Session 8

States' Experience in NASP Development

Overview

- ICAO NASP Library
- Common challenges
- NASP development process
- Identification of national safety issues & drafting of goals/targets
- Post-publication & NASP life cycle
- Lessons learned & best practices

ICAO NASP Library

- ICAO posts NASPs on the NASP Library website
  - www.icao.int/nasplibrary
- NASPs posted only with State authorization
  - documents are publicly available
  - unrestricted content
  - demonstrates transparency in safety planning
- Allows ICAO to track NASP progress globally
  - promotes sharing of best practices

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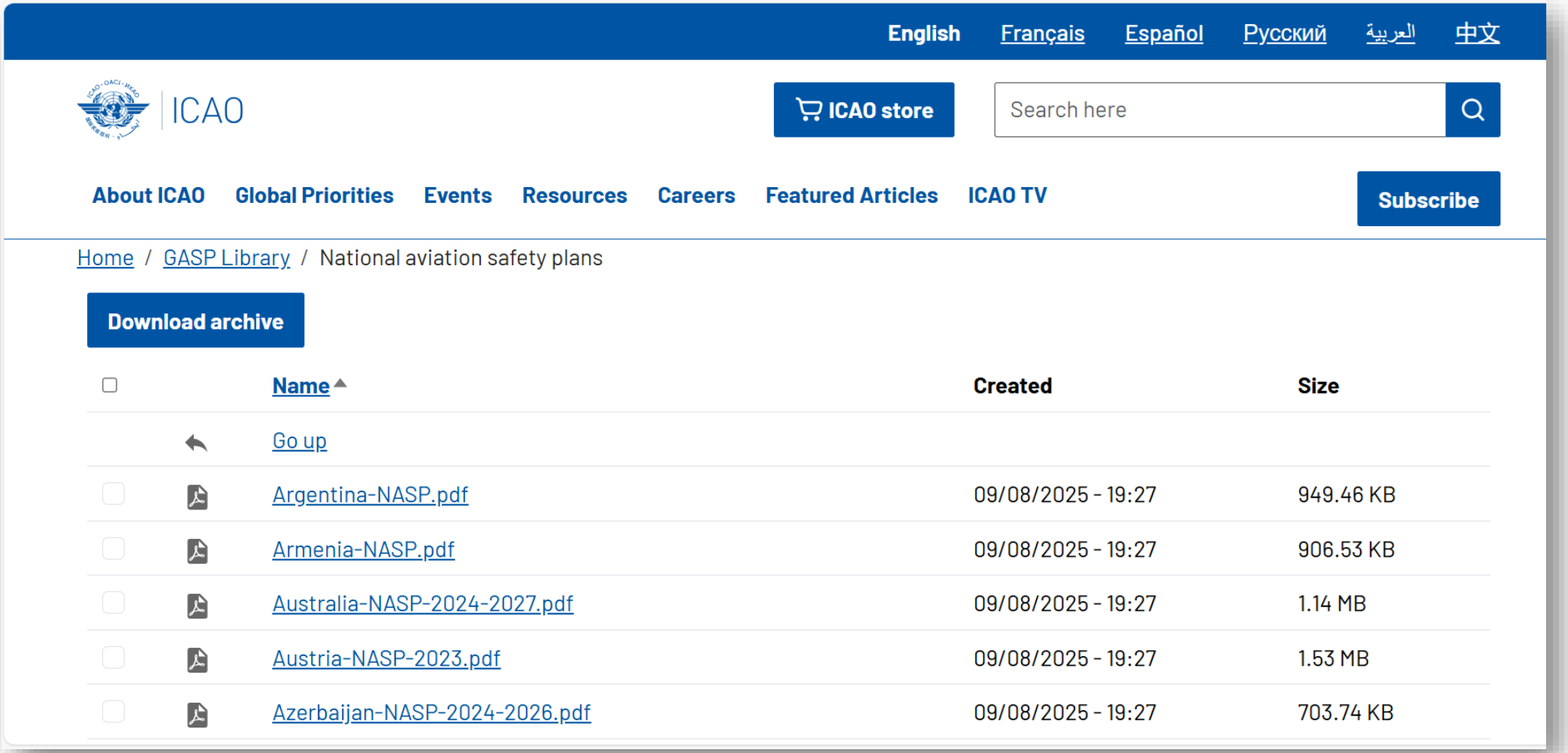
www.icao.int/nasplibrary



Common Challenges

- Stakeholder management for NASP development & implementation
  - agreement with NASP content
  - action plan implementation
  - interaction between State agencies outside CAA (AIA, SAR, Defence…)
  - industry involvement
- Securing commitment & resources for NASP implementation
  - formal approval process
- How to identify issues + write goals & targets
  - what to include?
  - how much to rely on GASP & RASP?
- Post-publication activities
  - how to keep momentum?
  - tracking progress
  - managing revisions & updates

