International Civil Aviation Organization

EIGHTH MEETING OF THE ASIA PACIFIC REGIONAL AVIATION SAFETY TEAM (APRAST/8)

(Bangkok, Thailand, 28 March to 1 April 2016)

Agenda Item 4:   Update, Discussion and Review of APRAST Activities

UPDATE ON APAC REGIONAL AVIATION SAFETY PRIORITIES AND TARGETS

(*Presented by APRAST Co-Chairs*)

SUMMARY

This Paper provides an update on the progress of Asia and Pacific Regional Aviation Safety Priorities and Targets.

Action by the meeting is at Paragraph 3 of this Working Paper.

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1.   INTRODUCTION

1.1   The APAC Regional Aviation Safety Priorities and Targets, which were approved at RASG-APAC/4, are aligned to the ICAO Global Aviation Safety Priorities and Targets outlined in the revised Global Aviation Safety Plan (GASP). The APAC Regional Aviation Safety Priorities cover the following five areas:

  a.   Reduction in Operational Risks

  b.   Improvements in Safety Oversight and Compliance

  c.   Consistent and effective Safety Management Systems (SMS) and State Safety Programmes (SSP)

  d.   Predictive risk management and advanced regulatory oversight

  e.   Enhanced Aviation Infrastructure

1.2   The region's progress in attaining APAC Regional Aviation Safety Targets in **Appendix A** is continuously monitored with regular updates reported at RASG-APAC.   The last update on the APAC Regional Aviation Safety Priorities and Targets was presented at RASG-APAC/5 in October 2015. This paper provides an update on the progress of Asia and Pacific Regional Aviation Safety Priorities and Targets. In anticipation of the update to be provided to RASG-APAC/6 in Colombo, Sri Lanka in August 2016, further inputs are required from States/ Administrations and Industry after the APRAST/8 meeting.

2.   DISCUSSION

2.1   Based on the responses received from 11 States/ Administrations[1], and information collected mainly from ICAO HQ and Industry organisations thus far, the APAC region has varying progress on the APAC Regional Aviation Safety Priorities and Targets. All targets are uncompleted currently, even as there is slightly more progress made in some of them, compared to the October 2015 update.

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[1] The 11 States/ Administrations that responded to the information collection beyond RASG-APAC/5 are Australia, Bhutan, Fiji, Hong Kong, Japan, Macao, New Zealand, Pakistan, Samoa, Singapore and Thailand.

Regional Priority 1: Reduction in Operational Risks

Target: RASG-APAC to complete the development of current identified priority SEIs by end 2016

	Update at RASG-APAC/5	Update at APRAST/8
Number of Priority Level 1 SEIs	12	11
Number of completed Priority Level 1 SEIs	9	9
Number of Priority Level 1 SEIs to be developed	3	2

Table 2.2: Development of Priority Level 1 SEIs

2.2   The outputs of 9 out of 11 Priority Level 1 SEIs were approved by RASG-APAC and promulgated. The two remaining Priority Level 1 SEIs to be developed are LOC/2 and LOC/4. At the APRAST/7 meeting, it was determined that the scope of SEI RI/3 did not require further action by APRAST and would be closed. The total number of Priority Level 1 SEI has been updated accordingly.

