



**WORKING PAPER**

**ASSEMBLY — 36TH SESSION**

**TECHNICAL COMMISSION**

**Agenda Item 27: ICAO Global Aviation Safety Plan**

**THE ICAO GLOBAL AVIATION SAFETY PLAN**

(Presented by the Council of ICAO)

**EXECUTIVE SUMMARY**

This paper presents the new version of the ICAO Global Aviation Safety Plan (GASP) and a draft Assembly resolution on global planning for safety and efficiency.

The ICAO Global Aviation Safety Plan provides a common frame of reference for all stakeholders in order to allow a more proactive approach to aviation safety and to help coordinate and guide safety policies and initiatives worldwide to reduce the accident risk for civil aviation. GASP is to be used in conjunction with the Global Aviation Safety Roadmap developed by industry for ICAO and at its request.

**Action:** The Assembly is invited to approve the draft Assembly resolution on global planning proposed in Appendix B which complements Resolution A35-15.

<i>Strategic Objectives:</i>	This working paper, which relates to Strategic Objectives A and D, presents the high-level tools that ICAO will use to implement the ICAO Strategic Objectives on safety and efficiency.
<i>Financial implications:</i>	No additional resources required as the activity presented can be accommodated within existing budget resource allocations.
<i>References:</i>	Doc 9848, <i>Assembly Resolutions in Force (as of 8 October 2004)</i>

## 1. INTRODUCTION

1.1 The first version of the ICAO Global Aviation Safety Plan (GASP) was developed in 1997 by formalizing a series of conclusions and recommendations developed during an informal meeting between the Air Navigation Commission and industry. The plan was used to guide and prioritize the technical work programme of the Organization and was updated regularly until 2005 to ensure its continuing relevance.

1.2 In May 2005, another meeting between the Air Navigation Commission and industry identified a need for a broader plan that would provide a common frame of reference for not only ICAO but all stakeholders. Consequently, a new Global Aviation Safety Plan was developed and is presented in Appendix A to this paper.

## 2. BACKGROUND

### 2.1 The Global Aviation Safety Plan

2.1.1 The objective of the Global Aviation Safety Plan is to reduce the accident risk for civil aviation by providing a common frame of reference for all stakeholders in order to allow a more proactive approach to aviation safety, and to help coordinate and guide safety policies and initiatives worldwide. At the ICAO level, GASP provides the methodology and focus that is required to implement the ICAO Strategic Objective on safety. It will be used to prioritize and plan safety initiatives and to measure their impact.

2.1.2 The GASP is based on the following principles:

- a) *Involvement of all stakeholders:* A proactive approach to aviation safety requires that all concerned stakeholders are involved. There is also a need to ensure that safety initiatives take place within a common framework to ensure consistency of objectives and to avoid duplication of effort. An important element of GASP is that it integrates the Global Aviation Safety Roadmap developed at the request, and with the support, of ICAO by the Industry Safety Strategy Group (Airbus, Boeing, Airports Council International, Civil Air Navigation Services Organization, International Air Transport Association, International Federation of Air Line Pilots' Associations and Flight Safety Foundation);
- b) *Global Safety Initiatives (GSIs):* GASP defines twelve GSIs that support the implementation of the ICAO safety Strategic Objective. Each initiative relies on a set of best practices, metrics and maturity levels defined in the Global Aviation Safety Roadmap to ensure that implementation makes full use of the collective experience of the aviation community and that progress is measured in a transparent and consistent way;
- c) *Planning process:* The objective of the planning process is to collaboratively develop an action plan that defines, at the regional, sub-regional or national level, the specific activities that should take place in order to improve safety;

- d) *Consistency of the ICAO Global Planning Process*: GASP follows an approach and philosophy which is coherent with the *Global Air Navigation Plan for CNS/ATM Systems* (Doc 9750). Both were developed with close coordination and participation of industry, and both provide a common framework to ensure that regional, sub-regional, national and individual initiatives are coordinated to deliver a harmonized, safe and efficient international civil aviation system.

## 2.2 **Resolution on Global Planning for Safety and Efficiency**

2.2.1 Over the years, ICAO has developed the GASP and the Global Air Navigation Plan (GANP) that constitute the high-level plans that ICAO, States and industry use to support initiatives to improve the safety and efficiency of the global aviation system. The proposed Assembly resolution on the global planning process that is presented in Appendix B to this paper recommends a set of high-level policies that would endorse and strengthen ICAO's approach to global planning under its safety and efficiency Strategic Objectives A and D. The proposed resolution supersedes Assembly Resolution A33-16, *Global Aviation Safety Plan (GASP)* and complements Assembly Resolution A35-15, *Consolidated statement of continuing ICAO policies and practices related to a global air traffic management (ATM) system and communications, navigation and surveillance/air traffic management (CNS/ATM) systems*.

## 3. **CONCLUSION**

3.1 The Global Aviation Safety Plan provides a common frame of reference for all stakeholders in order to allow a more proactive approach to aviation safety and to help coordinate and guide safety policies and initiatives worldwide with the objective to reduce the accident risk for civil aviation. It also provides ICAO with a tool to prioritize and plan its safety initiatives and to measure their impact.

