



ICAO BUDSS2015

## Block Upgrade Demonstration Showcase and Symposium

19-21 May 2015 Montréal, Canada

### DAY 1 – TUESDAY, 19 MAY 2015

07:30 – 9:30

Registration

#### PLENARY

09:30 – 11:00

#### Welcome to the Block Upgrade Demonstration Showcase and Symposium

- Stephen P. CREAMER, ICAO/Air Navigation Bureau, Director
- Edward L. BOLTON, FAA/ANG-1, Associate Administrator for NextGen (Confirmed)
- Florian GUILLERMET, SESAR-JU, Executive Director (Confirmed)
- Adriaan HEERBAART, Eurocontrol, Director Central Route Charges Office and Director Pan-European Single Sky (Confirmed)
- Kazunari DAIKI, Ministry of Land, Infrastructure, Transport and Tourism/Aeronautical Safety College (ASC), Director (TBC)

11:00 – 11:30

COFFEE BREAK

11:30 – 11:40

#### Update of the Global Air Navigation Plan

- Geoffroy VILLE, ICAO/ANB, International Expert

11:40 – 12:00

#### Implementation Kits

- Michiel VREEDENBURGH, ICAO/ANB, Chief Implementation Planning and Support Section (Safety) (TBC)

12:00 – 12:20

#### From performance need to financial/economic considerations: multi-disciplinary approach to ASBU planning and implementation

- Bernard MIAILLIER, Eurocontrol/Directorate Air Traffic Management, Head of Division - ATM Strategies

12:20 – 12:30

#### Logistics of the Demonstrations

- Geoffroy VILLE, ICAO/ANB, International Expert

12:30 – 14:00

NETWORKING (LUNCH AND TECHNICAL TALKS)

Performance Improvement Area 1 : Airport Operations



14:00 – 15:00	<p><b>Plenary session</b></p> <ol style="list-style-type: none"> <li><b>1. Introduction to the benefits of the ASBU modules</b> <i>Angela GITTENS, ACI World, Director General</i></li> <li><b>2. Standards framework look-ahead, Regulatory Implications &amp; Approvals</b> <i>Yong WANG, ICAO/ANB, Chief Airport Operations and Interoperability section</i></li> <li><b>3. Operational Considerations to ASBU Implementation</b> <i>Les SMITH, FAA/Air transportation Division (AFS-200), Manager</i></li> <li><b>4. From performance need to financial/economic considerations</b> <i>Alain SIEBERT, SESAR JU, Chief Economist &amp; Master Planning</i></li> <li><b>5. Explanation of demos4</b> <i>Miguel MARIN, ICAO/ANB, Technical Officer</i></li> </ol>			
15:00 – 15:30	<b>AFTERNOON TEA</b>			
15:30 – 17:00 Every 30 minutes	Demo 11: Improved Airport Operations through Departure, Surface and Arrival Management	Demo 12: Airport Operation Centre	Demo 13: Flexible Aerodrome Operating Minima	Demo 14: Remote Air Traffic Services (ASBU B1-RATS)
	Demo 11 repeat	Demo 12 repeat	Demo 13 repeat	Demo 14 repeat
	Demo 11 repeat	Demo 12 repeat	Demo 13 repeat	Demo 14 repeat
17:00 – 19:00	<b>NETWORKING WELCOME RECEPTION</b>			



**DAY 2 – WEDNESDAY, 20 MAY 2015**

**Performance Improvement Area 2 : Global Interoperable Systems and Data**

09:00 – 10:00	<p><b>Plenary session</b></p> <ol style="list-style-type: none"> <li><b>1. Introduction to the benefits of the ASBU modules</b> Florian GUILLERMET, <i>SESAR-JU, Executive Director (Confirmed)</i></li> <li><b>2. Standards framework look-ahead, Regulatory Implications &amp; Approvals</b> Steve SMYTH, <i>New Southern Sky, Director (TBC)</i></li> <li><b>3. Information Management at CARATS</b> Hiroyasu Shirasaki, <i>Ministry of Land, Infrastructure, Transport and Tourism/Aeronautical Safety College, Special Assistant to the Director (TBC)</i></li> <li><b>4. From performance need to financial/economic considerations</b> Rob EAGLES, <i>IATA/Air Traffic Management and Infrastructure, Director</i></li> <li><b>5. Explanation of demos</b> Mike HOHM, <i>ICAO/ANB, Technical Officer</i></li> </ol>		
10:00 – 10:30	<i>COFFEE BREAK</i>		
10:30 – 12:00 Every 30 minutes	Demo 21: A live demonstration of using SWIM data sources from around the world	Demo 22: Utilizing Interoperable Systems and Data for virtual ATFM and regional airspace capacity	Demo 23: FF-ICE integration of all digital ATM information, including weather and AIS in a system wide information management environment
	Demo 21 repeat	Demo 22 repeat	Demo 23 repeat
	Demo 21 repeat	Demo 22 repeat	Demo 23 repeat
12:00 – 14:00	<i>NETWORKING (LUNCH AND TECHNICAL TALKS)</i>		
<b>Performance Improvement Area 3 : Optimize Capacity through Flexible Flights</b>			
14:00 – 15:00	<p><b>Plenary session</b></p>		



