



This is our overview or flight plan for this presentation:

- What is the GASP
- GASP evolution
- How was GASP developed
- How to implement the Roadmap
- The role of States, Regions and Industry
- Amendment 1 to Annex 19, SSP and Regional Context
- Challenges & tools to assist
- Next steps



- Strategy which supports prioritization and continuous improvement of aviation safety
- Provides framework for development and implementation of regional, sub-regional and national plans
- Promotes harmonization and coordination of efforts aimed at improving international civil aviation safety
- Essential for the implementation of the Aviation System Block Upgrades (ASBU) presented in the GANP



ICAO introduced the first version of the GASP in 1997 by formalizing a series of conclusions and recommendations developed during an informal meeting between the Air Navigation Commission (ANC) of ICAO and industry. The GASP was used to guide and prioritize the technical work programme of the Organization and updated regularly to ensure its continuing relevance.

[Click 1] In May 2005, another meeting with industry identified a need to broaden the GASP to provide a common frame of reference for all stakeholders. Such a plan would allow a more proactive approach to aviation safety and help coordinate and guide safety policies and initiatives worldwide to reduce the accident risk for commercial aviation. It was then decided that industry representatives, from the Industry Safety Strategy Group (ISSG), would work together with ICAO to develop a common approach for aviation safety. The global aviation safety roadmap that was developed by the ISSG provided the foundation upon which the GASP 2007 edition was based.

[Click 2] In March 2006, ICAO held the Directors General of Civil Aviation Conference on a global strategy for aviation safety (DGCA/06), which welcomed the development of the global aviation safety roadmap and recommended that ICAO develop an integrated approach to safety initiatives, based on the global aviation safety roadmap, which would provide a global framework for the coordination of safety policies and initiatives.

[Click 3] In 2013, during its 38th Session, the Assembly urged ICAO to complete the

development of a global aviation safety roadmap in support of the GASP. The second High-level Safety Conference held in 2015 (HLSC 2015) agreed on the need for ICAO to develop a global aviation safety roadmap in support of the GASP, in collaboration with States, regional aviation safety groups (RASGs), aviation safety partners, and industry.

[Click 4] In 2015, ICAO established the Global Aviation Safety Plan Roadmap Group (GASPRG) to undertake necessary actions to assist the Organization in updating the GASP, particularly in relation to the development of a new global aviation safety roadmap supporting the implementation of the GASP. The GASPRG was composed of subject matter experts from States, industry, as well as regional and international organizations. It included participation by all the organizations previously involved in the ISSG.

The GASP has significantly changed since its introduction in 1997, and has evolved through continuous consultation and review. The 2014-2016 edition was published in 2013 and included GASP objectives for States to achieve through the implementation of an effective safety oversight system, a State safety programme (SSP) and safety capabilities necessary to support future aviation systems. This 2017-2019 edition updates the GASP to include a global aviation safety roadmap developed to support an integrated approach to implementation.



The 2017-2019 Edition of the GASP was developed through a group of experts, the GASP Roadmap Group, a joint Industry-Regulatory ICAO study group, and members of the ICAO Secretariat. The draft GASP was sent to all ICAO Member States for their feedback, as part of a formal consultation process. It was reviewed by the governing boards of ICAO: the Air Navigation Commission and the Council. Once approved by the Council, it was sent to all States again for discussion at the General Assembly, where it was formally endorsed for publication.



- And this is a detailed look at the proposed layout for the 2017-2019 edition
- Chapter two focuses on the ICAO safety strategy as a whole, including specific roles for all key stakeholders in terms of enhancing safety
- Chapter three focuses on existing global safety priorities, such as runway safety and emerging issues, such as flight tracking and RPAS
- A new appendix D includes safety performance indicators for States that are based on the ones currently used by the RASGS



Here are the GASP objectives, as presented in the newly endorsed GASP.

- They remain the same as in the previous version
- The timelines associated with the near- and mid-term objectives (2017 and 2022, respectively) are maintained.
- The timeline associated with the long-term objective shifted from 2027 to 2028 to align with the dates of the sessions of the Assembly, when each revision of the GASP is presented for endorsement.
- This slide provides an overview of the GASP objectives and their associated timelines.
- These objectives address a series of steps that States must complete based on the notion that States must first establish an effective safety oversight system prior to implementing an SSP.
- It is expected that all States will continually progress implementation of Standards and Recommended Practices (SARPs) in order to achieve the GASP objectives and priorities set out in the GASP.
- At the 2012 Ministerial Meeting in Africa, a target was set for all African States to attain 60 per cent effective implementation (EI) of the critical elements (CEs) of a State safety oversight system by 2017. This target was adopted by the ICAO Council and endorsed by the ICAO General Assembly as a global measure and formed the basis for the near-term objective included in the 2014-2016 edition of the GASP. It corresponds to a minimum level necessary for a State to perform effective safety

oversight and move towards SSP implementation.

