

# *Enabling Information Sharing thru Common Services*

## **Digital Briefing Concepts**

Presented To: Applying Common Services

Presented By: Eddy Porosnicu, Eurocontrol

Date: 31 August 2011





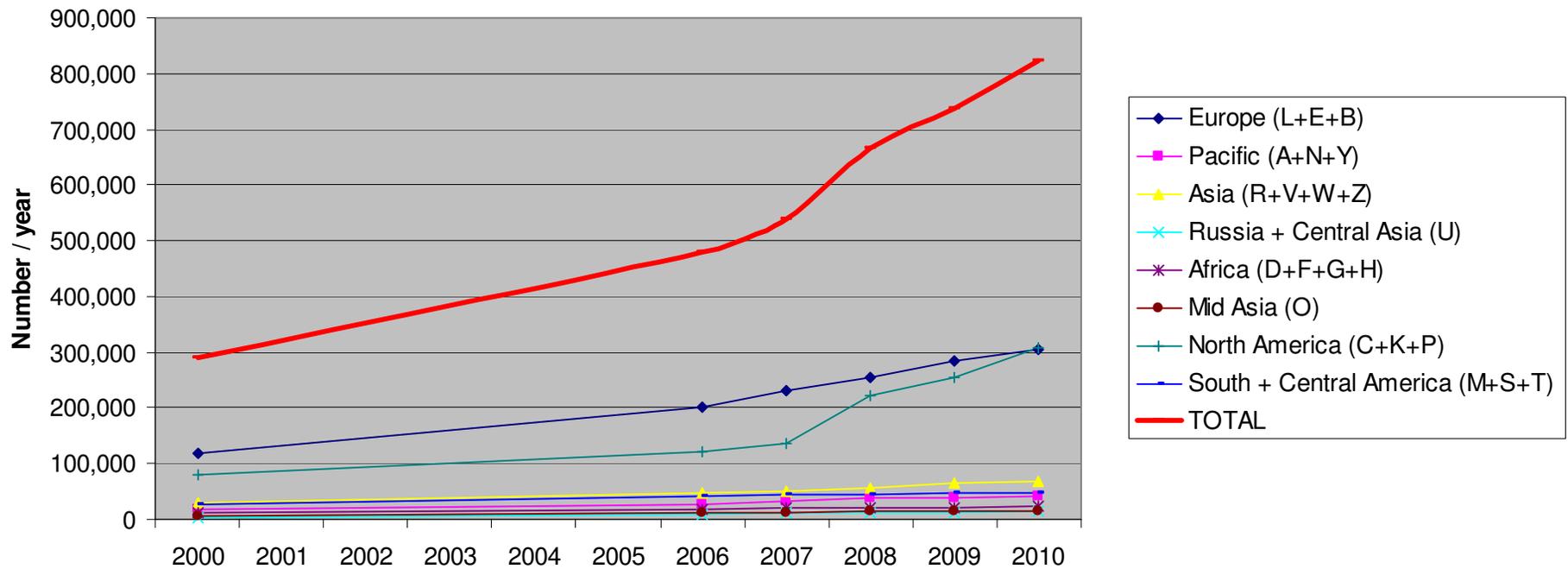
## Current Briefing Concept

- NOTAM
  - as means of announcing latest sudden changes
- Briefing
  - as means of communicating NOTAM to the pilot
    - Pre-Flight Information Bulletin (PIB) = List of NOTAM
    - Verbal
    - On-line briefing – initial attempts, limited by NOTAM text capabilities



# Why long PIB

(International) NOTAM Trends



Source: European AIS Database (EAD)



# NOTAM problems

*... obstacles with  
imprecise positions*

*... irrelevant  
information*

*... runway shortenings  
when the NOTAM  
simply gives a new  
TORA and does not  
really say WHERE the  
runway have been  
shorter (in what end)*

*... complex restricted  
area boundaries that  
take hours to put on  
a map!*

**10%**

of the NOTAM have errors  
according to a study  
done by GroupEAD  
on randomly selected  
messages!

