



LET'S DELIVER TOGETHER

PBN and SESAR

SESAR Deployment Manager's view

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Part 1

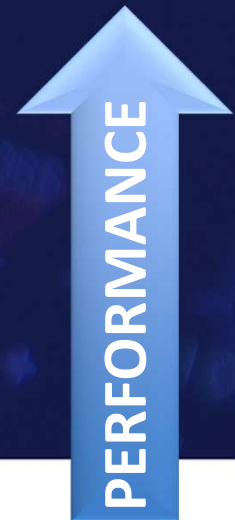
Short introduction to the SESAR Deployment Manager



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OUR MISSION TOGETHER



The Pilot Common Project

WHAT

- 1 Extended AMAN and PBN in high density T
- 2 Airport Integration and Throughput Functi
- 3 Flexible Airspace Management and Free Ro
- 4 Network Collaborative Management (Flow
- 5 iSWIM: ground-ground integration and aeronautical data management and sharing
- 6 Initial Trajectory Information Sharing: air-ground integration towards i4D

WHERE



WHEN



WHO



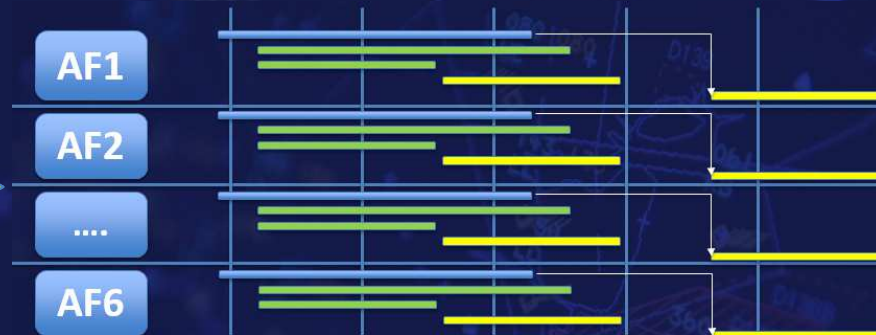
The Deployment Programme

Building on industry's experience

- 1 Extended AMAN and PBN in high density
- 2 Airport, Integration and Throughput Fund
- 3 Flexible Airspace Management and Free R
- 4 Network Collaborative Management (Flow
- 5 SWIM, around ground integration and aeronautical data management and sharing
- 6 Initial Trajectory Information Sharing: air-ground integration towards 4D



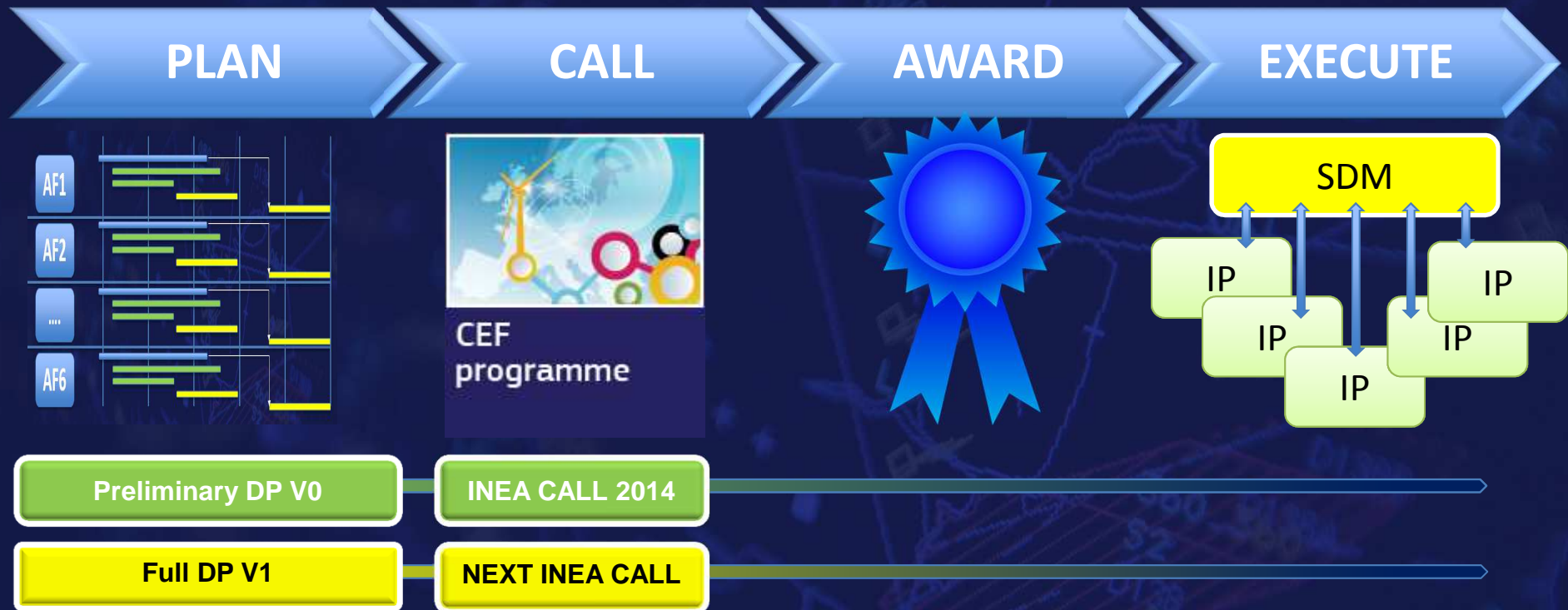
HOW



... a robust “project view” to deliver PCP timely through families of synchronised and coordinated implementation projects

The Deployment Programme

Not just another plan...