- The near-term objectives, to be achieved by 2017, take into account the current level of safety oversight systems implementation at the regional and national levels. Two objectives are intended predominantly for States and the third for all aviation stakeholders. The near-term objectives are as follows:
  - 1. States lacking fundamental safety oversight capabilities are to achieve an El of at least 60 per cent overall of the eight CEs of a State safety oversight system. States should prioritize the resolution of deficiencies or findings which have the highest impact in terms of safety improvements. The USOAP protocols, used to assess implementation of ICAO provisions, are categorized according to eight CEs. ICAO's analysis indicates that implementation of CE-6, which addresses licensing, certification, authorization and/or approval obligations, is fundamental to the reduction of accident rates. Furthermore, through a root cause analysis, deficiencies in CE-6 can be traced to protocol questions in CE-1 to CE-5, which establish a safety oversight system. Each deficiency in CE-6 should therefore be associated with a specific action plan for a State's improvement efforts. Effective execution of the action plan provides the basis for prioritized compliance.
  - 2. States which have an EI of 60 per cent or greater should implement SSP, which will facilitate addressing risks specific to their aviation systems; and
  - 3. all States and stakeholders are encouraged to put in place mechanisms for the sharing of safety information through their RASGs and other regional or sub-regional fora.
- The mid-term objective calls for all States to achieve SSP implementation by 2022. Additionally, RASGs should continue to advance to mature regional monitoring and safety management programmes. As the time and effort required for SSP implementation will vary among States, the near- and mid-term objectives should be coordinated at the regional level through the RASGs.
- The long-term objective calls for States to build upon safety management practices within the SSP to develop advanced safety oversight systems, including predictive risk management. Safety analysis will be integrated into all aspects of future aviation systems and will be used to model risks prior to the implementation of operational changes.



The framework also remains the same as in the previous version.

- The GASP framework presented in this slide shows a phased strategy to improve aviation safety.
- [Click 0] The columns in the framework show the three objectives, all of which have associated timelines (as seen on the previous slide).
- [Click 1] Each row represents a safety performance enabler that creates a common thematic thread in support of the objectives throughout the GASP.
- As a State's safety oversight system matures, it progresses through the framework by addressing the objectives in a prioritized sequence. However, the process may not be completely linear and sequential.
- Parallel work may be undertaken in relation to more than one objective.
- Safety performance enablers support the achievement of the GASP objectives by providing a common thematic thread throughout the GASP.
- They were developed to facilitate the planning process and should be viewed as interrelated and interdependent elements of the GASP framework.
- The safety performance enablers are common to all the GASP objectives. The global aviation safety roadmap identifies specific safety initiatives for each safety performance enabler and global safety objective combination.
- To help guide the implementation of these initiatives, guidance material has been developed in support of each safety performance enabler, as part of the roadmap.

(Note - "Standardization" refers to the uniform and consistent implementation of ICAO provisions).



- The global aviation safety roadmap is an action plan developed to assist the aviation community in achieving the objectives presented in the GASP.
- It provides a structured, common frame of reference for all relevant stakeholders.
- The roadmap's goal is to ensure that safety initiatives deliver the intended benefits associated with the GASP objectives through enhanced coordination, thus reducing inconsistencies and duplication of effort.



The 3 phases of the Roadmap are broken down as follows:

- Safety initiatives under phase I are aimed at States lacking basic safety oversight system and whose effective implementation of the critical elements of the State's safety oversight system is below a score of 60%. The EI score assists in determining which phase of the roadmap is most applicable to a State's current level of maturity. It indicates to States their appropriate starting point within the roadmap, and assists them to determine applicable portions of the roadmap that they need to complete.
- Phase I of the roadmap is divided into two sub-phases: sub-phase I-A focuses on the establishment of an effective safety oversight framework, as per CEs 1 through 5; sub-phase I-B focuses on the implementation of an effective safety oversight system, as per CEs 6 through 8 (see Figure on slide). It is imperative that States complete both sub-phases I-A and I-B to ensure effective safety oversight before focusing on SSP implementation in phase II.
- Safety initiatives under phase II are aimed at States lacking or in the process of implementing SSP, whose effective implementation of the CEs of the State's safety oversight system is above 60%, and which are ready to progress into SSP implementation <u>as demonstrated by the presence of effective safety oversight</u> <u>capabilities based on the eight CEs</u>. Part of the initiatives call for the State to carry out a gap analysis and evaluate its readiness to begin SSP implementation.
- Safety initiatives under phase III are aimed at States that have SSP effectively implemented



