APPENDIX-1: ORGANIZATIONAL CHALLENGES (ORG) ROADMAP - DETAILED SAFETY ENHANCEMENT INITIATIVES (SEIs).

PART 1. AFI REGION

COMPONENT 1 – STATE SAFETY OVERSIGHT SYSTEM
PHASE 1 – ESTABLISHMENT OF A SAFETY OVERSIGHT FRAMEWORK (CE-1 TO CE-5)
Regional organizational challenges: **1) Lack of autonomous Civil Aviation Authorities in some of the member States to effectively discharge their regulatory and safety oversight responsibilities.** **2) Inadequate separation of regulatory and service provider or operator functions in the States that may create conflicts of interest and compromise the independence and implementation of regulatory provisions.** **3) Insufficient financial and human resources such as inadequate funding and limited number of qualified and experienced technical personnel to carry out safety oversight functions.**
Goal 2: Strengthen States' safety oversight capabilities. **Target 2.1:** ***By 2028, all States to commit to national aviation safety plans that allocate to each safety oversight authority sufficient financial resources to meet national and international obligations, with at least 70 per cent of States having sufficient financial resources.*** **Target 2.2:** ***By 2028, all States to improve their effective implementation (EI) score for qualified technical personnel (CE-4) for aircraft accident and incident investigation (AIG) and for aerodromes and ground aids (AGA) and in Air Navigation Services (ANS) respectively, with a further commitment that no State has a score of less than the baseline global average.*** **Target 2.3:** ***By 2028, all States to improve their EI score for the resolution of safety issues (CE-8) in AGA with a further commitment that no State has a score of less than the baseline global average.*** **Target 2.4:** ***By 2028, all States to improve their EI score for CE-6 Licensing, certification, authorisation and approval obligations , CE-7 Surveillance obligations and CE-8 Resolution of safety issues with a further commitment that no State has a score of less than the baseline global average.***

Safety enhancement initiative	Action	Timeline	Responsible entity	Stakeholders	Metrics/Indicators	Priority	Monitoring Activity
S-SEI-1: Strengthen the Autonomy and Governance of Civil Aviation Authorities (CAAs)	S1.1. Develop model legislation and guidance on CAA autonomy S1.2. conduct high-level advocacy with governments S1.3. establish sustainable funding mechanisms.	2027-2028	RSOO States States	ICAO, AFCAC, ESAF/WACAF, RSOOs,	% of States with autonomous CAAs % of States with sustainable funding mechanisms.	High	Technical missions to States. USOAP activities, including audits, ICVMs, off-site validations, IVAs, CAP assessments, etc. USOAP CMA OLF information and updates, including PQ self-assessments, CAPs, CC/EFOD and SAAQ.

R-SEI 1: Strengthen Regional Cooperation and Governance Mechanisms for Aviation Safety Oversight	R.1.1. Establish regional forums for Directors General of Civil Aviation. R.1.2. Promote the autonomy and sustainable financing of CAAs. R.1.3. Develop regional implementation support platforms, policy guidance and model legislation.	2027-2028	RSOOs	ICAO, AFCAC, ESAF/WACAF, RSOOs,	Number of regional cooperation and governance mechanisms available;	Medium	Regional Meetings

I-SEI-1: Strengthen Industry Governance and Safety Leadership	I.1.1. Promote executive safety leadership programmes. I.1.2. Establish safety accountability frameworks. I.1.3. Develop organizational resilience programmes.	2027-2028	Industry	States, ICAO, AFCAC, ESAF/WACAF, RSOOs,	Number of industry safety leadership programmes	Medium	Industry meetings Regional meetings IATA, ACI, … activities reports, State meetings

S-SEI-2: Strengthen Human and Financial Resources for Safety Oversight	S.2.1. Develop competency frameworks S.2.2. implement inspector training and succession plans. S.2.3 Establish and maintain sustainable funding mechanisms	2027-2028	States	ICAO, AFCAC, ESAF/WACAF, RSOOs,	Percentage of States with a "satisfactory" rating for the Universal Safety Oversight Audit Programme (USOAP) Protocol Question (PQ) 2.051 relating to the establishment and implementation of a mechanism to ensure that each safety oversight authority has sufficient financial resources to meet it's national and international obligations. Percentage of States with sufficient and qualified human resources	High	Universal Safety Oversight Audit Programme (USOAP) audit reports

R-SEI-2: Establish Regional Technical Assistance and Inspector Pooling Mechanisms	R.2.1 Develop regional inspector pools R.2.3. Establish regional training and qualification programmes. R.2.3. Promote staff exchange and mentoring programmes.	2027-2028	RSOOs	States, ICAO, AFCAC, ESAF/WACAF,	Number of Regional Technical support Mechanisms available Number of Inspector Pools established Number of Regional Technical support Mechanisms conducted	Medium	Regional safety reports; RSOO activities report; Technical mission reports

I-SEI-2: Enhance Human Resource Competencies and Safety Training	I.2.1. Implement competency-based training programmes. I.2.2. Develop succession planning programmes.	2027-2028	Industry	States, ICAO, AFCAC, ESAF/WACAF, RSOOs,	Number of Competencies enhancement initiatives implemented; Regional average EI score increase for CE-4 Number of personnel trained.	High	Regional safety reports Trainings reports Universal Safety Oversight Audit Programme (USOAP) audit reports Technical missions

		Continuous	States	ICAO AFCAC RSOOs RAIOs	• Number of SSCs resolved	High	●Technical missions to States.

	Conduct workshops to support States implement ICAO SARPs (CE-2) Conduct workshop to support States to implement ICAO SARPs (CE-2) Conduct workshop to support States to implement ICAO SARPs (CE-2)	Continuous	States	ICAO AFCAC RSOOs RAIOs	Percentage of ICAO SARPs implemented per State	High	●USOAP CMA OLF information on CC/EFOD

		Continuous	States	ICAO AFCAC RSOOs RAIOs	Percentage of ICAO SARPs implemented per State	High	●USOAP CMA OLF information on CC/EFOD
Regional organizational challenge : **Inadequate aircraft accident and incident investigation capabilities at the regional level.**							

S-SEI-3: Enhance State Capabilities for Aircraft Accident and Incident Investigation (AIG)	S.3.1. Identify champion States, via the AASPG, to assist in building the accident and incident investigation capabilities of States which require assistance (CE-3 to CE-4).	Continuous Continuous	ICAO ICAO	States AFCAC RSOOs RAIOs OEMs States AFCAC RSOOs RAIOs	Number of States that received necessary support in AIG from champion States provided assistance. Number of AIG personnel trained.	High High	● Technical Missions to States ● Technical Mission to States

R-SEI-3: Strengthen Regional Aircraft Accident and Incident Investigation (AIG) Capabilities	R.3.1. Establish regional investigation cooperation agreements. R.3.2. Develop regional investigator databases and expert pools. R.3.3. Conduct regional AIG exercises and training.	2027-2028	RAIO/ RSOOs	ICAO, AFCAC, ESAF/WACAF, AFI States, OEMs	Number of regional investigation cooperation agreements established Number of Regional AIG activities conducted	High	RAIO activities report Regional safety reports

I-SEI-3: Strengthen Occurrence Reporting and Investigation Capabilities	I.3.1. Implement confidential reporting systems. I.3.2. Improve internal investigation capabilities. I.3.4. Share lessons learned across the industry.	2027-2028	Industry Service providers and operators	ICAO, AFCAC, ESAF/WACAF, RSOOs, AFI States, OEMs	Percentage of service providers having implemented confidential reporting systems. Number of shared reports on lessons learned	High	Safety oversight activities report Safety management reports
Regional organizational challenge: **Inadequate Civil Aviation Authorities enforcement capabilities to ensure effective resolution of safety concerns and improve safety oversight performance**							

S-SEI-4: Strengthen Continuous Surveillance and State Resolution of safety issues capabilities.	S-4.1. Establish and implement risk-based surveillance programmes S.4.2. strengthen enforcement procedures and its implementation through training, workshops and seminars S.4.3. establish CAP monitoring mechanisms.	2027-2028	States	ICAO, AFCAC, ESAF/WACAF, RSOOs	Number of States having implemented risk-based surveillance States having established and effectively implemented enforcement procedures Percentage of States in the region that received the needed support to address resolution of safety issues Number of States that have established a CAP tracking mechanism	High	State safety oversight activities RSOO activities

R-SEI-4: Establish a Regional Framework for Risk-Based Oversight	R.4.1. Develop harmonized surveillance methodologies. R.4.2. Share oversight tools and inspection programmes. R.4.3. Establish regional CAP monitoring mechanisms.	2027-2028	RSOOs	ICAO, AFCAC, ESAF/WACAF, AFI States	Number of states having implemented risk-based surveillance Number of Risk-Based Oversight and Enforcement activities conducted by the region	High	RSOO Activities Regional Activities

I-SEI-4: Strengthen Compliance Monitoring and Internal Oversight Systems	I.4.1. Establish internal audit programmes. I.4.2. Implement risk-based compliance monitoring. I.4.3. Develop corrective action tracking systems.	2027-2028	Industry	ICAO, AFCAC, ESAF/WACAF, RSOOs, AFI States	Number of service providers with an internal audit programmes Number of service providers implementing risk-based compliance monitoring Number of service providers that have developed and implemented a corrective action tracking system.	Medium	State Safety Oversight Activities.

S-SEI-5: Improve Licensing, Certification and Approval Processes	S.5.1. Harmonize certification procedures S.5.2. digitize certification systems S.5.3. Enhance inspector competencies through training, workshops and seminars	2027-2028	States	ICAO, AFCAC, ESAF/WACAF, RSOOs	Number of states having increased their EI Score for CE-6	High	Universal Safety Oversight Audit Programme (USOAP) Audit Reports.

R-SEI-5: Harmonize Regional Licensing, Certification and Approval Processes	R.5.1. Develop common certification procedures and guidance material. R.5.2. Establish peer review programmes. R.5.3. Promote mutual recognition of inspector qualifications.	2027-2028	RSOOs	ICAO, AFCAC, ESAF/WACAF, AFI States	Regional average EI score increase for CE-6 Number of states participating in a cooperation programme	High	Universal Safety Oversight Audit Programme (USOAP) Audit Reports. RSOO Activities Regional Activities

I-SEI-5: Improve Certification Readiness and Regulatory Compliance	I.5.1. Conduct self-assessments and gap analyses. I.5.2. Develop compliance monitoring programmes. I.5.3. Enhance regulatory liaison mechanisms.	2027-2028	Industry	ICAO, AFCAC, ESAF/WACAF, RSOOs, AFI States	Number and category of open non-compliance in the industry Number of compliance monitoring programme promoted by the industry	Medium	State safety oversight activities Industry activities
Regional organizational challenge: **Insufficient resources, including financial and human resources such as the inadequate number of qualified and experienced technical personnel to carry out safety oversight functions at the regional level.**							

G2-SEI-1 **Strategic allocation of resources to enable effective safety oversight.**	1A – Establish (or confirm, if existing) executive or legislative mandate for each competent safety oversight authority to receive financial resources from government or other external sources and expend them. 1B – Establish and document a process for the ongoing resource planning and allocation in support of the organizational structure of a competent authority, which is required to conduct effective safety oversight.	Continuous Continuous	States States	ICAO AFCAC RSOOs RAIOs ICAO AFCAC RSOOs RAIOs	• Number of States that have legislative mandate for each competent safety oversight authority to receive resources. • Number of States that have establish shed and documented a process for resource planning and allocation to support effective safety oversight. • Number of inspectors participating in regional exchanges. • Percentage of regional capacity-building	High High	• Annual Implementation Reports. • USOAP activities, including audits, ICVMs, off-site validations, IVAs, CAP assessments, etc. • USOAP CMA OLF information and updates, including PQ self-assessments, CAPs, CC/EFOD and SAAQ.

					initiatives completed.		
	1C - Obtain a sustainable and stable source of financing (for example, State budget, fees and charges) through commitments from the national executive or	Continuous	RSOOs/RAIOS	States ICAO AFCAC RSOOs RAIOs	• Number of States that met the EI score as per the timelines for CE-1 • Number of States that have fully implemented the priority PQs	Medium	• USOAP activities, including audits, ICVMs, off-site validations, IVAs, CAP assessments, etc. • USOAP CMA OLF information and updates, including PQ self-

	legislative body (as applicable) and the organization's leadership and other stakeholders. □ 1D – Strengthen regional a framework and resource fund for States and industry to utilize or exchange for training or capacity building.		ICAO				assessments, CAPs, CC/EFOD and SAAQ.
	□ 1D - For small scope short-term improvements: a) Utilize the ICAO Safety Fund, the ICAO Capacity Development and Implementation Bureau or other means to acquire technical and financial assistance in coordination with the AASPG,	Continuous	States	ICAO AFCAC RSOOs RAIOs		High	

	regional safety oversight organization (RSOO) and/or ICAO Regional Office b) Seek assistance from more experienced States and other stakeholders in coordination with AASPG/RSOO/ ICAO Regional Office c) Seek assistance from sources of financing (for example, World Bank, African Development Bank) in coordination with AASPG/RSOO/ ICAO Regional Office						
	1E - Establish and document a process for assessing changing resource requirements (for example, regulating new	Continuous	States	ICAO AFCAC RSOOs RAIOs	Number of States that have established a documented process for assessing changing resource requirements.	High	

	entrants, new design organizations) and sustain necessary coordination with resource stakeholders for safety oversight improvements, in line with the national aviation safety plan (may be included in the process described in Action 1B).						
G2-SEI-2 **Implementation of a mechanism so that each safety oversight authority has sufficient financial resources to meet its national and international obligations.**	2A – Establish, implement and regularly review mechanisms to fund the authorities, as per the actions listed in SEI-1, for: a) the development of regulations, procedures and other guidance material; b) training; c) surveillance activities; and d) the resolution of safety deficiencies.	Continuous Continuous	States States	ICAO AFCAC RSOOs RAIOs ICAO AFCAC RSOOs RAIOs	• Percentage of States that have established and implemented a mechanism that regularly reviews the adequacy of the financial resources allocated to the safety oversight authorities • Percentage of planned surveillance activities completed in the State.	High High	Technical missions to States. Technical missions to States.

					• Percentage of inspector positions identified and filled in the State. • Percentage of the annual training plan implemented in the State. • Percentage of safety findings identified and closed in the State.		
G2-SEI-3 **Implementation of a mechanism to ensure that each safety oversight authority has sufficient qualified technical personnel to meet its national and international obligations.**	3A – Define and document a methodology to identify staffing needs for all specialities in safety oversight related activities, including those related to the development of regulations, procedures and other guidance material; training; surveillance activities; and the resolution of safety deficiencies	Continuous Continuous	States States	ICAO AFCAC RSOOs RAIOs ICAO AFCAC RSOOs RAIOs	Number of States that have developed a methodology for determining staffing needs for all specialities in safety oversight related activities. Number of States that have implemented a methodology for determining staffing needs for all specialities in safety oversight related activities. Number of States that have developed a task	High Medium	• PRCC Reports. • Annual Safety Report Technical missions to States.

	□ 3B – Establish and document required qualifications for technical personnel, including knowledge and practical	Continuous	States	ICAO AFCAC RSOOs RAIOs	resource analysis for the different oversight functions. Number of States that have implemented a task resource analysis for the different oversight functions. Percentage of planned surveillance activities completed. • Percentage of USOAP Corrective Action Plan (CAP) activities supported by qualified personnel. • Percentage of inspector competency assessments completed on schedule. • USOAP Effective Implementation (EI) score for technical areas. • Number of States	Medium	

	experience in civil aviation required (such as pilot, engineer, air traffic controller or other areas of expertise), appropriate for the assigned duties and responsibilities. □ 3C – Establish and implement a remuneration scheme and human resource plans for the attraction, recruitment and retention of qualified technical personnel (the ability to offer competitive terms of employment and compensation packages).	Continuous	States	ICAO AFCAC RSOOs RAIOs	that have established and documented requirements for qualifications for technical personnel, including knowledge and practical experience. • Number of States that have established a remuneration scheme and human resource plans for the attraction, recruitment and retention of qualified technical personnel.	High	Progress Reports.

