (e.g. audits) were suspended in 2020                                                               |
| Goal 6:<br><br>Ensure the appropriate infrastructure is available to support safe operations | 6.1    | By 2022, all States to implement the air navigation and airport core infrastructure                                                 | In-progress – This target is measured primarily by the number of air navigation deficiencies against the regional air navigation plans, in the framework of the planning and implementation regional group (PIRGs) |



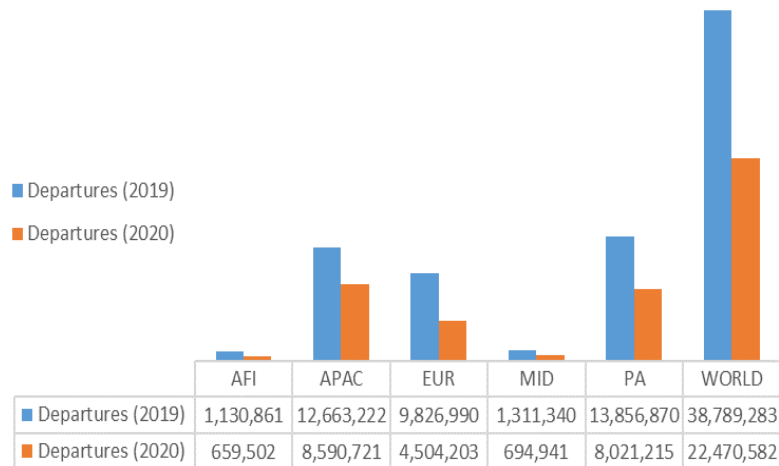
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## APAC Departures vs Accidents



Traffic of flight departure 2019-2020

| RASG  | Estimated Departures (2020) | Number of Accidents | Accident Rate (per million departures) | Fatal Accidents | Fatalities |
|-------|-----------------------------|---------------------|----------------------------------------|-----------------|------------|
| AFI   | 659,502                     | 4                   | 6.07                                   | nil             | nil        |
| APAC  | 8,590,721                   | 10                  | 1.16                                   | 2               | 119        |
| EUR   | 4,504,203                   | 10                  | 2.22                                   | 1               | 3          |
| MID   | 694,941                     | 4                   | 5.76                                   | 1               | 176        |
| PA    | 8,021,215                   | 20                  | 2.49                                   | nil             | nil        |
| WORLD | 22,470,582                  | 48                  | 2.14                                   | 4               | 298        |

2020 Departures, accidents and fatalities by RASG region based on State of Occurrence



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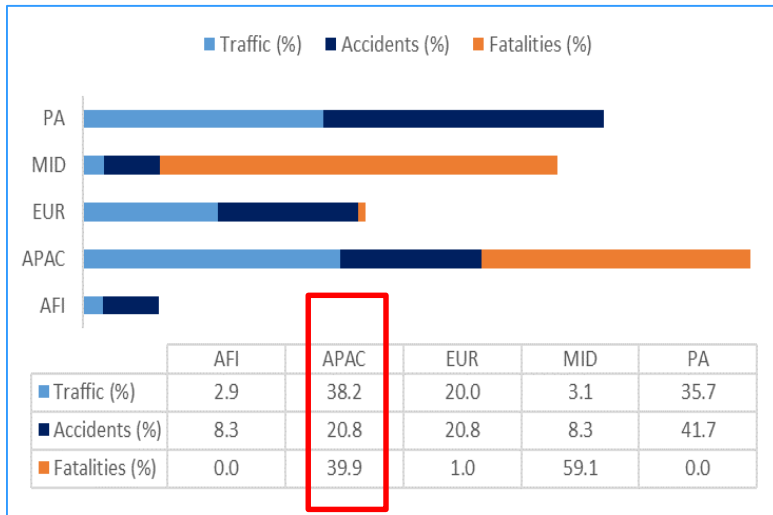
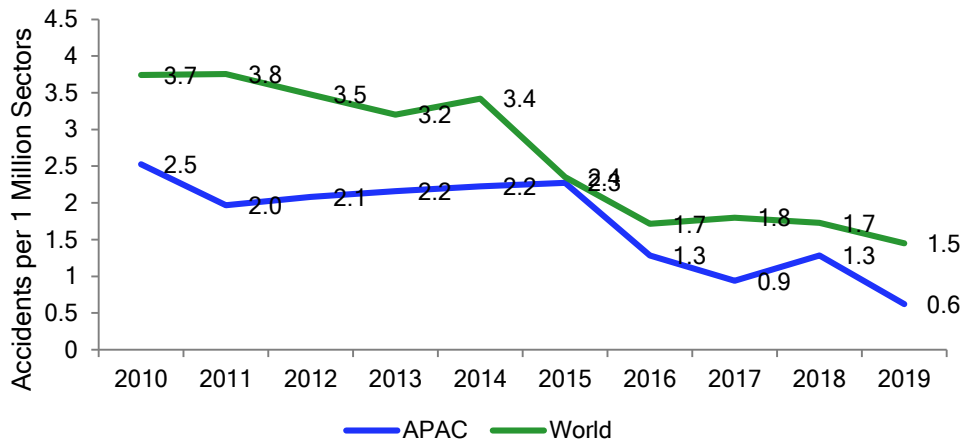
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## APAC Accident Rates (in million Sectors)