- So with the previous slide in mind, this is the overall view of the roadmap. The structure of the roadmap is based on the GASP framework and objectives. The phases are named after the 3 phases of the GASP framework.
- The roadmap is divided into three horizontal streams: initiatives aimed States, those aimed at the regions (so which include States within a region but also other entities such as RSOOs, RASGs, etc.), and those aimed at industry.
- Within each stream, you may notice 4 tracks of dotted lines: these are the four enablers: standardization, resources, collaboration and safety information exchange, as they apply to the specific stakeholder. The initiatives are laid out in a sequence, and they should be accomplished in a specific order (for example, those in sub-phase IA are needed for a State to implement those in sub-phase IB). As stakeholders accomplish each safety imitative, represented by a box in this diagram, they advance through the roadmap reaching the different objectives.
- The diagram on screen is current, so each of the boxes shown are actually initiatives developed by the group. So far, they worked on phases I and II. Phase III is under development at the time of making these slides, hence why it is empty for the time being.
- Each box has a number, which links it to a detailed description of the Safety Initiative it represents. All the initiatives are presented in a standard format, based on a template created by the group.

ICAO UNITING AVIATION	
Safety Initiative Template	
General Information	<ul> <li>Global safety objective</li> <li>Safety performance enabler</li> <li>Safety initiative</li> <li>Phase of roadmap</li> <li>Stakeholders involved</li> </ul>
Actions	<ul> <li>Tasks required the implementation of a safety initiative</li> </ul>
References	<ul> <li>Documents and tools that may assist stakeholders with implementation</li> </ul>

Here is the general content of the initiatives in the standard roadmap template. If I go through it step by step, it contains the following:

a) Global safety objective – the relevant objective, as described in the GASP, to which the initiative is associated.

b) Safety performance enabler – the relevant safety performance enabler, as described in the GASP, to which the initiative is associated.

c) Safety initiative – a description of the specific safety initiative, developed by the group.

d) Phase – the specific phase or sub-phase within the roadmap to which a safety initiative is associated.

e) Stakeholder – the entity at which the initiative is addressed. There are three overarching categories: States, regions, and industry.

f) Actions – a description of tasks required the implementation of a safety initiative.

1) In phase I, CEs in parenthesis refer to the CE(s) which are addressed by a specific action (see Figure A-1).

2) In phase II, numbers in parenthesis refer to the SSP framework element number(s) which are addressed by a specific action, as presented in the SSP gap analysis checklist. See the Safety Management Manual (SMM) (Doc 9859) Appendix 7 to Chapter 4.

g) References – documents and tools that may assist stakeholders in implementing the safety initiatives and associated actions.

h) Timeframe for completion of the initiative, in order to achieve the GASP objective.



- The GASP includes initiatives to address the global safety priorities:
  - Runway safety events, including runway excursions
  - Loss of control in-flight accidents
  - CFIT accidents
- The initiatives in the GASP are aimed at individual States, regional entities such as RASGs and include collaboration with Industry. In the next edition of the GASP, more emphasis will be placed on accident categories and accident rate reduction.



- It is expected that States, regions (supported primarily by the RASGs) and industry
  will use the roadmap individually and collectively as the basis to develop action
  plans that define the specific activities which should take place in order to improve
  safety at the regional or sub-regional and national levels.
- The national, regional and industry safety plans will help stakeholders prioritize actions to achieve the objectives set out in the GASP and address the global safety priorities.
- A series of steps were included in the GASP to assist stakeholders in using the Roadmap, as a tool to help them achieve the GASP objectives.



- In conjunction with an initial review of the roadmap, States, regions and industry should first conduct a self-analysis to understand the current operational environment.
- The analysis needs to assess established capabilities, system size and level of complexity, and available resources.
- [Click 1] Safety deficiencies should be identified and will indicate the EI score and assist stakeholders to recognize which GASP objective, and associated timelines, is an appropriate starting point in the roadmap.
- [Click 2] The analysis should also identify key stakeholders with supporting capabilities, additional resources and other strengths or opportunities (external funding, support from the RASGs, etc.).
- Stakeholders will be involved in developing, implementing and sustaining the safety initiatives included in the roadmap.



- Once Step 1 has been completed, the State (or region) has sufficient information to identify the appropriate starting point within the roadmap.
- [Click 1] By reviewing the identified deficiencies and/or results of the gap analysis in comparison to the selected safety initiatives, a list of potential safety enhancement actions can be identified and selected as relevant corrective actions or mitigations.
- [Click 2] It can then select a series of safety initiatives that are needed to achieve the GASP objectives and address the global safety priorities.
- [Click 3] The safety initiatives that are selected become the basis for the national or regional safety action plan.