*... typing errors*

*... very long and  
complex to read!!!*

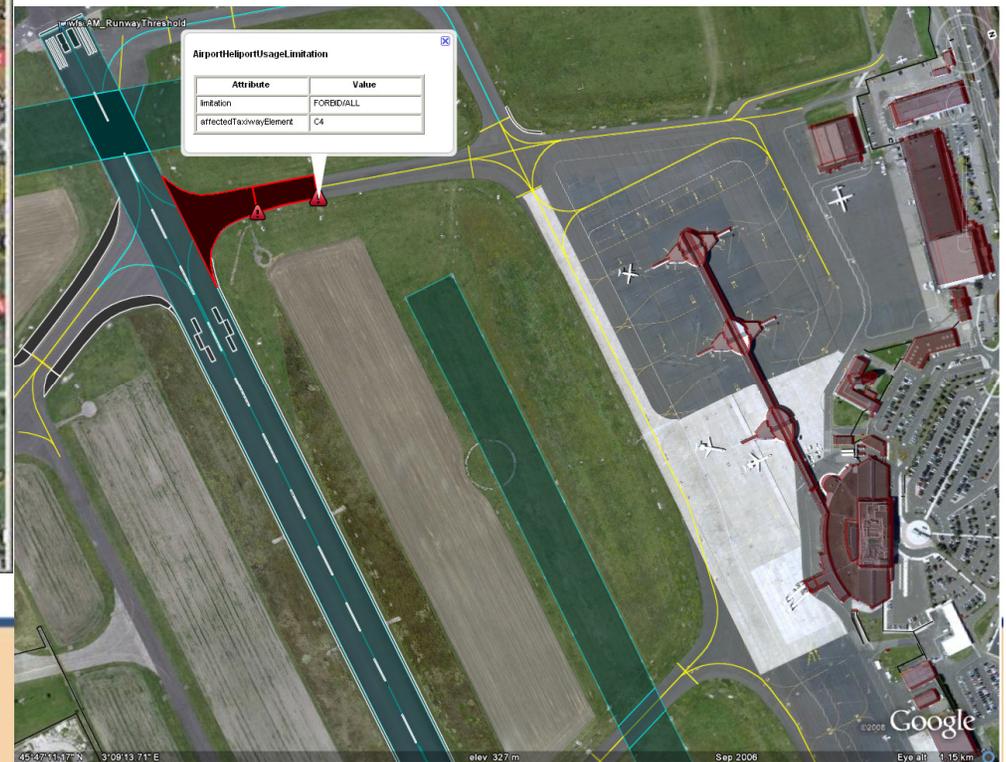
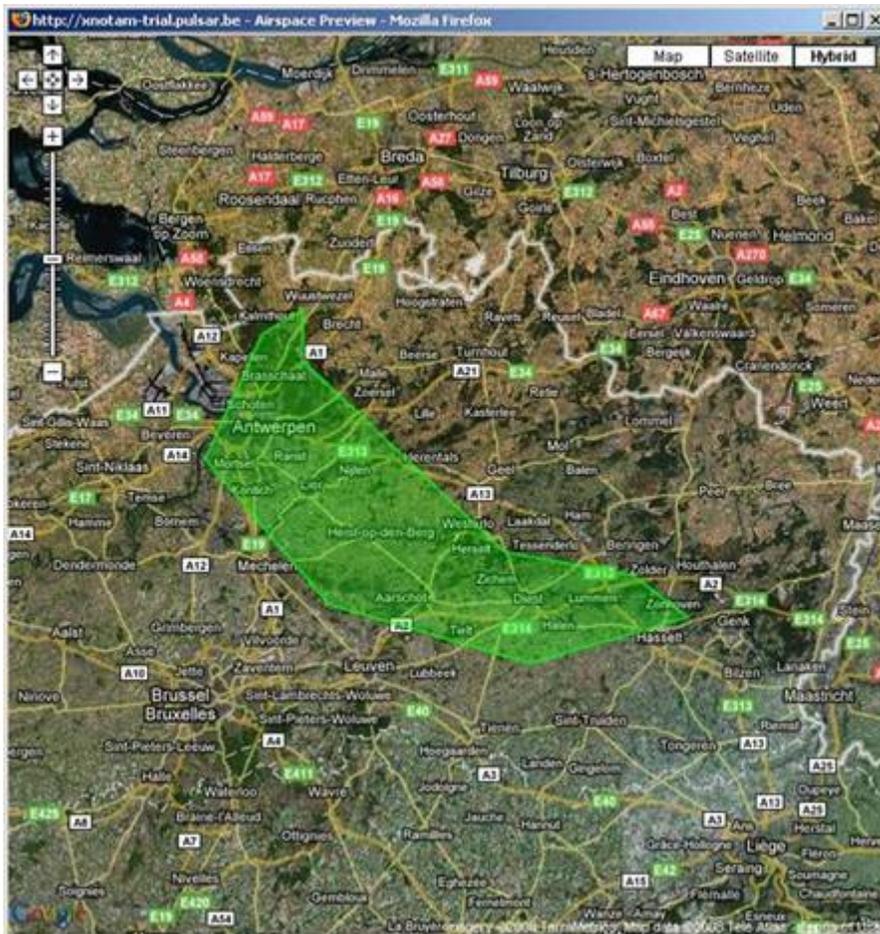




# Digital NOTAM – improved data quality

*Digital data:*

- clearer / more precise than free text
- enables validation
  - automatic by the system
  - visually by the operator