	□ 3D – Make use of RSOOs or equivalent means to secure qualified technical personnel to perform those functions which cannot be performed by the State. □ 3E – Implement the process to ensure that established minimum qualifications and experience requirements are met by all recruited technical staff and key management personnel. □ 3F – Establish and implement a process for assessing changing needs	Continuous Continuous	*States* *States*	ICAO AFCAC RSOOs RAIOs ICAO AFCAC	• Percentage of inspector positions filled against the approved establishment in the State. • Percentage of inspectors retained against turnover in the last three years in the States. Number of States that have delegated some functions to RSOOs or other States.		

	for qualified technical personnel requirements and develop and implement procedures to update recruitment and retention of personnel needs. □ 3G – Regularly review the actual number of staff and ensure that sufficient personnel are available to accomplish all required activities, including: the development of regulations, procedures and other guidance material; training; and reporting and analyses of safety deficiencies.			RSOOs RAIOs	• Number of States that have ensured that the established minimum qualifications for technical and key management personnel are met.		
G2-SEI-4 **Training for technical personnel to support effective safety**	□ 4A – Establish and implement training policies and programmes for qualified	Continuous	States	ICAO AFCAC RSOOs RAIOs	Number of States that have established training programmes.	High	• Technical missions to States. • USOAP activities, including audits,

oversight.	technical personnel (as per SEI-3), ensuring that the type and frequency of training successfully completed (in other words, initial, recurrent, specialized and on-the-job training (OJT)) are sufficient to acquire and maintain the required qualifications and level of competence corresponding to the assigned duties and responsibilities of technical personnel. ☐ 4C – Establish	Continuous Continuous	States States	ICAO AFCAC RSOOs RAIOs ICAO AFCAC	Number of States that have established annual training plans. Percentage of inspectors completing annual training plans in the States. • Percentage of inspectors meeting competency requirements in the States. • Percentage of inspectors completing recurrent training on schedule in the States. Percentage of training records maintained in the States. ☐ Number of competency	Low High	ICVMs, off-site validations, IVAs, CAP assessments, etc. • USOAP CMA OLF information and updates, including PQ self-assessments, CAPs, CC/EFOD and SAAQ Progress Report Progress Report

	and implement a process for assessing changing needs for technical training and develop and implement procedures to regularly update training requirements and plans. □ 4D – Develop written instructions, procedures and/or requirements for the systematic establishment, maintenance and retention of training records (comprising certificates of attendance/participation, information on the course content, performance of tasks under supervision, OJT and the outcomes).	Continuous		RSOOs RAIOs ICAO AFCAC RSOOs RAIOs	assessments conducted in the States. Number of training needs analysis conducted by Sates Number of States that have developed written instructions, procedures and/or requirements for the systematic establishment, maintenance and retention of training records Number of mentoring/collaboration activities conducted.	Low	Progress Report

		Continuous	States	ICAO AFCAC RSOOs RAIOs	Number of personnel trained.	High	Technical missions to States.
Regional organizational challenge: **Inadequate aircraft accident and incident investigation capabilities at the regional level. This was the area where States in the region received the lowest EI score during the most recent ICAO USOAP audits and was therefore placed as a high priority issue to resolve.**							

G2-SEI-5 **Implementation of a process to ensure that the accident investigation authority has sufficient financial resources to investigate accidents and serious incidents.**	5A – Define and implement a process, which should be independent from State aviation authorities and other entities that could interfere with the conduct or objectivity of an investigation, to ensure that the accident investigation authority has sufficient financial resources to investigate accidents and serious incidents. 5B – Include in the process supplementary funding of accident investigations when required (in the event of a	Continuous Continuous Continuous Continuous	States States States States	ICAO AFCAC RAIOs States AFCAC ICAO RAIOs ICAO AFCAC RAIOs ICAO AFCAC RAIOs ICAO	• Number of States that have defined and established an independent process to ensure that the accident investigation authority has sufficient financial resources to investigate accidents and serious incidents. Percentage of approved annual investigation budget executed in the State. • Percentage of investigations adequately funded in the State. • Average time taken to deploy investigators following an accident or serious	High High High High	USOAP CMA OLF information and updates, including PQ self-assessments, CAPs, CC/EFOD and SAAQ. • Technical missions to States. • USOAP CMA OLF information and updates on , CAPs. USOAP CMA OLF information and updates, including PQ Self-assessment. USOAP CMA OLF information and updates, including SAAQs.

	large-scale accident). □ 5C – Determine whether to delegate some or all investigations (for example, to other States or to regional organizations), if the process cannot be implemented in full.	Continuous Continuous	States States	AFCAC RAIOs States ICAO AFCAC RSOOs RAIOs	incident in the State . •Percentage of investigation reports completed within Annex 13 timelines in the States. Number of States that have t delegated some functions to RAIOs or other States	High High	USOAP CMA OLF information and updates, including CC/EFOD. Regional Plans implementation reports.
G2-SEI-6 **Establishment of minimum qualifications and experience requirements for investigators.**	□ 6A – Establish and document required qualifications for investigators (who may be full-time, part-time and/or seconded), including knowledge, practical experience in civil aviation required (as pilot, engineer, air traffic controller or other areas of expertise) and training	Continuous	States	ICAO AFCAC RSOOs RAIOs	• Number of States that have established and documented required qualifications for investigators including knowledge, practical experience. Percentage of investigators meeting qualification requirements in the States.	High	• Technical missions to States. • USOAP activities, including audits, ICVMs, off-site validations, IVAs, CAP assessments, etc. • USOAP CMA OLF information and updates, including PQ self-assessments, CAPs, CC/EFOD and SAAQ.

	appropriate for the assigned duties and responsibilities	Continuous	States	ICAO AFCAC RSOOs RAIOs	• Percentage of investigators completing initial competency-based training in the Sates . • Percentage of investigators completing recurrent training as scheduled in the States.	High	Regional programmes implementationS reports.
	6C – Implement a process to ensure that the established minimum qualifications and experience requirements are met by all investigators (as per actions 8A and B)	Continuous	States	ICAO AFCAC RSOOs RAIOs Industry	Number of States that have implemented a process for ensuring that minimum qualifications and experience requirements are met by all investigators	High	Regional programmes implementation reports.

Regional organizational challenge:							
G2-SEI-8 **Consistent coordination of regional programmes in establishing effective safety oversight capabilities.**	8A – Use analyses of relevant safety information from the GASP, the AFI RASP, the AASPG and/or RSOO to determine regional safety issues and resources that can be used to assist States. Due to limited human and financial resources, any planned actions should be targeted at those safety risks that can be sustainably addressed and have the highest impact in terms of improving safety.	Continuous Continuous	States States	ICAO AFCAC RSOOs RAIOs ICAO AFCAC RSOOs RAIOs	• Percentage of States participating in coordinated regional safety oversight programmes. • Number of regional technical assistance missions conducted annually. • Number of joint inspections, peer reviews, or collaborative oversight activities completed.	High High	Progress reports. Regional programmes implementation reports.

	8C – Facilitate the provision of financial and technical assistance among regional resourced entities (AASPG, RSOO, ICAO Regional Office, champion States, development banks, regional economic communities and other regional aid programmes) and give priority to States requiring assistance. 8D – Establish a new, or utilize the existing RSOO or equivalent means, to perform those functions that cannot be performed by the State acting on its own. 8E – Work to strengthen the existing RSOO to	Continuous Continuous	RSOOs States	States ICAO AFCAC RAIOs	Number of coordination meetings organised.	High High	Progress reports. Technical assistance to

	best support States in the region. □ 8F – Promote and encourage States' bilateral and multilateral cooperation plans and activities			ICAO AFCAC RSOOs RAIOs			States.
Regional organizational challenge: **Inadequate Civil Aviation Authorities enforcement capabilities to ensure effective resolution of safety concerns and improve safety oversight performance under Critical Element 8.**							
G2-SEI-9 **Corrective actions to resolve safety issues identified during surveillance activities.**	□ 9A – Establish and implement procedures to deal with deficiencies found during surveillance activities, including notifying regulated entities or services providers of identified deficiencies; the categorization of seriousness of the deficiency; and a deadline for	Continuous	States	ICAO AFCAC RSOOs RAIOs	• Number of States that have established and implemented procedures to deal with deficiencies found during surveillance activities Percentage of surveillance findings closed within established timelines. • Percentage of high-risk findings	High Medium	Progress reports. Reports on surveillance activities.

	corrective action.				addressed within target timeframes. • Average time to close corrective actions in the States.		

	9B – Establish and implement a process to take corrective actions, including enforcement, if deficiencies found during surveillance activities are not rectified within a reasonable time by the regulated entities or services providers.	Continuous	States	ICAO AFCAC RSOOs RAIOs	Number of States that have established and implemented a process to take corrective actions, including enforcement, within a reasonable timeframe.	Low	Progress reports.

Regional organizational challenge: **Insufficient resources, including financial and human resources such as the inadequate number of qualified and experienced technical personnel to carry out safety oversight functions at the regional level.**							
G2-SEI-10 **Allocation of industry resources to support effective safety oversight.**	10A– Identify resources that are available to support SEIs for States and regions.	Continuous	States	ICAO AFCAC RSOOs RAIOs	Number of States with adequate resources to support effective safety oversight.	High	Progress reports.
	10B – Participate in regional and international government or industry collaborative safety enhancement initiatives.				Number of States that participate in regional and international government or industry collaborative safety enhancement initiatives.		
G2-SEI-11							
COMPONENT 2 –STATE SAFETY PROGRAMME (SSP)							

Regional organizational challenge: Low level of implementation of SSP

Goal 3 : Establish and manage State Safety Programmes (SSPs)

Target 3.1 ***By 2026, all AFI States to assess the level of implementation of their SSP.***

Target 3.2 ***By 2028, all AFI States to establish an SSP.***

Safety enhancement initiative	*Action*	*Timeline*	*Responsible entity*	*Stakeholders*	*Metrics/Indicators*	*Priority*	*Monitoring Activity*
S-SEI-7: Accelerate SSP Implementation and Safety Performance Management	S.7.1. Conduct a self-assessment	2026	States	ICAO, AFCAC, ESAF/WACAF, RSOOs	Percentage of States that have conducted a self-assessment on the USOAP OLF. SSP PQ self-assessment score	High	OLF
	S.7.2 Develop SSP action plan and roadmaps	Q1 2027	States	ICAO, AFCAC, RSOOs, RAIOs	States that have developed an SSP action plan and roadmaps	High	Progress reports

S.7.3. Develop and monitor SPIs and SPTs	2027	States	ICAO, AFCAC, RSOOs, RAIOs	Number of States that developed their SPIs and SPTs.	High	Progress reports
S.7.4. Conduct SSP workshops, trainings and seminars	Continuous	ICAO	States, AFCAC, RSOOs, RAIOs	Number of SSP Trainings, Workshops and Seminars conducted.	High	Progress reports
	Continuous	ICAO	States, RSOOs, AFCAC, RAIOs		High	Progress reports
S.7.5. Support the SSP implementation through the SMO Sub group.	Continuous	States	ICAO, RSOOs, AFCAC, RAIOs	Number of States actively participating in SMO group project activities.	High	OLF

S.7.6. Complete OLF CAPs related to the SSP foundational PQs and update the iSTARs GAP-Analysis	Continuous	States	ICAO, RSOOs, AFCAC, RAIOs	Number of States that have completed OLF CAPS on SSP Foundational PQs and updated the iSTARs	High	Progress Report.
S.7.7. Implementation of NASP through iPacks and Workshops develop/amend the SMS regulations, SSP guidance materials and	Continuous	States	ICAO, RSOOs, AFCAC, RAIOs	Number of States that have published and implemented the NASP	High	Progress report

tools S.7.7. Provide Assistance on the SMS acceptance (service providers and operators - AED, AMO, ATOs, AOC) and reviewing SP Safety Risks				provider/operators SMSs accepted (AED,AMO,ATOs, AOC) in the State and SP safety risks reviewed		

R-SEI-7: Accelerate SSP Implementation through Regional Coordination and Assistance	R.7.1. Develop a regional SSP implementation roadmap.	2027-2028	RSOOs	ICAO, AFCAC, ESAF/WACAF, AFI States	Regional average SSP PQ self-assessment score	High	USOAP CMA OLF Technical missions
	R.7.2. Conduct SSP gap assessments.	2027 – 2028	RSOOs	ICAO, AFCAC, ESAF/WACAF, AFI States	Number of states having received support for SSP implementation	High	Regional programmes implementation reports.
	R.7.3. Establish collaborative framework on SSP implementation among States.	Continouos	RSOOs	ICAO, AFCAC, ESAF/WACAF, AFI States	Number of collaboration activities conducted	High	Progress reports certficates

Provide training on Safety Risk Based Surveillance (SRBS), SMS acceptance, monitoring and reviewing SP Safety Risks and SSP Aviation Data-driven Decision Making (AD3M) – Part 1 and 2 training	Continous	ICAO	, AFCAC, ESAF/WACAF, AFI States	Number of personnel trained		
Provide training/awarene						

ss to CAA staff and other stakeholders on safety data and safety information governance process.						

I-SEI-7: Strengthen Safety Performance Management and Data-Driven Decision-Making	I.7.1. Develop safety performance indicators.	2027-2028	Industry	ICAO, AFCAC, ESAF/WACAF, RSOOs, AFI States	Percentage of service providers having their safety performance indicators accepted	High	SSP implementation reports Safety oversight activities
	I.7.2. Establish safety data analytics capabilities.		States	ICAO, AFCAC, ESAF/WACAF, RSOOs, Industry	Number of states having developed safety data processing and performance monitoring capabilities		
	I.7.3. Implement proactive and predictive safety tools.						
S-SEI-8: Strengthen SMS Implementation by Service Providers	S.8.1. Provide training on Safety Risk Based Surveillance (SRBS), SMS acceptance, monitoring and reviewing Safety Risks for the industry and State.	2027-2028	States	ICAO, AFCAC, ESAF/WACAF, RSOOs	Percentage of States having accepted the SMS of their service providers Number of personnel trained on SMS acceptance, monitoring and Safety Risks review	High	Safety oversight activities Training activities

R-SEI-8: Promote Regional Safety Culture and SMS Maturity		2027-2028	RSOO	ICAO, AFCAC, ESAF/WACAF, AFI States	Number of Safety Culture and SMS Maturity promotion activities conducted by the region	High	RSOOs activity report Regional programmes implementation reports.
I-SEI-8: Improve SMS Effectiveness and Safety Culture	I.8.1. Conduct SMS effectiveness assessments.	Continuous	Industry	ICAO, AFCAC, ESAF/WACAF, RSOOs, AFI States	Percentage of states having assessed their service providers SMS effectiveness	High	State safety oversight activities Technical Mission to States
	I.8.2. Promote just culture principles.	Continuous	States Industry		Percentage of service providers having an effective SMS		
	I.8.3. Implement fatigue and human factors programmes	Continuous	Industry		Number of just culture promotion activities conducted		
S-SEI-9: Establish a National Safety Data and Information Sharing System	Establish a National Safety Data and Information Sharing System	2027-2028	States	ICAO, AFCAC, ESAF/WACAF, RSOOs	Percentage of States having established a National Safety Data and Information Sharing System	High	Technical Mission to States.
R-SEI-9: Establish an AFI Regional Safety Information Sharing and Analytics System	R.9.1. Develop a regional safety database.	2027-2028	RSOOs	ICAO, AFCAC, ESAF/WACAF, AFI States	Percentage of States engaged in the safety data and information sharing platform	High	Regional programmes implementation reports.

	R.9.2. Implement regional safety dashboards.				Number of safety reports issued based on the regional Safety Information Sharing and Analytics System		Regional safety reports.
	R.9.3. Promote predictive safety analytics and risk intelligence.						
I-SEI-9: Strengthen Industry Safety Information Sharing and Collaboration	Participate in regional safety information sharing programmes.	Continouos	Industry	ICAO, AFCAC, ESAF/WACAF, RSOOs, AFI States	Number of service providers participating in industry safety data sharing programmes	High	Regional programmes implementation reports.
	Share safety data and best practices.	Continuous	Industry	ICAO, AFCAC, ESAF/WACAF, RSOOs, AFI States	Number of service providers participating in industry safety data sharing programmes	High	Regional programmes implementation reports.

Develop collaborative safety action groups.	Continuous	Industry	ICAO, AFCAC, ESAF/WACAF, RSOOs, AFI States	Number of collaborative safety action groups established.	High	SAG Meeting reports
Establish a process for a mentoring/collaboration system, including providing State/industry assistance as well as sharing of best practices and internal follow-up actions (CE-3).	Continuous	ICAO RSOOs	RAIOs AFI States AFCAC Industry	Number of collaborative activities/ platforms established and conducted	Medium	Regional reports

Collaborate with ASPG and/or RSOOs, States, ICAO, industry joint programmes and/or technical school partnerships to attract, recruit and train qualified and sufficient technical personnel and develop a strategy for their retention (CE-4).	Continuous	States	ICAO AFCAC RSOOs RAIOs	Number of personnel trained.	Low	Technical missions to States.

While working to improve safety oversight, work with AASPG and/or RSOOs to address regional high-risk categories of occurrences			ICAO AFCAC RSOOs RAIOs		High	Progress Report Progress Report

Regional organizational challenge: Low level of implementation of ~~PNS~~							
G3-SEI-12 **Start of SSP implementation at the national level.**	Support the SSP implementation through the implementation of AFI Plan SSP project activities	2026-2028	Concerned States	AFCAC RSOOs RAIO Industries	3.1.1- Number of States Assisted 3.1.3- Level of SSP Implementation for Assisted States	High	Progress report to the AASPG meetings
	Complete OLF CAPs related to the SSP foundational PQs and update the iSTARs GAP-Analysis	Mid 2027	States	ICAO AFCAC RSOOs RAIO Industries	% of Required CAPs related to the SSP foundational PQs submitted/completed by States (using OLF)	High	Progress report to the AASPG meetings
	Support the Implementation of NASP through iPacks and Workshops	2026-2028	ICAO	AFCAC RSOOs RAIO Industries	Number of States published a National Aviation safety Plan	High	Progress report to the AASPG meetings
	develop/amend the SMS regulations, SSP guidance materials and tools	2026-2028	States	ICAO SMO/SG, *AFCAC* *RSOOs* *RAIO* *Industries*	SMS regulations, SSP guidance materials and tools	High	Progress report to the AASPG meetings
	Provide Assistance on the SMS acceptance (AED, AMO, ATOs, AOC) and reviewing SP Safety Risks	2026-2028	States RSOOs RAIO Industries	ICAO (SMO/SG) AFCAC	% of States Assisted on the SMS acceptance	High	Progress report to the AASPG meetings

G3-SEI-13 **Strategic allocation of resources to start SSP implementation.**	Conduct workshop on validation of SSP implementation/ documentations and tools	2026	ICAO State SME	States AFCAC RSOOs RAIO Industries	Number of States participated in the capacity building activities	High	Progress report to the AASPG meetings
	Provide training on Safety Risk Based Surveillance (SRBS)	*2026-2028*	*States*	*ICAO* *AFCAC* *RSOOs* *RAIO* *Industries*	Number of States participated in the capacity building activities	High	Progress report to the AASPG meetings
	Provide training on SMS acceptance, monitoring and reviewing SP Safety Risks	*2026-2028*	*States*	*ICAO* *AFCAC* *RSOOs* *RAIO* *Industries*	Number of States participated in the capacity building activities	High	Progress report to the AASPG meetings
	Provide training on SSP	*2026-2028*	*States*	*ICAO* *AFCAC* *RSOOs* *RAIO* *Industries*	Number of States participated in the capacity building activities	High	Progress report to the AASPG meetings
	Provide Aviation Data-driven Decision Making (AD3M) – Part 1 and 2 training	*2026-2028*	*States*	*ICAO* *AFCAC* *RSOOs* *RAIO* *Industries*	Number of States participated in the capacity building activities	High	Progress report to the AASPG meetings
	Provide training/awareness to CAA staff and other stakeholders on safety data and safety information governance	*2026-2028*	*States*	*ICAO)* *AFCAC* *RSOOs* *RAIO* *Industries*	Number of States participated in the capacity building activities	High	Progress report to the AASPG meetings

	process						
G3-SEI-14 **Strategic collaboration with key aviation stakeholders to complete SSP implementation.**	Establish governance and coordination frameworks with key stakeholders in the States	Continuous	*States*	*ICAO* *AFCAC* *RSOOs* *RAIO* *Industry*	*Number of States that have established effective stakeholder collaboration framework*	*High*	Reports
G3-SEI-15 **Advancement of safety risk management at the national level.**	Establish and implement risk identification and management frameworks in the States	Continuous	*States*	*ICAO* *AFCAC* *RSOOs* *RAIO* *Industry*	*Number of States that have established effective risk identification and management frameworks.*	*High*	Reports
Regional organizational challenge: **Shortcomings in the collection, analysis and sharing of data and information required for safety management activities**							
G3-SEI-16 **Availability of safety data and safety information to support safety management activities at the national level (step 1).**	Establish an effective *SDCPS*	2027	States	*ICAO* *AFCAC* *RSOOs* *RAIO* *Industry*	*Number of States that have established effective SDCPS*	*High*	Tools Reports
G3-SEI-17 **Availability of safety data and safety**	Establish an effective Advanced *SDCPS*	2028	States	*ICAO* *AFCAC* *RSOOs* *RAIO*	*Number of States that have established an effective Advanced SDCPS*	*High*	Reports

information to support safety management activities at the national level (step 2).				*Industry*			
	establishing/enhancing aircraft accident and investigation processes, including the implementation of accidents/incidents databases	*2026-2028*	*States*	*ICAO* *AFCAC* *RSOOs* *RAIO* *Industries*	*Number/Percentages of State* with *aircraft accident and investigation processes, including the implementation accidents/incidents databases*	*High*	Progress report to the AASPG meetings
	Develop regulations and guidance on safety data and safety information governance	*2026-2028*	*States*	*ICAO* *AFCAC* *RSOOs* *RAIO* *Industries*	*regulations and guidance on safety data and safety information governance*	*High*	Progress report to the AASPG meetings
	Establish mechanism/models for States to collect Safety Risks and SPIs and share with AASPG	*2026-2028*	*States*	*ICAO* *AFCAC* *RSOOs* *RAIO* *Industries*	*Established mechanism/models for States to collect Safety Risks and SPIs and share with AASPG*	*High*	Progress report to the AASPG meetings
	Enhance sharing and exchange safety information, analyses, safety risk discoveries/lesson	*2026-2028*	*States*	ICAO *AFCAC* *RSOOs* *RAIO* *Industries*	*No. of SSP-related sharing sessions/ presentations* *No. of SSP areas covered.*	*High*	Progress report to the AASPG meetings

	s learned and best practices that support a positive safety culture through a regional platform such as APIRG and RASG.						
	establishing/enhancing aircraft accident and investigation processes, including the implementation of accidents/incidents databases	*2026-2028*	*States*	*ICAO* *AFCAC* *RSOOs* *RAIO* *Industries*	*Number/Percentages of State* with *aircraft accident and investigation processes, including the implementation accidents/incidents databases*	*High*	Progress report to the AASPG meetings
G3-SEI-18 **Allocation of resources to support safety performance measurement and monitoring and safety risk management capabilities.**	In the NASP commit to allocation of resources to support performance measurement and monitoring and safety risk management capabilities.	2027	States	*ICAO* *AFCAC* *RSOOs* *RAIO* *Industry*	*Number of States that have included allocation of resources in their NASPs*	*High*	Reports

APPENDIX-2: REGIONAL OPERATIONAL SAFETY RISKS (OPS) ROADMAP - DETAILED SAFETY ENHANCEMENT INITIATIVES (SEIs).