NASP Development Process & Team

- How identify/manage different entities?
  - State agencies (CAA, AIA, SAR, Defence, etc.)
  - SMEs/disciplines involved (OPS, AIR, ANS, etc.)
  - other stakeholders
- Whether to include industry in process?
  - service providers, manufacturers, unions, etc.
- Use of existing structure or new one?
  - to lead and oversee NASP development
  - make decisions, mainly budget-related

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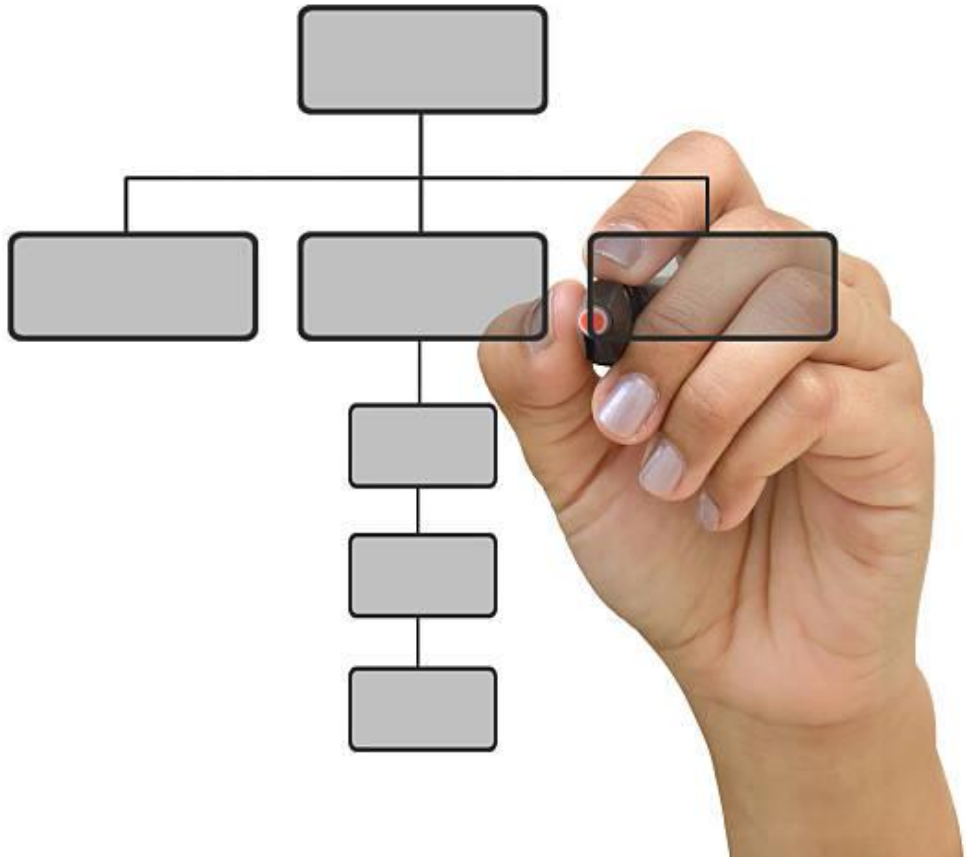
NASP Development Team

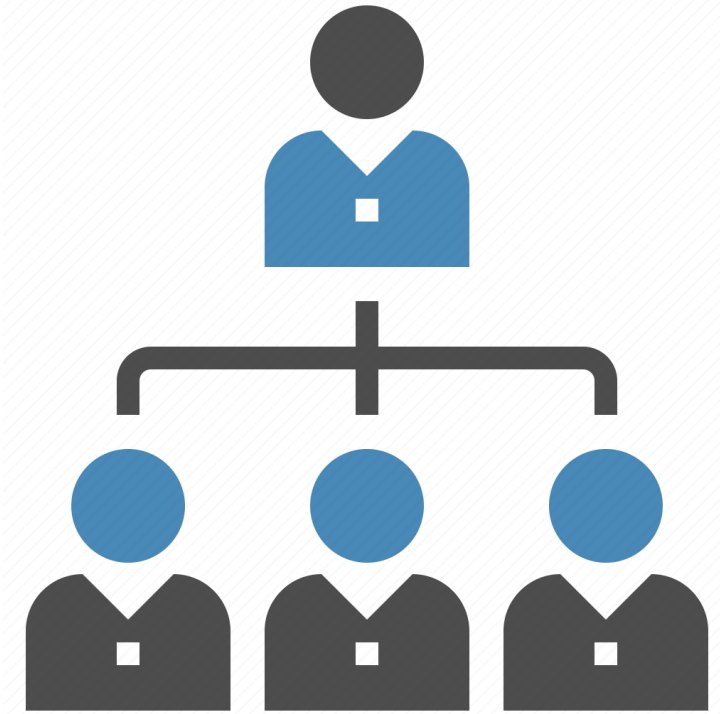
- Several factors may hinder NASP development & implementation
  - changes in personnel
  - coordination between entities within State
  - budget constraints
  - workload / other staff duties