# Digital NOTAM – improved briefing

PIB -

File Edit View Favorites Tools Help

Back Forward Stop Home Search Favorites Media

Address 3-12-04%2022:34&ifr=true&vfr=true&operational=false&featu

## PRE-FLIGHT INFORMATION BULLETIN

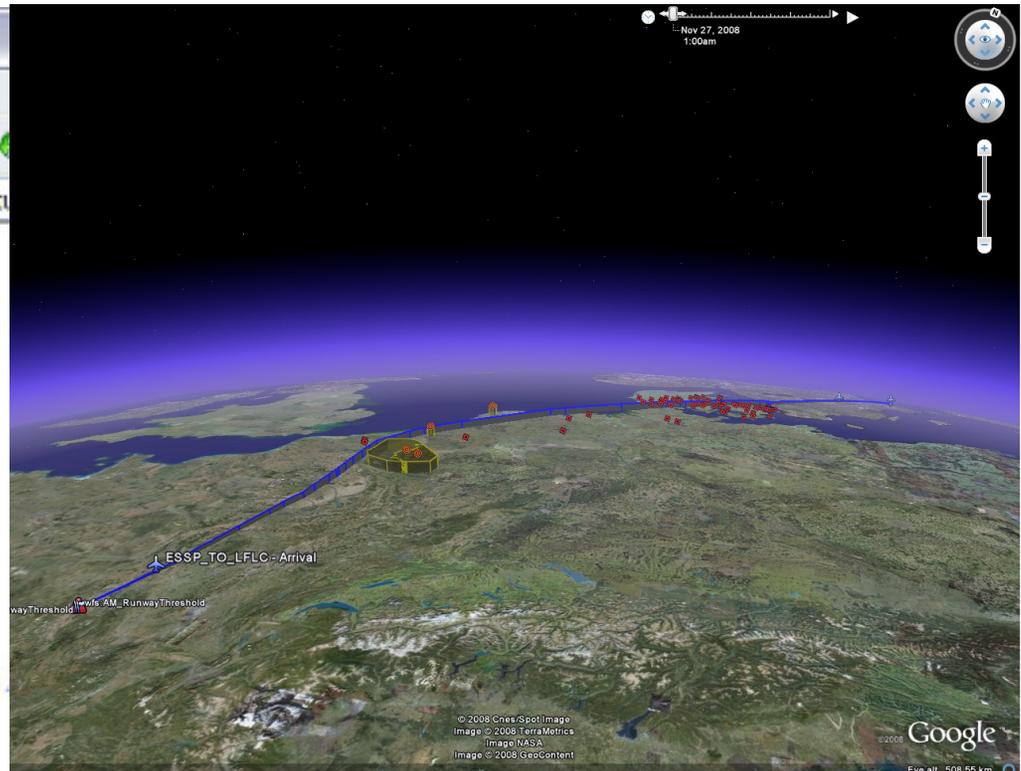
FROM: Tue Jun 10 22:34:00 CEST 2003 TO: Thu Dec 04 22:34:00 CET 2003

FLIGHT RULES: **VFR IFR**

PURPOSE: ALL

SELECTED FEATURES: AERODROME/HELIPORT APRON DME PARKING  
NDB RUNWAY TAXIWAY VOR

- AERODROME **EHAM**  
FROM 2003-07-02T13:00:00 TO 2003-10-02T13:00:00  
**BIRD CONCENTRATION**
  - RUNWAY 01L/19R
    - RUNWAY DIRECTION 01L  
FROM 2003-06-09T00:25:00 TO 2003-06-09T12:00:00 EST  
TRANSMISSION METER OUT OF SERVICE
  - TAXIWAY W7  
FROM 2003-06-15T23:18:00 TO 2003-06-17T03:00:00  
TWY OUT OF SERVICE ACFT HEAVIER THAN 19000 KGS
- NDB CH 521314.22N 0043327.36E



*Positive impact on safety*



Federal Aviation Administration



## Current PIB problems

- too long
- cumbersome to build
- NOTAM not prioritized
- irrelevant NOTAM
- format difficult to read
  - ALL CAPS
  - abbrev.
  - pour Inglesh
- no grouping per feature
- missing data in case of significant re-routing or due to inappropriate selection criteria



Source: [HindSight - Aviation Safety Magazine for Air Traffic Controllers - Skybrary](#)

## Expectations

- Merging aeronautical, MET, flight information
- Only the relevant information
  - ... but also in case of re-routing
- Easy to understand
  - Graphical (where appropriate)
  - Organized per phase of flight
  - Critical information highlighted
- Interactive
  - Available for EFB