R-HRC 1: Controlled Flight Into Terrain (CFIT)

Goal 1: Achieve a continuous reduction of operational safety risks

Target 1.1: ***By 2028, AFI States and industry to decrease the accident rate.***

Target 1.2: ***By 2028, AFI Region, States and industry to decrease the rate of accidents and serious incidents for each regional high-risk category (R-HRCs)***

Target 1.3: ***By 2028, AFI Region, States and industry to decrease the rate of accidents and serious incidents related to other regional risk categories (R-ORC) of occurrences.***

Safety Enhancement Initiative	Action	Timeline	Responsible entity	Stakeholders	Metrics/Indicators	Priority	Monitoring Activity
G1-SEI-CFIT-1 **(AFI-RASP OPS SEI on CFIT)** **Mitigate contributing factors to the risk of CFIT**	1A. Implement the following CFIT safety actions: a) Ensure aircraft are equipped with ground proximity warning system (GPWS) which has a forward-looking terrain avoidance function, in accordance with Annex 6 – Operation	Q4 2027	States	ICAO Industry; RSOOs	• Number of States that have attained GPWS-related USOAP-CMA PQs satisfactory. • Number of States that have completed CAPs/Self-Assessment on GPWS-related USOAP-CMA PQs. • Number of States that have PBN-AR	High	• Review GPWS-related PQs (4.151; 4.171; 4.301) during ROST assistance missions and report status to AASPG. • Use the USOAP CMA OLF to obtain the status of GPWS-related PQs. • Review PQs related to PBN-AR

	of Aircraft b) Promote the wider use of GPWS beyond the requirements of Annex 6 c) Issue guidance to industry to increase adherence to GPWS warning procedures d) Determine and implement methods to promote greater awareness of approach risks e) Consider the implementation of continuous descent final approaches (CDFA) f) Consider the implementation of minimum safe altitude warning (MSAW) systems g) Promote the use of global positioning system (GPS)-				approved procedures for their Instrument Runways. • Number of States that have ATC surveillance radar system with MSAW safety net		authorisation (4.434) during ROST assistance missions and report status to AASPG. • Use the USOAP CMA OLF to obtain the status of PBN-related PQs. • Review PQs related to minimum safe altitude (MSAW) requirements (4.301; 4.151; 4.161; 4.171) during ROST assistance missions and report status to AASPG. • Use the USOAP CMA OLF to obtain the status of MSAW -related PQs.

	derived position data to feed GPWS (through the global navigation satellite system (GNSS) h) Ensure the implementation of World Geodetics System (WGS)-84 i) Ensure that the terrain and obstacle data that is published in the AIP is accurate and updated in a timely manner j) Promote the use of threat and error management (TEM) methodology k) Ensure the implementation of effective GNSS radio frequency interference (RFI) mitigation measures that ensure accuracy and reliability of service or effective adapted responses						

l) Liaise with manufacturers and operators regarding operations in a GNSS disrupted environment.						
1B Validate the effectiveness of the SEIs in the State through the analysis of mandatory occurrence reporting (MOR) and voluntary occurrence reporting systems (VOR) and accident/incident investigations (apply safety management methodologies).	Annually	States	ICAO); Industry, RSOOs	• MOR system established. • VOR system established, non-punitive; and protects the information and source of information. • Number of reports related to CFIT analysed using MOR system • Number of reports related to CFIT analysed using VOR system	High	• Review PQs related to Flight Data Analysis Programme (FDAP) (4.203) during ROST assistance missions and report status to AASPG. • Use the USOAP CMA OLF to obtain the status of FDAP-related PQs.
1C. Identify additional contributing factors, for example: a) Flight in adverse environmental conditions	Annually	States	AASPG, Industry	• Number of contributing factors to CFIT occurrences identified.	Medium	- Data from Mandatory Occurrence Reporting Systems and Voluntary Occurrence - Reporting Systems provided by States to AASPG on quarterly

b) Inaccurate approach design and inadequate documentation (for approaches with vertical guidance (APV) or localizer performance with vertical guidance (LPV) approaches) c) Phraseology used (standard vs. non-standard) d) Pilot fatigue, sensory illusion and loss of situational awareness e) GNSS RFI and loss of signal						basis.
1D. Develop and implement further SEIs to mitigate the risk of the identified contributing factors, if any, for CFIT.	Continuous	States	AASPG, Industry, RSOOs, RAIOs	• Training of flight crew on strict adherence to SOPs • Number of States that have designed and published current LPV procedures • Number of States implementing refresher training of ATCOs • Number of States implementing Fatigue Management	Medium	• Status of PQs related to implementation of training programmes being satisfactory from the USOAP CMA OLF • Monitor through ROST Missions and report to AASPG • Status of PQs related to implementation of Fatigue Management

							being satisfactory from the USOAP CMA OLF
	1E. Continuously evaluate the effectiveness of the SEIs.	Continuous	States	AASPG, Industry, RSOOs, RAIOs			
G1-SEI-CFIT-2 **Mitigate contributing factors to CFIT accidents and incidents**	2A. Organise Seminars on CFIT to facilitate the implementation of the following CFIT safety actions: 1) Support the adoption of GPWS in accordance with Annex 6 – *Operation of Aircraft* 2) Promote the wider use of GPWS beyond the requirements of Annex 6 3) Promote the adherence to GPWS warning	Annually	SMO/SG	States, Industry, RSOOs, RAIOs	• Number of Seminars held • Attendance at Seminars • Number of States in the region that have implemented CFIT safety actions.	High	• Review ROST assistance mission reports on CFIT-related USOAP-CMA PQs (4.093, 4.149, 4.151, 4.153, 4.161, 4.165, 4.171, 4.203, 4.301, 4.434, 4.435,) and report status to AASPG. • Use the USOAP CMA OLF to obtain the status of CFIT-related PQs; and formulate measures for further improvement.

	procedures 4) Promote greater awareness of approach risks 5) Promote the implementation of CDFA 6) Promote the implementation of MSAW systems 7) Promote the timeliness of updates and accuracy of eTOD 8) Promote the use of global positioning system (GPS)-derived position data to update GPWS (Through GNSS) 9) Promote the use of TEM Methodology. 10) Promote the implementation						

	of effective GNSS RFI mitigation measures that ensure accuracy and reliability of service or effective adapted response. 11) Implement regional reporting procedure for GNSS RFI and loss of signal						
	2B. Validate the effectiveness of the SEIs presented in this roadmap in the region using data provided by States and industry (apply safety management methodologies)	Annually	AASPG	States, RSOOs, RAIOs, Industry	• Number of SEIs considered effective	High	Report on the implementation status of SEIs provided by SMO/SG to AASPG
	2C. Identify additional contributing factors, for example: 1) Flight in adverse environmental	Annually	AASPG	States; RSOOs, RAIOs, Industry	Number of contributing factors to CFIT occurrences	Medium	Data from Mandatory Occurrence Reporting Systems and Voluntary Occurrence Reporting Systems provided by States to AASPG on quarterly

	conditions 2) Approach design and documentation 3) Phraseology used (standard vs non-standard) 4) Pilot fatigue and disorientation						basis
	2D. Continuously evaluate the performance of the SEIs.	Continuous	AASPG	States, Industry, RSOOs, RAIOs		High	
G1-SEI-CFIT-3 **Mitigate contributing factors to CFIT accidents and incidents**	3A. Implement the following CFIT safety actions: 1) Equip aircraft with GPWS 2) Increase adherence to GPWS warning procedures 3) Develop greater awareness of approach risks	Continuous	Industry	Industry, States, IATA, AFRAA, IFALPA, IFATCA.	• Number of aircraft engaged in international air transport operations equipped with GPWS • Number of trainings, workshops and seminars conducted	High	• Data from FDAP • Data from Mandatory Occurrence Reporting Systems and Voluntary Occurrence Reporting Systems • Trainings, Seminars and Workshops conducted. • Audit outcomes of industry programmes

	4) Promote CDFA 5) Utilize MSAW systems 6) Utilize up-to-date eTOD 7) Utilize GPS-derived position data to feed GPWS (through GNSS) 8) Equip aircraft with real-time terrain information (enhanced ground proximity warning system (EGPWS)/terrain awareness warning Class B systems), to improve pilot awareness and provide timely warnings in CFIT risk scenarios 9) Address inflight decision-making in training						

	(design line-oriented flight training (LOFT) with identified critical approaches in adverse weather and instances of failure of navigational aids; enable crew members to develop effective strategies to manage threats to safety during flight and execute well-informed contingency plans to avoid CFIT)						
	3B. Validate the effectiveness of the SEIs presented in this roadmap through the analysis of flight data monitoring (FDM)* and pilot reports** (apply safety management methodologies)	Continuous	Industry	Industry, States, IATA, AFRAA, IFALPA, IFATCA.	Number of SEIs considered effective	High	Report on the implementation status of SEIs provided by SMO/SG to AASPG

	3C. Identify additional contributing factors, for example: 1) Flight in adverse environmental conditions 2) Approach design and documentation 3) Phraseology used (standard vs non-standard) 4) Pilot fatigue and disorientation	Annually	Industry	Industry, States, IATA, AFRAA, IFALPA, IFATCA.	•Number of contributing factors to CFIT occurrences	Medium	Data from Mandatory Occurrence Reporting Systems and Voluntary Occurrence Reporting Systems provided by Industry to AASPG on quarterly basis
	3D. Develop and implement further SEIs to mitigate the risk of the identified contributing factors, if any, for CFIT	Continuous	Industry	Industry, States, IATA, AFRAA, IFALPA, IFATCA.	Number of additional SEIs implemented to mitigate the risk of the identified contributing factors for CFIT	Medium	Audit outcomes of industry programmes
	3E. Conduct continuous evaluation of the performance of the SEIs effectiveness	Continuous	Industry	Industry, States, IATA, AFRAA, IFALPA, IFATCA.	Number of SEIs effectively implemented	High	Audit outcomes of industry programmes

	**GPWS cautions and warnings, and pilot responses to GPWS warnings.* ***Flight planning - failure to comply with minimum safe altitude (MSA) or military operations area (MOA) restrictions.*						
R-HRC 2: Loss of control in-flight (LOC-I)							
Goal 1: Achieve a continuous reduction of operational safety risks **Target 1.1:** ***By 2028, AFI States and industry to decrease the accident rate.*** **Target 1.2:** ***By 2028, AFI Region, States and industry to decrease the rate of accidents and serious incidents for each regional high-risk category (R-HRCs)***							

Target 1.3: ***By 2028, AFI Region, States and industry to decrease the rate of accidents and serious incidents related to other regional risk categories (R-ORC) of occurrences***

Safety Enhancement Initiative	Action	Timeline	Responsible entity	Stakeholders	Metrics/Indicators	Priority	Monitoring Activity
G1-SEI-LOC-1 **Mitigate contributing factors to LOC-I accidents and incidents at the national level.**	1A. Implement the following LOC-I safety actions: a) Develop regulations and guidance material on upset prevention and recovery training (UPRT), require UPRT in all full flight simulator type conversion and recurrent training programmes, and verify implementatio n	Q1 2026 to Q4 2028	States	Industry; ICAO RSOOs, RAIOs	Number of serious incidents relating to LOC-I	High	. Regional survey . Regional Safety Reports.

	b) Require more time devoted to training multi-crew pilots on the pilot monitoring role (to ensure effective crew coordination) c) Implement measures to reduce potential laser interference with aircraft, which can distract or temporarily blind pilots d) Implement provisions in Annex 19, focusing on measures to identify and mitigate risks associated with LOC-I and to promote a proactive safety culture						

	e) Require air operators to conduct extensive pilot training that incorporates human factors such as distraction, complacency, and situational awareness (and verify that crew members have the required training and qualifications before performing flight duties) f) Develop guidance on flight data analysis programmes (FDAP) to encourage operators to consider LOC-I precursors as part of FDAP g) Promote						

	the use of TEM methodology h) Ensure the implementation of effective GNSS RFI mitigation measures that ensure accuracy and reliability of service or effective adapted responses.						
	1B. Validate the effectiveness of the SEIs in the State through MOR and VOR systems and accident/incident investigations (apply safety management methodologies)	2026 to 2028	States	Industry; ICAO, RSOOs, RAIOs	• Number of reports related to LOC-I analysed using MOR system • Number of reports related to LOC-I analysed using VOR system	High	Regional survey USOAP CMA self-assessment questionnaire

	1C. Identify additional contributing factors, for example: a) Distraction b) Adverse weather c) Complacency d) Inadequate standard operating procedures (SOPs) for effective flight management e) Insufficient height above terrain for recovery f) Automation dependency leading to degraded pilot proficiency in manual flying, lack of	2026 to 2028	States	Industry; ICAO RSOOs, RAIOs	Number of contributing factors to LOC-I occurrences	High	Regional survey USOAP CMA self-assessment questionnaire

	awareness or competence in procedures for recovery from unusual aircraft attitudes g) Startle effect, inappropriate flight control inputs in response to sudden awareness of an abnormal aircraft state (for example, bank angle, angle of attack or stall) h) GNSS RFI						
	1D. Develop and implement further SEIs to mitigate the risk of the identified contributing factors, if any, for LOC-I, for	2026 to 2028	States	Industry; ICAO RSOOs, RAIOs	Number of additional SEI's developed	High	Regional survey USOAP CMA self-assessment questionnaire

	example: a) Increase the effectiveness of regulatory oversight b) Assess the effectiveness and applicability of regulations.						
	1E. Continuously evaluate the effectiveness of the SEIs.	2026 to 2028	States	Industry; ICAO Regional Offices (ESAF/WACAF)	Number of contributing factors to LOC-I occurrences	High	Regional survey USOAP CMA self-assessment questionnaire
G1-SEI-LOC-2 Assist States to mitigate contributing factors to LOC-I accidents and incidents at the regional level.	2A. Organize an annual workshop on LOC-I and UPRT.	Annually	AASPG, LOC-I Champion State, ICAO Secretariat	States, Industry, manufacturers, RSOOs, RAIOs.	• Number of workshops held • Attendance at workshops • Change in States' training requirements in the region	High	• regional survey • USOAP CMA self-assessment questionnaire

2B. Implement the AASPG 5-year LOC-I and UPRT Plan of Action.	Q1 2026 to Q4 2028	AASPG and LOC-I Champion State,	States, Industry, RSOOs, RAIOs	Level of implementation of the different action items of the Plan.	High	Reporting Online survey Data from other industry partners
2C. Implement the following LOC-I safety actions: 1) Promote UPRT in all full flight simulator type conversion and recurrent training programmes 2) Promote more time devoted to training multi-crew pilots on the pilot monitoring role (to ensure effective crew coordination).	Q1 2026 to Q4 2028	AASPG, LOC-I Champion State and ICAO Secretariat	States, Industry, RSOOs, RAIOs	% implementation of the SEIs in the five-year plan and any SEIs stemming from subsequent LOC-I workshops	High	Reporting and communication SEIs in the five year plan and recommendations stemming from the LOC-I/ UPRT workshops to be used in the implementation of the five year plan.