- Need established governance structure
  - to guide development & implementation
  - overcome difficulties in implementing NASP
    - post-publication



NASP Governance Structure

- State should develop governance structure to support NASP
  - by creating series of committees / groups
  - which involve specific stakeholders
  - with pre-defined roles & responsibilities



- Governance structure may vary according to State
  - consider existence of other national plans
  - presence of SSP, if established

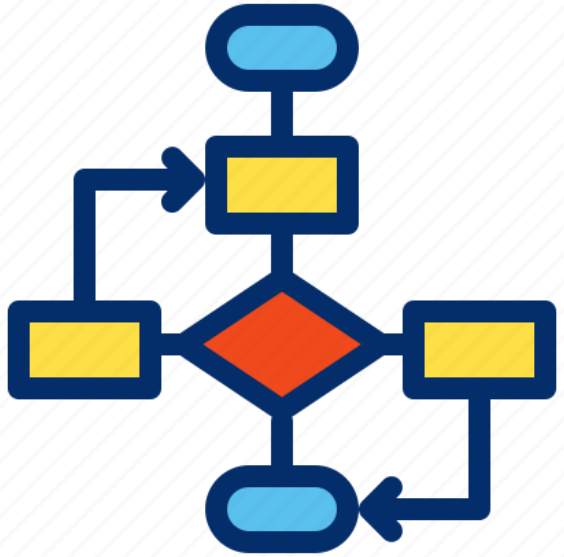
- Consider
  - who in government is “owner” of aviation portfolio (e.g. Minister)
  - who is responsible for civil aviation matters, incl. safety (e.g. in front of Parliament)
  - major agencies responsible for managing civil aviation safety

Why Establish Governance Structure?

- Bring together key stakeholders
  - engagement, collaboration and coordination
  - within set frequency (e.g. monthly, bi-annually)
- Reach consensus on national safety issues + goals & targets
- Allocate resources for NASP development & implementation
  - dedicated budget for related actions
  - availability of stakeholders (annual activities' plan / manage workload)
- Maintain accountability & responsibilities for NASP
  - document in Terms of Reference
- Discuss hurdles preventing implementation & achievement of targets