# SESAR Work Breakdown Structure

<p><b>4 En Route Operation</b></p> <p>Project 04.02: Consolidation of operational concept definition and validation including operating mode and air-ground task sharing</p> <p>Project 04.03: Integrated and pre-operational validation &amp; cross validation</p> <p>Project 04.05: Trajectory management framework in En route</p> <p>Project 04.07.01: Complexity Management in En Route</p> <p>Project 04.07.02: Separation Task in En Route</p> <p>Project 04.07.03: Use of Performance Based Navigation (PBN) for En Route Separation Purposes</p> <p>Project 04.07.04: ATSA TTP Pioneer Trials</p>	<p><b>5 Target Concept and Architecture Maintenance</b></p> <p>Project B.01: Consolidation &amp; Commissioning of ATM Target Concept</p> <p>Project D.01: Development &amp; maintenance of the ATM Performance and business aspects of the European ATM Enterprise Architecture</p> <p>Project 04.07.04.3: JCSA/ASD Occasion Applications</p> <p>Project 04.07.05: Self Separation in Mixed Mode Environment</p> <p>Project 04.07.06: In Route Trajectory and Separation Management - ASAS Separation (Cooperative Separation)</p> <p>Project 04.07.07: Implementation of the Dynamic Capacity Management in a high density area</p> <p>Project 04.07.08: Control Tower Organization and responsibilities in a trajectory based operation within free-flight airspace (including multi-sector flights)</p> <p>Project 04.08.01: Evolution of Ground Based Safety Nets</p>	<p><b>6 Validation Infrastructure</b></p> <p>Project 03.01.01: Validation Infrastructure Needs Management</p> <p>Project 03.01.02: Validation Tool Types and Techniques Analysis</p> <p>Project 03.01.03: Validation Infrastructure Requirement Consolidation</p> <p>Project 03.02.01: Validation Platform Development</p> <p>Project 03.02.02: Validation Platform Acceptance, Deployment and In Service Support Acceptance</p> <p>Project 03.00: Global Co-ordination and Management</p> <p>Project 03.01: Validation Infrastructure Requirements Definition</p> <p>Project 03.02: Validation Infrastructure Analysis</p> <p>Project 03.03: Tools Development and Deployment</p>	<p><b>7 R&amp;D Transversal Areas</b></p> <p>Project 16.01.01: Develop a top-down accident/incident model and a Safety Target Achievement Roadmap (STAR) (ex 16.1.1.1)</p> <p>Project 16.01.02: Develop a program for Dynamic Risk Modelling (ex 16.1.1.1.1)</p> <p>Project 16.01.03: Develop the notion of "proof of concept" for aircraft certification when introducing new concept of operations (ex 16.1.1.1.1)</p> <p>Project 16.02.01: ATM security management - ATM security framework (ex 16.2.1.1)</p> <p>Project 16.02.02: ATM Security management - Social and Cultural Factors (ex 16.2.1.1)</p> <p>Project 16.03.04: Updates to Mitigate Future Environmental Risks to ATM System Capacity</p> <p>Project 16.03.07: Future regulatory scenarios and impacts</p> <p>Project 16.04.01: Evolution from ATM HF Case to a HP Case Methodology for SESAR (ex 16.5.1.1)</p> <p>Project 16.04.02: HP Tool Repository of SESAR standard HP methods and tools (ex 16.5.1.1)</p> <p>Project 16.04.03: Impacts of future systems and procedures on selection, training, competence and staffing requirements (ex 16.5.1.4)</p> <p>Project 16.04.04: ATM Security management - Social and Cultural Factors (ex 16.5.1.4)</p> <p>Project 16.06.02: Security support and coordination function</p> <p>Project 16.06.03: Environment risks to ATM function</p> <p>Project 16.06.05: Human Performance support and coordination function</p> <p>Project 16.06.06: Business Case Maintenance, support and coordination</p> <p>Project 16.06.07: Global Coordination and Management</p> <p>Project 16.01: Safety</p> <p>Project 16.02: ATM Security</p> <p>Project 16.03: ATM Security</p> <p>Project 16.04: Environmental sustainability</p>
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<p><b>8 Network Sub-Systems Definition &amp; verification</b></p> <p>Project 05.02: Consolidation of Operational Concept Definition and Validation</p> <p>Project 05.04.01: TMA Co-Operative Planning in the TMA</p> <p>Project 05.04.02: TMA Co-Operative Planning Requirements and Validation</p> <p>Project 05.05.01: Trajectory Management Framework in TMA</p> <p>Project 05.05.02: Improved Airline Flight Plan Information and ATIS Trajectory Prediction (TP) Tools</p> <p>Project 05.06.01: Q1 - Ground and Airborne Capabilities to Implement Sequence</p> <p>Project 05.06.02: Q1.2 - Improving Vertical Profile</p>	<p><b>9 Aeronautical Information Management sub-system definition</b></p> <p>Project 13.02.02</p> <p>Project 13.02.03</p> <p>Project 13.02.04</p>	<p><b>10 Global Co-ordination &amp; Management</b></p> <p>SWP 13.00</p> <p>SWP 13.01</p> <p>SWP 13.02</p>
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<p><b>6 Network Operation</b></p> <p>Project 06.02: Consolidation and consolidation of operational concept definition and validation</p> <p>Project 06.03.01: The Airport in the ATM environment</p> <p>Project 06.03.02: Airport ATM performance (recognition phase)</p> <p>Project 06.03.03: Full integration of airport planning &amp; execution</p> <p>Project 06.05.01: Airport operations plan definition</p> <p>Project 06.05.02: Airport operations plan validation</p> <p>Project 06.05.03: Airport capacity and flow management</p> <p>Project 06.05.04: Airport Operations Centre (APOC) definition</p> <p>Project 06.05.05: Integration of MET Data into APOC processes</p> <p>Project 06.06.01: Operations in adverse weather and/or exceptional operating conditions / recovery management</p> <p>Project 07.02: Co-ordination and Commissioning of Concept Definition and Validation</p> <p>Project 07.03.01: ATIS and ATIS Integrated services</p> <p>Project 07.03.02: Integrated Network (IN) DCB/ADSI Services Management</p> <p>Project 07.05.02: Advanced Characteristics of Airport Management</p> <p>Project 07.05.04: User Referenced Trajectory</p> <p>Project 07.05.09: Dynamic Capacity Management</p> <p>Project 07.06.01: Improved weather resilience - re-classify criteria for Low Visibility Procedures (LVP)</p> <p>Project 07.06.02: Global Co-ordination and Management</p> <p>Project 07.06.03: Integrated and Pre-Operational Validation</p> <p>Project 07.06.04: Airspace Organisation &amp; Management</p> <p>Project 07.06.05: Airspace Organisation &amp; Management &amp; Increased Capacity</p> <p>Project 07.06.06: Airspace Organisation &amp; Management</p>	<p><b>7 Network Planning sub-system definition</b></p> <p>Project 13.02.01</p>	<p><b>8 Aeronautical Information Management sub-system definition</b></p> <p>Project 08.01.01: Information Modelling Airport Domain</p> <p>Project 08.01.02: Information Modelling Other Domains</p> <p>Project 08.01.03: Information Modelling ATIS Information Services</p> <p>Project 08.01.04: Information Modelling ATIS Information Services</p> <p>Project 08.01.05: Information Modelling ATIS Information Services</p> <p>Project 08.01.06: Information Modelling ATIS Information Services</p> <p>Project 08.01.07: Information Modelling ATIS Information Services</p> <p>Project 08.01.08: Information Modelling ATIS Information Services</p> <p>Project 08.01.09: Information Modelling ATIS Information Services</p> <p>Project 08.01.10: Information Modelling ATIS Information Services</p> <p>Project 08.01.11: Information Modelling ATIS Information Services</p> <p>Project 08.03.06: Identify and Develop Airport Operators ATIS Information Services</p> <p>Project 08.03.07: Identify and Develop AIRSPACE SERVICES (and AOC) ATIS Information Services</p> <p>Project 08.03.10: Information Service Modelling deliverables</p> <p>Project 08.00: Global Co-ordination and Management</p> <p>Project 08.01: Information Models Development</p> <p>Project 08.03: Information Service Models Development</p>	<p><b>9 SWIM</b></p> <p>Project 14.01.01: SWP/SUT PFG project follow-up and alignment</p> <p>Project 14.01.02: Identification of Technology and Services</p> <p>Project 14.01.03: SWP Design</p> <p>Project 14.01.04: Interface specifications and Services Technical requirements</p> <p>Project 14.02.01: SWM Middleware</p> <p>Project 14.02.02: SWM Security solutions</p> <p>Project 14.02.03: SWM technical supervision</p> <p>Project 14.02.09: SWM Platform development and Demonstrator delivery</p> <p>Project 14.03: SWP Test Platforms</p> <p>Project 14.04: SWM Exploitation</p> <p>Project 14.00: Global Co-ordination and Management</p> <p>Project 14.01: Aligned with SWP/SUT PFG project and SWM Infrastructure Specificities</p> <p>Project 14.02: SWP 14.02</p>
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<p><b>Acronyms</b></p> <p>APP Approach</p> <p>CNS Communications Navigation Surveillance</p> <p>FWC Flight &amp; Wing Operations Centre / Meteorological Services</p> <p>NIMS Network Information Management Systems</p> <p>SESAR Single European Sky ATM Research</p> <p>SWIM System Wide Information Management</p> <p>TMA Terminal Manoeuvring Area</p> <p>(SWP) (Sub-)Work Package</p>	<p><b>14 SWIM</b></p> <p>Project 14.01.01: SWP/SUT PFG project follow-up and alignment</p> <p>Project 14.01.02: Identification of Technology and Services</p> <p>Project 14.01.03: SWP Design</p> <p>Project 14.01.04: Interface specifications and Services Technical requirements</p> <p>Project 14.02.01: SWM Middleware</p> <p>Project 14.02.02: SWM Security solutions</p> <p>Project 14.02.03: SWM technical supervision</p> <p>Project 14.02.09: SWM Platform development and Demonstrator delivery</p> <p>Project 14.03: SWP 14.02</p>
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(\*) WP 11 - no details available