... the specification for the CEF calls through which the budget for SESAR deployment will be allocated to projects

CONSULT

- Stakeholders Relations are vital to SDM success
- Key objectives
 - **De-risking** through Cooperative Arrangements
 - **Buy-in** through Consultation Platform



Standardisation and Regulation

- SDM and DP are heavily dependent upon:
 - SJU's R&D and validation of SESAR's solutions
 - Their industrialisation
- Timely availability of Specifications/Standards and Regulations is essential to focused and efficient implementation ensuring:
 - Safety
 - Interoperability
 - Manufacturing industry to market the right products
 - Support to implementing stakeholders in their procurement

Regulation is support to deployment!

SDM-EASA cooperation

- Identified as essential, considering the need:
 - To **de-risk** Deployment Programme: all regulatory pre-requisites identified; realistic and consistent dates to deliver them;
 - To **address “cross border” safety issues** through European wide implementation.
- Way forward
 - Initial contact established
 - Define working arrangements (March – April)
 - Early joint work in support to DPV1 development (April – June)
 - Cooperative arrangement signature (September)



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Part 2

From PCP to PBN implementation

Starting point...

PBN as part of the PCP

AF1: EXTENDED ARRIVAL MANAGEMENT AND PERFORMANCE BASED NAVIGATION IN THE HIGH DENSITY TERMINAL MANOEUVRING AREAS

Enhanced Terminal Airspace using RNP-Based Operations

- Enhanced Terminal Airspace using RNP-Based Operations:
 - RNP 1 SIDs, STARs and transitions (with the use of t Radius to Fix (RF) attachment)
 - RNP APCH (Lateral Navigation/Vertical Navigation (LNAV/VNAV) and Localiser Performance with Vertical guidance (LPV) minima)

Validation work in SESAR

- A number of projects in SESAR 1 have worked on and validated aspects of PBN

SESAR 1 validations

- RNP APCH with Radius-to-fix turns onto a short final
- RNP1 to RNP APCH transition
- RNP to GLS transition
- Reduced RNP route separation
- Use of tactical parallel offsets (TPO) for separation

1.3. Stakeholders required to implement the functionality and deployment target date

ATS providers and the Network Manager shall ensure that ATS units providing ATC services within the terminal airspace of the airports referred to in point 1.2 and the associated en-route sectors operate Extended AMAN and PBN in high density TMAs as from 1 January 2024.



State of play: IDSG's view

PBN is key for a flexible and more efficient use of airspace with operations less dependent on ground infrastructure

- **Activity Area N°6: RNP Approach**
 - Implementation of APV procedures provides improved airport access where precision approaches are not available
- **Activity Area N°7: Continues Descent/Climb Operations (CDO/CCO)**
 - High potential for environmental improvements when combined with PBN based procedures

State of play: INEA CEF CALL 2014

Proposed projects in line with PCP/PDP V0

- Redesign of TMAs and implementation of PBN (FT1.2.3)
 - 8 project proposals (54M€)
 - 2014-2019
- RNP APCH with APV (FT1.2.1)
 - 3 project proposals (4M€)
 - 2014-2020
- Geographical Databases (FT1.2.2)
 - 2 project proposals (4M€)
 - 2014-2017

Way forward - PBN in DP V1

- Main differences between EASA PBN NPA and PCP
 - Geographical scope
 - Dates are not aligned
 - CBA material in EASA PBN NPA is not based on the same scope as PCP/PDP, therefore difficult to compare
- CEF 2014 Proposed Implementation Projects are not covering the total geographical scope defined in PCP
 - Gap analysis input to DP v1

Conclusion

- PBN is key for a flexible and more efficient use of airspace with operations less dependent of ground infrastructure
- PBN is critical to performance (safety, cost, capacity, environment), flexibility and precision of navigation
- PDP important first step towards full deployment
- DP expected to cover full deployment of PCP
- **Standards and Regulation are key enablers for efficient and focused deployment**



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Thank you very much

Let's deliver together now!

State of play: INEA CEF CALL 2014

AF1 – Extended AMAN and PBN in high density TMAs and associated en-route sectors

- PBN covers implementation of fuel efficient environmentally friendly procedures for arrival and departure (FT1.2.1, FT1.2.3)
 - RNP1 SIDs
 - RNP1 STARs
 - RNP APCH with APV
- 24 most busy airports/TMAs defined in PCP IR, plus Istanbul Ataturk airport outside EU
- Synchronised deployment to ensure overall network performance
- Availability of quality ensured geographical data for procedure design (FT1.2.2)