	2D. Validate the effectiveness of the SEIs and identify additional contributing factors.	Cont inuo us	AASPG and LOC-I Champion State,	States, Industry, RSOOs, RAIOs	•Number of SEIs considered effective.	High	• Responsible entities and stakeholders Reporting Online survey Report on the implementation status of SEIs provided by SMO Sub Group to AASPG
	2E. Develop and implement further SEIs to mitigate the risk of the identified contributing factors, if any, for LOC-I and Conduct continuous evaluations of the performance of the SEIs.	Cont inuo us	AASPG and LOC-I Champion State,	States, Industry, RSOOs, RAIOs	Number of additional SEIs implemented to mitigate the risk of the identified contributing factors for LOC-I	Medi um	• Audit outcomes of industry programmes • USOAP CMA Online Framework • iSTARS • Responsible entities and stakeholders Reporting Online survey
G1-SEI-LOC-3 Mitigate contributing factors to LOC-	3A. Implement the following	Q1 2026 to	Industry	States, Industry	Number of air operator implementing a	High	Regional survey

I accidents and incidents at the industry level.	LOC-I safety actions: 1) Establish UPRT in all full flight simulator type conversion and recurrent training programmes 2) Devote more time to training multi-crew pilots on the pilot monitoring role (to ensure effective crew coordination) 3) Promote bank angle alerting systems into all multi-engine aircraft 4) Train pilots on manual aircraft handling of approach to stall and stall recovery	Q4 2028			LOC-I prevention programme		State safety oversight activity Training reports

	(including at high altitude) 5) Include the topic of flight mechanics into recurrent pilot training 6) Comply with simulator fidelity requirements for UPRT 7) Conduct extensive pilot training that incorporates human factors, such as distraction, complacency and situational awareness (and verify that crew members have the required training and qualifications before performing flight duties) 8) Evaluate						

	existing SOPs to ensure effective flight management during adverse weather and recovery of unusual aircraft attitudes 9) Establish SOPs to deal with wind shear during take-off and landing 10) Include LOC-I precursors in operator's FDAP.						
	3B. Validate the effectiveness of the SEIs through the analysis of FDM and pilot reports (apply safety management methodologies	Cont inuo us	Industry	Industry, States,	Number of SEIs considered effective	High	Report on the implementation status of SEIs provided by SMO/SG to AASPG

	)						
	3C. Identify additional contributing factors	Cont onuo us	Industry	Industry, States,	•Number of contributing factors to LOC-I occurrences	Medi um	Data from Mandatory Occurrence Reporting Systems and Voluntary Occurrence Reporting Systems provided by Industry to AASPG on quarterly basis
	3D. Develop and implement further SEIs to mitigate the risk of the identified contributing factors, if any, for LOC-I and Conduct continuous evaluations of the performance of the SEIs	Cont inuo us	Industry	Industry, States,	Number of additional SEIs implemented to mitigate the risk of the identified contributing factors for LOC-I	Medi um	Audit outcomes of industry programmes

R-HRC 3: Mid-Air Collision (MAC)							
Goal 1: Achieve a continuous reduction of operational safety risks **Target 1.1:** ***By 2028, AFI Region, States and industry to decrease the accident rate.*** **Target 1.2:** ***By 2028, AFI Region, States and industry to decrease the rate of accidents and serious incidents for each regional high-risk category (R-HRCs)*** **Target 1.3:** ***By 2028, AFI Region, States and industry to decrease the rate of accidents and serious incidents related to other regional risk categories (R-ORC) of occurrences***							
Safety Enhancement Initiative	**Action**	**Timeline**	**Responsible entity**	**Stakeholders**	**Metrics/Indicators**	**Priority**	**Monitoring Activity**
G1-SEI-MAC-1 Mitigate contributing factors to MAC accidents and incidents at the national level.	1A – Implement the following MAC safety actions: a) Establish regulations and guidance to ensure aircraft are equipped with airborne collision avoidance system (ACAS), in accordance with Annex 6 b) Verify adherence to ACAS warning procedures c) Promote the	2026-2028	States	Industry, ICAO, RSOOs, RAIOs	a) Percentage of operators compliant with ACAS equipage requirements. b) Number of ACAS-related inspections conducted. c) Percentage of ATC units implementing	High	• Surveillance of operators and ANSPs. • Monitoring ACAS compliance rates. • Review of ATC safety performance reports. • Monitoring GNSS interference reports and mitigation actions.

	improvement of ATC systems, procedures and tools to enhance conflict management d) Promote the improvement of communications systems and procedures, such as controller-pilot datalink e) Promote the use of TEM methodology f) Ensure the implementation of effective GNSS RFI mitigation measures that ensure accuracy and reliability of service or effective adapted responses				improved conflict detection tools/STCA. d) Number of GNSS RFI mitigation measures implemented. e) Number of personnel trained in TEM.		
	1B – Validate the effectiveness of the SEIs in the State through the analysis of MOR and VOR and accident/incident investigations (apply safety management methodologies)	2026-2028	States	Industry, ICAO, RSOOs, RAIOs	• Number of MOR/VOR analyses completed annually. • Number of MAC-related occurrences analyzed using SMS methodologies. Annual safety assessments conducted.	High	Annual review of occurrence data. • SSP safety performance monitoring. • Trend analysis of Airprox, loss of separation and TCAS RA events.

	1C– Identify additional contributing factor, for example: a) Traffic conditions: considerations include traffic density, complexity and the mixture of aircraft types and capabilities b) Air traffic control (ATC) performance: factors such as workload, competence, teamwork and adherence to procedures. Additionally, the influence of the air navigation services provider's (ANSP) SMS c) Flight crew training and organizational (corporate) culture: aspects such as workload management, competence, teamwork, adherence to	2026-2028	States	Industry, ICAO, RSOOs, RAIOs	• Number of contributing-factor studies completed. • Number of MAC-related hazards identified and documented. • Number of States conducting hazard assessments.	medium	• Monitoring hazard registers. • Review of investigation reports and safety studies. • Analysis of airspace and traffic complexity assessments.

	procedures and the impact of the operator's SMS d) ATC systems: elements such as flight data processing, communication systems, short-term conflict alert (STCA) systems, as well as the interaction between the human operators and the aircraft systems, and the procurement policies of ANSPs e) Aircraft equipment: considerations include autopilot systems, transponders and ACAS, as well as aircraft performance characteristics (such as rate-of climb) and their physical dimension f) Surveillance systems: coverage and quality of surveillance technologies used						

	to monitor aircraft positions and movements g) Flight plan processing: the efficiency and reliability of processes related to flight plan submission, approval and distribution h) Airspace design: the complexity of airspace structure, route layouts and the extent of controlled or uncontrolled airspace, and proximity of military operational or training areas i) Flight in adverse environmental conditions that may influence conflict management and collision avoidance GNSS RFI						
	1D– Develop and implement further SEIs to mitigate the risk of the identified contributing factors, if any, for MAC.	2026-2028	States	Industry, ICAO, RSOOs, RAIOs	• Number of new mitigation measures developed. • Number of States implementing additional SEIs. • Percentage completion of	High	• Tracking implementation status of mitigation actions. • Follow-up oversight activities. • Monitoring

					mitigation action plans.		effectiveness of implemented controls.
	1E– Continuously evaluate the effectiveness of the SEIs.	2026-2028	States	Industry, ICAO, RSOOs, RAIOs	• Annual review reports completed. • Percentage of SEIs evaluated against objectives. • Number of corrective actions implemented.	High	• Annual SSP review. • Monitoring safety performance indicators. • Review of corrective action closure rates.
G1-SEI-MAC-2 Mitigate contributing factors to MAC accidents and incidents at the regional level.	2A – Implement the following MAC safety actions: a) Promote regulations and guidance to ensure aircraft are equipped with ACAS, in accordance with Annex 6 b) Promote adherence to ACAS warning procedures c) Promote the improvement of ATC systems, procedures and tools to enhance conflict management	2026-2028	AASPG	States, Industry, RSOOs, RAIOs	a) Number of States adopting regional ACAS guidance. b) Number of regional workshops/seminars conducted. c) Percentage of States reporting implementation of conflict management improvements. d) Number of regional initiatives addressing GNSS RFI.	High	• • AASPG review of implementation reports. • Monitoring workshop outcomes. • Tracking regional GNSS interference initiatives.

	d) Promote the improvement of communications systems and procedures, such as controller-pilot datalink						
	2B – Validate the effectiveness of the SEIs in the region using data provided by States and industry (apply safety management methodologies)	2026-2028	AASPG	States, Industry, RSOOs, RAIOs	• .Number of regional safety performance analyses conducted. • Percentage of States providing safety data. • Annual regional MAC safety reports produced.	High	• Regional understanding of MAC safety performance. • Data-driven safety decision-making. • Identification of trends and emerging risks.
	2C– Identify additional contributing factor	2026-2028	AASPG	States, Industry, RSOOs, RAIOs	• Number of regional studies completed. • Number of systemic hazards identified. • Number of safety recommendations developed.	medium	Review of regional occurrence databases. • Analysis of traffic flow, airspace design and surveillance limitations. • Monitoring emerging regional hazards.
	2D– Develop and implement further SEIs to mitigate the risk of the identified contributing factors, if any, for MAC.	2026-2028	AASPG	States, Industry, RSOOs, RAIOs	• Number of new regional SEIs developed. • Number of States participating in implementation. • Implementation rate of regional action plans.	High	• Monitoring implementation of AASPG recommendations. • Review of action plan status reports. • Regional oversight coordination activities. .

	2E– Continuously evaluate the effectiveness of the SEIs.	2026-2028	AASPG	States, Industry, RSOOs, RAIOs	• Annual effectiveness reviews conducted. • Number of recommendations implemented. • Trend in MAC occurrence rate across the region.	High	• Annual AFI safety performance review. • Monitoring regional SPIs. • Evaluation of regional mitigation effectiveness.
G1-SEI-MAC-3 Mitigate contributing factors to MAC accidents and incidents at the national level.	3A. Implement the following MAC safety actions: 1) Equip aircraft with ACAS 2) Consider equipping aircraft with auto-pilot/flight director ACAS response 3) Increase adherence to ACAS warning procedures 4) Consider the	2026 to 2028	Industry	States, industry	• Percentage of applicable aircraft equipped with serviceable ACAS/TCAS. • Percentage of flight crew and ATCOs receiving recurrent training on collision avoidance procedures, TCAS RA response and TEM. • Number of operators and	High	• Internal audits and inspections of ACAS equipage and serviceability. • Review of training records and competency assessments. • Monitoring implementation of GNSS contingency procedures. • Surveillance of ATS operational systems and procedures.

	implementation of STCA, including STCA suitable for terminal areas 5) Improve reliability and consistency of safety nets to provide early and dependable warning, and to reduce nuisance alerts 6) Improve aircraft systems to alert pilots to any non-availability of transponders and ACAS 7) Improve ATC systems, procedures and tools to enhance conflict management - this can include predictability of aircraft trajectories, so that conflicts can be predicted and resolved at an earlier stage, using medium-term conflict detection (MTCD) and similar systems 8) Improve communications				ANSPs implementing GNSS RFI contingency procedures. • Percentage of ATS units utilizing conflict detection and alerting tools.		

	systems and procedures, such as controller-pilot datalink 9) Improve resilience of GNSS systems to RFI events, as well as to provide guidance on detecting GNSS jamming or spoofing, and maintaining safe and efficient aircraft operation in case of GNSS anomalies 10) Report in-service events for the evolution of system design and procedures.						
	3B. Validate the effectiveness of the SEIs in the State through the analysis of MOR and VOR and accident/incident investigations (apply safety management methodologies)	2026 to 2028	Industry	States, industry	• Number of reports related to MAC analysed using MOR system • Number of reports related to MAC analysed using VOR system • Number of Airprox, loss of separation and TCAS RA events analyzed annually.	High	Regional survey • USOAP CMA self-assessment questionnaire • SMS safety assurance activities. • Analysis of occurrence reports and ATS data. • Review of investigation findings and recommendations.

					• Number of MAC-related safety risk assessments completed. • Percentage of identified corrective actions closed within agreed timelines.		• Tracking of corrective action implementation. •
	3C. Develop and implement further SEIs to mitigate the risk of the identified contributing factors, if any, for MAC.	2026 to 2028	Industry	States, industry	• Number of additional SEI's developed • Number of additional SEI's implemented • • Number of MAC-related hazards identified through SMS. • Number of safety studies or assessments conducted. • Number of emerging risks entered into hazard registers. •	High	Regional survey • USOAP CMA self-assessment questionnaire • Review of hazard registers. • Trend analysis of operational and safety data. • Safety risk assessments and operational surveys. •

	3D. Continuously evaluate the effectiveness of the SEIs.	2026 to 2028	Industry	States, industry	• Number of serious incidents and accident relating to MAC. • Number of resolution advisory (RA) incidents reported Number of States that have submitted RVSM data to ARMA • Number of additional mitigation measures developed and implemented. • Percentage of identified risks mitigated within established timelines. • Number of operational procedures revised based on lessons learned.	High	• Regional Survey • Incident and accident Reports Regional Safety Reports. • Monitoring implementation plans. • Verification during internal audits and management reviews. • Assessment of effectiveness of implemented controls.

	3E – Continuously evaluate effectiveness of SEIs	2026 to 2028	Industry	States, industry	• Annual trend in loss of separation occurrences. • Annual trend in Airprox reports. • Annual trend in TCAS Resolution Advisory events attributable to operational deficiencies. • Percentage reduction in MAC precursor events from baseline.	High	• Annual SMS performance review. • Monitoring SPIs and safety targets. • Safety review board meetings. • Continuous analysis of occurrence data and corrective actions.

R-HRC 4: Runway Excursions (RE)							
Goal 1: Achieve a continuous reduction of operational safety risks **Target 1.1:** ***By 2028, AFI States and industry to decrease the accident rate.*** **Target 1.2:** ***By 2028, AFI Region, States and industry to decrease the rate of accidents and serious incidents for each regional high-risk category (R-HRCs)*** **Target 1.3:** ***By 2028, AFI Region, States and industry to decrease the rate of accidents and serious incidents related to other regional risk categories (R-ORC) of occurrences***							
Safety Enhancement Initiative	**Action**	**Timeline**	**Responsible entity**	**Stakeholders**	**Metrics/Indicators**	**Priority**	**Monitoring Activity**

G1-SEI-RE-1 Mitigate contributing factors to RE accidents and incidents at the national level.	1A. Implement the following RE safety actions: a) Ensure the establishment and implementation of a State runway safety programme and runway safety teams b) Promote the establishment of policy and training on rejected landings, go arounds, crosswind and tailwind landings (up to the maximum manufacturer demonstrated winds) c) Promote equipage of runway overrun awareness and	Continuous	States	Industry IATA, ACI, RSOOs, AFCAC, CANSO, ICAO, RAIOs	• a).Percentage of aerodromes with established runway safety teams per State b) Number of workshops held on establishment and promotion of runway safety teams c) Number of aircraft equipped with ROAAS	High	• State Annual Report to SMO/SG of AASPG • State Annual Report to SMO/SG of AASPG

	alerting systems(ROAAS) on aircraft d) Ensure effective and timely reporting of meteorological and aerodrome conditions (for example, runway surface condition in accordance with the ICAO global reporting format (GRF) in Annex 14 – Aerodromes, Volume I – Aerodrome Design and Operations, braking action and revised declared distances) Establish an effective and timely reporting system for meteorological				d) -Number of GRF reports - Number of the established reporting systems by the State		Industry reports to the state Monitoring tool through oversight activities

	and aerodrome conditions e) Certify aerodromes in accordance with Annex 14, Volume I, as well as Doc 9981, Procedures for Air Navigation Services – Aerodromes (PANS-Aerodromes) f) Promote the installation of arresting systems, where runway end safety area (RESA) requirements cannot be met g) Ensure that procedures to systematically reduce the rate of unstabilized approaches to				e) percentage of international aerodromes certified per state f) Percentage of aerodromes with runway arresting system installed ,where RESA requirements cannot be met.		State annual report to SMO/SG of the AASPG State annual report to SMO/SG of the

	runways are developed and used						AASPG
	h) Promote the establishment of local runway safety teams				g) Percentage of states with approved PBN procedures -percentage of airlines fleet flying PBN -Number of unstable approaches reported		State annual report to SMO/SG of the AASPG
	i)Ensure the effectiveness of the local runway safety teams, including the effectiveness of SMS in reducing Runway Safety Precursor events				- Number of Aerodromes with approved IFPs in the state h) Percentage of aerodromes with local runway safety teams established per States		State annual report to SMO/SG of the AASPG
	j) Include runway safety						

	precursors in the operator's FDAP. k) Conduct risk modelling, risk assessment and safety analysis of runway safety based on occurrences reports in the air traffic management (ATM)/air navigation services (ANS) domain, including low visibility runway operations l) Establish an effective and timely reporting system for meteorological and aerodrome conditions. m) Certify aerodromes in				i)-percentage of runway safety events		-Reporting systems -monitoring and data collection system

	accordance with Annex 14, Volume I as well as PANS Aerodromes n) Ensure that the operator's aerodrome manual contains a requirement for reporting runway surface conditions in the GRF by enabling a harmonized assessment and reporting of runway surface conditions and an improved flight crew assessment of take-off and landing performance o) Implement an action plan for assessing						

	and reporting runway surface conditions.						
	1B. Validate the effectiveness of the SEIs in the State through the analysis of MOR, VOR and accident/ incident investigations (apply safety management methodologies)	Annually	States, States,	Industry IATA, ACI, RSOOs, AFCAC, CANSO, ICAO	• Downward changes in number of risk factors • Changes in State training requests	High	• Monitoring implementation of RST programmes using the KPIs • Review of PQs related to RSTs • Survey data, • Incident reports • RSTs to report quarterly on KPIs
	4C. Identify additional contributing factors, for example: a) Ineffective SOPs b) Lack of adherence to SOPs	Annually	States,	Industry, IATA, ACI, RSOOs, AFCAC, CANSO, ICAO	• Number of runway safety programmes established • Number of state runway safety programmes being implemented	High	• Quarterly reports on implementation of Runway safety programmes to AASPG • Review PQs related to establishment of RSTs • Gather State Runway Safety Programme

	c) Long/floated/bounced/firm/off-centre/crabbed landing d) Unstabilized approach e) Inadequate reporting of runway surface conditions f) Inadequate approach procedures design g) Inadequate regulatory oversight						documents
	1D. Develop and implement further SEIs to mitigate the risk of the identified contributing factors, if any,	Continuous	States	Industry IATA, ACI, RSOOs, AFCAC, CANSO, ICAO	Number of new SEIs developed and implemented	Medium	Annual Safety Report

	for RE.						
	1E. Promote the installation of arresting systems if RESA requirements cannot be met.	Annually	States	IndustryIATA, ACI, RSOOs, AFCAC, CANSO, ICAO	Number of states promoting installation of arresting systems if RESA requirements cannot be met	Medium	Regional Survey.
	1F. Organize and implement follow up activities on implementation of GRF State level.	Annually	States	Industry IATA, ACI, RSOOs, AFCAC, CANSO, ICAO	• Number of Runway Excursion incidents reported.	High	• GRF reports at airports • Monitor the status of identified PQs using USOAP CMA OLF • Report on Runway Excursion incidents
G1-SEI-RE-2 Mitigate contributing factors to RE accidents and incidents at the regional level.	2A-Implement the following RE safety actions: a) Promote the establishment and implementation of a State runway safety programme and runway	2026-2028	AASPG	States, Industry	Number of States that have established runway safety programs Number of regional runway safety workshops and Go-Team missions	High	• State Annual Report to received •

	safety teams b) Promote the establishment of policy and training on rejected landings, goarounds, crosswind and tailwind landings (up to the maximum manufacturerd emonstrated winds) c) Promote equipage of runway overrun awareness and alerting systems on aircraft d) Promote effective and timely reporting of meteorological and aerodrome conditions (for example, runway surface condition in accordance with the				conducted. Percentage of AFI States with operational RSTs.		