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Appendix A



# Global Aviation Safety Plan

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## FOREWORD

The air transport industry plays a major role in world economic activity and remains one of the fastest growing sectors of the world economy. One of the key elements to maintaining the vitality of civil aviation is to ensure safe, secure, efficient and environmentally sustainable conditions at the global, regional and national levels.

ICAO's efforts at addressing the needs of the air transport industry and international civil aviation as described above, are aimed at the coordination of the global planning processes. The Global Aviation Safety Plan serves as a strategic document, providing the planning methodology that will lead to global harmonization in the area of safety.

The Global Aviation Safety Plan follows an approach and philosophy similar to that of the *Global Air Navigation Plan* (Doc 9750). Both were developed with the close coordination and participation of industry and both provide a common framework to ensure that regional, sub-regional, national and individual initiatives are coordinated to deliver a harmonized, safe and efficient international civil aviation system.

## CHAPTER 1 - EVOLUTION OF GLOBAL SAFETY INITIATIVES

### Introduction

ICAO introduced the first version of the Global Aviation Safety Plan (GASP) in 1997 by formalizing a series of conclusions and recommendations developed during an informal meeting between the Air Navigation Commission and industry. The plan was used to guide and prioritize the technical work programme of the Organization. It was updated regularly until 2005 to ensure its continuing relevance.

In May 2005, another meeting between the Air Navigation Commission and industry identified a need for a broader plan that would 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, the Industry Safety Strategy Group<sup>1</sup>(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 Global Aviation Safety Plan is based. 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.

### A Global Strategy for Aviation Safety

The attainment of a safe system is the highest priority in aviation. However, safety actions are not only driven by facts and data but also by the perception of safety needs by the public. Acceptable safety risk is related to the trust attributed to the aviation safety system, which is undermined every time an accident occurs. Therefore the challenge is to drive an already low accident rate even lower. To guide its work, ICAO has established the following safety target.

### ICAO Safety Target for 2008-2011

1. Reduce the number of fatal accidents and fatalities worldwide irrespective of the volume of air traffic.
2. Achieve a significant decrease in accident rates, particularly in regions where these remain high.
3. No single ICAO region shall have an accident rate\* more than twice the worldwide rate by the end of 2011.

*\* Based on a five-year sliding average*

### The Global Aviation Safety Roadmap

The Global Aviation Safety Roadmap<sup>2</sup> prepared by the Industry Safety Strategy Group in close cooperation with ICAO is the basis from which the Global Aviation Safety Plan has been developed. The roadmap recognizes that all stakeholders of the aviation system need to be involved and clearly identifies

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<sup>1</sup> Members of the ISSG are, Airbus, Boeing, Airports Council International (ACI), Civil Air navigation Services Organization (CANSO), International Air Transport Association (IATA), International Federation of Air Line Pilots' Associations (IFALPA) and Flight Safety Foundation (FSF).

<sup>2</sup> The current version of the Global Aviation Safety Roadmap is available on <http://www.icao.int/fsix/safety.cfm>

the roles played by the regulatory and industry elements while emphasizing their complementary nature, promotes a proactive approach to safety and provides a means to ensure that safety initiatives throughout the world deliver improved safety by the coordination of effort, thus reducing inconsistency and duplication.

The roadmap is based upon high-level principles that have been accepted by all aviation stakeholders as vital to the enhancement of safety levels within global commercial aviation. It was not developed to replace data-driven regional initiatives such as the United States Commercial Aviation Safety Team (CAST), Europe's ESSI (European Safety Strategy Initiative) or the Pan-American Aviation Safety Team Initiative (PAAST). Rather, it builds on these valuable programmes, highlighting key areas that governments and industry must act on. Above all, it tackles those areas that currently are not effectively addressed.

The Global Aviation Safety Roadmap provides a common frame of reference for all stakeholders including States, regulators, aircraft and airport operators, air traffic service providers, aircraft manufacturers, international organizations and safety organizations. It does so by defining the twelve following focus areas and providing guidance on how to address them:

- States
  1. Consistent implementation of international Standards
  2. Consistent regulatory oversight
  3. Effective errors / incidents reporting
  4. Effective incident and accident investigation
- Regions
  5. Consistent coordination of regional programmes
- Industry
  6. Effective reporting and analysis of errors and incidents
  7. Consistent use of Safety Management Systems
  8. Consistent compliance with regulatory requirements
  9. Consistent adoption of industry best practices
  10. Alignment of global industry safety strategies
  11. Sufficient number of qualified personnel
  12. Effective use of technology to enhance safety

Part 2 of the roadmap provides detailed guidance on the implementation of the twelve focus areas by providing a set of objectives for each focus area that are each supported by a set of best practices and metric and a maturity model. The roadmap also includes a step-by-step process to help develop Safety Enhancement Plans at the regional or sub-regional level.