Partners:

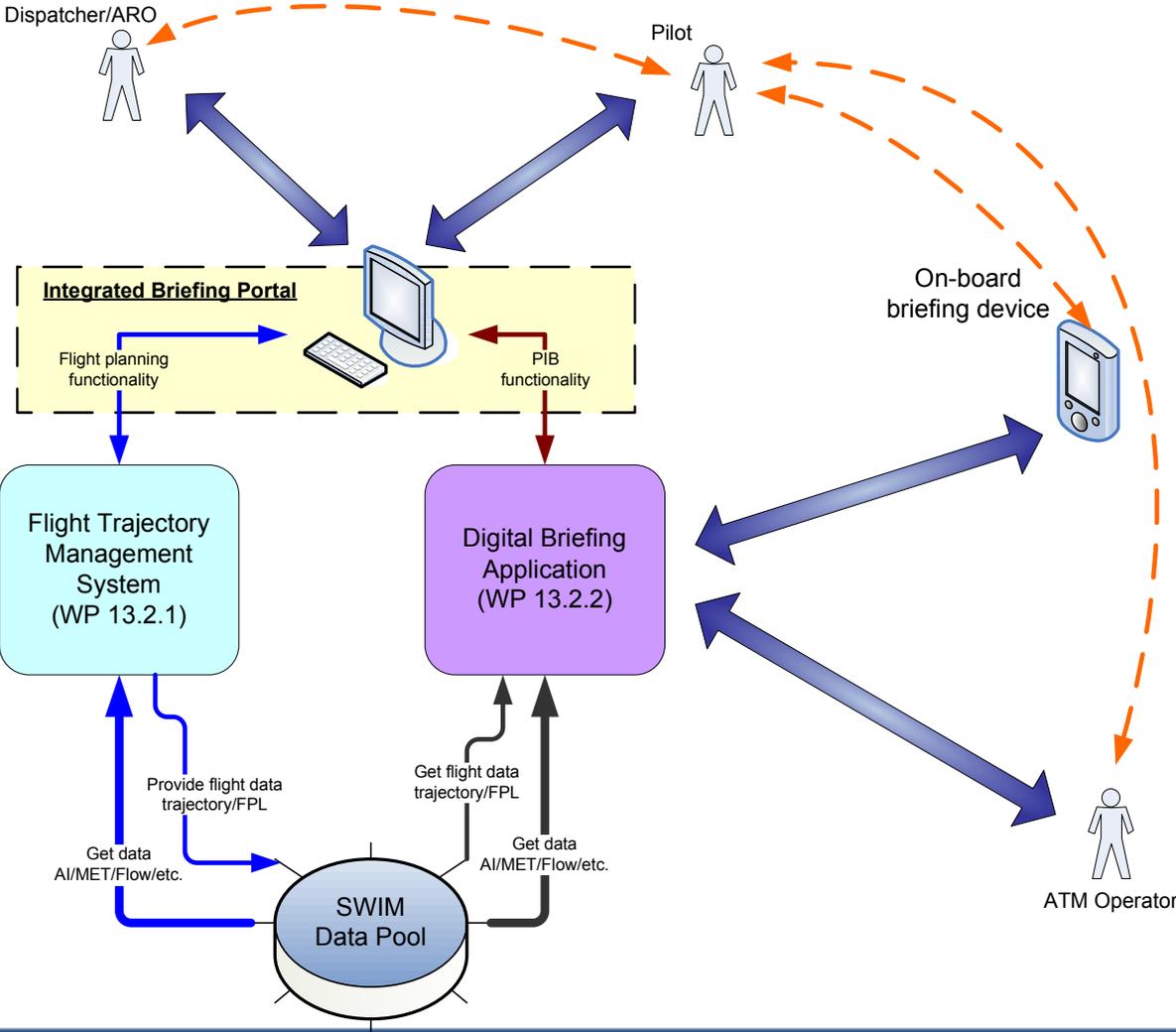
- Frequentis (lead), Thales
- EUROCONTROL (requirements)
- NORACON, DFS, ENAV