	<p><b>1. Introduction to the benefits of the ASBU modules</b>  <i>Adriaan HEERBAART, Eurocontrol, Director Central Route Charges Office and Director Pan-European Single Sky (TBC)</i></p> <p><b>2. Standards framework look-ahead, Regulatory Implications &amp; Approvals</b>  <i>Chen Chung HSIN, Air Traffic Management Research Institute (ATMRI), Director (TBC)</i></p> <p><b>3. Operational Considerations to ASBU Implementation</b>            TBA,</p> <p><b>4. From performance need to financial/economic considerations</b>  <i>Steve BRADFORD, FAA/Architecture &amp; NextGEN Development, Chief Scientist</i></p> <p><b>5. Explanation of demos</b>  <i>Nicolas HINCHLIFFE, ICAO/ANB, Technical Officer</i></p>		
15:00 – 15:30	<b>AFTERNOON TEA</b>		
15:30 – 17:00 Every 30 minutes	<i><b>Demo 31: Advanced Airspace Management</b></i>	<i><b>Demo 32: The En Route Flow Planning Tool (EFPT)</b></i>	<i><b>Demo 33: Global Aeronautical Distress and Safety System (GADSS)</b></i>
	<i><b>Demo 31 repeat</b></i>	<i><b>Demo 32 repeat</b></i>	<i><b>Demo 33 repeat</b></i>
	<i><b>Demo 31 repeat</b></i>	<i><b>Demo 32 repeat</b></i>	<i><b>Demo 33 repeat</b></i>
17:00 – 19:00	<b>NETWORKING COCKTAIL RECEPTION</b>		



**DAY 3 – THURSDAY, 21 MAY 2015**

**Performance Improvement Area 4 : Efficient Flight Paths**

09:00 – 10:00	<b>Plenary session</b>		
	<b>1. Introduction to the benefits of the ASBU modules</b> Pamela WHITLEY, FAA/ANG-2, Deputy Assistant Administrator for NextGen (Confirmed)		
	<b>2. Standards framework look-ahead, Regulatory Implications &amp; Approvals</b> Mark STEINBICKER, FAA/Performance Based Flight Systems Branch (AFS-470), Manager		
	<b>3. Operational Considerations to ASBU Implementation</b> TBA, xxxx		
	<b>4. From performance need to financial/economic considerations</b> TBA, CANSO, xxx		
	<b>5. Explanation of demos</b> Marinus de JONG, ICAO/ANB, Technical Officer		
10:00 – 10:30	<i>COFFEE BREAK</i>		
10:30 – 11:30 Every 30 minutes	Demo 41: Expanding the use of RNAV/PBN procedures	Demo 42: Optimizing airport accessibility through PBN and GBAS/GLS	
	Demo 41 repeat	Demo 42 repeat	
11:30 – 12:00		11:30 – 13:00	Demo 43: Initial 4D Trajectory (i4D) Workshop
12:00 – 14:00	<i>LUNCH BREAK</i>		
<b>PLENARY</b>			
14:00 – 14:20	<b>Summary of the BUDSS</b> <ul style="list-style-type: none"> <li>??</li> </ul>		
14:20 – 14:40	<b>Feedback on GANP revision</b> <ul style="list-style-type: none"> <li>Geoffroy VILLE, ICAO/ANB, International Expert</li> </ul>		
14:40 – 15:00	<b>Next steps/Closing</b> <ul style="list-style-type: none"> <li>Stephen P. CREAMER, ICAO/Air Navigation Bureau, Director (TBC)</li> </ul>		



**END OF BUDSS**

A special Global Air Navigation Plan Update Process meeting will be held on Friday 22 May 2015 from 9 am to 12 pm for the participants interested.  
 The intent is to develop the presentation given on Tuesday 19 May 2015 and, particularly, detail the different additions to the GANP and the update timeline.  
 States, Industry and Organizations are welcome to participate.