### **Relation between the Global Aviation Safety Plan and the Global Aviation Safety Roadmap**

The Global Aviation Safety Roadmap constitutes the basis on which the Global Aviation Safety Plan is built and is an integral part of it. From a practical point of view, GASP can be seen as the ICAO strategy for States, regions and industry to address the focus areas identified in the roadmap. GASP also establishes a coordination mechanism to ensure that the roadmap and the plan are kept up-to-date in a coordinated way.



## **Need for Partnership**

A proactive approach to aviation safety requires that all concerned stakeholders are involved. The very close relationship between the Global Aviation Safety Plan and the Global Aviation Safety Roadmap is an example of the partnership that shall permeate all safety initiatives. Although both the roadmap and the safety plan identify a primary stakeholder for each focus area, it needs to be emphasized that this grouping is not intended to be exclusive. The roadmap and the safety plan are built on the principle of partnership, and as such, it is essential that all relevant stakeholders are involved in the development and implementation of any activities aimed at improving safety under the focus areas. Their commitment is fundamental for success.

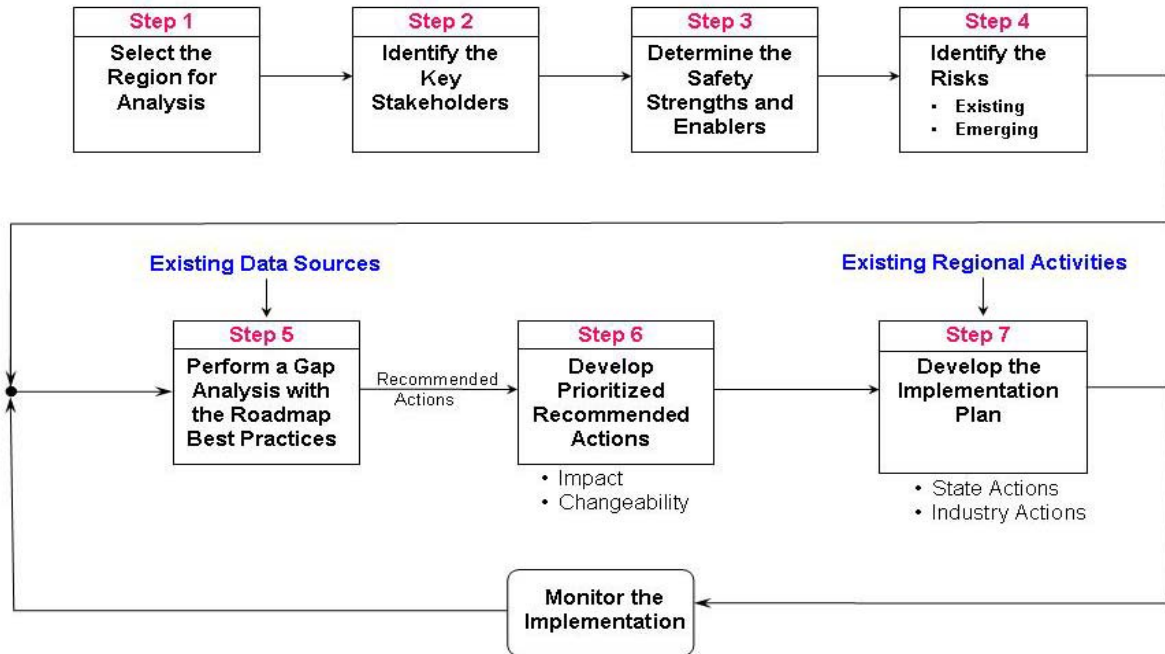
Together with ICAO, the chief shareholders in the civil aviation sector are States,<sup>3</sup> airlines/operator, airports, air navigation service providers, aircraft and equipment manufacturers, maintenance and repair organizations, regional organizations international organizations, and industry representatives. The commitment of all stakeholders is fundamental for success in improving safety.

## **Planning Process**

The objective of the planning process is to collaboratively develop an action plan that defines the specific activities that should take place in order to improve safety. It begins with an analysis of what the situation is today, and then compares it to where the organization would like to be. This “gap analysis” identifies specific steps that can be taken to reach the desired goal. The developers of the plan then decide what specific actions will be taken and in what order — in other words, generating a prioritized action list. From that list, the developers build an action plan, which in addition to identifying the actions to be taken, determines who is responsible for them. The process — and each step — is illustrated in the flow chart below.

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<sup>3</sup> airlines, airport operators and air navigation service providers include those that are owned by States or are a State entity.