Target: Reduction in the number of fatal accidents in 2018 compared to 2014 irrespective of the volume of air traffic in the APAC region
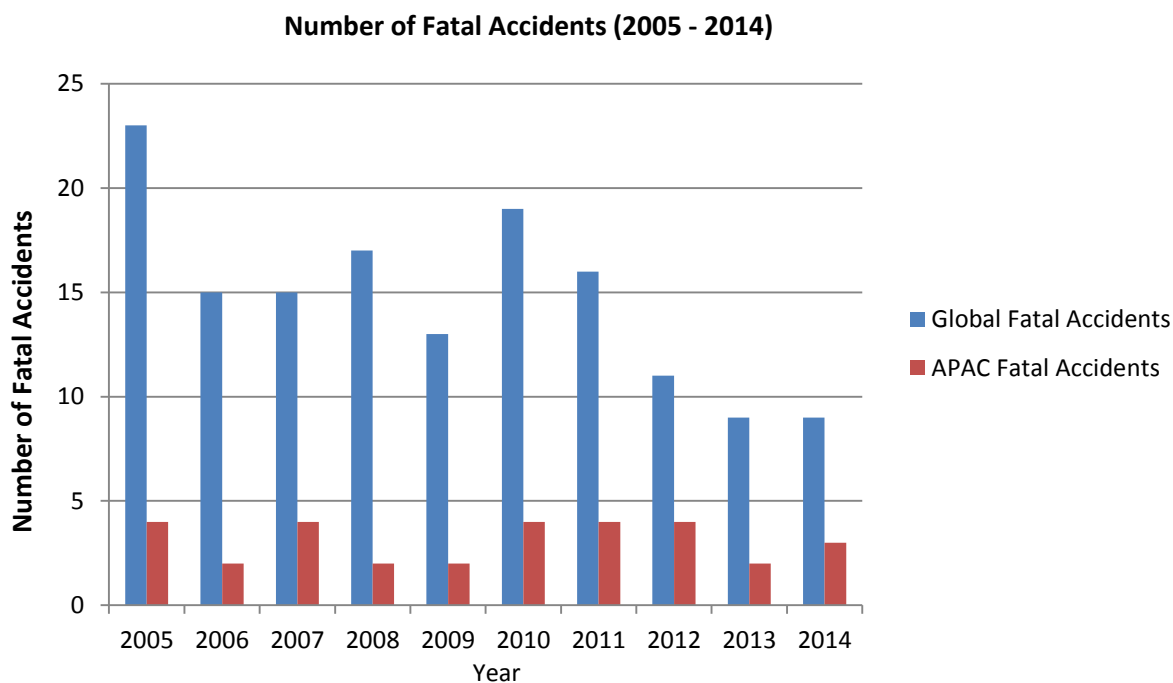
Number of Fatal Accidents (2005 - 2014)

Chart 2.3: Number of global and APAC fatal accidents (2005 – 2014)

2.3   Chart 2.3 shows the number of global and APAC fatal accidents which occurred from 2005 to 2014, available in the 2015 Asia Pacific Regional Annual Safety Report. The AP-SRP WG will continue to monitor the breakdown of accident figures in 2015 and 2016 for future updates.

Target: States and Industry to complete the implementation of all priority SEIs in RASG-APAC work programme by 2018

Area of RASG-APAC Endorsed Safety Tool	No of States/Administrations that have implemented*	
	Update at RASG-APAC/5	Update at APRAST/8
Compliance with Annex 6 requirement on GPWS-FLF. [Annex 6(I) 6.15 & Annex 6(II)	4	No change in status from update at RASG-APAC/5.
Guidance on training programme on the use of the GPWS	3	
Guidance on the effective use of the GPWS	4	
Development, implementation and assessment of crew resource management training programme	3	
Training of Flight Crew in ALAR and CFIT Prevention	3	
Mode Awareness and Energy State Management Aspects of Flight Deck Automation	4	

Table 2.4: Level of Implementation of Priority SEIs in RASG-APAC Work Programme

*Based on the 6 States/ Administrations[2] that responded to the survey on the implementation of RASG-APAC endorsed safety tools

2.4   The Secretariat will continue to monitor the level of implementation of the priority SEIs through a monitoring mechanism which also tracks the compliance of States/ Administrations to ICAO SARPs. To improve the collection of survey data, Secretariat is working with Bangladesh to develop a user-friendly online survey to enable submission of information on the implementation level of safety tools endorsed by RASG-APAC.