**Global vs RASG-APAC Accident Rate  
2010 - 2019**

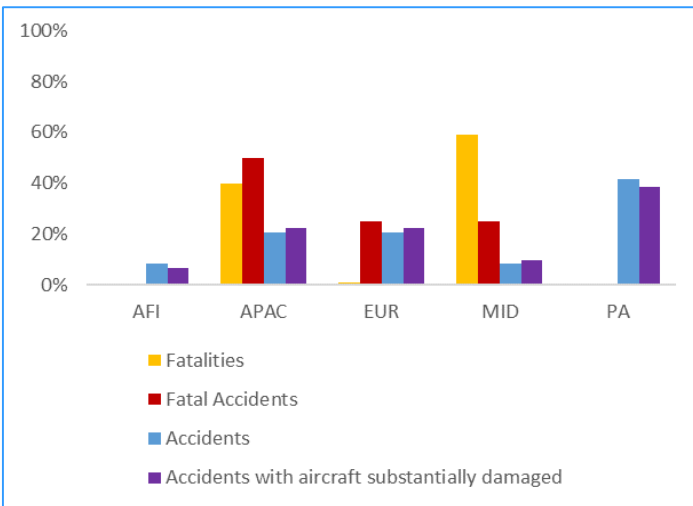
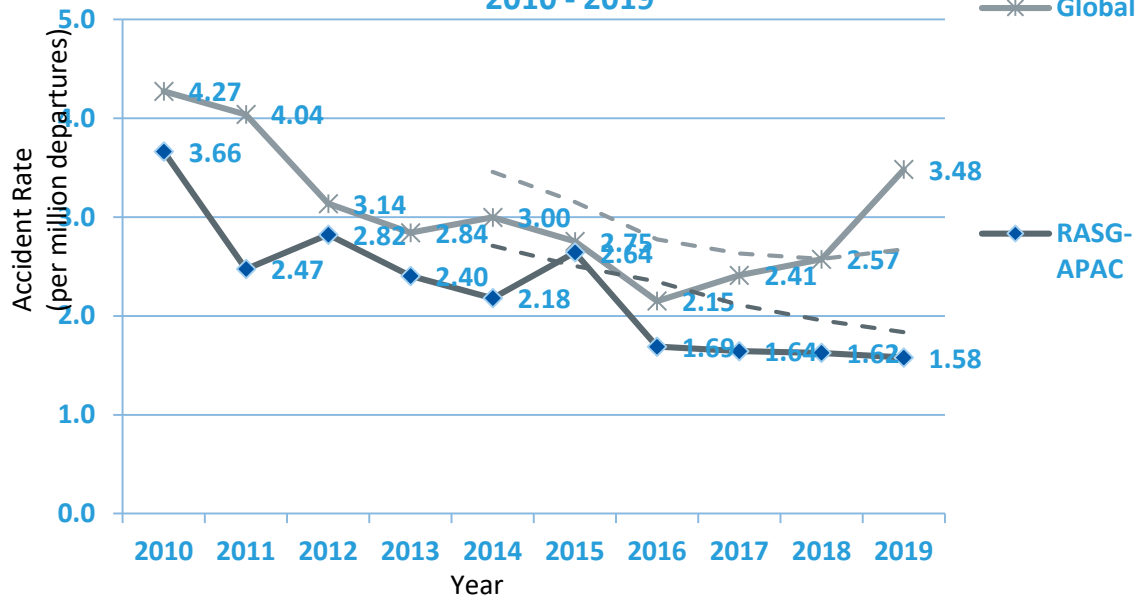


**2020 Share of traffic, accidents and  
fatalities by RASG region based on State of  
Occurrence**



# APAC Accident Rates (in million Departures)

Global vs RASG-APAC Accident rate  
2010 - 2019



2020 Accident overview by RASG region



## Top regional safety risks

### Highest priority accident/ serious incident categories

#### Global HRCs (ICAO)

1. CFIT
2. LOC-I
3. MAC
4. RE
5. RI

#### Global Top accident categories (IATA)

1. CFIT
2. LOC-I
3. Runway/ taxiway excursion (RE)

#### High priority accident categories for APAC region (2018)

1. RS (incl. RE, RI) (2x fatal accident), hard landings and tail strikes on landing (ARC)
2. LOC-I (1x fatal accident)



## Key organisational/ systemic challenges

### Lowest USOAP EI scores

#### *By CE*

1. CE-8: Resolution of safety concerns
2. CE-4: Technical personnel qualifications and training
3. CE-7: Surveillance Obligations

#### *By Module*

1. AIG
2. AGA
3. ORG

### Key Challenges

1. Fast-growing air traffic volume
2. Increasing complexity of our aviation system
3. Increased need for capability and capacity building
4. Limited collection and use of safety data for decision-making



# Map of GASP and AP-RASP Org Roadmaps

| Org Roadmap                                    |                 |             |                            |                         |                           |             |                            |                         |                           |                                                                    |                               |            |            |                  |            |                  |
|------------------------------------------------|-----------------|-------------|----------------------------|-------------------------|---------------------------|-------------|----------------------------|-------------------------|---------------------------|--------------------------------------------------------------------|-------------------------------|------------|------------|------------------|------------|------------------|
| Component 1: State Safety Oversight System     |                 |             |                            |                         |                           |             |                            |                         |                           | Component 2: State Safety Programme                                |                               |            |            |                  |            |                  |
| GASP SEIs for Regions                          | 2.1.1 SEI-1     | 2.1.1 SEI-2 | 2.1.1 SEI-3                | 2.1.1 SEI-4             | 2.1.1 SEI-5               | 2.1.2 SEI-6 | 2.1.2 SEI-7                | 2.1.2 SEI-8             | 2.1.2 SEI-9               | 2.2 SEI-10                                                         | 2.2 SEI-11                    | 2.2 SEI-12 | 2.2 SEI-13 | 2.2 SEI-14       | 2.2 SEI-15 | 2.2 SEI-16       |
| Corresponding AP-RASP Org Actions              | A.II.1          | A.V.7       | A.I.18<br>A.I.19<br>A.I.20 | A.V.1<br>A.V.2<br>A.V.3 | A.II.2<br>A.IV.1<br>A.V.4 | A.II.1      | A.I.18<br>A.I.19<br>A.I.20 | A.V.1<br>A.V.2<br>A.V.3 | A.II.2<br>A.IV.1<br>A.V.4 | A.III.1<br>A.V.5                                                   | A.III.1<br>A.III.2<br>A.III.3 | A.III.1    | A.IV.2     | A.IV.3<br>A.IV.4 | A.IV.4     | A.IV.5<br>A.I.21 |
| GASP SEIs for Industry (applicable to Regions) | 3.1 SEI-1 (C,D) |             |                            |                         |                           |             | 3.1 SEI-2C                 | 3.1 SEI-3 (A,B)         | 3.1 SEI-4C                |                                                                    |                               |            |            |                  |            |                  |
| Corresponding AP-RASP Org Actions              | A.III.2         |             |                            |                         |                           |             | A.I.19                     | A.I.18<br>A.I.20        | A.IV.2<br>A.IV.5          | A.II.3<br>A.III.1<br>A.III.2<br>A.IV.2<br>A.IV.5<br>A.V.5<br>A.V.6 |                               |            |            |                  |            |                  |