<b>FRIDAY, 22 MAY 2015</b>	
<b>Global Air Navigation Plan Update Process meeting</b>	
<b>09:00 –12:00</b>	<b>Plenary session</b>

DRAFT



## Descriptions of Demos

### Performance Improvement Area 1 : Airport Operations

#### Demo 11: Improved Airport Operations through Departure, Surface and Arrival Management

Demonstrate traffic flow synchronization linked to the use of RNAV/RNP procedures which will optimize aerodrome terminal operations and in support of efficient surface operations in a dynamic airport scheduling.

FAA is working with NASA on terminal sequencing and spacing of arriving aircraft with an enhanced AMAN, which supports the efficient use of RNAV routings from before Top of Descent into the terminal environment.

SARDA – is a NASA project, which demonstrates capabilities for managing aircraft from gate to the movement area to efficiently manage arrivals and departure in an environment of more dynamic airport scheduling.

#### Demo 12: Demonstrating how SESAR APOC and AOP contribute to improved airport and ATM operations

Despite improvements to airport information exchange through the Airport Collaborative Decision Making (A-CDM) concept, airports are likely to remain as one of the bottlenecks of the future ATM system. Unless the efficiency and predictability of turn-round operations are improved, they will continue to impact on the performance of aircraft operations. Delays will remain as one of the biggest issues at airports, leading to aircraft being held unnecessary with their engines running in taxi and take-off queues. Such unnecessary holding translates to an inefficient use of fuel and airport infrastructure, creating negative consequences for the environment and additional costs for Airspace Users. SESAR recognised the need to build on A-CDM in order to improve and reinforce the collaborative decision-making process.

Through SESAR, European partners are validating the various elements associated with Airport Operations Management, in order to ensure that all relevant stakeholders have access to the right information at the right time. The building blocks of this concept are the Airport Operations Plan (AOP) and the Airport Operations Centre (APOC).

The AOP is the commonly agreed and shared 'rolling' plan that all airport stakeholders use to monitor and manage airport operations. The AOP is an essential tool for integrating Airports into the Network. It is the key enabler to provide common situational awareness amongst stakeholders involved in airport operations within the European ATM network and to develop advanced collaborative procedures beyond the baseline A-CDM concept. The Network Operations Plan (NOP) dynamically integrates all relevant AOP information at the Network level through System Wide Information Management (SWIM).

The APOC brings together the main airport actors and is a central platform for stakeholder communication and coordination based on shared knowledge.

This session will explain how the AOP and APOC fit together within the wider context of SESAR airport research activities and will demonstrate the benefits that the solution can bring using real-world



### Demo 13: Flexible Aerodrome Operating Minima

Introduction of flexible aerodrome operating minima meaning that minima are determined by the combined capability of the airborne, space based and aerodrome equipment. The flexible minima concept makes it possible to get lower minima on existing infrastructure or standard minima with less infrastructure. This is achieved through better equipped aircraft. Better equipped can be EVS, CVS?, HUD or auto-land. The discussion to include.

- Flexible aerodrome operating minima through EVS, HUD or auto-land
- No need for additional infrastructure but optimum use of existing infrastructure
- Short Description of EVS and SVS technology and operations, including operational concept (visual maneuvering elod DA(MDA))
- Safety Aspects of operations with these systems (the Value of EFVS and SVS Technology plus HUD and auto-land)
- Ready to use, in fact in use today (presentation of EFVS)
- ICAO enablers are in place (New approach classification separating operations from procedures and SARPS about operational credits in Annex 6 for aeroplanes and helicopters)
- Guidance provided in Annex 6 and the AWO Manual
- Practical Demonstrations – show a short 1 minute video here and more to be seen at the demo sessions

### Demo 14: Remote Air Traffic Services (ASBU B1-RATS)

SESAR Remote Tower Services enable ATS and Aerodrome Flight Information Services (AFIS) to be centralised and provided to aerodromes from a substitute location. Through centralising pools of resources, RATS significantly reduces the need to operate and maintain actual control tower infrastructure, leading to cost savings, as well as eliminating the need to build replacement towers. This means that RATS can provide significant cost savings for smaller, less busy regional airports where traffic volumes are likely to be insufficient to cover the costs for building and/or maintaining traditional Tower Services. In addition, remotely operated ATS towers may also provide flexibility to larger airports, by providing a solution to efficiently manage periods of low traffic demand, such as night time traffic, or they may act as a contingency solution.

This session will be a unique opportunity for you to hear from stakeholders who are already making remote tower services a reality. Learn about their real life experiences and how this has and will impact their day-to-day operations. Furthermore, it will give you an opportunity to understand the regulatory and standardisation activities underway to support the implementation of these services.