	ICAO GRF in Annex 14, Volume I braking action and revised declared distances) e) Promote the certification of aerodromes in accordance with Annex 14, Volume I as well as PANS – Aerodromes f) Promote the installation of arresting systems, if RESA requirements cannot be met g) Promote the establishment of procedures to systematically reduce the rate of unstabilized approaches to runways						
	2B – Validate the	2026-2028	AASPG	States, Industry	Number of reports related to RE	High	Regional survey

	effectiveness of the SEIs in the region using data provided by States and industry (apply safety management methodologies)						USOAP CMA self-assessment questionnaire AASPG annual safety report
	2C – Identify additional contributing factors, for example: a) Ineffective SOPs b) Lack of adherence to SOPs c) Long/floated/bounced/firm/off-centre/crabbed landing d) Unstabilized approach e) Inadequate reporting of runway surface conditions f) Inadequate approach	2026-2028	AASPG	States, Industry	Number of additional SEI's developed Number of additional SEI's implemented	High	Regional survey USOAP CMA self-assessment questionnaire

	procedures design						
	2D – Develop and implement further SEIs to mitigate the risk of the identified contributing factors, if any, for RE	2026-2028	AASPG	States, Industry	Number of serious incidents and accident relating to RE	Low	• Regional Survey • Incident and accident Reports • Regional Safety Reports.
	2E– Continuously evaluate the performance of the SEIs	2026-2028	AASPG	States, Industry	Number of serious incidents and accident relating to RE	Low	• Regional Survey • Incident and accident Reports • Regional Safety Reports.
G1-SEI-RE-3 Mitigate contributing factors to RE accidents and incidents at service provider level.	3A – Implement the following RE safety actions: a) Actively participate in runway safety programmes and runway safety teams b) Establish a policy and training on rejected landings, go-	2026-2028	Industry	States	Percentage of aerodrome operators and air operators implementing runway safety programme and ROAAS equipage rates. Number of aircraft equipped with ROAAS	High	Service provider SMS audits and safety assurance reports. Reporting systems -monitoring and data collection system

	arounds, crosswind and tailwind landings (up to the maximum manufacturer-demonstrated winds) c) Equip aircraft with runway overrun awareness and alerting systems d) Ensure effective and timely reporting of meteorological and aerodrome conditions (for example, runway surface condition in accordance with the GRF in Annex 14, Volume I, braking action and revised declared distances) e) Comply with runway-				Number of GRF reports -percentage of airlines fleet flying PBN -Number of unstable approaches reported - Number of Aerodromes with approved IFPs in the State h) Percentage of aerodromes with local runway safety teams established		

	related provisions in Annex 14, Volume I, as well as PANS-Aerodromes f) Consider the installation of an arresting system, if RESA requirements cannot be met g) Establish procedures to systematically reduce the rate of unstabilized approaches to runways h) Focus on providing accurate and timely meteorological and aerodrome condition reports (for ANSPs) i) Prioritize proper aerodrome maintenance, friction						

	characteristics and removal of contaminants (for aerodrome operators) j) Use the GRF implementation checklist (for aerodrome operators) k) Include comprehensive training on stabilized approaches, go around procedures and runway awareness and alerting systems (for air operators)						
	3B – Validate the effectiveness of the SEIs in industry through the analysis of FDM5 and pilot reports6 (apply safety management methodologies)	2026-2028	Industry	States	Number of reports related to RE	High	Service provider SMS audits and safety assurance reports

	3C – Identify additional contributing factors,	2026-2028	Industry	States	Number of additional SEI's developed Number of additional SEI's implemented	High	Service provider SMS audits and safety assurance reports
	3D – Develop and implement further SEIs to mitigate the risk of the identified contributing factors, if any, for RE	2026-2028	Industry	States	Number of serious incidents and accident relating to RE	Low	Service provider SMS audits and safety assurance reports
	3E– Continuously evaluate the performance of the SEIs	2026-2028	Industry	States	Number of serious incidents and accident relating to RE	Low	Service provider SMS audits and safety assurance reports

R-HRC 5: Runway Incursions (RI)

Goal 1: Achieve a continuous reduction of operational safety risks

Target 1.1: ***By 2028, AFI States and industry to decrease the accident rate.***

Target 1.2: ***By 2028, AFI Region, States and industry to decrease the rate of accidents and serious incidents for each regional high-risk category (R-HRCs)***

Target 1.3: ***By 2028, AFI Region, States and industry to decrease the rate of accidents and serious incidents related to other regional risk categories (R-ORC) of occurrences***

Safety Enhancement Initiative	Action	Timeline	Responsible entity	Stakeholders	Metrics/Indicators	Priority	Monitoring Activity
G1-SEI-RI-1 Mitigate contributing factors to RI accidents and incidents at the national level.	1A. Implement the following RI safety actions: a) Ensure the establishment and implementation of a State runway safety programme and runway safety teams b) Develop requirements, policies, procedures and training materials that can	2026 to 2028	States	Industry IATA, ACI, RSOOs, AFCAC, CANSO, ICAO, RAIOs	• Percentage of international aerodromes with active Runway Safety Teams (RSTs). • Percentage of certified aerodromes compliant with Annex 14 and PANS-Aerodromes. • Percentage of identified runway hotspots published in the AIP. • Number of runway safety workshops and personnel trained. • Percentage of aerodromes implementing hotspot mitigation measures.	High	• Effective runway safety governance established. • Enhanced situational awareness among ATCOs, pilots and vehicle operators. • Reduction in runway incursion risk factors and precursor events.

	support situational awareness of air traffic control officers (ATCOs), pilots and airside vehicle drivers c) Ensure effective use of suitable technologies to assist the improvement of situational awareness, such as improved resolution airport moving maps (AMM), electronic flight bags (EFB), enhanced vision systems (EVS) and head-up displays (HUD), advanced-surface movement guidance and control systems (A-SMGCS), stop bars and autonomous runway incursion warning systems (ARIWS)						

	d) Certify aerodrome in accordance with Annex 14, Volume I, as well as PANS Aerodromes e) Ensure the use of standard phraseologies in accordance with applicable State regulations and ICAO provisions (for example, Manual of Radiotelephony (Doc 9432)) f) Ensure the identification and publication in the AIP of hotspots at aerodromes g) Ensure that suitable strategies to remove hazards or mitigate risks associated with identified hotspots are developed and executed h) Develop and						

	distribute advisory circular for runway incursion prevention and pilot training i) Ensure aerodromes chart manoeuvring area during construction projects (PANS-Aerodromes)						
	1B. Validate the effectiveness of the SEIs in the State through the analysis of MOR, VOR and accident/incident investigations (apply safety management methodologies**).**	Continuous	States	Industry IATA, ACI, RSOOs, AFCAC, CANSO, ICAO, RAIOs	• Downward trends in Runway incursions reported • Number of runway safety occurrence analyses completed annually. • Number of MOR/VOR reports analysed. • Number of safety recommendations implemented. • Annual RI trend analysis reports produced. • Percentage reduction in RI occurrences from baseline. •	High	•Monitoring implementation of RST programmes using the KPIs •Review of PQs related to RSTs •Survey data, •Incident reports •RSTs to report quarterly on KPIs Data-driven risk management. • Early identification of emerging risks. • Improved effectiveness of mitigation measures.

	1C. Identify additional contributing factors, for example: a) Operations in low visibility conditions b) Complex or inadequate aerodrome design, equipment and signage c) Diversity and complexity of traffic (such as multiple simultaneous line-ups) d) Conditional clearances e) Simultaneous use of intersecting runways f) Late issue of or late changes to departure	Continuous	States	Airlines, Airport Operators	• Number of requests by States implemented • Number of participants in Runway Safety Go-team missions. • Changes in runway safety related incidents • Number of runway safety assessments conducted. • Number of new contributing factors identified and documented. •percentage of high-risk aerodromes assessed. • Number of Runway Safety Go-Team missions conducted.	High	Reporting activities of Runway Safety Go-Teams

	clearances g) Unintentional deviations from ATC clearances by flight and ground crew h) Phraseology use (such as non-standard versus standard; call-sign confusion) i) Concurrent use of more than one language for ATC communications j) English language proficiency k) Inadequate manoeuvring area driver training and assessment programme.						

	1D. Develop and implement further SEIs to mitigate the risk of the identified contributing factors, if any, for RI.	Continuous	State	States, Airlines, Airport Operators	• Number of additional RI mitigation measures developed. • Percentage of identified mitigations implemented. • Number of aerodromes adopting new runway safety controls.		• New and emerging runway safety risks effectively mitigated. • Continuous improvement in runway safety performance.
	1E. Continuously evaluate the effectiveness of the SEIs.	Continuous	State	Industry, IATA, ACI, RSOOs, AFCAC, CANSO, ICAO	• Annual effectiveness reviews completed. • Percentage of corrective actions closed within target dates. • Trend in RI occurrence rate per 100,000 movements.		• Sustained reduction in runway incursions and serious incidents. • Continuous improvement through SMS processes
G1-SEI-RI-2 **Mitigate contributing factors to RI accidents and incidents at the regional level**	2A – Implement the following RI safety actions: a) Promote the establishment and implementation of States' runway safety programmes and runway safety teams	2026-2028	AASPG	States, Industry	• Number of States implementing AASPG runway safety recommendations. • Number of regional runway safety workshops and Go-Team missions conducted. • Percentage of AFI States with operational RSTs. • Percentage of		• Harmonized runway safety implementation across AFI Region. • Improved regional adoption of ICAO runway safety provisions.

	b) Promote the establishment of policies, procedures and training that supports situational awareness for ATCOs, pilots and airside vehicle drivers c) Promote the effective use of suitable technologies to assist the improvement of situational awareness, such as improved resolution AMM, EFB, EVS and HUD, A-SMGCS, stop bars and ARIWS d) Promote the certification of aerodromes in accordance with Annex 14, Volume I, as well as PANS-Aerodromes e) Promote the use of standard phraseologies in				international aerodromes certified under Annex 14 requirements.		

	accordance with applicable State regulations and ICAO provisions (for example, Manual of Radiotelephony (Doc 9432)) f) Promote the identification and publication in the AIP of hotspots at aerodromes g) Promote suitable strategies to remove hazards or mitigate risks associated with identified hotspots h) Promote the use of aerodrome manoeuvring area charts during construction projects (PANS-Aerodromes)						
	2B – Validate the effectiveness of the SEIs in the region using data provided by States and industry (apply safety	2026-2028	AASPG	States, Industry	• Annual AFI runway safety performance report produced. • Percentage of States providing runway safety data. • Trend in regional RI	.	New and emerging runway safety risks effectively mitigated. • Continuous improvement in runway safety

	management methodologies)				occurrence rate.		performance..
	2C – Identify additional contributing factors	2026-2028	AASPG	States, Industry	• Identified new contributing factors • Completed incident/ accident investigation reports		Accidents and incidents investigation reports
	2D – Develop and implement further SEIs to mitigate the risk of the identified contributing factors, if any, for RI	2026-2028	AASPG	States, Industry	• Number of additional RI mitigation measures developed. • Percentage of identified mitigations implemented.		New and emerging runway safety risks effectively mitigated. • Continuous improvement in runway safety performance.
	2E – Continuously evaluate the effectiveness of the SEIs	2026-2028	AASPG	States, Industry	• Annual effectiveness reviews completed. • Percentage of corrective actions closed within target dates. • Trend in RI occurrence rate per 1 million movements.		• Sustained reduction in runway incursions and serious incidents. • Continuous improvement through SMS processes Number of new RI contributing factors identified from State and industry data,

							and the percentage that have an SEI addressing them. Monitoring action analysis of occurrence reports and accident investigation reports (from States and the regional investigation bodies, RAIOs) submitted quarterly to the AASPG.
G1-SEI-RI-3 **Mitigate contributing factors to RI accidents and incidents at service provider level**	3A – Implement the following RI safety actions: a) Establish, or actively participate in a runway safety programme and runway safety teams b) Establish policy, procedures and training that support situational awareness for ATCOs, pilots and airside vehicle drivers c) Effectively use suitable technologies to assist the	2026-2028	Industry	States	a) Percentage of Aerodrome Operators implementing Runway Safety Programme (SRSP). b) - Policy and procedures established and implemented - Number of training and courses organized for ATCOs and Pilots c) Types of Technologies utilized to assist the improvement of situational awareness	High	Service provider SMS audits and safety assurance reports. Reporting systems -monitoring and data collection system

	improvement of situational awareness, such as improved resolution AMM, EFB, EVS and HUD, A-SMGCS, stop bars and ARIWS d) Comply with runway-related provisions in Annex 14, Volume I, as well as PANS-Aerodromes e) Use standard phraseologies in accordance with applicable State regulations and ICAO provisions (for example, Manual of Radiotelephony (Doc 9432)) f) Identify and publish hotspots at aerodromes in the AIP g) Develop suitable strategies to remove or mitigate hazards associated with identified hotspots				d) Safety assurance activities performed by the aerodrome operator in regard with the compliance with Annex 14 and PANS-Aerodromes. e) safety infrigments recorded due to use of non standardized phraseologies number of reports and compliant files received in regard with the use of non standardized phraseologies f) Number of reports on the runway hotspots received.		

	h) Verify that training of vehicle drivers addresses following speed control and knowledge of the sensitive areas (for air operators and aerodrome operators) i) Introduce and ensure the effective utilization of ATC ground surveillance at all high-density airports (for aerodrome operators) j) Introduce training to ATCOs on prevention of runway incursions k) Improved aerodrome signage in accordance with Annex 14, Volume I l) Use a runway safety maturity checklist m) Use chart manoeuvring area during construction						

	projects (PANSAerodromes)						
	3B – Validate the effectiveness of the SEIs in industry through the analysis of ATC data and reports from stakeholders (apply safety management methodologies)	2026-2028	Industry	States	Number of activities related the dissemination if safety information on RI • Percentage of runway safety data provided to states • Trend of the RI occurrence rate.		New and emerging runway safety risks effectively mitigated. • Continuous improvement in runway safety performance.
	3C – Identify additional contributing factors	2026-2028	Industry	States	Number of additional SEI's developed Number of additional SEI's implemented	High	Service provider SMS audits and safety assurance reports
	3D – Develop and implement further SEIs to mitigate the risk of the identified contributing factors, if any, for RI	2026-2028	Industry	States	Number of serious incidents and accident relating to RE	Low	Service provider SMS audits and safety assurance reports

	3E – Continuously evaluate the effectiveness of the SEIs	2026-2028	Industry	States	Number of serious incidents and accident relating to RE	Low	Service provider SMS audits and safety assurance reports

R-ORC 6: SYSTEM/COMPONENT FAILURE OR MALFUNCTION (NON-POWERPLANT) (SCF-NP)

Goal 1: Achieve a continuous reduction of operational safety risks

Target 1.1: ***By 2028, AFI States and industry to decrease the accident rate.***

Target 1.2: ***By 2028, AFI Region, States and industry to decrease the rate of accidents and serious incidents for each regional high-risk category (R-HRCs)***

Target 1.3: ***By 2028, AFI Region, States and industry to decrease the rate of accidents and serious incidents related to other regional risk categories (R-ORC) of occurrences.***

Safety Enhancement Initiative	Action	Timeline	Responsible entity	Stakeholders	Metrics/Indicators	Priority	Monitoring Activity
G1-SEI-SCFNP-1 **(AFI-RASP OPS SEI on SCF-NP)** **Mitigate contributing factors to SCF-NP accidents and incidents at the national level.**	1A – Implement the following SCF-NP safety actions: a) Approve operator maintenance programmes, taking into	Ongoing	States	Airlines, ICAO, industry, AMO, IATA	• Number of SCF-NP events analyzed with attenuation measures • Percentage of operators with approved	High	• State surveillance of AOCs, CAMOs and AMOs. • Analysis of occurrence reports and airworthiness data. • Monitoring implementation of corrective actions

	consideration changes to the maintenance programme to reflect operator experience, environment of operation and utilization rate b) Approve operator maintenance programmes to include, when applicable, condition monitoring or condition-based maintenance (CBM), based on predictive maintenance (PdM) c) Establish the requirements for, and ensure oversight of, defect control and deviations from the approved minimum equipment list (MEL)				maintenance programmes incorporating reliability monitoring. • Percentage of operators implementing condition-based/predictive maintenance where applicable. • Number of SCF-NP occurrences reported through mandatory occurrence reporting systems. • Percentage of maintenance personnel receiving recurrent human factors training. • Percentage of approved organizations implementing parts		arising from audits and inspections.

	d) Establish the requirements for training of operator and maintenance personnel on human factors, environmental protections, root cause analysis, software and firmware updates, and supplier quality assurance (QA) (training should encompass proper procedures, handling and troubleshooting techniques) e) Perform thorough root cause analysis to understand the underlying reasons and implement corrective actions f) Facilitate the sharing of continuing airworthiness information between State of Design, State of				traceability programmes.		

	Manufacture and State of Registry – complete the necessary information on Cir 95, The Continuing Airworthiness of Aircraft in Service g) Conduct oversight of the supplier's QA programme h) Establish a programme for the traceability of aviation parts and preventing the installation of parts unsuitable for operations.						
	1B – Strengthen risk-based surveillance of continuing airworthiness organizations (AMOs, AOCs, CAMOs, Approved Maintenance	Ongoing	States	AMOs, AOCs, CAMOs, Approved Maintenance Training Organizations	□ Number of maintenance-related findings identified during surveillance. □ Percentage of corrective actions closed within the required timeframe.	High	Monitoring of the risk-based surveillance program of continuing airworthiness • Tracking closure rates of findings. • Trend analysis of recurring deficiencies.