Governance Structure – Key Points

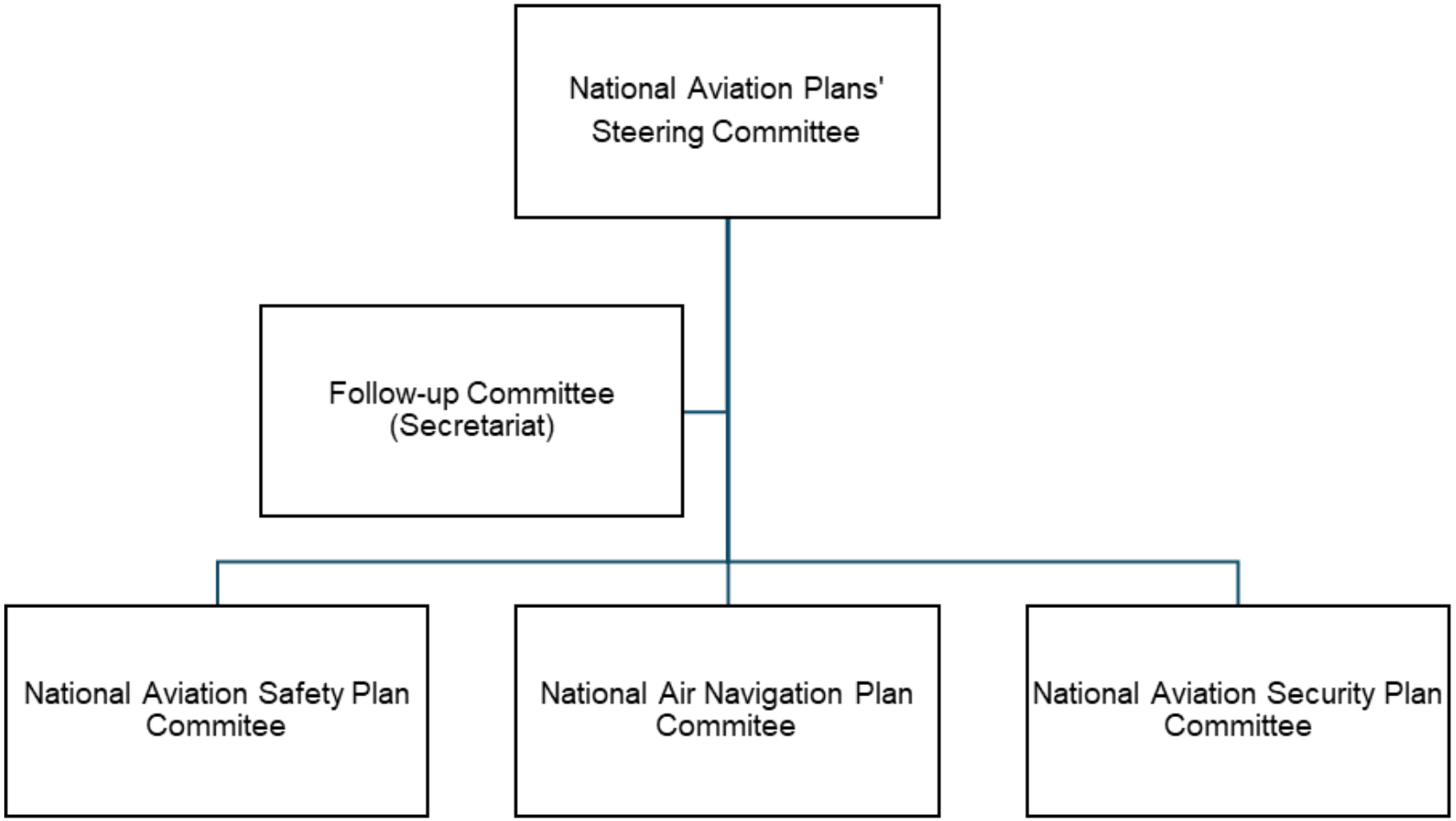
- Governance structure should include forum
  - brings together senior aviation ministerial & government agency representatives
  - in highest-level body
- Senior leadership group to address with high-level issues related to NASP
  - strategy, resource allocation, safety performance
- Group should include top-decision makers
  - who can direct resources
  - affect necessary changes at national level
- Provide senior leadership with horizontal view
  - across different national aviation plans
  - to ensure alignment
  - avoid duplication of efforts or contradictory actions between plans



Key Points (2)

- Structure should include follow-up body
  - provides Secretariat support to different groups
  - e.g. preparing meeting docs, drafting reports, coordinating follow-up actions
- Structure should also include technical groups
  - specific to each plan
  - coordinate implementation, incl. with industry
  - deal with specific safety issues
  - address implementation issues
    - in support of senior leadership group
- Provide awareness / training to all involved
  - commensurate to their role
  - understanding & setting expectations

Example of NASP Governance Structure



Example of NASP Governance Structure (2)

Committee	Members	Roles & responsibilities
National Aviation Plans' Steering Committee	Senior aviation ministerial and government agency representatives • Minister of Transport • DG of CAA • AIA President • CAA Deputy Directors • Senior leadership from service providers	• Provides strategic direction • Surveys results • Allocates resources • Accountable for NASP endorsement

Example of NASP Governance Structure (3)

Committee	Members	Roles & responsibilities
Follow-up Committee	• CAA & AIA Directors • Functional Managers of different government agencies • Coordinators	• Provides Secretariat functions • Prepares meetings • Ensures follow-up of decisions and actions

Example of NASP Governance Structure (4)

Committee	Members	Roles & responsibilities
NASP Committee	Members of NASP development team	• Develops NASP • Monitors implementation

Governance Structure & SSP

- If State has established SSP
  - may use existing bodies within SSP
  - to act as different groups of governance structure
- Avoids creation of parallel structures
- Enables NASP implementation to be discussed
  - in context of SSP administration

Identification of National Safety Issues

- Lack of data poses significant hurdle for State

- Use exiting data sources to support identification/prioritization of issues
  - mandatory & voluntary occurrence reports
  - investigation reports
  - surveillance activities (incl. enforcement actions)
  - information sharing / industry inputs
  - safety actions (policy development, hazard registry, safety promotion, etc.)

- Include issues from ICAO GASP & RASP

- Focus on challenges related to safety issues, enhancement of safety, or impact on operational safety
  - do not go into occupational health, commercial issues, efficiency, etc.