+ end user representatives

<p>15.04.09.a: New technologies</p> <p>15.04.09.b: Infrastructure</p> <p>15.04.09.c: Weather Monitoring</p> <p>16.01: Air Traffic Control</p> <p>16.02: ATIS</p> <p>16.03: ATIS</p> <p>16.04: ATIS</p> <p>16.05: ATIS</p> <p>16.06: ATIS</p> <p>16.07: ATIS</p> <p>16.08: ATIS</p> <p>16.09: ATIS</p> <p>16.10: ATIS</p> <p>16.11: ATIS</p> <p>16.12: ATIS</p> <p>16.13: ATIS</p> <p>16.14: ATIS</p> <p>16.15: ATIS</p> <p>16.16: ATIS</p> <p>16.17: ATIS</p> <p>16.18: ATIS</p> <p>16.19: ATIS</p> <p>16.20: ATIS</p> <p>16.21: ATIS</p> <p>16.22: ATIS</p> <p>16.23: ATIS</p> <p>16.24: ATIS</p> <p>16.25: ATIS</p> <p>16.26: ATIS</p> <p>16.27: ATIS</p> <p>16.28: ATIS</p> <p>16.29: ATIS</p> <p>16.30: ATIS</p> <p>16.31: ATIS</p> <p>16.32: ATIS</p> <p>16.33: ATIS</p> <p>16.34: ATIS</p> <p>16.35: ATIS</p> <p>16.36: ATIS</p> <p>16.37: ATIS</p> <p>16.38: ATIS</p> <p>16.39: ATIS</p> <p>16.40: ATIS</p> <p>16.41: ATIS</p> <p>16.42: ATIS</p> <p>16.43: ATIS</p> <p>16.44: ATIS</p> <p>16.45: ATIS</p> <p>16.46: ATIS</p> <p>16.47: ATIS</p> <p>16.48: ATIS</p> <p>16.49: ATIS</p> <p>16.50: ATIS</p>
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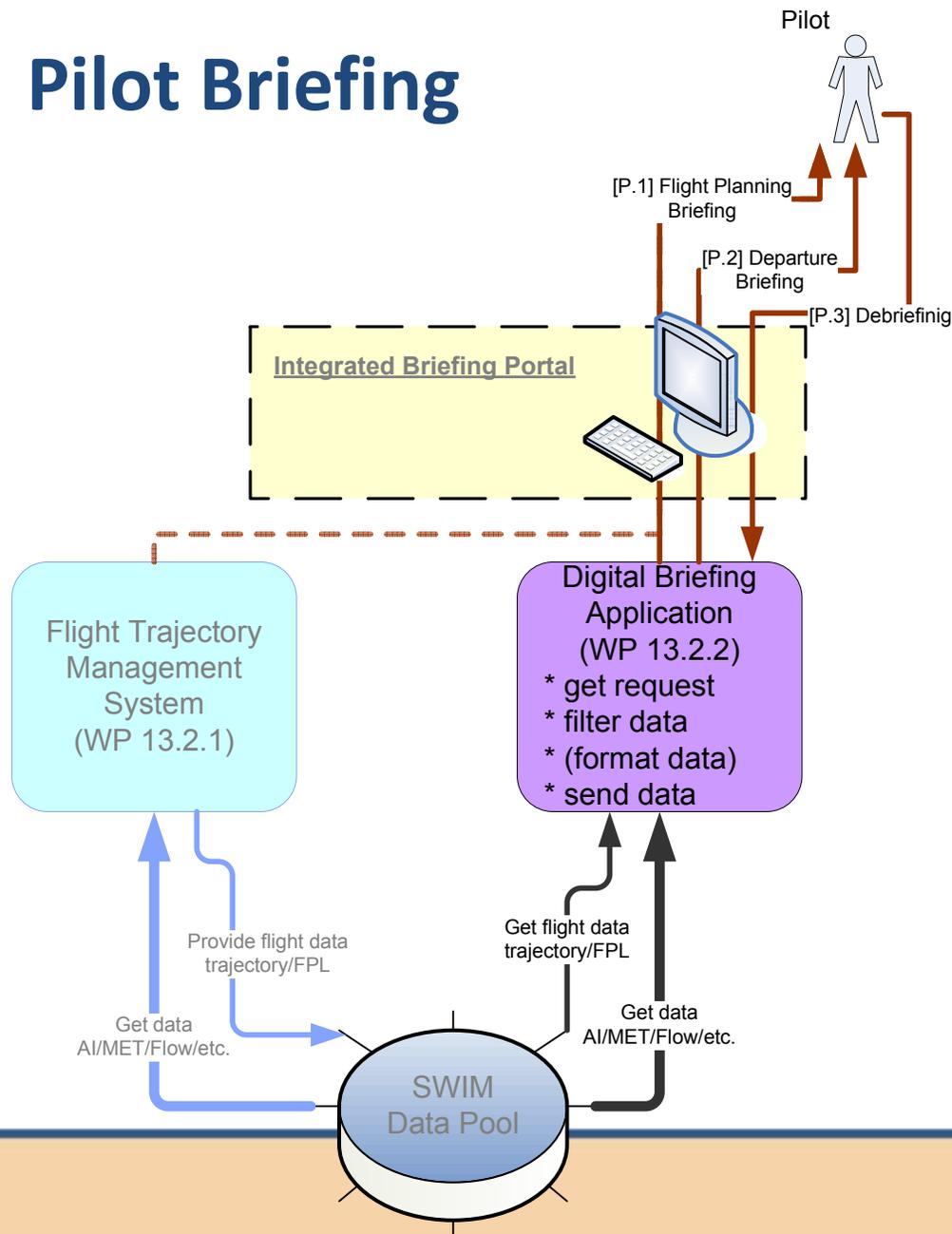