	Training Organizations).				• Percentage of approved organizations subject to risk-based surveillance. • Number of continuing airworthiness inspections conducted annually. • Number of repeat maintenance findings.		
	1C – Identify additional contributing factors, for example: a) Inadequate maintenance practices b) Material defects and quality issues c) Environmental conditions d) Deterioration due to ageing components e) Design issues f) Manufacturing deficiencies g) Repair issues h) Repair interval extensions i) Mechanical overload and stress j) Human	2026-2028	States	Industry, ICAO, RSOOs, RAIOs	Number of emerging contributing factors identified and assessed • Number of SCF-NP investigations reviewed annually. • Percentage of States conducting SCF-NP trend analysis.	Medium	Monitoring of the reports received linked to the contributing factors Review MOR, SDR and investigation reports. • SSP safety risk assessments. • Analysis of regional occurrence databases.

	performance, including human factors issues k) Improper handling and shipping of parts l) Deficiencies in maintenance programmes m) Inadequate oversight n) Improper implementation of reliability programmes and condition monitoring o) Damage (accidental or environment) p) Failure to adhere to the appropriate SOPs q) Suspected unapproved parts (SUPs).						
	1D – Develop and implement further SEIs to mitigate the risk of the identified contributing factors, if any, for SCF-NP.	2026-2028	States	Industry, ICAO, RSOOs, RAIOs	• Number of additional SCF-NP mitigation measures developed and implemented.. • Percentage of identified mitigations implemented. • Percentage of	Medium	Monitoring the SCF-NP safety issues • Follow-up of mitigation implementation. • Verification during oversight activities.

					recommended actions implemented by stakeholders. • Reduction in recurrence of identified technical failures.		• Safety performance review meetings.
	1E – Continuously evaluate the effectiveness of the SEIs.	2026-2028	States	Industry, ICAO, RSOOs, RAIOs	Rate of SCF-NP accidents and serious incidents per million departures. • Percentage reduction in recurrent SCF-NP occurrences from baseline. • Percentage of mitigation actions demonstrated as effective.	High	• Annual SSP safety performance review. • Trend monitoring against established baselines. • Safety performance reporting to AASPG.
G1-SEI-SCFNP-2 **Mitigate contributing factors to SCF-NP accidents and incidents at the regional level.**	2A – Implement the following SCF-NP safety actions: a) Promote operator maintenance programmes, taking into consideration changes to the maintenance	2026-2028	AASPG	Industry, RSOOs, RAIOs	Percentage of States sharing continuing airworthiness information through established mechanisms. • Number of regional SCF-NP workshops, seminars and safety initiatives completed. • Percentage of	High	• AASPG review of annual implementation reports. • Monitoring participation in regional programmes.

	programme to reflect operator experience, environment of operation and utilization rate b) Promote operator maintenance programmes to include, when applicable, CBM, based on PdM c) Promote the requirements for, and oversight of, defect control and deviations from the approved MEL d) Promote the sharing of continuing airworthiness information between State of Design, State of Manufacture and State of Registry – complete the necessary information on Cir 95, The Continuing Airworthiness of				participating States implementing reliability monitoring programmes.		

	Aircraft in Service.						
	2B – Support States in implementing risk-based oversight of maintenance organizations and continuing airworthiness management organizations..	Ongoing	AASPG	Industry, RSOOs, RAIOs	□ Percentage of States implementing risk-based oversight of continuing airworthiness organizations. □ Number of regional inspector training programmes conducted annually. □ Number of regional safety information exchanges, workshops/ seminars on SCF-NP.	High	• AASPG monitoring reports. • USOAP CMA and assistance activity review. • Regional implementation dashboard.
	2C – Identify additional contributing factors, for example: a) Inadequate maintenance practices b) Material defects and quality issues c) Environmental	Ongoing	AASPG	Industry, RSOOs, RAIOs	Number of regional SCF-NP studies completed. • Number of systemic safety concerns identified. • Number of safety recommendations issued to States.	Medium	• Regional safety data analysis. • Review of investigation reports and emerging trends.

	conditions d) Deterioration due to ageing components e) Design issues f) Manufacturing deficiencies g) Repair issues h) Repair interval extensions i) Mechanical overload and stress j) Human performance, including human factors issues k) Improper handling and shipping of parts l) Deficiencies in maintenance programmes m) Inadequate oversight n) Improper implementation of reliability programmes and condition monitoring o) Damage (accidental or environment) p) Failure to adhere to the appropriate SOPs						

	2D – Develop and implement further SEIs to mitigate the risk of the identified contributing factors, if any, for SCF-NP.	2026-2028	AASPG	Industry, RSOOs, RAIOs	Number of regional mitigation initiatives developed. • Percentage of recommendations adopted by States. • Number of regional guidance materials developed.	Medium	• Monitoring implementation through AASPG. • Annual review of regional action plans.
	2E – Continuously evaluate the effectiveness of the SEIs.	2026-2028	AASPG	Industry, RSOOs, RAIOs	• Regional SCF-NP occurrence rate trend. • Number of States demonstrating improvement in SCF-NP safety performance. • Percentage reduction in high-risk technical failures across the region.	High	• Annual AFI safety performance review. • Regional safety trend reports. • AASPG performance dashboard.
G1-SEI-SCFNP-3 **Mitigate contributing factors to SCF-NP accidents and incidents at the service provider**	3A – Implement the following SCF-NP safety actions: a) Implement an	Ongoing	Industry	AMOs, AOCs, CAMOs, Approved Maintenance Training Organizations	• Percentage of aircraft covered by reliability programmes. • Percentage of maintenance	High	• Internal SMS monitoring. • Reliability programme review. • Continuing airworthiness audits.

level	operator maintenance programme, taking into consideration changes to the maintenance programme to reflect operator experience, environment of operation and utilization rate b) Implement an operator maintenance programme to include, when applicable, CBM, based on PdM c) Implement the requirements for defect control and deviations from the approved MEL d) Implement training of operator and maintenance personnel on human factors, environmental protections, root cause analysis,				personnel receiving recurrent technical and HF training. • Number of deferred defects exceeding MEL limits. • Percentage of supplier audits completed as planned. • Number of reported SCF-NP events per 1,000 flight hours.		

	software and firmware updates and supplier QA (training should encompass proper procedures, handling and troubleshooting techniques) e) Perform thorough root cause analysis to understand the underlying reasons and implement corrective actions f) Participate in the sharing of continuing airworthiness information between State of Design, State of Manufacture and State of Registry g) Conduct audits of the supplier's QA programme h) Perform software and firmware updates in a timely manner						

	3B – Conduct regular internal audits and safety assurance activities focused on maintenance quality, aircraft systems, and component reliability.	Ongoing	Industry	AMOs, AOCs, CAMOs, Approved Maintenance Training Organizations	□ Number of maintenance-related findings identified during internal audits. • Number of maintenance-related findings per audit. • Percentage of corrective actions closed on schedule. • Repeat findings rate.	High	• Internal audit programme reviews. • SMS safety assurance processes. • Management review of findings.
	3C – Identify additional contributing factors, for example: a) Inadequate maintenance practices b) Material defects and quality issues c) Environmental conditions d) Deterioration due to ageing components. e) Design issues f) Manufacturing deficiencies g) Repair issues h) Repair interval extensions i) Mechanical	Ongoing	Industry	AMOs, AOCs, CAMOs, Approved Maintenance Training Organizations	Number of maintenance quality audits conducted annually. • Number of maintenance-related findings per audit. • Percentage of corrective actions closed on schedule. • Repeat findings rate.	High	• Internal audit programme reviews. • SMS safety assurance processes. • Management review of findings.

	overload and stress j) Human performance, including human factors issues k) Improper handling and shipping of parts l) Deficiencies in maintenance programmes m) Inadequate oversight n) Improper implementation of reliability programmes and condition monitoring o) Damage (accidental or environment) p) Failure to adhere to the appropriate SOPs.						
	3D – Develop and implement further SEIs to mitigate the risk of the identified contributing factors, if any, for SCF-NP	Ongoing	Industry	AMOs, AOCs, CAMOs, Approved Maintenance Training Organizations	• Number of hazards identified through SMS. • Number of SCF-NP reports analysed. • Number of risk assessments conducted on recurring failures.	Medium	• Hazard register reviews. • Analysis of technical occurrence reports. • Safety risk assessments.

	3E – Continuously evaluate the effectiveness of the SEIs.	Ongoing	Industry	AMOs, AOCs, CAMOs, Approved Maintenance Training Organizations	Annual trend of SCF-NP occurrences. • Mean time between failures (MTBF) for critical systems. • Reduction in dispatch reliability impacts caused by technical failures. • Number of recurrent failures eliminated.	High	• Quarterly safety performance reviews. • Reliability programme monitoring. • SMS effectiveness assessments.

R-ORC 7: ABNORMAL RUNWAY CONTACT (ARC)

Goal 1: Achieve a continuous reduction of operational safety risks

Target 1.1: ***By 2028, AFI States and industry to decrease the accident rate.***

Target 1.2: ***By 2028, AFI Region, States and industry to decrease the rate of accidents and serious incidents for each regional high-risk category (R-HRCs)***

Target 1.3: ***By 2028, AFI Region, States and industry to decrease the rate of accidents and serious incidents related to other regional risk categories (R-ORC) of occurrences.***

Safety Enhancement Initiative	Action	Timeline	Responsible entity	Stakeholders	Metrics/Indicators	Priority	Monitoring Activity

G1-SEI-ARC-1 **Mitigate contributing factors to ARC accidents and incidents at the national Level.**	1A – Implement the following ARC safety actions: a) Develop guidance material on unstabilized approaches b) Promote the establishment of policy and training on rejected landings, goarounds, crosswind and tailwind landings (up to the maximum manufacturer demonstrated wind) c) Ensure effective and timely reporting of meteorological and aerodrome conditions (for example, runway surface condition in accordance with the GRF in Annex 14, Volume I, braking action and revised declared distances) d) Develop guidance material	Ongoing	States	ICAO, Industry, RSOOs, RAIOs	Published guidance on unstabilized approaches and go-around policies Number of workshops held in States on establishment and promotion of runway safety teams Number of GRF reports Number of the established reporting systems by the States Number of aerodrome operators trained in runway pavement maintenance and operations. Percentage of aerodromes utilizing the runway safety maturity checklist.	High	• Surveillance and monitoring activities

	and a training programme for runway pavement, maintenance and operations from aerodrome operator's perspective e) Use a runway safety maturity checklist						
	1B – Require operators to implement Flight Data Monitoring (FDM) or equivalent programmes, where applicable, to identify unstable approach and landing trends.	Continuous	States	ICAO, Industry, RSOOs, RAIOs	Percentage of operators implementing effective Flight Data Monitoring (FDM) programmes.	High	Review of operator FDM compliance during safety oversight audits and surveillance missions.
	1C – Identify additional contributing factors, for example: a) Adverse weather conditions (such as tailwind, crosswind, turbulence or wind shear)	Continuous	States	ICAO, Industry, RSOOs, RAIOs	Number of additional contributing factors to ARC occurrences identified and documented	Medium	Analysis of Mandatory/Voluntary Occurrence Reporting (MOR/VOR) systems Surveillance and monitoring activities

	b) An unstabilized approach continued to land c) Inappropriate aircraft configuration (weight and balance, trim setting/CG position and flap setting) d) Mishandling of crosswind e) Mistrimmed stabilizer, rotation at improper speed, excessive rotation rate f) Holding off in the flare g) Over-rotation during go-around h) Improper use of the flight director i) Under-inflated oleo-pneumatic shock absorber j) Slow or late rotation. k) Performance calculation errors l) Tail strikes, tip strikes, pod strikes and nose wheel first touch down						

	m) Illuminated touchdown zones could be a contributing factor to hard landings and tail strikes due to the black hole effect at night n) The absence of centre runway lights could be a contributing factor to off-centre landings o) Non-standard approach profiles, improperly calibrated visual approach aids.						
	1D – Develop and implement further SEIs to mitigate the risk of the identified contributing factors, if any, for ARC.	Continuous	States	ICAO, Industry, RSOOs, RAIOs	• Number of additional SEIs developed and implemented at the national level.	Medium	Periodic review of national safety performance indicators and CAP progress.
	1E – Continuously evaluate the effectiveness of the SEIs.	Continuous	States	ICAO, Industry, RSOOs, RAIOs	• Trend analysis of ARC occurrences and effectiveness ratings of implemented mitigations.	High	Continuous monitoring through State safety management and SSP processes.

G1-SEI-ARC-2 **Mitigate contributing factors to ARC accidents and incidents at the regional Level.**	2A – Implement the following ARC safety actions: a) Promote the development of guidance material on unstabilized approaches b) Promote the establishment of policy and training on rejected landings, go-arounds, crosswind and tailwind landings (up to the maximum manufacturer demonstrated wind) c) Promote effective and timely reporting of meteorological and aerodrome conditions (for example, runway surface condition in accordance with the GRF in Annex 14, Volume I, braking action and revised declared distances)	2026-2028	AASPG	States, Industry, RSOOs, RAIOs	• Number of States that developed ARC guidance and frameworks.	High	Regional safety reports and AASPG progress updates.

	d) Promote the development of guidance material and a training programme for runway pavement, maintenance and operations from the aerodrome operator's perspective e) Promote the use a runway safety maturity checklist						
	2B – Coordinate regional safety campaigns addressing stabilized approaches, hard landings, bounced landings, tail strikes, crosswind operations, and go-around decision-making.	2026-2028	AASPG	States, Industry, RSOOs, RAIOs	Number of regional runway safety workshops, seminars, or safety promotion campaigns conducted annually.	High	Regional workshop attendance records and activity evaluation reports.
	2C – Identify additional contributing factors, for example: a) Adverse weather conditions (such as tailwind,	2026-2028	AASPG	States, Industry, RSOOs, RAIOs	• Number of regional studies or safety analyses completed on ARC precursors.	Medium	Quarterly reporting of regional occurrence data to the AASPG Safety Management and Oversight Sub-Group (SMO/SG).

	crosswind, turbulence or wind shear) b) An unstabilized approach continued to land c) Inappropriate aircraft configuration (weight and balance, trim setting/CG position and flap setting) d) Mishandling of crosswind e) Mis-trimmed stabilizer, rotation at improper speed, excessive rotation rate f) Holding off in the flare g) Over-rotation during go-around h) Improper use of the flight director i) Under-inflated oleo-pneumatic shock absorber j) Slow or late rotation k) Performance calculation errors l) Tail strikes, tip strikes, pod strikes						

	and nose wheel first touch down m) Illuminated touchdown zones could be a contributing factor to hard landings and tail strikes due to the black hole effect at night n) The absence of centre runway lights could be a contributing factor to offcentre landings o) Non-standard approach profiles, improperly calibrated visual approach aids						
	2D – Develop and implement further SEIs to mitigate the risk of the identified contributing factors, if any, for ARC	2026-2028	AASPG	States, Industry, RSOOs, RAIOs	• Number of new regional mitigation strategies established.	Medium	Regional implementation monitoring and progress reports.

	2E – Continuously evaluate the effectiveness of the SEIs.	2026-2028	AASPG	States, Industry, RSOOs, RAIOs	• Trend analysis of ARC occurrences and effectiveness ratings of implemented mitigations.	High	• Annual review reports on regional ARC reduction initiatives.
G1-SEI-ARC-3 **Mitigate contributing factors to ARC accidents and incidents at the service provider level.**	3A – Implement the following ARC safety actions: a) Define stabilized approach, landing and go-around policies in the operations manual b) Develop comprehensive pilot training on stabilized approaches, go-around procedures and runway awareness and alerting systems c) Establish a policy and training on rejected landings, go-arounds, crosswind and tailwind landings (up to the maximum	2026-2028	Industry	States	• Percentage of air operators integrating ARC precursors into their FDAP. • Number of flight crews completing specialized stabilized approach training.	High	Operator internal quality audits and safety management reviews.

	manufacturer-demonstrated winds) d) Ensure effective and timely reporting of meteorological and aerodrome conditions (for example, runway surface condition in accordance with the GRF in Annex 14, Volume I, braking action and revised declared distances) e) Develop guidance material and a training programme for runway pavement, maintenance and operations from aerodrome operator's perspective f) Use a runway safety maturity checklist g) Include runway safety precursors in operator's FDAP – the flight parameters monitored should						

	include: deep landing, short landing, long flare, monitoring spoiler deployment and late flap settings h) Implement an effective, non punitive flight data analysis programme						
	3B – Conduct regular analysis of ARC occurrences, FDM events, and safety reports, and integrate the findings into the organization's Safety Risk Management process.	Continuous	Industry	AOCs	Percentage of corrective actions from ARC occurrences and FDM events investigations closed within the established timeframe.	High	Safety management system (SMS) safety assurance reports submitted to regulatory authorities.
	3C – Identify additional contributing factors, for example: a) Adverse weather conditions (such as tailwind, crosswind, turbulence or wind shear) b) An unstabilized	2026-2028	Industry	States	• Number of internal hazard identification reports addressing runway contact risks.	Medium	Internal safety committee reviews and hazard log updates.

	approach continued to land c) Inappropriate aircraft configuration (weight and balance, trim setting/CG position and flap setting)						
	3D – Develop and implement further SEIs to mitigate the risk of the identified contributing factors, if any, for ARC	2026-2028	Industry	States	• Number of operational mitigations deployed by air operators and aerodrome operators.	Medium	Airline and aerodrome operator safety performance tracking.
	3E – Continuously evaluate the effectiveness of the SEIs.	2026-2028	Industry	States	• Percentage of trends in local hard landings, tail strikes, and runway excursion/incursion precursor events.	High	Annual management reviews of SMS effectiveness.

R-ORC 8: GROUND HANDLING (RAMP)
Goal 1: Achieve a continuous reduction of operational safety risks **Target 1.1:** ***By 2028, AFI States and industry to decrease the accident rate.***

Target 1.2: ***By 2028, AFI Region, States and industry to decrease the rate of accidents and serious incidents for each regional high-risk category (R-HRCs)***

Target 1.3: ***By 2028, AFI Region, States and industry to decrease the rate of accidents and serious incidents related to other regional risk categories (R-ORC) of occurrences.***

Safety Enhancement Initiative	Action	Timeline	Responsible entity	Stakeholders	Metrics/Indicators	Priority	Monitoring Activity
G1-SEI-RAMP-1 **Mitigate contributing factors to RAMP accidents and incidents at the national Level.**	1A. Regarding Human factors, ensure the provision of recurrent training, implementation of (CRM), management of fatigue through duty-time regulations, encourage effective communication, and promote sound decision-making.	Ongoing	States	ICAO, Industry, RSOOs, RAIOs	• Percentage of ground handling personnel completing recurrent human factors training. • Percentage of organizations implementing fatigue risk management procedures. • Number of human-factor-related ramp occurrences reported. • Percentage of personnel demonstrating competency during recurrent assessments.	High	• Review training records during oversight inspections. • Monitor occurrence reports involving human performance factors. • Conduct audits of fatigue management programmes. • Review safety culture survey results.

	1B. Regarding Aircraft factors, ensure service providers Perform regular preventive maintenance, comply with manufacturer maintenance schedules, conduct thorough pre-flight inspections, and promptly address reported defects.	2026-2028	States	ICAO, Industry, RSOOs, RAIOs	• Percentage of aircraft defects affecting ground operations rectified within required timeframes. • Number of ramp incidents involving aircraft damage caused by equipment or maintenance deficiencies. • Percentage of operators complying with approved maintenance programmes.	High	• Analysis of maintenance and defect reports. • Surveillance of AOCs, AMOs and ground handling organizations. • Trend analysis of ground damage occurrences.
	1C. Include Ground Handling (RAMP) safety as a national operational safety priority within the National Aviation Safety Plan (NASP) and State Safety Programme (SSP).	2027	States Concerned	Airlines, Ground Handling Companies	□ Number of ramp safety inspections conducted annually. □ Percentage of corrective actions from ramp safety inspections and investigations implemented within agreed timelines. • Ground handling safety formally included in NASP/SSP.	Medium	• Annual SSP performance review. • Monitoring implementation of NASP actions. • Review of inspection and audit findings.