### Planning process steps

- Step 1**     **Determine the subject for analysis:** A subject may be an ICAO region, one of the regions described in the roadmap, a subset of these regions (e.g. COSCAPs, of similar States within a region), or even an individual State.
- Step 2**     **Identify key stakeholders:** In order to assure that any plan will be able to instil changes intended to improve aviation safety, it is essential that the perspective of all key stakeholders be considered. Therefore, those stakeholders need to be identified early. A stakeholder can be any party — e.g. Regulatory Authority, operator, or organization — that could be involved in implementing or influencing changes, or which is significantly affected by these changes. These stakeholders will constitute a safety team that will perform the remaining steps.
- Step 3**     **Outline the safety strengths and enablers:** There is a need to develop an understanding of the general environment of the subject targeted for safety enhancement efforts. Inherent in every subject is a collection of factors that support the safety of aviation within that subject. The identification of these strengths and enablers is critical in order to find ways to build upon this safety foundation.
- Step 4**     **Identify the existing and merging risks:** The process requires the identification of those risks that can create an environment which will weaken overall aviation safety within that subject, either currently or in the foreseeable future. Accurate and comprehensive listings of these risks are essential in performing a meaningful gap analysis in Step 5.
- Step 5**     **Perform a gap analysis:** A gap analysis is simply an evaluation that compares the existing situation to the desired one. There are a variety of methods that can

be used to perform a gap analysis. Using data from a number of existing sources (ICAO USOAP, IATA IOSA, safety deficiencies identified by PIRGs or other sources, analysis of available safety data) or from the detailed knowledge derived from a group of knowledgeable experts, the gap analysis will describe the difference between the *current situation* (utilizing information captured in Steps 3 and 4), and the *target*, the highly evolved situation in which the global safety initiatives of the GASP have been implemented.

The gap analysis summary should identify the organizations or entities responsible for correcting the deficiency. Multiple gaps will require assessment so that priorities can be established and appropriate implementation plans can be developed.

#### Step 6

**Develop prioritized recommended actions:** By reviewing the gaps and the associated best practices, a list of potential safety enhancement actions can be identified. However, it should be recognized that it is sometimes impractical to implement an action plan that addresses each and every deviation from the mature (highly evolved) level.

Each gap identified in the gap analysis should be reviewed in the following manner:

- Safety impact – evaluate the safety enhancement that would result from the elimination of the gap. Ideally, a *quantitative* approach using various methodologies such as those developed by the United States' Commercial Aviation Safety Team (CAST) can be used. Where quantitative assessment is difficult, reliance on the knowledge and expertise of the evaluation team will allow ordering the list of potential actions having the greatest impact on safety.
- Implementation – although the impact on safety should be the primary method of prioritizing the list of potential actions, the ability to make the changes must also be considered. This evaluation should include the existence of the political will to change and the availability of technology and resources necessary to implement the change. A conclusion that implementation is not practical should be arrived at only as a last resort. If such a conclusion is reached, aviation activities need to be adjusted to remove the impact of the identified safety gap.

#### Step 7

**Develop an action plan:** Once a list of potential prioritized actions has been developed, the implementation action plan must be defined. The plan should include a manageable set of actions that represent those steps necessary to move to the next level of maturity.

Once the plan is finalized, a responsible party or organization must be identified to lead the implementation of each action item. It should be recognized that there are already many regional activities and organizations working around the world that may be able to provide implementation strategies and support. For example, the various ICAO COSCAPs forming in that area could be helpful in defining and coordinating State actions.

#### Monitoring

**Continuous improvement – what to do next:** The work is not complete, even after the plan has been defined and turned over to the organizations or individuals

responsible for leading the implementation. The implementation activities should be continuously monitored to ensure that action is being accomplished, any roadblocks to implementation are removed and the plan accommodates any newly identified gaps.

This safety enhancement process is best accomplished in a step-wise fashion to move to the next level of maturity. Once the initial action plan has been completed, repeat the process in order to identify the next safety enhancement actions to implement.

### **Global Safety initiatives**

Global safety initiatives are designed to support the implementation of the ICAO Safety Strategic Objective and other safety objectives that might be established by regions, States or industry. Planning and implementation should be started in the near-term and progressed in an evolutionary manner. Long-term initiatives necessary to guide the evolution to a safer civil aviation system will be added to the Global Aviation Safety Plan as they are developed and agreed to.

The initiatives described in the following pages are provided to facilitate the planning process and should not be viewed as stand-alone work items, but rather, in many cases, as interrelated. Therefore, initiatives are quite capable of integrating with, and supporting each other. Each GSI identifies the corresponding Focus Areas of the Global Aviation Safety Roadmap and include references to the Roadmap Best Practices as guidance for the development of implementation activities under each GSI.

ICAO will organize its own work programme under the Safety Strategic Objective in line with the GASP and its GSIs to facilitate an effective global implementation.

**(GSI-1) CONSISTENT IMPLEMENTATION OF INTERNATIONAL STANDARDS AND  
INDUSTRY BEST PRACTICES**

**Scope:** Full implementation of applicable ICAO SARPs and industry best practices.

**Primary stakeholders:** ICAO, States

**Related Global Aviation**

**Safety Roadmap component:** Focus Area 1

**Description of strategy**

1. States implement ICAO SARPs and best practices consistently. Compliance with ICAO Standards is considered internationally essential and sound application of ICAO Recommendations and best practices is accepted as the effective way to achieve consistent implementation worldwide: States coordinate their activities to influence those unwilling to comply. Gaps are identified through USOAP and the notification of differences process.

*Related Roadmap Best Practices and Metrics: BP1a-1 to 4*

2. Perform gap assessment for those States that cannot comply. Establish plans to reach desired compliance, including coordinated international support where necessary to close gaps.