Regional Priority 2: Improvements in Safety Oversight and Compliance

Target: Task force (to be formed by APRAST) to develop an action plan on capacity building by June 2016

2.5   The RASG-APAC/5 meeting approved the extension of the deadline for this target from December 2015 to June 2016. Discussion on the Task Force is expected to be carried out at the APRAST/8 meeting. Members are encouraged to participate in the Task Force.

Target: States to resolve any SSCs identified by the ICAO USOAP CMA programme promptly within the timeline specified in the corrective action plan and agreed to by ICAO

2.6   Same as the update given at RASG-APAC/5, two States, with SSCs in the area of Air Operator Certification, are in the process of resolving the SSCs. ICAO APAC Regional Office will continue to monitor the situation of resolving SSCs for APAC States.

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[2] The 6 States/ Administrations that responded to the survey on the implementation of RASG-APAC endorsed safety tools are Bhutan, Hong Kong, Japan, Macao, Maldives and Singapore.

Target: States to achieve at least 60% EI in USOAP CMA by 2017

Chart 2.7: Ascending overall EI scores by APAC States

2.7   There is no change to the update given at RASG-APAC/5. Seventeen out of 36 (42%) audited States have at least 60% overall EI while the APAC average overall EI remains at 59.18%, which is below the global average overall EI (62.94%). States are strongly urged to accelerate the attainment of at least 60% EI in individual aspects of USOAP CMA.

Targets: By end of 2017, (1) maintain at least 60% of applicable APAC airlines to be IOSA certified; (2) achieve at least 15% of applicable APAC airlines to be ISSA certified; (3) pursue at least a 50% increase in ISAGO registrations.

	IOSA		ISSA		ISAGO	
Certification/ Registration	**Update at RASG-APAC/5**	**Update at APRAST/8**	**Update at RASG-APAC/5**	**Update at APRAST/8**	**Update at RASG-APAC/5**	**Update at APRAST/8**
Current Status	51 APAC airlines certified	No change in status from update at RASG-APAC/5.	No information available	No change in status from update at RASG-APAC/5.	37 APAC stations registered	No change in status from update at RASG-APAC/5.

Table 2.8: Status relating to IOSA and ISSA certification for APAC airlines, as well as ISAGO registration for APAC stations

2.8   Secretariat is pending information from IATA on the percentage of applicable APAC airlines for IOSA and ISSA certification, and the increment increase in ISAGO registration. The status will be updated when information from IATA is made available.

Regional Priority 3: Consistent and effective Safety Management Systems (SMS) and State Safety Programmes (SSP)

Target: Industry, particularly airlines, aviation training organisations, maintenance and repair organisations, airport operators, air navigation service providers, organisations responsible for the type design or manufacture of aircraft and aviation service providers to implement SMS by 2017

	Update at RASG-APAC/5	**Update at APRAST/8**
Aviation organisations that have implemented SMS out of those required to implement SMS	26 %	66*%

Table 2.9: Status of SMS implementation for Industry

*Based on the 11 States/ Administrations that responded thus far, 1060 out of 1597 aviation organisations that are required to implement SMS, have implemented SMS.

2.9   The implementation of SMS for Industry is being monitored by the Secretariat. The increase in implementation of SMS in organisations requiring SMS, from 26% to 66% is due to more information collected since RASG-APAC/5. Industry and States/ Administrations are encouraged to progress the implementation of SMS and provide status updates to the Secretariat.

Target: States to implement the full ICAO SSP by 2022

	No. of States	
Implementation Stage	**Update at RASG-APAC/5**	**Update at APRAST/8**
SSP implementation completed	2	2
Implementation Plan Defined	2	3
Gap Analysis completed	2	4
Gap Analysis started	4	6
No information available	28	23

Table 2.10: Implementation of SSP by APAC States

2.10   Since Oct 2015, based on information on ICAO iSTARS self-reported by States, 2 more States have started the SSP gap analysis; 2 more have completed the gap analysis and; 1 more have defined the SSP Implementation Plan. The remaining 23 States are encouraged to provide information on the SSP implementation to ICAO.

