



ICAO

UNITING AVIATION

ICAO HQ PRESENTATION TO THE APANPIRG/26

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Chief,

Air Navigation Implementation Planning and
Support Section

*APANPIRG/26, Bangkok, Thailand
7-11 September 2015*



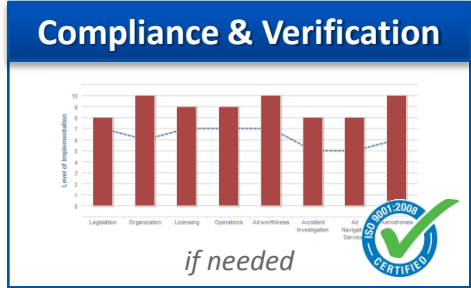
Objective

To show current and future developments at a global level that will impact the APAC region.



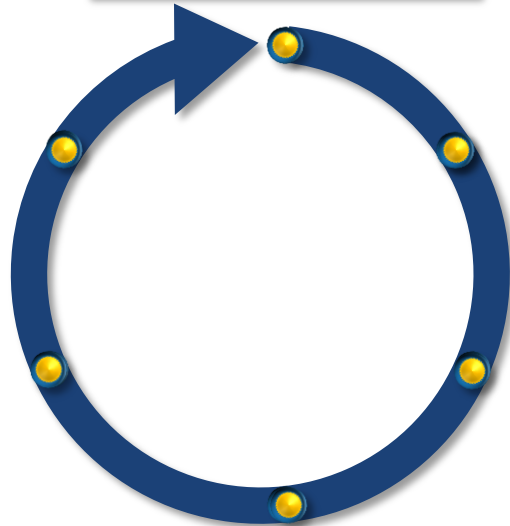
OUTLINE

- HLSC
- Global Tracking
- Conflict zones
- ATM Modernization (ASBUs)



Needs Analysis / Validation

Category	Item	Current Status	Target Status
SAFETY	Security	Compliant	Compliant
	Environmental	Compliant	Compliant
CAPACITY AND EFFICIENCY	Capacity	Compliant	Compliant
	Efficiency	Compliant	Compliant
ENVIRONMENTAL PROTECTION	Environmental Protection	Compliant	Compliant
	Environmental Protection	Compliant	Compliant



Global Plans

2014-2016
Global Aviation Safety Plan

2013-2028
Global Air Navigation Plan

Global & Regional

Assess & Measure

Implementation Planning

Training & Guidance

SARPs & PANS

Second High-level Safety Conference



- **4** Days
- **100** Working Papers
- **40** Information Papers
- **714** Delegates
 - 120 Member States
 - 35 Observers
- Attended by **States, Industry, all ICAO RDs and RASG chairs**
- **Declaration & Recommendations**
 - Montreal Declaration on Planning for Aviation Safety Improvement
 - Conclusions and Recommendations

More information available at: www.icao.int/Meetings/HLSC2015



Some of the Major Outcomes during the HLSC

Global Aircraft Tracking Initiatives



NO TRACKING

60 minute reporting environment



Incident at 1 minute



Elapsed Time
from Incident: **89** min



EMERGENCY PHASE



RESCUE COORDINATION CENTER

NORMAL TRACKING

60 minute reporting environment



AOC tries to establish contact

Incident at 1 minute



Elapsed Time from Incident: **44** min

Elapsed Time from Incident: **89** min

CURRENT

EMERGENCY PHASE



GADSS CONCEPT

RESCUE COORDINATION CENTER



DISTRESS TRACKING



TRIGGER

- Automatic
- Manual
- Ground

AUTONOMOUS



6 NM



ADFR
ELT

Retrieval of
CVR/DFR data

Trigger Examples:

- ⊙ unusual attitudes
- ⊙ unusual speed conditions
- ⊙ loss of power on all engines
- ⊙ ground proximity warnings



AOC



RESCUE COORDINATION CENTER

GADSS CONCEPT



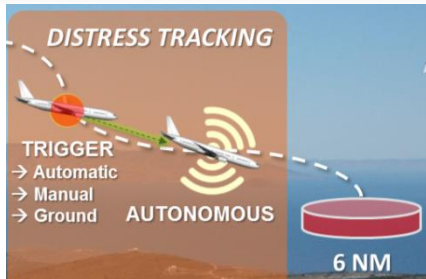
Upcoming Normal Tracking SARPs

Performance-based Standards and recommended practices for normal flight tracking

- No change to ATC procedures
- Establish operator responsibility to track
- Not technology-specific
- Establish communication protocol between Operator and ATC
- Oceanic areas where ATC gets position information more than every 15 min
- Aeroplanes with a take-off mass in excess of 27,000 kg and more than 19 seats

Timelines

- ✓ **January 2015**
 - Preliminary review by ICAO ANC
- ✓ **March 2015**
 - State Letter
- **November 2015**
 - Adopted
- **November 2016**
 - Applicable (if adopted)



Upcoming Distress Tracking SARPs

Performance-based Standards and recommended practices for distress flight tracking