*Related Roadmap Best Practice and Metrics: BP1b-1*

3. Compliance with international SARPs is assessed on a continuing basis through ICAO USOAP and other equivalent means of assessment. Coordinated international support is being provided where necessary.

*Related Roadmap Best Practice and Metrics: BP1b-1*

**(GSI-2) CONSISTENT REGULATORY OVERSIGHT**

**Scope:** Each State is in a position to objectively evaluate any given safety critical aviation activity within its jurisdiction and require that the activity adhere to standards designed to ensure an acceptable level of safety.

**Primary stakeholders:** ICAO, States

**Related Global Aviation**

**Safety Roadmap component:** Focus Area 2

**Description of strategy**

1. States ensure their Regulatory Authority is independent in the conduct of its safety functions, competent and adequately funded.  
*Related Roadmap Best Practices and Metrics: BP2a-1 to 4*
2. States establish appropriate systems to ensure continued effectiveness of their regulatory function.  
*Related Roadmap Best Practices and Metrics: : BP1c/2b-2 to 5, BP2a-6*

**(GSI-3) EFFECTIVE ERRORS AND INCIDENTS REPORTING**

**Scope:** A free flow of data exists that is required to assess aviation system safety on a continuous basis and to correct deficiencies when warranted.

**Primary stakeholders:** ICAO, States

**Related Global Aviation**

**Safety Roadmap component:** Focus Area 3

**Description of strategy**

1. States introduce legislative changes to support the “just culture”, encourage open reporting systems, and protect data collected solely for the purpose of improving aviation safety.  
*Related Roadmap Best Practices and Metrics: BP3a-1 to 4*
2. ICAO implements review of States’ activities to identify gaps in their legislative action to encourage open reporting systems. Develop a plan to address gaps.  
*Related Roadmap Best Practices and Metrics: BP3b-1 to 2*
3. Collate regional safety data.  
*Related Roadmap Best Practices and Metrics: BP3c-1 to 4*
4. Implement international sharing of data/global data reporting system.  
*Related Roadmap Best Practices and Metrics: BP3b-1 to 4*

**(GSI-4) EFFECTIVE INCIDENT AND ACCIDENT INVESTIGATION**

**Scope:** The accident or incident investigations provide the opportunity for an in-depth examination of both the causal factors leading up to the particular event and the broader questions concerning the underlying safety of an entire operation.

**Primary stakeholders:** ICAO, States

**Related Global Aviation**

**Safety Roadmap component:** Focus Area 4

**Description of strategy**

1. States implement ICAO Annex 13 principles and the introduction of, or access to, an adequately funded, professionally trained, independent and impartial investigative body. Action is taken on safety recommendations.  
*Related Roadmap Best Practices and Metrics: BP4a-1 to 9*
2. States institute a legal framework for protection of safety data, with the purpose of accident prevention, not assignment of blame.  
*Related Roadmap Best Practices and Metrics: BP4b-1 to 3*
3. Implement international cooperation and information sharing of accidents and incidents.  
*Related Roadmap Best Practices and Metrics: BP4c-1 to 4*



**(GSI-5) CONSISTENT COORDINATION OF REGIONAL PROGRAMMES**

**Scope:** While regional differences will dictate different implementations of best practices at different levels of maturity, there is much benefit that can be gained by sharing the experience between regions.

**Primary stakeholders:** ICAO, States, regions

**Related Global Aviation**

**Safety Roadmap component:** Focus Area 5

**Description of strategy**

1. Design regional mechanisms and build on existing ones in order to foster consistency.  
*Related Roadmap Best Practices and Metrics: BP5a-1 to 3*
2. Assign priority of action to regions on the basis of risk assessment.  
*Related Roadmap Best Practices and Metrics: BP5b-1 to 2*

**(GSI-6) EFFECTIVE ERRORS AND INCIDENTS REPORTING  
AND ANALYSIS IN THE INDUSTRY**

**Scope:** The development and maintenance of a “Just Culture” is one of the primary means available to industry to understand where the hazards and risks lie within an organization.

**Primary stakeholder:** Industry

**Related Global Aviation**

**Safety Roadmap component:** Focus Area 6

**Description of strategy**

1. Industry commits to a “Just Culture” of reporting all safety-related and potential safety issues without fear of reprimand to involved parties.  
*Related Roadmap Best Practices and Metrics: BP6a-1 to 5*
  
2. Identify and implement common metrics and descriptors of precursor events needed to enable adoption of a proactive approach to managing risk.  
*Related Roadmap Best Practices and Metrics: BP6b-1 to 4*
  
3. Establish and integrate across the industry shared incident/error databases. Demonstrate and disseminate the benefits of open reporting.  
*Related Roadmap Best Practices and Metrics: BP6c-1 to 4*

**(GSI-7) CONSISTENT USE OF SAFETY MANAGEMENT SYSTEMS (SMS)**

**Scope:** A systematic management of the risks associated with flight operations, aerodrome ground operations, air traffic management and aircraft engineering or maintenance activities is essential to achieve high levels of safety performance.