Regional Priority 4: Predictive risk management and advanced regulatory oversight

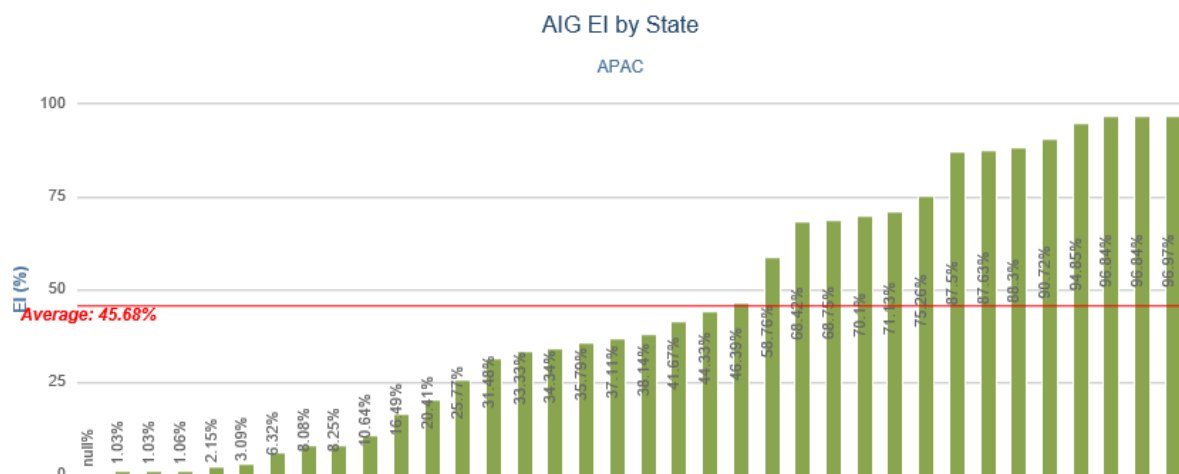Target: States to achieve at least 60% EI in AIG of USOAP CMA by 2017

Chart 2.11: Ascending AIG EI scores by APAC States

2.11   There is no change to the update at RASG-APAC/5. Thirteen out of 35 (37%) audited APAC States have attained at least 60% EI in AIG. The APAC average AIG EI (45.68%) is below the global average AIG EI (54.89%).

Target: To develop regional mechanism for data collection, analysis and sharing by 2017

2.12   The RASG-APAC/5 meeting was updated on the progress of developing the Governance Plan on a regional data collection, analysis and information sharing system for aviation safety in the Asia Pacific (APAC) region. Following the RASG-APAC/5 meeting, States/Administrations and Industry were encouraged to provide comments on the Governance Plan and participate in the Regional Data Collection, Analysis and Information Sharing for Aviation Safety Demonstration Project in Asia Pacific. APRAST/8's support will be sought for the Governance Plan at this meeting.

Target: 50% of APAC air operators, with aircraft of mass 27,00kg and above, participating in flight data sharing initiative by 2016

2.13   This target was amended at RASG-APAC/5 to reflect its applicability to APAC air operators with aircraft of mass 27,000kg and above. The status will be updated when information from IATA and AAPA is made available.

Target: APAC States to provide assurance that predictive risk management is fully effective by 2027

2.14   There is no change to the update at RASG-APAC/5. APRAST will continue to identify suitable metrics to monitor this development and propose changes to this target. It is noted that at this point, the ICAO GASP does not provide any definition on what is meant by predictive risk management. As this target is also found in the global priorities and targets in the ICAO GASP, APRAST would take reference from further guidance from ICAO.