## **Performance Improvement Area 2 : Global Interoperable Systems and Data**

Demo 21: A live demonstration of using SWIM data sources from around the world

Today's ATM system is a patchwork of different types of systems which do not necessarily communicate well one with another. The growing pressure on the aviation industry requires an efficient access to various forms of information, provided and exchanged using a secure and flexible system (an intranet). This is the objective of SWIM.

SWIM enables seamless information interchange between all providers and users of ATM information. They share aeronautical, airport, flight, meteorology, surveillance, flow, capacity and demand information.

Major progress has been made with SESAR's SWIM and demonstrations so far confirm that it allows greater ATM operations efficiency and ATM infrastructure cost reduction thanks to interoperability of systems based on standard technology and information services.

The live demonstration will present the capabilities of the SESAR SWIM technical infrastructure, designed and developed in the context of the SESAR Joint Undertaking work programme – allowing new collaboration between all actors in the system through the consumption of ATM information from Europe as well as other regions.

Demo 22: Utilizing Interoperable Systems and Data for virtual ATFM and regional airspace capacity

Demo from Singapore.

Demo 23: FF-ICE integration of all digital ATM information, including weather and AIS in a system wide information management environment

The FAA and our global partners will demonstrate how information sharing increases the ability to manage operations both tactically and strategically in a multi nation system wide information management environment. The scenarios will demonstrate how FIXM, WXXM and AIXM information provides insight that allows operators and ANSPs to manage their fleet and operations in ways that they cannot achieve today.



### **Performance Improvement Area 3 : Optimize Capacity through Flexible Flights**

#### Demo 31: Advanced Airspace Management

Europe has some of the busiest airspace in the world; it is managed by a network of 58,000 employees, including 17,200 air traffic controllers and covers 11.5 km<sup>2</sup> of airspace with 63 en route centres.

SESAR is validating several solutions which, when combined, will lead to a step-change in how airspace is managed across Europe. Flight Trajectories will be planned, to include airline preferences, and their impact on the network assessed, resulting in smoother network planning, better matched to demand. These trajectories will be user-preferred routes, free from the constraints of a pre-published route network. ATC sectors will be adjusted dynamically to match the predicted demand, and advanced tools will support controllers to maintain a smooth and safe flow. Military planning and airspace requirements will be fully included in the network planning through a flexible allocation of airspace that exactly matches military mission needs, without wasting valuable airspace resources.

This session will provide you with an overview of the Research and Innovation carried out to date, it will give you the chance to hear about their real life experiences and how the implementation of the SESAR Solutions is envisaged.

#### Demo 32: The En Route Flow Planning Tool (EFPT)

The FAA, in partnership with its federally funded research and development center – MITRE CAASD, will demonstrate the En Route Flow Planning Tool (EFPT), a decision support concept designed to better manage air traffic throughput in constrained airspace while allowing for the maximum use of available system capacity. The EFPT provides flight specific constraint identification and route availability information. It will enable the FAA and its user community to better identify reroutes that will avoid airspace constraints including convective weather. This advanced air traffic flow management (AFTM) automation research is focused on maximizing air navigation service provider (ANSP) and customer flexibility during periods in which traffic management initiatives (TMIs) are in place.

#### Demo 33: Global Aeronautical Distress and Safety System (GADSS)

Presentation of the different parts of the Global Aeronautical Distress and Safety System (GADSS).



## **Performance Improvement Area 4 : Efficient Flight Paths**

Demo 41: Expanding the use of RNAV/PBN procedures

The FAA will discuss and demonstrate its approach for expanding the use of RNAV and RNP procedures, including the development of advanced criteria to extend the capability into lower visibility conditions. This will include parallel runway operations at various spacing.

Demo 42: Optimizing airport accessibility through PBN and GBAS/GLS

Demo 43: Initial 4D Trajectory (i4D) Workshop

Initial 4D (i4D) is a cornerstone of the SESAR Programme as it is the first step towards full trajectory based ATM.

The core characteristic of i4D is making sure that trajectories are always synchronised between air and ground, which is essential to achieve a more performant ATM system. It is a key enabler towards trajectory based operations, enabling more predictable and more efficient flight profiles.

Within the SESAR Programme, the necessary technical enablers are moving from being validated to being demonstrated. Thanks to an enhanced Automatic Dependence Surveillance Contract (ADS-C) system, flight predictions available in the cockpit systems can be transmitted to the air traffic controller through the downlink the Extended Projected Profile (EPP) - a package of refined information representing the flight profile. It is the backbone of a multitude of services that improves the current situation.

This workshop will give you a comprehensive view on how i4D works and how it is validated in SESAR. During the workshop you will have the opportunity to hear from stakeholders who are already moving towards implementing i4D, to learn about their real life experiences and how it brings benefits to the ATM system.