- Not technology-specific
- Location of an accident site within 6 NM
- Activated
 - Automatically based on flight behavior
 - Manually from the air
 - Manually from the ground
- Power and position information autonomous from other a/c systems
- Applies to new aeroplanes from 2021
- Incentive for early adoption as an alternative to second ELT

Timelines

- ✓ **January 2015**
 - Preliminary review by ICAO ANC
- **April 2015**
 - State Letter
- **March 2016**
 - Adopted
- **January 2021**
 - Applicable (if adopted)



Retrieval of CVR and FDR Data SARPs

Prescriptive standards and recommended practices for ADFR with a performance-based alternative for data retrieval

- ADFR prescriptive baseline
 - Recommendation for new aircraft from 2019
 - Applies to new aircraft types from 2021
- Performance-based alternative
 - Not technology-specific
 - Optional for all aircraft from 2016
 - Incentive for early adoption as an alternative to ADFR

Timelines

- ✓ **January 2015**
 - Preliminary review by ICAO ANC
- **April 2015**
 - State Letter
- **March 2016**
 - Adopted
- **November 2016**
 - Applicable *(if adopted)*
- **November 2019**
 - Applicable *(if adopted)*
- **November 2021**
 - Applicable *(if adopted)*

Normal Tracking Implementation Initiative

- **Consistent with the Multidisciplinary Meeting on Global Tracking recommendations**
- **The theater of operations is the ASIA/PAC, however, it's a Global initiative.**
- **The implementation initiative is being conducted in a multi-national context**
 - Led by ICAO with support from States and industry stakeholders
 - NATII Steering Committee Established 5 March 2015
 - Two Sub-groups addressing Airspace and Scenarios
- **The implementation initiative will help establish guidance on best practices in use today.**

GADSS Components

**Aircraft
Systems**

**Air Traffic
Services**

**Search &
Rescue
Systems**

**Information
Management**

- Most lead time
- Forms the baseline for any future developments

Procedures developed to make full use of additional Aircraft capabilities

To be integrated into the work programme beginning in 2015 to be available when equipage requirements are applicable

Some of the Major Outcomes during the HLSC

- **Global Tracking**

- Member States endorsed the **GADSS Concept of Operations**
- Plans for adoption of a new **15 minute aircraft tracking standard** was also endorsed
 - **Performance-based**, allowing airlines the choice of several available and planned technologies and procedures
 - Proposal was sent to Member States on 25 February
 - Expected to be adopted by ICAO Council this fall
 - **Applicability date of 2016**
- ICAO is working with industry on an **implementation initiative**
 - To assist States, ANSPs, and airlines in the implementation of the standard and respond to abnormal flight behavior in an **integrated and multidisciplinary manner**



Some of the Major Outcomes during the HLSC

Risks to Civil Aviation arising from Conflict Zones



Some of the Major Outcomes during the HLSC

- **Conflict Zones**
 - HLSC supported ICAO's **comprehensive risk mitigation work programme**
 - **Including:**
 - **Online repository** hosted by ICAO, which will serve as a single public source for up-to-date risk assessments from States and International Organizations
 - **Harmonization of terminology** used for risk assessments
 - **Comprehensive review** of existing requirements and message formats
 - **Industry-led initiatives** to share operational information and be more transparent with passengers on conflict zone risk methodologies being applied



Conflict Zone Information Repository (CZIR) Public interface

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A United Nations Specialized Agency

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ICAO > Conflict Zone Information Repository > Conflict Zone Information Repository

Conflict Zone Information Repository

Select a state to view all posts affecting its territory:

Select a State...

Click on a row below to display more information on the conflict zone post.

Reporting State	Information Source Type	Information Title	Valid From	Valid To
Andorra	NOTAM	Risk to Civil Aviation	2015-03-02	2015-03-28
Albania	NOTAM	own reporting	2015-03-23	2015-03-24
Afghanistan	NOTAM	MISSILES FIRED FROM SOUTH WEST OF TIRANA AIRPORT	2015-03-26	2015-03-28

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Regional Office Websites

- Asia and Pacific (APAC) Office, Bangkok
- Eastern and Southern African (ESAF) Office, Nairobi
- European and North Atlantic (EUR/NAT) Office, Paris
- Middle East (MID) Office, Cairo
- North American, Central American and Caribbean (NACC) Office, Mexico City
- South American (SAM) Office, Lima
- Western and Central African (WACAF) Office, Dakar

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Some of the Major Outcomes during the HLSC

Effective and Efficient Regional Collaboration



Some of the Major Outcomes during the HLSC

- **Effective and Efficient Regional Collaboration**
 - HLSC agreed on the importance of **regional collaboration** to improve safety
 - Recommended that aviation safety partners, including donor States, international organizations, industry and financial institutions, assist States to improve aviation safety
 - ICAO to lead the **alignment and coordination of regional initiatives** to improve safety, implement the GASP objectives, and achieve the regional safety targets.
 - Recommended that States, International Organizations and industry **increase their participation in and contributions** to the ICAO and partner regional safety mechanisms, including support to the activities of the RASGs with resources.
 - ICAO develop a **resource mobilization strategy and implementation plan** to increase resources, assistance activities and implementation assistance capacity.
 - ICAO to participate in the development of the **UN Sustainable Development Goals**.
 - States, international and regional organizations and industry **increase contributions to the ICAO Voluntary Funds** including the Safety Fund (SAFE) and Human Resources Development Fund (HRDF).