Regional Priority 5: Enhanced Aviation Infrastructure

Target: Implement structures between RASG and APANPIRG to facilitate collection and sharing of ATM data by end 2015

2.15   Since the RASG-APAC/5 meeting, Secretariat has linked up the AP-SRP WG with the APANPIRG's Regional Airspace Safety Monitoring Advisory Group (RASMAG), to aid coordination on exploring the best mechanism/structure to facilitate the collection and sharing of ATM data. Invitations were also exchanged between AP-SRP WG and RASMAG for attendance of meetings to exchange safety information. As more time is needed for further discussion, the deadline for this target would have to be amended. It is proposed for the AP-SRP WG to determine the overall framework facilitating the collection and sharing of ATM data with RASMAG and the proposed revised deadline for completion of the target.

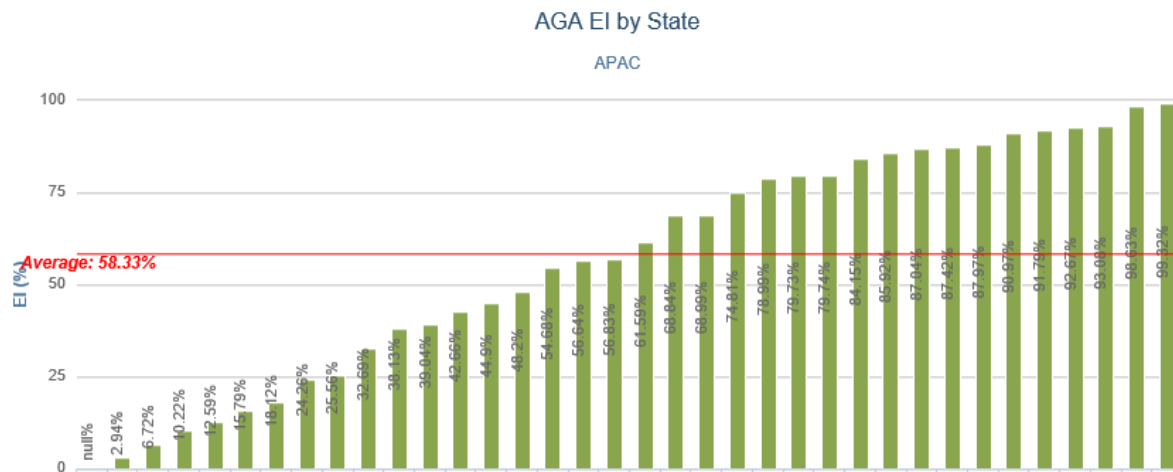Target: States to achieve at least 60% EI in AGA of USOAP CMA by 2017

Chart 2.16: Ascending AGA EI scores by APAC States

2.16   Eighteen out of 35 (51%) audited APAC States have attained at least 60% EI in AIG, same as the update given at RASG-APAC/5. The APAC average AIG EI (58.33%) has fallen below the level at RASG-APAC/5 (59.31%), but it is still above the global average AGA EI (58.12%).

Target: Promote runway safety through workshops and seminars at least yearly

2.17   The workshops/ seminars for promotion of runway safety to be held in 2016 are:

          a. ICAO Regional workshop on Annex 14 Vol II (April 2016)
          b. Workshop on rollout of Procedures for Air Navigation Services (PANS)-Aerodromes (2nd half of 2016)
          c. Workshop focusing on specific runway safety elements such as runway excursions, implementation of runway safety teams and wildlife management (APRAST/9)

Target: All aerodromes in APAC region that are used for international operations to have Runway Safety Teams (RSTs) by 2017

	Update at RASG-APAC/5	Update at APRAST/8
Aerodromes in the APAC region that are used for international operations and have RSTs	30%	No change in status from update at RASG-APAC/5.

Table 2.18: Percentage of Aerodromes in the APAC region that are used for international operations with RSTs

2.18   This progress is monitored by the Secretariat. Feedback from ICAO HQ and ACI received after RASG-APAC/5 revealed that there is currently no accurate record regarding the availability of RSTs in aerodromes used for international operations. States/ Administrations are encouraged to provide information on the status of RST implementation to the Secretariat.