	1D. Regarding Air Traffic Control (ATC) factors, Standardize communication using internationally recognized phraseology, ensure service providers provide recurrent ATC training, upgrade surveillance and communication systems, and manage controller workload.	2026-2028	States	ICAO, Industry, RSOOs, RAIOs	• Number of ramp occurrences attributable to communication failures. • Percentage of ATS personnel receiving recurrent training. • Number of reported coordination errors between ATS and apron operations.	Medium	• Review ATS occurrence reports. • Monitoring of safety reports involving apron/ramp movements. • Analysis of communication-related events.
	1E. Regarding Organizational factors, ensure service providers Implement a strong (SMS), foster a positive safety culture, conduct regular safety audits, encourage confidential hazard reporting, and ensure anagement commitment to	2026-2028	States	ICAO, Industry, RSOOs, RAIOs	• Percentage of regulated ground handling organizations with active SMS. • Number of hazards reported through confidential reporting systems. • Percentage of safety audits completed as planned. • Percentage of audit findings closed on time.	High	• SMS assessments and inspections. • Monitoring hazard reporting trends. • Review of organizational safety performance indicators.

	safety.						
	1F. Regarding Emergency response and event handling, ensure service providers Develop and regularly test emergency response plans, conduct emergency drills, ensure coordination among flight crews, ATC, airport operators, and emergency services, and review lessons learned after each event.	2026-2028	States	ICAO, Industry, RSOOs, RAIOs	Percentage of organizations conducting annual ERP exercises. • Number of emergency drills conducted. • Percentage of corrective actions arising from drills implemented.	Medium	• Evaluation of emergency exercises. • Review exercise reports and lessons learned. • Verification of corrective action implementation.
	1G. Validate the effectiveness of the SEIs in the State through the analysis of MOR and VOR	2026-2028	States	ICAO, Industry, RSOOs, RAIOs	• Number of MOR/VOR analyses completed annually. • Number of RAMP occurrence investigations	High	• Analysis of occurrence databases. • SSP safety performance reviews. • Review of

	and accident/incident investigations (apply safety management methodologies)				completed. • Annual trend in ramp accidents and incidents.		investigation outcomes and recommendations.
	1H. Develop and implement further SEIs to mitigate the risk of the identified contributing factors, if any, for RAMP	2026-2028	States	ICAO, Industry, RSOOs, RAIOs	• Number of additional mitigation measures developed. • Percentage of mitigation actions implemented. • Number of emerging ramp hazards addressed.	Medium	• Monitoring implementation of mitigation plans. • Review effectiveness during surveillance activities.
	1I. Continuously evaluate the effectiveness of the SEIs	2026-2028	States	ICAO, Industry, RSOOs, RAIOs	• Percentage of ramp accidents and incidents per 10,000 aircraft turnarounds. • Reduction in aircraft ground damage events. • Percentage of safety objectives achieved.	High	• Annual safety performance review. • Trend analysis against baseline data. • AASPG and SSP monitoring reports.
G1-SEI-RAMP-2 **Mitigate contributing factors to RAMP accidents and incidents at the regional Level.**	2A. Regarding Human factors, promote recurrent training, implement (CRM), manage fatigue through duty-time regulations, encourage	2026-2028	AASPG	Industry, RSOOs, RAIOs	• Number of regional ground handling safety workshops conducted. • Number of States adopting harmonized human factors training	High	• Monitor implementation reports from States. • Assess participation in regional capacity-building activities.

	effective communication, and promote sound decision-making.				programmes. • Number of personnel trained through regional initiatives.		
	2B. Support States in developing and strengthening national oversight programmes for ground handling service providers and aerodrome operations using a risk-based approach.	2028	ICAO ESAF and WACAF	States	□ Percentage of AFI States implementing risk-based oversight programmes for ground handling organizations. □ Number of regional ground handling safety workshops, seminars, or safety promotion campaigns conducted annually.	High	• Review State implementation reports. • Monitor progress through AFI Plan and AASPG reporting mechanisms.
	2C. Regarding Environmental factors, promote the use of accurate weather forecasting, provide pilot weather briefings, install weather detection systems, improve runway maintenance, and establish procedures for adverse weather operations.	2026-2028	AASPG	Industry, RSOOs, RAIOs	• Number of States implementing adverse weather procedures affecting ramp operations. • Number of weather-related ramp events reported.	Medium	• Regional trend analysis of weather-related occurrences. • Review occurrence reports.

	2D. Regarding Air Traffic Control (ATC) factors, promote the standardization of communication using internationally recognized phraseology, recurrent ATC training, promote the upgrade of surveillance and communication systems, and manage controller workload.	2026-2028	AASPG	Industry, RSOOs, RAIOs	• Number of States implementing harmonized apron communication procedures. • Number of ATS operational personnel receiving refresher training.	Medium	• Monitoring ATS safety performance reports. • Analysis of apron movement occurrences.
	2E. Regarding Organizational factors, promote the Implementation of a strong (SMS), foster a positive safety culture, provide assistance for the conduct of regular safety audits, encourage confidential hazard reporting, and ensure management	2026-2028	AASPG	Industry, RSOOs, RAIOs	Percentage of States promoting SMS implementation among ground handling organizations. • Number of regional safety promotion activities conducted.	High	• Review SMS implementation status reports. • Monitor participation in safety promotion initiatives.

	commitment to safety.						
	2F. Regarding Emergency response and event handling, promote the development and the regular test of the emergency response plans, conduct emergency drills, promotion the coordination among flight crews, ATC, airport operators, and emergency services, and review lessons learned after each event.	2026-2028	AASPG	Industry, RSOOs, RAIOs	• Number of States conducting coordinated emergency exercises involving ramp operations. • Number of lessons learned shared regionally.	Medium	• Review regional exercise reports. • Monitor implementation of recommendations.
	2G. Validate the effectiveness of the SEIs in the State through the analysis of MOR and VOR and accident/incident	2026-2028	AASPG	Industry, RSOOs, RAIOs	• Annual AFI report on ramp safety performance produced. • Percentage of States providing ramp safety data. • Trend in regional ramp occurrence	High	• Regional occurrence data analysis. • Annual AASPG review.

	investigations (apply safety management methodologies)				rates.		
	2H. Develop and implement further SEIs to mitigate the risk of the identified contributing factors, if any, for RAMP	2026-2028	AASPG	Industry, RSOOs, RAIOs	• Number of regional mitigation initiatives developed. • Percentage of recommendations adopted by States.	Medium	• Monitor implementation through AASPG work programme.
	2I. Continuously evaluate the effectiveness of the SEIs	2026-2028	AASPG	Industry, RSOOs, RAIOs	• Reduction in regional ramp occurrence rate. • Number of States showing improvement in ramp safety indicators.	High	• Annual AFI safety performance review. • Regional trend analysis.
G1-SEI-RAMP-3 **Mitigate contributing factors to RAMP accidents and incidents at the industry Level.**	3A. Regarding Human factors, Provide recurrent training, implement (CRM), manage fatigue through duty-time regulations, encourage effective communication,	2026-2028	Industry	States	• Percentage of ground handling staff completing initial and recurrent competency-based training. • Percentage of staff covered by fatigue management programmes. • Number of	High	• SMS monitoring. • Review training and competency records. • Analysis of occurrence reports.

	and promote sound decision-making.				human-factor-related ramp occurrences.		
	3B. Develop and promote harmonized ground handling standards and best practices based on ICAO provisions and internationally recognized industry guidance.	2028	Industry	States	□ Percentage of ground handling personnel completing competency-based initial and recurrent training. □ Number of organizations implementing Just Culture reporting programmes. □ Number of collaborative industry safety forums, workshops, or conferences conducted annually.	Medium	• Internal audits. • Industry benchmarking reviews. • Safety performance meetings.
	3C. Regarding Environmental factors, Use accurate weather forecasting, provide pilot weather briefings, install weather detection systems, improve runway maintenance, and	2026-2028	Industry	States	• Number of ramp occurrences linked to adverse weather. • Percentage of personnel trained in adverse weather ramp procedures.	Medium	• Monitoring weather-related safety reports. • Safety risk assessments.

	establish procedures for adverse weather operations.						
	3D. Regarding Air Traffic Control (ATC) factors, Standardize communication using internationally recognized phraseology, provide recurrent ATC training, upgrade surveillance and communication systems, and manage controller workload.	2026-2028	Industry	States	• Number of communication-related ramp incidents. • Percentage of apron personnel trained on communication procedures.	Medium	• Analysis of apron movement reports. • Internal safety reviews.
	3E. Regarding Organizational factors, Implement a strong (SMS), foster a positive safety culture, conduct regular safety audits, encourage confidential hazard reporting,	2026-2028	Industry	States	• Percentage of organizations with functioning SMS. • Number of hazards reported through reporting systems. • Percentage of corrective actions closed within timelines.	High	• SMS effectiveness assessments. • Internal and external audits. • Monitoring safety performance indicators.

	and ensure management commitment to safety.						
	3F. Regarding Emergency response and event handling, Develop and regularly test emergency response plans, conduct emergency drills, ensure coordination among flight crews, ATC, airport operators, and emergency services, and review lessons learned after each event.	2026-2028	Industry	States	• Number of ERP exercises conducted annually. • Percentage of recommendations implemented following exercises.	Medium	• Review ERP exercise reports. • Verification of corrective actions.
	3G. Validate the effectiveness of the SEIs in the State through the analysis of MOR and VOR and accident/incident investigations	2026-2028	Industry	States	• Number of ramp occurrence investigations completed. • Annual trend in aircraft ground damage events. • Number of repeat occurrences.	High	• Analysis of occurrence reports. • Safety assurance reviews. • Management safety reviews.

	(apply safety management methodologies)						
	3H. Develop and implement further SEIs to mitigate the risk of the identified contributing factors, if any, for RAMP	2026-2028	Industry	States	• Number of new mitigation measures introduced. • Percentage of identified hazards mitigated.	Medium	• Tracking corrective action plans. • Safety review meetings.
	3I. Continuously evaluate the effectiveness of the SEIs	2026-2028	Industry	States	• Percentage of ramp damage rate per 10,000 turnarounds. • Percentage of personnel injury rate during ground handling operations. • Improvement in safety performance indicators.	High	• Quarterly SMS performance reviews. • Annual safety performance assessment.

R-ORC 9: BIRD STRIKES AND WILDLIFE HAZARD (WILD)

Goal 1: Achieve a continuous reduction of operational safety risks

Target 1.1: ***By 2028, AFI States and industry to decrease the accident rate.***

Target 1.2: ***By 2028, AFI Region, States and industry to decrease the rate of accidents and serious incidents for each regional high-risk category (R-HRCs)***

Target 1.3: ***By 2028, AFI Region, States and industry to decrease the rate of accidents and serious incidents related to other regional risk categories (R-ORC) of occurrences.***

Safety Enhancement Initiative	Action	Timeline	Responsible entity	Stakeholders	Metrics/Indicators	Priority	Monitoring Activity
G1-SEI-BW-1 **Mitigate contributing factors to WILD accidents and incidents at the national level**	1A. Ensure the Implementation of the following WILD safety actions: a) Control of the Vegetation for example Maintain airfield grass at a uniform, precise height (typically between 10–15 cm) b) Water Management for example Grade land to eliminate pooling, enclose open drainage	Q4 2027	States	RSOOs, RAIOs States; ICAO, Industry	• Number of Wildlife strikes reported • Number of aerodromes with established and active Wildlife hazard management plans • Number of wildlife strikes causing damage to aircraft • Rate of wildlife strikes per 10,000 aircraft movements.	High	- Surveillance and monitoring activities - Perform runway, taxiway, and infield inspections to identify overgrown vegetation. - Conduct inspections following rainfall events -Analyze compliance with speed restrictions

	ditches c) use deterrents to systematically harass and clear the area: - Acoustics & Pyrotechnics - Biological Deterrents - Advanced Tracking and Technology d) Modify some flight procedures to mitigate the risk. - Speed Restrictions like Keeping aircraft speed below 250 knots when operating under 10,000 feet ; - Modify Climb Profiles for example us eof rapid-climb procedures - Strategic Go-Arounds by allowing ground crews time to clear the airfield.				□ Rate of damaging wildlife strikes per 10,000 aircraft movements. - □ Percentage of certified aerodromes conducting wildlife hazard assessments at the required intervals. Frequency of Grass Cutting Operations - Number of High-Risk Bird Species Observed b) - Percentage of the Standing Water Inspection Compliance - Number of Water-Related Wildlife Sightings c) Number of acoustic/pyrotechnic actions per day d) - Speed Restriction Compliance Rate - Rapid-Climb Compliance Rate - Go-Around Success Rate resulting in zero wildlife conflict		

	1B. Validate the effectiveness of the SEIs in the State through the analysis of MOR and VOR and accident/ incident investigations (apply safety management methodologies)	2027-2028	States	States; ICAO, Industry	- Reduction in Unexpected wildlife Encounters - Wildlife Activity Abundance Trend	High	Analysis of Mandatory/Voluntary Occurrence Reporting (MOR/VOR) systems related to WILD
	1C – Identify additional contributing factors	2027-2028	States	States; ICAO, Industry	Number of additional contributing factors to WILD occurrences identified and documented	Medium	Surveillance and monitoring activities
	1D – Ensure the development and the implementation of further SEIs to mitigate the risk of the identified contributing factors, if any, for	2027-2028	States	States; ICAO, Industry	Number of additional SEIs developed and implemented.	Medium	Periodic review of national safety performance indicators related to WILD.

	WILD						
	1E – Continuously evaluate the effectiveness of the SEIs.	2027-2028	States	States; ICAO, Industry	Trend analysis of WILD occurrences and effectiveness ratings of implemented mitigations.	Medium	Continuous monitoring through safety management and SSP/SMS processes.
G1-SEI-BW-2 **Mitigate contributing factors to WILD accidents and incidents at the regional level**	2A – Promote the Implementation of the following WILD safety actions: a) Control of the Vegetation for example Maintain airfield grass at a uniform, precise height (typically between 10–15 cm) b) Water Management for example Grade land to eliminate pooling, enclose open drainage ditches c) use deterrents to systematically harass and clear the area:	2027-2028	AASPG	States; Industry	• Number of states that are reporting Wildlife strikes • Number of wildlife striks reported per State • Number of wildlife strikes causing damage to aircraft per State • Number of States in the region that developed WILD guidance and frameworks.	Medium	Regional safety reports and AASPG progress updates

	- Acoustics & Pyrotechnics - Biological Deterrents - Advanced Tracking and Technology d) Modify some flight procedures to mitigate the risk. - Speed Restrictions like Keeping aircraft speed below 250 knots when operating under 10,000 feet ; - Modify Climb Profiles for example us eof rapid-climb procedures - Strategic Go-Arounds by allowing ground crews time to clear the airfield.						
	2B – Support States in developing and implementing Wildlife Hazard Management	2027-2028	AASPG	States; Industry	Percentage of certified aerodromes implementing Wildlife Hazard Management Programmes (WHMPs).	medium	Regional workshop attendance records and activity evaluation reports

	Programmes (WHMPs) at certified aerodromes through technical guidance and capacity-building initiatives.				Number of regional wildlife hazard management workshops, seminars, or safety promotion campaigns conducted annually.		
	2C – Identify additional contributing factors	2027-2028	AASPG	States; Industry	• Number of regional studies or safety analyses completed on WILD precursors.	Medium	Quarterly reporting of regional occurrence data to the AASPG Safety Management and Oversight Sub-Group (SMO/SG).
	2D – Develop and implement further SEIs to mitigate the risk of the identified contributing factors, if any, for WILD	2027-2028	AASPG	States; Industry	• Number of new regional mitigation strategies established.	Medium	Regional implementation monitoring and progress reports.
	2E – Continuously evaluate the effectiveness of the SEIs	2027-2028	AASPG	States; Industry	• Trend analysis of WILD occurrences and effectiveness ratings of implemented mitigations.	Medium	• Annual review reports on regional WILD reduction initiatives.
G1-SEI-BW-3 **Mitigate contributing factors to WILD**	3A – Implement the following WILD safety actions: a) Control of the	2027-2028	Industry	States; Industry	• Percentage of aerodrome operators integrating WILD precursors into their	High	Operator internal quality audits and safety management reviews.

accidents and incidents at the service provider level	Vegetation for example Maintain airfield grass at a uniform, precise height (typically between 10–15 cm) b) Water Management for example Grade land to eliminate pooling, enclose open drainage ditches c) use deterrents to systematically harass and clear the area: - Acoustics & Pyrotechnics - Biological Deterrents - Advanced Tracking and Technology d) Modify some flight procedures to mitigate the risk. - Speed Restrictions like Keeping aircraft speed below 250 knots when operating				management program. • Percentage of air operators integrating WILD precursors into their FDAP. • Rate of wildlife strikes per 10,000 aircraft movements. □ Rate of damaging wildlife strikes per 10,000 aircraft movements.		

	under 10,000 feet ; - Modify Climb Profiles for example use of rapid-climb procedures - Strategic Go-Arounds by allowing ground crews time to clear the airfield.						
	3B – Implement and maintain a Wildlife Hazard Management Programme (WHMP) as part of the organization's Safety Management System (SMS), based on regular wildlife hazard assessments.	2028	Industry	States; Industry	□ Percentage of scheduled wildlife hazard assessments completed on time. □ Percentage of planned wildlife habitat management actions completed.	High	SMS safety assurance reports submitted to regulatory authorities
	3C – Identify additional contributing factors.	2027-2028	Industry	States; Industry	• Number of internal hazard identification reports addressing WILD risks.	Medium	Internal safety committee reviews and hazard log updates.

	3D – Develop and implement further SEIs to mitigate the risk of the identified contributing factors, if any, for WILD	2027-2028	Industry	States; Industry	• Number of operational mitigations deployed by aerodromes operators and air operators	Medium	Aerodrome operator and Airline safety performance tracking.
	3E – Continuously evaluate the effectiveness of the SEIs.	2027-2028	Industry	States; Industry	•Percentage of trends in local WILD precursor events.	High	Annual management reviews of SMS effectiveness.