## Ops Roadmap

### Regional HRC 1: LOC-I

#### Regional Goal I: Reduction in Operational Risks

##### Targets

**T1\***: Maintain a decreasing trend of fatal accidents per million departures [from 2018 to 2021]

**T2\***: Maintain a decreasing trend of LOC-I-related accidents per million departures [from 2018 to 2021]

| GASP SEI                     | Action                                                                                                                                                | Custodian | Time-line | Stakeholders                                                                                                                                                          | Metrics                   | Source/ Fulfils | Monitoring Activity                          |
|------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|-----------------|----------------------------------------------|
| Ops1 (CFIT);<br>Ops2 (LOC-I) | <b>A.I.1*</b> LOC 1, CFIT 2: Model Advisory Circular — Air Operators Standard Operating Procedures for Flight Deck Crewmembers                        | SEI WG    | 2022      | APRAST, SEI WG, SRP WG, COSCAPs, ICAO-APAC, other regional platforms/ bodies, States/ Administrations., Industry/ Associations, International Organisations, APANPIRG | Implementation levels A-D | GASP            | RASG-APAC/ APRAST Online SEI monitoring tool |
| Ops2 (LOC-I)                 | <b>A.I.2*</b> LOC 2, LOC 4: Guidance Material on Flight Crew Proficiency                                                                              |           |           |                                                                                                                                                                       |                           |                 |                                              |
|                              | <b>A.I.3*</b> LOC 5: Advisory Circular — Mode Awareness and Energy State Management Aspects of Flight Deck Automation                                 |           |           |                                                                                                                                                                       |                           |                 |                                              |
|                              | <b>A.I.4*</b> LOC 6: Guidance material on Upset Prevention and Recovery Training (UPRT)<br>– ICAO Doc 10011<br>– ICAO Doc 9868<br>– Airplane UPRT Aid |           |           |                                                                                                                                                                       |                           |                 |                                              |



## Ops Roadmap

| Regional HRC 2: RS, including RE and ARC                                                            |                                                                                                                                                  |           |           |                                                                                                                                                                       |                           |                 |                                              |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|-----------|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|-----------------|----------------------------------------------|
| Regional Goal I: Reduction in Operational Risks                                                     |                                                                                                                                                  |           |           |                                                                                                                                                                       |                           |                 |                                              |
| Targets                                                                                             |                                                                                                                                                  |           |           |                                                                                                                                                                       |                           |                 |                                              |
| T1*: Maintain a decreasing trend of fatal accidents per million departures [from 2018 to 2021]      |                                                                                                                                                  |           |           |                                                                                                                                                                       |                           |                 |                                              |
| T3*: Maintain a decreasing trend of RS-related accidents per million departures [from 2018 to 2021] |                                                                                                                                                  |           |           |                                                                                                                                                                       |                           |                 |                                              |
| GASP SEI                                                                                            | Action                                                                                                                                           | Custodian | Time-line | Stakeholders                                                                                                                                                          | Metrics                   | Source/ Fulfils | Monitoring Activity                          |
| Ops4 (RE); Ops5 (RI)                                                                                | <b>A.I.5*</b> RS 1: Runway Safety Maturity Checklist                                                                                             | SEI WG    | 2022      | APRAST, SEI WG, SRP WG, COSCAPs, ICAO-APAC, other regional platforms/ bodies, States/ Administrations., Industry/ Associations, International Organisations, APANPIRG | Implementation levels A-D | GASP            | RASG-APAC/ APRAST Online SEI monitoring tool |
| Ops4 (RE)                                                                                           | <b>A.I.6*</b> Runway Excursion (RE) 2: Guidance material on Unstabilised Approach                                                                |           |           |                                                                                                                                                                       |                           |                 |                                              |
|                                                                                                     | <b>A.I.7*</b> RE 7: Guidance material and training program for runway pavement, maintenance and operations from aerodrome operator's perspective |           |           |                                                                                                                                                                       |                           |                 |                                              |
| Ops5( RI)                                                                                           | <b>A.I.8*</b> RI 2: Model Advisory Circular — Runway Incursion (RI) Prevention and Pilot Training                                                |           |           |                                                                                                                                                                       |                           |                 |                                              |



## Ops Roadmap

### Regional HRC 3: CFIT

#### Regional Goal I: Reduction in Operational Risks

##### Targets

**T1\*:** Maintain a decreasing trend of fatal accidents per million departures [from 2018 to 2021]

| GASP SEI    | Action                                                                                                                             | Custodian | Time-line | Stakeholders                                                                                                                                                          | Metrics                   | Source/ Fulfils | Monitoring Activity                          |
|-------------|------------------------------------------------------------------------------------------------------------------------------------|-----------|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|-----------------|----------------------------------------------|
| Ops1 (CFIT) | <b>A.I.9*</b> CFIT 1: Model Regulation on Ground Proximity Warning System (GPWS)                                                   | SEI WG    | 2022      | APRAST, SEI WG, SRP WG, COSCAPs, ICAO-APAC, other regional platforms/ bodies, States/ Administrations., Industry/ Associations, International Organisations, APANPIRG | Implementation levels A-D | GASP            | RASG-APAC/ APRAST Online SEI monitoring tool |
|             | <b>A.I.10*</b> CFIT 1: Advisory Circular — Guidance for Operators to Ensure Effectiveness of GPWS Equipment                        |           |           |                                                                                                                                                                       |                           |                 |                                              |
|             | <b>A.I.11*</b> CFIT 1: Advisory Circular — Guidance for Operators on Training Programme on the use of GPWS                         |           |           |                                                                                                                                                                       |                           |                 |                                              |
|             | <b>A.I.12*</b> CFIT 3: Model Advisory Circular — Instrument Approach Procedures Using Continuous Descent Final Approach Techniques |           |           |                                                                                                                                                                       |                           |                 |                                              |
|             | <b>A.I.13*</b> CFIT 4: Guidance on the Establishment of a Flight Data Analysis Programme (FDAP)                                    |           |           |                                                                                                                                                                       |                           |                 |                                              |
|             | <b>A.I.14*</b> CFIT 5: Advisory Circular — Crew Resource Management Training Programme (CRM)                                       |           |           |                                                                                                                                                                       |                           |                 |                                              |



## Ops Roadmap

### Regional HRC 3: CFIT

#### Regional Goal I: Reduction in Operational Risks

| GASP SEI                  | Action                                                                                                                                                 | Custodian | Time-line | Stakeholders                                                                                                                                                       | Metrics                   | Source/Fulfil | Monitoring Activity                         |
|---------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|---------------|---------------------------------------------|
| Ops1 (CFIT)               | <b>A.I.15*</b> CFIT 6: Advisory Circular — Controlled Flight into Terrain (CFIT) and Approach and Landing Accident Reduction (ALAR) Training Programme | SEI WG    | 2022      | APRAST, SEI WG, SRP WG, COSCAPs, ICAO-APAC, other regional platforms/bodies, States/Administrations., Industry/Associations, International Organisations, APANPIRG | Implementation levels A-D | GASP          | RASG-APAC/APRAST Online SEI monitoring tool |
|                           | <b>A.I.16*</b> CFIT 7: Guidance for Air Operators in Establishing a Flight Safety Documents System                                                     |           |           |                                                                                                                                                                    |                           |               |                                             |
|                           | <b>A.I.17*</b> CFIT 8: Model Advisory Circular — Issuance of Terrain or Obstacle Alert Warning                                                         |           |           |                                                                                                                                                                    |                           |               |                                             |
| Ops1 (CFIT); Ops2 (LOC-I) | <b>A.I.1*</b> [duplicate] LOC 1, CFIT 2: Model Advisory Circular — Air Operators Standard Operating Procedures for Flight Deck Crewmembers             |           |           |                                                                                                                                                                    |                           |               |                                             |