**Primary stakeholder:** Industry

**Related Global Aviation**

**Safety Roadmap component:** Focus Area 7

**Description of strategy**

1. SMS is mandated across all sectors and disciplines of the industry.  
*Related Roadmap Best Practice and Metric: BP7a-1*
2. Develop a plan for incorporation of SMS into audit processes.  
*Related Roadmap Best Practice and Metric: BP7b-1*
3. Develop audit processes to assess operation of SMS function.  
*Related Roadmap Best Practice and Metric: BP7b-1*
4. Implement review of SMS during audits.  
*Related Roadmap Best Practice and Metric: BP7b-1*
5. Define interface points between industry focus areas and develop a plan for SMS programme integration across all interfaces.  
*Related Roadmap Best Practices and Metrics: BP7e-1 to 4*

**(GSI-8) CONSISTENT COMPLIANCE WITH REGULATORY REQUIREMENTS**

**Scope:** The attainment of a safe system requires that industry complies with State regulations. The main responsibility for compliance rests with industry, which has a legal, commercial and moral obligation to ensure that operations are conducted in accordance with the regulations.

**Primary stakeholder:** Industry

**Related Global Aviation**

**Safety Roadmap component:** Focus Area 8

**Description of strategy**

1. With full management support, execute independent assessment and gap analysis within the industry of regulatory compliance to address areas of non-compliance.  
*Related Roadmap Best Practices and Metrics: BPa-1 to 5*
2. Perform regular independent audits of operational safety to assess ongoing compliance across the industry.  
*Related Roadmap Best Practices and Metrics: BP8b-1 to 2*

**(GSI-9) CONSISTENT ADOPTION OF INDUSTRY BEST PRACTICES**

**Scope:** Best practices, which represent the application of lessons learned globally by industry, are adopted by individual organizations in a timely manner.

**Primary stakeholder:** Industry

**Related Global Aviation**

**Safety Roadmap component:** Focus Area 9

**Description of strategy**

1. Improve the structures (through management commitment) for maintaining knowledge of best practices and identify future developments in best practices.

*Related Roadmap Best Practices and Metrics: BP9a-1 to 5*

2. With industry openly sharing information regarding the benefits of best practices, implement performance benchmarking of dissemination consistency.

*Related Roadmap Best Practice and Metrics: BP9b-1*

**(GSI-10) ALIGNMENT OF INDUSTRY SAFETY STRATEGIES**

**Scope:** The efforts of all industry stakeholders to improve aviation safety at the local, State, and regional levels are more effective at a global level if they are well aligned and based on shared goals and methods.

**Primary stakeholder:** Industry

**Related Global Aviation**

**Safety Roadmap component:** Focus Area 10

**Description of strategy**

1. Design a mechanism for coordination and sharing of safety strategies.  
*Related Roadmap Best Practices and Metrics: BP10a-1 to 3*
2. Coordinate and share safety strategies, seeking to achieve alignment and minimize duplication.  
*Related Roadmap Best Practices and Metrics: BP10b-1 to 5*

**(GSI-11) SUFFICIENT NUMBER OF QUALIFIED PERSONNEL**

**Scope:** Industry and the regulatory authorities have access to a sufficient number of qualified staff to support their activity.

**Primary stakeholder:** Industry

**Related Global Aviation**

**Safety Roadmap component:** Focus Area 11

**Description of strategy**

1. Identify requirements for sustaining aviation safety against projected growth of commercial aviation.  
*Related Roadmap Best Practice and Metric: BP11a-1*
2. Implement resource plans to deliver appropriate numbers of qualified people.  
*Related Roadmap Best Practices and Metrics: BP11b-1 to 2*
3. Establish audit processes to confirm that people resource plans will deliver the appropriate numbers.  
*Related Roadmap Best Practice and Metric: BP11c-1*

**(GSI-12) USE OF TECHNOLOGY TO ENHANCE SAFETY**

**Scope:** Technology advances which contribute significantly to improvements in safety are implemented.

**Primary stakeholder:** Industry

**Related Global Aviation**

**Safety Roadmap component:** Focus Area 12, Appendices E, F and G

**Description of strategy**

1. Define proven technology gaps. Industry works together to identify areas where technology might provide significant safety benefits.  
*Related Roadmap Best Practices and Metrics: BP12a-1 to 3*
2. Deploy proven technologies that have been developed to enhance safety.  
*Related Roadmap Best Practices and Metrics: BP12b-1 to 3*
3. Integrate measures to close technology gap.  
*Related Roadmap Best Practices and Metrics: BP12c-1 to 2*



## **CHAPTER 2 - A PERFORMANCE BASED SYSTEM MEETING THE USER EXPECTATION**

### **Safety – A Performance Expectation – Measuring Risk**

Safety is a “performance expectation”. With air travel already being the safest form of transportation, the challenge to industry and regulatory agencies is to make an already safe system safer. In the context of GASP, the aviation stakeholders expected to deliver “a reduction in the global accident risk in commercial aviation”. This raises the issue of the best way to measure this risk, together with any associated changes that are realized as a result of effective implementation of GASP and the roadmap.