Ongoing Focus by ICAO

- The integration of **remotely piloted aircraft systems (RPAS)** into civilian airspace
- Continued adoption of proactive **safety management** approaches in States
- Provisions on the **sharing and protection of safety information**
- Full and expedited implementation of **Performance-based Navigation (PBN)** regulatory oversight
- Sustain the **Collaborative Arrangement for the Prevention and Management of Public Health Events in Civil Aviation (CAPSCA)** programme to assist States prepare for and respond rapidly to any new public health event
- The need for all ICAO States to be sufficiently assisted so as to reach **global minimum levels of effective safety oversight**





ATM MODERNIZATION

ATM Modernization

- **ICAO will deliver the Block 1 Modules on time**
- **Focus will be shifted from delivering modules to the implementation of ASBU modules**
 - New chief and section dedicated to Air Navigation Implementation
 - ROs to increase focus on AN implementation planning and support

ATM Modernization

WHAT WE WANT FROM STATES AND INTERNATIONAL ORGANIZATIONS

- **Partnership** with ICAO for implementation assistance to the regions
- **Co-branded** workshops or symposiums
- Use the PBN model to create **ASBU Go-Teams**
- Prioritization of the **Top 10-15 routes or city pairs** which will drive the implementation strategy

Current Developments

- **CAEP ASBU Block 0 Implementation Questionnaire** (AN 1/17 – 14/56)

- Sent out on Sep 2014, for completion by 31 Dec 2014
- Building on the high-level analysis of potential environmental benefits done in 2013
- Questionnaire divided into different ASBU performance improvement area, for possible fuel savings for each module
- Received replies from 47 States so far, with many more pending

ATTACHMENT to State letter AN 1/17 - 14/56

Name:
State/Organization:
Email Address:

Performance Improvement Area 1: Airport Operations				
B0-APTA	B0-WAKE	B0-RSEQ	B0-SURF	B0-ACDM

Block 0-APTA: Optimization of Approach Procedures including vertical guidance

Operational Improvements:

- Performance-based navigation (PBN) approaches: Radius to fix
- Reduced missed approaches and diversions due to lowered approach minima

Questions

		Current	2018 (additional)
1	List of airports* with implementation of radius to fix final approach.		
2	What percentage of operations in your State/region fly this procedure?		
3	List of airports* in your State/region with PBN final approaches implementation in order to provide improved access through improved minima (leading to a reduction in missed approaches/diversions).		
4	What percentage of operations benefit from a reduction in missed approaches at the aerodromes identified in question 3?		
5	How many commercial service airports in your State/Region do not have at least one Instrument Landing System (ILS) installed?		
6	What percentage of commercial operations in your State/region occur at the airports included in your response to question 5?		

*Please list international aerodromes published in the ICAO regional air navigation plans using their ICAO code.

Future Developments

- **ASBU Performance Indicators**
 - ASBUs are focused on **performance**
 - A performance analysis should be **well-defined** from the beginning to succeed
- **Some Ideas**
 - An interactive tool to assess **expected operational benefits** using influence diagrams

Future Developments

- ASBU Performance Indicators

WHAT WE WANT

- In the future, assistance with **data** to measure against safety and air navigation performance indicators

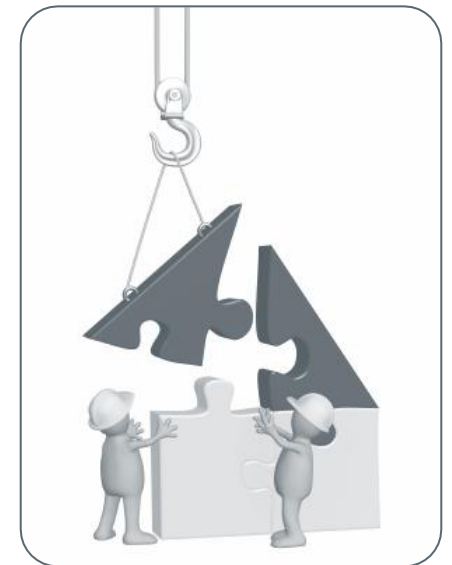


GLOBAL EVENTS



ICAO World Aviation Forum

- **Date and Location:** Montréal, 24 to 26 November 2015
- **Theme: No Country Left Behind**
- **Unique symposium focused on implementation, allowing:**
 - States to highlight their priority needs
 - ICAO to showcase available assistance and success stories
- **Participants:**
 - States, industry, international and regional organizations, and financial institutions
- **Objectives:**
 - Support ICAO Resource Mobilization Strategy
 - Secure collaborative support from donors and partners on voluntary contributions and ICAO coordination role





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THANK YOU