



Block 0: Capabilities within our Grasp



ICAO Block Upgrades

Assumptions and Constraints

- Current ATM infrastructure and procedures will not support forecasted traffic growth
- Implementation of major ATM programs are not optional
- Need for mechanisms to ensure harmonization

ICAO Block Upgrades

Three Challenges:

- Need for mechanisms to ensure ground system readiness before effective airborne systems mandate.
- Need for mechanisms to ensure harmonization against different implementation strategies, timelines and target dates.
- Harmonization must be a parallel and not a retrospective activity

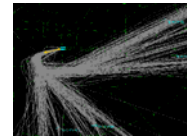
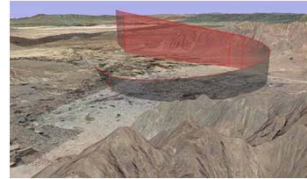
Block 0: Capabilities within our grasp overview

- Improved airport accessibility – using Performance-based Navigation (PBN)
- Improved flexibility and efficiency in descent profiles – Continuous Descent Operations (CDO)
- Improved flexibility and efficiency in departure profiles – Continuous Climb Operations (CCO)

Block 0: Capabilities within our grasp

PBN

- PBN is **today** and we have to implement **now**:
 - Main enabler for runway safety
 - Increase accessibility of airports
 - Increase of airspace efficiency
 - Environmental solutions (noise and emissions)
- PBN is the key building block for next generation airspace concepts (SESAR, NextGen, CARATS, etc.)



What is PBN?

- PBN = **P**erformance-**B**ased **N**avigation
 - Accounts for RNAV and RNP applications
- It defines the performance requirements for aircraft navigating on an Air Route, Terminal Procedure or in a designated airspace.
- Primarily based on Global Navigation Satellite Service (GNSS) and related aircraft equipment...

A Transition

An Obligation

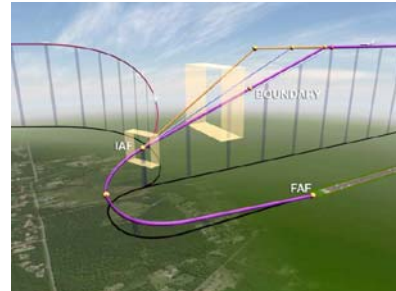
An Enabler

Block 0: Capabilities within our grasp

CDO and CCO

- CDO and CCO provide significant benefits in terms of:
 - Fuel burn reduction
 - Gaseous emissions reduction
 - Noise reduction

- CDO and CCO enabled by Performance-based Navigation



Beyond Planning...

ICAO and its partners are already addressing roll-out of PBN and associated airspace design features such as CDO and CCO.

But assistance and full support from all our aviation stakeholders is needed.



IATA Perspective

- Support ICAO Global vision for an integrated, harmonized and globally interoperable CNS/ATM system
- Looking for “gate to gate” solutions rather than based on state boundaries & “traditional” thinking
- Aviation a Global industry = Integrated Global Solutions

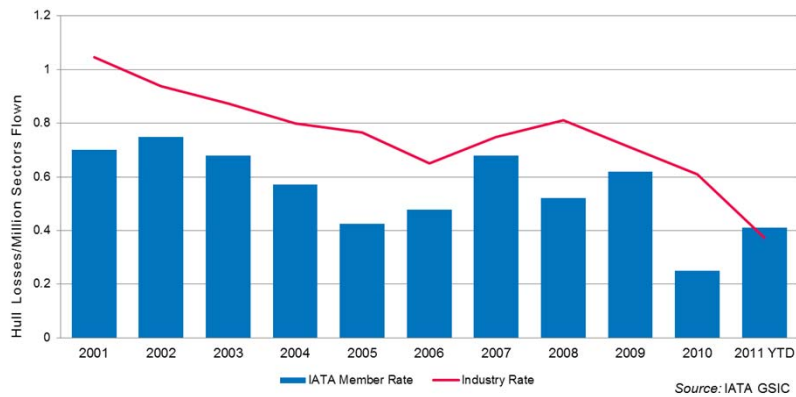


IATA Perspective

- **Integrated**
 - System is autonomous - Holistic
 - Automated links between all facilities
 - Operate as a complete network
- **Harmonised**
 - FIR to FIR to FIR (not necessarily the same but consistent and interoperable)
 - Specific technology not necessarily relevant (e.g. SSR or ADS-B)
- Globally **interoperable** – not Regional Specific!



Maintaining safety is essential – risk mitigation is key

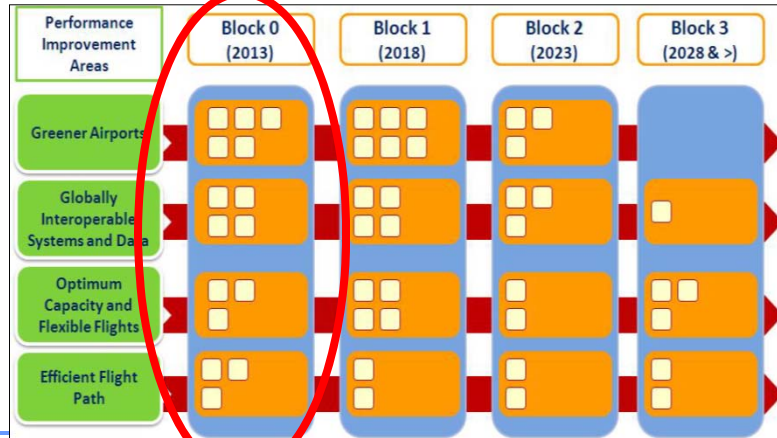


What we expect?

- **Near term benefit**
 - **Utilize current capability**

- **Long term plans**
 - **Harmonized plan to meet future growth**

ICAO ASBU as transition roadmap



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13

SEAMLESS AIRSPACE

- “contiguous airspace that is technically and procedurally interoperable, universally safe, and in which all categories of airspace users transition between Flight Information Regions, or other vertical or horizontal boundaries, without requiring a considered action to facilitate that transition and without any noticeable change in:
 - Type or quality of service received,
 - Air navigation and communications performance standards
 - Standard practices to be followed.

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14

Final remarks

- Capabilities within our grasp. Don't let it slip through your fingers....
- PBN is the key stepping stone and affects all corners. In order to create a sound basis for the future of our air navigation system we all need to contribute, starting **now**.
- SEAMLESS CAR/SAM SKIES

to represent, lead and serve the airline industry