## Org Roadmap

**Issue 1:** Slow pace of implementation of RASG-APAC/ APRAST SEIs and tools to mitigate operational risks

### **Regional Goal I:** Reduction in Operational Risks

#### **Targets**

**T4\*:** States/ Administrations and industry to update the online SEI monitoring tools on their status of implementation of all applicable priority RASG-APAC/ APRAST SEIs (Ops Actions) [by 2020]

**T5:** States/ Administrations with effective safety oversight capabilities (i.e. which have, or are expected to meet, GASP Goal 2 and have attained Level 4 SSP implementation), should actively lead RASG-APAC's safety risk management activities [from 2020 to 2022]

**T6\*:** States/ Administrations should contribute information on safety risks, including SSP safety performance indicators (SPIs), to RASG-APAC [by 2022]

| <b>GASP SEI</b>                                                | <b>Action</b>                                                                                                       | <b>Custodian</b> | <b>Time-line</b> | <b>Stakeholders</b>                                        | <b>Metrics</b>                                                                                                                | <b>Source/ Fulfils</b> | <b>Monitoring Activity</b>                   |
|----------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|------------------|------------------|------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|------------------------|----------------------------------------------|
| 2.1.1 SEI-3;<br>2.1.2 SEI-7;<br>3.1 SEI-2C;<br>3.1 SEI-3 (A,B) | <b>A.I.18*</b> Review, implement (and update the status of) priority RASG-APAC/ APRAST SEIs aka AP-RASP Ops Actions | SEI WG           | 2022             | APRAST, SEI WG, States/ Administrations, COSCAPs, Industry | No. of States/ Administrations which have updated their implementation status on RASG-APAC/ APRAST Online SEI monitoring tool | GASP, AP-RASPAT        | RASG-APAC/ APRAST Online SEI monitoring tool |



## Org Roadmap

**Issue 1:** Slow pace of implementation of RASG-APAC/ APRAST SEIs and tools to mitigate operational risks

### Regional Goal I: Reduction in Operational Risks

| GASP SEI                                           | Action                                                                                                                                                                                                                                             | Custodian                  | Time-line | Stakeholders                                    | Metrics                                                                                                                                         | Source/<br>Fulfil  | Monitoring<br>Activity                           |
|----------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|-----------|-------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|--------------------------------------------------|
| 2.1.1 SEI-3;<br>2.1.2 SEI-7                        | <b>A.I.19</b> Enhance the current methodology for the tracking of RASG-APAC/ APRAST SEI implementation, and introduce indicators and targets to measure the implementation and effectiveness thereof; disseminate the results to Directors General | SEI WG                     | 2022      | APRAST, SEI WG, SRP WG                          | Completion of review and enhancement of tracking methodology; Introduction of indicators and targets to measure effectiveness of implementation | GASP               | Progress report to APRAST and RASG-APAC meetings |
| 2.1.1 SEI-3;<br>2.1.2 SEI-7;<br>3.1 SEI-3<br>(A,B) | <b>A.I.20</b> Develop an inspector competency building framework, and any new RASG-APAC/ APRAST SEIs for urgent risks                                                                                                                              | To be determined by APRAST |           | APRAST, SEI WG, SRP WG, States/ Administrations | Completion of framework; New SEIs introduced to address urgent risks                                                                            | GASP, DGCA-APAC/55 |                                                  |



## Org Roadmap

**Issue 1:** Slow pace of implementation of RASG-APAC/ APRAST SEIs and tools to mitigate operational risks

### **Regional Goal I:** Reduction in Operational Risks

| <b>GASP SEI</b> | <b>Action</b>                                                                                                                                                                                                  | <b>Custodian</b> | <b>Time-line</b> | <b>Stakeholders</b>                                                    | <b>Metrics</b>                           | <b>Source/<br/>Fulfilis</b> | <b>Monitoring<br/>Activity</b>                            |
|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|------------------|------------------------------------------------------------------------|------------------------------------------|-----------------------------|-----------------------------------------------------------|
| 2.2 SEI-16      | <b>A.I.21</b> Develop a more precision/<br>targeted approach of prioritisation<br>of existing RASG-APAC/<br>APRAST SEIs for implementation<br>(by sub-region or common-<br>issue/risk States/ Administrations) | SEI WG           | 2022             | APRAST, SEI<br>WG, COSCAPs,<br>States/<br>Administrations,<br>Industry | Completion of<br>prioritisation approach | GASP,<br>APRAST/1<br>3      | Progress report<br>to APRAST and<br>RASG-APAC<br>meetings |



## Org Roadmap

**Issue 2:** Lower EI scores for all categories as compared to global average, namely

- CE-8 on Resolution of safety concerns (CE-8),
- CE-4 on Technical personnel qualifications and training,
- CE-7: Surveillance Obligations
- Aircraft and incident investigation (AIG),
- Aerodrome and ground aids (AGA), and
- Air navigation services (ANS)

**Regional Goal II:** Improvements to safety oversight and compliance

### **Targets**

**T7:** Conduct workshops and seminars relating to ANS, AIG, AGA at least yearly [from 2020 to 2022]

**T8\*:** Endeavour to have no Significant Safety Concerns (SSCs) under the USOAP Continuous Monitoring Approach (CMA), and to resolve any SSCs promptly within the time frame specified in the Corrective Action Plan and agreed to by ICAO [from 2020 to 2022]

**T9\*:** Increase the number of IOSA registered APAC airlines and ISAGO registrations by 50% over July 2016 figures (82 and 51 respectively) [by 2022]

**T10\*:** States to progressively enhance safety oversight capability to achieve at least 75% EI in USOAP CMA, and to achieve an APAC average overall USOAP EI score higher or equal to the global average [by 2022]