3.   ACTION BY THE MEETING

3.1.   The Meeting is invited to:

a) encourage States/ Administrations to make efforts in attaining various APAC Regional Aviation Safety Targets, including the improvement in USOAP CMA EI scores, noting the upcoming deadlines in 2016 and 2017 that are applicable to States/ Administrations and Industry;

b) direct the Secretariat to obtain required information from States/ Administrations and Industry to aid the monitoring of the   progress of the APAC Regional Aviation Safety Priorities and Targets;

c) encourage States/ Administrations to nominate representatives to participate in the task force to develop an action plan on capacity building by June 2016; and

d) request the AP-SRP WG to determine the overall framework facilitating the collection and sharing of ATM data with RASMAG, and a proposed revised deadline for completion of the target to implement structures between RASG-APAC and APANPIRG to facilitate collection and sharing of ATM data by end 2015.

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RASG-APAC Regional Aviation Safety Priorities and Targets (Version 2.0)		
Regional Aviation Safety Priorities	**Action**	**Regional Aviation Safety Targets**
1. **Reduction of operational risks** According to the APAC Annual Safety Report, the percentage of global fatal accidents attributed to the APAC region has increased from 11% in 2008 to 25% in 2011. The report has also identified Loss of Control In-flight (LOC-I), Controlled Flight Into Terrain (CFIT) and runway safety related accidents as the main contributing factors to fatal accidents in the APAC region, which is in line with the analysis in the ICAO Global Aviation Safety Plan. *Metric:* • Number of fatal accidents irrespective of the volume of air traffic in the APAC region.	**Implement priority Safety Enhancement Initiatives (SEIs)** • RASG-APAC should continue its focus on the development of the current SEIs to address the priority areas of LOC-I, CFIT and Runway Safety. • RASG-APAC should continue to provide implementation support to States and industry. • States and industry should likewise accord priority to the implementation of these SEIs.	• RASG-APAC to complete the development of currently identified priority SEIs by end 2016. • States and industry to complete the implementation of all priority SEIs in RASG-APAC work programme by 2018. • [RPD] Reduction in the number of fatal accidents in 2018 compared to 2014 irrespective of the volume of air traffic in the APAC region.
2. **Improvements to safety oversight and compliance** Recognizing that the APAC region has one of the fastest air traffic growth rates and that effective safety oversight systems are crucial in ensuring high standards of safety, States should enhance their safety oversight system as a high priority. *Metric:* • APAC States' ICAO USOAP CMA effective implementation rate.	**Enhance safety oversight systems through capacity building** Capacity building is an important element to enhance safety oversight capabilities. Considering that ICAO's last comprehensive systems approach audit cycle showed that the highest lack of effective implementation (52%, please see Figure 1 below) was in the area of CE 4 "qualified personnel", programmes should be initiated to increase the number of qualified inspectors in the region. A dedicated task force should be established by APRAST to develop an action plan on capacity building. **Resolve Significant Safety Concerns (SSCs)** States should accord the utmost priority to the resolution of any SSCs identified by the ICAO Universal Safety	• Task force (to be formed by APRAST) to develop an action plan on capacity building by June 2016. • [RPD] States to resolve any SSCs identified