R-ORC 10 : LARGE HEIGHT DEVIATION (LHD)							
Goal 1: Achieve a continuous reduction of operational safety risks **Target 1.1:** ***By 2028, AFI States and industry to decrease the accident rate.*** **Target 1.2:** ***By 2028, AFI Region, States and industry to decrease the rate of accidents and serious incidents for each regional high-risk category (R-HRCs)*** **Target 1.3:** ***By 2028, AFI Region, States and industry to decrease the rate of accidents and serious incidents related to other regional risk categories (R-ORC) of occurrences.***							
Safety Enhancement Initiative	**Action**	**Timeline**	**Responsible entity**	**Stakeholders**	**Metrics/Indicators**	**Priority**	**Monitoring Activity**
G1-SEI-LHD-1 **Mitigate contributing factors to LHD accidents and incidents at the national Level.**	1A – Ensure the Implementation of the the following LHD safety actions: a) Systemic and Air Traffic Control Mitigations : - Electronic Letters of Agreement (e-LOAs) and System Integration - Automated Trajectory Alerts - Mandatory RMA Reporting & Trend Tracking b) Flight Deck and	Q4 2027	States	States; ICAO); Industry	• Rate of Large Height Deviations (LHDs) per 100,000 flight hours. • Number of LHD occurrences attributable to ATC actions. • Number of LHD occurrences attributable to flight crew actions. • Number of LHD occurrences associated with communication or coordination errors.	High	• Review of Mandatory Occurrence Reports (MORs) and Voluntary Occurrence Reports (VORs). • Monitoring of Large Height Deviation (LHD) occurrences through Regional Monitoring Agency (RMA) reports. • SSP safety performance monitoring and trend analysis. • State surveillance

	Operational Mitigations : -Strategic Lateral Offset Procedures (SLOP) -Strict Verification Protocols (The "Read-Back, Hear-Back" Loop) -Robust Pilot Contingency Training on LHD actions.						and oversight activities of operators and ANSPs. • Review of implementation status of corrective and preventive actions arising from LHD occurrences. • Annual State safety performance reporting to AASPG.
	1B – Validate the effectiveness of the SEIs in the State through the analysis of MOR and VOR and accident/ incident investigations (apply safety management methodologies)	2027-2028	States	States; ICAO; Industry	• Number of LHD reports analysed through MOR and VOR systems. • Number of LHD events investigated using safety risk management methodologies. • Percentage in recurrent LHD occurrences. Number of corrective actions implemented following LHD investigations.	High	• Analysis of State MOR and VOR reports. • Review of accident and incident investigation reports. • SSP safety performance monitoring. • Regional Monitoring Agency (RMA) reports. State annual safety reports submitted to AASPG.

	1C – Identify additional contributing factors.	2027-2028	States	States; ICAO; Industry	• Number of additional contributing factors identified. • Number of LHD hazards entered into SSP hazard registers. • Number of safety risk assessments conducted relating to altitude deviations.	Medium	• Review of MOR and VOR databases. • Analysis of RMA reports. • Occurrence trend analysis. • Safety risk assessments performed by States.
	1D – Ensure the development and the implementation of further SEIs to mitigate the risk of the identified contributing factors, if any, for LHD.	2027-2028	States	States; ICAO; Industry	• Number of additional LHD mitigation measures developed. • Number of additional SEIs implemented. • Percentage of corrective action plans completed.	Medium	• State implementation reports. • SSP performance reviews. • AASPG SMO/SG progress reports.
	1E – Continuously evaluate the effectiveness of the SEIs.	2027-2028	States	States; ICAO; Industry	• Percentage in LHD occurrence rate. • Percentage in severe RVSM deviation events. Number of SEIs verified as effective.	High	• Annual safety performance review. • RMA monitoring reports. AASPG safety performance monitoring.

G1-SEI-LHD-2 **Mitigate contributing factors to LHD accidents and incidents at the regional Level.**	2A – Promote the Implementation of the following LHD safety actions: a) Systemic and Air Traffic Control Mitigations : -Electronic Letters of Agreement (e-LOAs) and System Integration -Automated Trajectory Alerts -Mandatory RMA Reporting & Trend Tracking b) Flight Deck and Operational Mitigations : -Strategic Lateral Offset Procedures (SLOP) -Strict Verification Protocols (The "Read-Back, Hear-Back" Loop) -Robust Pilot Contingency Training on LHD actions	2027-2028	AASPG	States; Industry	• Number of AFI States implementing LHD mitigation measures. • Number of AFI States participating in RVSM safety monitoring programmes. • Number of States participating in regional workshops, seminars, or awareness activities conducted on LHD prevention. • Percentage of AFI States submitting LHD occurrence data to the Regional Monitoring Agency (RMA). Number of regional safety recommendations issued relating to LHD occurrences.	High	• AASPG SMO/SG reports. • Regional implementation surveys. • RMA annual performance reports. Regional safety reports.
	2B – Strengthen collaboration with Regional Monitoring Agencies (RMAs)	Ongoing	AASPG	State and Industry	• Number and percentage of States reporting LHD	Medium	• Annual RMA Reports. • RVSM safety monitoring reports.

	to monitor RVSM performance, aircraft height-keeping performance, and regional LHD trends.				occurrence data to regional monitoring mechanisms. • Number of coordination meetings conducted between States, ANSPs, and the RMA. • Percentage of AFI States meeting RVSM monitoring requirements. • Number of LHD reports received, analysed, and disseminated by the RMA. • Number of RVSM safety assessments completed by the RMA. • Percentage in unresolved LHD-related safety concerns identified through RMA monitoring activities.		• AASPG performance review meetings. • Regional safety reports.
	2C – Identify additional contributing factors	2027-2028	AASPG	States; Industry	• Number of regional contributing factors identified.	Medium	• Regional occurrence data analysis. • RMA reports.

					• Number of regional risk assessments conducted. • Number of cross-border coordination issues identified.		AASPG safety reviews.
	2D – Develop and implement further SEIs to mitigate the risk of the identified contributing factors, if any, for LHD	2027-2028	AASPG	States; Industry	• Number of additional regional SEIs developed. • Number of States participating in implementation. • Percentage implementation of regional action plans.	Medium	• AASPG implementation reports. • Regional surveys. • RMA reports.
	2E – Continuously evaluate the effectiveness of the LHD	2027-2028	AASPG	States; Industry	• Percentage in regional LHD occurrence rate. • Percentage in RVSM-related safety events. • Number of regional SEIs assessed as effective.	High	• Annual AFI Safety Report. • RMA annual monitoring reports. • AASPG performance review activities.
G1-SEI-LHD-3 **Mitigate contributing factors to LHD accidents and incidents at the service**	3A – Ensure strict adherence to standardized operating procedures (SOPs) for altitude assignment, read-back/hear-back,	Continuous	Industry	Airlines, ANSPs	• Number of communication or read-back/hear-back errors associated with altitude deviations. • Percentage of flight	Medium	• SMS safety performance monitoring and trend analysis. • Analysis of Mandatory Occurrence Reports

provider level.	level change requests, and contingency procedures in accordance with ICAO PANS-ATM and company procedures.				crews and air traffic controllers completing recurrent RVSM and altitude management training.		(MORs) and Voluntary Occurrence Reports (VORs). • Flight Data Monitoring (FDM) / Flight Operations Quality Assurance (FOQA) programme reviews. • ANSP operational occurrence monitoring and ATS incident reporting. • Internal audits and safety assurance activities. • Monitoring of corrective and preventive action plans arising from LHD occurrences. • State surveillance and oversight findings. Review of Regional Monitoring Agency (RMA) reports applicable to operators and ANSPs

	3B – Validate the effectiveness of the SEIs in industry using data provided by States and industry (apply safety management methodologies)	Continuous	Industry	Airlines, ANSPs	• Number of LHD occurrences analysed within SMS. • Number of operator and ANSP safety investigations completed. • Percentage in repeat altitude deviation events. • Number of corrective actions implemented.	High	• SMS performance reports. • Flight Data Monitoring (FDM) reports. • ANSP occurrence reporting systems. • Internal safety review reports.
	3C – Identify additional contributing factors	Continuous	Industry	Airlines, ANSPs	• Number of additional contributing factors identified by operators and ANSPs. • Number of LHD-related safety risk assessments conducted. Number of hazards entered into SMS hazard registers.	Medium	• SMS occurrence analysis. • FDM programmes. Internal safety investigations.
	3D – Develop and implement further SEIs to mitigate the risk of the identified contributing	Continuous	Industry	Airlines, ANSPs	• Number of additional SEIs developed.	Medium	• SMS monitoring activities. • Internal audits. ANSP and operator safety reviews.

	factors, if any, for LHD				• Number of mitigation measures implemented. • Percentage of completed corrective action plans.		
	3E – Continuously evaluate the effectiveness of the SEIs.	Continuous	Industry	Airlines, ANSPs	• Percentage in industry LHD occurrence rate. • Percentage in altitude deviations attributable to flight crew and ATS actions. • Number of SEIs verified as effective.	High	• SMS annual performance reviews. • FDM trend analysis. • Internal audit findings. State surveillance and oversight activities.

R-ORC 11: Turbulence Encounter (TURB)
Goal 1: Achieve a continuous reduction of operational safety risks **Target 1.1:** ***By 2028, AFI States and industry to decrease the accident rate.*** **Target 1.2:** ***By 2028, AFI Region, States and industry to decrease the rate of accidents and serious incidents for each regional high-risk category (R-HRCs)*** **Target 1.3:** ***By 2028, AFI Region, States and industry to decrease the rate of accidents and serious incidents related to other regional risk categories (R-ORC) of occurrences.***

Safety Enhancement Initiative	Action	Timeline	Responsible entity	Stakeholders	Metrics/Indicators	Priority	Monitoring Activity
G1-SEI-TURB-1 Mitigate contributing factors to TURB accidents and incidents at the national level	1A – Implement the following TURB safety actions: a) Establish a requirement for the provision of real time information related to Turbulence b) Establish a programme for enhancing the appropriate provision and distribution of SIGMET c) Establish a programme for enhancing the appropriate provision and distribution of meteorological reports (aerodrome routine meteorological reports (METAR), aerodrome special meteorological reports (SPECI)) and forecasts (aerodrome forecasts (TAF), trend	2026-2028	States	ICAO, Industry	a) - Number of turbulence reports transmitted to pilots per day/month - Percentage of flights receiving turbulence information through data link b) Number of SIGMETs issued versus validated meteorological events c) - Percentage of aerodromes providing METAR/SPECI/TAF services - Percentage of reports (METAR, SPECI, TAF) issued on schedule		Number of contributing factors to TURB occurrences

	forecasts) at aerodromes d) Establish routine availability of the World Aeronautical Forecast Systems (WAFS) forecasts for inclusion in in-flight briefings and documentation e) Consider the implementation of wake turbulence recategorization, only if it improves the existing safety criteria g) Promote the sharing of research, experiences, data and best practices relating to the forecasting and management of turbulence encounters h) Improve the availability of air-reports, including special air-report (ARS), especially those made routinely and containing quantitative turbulence information (in other				d) Percentage of flight briefings containing World Aeronautical Forecast Systems (WAFS) turbulence forecasts e) Number of airports implementing Wake Turbulence Recategorization g) Number of turbulence-related workshops conducted annually h) - Number of air-reports received per 1,000 flights		

	words, eddy dissipation rate)						
	1B – Validate the effectiveness of the SEIs in the State using data provided by States and industry (apply safety management methodologies)	2026-2028	States	ICAO, Industry	b)Number of reports related to TURB analysed	High	State safety reports and investigation findings.
	1C – Identify additional contributing factors, for example: a) Seasonality, rough terrain and location b) Weather and convective activity c) Jet stream/clear air turbulence d) Wake vortex e) availability of timely weather reporting	2026-2028	States	ICAO, Industry	c) Number of contributing factors to TURB occurrences	Medium	Occurrence data analysis.
	1D – Develop and implement further SEIs to mitigate the risk of the identified contributing factors, if any, for TURB	2026-2028	States	ICAO, Industry	d) Number of additional SEI's developed	Medium	SSP and NASP reviews.

	1E – Continuously evaluate the effectiveness of the SEIs.	2026-2028	States	ICAO, Industry	e) Number of contributing factors to TURB occurrences	High	Annual safety performance reviews.
G1-SEI-TURB-2 **Mitigate contributing factors to TURB accidents and incidents at the regional level**	2A – Implement the following TURB safety actions: a) Promote the provision of real time information related to turbulence with all Aircraft b) Promote the establishment of SIGMET services, including the issuance and dissemination of SIGMET c) Encourage the establishment of a Meteorological Watch Office at international airports d) Promote enhancing the appropriate production and use of meteorological reports (METAR, SPECI) and forecasts	2026-2028	SMO-SG	States, Industry	a) Percentage of flights receiving real-time turbulence information b) Number of SIGMETs issued monthly c) Meteorological Watch Office Meteorological Watch Office d) Timeliness of METAR/SPECI issuance e) % of flight briefing packages containing	High	AASPG reports and regional safety reports.

	(TAF, trend forecasts) at aerodromes e) Encourage availability of the WAFS forecasts for inclusion in in-flight briefings and documentation f) Promote the implementation of wake turbulence recategorization, only if it improves the existing safety criteria g) Encourage the application of time- or distance-based separation minima, as per Doc 4444, Procedures for Air Navigation Services – Air Traffic Management (PANS-ATM) h) Encourage States to share research, experiences, data and best practices relating to the forecasting and management of turbulence encounters				WAFS forecasts f) Percentage of aircraft movements operating under Wake turbulence recategorization procedures g) Number of wake turbulence-related separation events h) Number of safety recommendations implemented from shared lessons learned i) Number of air reports received per 1,000 flights		

	i) Improve the availability of air-reports in the region, including ARS, especially those made routinely and containing quantitative turbulence information j) ensure that State air navigation deficiencies related to MET identified in the region are addressed				j) - Number of MET deficiencies identified - Number of MET deficiencies resolved		
	2B – Validate the effectiveness of the SEIs in the region using data provided by States and industry (apply safety management methodologies)	2026-2028	SMO-SG	States, Industry	Number of reports related to TURB analysed	High	Annual AFI safety review.
	2C – Identify additional contributing factors	2026-2028	SMO-SG	States, Industry	Number of contributing factors to TURB occurrences	Medium	Regional occurrence analysis.
	2D – Develop and implement further SEIs to mitigate the risk of the identified contributing factors, if any, for TURB	2026-2028	SMO-SG	States, Industry	Number of additional SEI's developed	Medium	AASPG implementation reports.

	2E – Continuously evaluate the effectiveness of the TUB	2026-2028	SMO-SG	States, Industry	Number of contributing factors to TURB occurrences	High	Regional safety dashboards and annual reports.
G1-SEI-TURB-3 **Mitigate contributing factors to TURB accidents and incidents at the service provider level**	3A – Implement the following TURB safety actions: ANSPs a) Provide real time information related to turbulence with all aircraft b) Provide a sufficient number of ATCOs during periods with forecasted severe convective weather c) Use of weather radars and weather displays to enhance information provided to controllers d) Use SIGMET and associated weather forecasts to improve prediction of sector loading e) Train controllers to deal with weather during	2026-2028	Industry	States	a) Number of turbulence advisories issued per month b) Number of staffing shortages during forecast convective weather events c) Percentage of controller positions equipped with operational weather displays d) Percentage of traffic management plans incorporating weather forecasts e) Percentage of controllers receiving	High	Safety oversight activities. SMS reports. Training records.

	live training; use simulator training to build in more resilience in controller skills f) Help mitigate the impact of severe weather avoidance by air traffic on the ATCO's workload by the operational supervisor taking additional actions to establish possible tactical measures with the help of local flow management position g) Implement wake turbulence recategorization, only if it improves the existing safety criteria h) Implement time or distance-based separation minima, as per Doc 4444, Procedures for Air Navigation Services – Air Traffic Management (PANSATM) Meteorological Service				recurrent weather/turbulence training annually f) Number of tactical measures implemented during severe weather events g) Number of wake turbulence occurrences after Wake turbulence recategorization h) Percentage of eligible operations using Time-Based or Distance-Based Separation procedures		

	Providers i) Enhance the appropriate production and use of meteorological reports (METAR, SPECI) and forecasts (TAF, trend forecasts) at aerodromes j) Make available the WAFS forecasts for inclusion in in-flight briefings and documentation k) Establish the appropriate issuance and timely dissemination of SIGMET Air Operators l) Establish policies and procedures for the completion of air-reports, including ARS, especially those made routinely and containing quantitative turbulence information (in other words, eddy dissipation rate) m) Establish policies, procedures and train				i) - METAR issuance compliance rate - SPECI issuance compliance rate - TAF availability rate j) Percentage of flight briefing packages including WAFS turbulence forecasts k) SIGMET issuance compliance rate l) Percentage of flights submitting turbulence reports when encountered		

	flight crew members on weather radar capability, awareness of the flight environment, weather avoidance, managing adverse weather conditions and effective communication with cabin crew members, including timely forecast sharing n) Establish policies, procedures and training for cabin crew members on effective management of the cabin related to turbulence through prompt and effective information-sharing with flight crew, and awareness of their own safety by securing themselves o) Establish policies, procedures and training for aircraft dispatchers and/or flight operations officers to increase the awareness of turbulence avoidance				m) Percentage of flights submitting turbulence reports when encountered n) Percentage of cabin crew completing turbulence management training annually o) - Percentage of dispatchers trained on		

	p) Implement existing turbulence information-sharing platforms to share turbulence data and provide real time turbulence information to flight crew q) Enhance the effectiveness of safety briefings to passengers relating to turbulence encounters, to reduce risk (for example, fastening seat belts while seated)				turbulence avoidance procedures - Number of weather-risk assessments conducted before flight dispatch p) Percentage of fleet connected to turbulence reporting platforms q) Percentage of flights delivering turbulence safety briefings		
	3B – Validate the effectiveness of the SEIs in industry using data provided by States and industry (apply safety management methodologies)	2026-2028	Industry	States	Number of reports related to TURB analysed	High	SMS and FDM reports.
	3C – Identify additional contributing factors: a) Seasonality, rough terrain and location b) Weather and				Number of contributing factors to TURB occurrences	Medium	Safety risk assessments.

	convective activity c) Jetstream and clear air turbulence d) Wake vortex e) Availability of timely weather reporting f) Lack of training on turbulence conditions, prediction and avoidance for ATCO, aircraft dispatchers (flight operations officers) and air crew g) Ineffective SOPs and preflight safety briefings with cabin crew h) Inadequate aircraft separation for aircraft types and prevailing weather conditions						
	3D – Develop and implement further SEIs to mitigate the risk of the identified contributing factors, if any, for TURB	2026-2028	Industry	States	Number of additional SEI's developed	Medium	Internal audits and SMS reviews.
	3E – Continuously evaluate the effectiveness of the SEIs.	2026-2028	Industry	States	-Number of contributing factors to TURB occurrences - Percentage of turbulence-related injuries and occurrences.	High	Annual SMS effectiveness assessments.