**T11\*:** States should reach a safety oversight index greater than 1 in all categories [by 2022]





## Org Roadmap

**Issue 2:** Lower EI scores for all categories as compared to global average

### Regional Goal II: Improvements to safety oversight and compliance

| GASP SEI                    | Action                                                                                                                                       | Custodian                  | Time-line | Stakeholders                                                 | Metrics                                                  | Source/<br>Fulfil  | Monitoring<br>Activity                           |
|-----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|-----------|--------------------------------------------------------------|----------------------------------------------------------|--------------------|--------------------------------------------------|
| 2.1.1 SEI-1;<br>2.1.2 SEI-6 | <b>A.II.1</b> Conduct workshops and courses to promote effective implementation of SARPs, especially in the technical areas of ANS, AIG, AGA | To be determined by APRAST | 2020-2022 | APRAST, COSCAPs, PASO, ICAO-APAC, States/<br>Administrations | No. of workshops conducted on areas of ANS, AIG, AGA     | GASP               | Progress report to APRAST and RASG-APAC meetings |
| 2.1.1 SEI-5;<br>2.1.1 SEI-9 | <b>A.II.2*</b> Establish, enhance and populate COSCAP and RSOO technical experts databases                                                   | APAC COSCAPs               |           | COSCAPs, PASO, States/<br>Administrations                    | No. of qualified technical experts populated in database | GASP, APAC COSCAPs |                                                  |
| 3.1 SEI-7 (C,D,E,F)         | <b>A.II.3*</b> Encourage IATA, IOSA and ISAGO registrations                                                                                  | IATA                       |           | APRAST, Industry, States/<br>Administrations                 | No. of IOSA and ISAGO registrations                      | GASP, AP-RASPAT    |                                                  |



## Org Roadmap

**Issue 2:** Lower EI scores for all categories as compared to global average

### **Regional Goal II:** Improvements to safety oversight and compliance

| GASP SEI | Action                                                       | Custodian | Time-line | Stakeholders                                                                                                                | Metrics                   | Source/<br>Fulfil   | Monitoring<br>Activity                      |
|----------|--------------------------------------------------------------|-----------|-----------|-----------------------------------------------------------------------------------------------------------------------------|---------------------------|---------------------|---------------------------------------------|
| NA       | <b>A.II.4*</b> GEN: Standardized Capacity Building Programme | SEI WG    | 2022      | APRAST, SEI WG, SRP WG, COSCAPs, ICAO-APAC, other regional platforms/bodies, States/Administrations, Training Organisations | Implementation levels A-D | Beijing Declaration | RASG-APAC/APRAST Online SEI monitoring tool |



## Org Roadmap

**Issue 3:** Slow pace of SSP implementation, as well as understanding of newer safety management and performance-based concepts

### **Regional Goal III:** Effective SMS and SSP

#### **Targets**

**T12\*:** States should attain L3 SSP implementation [by 2022]

**T13\*:** States should develop national aviation safety plans [by 2022]

| GASP SEI                                                            | Action                                                                                      | Custodian                  | Time-line | Stakeholders                                                                                                                                          | Metrics                                                                                                                        | Source/<br>Fulfil | Monitoring<br>Activity                           |
|---------------------------------------------------------------------|---------------------------------------------------------------------------------------------|----------------------------|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|-------------------|--------------------------------------------------|
| 2.2 SEI-10;<br>2.2 SEI-11;<br>2.2 SEI-12;<br>3.1 SEI-7<br>(C,D,E,F) | <b>A.III.1*</b> Support the robust implementation and continuous improvement of SMS and SSP | To be determined by APRAST | 2020-2022 | DGCA-APAC, RASG-APAC, APRAST, SEI WG, SRP WG, APAC-AIG, COSCAPs, PASO, ICAO-APAC, other regional platforms/ bodies, States/ Administrations, Industry | No. of SSP-related courses/ workshops conducted for region (not including domestic);<br>No. of States participated in workshop | GASP, AP-RASPAT   | Progress report to APRAST and RASG-APAC meetings |



## Org Roadmap

**Issue 3:** Slow pace of SSP implementation, as well as understanding of newer safety management and performance-based concepts

### Regional Goal III: Effective SMS and SSP

| GASP SEI                                                     | Action                                                                                                                                                                   | Custodian    | Time-line | Stakeholders                                                                               | Metrics                                                                                                          | Source/<br>Fulfil                    | Monitoring<br>Activity                           |
|--------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|-----------|--------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|--------------------------------------|--------------------------------------------------|
| 2.2 SEI-11;<br>3.1 SEI-1<br>(C,D);<br>3.1 SEI-7<br>(C,D,E,F) | <b>A.III.2</b> Improve the sharing of best practices in safety management, safety data and analyses among regional platforms including APANPIRG Sub-groups via RASG-APAC | ICAO APAC RO | 2020-2022 | RASG-APAC, APRAST, APAC-AIG, COSCAPs, ICAO-APAC, other regional platforms/bodies, APANPIRG | No. of SSP-related sharing sessions/presentations;<br>No. of SSP areas covered;<br>No. of States which presented | GASP, AP-RASPAT, Beijing Declaration | Progress report to APRAST and RASG-APAC meetings |
| 2.2 SEI-11                                                   | <b>A.III.3*</b> Support the development of NASPs                                                                                                                         |              |           | ICAO HQ, ICAO-APAC, APRAST, States/Administrations                                         | No. of States who have published their NASP                                                                      |                                      |                                                  |



## Org Roadmap

**Issue 4:** Lack of resources and expertise to manage and collect data on a State level, and no formal mechanisms in place that allow for the sharing and benchmarking of information at the regional level

**Regional Goal IV:** Data-driven regulatory oversight

### Targets

**T14** Develop a regional mechanism for data collection, analysis and sharing [by 2020]

**T15\*** Pursue a 50% increase in participation in flight data sharing initiatives by APAC air operators, with aircraft of mass 27,000kg above, over July 2016 figures (15) [by 2020]

| GASP SEI                                             | Action                                                                                                                   | Custodian                  | Time-line | Stakeholders                                                          | Metrics                                    | Source/<br>Fulfil | Monitoring<br>Activity                           |
|------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|----------------------------|-----------|-----------------------------------------------------------------------|--------------------------------------------|-------------------|--------------------------------------------------|
| 2.1.1 SEI-5;<br>2.1.2 SEI-9                          | <b>A.IV.1*</b> Establish a mechanism to collect and analyse SSP SPI data from APAC States and common industry indicators | To be determined by APRAST | 2022      | APRAST, SRP WG, COSCAPs, ICAO-APAC, States/ Administrations, Industry | Completion of mechanism                    | GASP              | Progress report to APRAST and RASG-APAC meetings |
| 2.2 SEI-13;<br>3.1 SEI-4C;<br>3.1 SEI-7<br>(C,D,E,F) | <b>A.IV.2</b> Establish and populate a Regional Risk Register                                                            | SEI WG                     | 2021      | APRAST, SRP WG, COSCAPs, States/ Administrations, Industry            | Completion and population of risk register | GASP, APRAST      |                                                  |



## Org Roadmap

**Issue 4:** Lack of resources and expertise to manage and collect data on a State level, and no formal mechanisms in place that allow for the sharing and benchmarking of information at the regional level