RASG-APAC Regional Aviation Safety Priorities and Targets (Version 2.0)		
Regional Aviation Safety Priorities	**Action**	**Regional Aviation Safety Targets**
	Oversight Audit Programme Continuous Monitoring Approach (USOAP CMA) programme. States with SSCs should draw on the necessary resources available, including technical assistance from other States and regional programmes such as COSCAPs, where necessary, to resolve the SSCs promptly.	by the ICAO USOAP CMA programme promptly within the timeline specified in the corrective action plan and agreed to by ICAO. • [*RPD*] States to achieve at least 60% EI in USOAP CMA by 2017.
	Use of the IATA Operational Safety Audit (IOSA) and the IATA Standard Safety Assessment (ISSA) IOSA registered carriers have demonstrated safety performance more than 2 times better than that for non-registered operators for the period between 2008 and 2013. IOSA can be utilised as an effective tool for States to evaluate operational capability and to establish level of confidence of air operators. Airlines are encouraged to pursue IOSA registration as a means to strengthen their safety management and compliance. States should consider various options to leverage IOSA from including recognition of IOSA to encouraging IOSA registration for all applicable operators. ISSA is a new safety programme, applicable to smaller operators whose aircraft or business model does not meet the eligibility criteria of IOSA. States are also encouraged to promote ISSA registration for all applicable operators.	• Maintain at least 60% of applicable APAC airlines to be IOSA certified by the end of 2017. • Achieve at least 15% of applicable APAC airlines to be ISSA certified by the end of 2017.
	Use of the IATA Safety Audit for Ground Operations (ISAGO) to improve ground safety Aircraft ground damage is a significant APAC issue and contributes to a global figure of nearly US$ 4-billion annual loss in terms of damage and injury. ISAGO aims to improve safety oversight of ground service providers,	• Pursue at least a 50% increase in ISAGO registrations by end of 2017.

RASG-APAC Regional Aviation Safety Priorities and Targets (Version 2.0)		
Regional Aviation Safety Priorities	**Action**	**Regional Aviation Safety Targets**
	promptly identify ground operation activities with higher risks and reduce the number of accidents related to ground operations. With these aims in mind, operators are encouraged to pursue ISAGO registration for ground service providers for enhancement in aviation safety.	
3. **Consistent and effective Safety Management Systems (SMS) and State Safety Programmes (SSP)** The growing air traffic in the APAC region and the increasingly complex operating environment necessitate the involvement of both industry and States in ensuring high levels of safety. During the period between 2008 and 2012, 27% of APAC accidents involved deficiencies in safety management while 33% of the accidents in APAC involved deficiencies in regulatory oversight. Effective implementation of SMS is essential for the industry to identify hazards and resolve safety concerns. The robust implementation of the SSP also enables States to focus their safety oversight resources where they are most needed. *Metrics:* • Number of organizations that have implemented SMS as a percentage of the number of organizations required to implement SMS.	**Support robust implementation of SMS and SSP** • RASG–APAC should facilitate the sharing of best practices amongst States in the region on SMS and SSP. • States should accord priority to the implementation of SMS and SSP to achieve an acceptable level of safety in aviation operations. • APAC COSCAPs should focus on assisting States in the implementation of SMS and SSP.	• [*RPD*] Industry, particularly airlines, aviation training organizations, maintenance and repair organizations, airport operators, air navigation service providers, organizations responsible for the type design or manufacture of aircraft and aviation service providers to implement SMS by 2017. • [*RPD*] States to implement the full ICAO SSP by 2022
4. **Predictive risk management and advanced regulatory oversight** The evolution from reactive to predictive safety management and data-driven regulatory oversight systems	**Implementation of AIG AWG recommendations to address Annex 13 requirements** States should consider it a priority to implement the	• [*RPD*] States to achieve at least 60% EI in