# Digital Briefing System



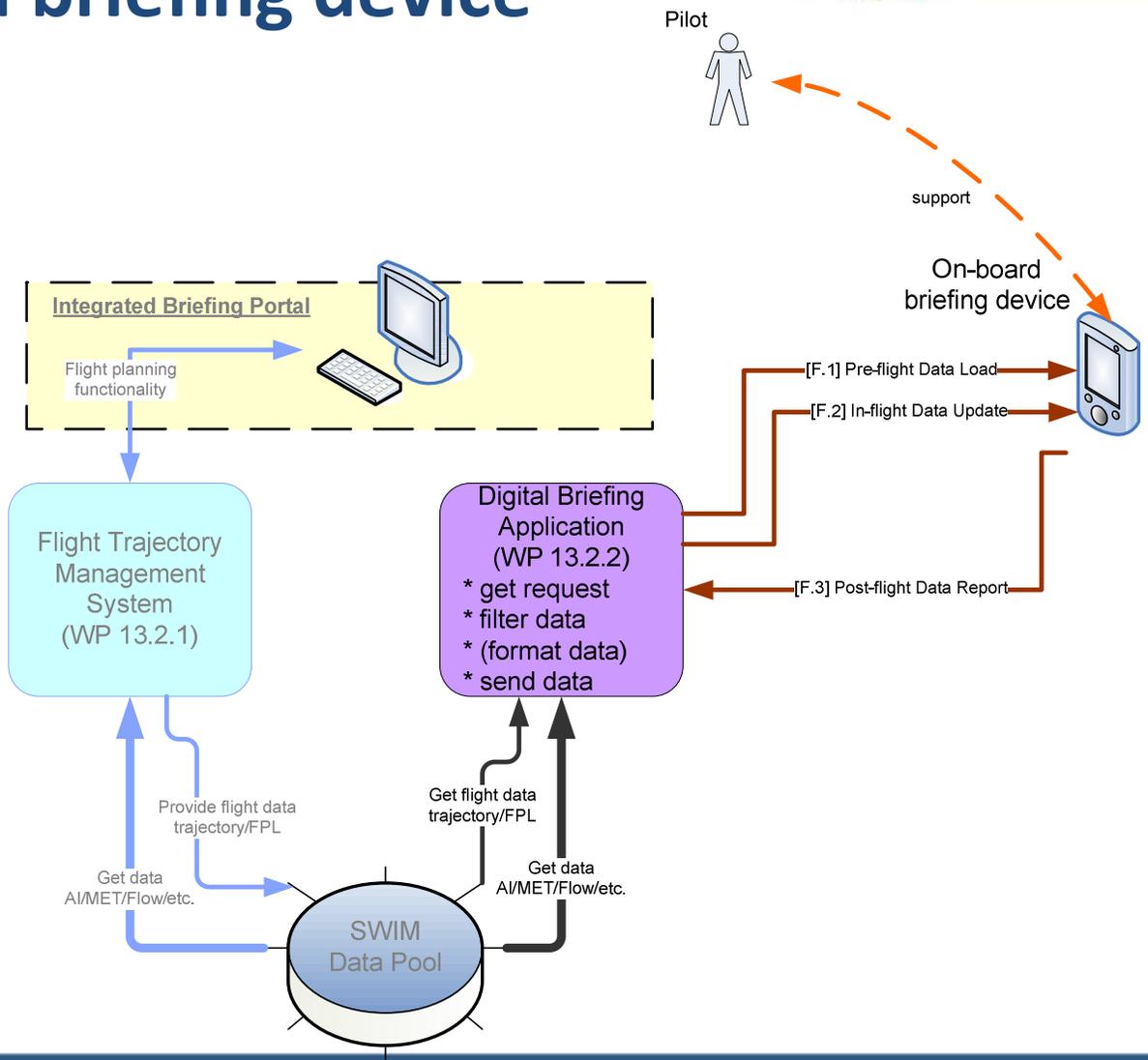


# Pilot Briefing



- ePIB
- Interactive Briefing

# On-board briefing device





# SESAR ePIB Prototype

## Pre-flight Information Bulletin

### Pre-flight Information

Selected time window for displayed NOTAMs: 08 May 2011 15:00 - 10 May 2011 15:00

Driving type: International, Military

En-route height limits (lowest/highest):  
First part: 000/300 Middle part: 220/400  
Route: UKBB KR UP27 SW UT709 DIB

Width of Route: 20NM. Radius around A:

Legend:  
+ = NOTAM is older than 14 days from  
[hatched box] Time bar displaying  
• A scheduled event  
• NOTAM ends or starts within  
• NOTAM ends close to the selected time window.  
→ The NOTAM validity window).