### Regional Goal IV: Data-driven regulatory oversight

| GASP SEI                  | Action                                                                                                                                                                                                | Custodian                  | Time-line | Stakeholders                              | Metrics                            | Source/<br>Fulfil | Monitoring<br>Activity                           |
|---------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|-----------|-------------------------------------------|------------------------------------|-------------------|--------------------------------------------------|
| 2.2 SEI-14                | <b>A.IV.3</b> Develop guidance on governance framework for cross-border aviation safety data sharing projects (including G2B/ third party involvement, funding, liability, info security/ protection) | To be determined by APRAST | 2021      | APRAST, COSCAPs, States/ Administrations  | Completion of governance framework | GASP              | Progress report to APRAST and RASG-APAC meetings |
| 2.2 SEI-14;<br>2.2 SEI-15 | <b>A.IV.4*</b> Establish a mechanism for regional aviation safety data collection and sharing and support States'/ Administrations' participation in regional aviation safety data-sharing projects   |                            |           | APRAST, States/ Administrations, Industry | Launch of mechanism                | GASP, AP-RASPAT   |                                                  |



## Org Roadmap

**Issue 4:** Lack of resources and expertise to manage and collect data on a State level, and no formal mechanisms in place that allow for the sharing and benchmarking of information at the regional level

### Regional Goal IV: Data-driven regulatory oversight

| GASP SEI                                             | Action                                                                                                                                                              | Custodian | Time-line | Stakeholders                                                                | Metrics                   | Source/<br>Fulfil                   | Monitoring<br>Activity                                        |
|------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|-----------|-----------------------------------------------------------------------------|---------------------------|-------------------------------------|---------------------------------------------------------------|
| 2.2 SEI-16;<br>3.1 SEI-4C;<br>3.1 SEI-7<br>(C,D,E,F) | <b>A.IV.5</b> Develop a more data-driven, precision-/ targeted approach of identifying risks (by sub-region or common-issue/risk groups of States/ Administrations) | SRP WG    | 2022      | APRAST, SEI WG,<br>SRP WG, COSCAPs,<br>States/ Administrations,<br>Industry | Completion of<br>approach | GASP,<br>Beijing<br>Declaratio<br>n | Progress report<br>to APRAST<br>and RASG-<br>APAC<br>meetings |



## Org Roadmap

**Issue 5:** Increasing risks associated with airspace congestion, and the lack of appropriate infrastructure to support safe operations; lack of capacity of regulatory authorities

**Regional Goal V:** Enhanced aviation infrastructure (physical and institutional)

### Targets

**T16\*** States should achieve at least 75% EI in AGA of USOAP CMA, and an APAC average USOAP EI score in AGA higher or equal to the global average [by 2022]

**T17\*** States should achieve at least 75% EI in AIG of USOAP CMA, and an APAC average USOAP EI score in AIG higher or equal to the global average [by 2022]

**T18\*** Certify all aerodromes the APAC region that are used for international operations [by 2022]

**T19\*** States should establish an independent accident and incident investigation authority (AIIA) as required by Annex 13, as well as related investigation system and procedures [by 2022]

| GASP SEI                    | Action                                                                                                                                                                         | Custodian | Time-line | Stakeholders                                         | Metrics                                                                                                                                                 | Source/<br>Fulfil | Monitoring<br>Activity                           |
|-----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|-----------|------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|--------------------------------------------------|
| 2.1.1 SEI-4;<br>2.1.2 SEI-8 | <b>A.V.1</b> Integrate the existing basic building blocks of RASG-APAC/ APRAST towards the envisioned safety data collection and processing system (SDCPS) for the APAC region | APRAST    | 2020-2022 | APRAST, SEI WG, SRP WG, APAC-AIG, COSCAPs, ICAO-APAC | Completion of documented clear lines and procedures for communication of respective types of data/ information between APRAST and other regional groups | GASP              | Progress report to APRAST and RASG-APAC meetings |





## Org Roadmap

**Issue 5:** Increasing risks associated with airspace congestion, and the lack of appropriate infrastructure to support safe operations; lack of capacity of regulatory authorities

### Regional Goal V: Enhanced aviation infrastructure (physical and institutional)

| GASP SEI                    | Action                                                                                                                                                                                              | Custodian       | Time-line | Stakeholders                                                                                                                                    | Metrics                                                                                                                              | Source/<br>Fulfilis                             | Monitoring<br>Activity                           |
|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|--------------------------------------------------|
| 2.1.1 SEI-4;<br>2.1.2 SEI-8 | <b>A.V.2</b> Enhance the terms of reference (TORs) of various regional bodies using a TOR framework                                                                                                 | ICAO APAC<br>RO | 2020      | APRAST, SEI WG, SRP WG, APAC-AIG, COSCAPs, ICAO-APAC                                                                                            | Completion of review and revision of TORs                                                                                            | GASP, Regional Cooperation Mechanism Task Force | Progress report to APRAST and RASG-APAC meetings |
| 2.1.1 SEI-4;<br>2.1.2 SEI-8 | <b>A.V.3</b> Improve the communication of activities and coordination of schedules among regional bodies and meetings, regional workshops/ courses, e.g. via a one-stop calendar of regional events |                 |           | DGCA-APAC, RASG-APAC, APRAST, SEI WG, SRP WG, APAC-AIG, COSCAPs, ICAO-APAC, other regional platforms/ bodies, States/ Administrations, Industry | Completion of documented clear lines and procedures for communication of respective events; completion of regional one-stop calendar | GASP                                            |                                                  |



## Org Roadmap

**Issue 5:** Increasing risks associated with airspace congestion, and the lack of appropriate infrastructure to support safe operations; lack of capacity of regulatory authorities

### Regional Goal V: Enhanced aviation infrastructure (physical and institutional)

| GASP SEI                           | Action                                                                                                                                                                        | Custodian                  | Time-line | Stakeholders                                         | Metrics                                                                                                                                                                             | Source/<br>Fulfil | Monitoring<br>Activity                           |
|------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|-----------|------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|--------------------------------------------------|
| 2.1.1 SEI-5;<br>2.1.2 SEI-9        | <b>A.V.4*</b> Establish a means for States/ Administrations to informally share information and coordinate on operational issues in the USOAP Audit Areas of OPS, ANS and AGA | To be determined by APRAST | 2020      | APRAST, COSCAPs, ICAO-APAC, States/ Administrations  | Completion of information sharing channels/ platform; completion of directory of appropriate CAA contact points for various areas and associated procedures to update the directory | GASP              | Progress report to APRAST and RASG-APAC meetings |
| 2.2 SEI-10;<br>3.1 SEI-7 (C,D,E,F) | <b>A.V.5</b> Enhance the websites of various regional platforms, consolidate information on activities, and enhance related links among platforms                             | ICAO APAC RO               | 2021      | ICAO-APAC, COSCAPs, other regional platforms/ bodies | Completion of review and revision to websites and information platforms                                                                                                             | GASP              |                                                  |