RASG-APAC Regional Aviation Safety Priorities and Targets (Version 2.0)		
Regional Aviation Safety Priorities	**Action**	**Regional Aviation Safety Targets**
hinges on the availability of high quality safety data. Proper risk management and oversight is also reliant on the effective investigation of accidents and incidents in order to prevent recurrence. Many APAC States have yet to fully implement ICAO Annex 13 requirements for accident investigation (53% - please see Figure 2 below). AIG AWG recommendations offer guidance to States to at least meet the minimum requirements. Implementation of these recommendations would help to improve each State's capacity to effectively investigate accidents and serious incidents and should also enhance the level of reporting by States to assist in the identification of regional safety issues and trends. Furthermore, APAC States often lack the resources and expertise to manage and collect data on a State level and there are currently no formal mechanisms in place that allow for the sharing and benchmarking of information at the regional level. Finally, while many air operators in APAC have Flight Data Analysis Programmes, many have yet to fully incorporate the data into their risk management decision-making and few are leveraging on the valuable information available from external data-sharing platforms such as the IATA Flight Data Exchange (FDX) or the FAA Aviation Safety Information Analysis and Sharing (ASIAS) programmes. *Metrics*: • States' ICAO USOAP CMA EI rate for AIG module	APAC AIG's recommendations. **Establish a structure for safety data collection, analysis and sharing** RASG–APAC should establish an action plan that facilitates the use of standardized taxonomies for data collection in the region. Standardized taxonomies, for example in the description of safety occurrences, ramp inspection outcomes and definitions of audit findings, would facilitate the benchmarking and sharing of data among States. In the longer term, RASG-APAC should put in place a structure for the collection, analysis and sharing of safety and operational data in the region in support of predictive risk management. **Establish a mechanism for regional data collection and sharing** RASG-APAC should facilitate initiatives to develop regional data collection, analysis and sharing systems, including collaboration with existing data sharing systems ASIAS and IATA FDX programmes, with support from States and industry. **Enhance the protection of aviation data information** RASG-APAC should encourage States/ Administrations to adopt safety information protection protocols.	AIG of USOAP CMA by 2017. • To develop regional mechanism for data collection, analysis and sharing by 2017. • 50% of APAC air operators with aircraft of mass 27,000kg and above, participating in flight data sharing initiative by 2016. • APAC States to provide assurance that predictive risk management is fully effective by 2027

RASG-APAC Regional Aviation Safety Priorities and Targets (Version 2.0)		
Regional Aviation Safety Priorities	**Action**	**Regional Aviation Safety Targets**
5. **Enhanced Aviation Infrastructure** **Air Traffic Services** Sustainable growth of the international aviation system will require the introduction of advanced safety capabilities (e.g. full trajectory-based operations) that increase capacity while maintaining or enhancing operational safety margins. The long-term safety objective is intended to support a collaborative decision making environment characterized by increased automation and the integration of advanced technologies on the ground and in the air, as contained in ICAO's Aviation System Block Upgrades (ASBUs) strategy. **Aerodrome Facilities** Particular attention should be paid to runway safety. Most aerodromes in the region are not certified due to lack of capacity of their respective regulatory authorities. The aerodrome and ground aids (AGA) CMA module has one of highest levels of lack of effective implementation (39%, see Figure 2 above). In 2012, 13% of APAC accidents included threats that were related to the malfunction or unavailability of ground based navigation aids. During the period between 2008 and 2012, 30% of the accidents in APAC were runway excursions. *Metrics*: • Structures in place to collect and share regional ATM data. • States' ICAO USOAP CMA EI rate for AGA module.	**Coordination with APANPIRG** • Support the implementation of ASBU and ensure their implementation accounts for and properly manages existing and emerging risks (i.e. approaches with vertical guidance (APV) to mitigate CFIT and runway excursion). • Jointly develop the proper structures to sustain the collection and sharing of regional ATM data. **Promotion of Effective Implementation of AGA** • RASG-APAC should promote effective implementation of AGA, with focus on runway safety programmes that support the establishment of Runway Safety Teams (RSTs) and implementation of inter-organizational SMS and Collaborative. • Decision making schemes.	• Implement structures between RASG and APANPIRG to facilitate collection and sharing of ATM data by end 2015. • [*RPD*] States to achieve at least 60% EI in AGA of USOAP CMA by 2017. • Promote runway safety through workshops and seminars at least yearly. • All aerodromes in APAC region that are used for international operations to have RSTs by 2017.

RASG-APAC Regional Aviation Safety Priorities and Targets (Version 2.0)			
	Regional Aviation Safety Priorities	**Action**	**Regional Aviation Safety Targets**
	• Number of runway safety seminars, workshops or other events at APRAST or RASG-APAC. • Number of aerodromes with RSTs in APAC region that are used for international operations.		