Example: France NASP

Hazard identification
OPS10 - Entering / modifying aircraft parameters while taxiing

Determination of consequences
AO AC 4.8 – Runway incursion (as per Horizon 2023 Risk Map)

Probability / severity analysis of consequence
Probability: possible
Severity: serious

Risk assessment
Risk : high

Risk acceptance:
Unacceptable

Risk mitigation:
Implementation / Review of taxiing procedures
Implementation / Review of pilot practice sessions
Airline safety culture adjustment
Example to be used during training (lessons learned)

Example: France NASP

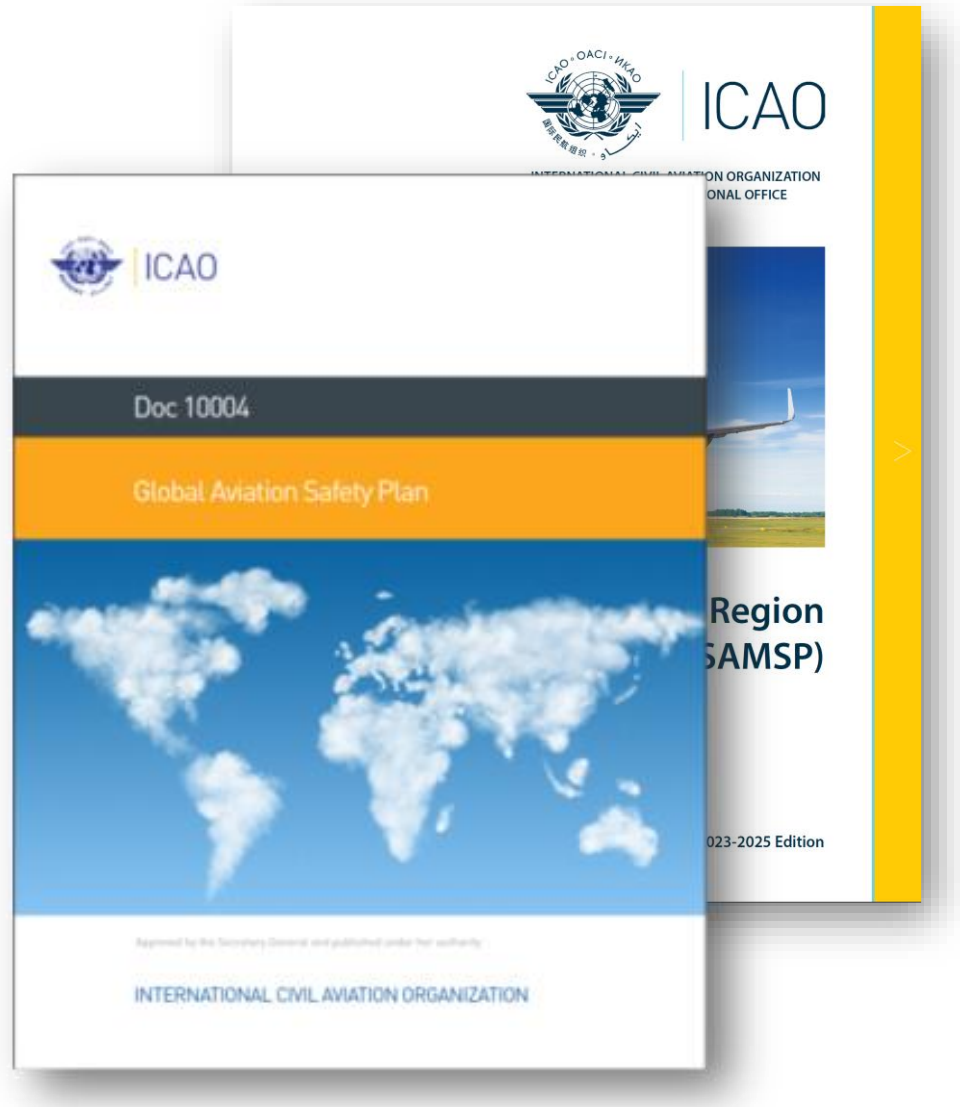
Reference	Safety issue	CFIT	LOC-I	Mid-air collision	Ground collision	Runway excursion	Damage / injuries in flight	Damage / injuries on the ground	Smoke fire pressurisation
ADR 9	Lack of bird and other wildlife hazard management		●		●	●	●	●	●
ADR 10	Ground-air interface failure (misunderstanding, inappropriate transmission of information, etc.)	●	●	●	●	●	●	●	●
ADR 11	Fire-fighting equipment inoperative or ineffective for Aircraft rescue and fire-fighting service							●	●
ADR 12	FOD (FOD on runway, ingestion or projection, aircraft damage)		●			●	●	●	●
ADR 13	Engine blast (projections of objects, damage to aircraft)	●	●		●			●	
ADR 14	Raising of protective surfaces and condition of the strip	●			●			●	