## Org Roadmap

**Issue 5:** Increasing risks associated with airspace congestion, and the lack of appropriate infrastructure to support safe operations; lack of capacity of regulatory authorities

### **Regional Goal V:** Enhanced aviation infrastructure (physical and institutional)

| GASP SEI           | Action                                                                                                                                                                      | Custodian | Time-line | Stakeholders                                    | Metrics                                                                                     | Source/<br>Fulfil                 | Monitoring<br>Activity                           |
|--------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|-----------|-------------------------------------------------|---------------------------------------------------------------------------------------------|-----------------------------------|--------------------------------------------------|
| 3.1.1 SEI-7<br>(F) | <b>A.V.6*</b> Implement safety-related initiatives from the APAC Seamless ANS Plan^ in a timely manner, as applicable                                                       | APANPIRG  | 2020-2022 | APANPIRG, ICAO-APAC, States/<br>Administrations | No of States which have implemented safety-related initiatives under APAC Seamless ANS Plan | AP-RASPAT, APAC Seamless ANS Plan | APANPIRG and SubGroups meeting reports           |
| 2.1.1 SEI-2        | <b>A.V.7*</b> Establish an independent accident and incident investigation authority (AIIA) as required by Annex 13, as well as related investigation system and procedures | APAC-AIG  | 2022      | APAC-AIG, States/<br>Administrations            | No. of States which have established their AIIA                                             | GASP, Beijing Declaration         | Progress report to APRAST and RASG-APAC meetings |



## Implementation Timeline

| 2019 | 2020                                                                                    | 2021                                 | 2022                                                                                             |
|------|-----------------------------------------------------------------------------------------|--------------------------------------|--------------------------------------------------------------------------------------------------|
|      | <b>Targets: T1-T3</b>                                                                   |                                      |                                                                                                  |
|      | <b>Actions:</b> A.V.2-A.V.4, <b>Targets:</b> T4, T14-T15                                | <b>Actions:</b> A.IV.2-A.IV.4, A.V.5 | <b>Actions:</b> A.I.1-A.I.21, A.II.4, A.IV.1, A.IV.5, A.V.7, <b>Targets:</b> T6, T9-T13, T16-T19 |
|      | <b>Actions:</b> A.II.1-A.II.3, A.III.1-A.III.3, A.V.1, A.V.6, <b>Targets:</b> T5, T7-T8 |                                      |                                                                                                  |



## Implementation of AP-RASP Actions

### Ops Actions



Essentially the existing Outcomes of the Safety Enhancement Initiatives (SEIs) developed by RASG-APAC/ APRAST



SEI WG remains overall Custodian

### Org Actions



**Action Custodians** to lead and assign implementation work to rest of the group of identified stakeholders for that Action  
APRAST to appoint Action Custodians for Org Actions A.I.20, A.II.1, A.III.1, A.IV.1, A.IV.3, A.IV.4, A.V.4 from among the group of stakeholders identified in AP-RASP



ICAO-APAC Office to disseminate ORG Actions to relevant region platforms/ mechanisms, as appropriate, to include in their **Workplans**, and request Custodians and respective identified stakeholder groups to further develop **specific implementation details and timeline for their respective Actions**



## Roles and responsibilities of Custodians

- **ICAO-APAC Office** to be AP-RASP Administrator
  - Oversee implementation progress of AP-RASP Actions and achievement of Targets
  - Include AP-RASP Actions in yearly Workplans of APRAST and other ICAO regional platforms and mechanisms
  - Advise on available Mechanisms/ Tools to facilitate implementation of Actions
- **APRAST Co-Chairs** to lead AP-RASP efforts
  - Oversee that top APAC safety risks and challenges are addressed (esp. emerging issues with high and widespread impact), and ensure achievement of objectives and Targets
  - Present proposed revisions to AP-RASP, following APRAST endorsement, for approval by RASG-APAC
  - Present proposed revisions to AP-RASP, for APRAST endorsement, followed by RASG-APAC approval
- **SRP WG** to track achievement of AP-RASP Targets
  - Develop second-order indicators, as appropriate, to measure and track progress of the achievement of Targets
  - Prepare a progress report for every APRAST and RASG-APAC meeting



## Roles and responsibilities of Custodians

- **SEI WG** to remain overall Custodian for Ops Actions and track implementation of Org and Ops Actions
  - Develop clearer guidelines for States/ Administrations to indicate their implementation status for each Ops Action
  - Develop indicators to track and analyse relevance and effectiveness of Org and Ops Actions
  - Track and analyse the progress of implementation of Org and Ops Actions
- **Action Custodians** to lead implementation of respective Actions
  - Appointed by APRAST to lead group of stakeholders identified in AP-RASP for individual Org Actions
  - Develop specific details and timeline for implementation of Org Actions
  - Provide updates to SRP WG and ICAO-APAC Office on the progress status of their Org Actions



## Roles and responsibilities of Custodians

- **COSCAPs and PASO** to support their respective States with implementation of AP-RASP and its Actions
- **Ad-hoc WG** to be dissolved after publication of AP-RASP ; new group to be formed to review and develop AP-RASP for next triennium
- **Regional platforms and mechanisms** to incorporate relevant Actions in their respective annual workplans, as applicable





## Using AP-RASP to customise NASP

- States are recommended to establish their NASPs, taking into account AP-RASP and GASP
- AP-RASP as a recommended guideline to customize their NASPs
  - States which are ready to develop their NASP should take reference from the AP-RASP
  - States which are not ready are recommended to implement the relevant AP-RASP Actions that are reflective of their industry and operational context
- Where possible, model NASP structure after AP-RASP for comprehensiveness
  - Follow seven-step process (paras 3.5.1 to 3.5.8 of GASP)
  - Refer ICAO's 'Guidance for drafting the NASP' and 'NASP template'



## AP-RASP Actions and Targets for NASPs

- Identify which GASP and AP-RASP top risks and key challenges apply to national context, and add others which are unique to their operational context, if applicable
  - Conduct an assessment of number of operational safety risks that can be managed, and prioritise them according to safety risk management process
- Below AP-RASP Actions and Targets are for inclusion in NASPs, as these are intended for implementation by States in their national context

| AP-RASP Actions                                                                         |                                                                     | AP-RASP Targets            |
|-----------------------------------------------------------------------------------------|---------------------------------------------------------------------|----------------------------|
| A.I.1-A.I.18 (as prioritised and customised to each States' unique operational context) | A.II.2-A.II.4, A.III.1, A.III.3, A.IV.1, A.IV.4, A.V.4, A.V.6-A.V.7 | T1-T5, T7, T9-T14, T16-T20 |