Accident rate data represents a reliable source for measuring safety performance. There are several excellent sources of accident rates which are maintained throughout the aviation industry and should be considered a vital component to any risk measurement effort.

An example of this readily available data is the ICAO Council reports. These reports include tracking the fatal accident rate of aircraft employed on public air transport operations in scheduled operations. ICAO measures the worldwide safety performance in terms of a range of aviation safety statistics.

A most effective quantitative risk management programme would be one in which information sharing is the norm. Currently, as a result of a memorandum of cooperation between ICAO and IATA, data collected from IOSA and USOAP programmes, along with other forms of safety intelligence, can now be shared between these international organizations as appropriate. ICAO has entered similar cooperation and sharing agreements with the European Civil Aviation Conference (ECAC), the European Aviation Safety Agency (EASA) and EUROCONTROL.

Currently, certain entities in industry are striving to take a more prognostic or predictive approach to risk assessment. This requires more innovative safety-related data collection and analysis approaches. An example is the formulation of safety strategies with the use of some existing programmes such as Flight Data Analysis (FDA) – Flight Data Monitoring (FDM) – Flight Operations Quality Assurance (FOQA) programmes. Other examples include those from auditing programmes such as the ICAO Universal Safety Oversight Audit Programme (USOAP) and the IATA Operational Safety Audit (IOSA).

### **Keeping the Global Aviation Safety Plan Up to Date**

Although the Global Aviation Safety Plan establishes high level objectives which should remain stable in the mid-term, the effective implementation of the global plan and the associated roadmap rely on best practices, metrics, processes and methodologies that will evolve and change over time. To ensure its continuing relevance, ICAO is committed to maintaining the Global Aviation Safety Plan up to date in close cooperation and coordination with all stakeholders. In doing so, it will use the information and feedback that it receives through its Safety Oversight Audit Programme, its field missions, its safety databases, its planning and implementation groups, its groups of experts, and more generally, with its regular contact and exchange of safety data with States and industry.

It also continues to participate actively in the work of the Industry Safety Strategy Group that is maintaining the Global Aviation Safety Roadmap with the objective of maintaining the synchronization and complementary nature of the two documents.

### **Using the Global Aviation Safety Plan**

At the highest level, the Global Aviation Safety Plan provides the methodology and the focus that is required to implement the ICAO Strategic Objective on safety that is to “enhance global civil aviation safety”.

The global safety initiatives identify the areas on which the safety efforts should be focussed to best achieve improvement in safety. The associated best practices and metrics provide the tools to develop action and to measure progress. For ICAO, the GSIs are used to assess whether proposed new safety tasks should be included in the work programme and once in the work programme, to measure progress. In conjunction with the planning process described in Chapter 1, they provide the framework for the development of regional and national activities undertaken by ICAO through its Unified Strategy Programme, its Technical Assistance Programme and other means.

#### Documents in support of a safe global aviation system

<b><i>ICAO Strategic Objective A. - Safety – Enhance global civil aviation safety</i></b>			
<b>Title</b>	<b>Role</b>	<b>Description</b>	<b>Supporting Document</b>
Global Aviation Safety Plan	Strategy	General methodology for harmonization and prioritization of safety efforts in support of the ICAO Strategic Objective on safety.	<ul style="list-style-type: none"> <li>• Industry Global Aviation Safety Roadmap, Part I</li> </ul>
Global Safety Initiatives	Tactics	A set of implementation methodologies derived from current operational best practices and available guidance materials.	<ul style="list-style-type: none"> <li>• Industry Global Aviation Safety Roadmap, Part II</li> <li>• ICAO Business Plan</li> </ul>
Regional and National Safety Plans	Action	Regional work programmes including the planning, implementation and monitoring of the detailed activities and their timelines	<ul style="list-style-type: none"> <li>• Safety Implementation Plans (e.g. AFI Implementation Plan)</li> </ul>

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## APPENDIX B

### DRAFT RESOLUTION TO SUPERSEDE RESOLUTION A33-16 ON THE ICAO GLOBAL AVIATION SAFETY PLAN (GASP)

#### Resolution 36/

#### ICAO Global Planning for Safety and Efficiency

*Whereas* ICAO strives to achieve the goal of a safe and orderly development of civil aviation through cooperation among Contracting States and other stakeholders;

*Whereas* to realize this goal, the Organization has established Strategic Objectives in the fields of, *inter alia*, safety and efficiency;

*Recognizing* the importance of a global framework to support the Strategic Objectives of ICAO;

*Recognizing* the importance of regional and national plans and initiatives based on the global framework for effective implementation; and

*Recognizing* that further progress in improving global safety and efficiency of civil aviation is best achieved through a cooperative, collaborative and coordinated approach in partnership with all stakeholders under the leadership of ICAO;

#### *The Assembly:*

1. *Resolves* that ICAO shall implement and keep current the Global Aviation Safety Plan (GASP) and the Global Air Navigation Plan (GANP) to support the relevant Strategic Objectives of the Organization;

2. *Resolves* that these global plans shall be implemented and kept current in close cooperation and coordination with all concerned stakeholders;

3. *Resolves* that these global plans shall provide the framework in which regional, sub-regional and national implementation plans will be developed and implemented thus ensuring harmonization and coordination of efforts aimed at improving international civil aviation safety and efficiency;

4. *Calls* upon States and *invites* other stakeholders to cooperate in the development and implementation of regional, sub-regional and national plans based on the framework of the global plans;

5. *Instructs* the Council to provide a report on the implementation and evolution of the global plans to future regular sessions of the Assembly; and

6. *Instructs* the Secretary General to make available the global plans on the ICAO public website.