Drafting Goals & Targets

- Be clear on links to safety
  - use data to support goals & targets
  - linked to identified safety issues
- Aim measurable deliverables & realistic timelines
  - when drafting targets and indicators
  - identify clear milestones, deliverables, internal metrics and responsible stakeholders
- Do not overcomplicate or overextend
  - break long-term / large projects into several achievable targets
  - verify that actions to reach targets are achievable within timeframe
  - if final deliverable extends beyond timeframe, set achievable milestones within NASP edition
- Use resources & collaborate with ICAO / other entities
  - to support NASP development & implementation

Use of GASP & RASP in Development Process

- Use of GASP / RASP Goals & Targets
  - to develop NASP ones
- Use of SEIs in Roadmap
  - to develop NASP action plan
- Cross-reference to GASP & RASP
  - for alignment / completeness



Example: United Kingdom NASP

Example: Australian NASP

Figure 1: Australia's safety goals and their alignment with global and regional priorities

GASP Goals	1. Achieve a continuous reduction of operational safety risks	2. Strengthen States' safety oversight capabilities	3. Implement effective State Safety Programmes	3. Implement effective State Safety Programmes	4. Increase collaboration at the regional level	5. Expand the use of industry programmes and safety information sharing networks by service providers	6. Ensure appropriate infrastructure is available to support safe operations
AP-RASP Goals	1. Reduce operational risks	2. Improve States' safety oversight & compliance	3. Consistent & effective SMS & SSP	4. Data-driven regulatory oversight			5. Enhanced aviation infrastructure
State Safety Goals	1. Improve the safety of Australian aviation operations across all sectors	2. Strengthen Australia's safety oversight and investigation capabilities	3. Enhance the effectiveness of Australia's State Safety Programme through safety intelligence	3. Enhance the effectiveness of Australia's State Safety Programme through safety intelligence	4. Increase collaboration at global and regional levels to enhance aviation safety	5. Enhance greater safety programme collaboration between Australian industry, industry associations and State agencies	6. Ensure Australia has the appropriate aviation infrastructure to support safe operations

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Example: United Arab Emirates NASP

Safety Enhancement Initiative (SEI)	Action	Timeline	Responsible Entity	Stakeholders	Monitoring Activity
SEI-1 (CFIT) Reduce risk factors for CFIT. **GASP HRC-1**	1. Consider the implementation of continuous descent final approaches (CDFA))	2024-2026	GCAA ANSP's	1- Aircraft Operators 2- Instrument Flight procedure designers (IFPD)	Airspace change Approval process
	2. Ensure the accuracy and timeliness of Electronic Terrain and Obstacle Data (ETOD).	2024-2026	SZC-AIM (Area 1) Aerodrome Operators (other areas)	1- Aeronautical survey service provider (ASSP) 2- ANSP's	Oversight activities for (ASSP & Obstacles control)

Example: Singapore NASP

Action		Lead	Completion
D.1	Develop requirements and guidance on data sharing and governance to facilitate the exchange of data and information (with relevant safeguards) between CAAS and industry	CAAS	2022
D.2	Expand sources of safety data and information in the SDCPS to support risk-based safety oversight	CAAS	2022
D.3	Identify and address operational risks through the implementation of the following data projects: • Go-around study at Changi Airport • LOC-I events • Development of flight data management dashboar	CAAS	2022
D.4	Improve the user experience of public-facing digital ser delivery of regulatory services		
D.5	Implement electronic licences for aircraft maintenanc air traffic controllers to facilitate paperless end-state		

Related Safety Objective(s)	• Enhance the level of safety of Singapore's aviation operations, and in particular, to maintain zero fatal accidents involving entities under its safety oversight • Ensure that hazards in Singapore's aviation operating environment are proactively identified, and related risks assessed and mitigated to as low as reasonably practicable
Related Strategic Priorities	• Mitigate Operational Safety Risks • Enhance Regulatory Regime • Enable Enterprise and Innovation
Related GASP Goal(s)	• Goal 1: *Achieve a Continuous Reduction of Operational Safety Risks* • Goal 3: *Implement Effective State Safety Programmes*
Related AP-RASP Goal(s)	• Goal I: *Reduction in Operational Risks* • Goal IV: *Data-driven regulatory oversight*

Example: Australian NASP

NASP Goal	***5. Enhanced safety promotions programme collaboration between Australian Industry Service Providers, industry associations and State agencies.***
Safety Enhancement Initiative (SEI)	***5.1 Identify and sharing safety management best practices with Industry service providers and industry associations.***

SEI Actions		**Responsible agencies or SSP forum**	**Completion**
5.1.1	Through the National Aviation Agency Communication Working Group and other forums, identify and share safety information and best practises.	CASA	Ongoing (with annual update reporting).
5.1.2	Enhanced promotion of the understanding and benefits of positive safety culture/ 'just culture' across industry service providers (including crewed and uncrewed industry).	CASA, ATSB, Airservices	Ongoing (with biannual update reporting)
5.1.3	Enhanced promotion o management consider performance across in crewed and uncrewed		
5.1.4	Airport Collaborative D Optimise airport opera collaboration with airp sharing real-time data		