- The safety enhancement actions selected in Step 2 define the national, regional or industry safety plan.
- The safety plan should be reviewed and the resources (human, financial, technical, training, stakeholder commitments, etc.) necessary to complete each of the applicable safety initiatives and actions should be identified.
- [Click 1] In addition to identifying necessary resources, the ability to make the changes must also be considered. This evaluation should include the political will to change and the availability of the technology and resources necessary to implement the change.
- [Click 2] Once a list of prioritized actions has been developed according to the expected safety enhancement and necessary resources, the stakeholders should develop a plan for implementing the actions.
- [Click 3] The plan should cover a manageable set of actions that represent the steps necessary to move to the next level of maturity.
- [Click 4] Once the safety plan is finalized, a responsible party or organization should be identified to lead the implementation of each action.
- Established regional activities and organizations (e.g. the RASGs) may be able to provide implementation strategies and support.



- After the safety plan has been finalized and transferred to the organizations or individuals responsible for leading the implementation, the activities should be continuously monitored to ensure that actions are accomplished, any roadblocks to implementation are removed and the plan accommodates any newly identified gaps.
- [Click 1] Once the safety plan's actions have been completed, the steps listed in this section should be repeated in order to identify the next safety enhancement actions stakeholders may need to implement.



- New appendix in GASP provides guidance regarding safety and level of activity indicators: it includes 11 safety performance indicators and 2 level of activity indicators
- This is the first step towards development & implementation of harmonized global indicators, which can be adapted at regional, sub-regional, and national levels



Safety Management is an integral component of the GASP. As such, it is worth mentioning Amendment 1 to Annex 19, which Council adopted last July 2016, to be applicable by November 2019.

This amendment includes the following:

## 1) Integration

✓ Integrates the eight CEs of the SSO system with the SSP framework elements into a streamlined set of SARPs to facilitate implementation.

 $\checkmark$  The integration of provisions related to a State's safety management responsibilities, elevates the elements of the SSP framework to SARPs.

## 2) Enhancement

✓ Extends the applicability of SMS to organizations responsible for the type design and manufacture of engines and propellers.

✓ Provides new and amended safety management system (SMS) SARPs to facilitate implementation, including the addition of several explanatory notes.

## 3) Protection

 ✓ Elevating Attachment B of Annex 19 to the status of an Appendix that will move the principles of protection from guidance material to SARPs and thus provide greater impetus for their implementation.
 ✓ Another important element is that safety data and safety information in voluntary reporting systems are accorded a higher level of protection through a Standard to ensure their continued availability and greater uniformity among States.

✓ The protection of safety data and safety information in mandatory reporting systems, which differs among various legal systems, is reflected in a Recommendation.

✓ Amendment 1 ensures that there is no overlap with the protection provisions in Annexes 6 and 13.



- In order to support SSP implementation from Amendment 1 to Annex 19, ICAO has established a Safety Management Programme which was announced by State Letter.
- Deliverables have been identified to support SSP implementation and we are asking States and international organizations to consider means to support this new programme to ensure the work can be completed in a timely manner.
- The USOAP audits of SSP will begin in January 2020 with some States being audited two years earlier on a voluntary, but non-confidential basis.



Here is a detailed timeline on SSP implementation. This gives you a high-level snapshot of the plan moving forward, which is also included in the attachment to State Letter AN 8/3-16/89 that I mentioned earlier



- Now lets look at your region's context for Safety
- Here is the regional safety oversight audit results for your region, RASG-PA, where the average effective implementation is at 71%.
- While the regional average is higher than the GASP target, it is important to note the disparity among the States. 65% or 22 States have met the GASP target, which means that 12 States are still below 60%, with varying levels of effective implementation.
- [Click 1] As an example, we have 1 State in the region with a Significant Safety Concern, which should be resolved as a priority.
- As a region, it is important to understand this disparity and to provide support to cater to the different needs of the region. Particularly, I would like to encourage States who have high effective implementation to assist States with lower EIs to resolve their safety deficiencies, either through sharing of best practices or providing resources. This is in line with our global initiative to "Leave no Country behind"



In response to the Consultation process of the GASP, States have expressed these concerns regarding the main challenges and obstacles they will face when trying to achieve the objectives set out in the GASP.



ICAO has developed the iMPLEMENT website to provide a series of tools to assist States. The website is presented on screen.



Next Steps

- Engagement with RASGs for regional planning
- Work through ICAO Regional Offices for roll-out of GASP



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