7. *Declares* that this Assembly resolution supersede Assembly Resolution A33-16 on the ICAO Global Aviation Safety Plan (GASP).

## APPENDIX A

### Global Aviation Safety Plan

*Reaffirming* that the primary objective of the Organization continues to be to improve the safety of international civil aviation worldwide;

*Recognizing* that safety is a shared responsibility involving ICAO, Contracting States and all other stakeholders;

*Recognizing* the safety benefits that can be drawn from partnerships between States and industry such as the Commercial Aviation Safety Team (CAST), the European Strategic Safety Initiative (ESSI), the Pan-American Aviation Safety Team (PAAST) and the African and Indian Ocean Islands Safety Enhancement Team (ASET);

*Recognizing* that there is a need for the safety framework to continuously evolve to ensure its sustained effectiveness and efficiency in the changing regulatory, economic and technical environment;

*Noting* that the expected increase in international civil aviation traffic will result in an increasing number of aircraft accidents unless the accident rate is reduced;

*Realizing* the need to maintain the public's confidence in air transport;

*Recognizing* that a proactive approach in which safety risks are identified and managed is of paramount importance to the achievement of further improvements in aviation safety;

*Noting with satisfaction* the Global Aviation Safety Roadmap as developed by key industry partners acting as the Industry Safety Strategy Group (ISSG) with ICAO and which forms the basis for the Global Aviation Safety Plan;

*Noting* the intent to continuously apply the Global Aviation Safety Plan as a tool to enhance safety by focusing action where it is most needed;

*Noting* the unified strategy established by ICAO to resolve safety related deficiencies; and

*Noting* the acceptance on 18 July 2007 by the Council of the amended Global Aviation Safety Plan (GASP);

*The Assembly:*

1. *Stresses* the need for a reduction in the number and rate of fatal accidents in air transport operations in all parts of the world and particularly in regions where the rate is significantly higher than the worldwide average;

2. *Urges* Contracting States and the industry to apply the GASP and Global Aviation Safety Roadmap principles and objectives and to implement its methodologies in partnership with all concerned stakeholders to reduce the number and rate of aircraft accidents;

3. *Urges* Contracting States to demonstrate the political will necessary for taking remedial actions to address deficiencies including those identified by Universal Safety Oversight Audit Programme (USOAP) audits and through the application of GASP methodologies and the ICAO regional planning process;

4. *Urges* Contracting States to reinforce the global aviation safety framework by:

- a) sharing appropriate safety-related information among States, all other aviation stakeholders and the public;
- b) expeditiously implementing safety management systems across the aviation industry to complement the existing regulatory framework;
- c) promoting a just culture by creating an environment in which the reporting and sharing of information is encouraged and facilitated and in which remedial action is undertaken in a timely fashion when deficiencies are reported; and
- d) reporting accident and incident data as required to ICAO;

5. *Urges* States to fully exercise safety oversight of their operators in full compliance with applicable Standards and Recommended Practices (SARPs), and assure themselves that foreign operators flying in their territory receive adequate oversight from their own State and take appropriate action when necessary to preserve safety;

6. *Urges* States to develop sustainable safety solutions to fully exercise their safety oversight responsibilities. This can be achieved by sharing resources, utilizing internal and/or external resources, such as regional and sub-regional safety oversight organizations and the expertise of other States;

7. *Urges* Contracting States, the industry and financing institutions to provide the needed support for the coordinated implementation of the ICAO Global Aviation Safety Plan; avoiding duplication of efforts.

## **APPENDIX B**

### **Global Air Navigation Plan**

*Whereas* enhancement of the efficiency of aviation operations is a key element of the ICAO Strategic Objectives;

*Having adopted* Resolution A35-15, a consolidated statement of continuing ICAO policies and practices related to a global air traffic management (ATM) system and communications, navigation and surveillance/air traffic management (CNS/ATM) systems; and

*Noting* the acceptance on 30 November 2006 by the Council of the new version of the Global Air Navigation Plan (GANP);

*The Assembly:*

1. *Calls upon* States, Planning and Implementation Regional Groups (PIRGs) and the aviation industry to utilize the guidance provided in the GANP for planning and implementation activities;
2. *Urges* Contracting States, industry and financing institutions to provide the necessary support for coordinated implementation of the GANP, avoiding duplication of effort;
3. *Instructs* the Council to ensure that the GANP is continuously maintained up to date in light of further operational and technical developments, in close collaboration with States and other stakeholders; and
4. *Urges* the Council to facilitate the development and monitor the implementation of regional, sub-regional and national plans on the basis of the GANP.

— END —