- Also consider including GASP SEIs applicable to States and Industry (domestic) and other national priorities
  - Detail Ops and Org roadmaps
  - Develop method of measuring the progress of any initiative



## Links between NASP, GASP and AP-RASP & Mapping

- Include, wherever appropriate, specific references to the GASP and AP-RASP for any adopted or adapted content
  - Especially for safety risks, challenges, Actions and Targets
  - Indicate NASP Chapter/ Sub-Chapter numbers, or page numbers, or and paragraph numbers
- Use **mapping template** to demonstrate these links
  - Provided in Appendix K of AP-RASP; refer to Appendix F for an example of mapping template of RASP to GASP guidelines)

| Chapter 4 ‘Guidance for drafting the NASP’ |                                                                                                                                                            | Location(s)                         |
|--------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|
| 4.3.1 Introduction                         |                                                                                                                                                            |                                     |
| a)                                         | Overview of the NASP, including its structure                                                                                                              | <i>e.g. Chapter 1.1</i>             |
| b)                                         | State’s commitment to aviation safety and to the resourcing of activities to enhance safety through a statement signed by a senior aviation representative | <i>e.g. Chapter 2.1</i>             |
| c)                                         | Links between NASP and SSP or safety oversight (if no SSP); expected date for full implementation of SSP                                                   | <i>e.g. Chapter 3.3, Appendix A</i> |



## Risks and challenges for implementation

- Successful implementation of RASP Actions will require
  - commitment of resources from stakeholders within States
  - availability of data to effectively monitor the achievement of NASP Targets
  - proper project governance and coordination

| Project Risks                                                                                                                                                               | Mitigation measures                                                                                                                            |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|
| Lack of understanding of the expectations of the AP-RASP Actions                                                                                                            | APRAST leadership team to provide additional clarification on the expectations of the Actions                                                  |
| Limited manpower and financial resources to fully implement AP-RASP Actions or develop indicators to and keep track of implementation of Actions and achievement of Targets | APRAST leadership team and WGs to provide support, either directly or through the partial delegation of responsibility to other APRAST members |
| Lack of relevant skills and knowledge to effectively implement and monitor targets and indicators at a regional level                                                       | APRAST WGs to collate relevant documentation/ educational material to support development of skills and knowledge where these are inadequate   |



## Risks and challenges for implementation

| Project Risks                                                                                                                                  | Mitigation measures                                                                                                                                                                                                                                                                                                                                               |
|------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Lack of timely, consistent, quality data and systems to support monitoring of targets and indicators                                           | APRAST WGs to collate relevant documentation/ educational material to support development of quality data collection mechanisms and monitoring of targets and indicators.<br>All stakeholders should contribute data and information as and when required, or otherwise communicate reason(s) for not being able to do so, so that such reasons can be addressed. |
| Inefficient approval processes (only 2 APRAST and 1 RASG-APAC meetings annually) for Actions which require swifter decision-making and actions | Inter-session meetings and/or correspondences may be required to expedite decisions where lack of such decisions impacts timely implementation of the AP-RASP Actions                                                                                                                                                                                             |
| Lack of coordination and cooperation between Administrator, Custodians and Stakeholders                                                        | APRAST to establish formal communication mechanisms to ensure coordinated effort to support information flow and encourage cooperation between stakeholders                                                                                                                                                                                                       |



## AP-RASP Progress : Monitoring & Tracking

### Actions

- **Ops Actions:** Make Online Monitoring Mechanism available and accessible to all APAC States/ Administrations, and develop **clearer guidelines on indicating implementation status**
- **Org Actions:** Collate status of progress of implementation from meeting reports of respective regional platforms/ mechanisms, and/ or Custodians of respective Actions
- Develop indicators to gauge the **relevance and effectiveness** of the Org and Ops Actions

### Targets

- Develop **second-order milestones/ indicators**, as well as further operational safety performance indicators not already covered by Targets, to measure and track reduction of top APAC risks and challenges and overall safety improvement in APAC region

### Reporting

- Report at every APRAST and RASG-APAC meeting
  - Brief overview of the overall implementation of the AP-RASP
  - Analysis on delay/ challenges encountered in implementation of Actions
  - If regional safety goals and targets are not met, causes will be addressed and presented to relevant stakeholders



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## Sample Monitoring Tools for SEI, NASP Implementation & RASP/GASP Mapping

NASP

RASP

SEI



### Implementation Monitoring Tools of NASP Implementation Status

Reference: APRAST Conclusion 5/7, RASG-APAC 4/23 and APRAST Decision 6/3

Lc

#### STATUS OF IMPLEMENTATION

A = UNDER REVIEW (%) B = IMPLEMENTATION STATUS BY STATE (%) C = IMPLEMENTATION STATUS BY OPERATOR (%) D = ALL ACTIONS COMPLETED (✓)

| SL | NASP CHECK LIST                                                                                                         | ANS – YES/NO OR, N/A | NASP REF | AFG | AUS                           | BGD     | BTN | BRN | KHM | CHN                  | HKG | MAC                  | CKI |
|----|-------------------------------------------------------------------------------------------------------------------------|----------------------|----------|-----|-------------------------------|---------|-----|-----|-----|----------------------|-----|----------------------|-----|
| 0  | Status                                                                                                                  |                      |          |     |                               |         |     |     |     |                      |     |                      |     |
| 1  | 4.3.1 - Does it provide an overview of the NASP, including its structure (chap, sec and content)?                       | In Progress          | 4.3.1 a) |     | A (0%)<br>B (25%)<br>C (50%)  | ✓       |     |     |     | ✓                    | ✓   | ✓                    |     |
| 2  | Does it note the State's commitment to aviation safety and to the resourcing of activities at the national level?       | In Progress          | 4.3.1 b) |     | A (25%)<br>B (25%)<br>C (25%) | A (50%) |     |     |     | A (100%)<br>C (100%) | ✓   | A (100%)<br>B (0%)   |     |
| 3  | Does it describe how the NASP is linked to the SSP or how the NASP is linked in the absence of a fully implemented SSP? | In Progress          | 4.3.1 c) |     | ✓                             | ✓       |     |     |     | A (100%)             | ✓   | A (100%)<br>B (100%) |     |



## Review Mechanism

### Initiation of Review

- [***New Edition***] ICAO APAC Office to remind RASG-APAC Co-Chairs to task APRAST to review AP-RASP and develop new Edition for next triennium
  - AP-RASP Ad-hoc WG to be formed for the purpose
  - To be indicated as new Edition for next triennium
- [***Ad-hoc amendment***] If new critical regional issues are identified and reasonable measures are required to mitigate the safety risks as soon as practicable
  - To be indicated as revised Edition





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