National risk or challenge area	Australia's operational safety risks. National safety risk 3: Human performance operational safety impacts. National organisational challenge 2: Enhancing State aviation safety intelligence.
AP-RASP Reference	Regional Goal III: Effective SMS and SSP. Regional Goal IV: Data-driven regulatory oversight.
GASP Reference	Global Aviation Safety Roadmap SEI-11 – Strategic collaboration with key aviation stakeholders to enhance safety in a coordinated manner. Global Aviation Safety Roadmap SEI-18 – Availability of safety data and safety information to support safety management activities at the national level (step 2). Global Aviation Safety Roadmap SEI-21 – Advancement of safety risk management at the national level.

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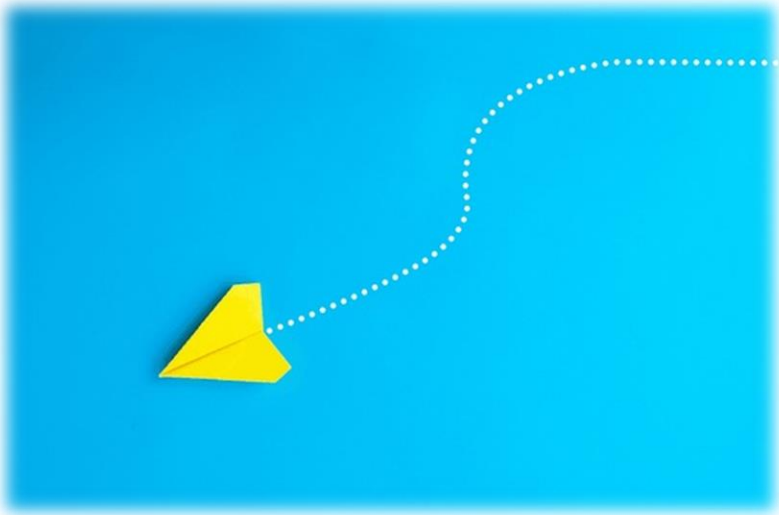
Post-publication Activities

- Post-publication is when States may see NASP lose momentum
  - SEIs are handed out to responsible entities
    - with their prior agreement
  - NASP development team may be disbanded
    - or individuals change roles

- State may have difficulties tracking progress
  - mainly on action plan implementation

- Deal with revisions & updates
  - should new safety issues arise
  - or also because of GASP & RASP updates



Maintaining Momentum

- For each SEIs
  - assign single responsible entity
  - identify other stakeholders
  - prioritize
    - to determine sequence of completion
  - determine clear monitoring activity

- Maintain NASP development team
  - different tasks assigned
  - include NASP roles & responsibilities
    - in job descriptions

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Example: Oman NASP

Issue 1 : Operational Safety Risks							
Goal 1 : Achieve a continuous reduction of operational safety risks							
Target 1.1: Maintain a zero rate of national accident							
Safety Enhancement Initiative		**Action**	**Timeline**	**Responsible entity**	**Stakeholders**	**Priority**	**Monitoring Activity**
SEI-1 — Mitigate contributing factors to the risk of CFIT	1	Implement the following CFIT safety actions:					
		a) Consider the implementation of continuous descent final approaches	2023-2025	CAA/DGAN	DGCAR Aircraft operators	M	Published Procedures
		b) Ensure the timeliness of updates and accuracy of Electronic Terrain and Obstacle Data (eTOD)	2022-2023	DGCAR	DGAN Aerodrome operators NSA DGSS	H	TOD Implementation
SEI-2 — Mitigate contributing factors to LOC-I accidents and incidents	1	Implement the following LOC-I safety actions:					
		a) Require upset prevention and recovery training in all full flight simulator type conversion and recurrent training programmes	2022	FSD	Aircraft operators	H	Approved Training programmes
	2	Develop and implement further SEIs to mitigate the risk of the identified contributing factors, if any, for LOC-I, for example					
		b) Improve regulations	2021-2024	FSD	Aircraft operators	H	Published CAR OPS

Tracking of Progress

- Define clear metrics
  - NASP targets & indicators
  - SEIs & specific actions
- Create monitoring tool
  - to track SEIs
  - achievement of NASP goals & targets
- Key functionalities
  - generate status reports
  - calculate indicators
  - flag overdue actions
  - generate dashboard

Tracking of Progress (2)

- Tool should be fit-for-purpose
  - some States made sophisticated systems
  - others use “off-the-shelf” software

- Tool does not need to be sophisticated
  - allow for reporting
  - escalation, when needed

Example: XLS Monitoring Tool

NASP IMPLEMENTATION STATUS								
SEI	Action	Responsible	Stakeholders	Priority High/Med/Low	Status Not Started / Started / Complet	Planned Finish Date mm.dd.yy	Actual Finish Date mm.dd.yy	Notes
SEI-5	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)	CAA	National air operators	High	Started	31/12/2027		Related to the HRC (CFIT, LOC-I, MAC, RE, RI, wildlife on and in airports and to terrain in the obstacle limitation surfaces). The work in progress is segmented by Operational Areas and includes data from the Safety Reporting System and FDM. The data gathered will be used to establish SPIs, SPTs and Safety Objectives.
SEI-6	Develop and implement further SEIs to mitigate the risk of the identified contributing factors	ANSP	CAA, air operators, airport operators	Med	Not Started	31/12/2028		Related to the HRC (CFIT, LOC-I, MAC, RE, RI, wildlife on and in airports and to terrain in the obstacle limitation surfaces)
SEI-7(1)	Promote the improvement of ATC systems, procedures and tools to enhance conflict management	ANSP	CAA, air operators	High	Completed	31/12/2026	01/10/2026	Since Oct, the ATS provider is using a new equipment/system for air traffic management which incorporates tools such as Medium Term Conflict Detection (MTCD)
SEI-8	Improve reliability and consistency of safety nets to provide early and dependable warning, and to reduce nuisance alerts	ANSP	CAA, air operators	High	Completed	01/01/2026	30/10/2025	

NASP Revisions & Updates

- Factors may prompt revision of NASP
  - changes in State's ops context
  - resulting from disruption events
  - or developing trends
- Team should repeat steps of NASP development process
  - ensure content still relevant
  - identify other SEIs to manage safety
- Implement process to maintain NASP
  - through governance
  - ensure NASP addresses current issues
  - + latest global & regional ones

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Reviewing Existing Goals & Targets

Consider…	*Act…*
Link between existing goal / target & identified national safety issue	• If safety issue has been addressed… • Goal / target may no longer be necessary
Availability of data needed to measure target	• Lack of data = target being impractical • Lead to removal of it from NASP
Amount of time needed to achieve target	• May just need more time (for many reasons) • Keep & extend deadline

Goal / target is unclear or misunderstood but still needed to address issue	• Problem may not stem from goal / target
	  • but how it was drafted
	  • or communicated to stakeholders
	• Rewrite may correct situation

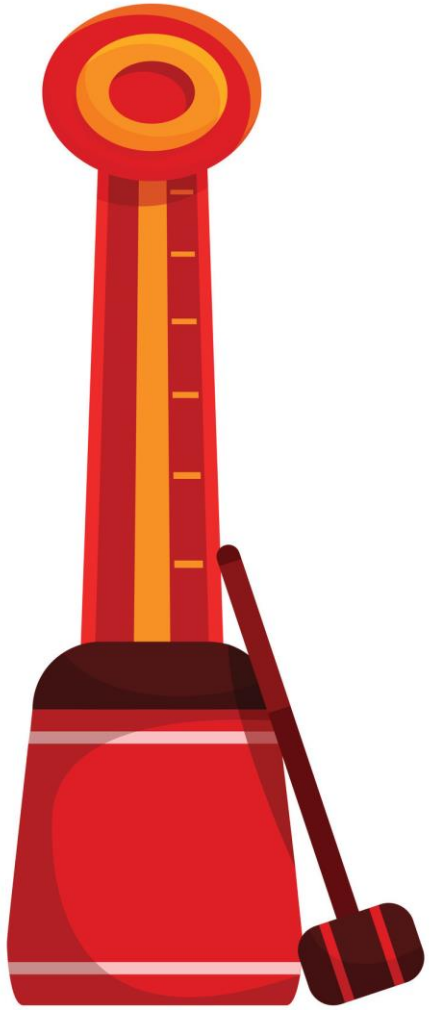
Lessons Learned & Best Practices

- Keep it simple
  - do not try to address every issue
  - limit number of goals, targets and indicators
  - limit number of SEIs
  - set realistic timelines

- Involve industry early on
  - at a minimum in consultation process
  - obtain agreement & commitment
  - encourage leadership on SEIs/actions

Lessons Learned & Best Practices (2)

- Have a governance structure
  - for pre- & post-publication of NASP
  - engage stakeholders
  - obtain commitments
- Develop a monitoring tool
  - track SEI implementation
  - measure progress of NASP targets
  - enable reporting & escalation



Points to Remember

- Important to set up governance structure
- Make use of exiting data to identify issues & draft goals
- Refer to GASP, RASP and other existing documents
- Develop monitoring tool
- Keep it simply & build from there