(A1020/11) NOTAM number. Click for full text.

**Table of content**

**AERODROME Departure: Kyiv/Boryspil UKBB**

- Stand/Push-back
- METEO: (at 14:55 UTC)
- ATFM information
- Taxiing
- Take-off/Aborted take-off
- Emergency return
- Climb

**EN-ROUTE**

- SIGMET
- Upper wind and temperature

L'viv FIR - UKLV  
Kyiv FIR-UKBV  
Warszawa FIR- EPWW  
Munich FIR- EDMM  
Langen FIR- EDGG  
Reims FIR- LFEE

**AERODROME Destination: Paris Charles de Gaulle LFPG**

- Approach/Landing
- METEO Forecast (9 May 1100 UTC - valid until 10 May 1200)
- Taxiing
- Stand
- Departure information

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Reims FIR- LFEE

#### AERODROME Destination: Paris Charles de Gaulle LFPG

- Approach/Landing
- METEO Forecast (9 May 1100 UTC - valid until 10 May 1200)
- Taxiing
- Stand
- Departure information

#### AERODROME Alternates: Brussels EBBR

- Approach/Landing
- Taxiing
- Stand
- Departure information

#### AERODROME Alternative: Amsterdam EHAM

- Approach/Landing
- Taxiing
- Stand
- Departure information

#### Other en-route and aerodrome information

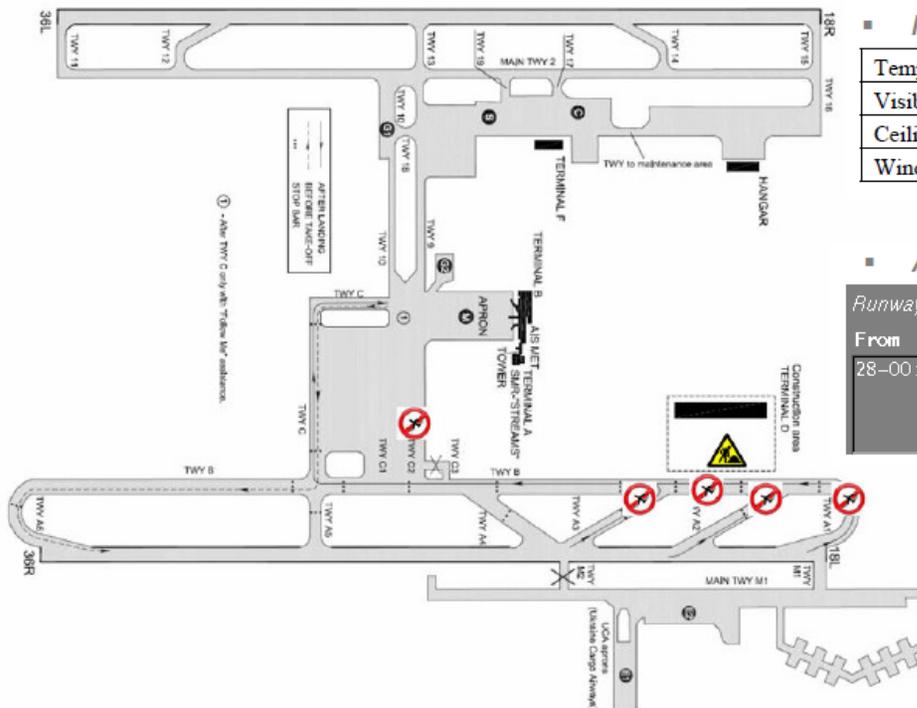
- Warszawa FIR- EPWW
- Bratislava FIR- LZBB
- Praha FIR- LKAA
- Munich FIR- EDMM
- Langen FIR- EDGG
- Reims FIR- LFEE

ed time



# ePIB Prototype

## → Taxiing



### ■ METEO: (at 14:55 UTC)

Temperature: 30° C	Humidity: 46%	Pressure: 1015 hPA
Visibility: 10 KM or more		
Ceiling: no clouds below 1500 m and no cumulonimbus		
Wind: 09 kt from southeast, varying between east and south/southeast		

### ■ ATFM information

Runway Configuration for Aerodrome UKBB between 28-00:00 and 29-00:00. Last Updated: 28-06:14

From	Until	Source	Dep.	Taxi	Tis	Trs	Source	Arr.	Taxi
28-00:00	29-00:00	Env_Def	18	15	10	05	Env_Def	18	15

[2] + TWY A1 and TWY A2 closed.	(A0261/11)
[3] TWY A3 closed.	(A0308/11)
[4] + Segment TWY C2 closed FM TWY B to abeam stand 22. REF AIP UKBB AD 2.24.2-1.	(A0301/11)
[5] + Segment TWY B btn TWY A2 and TWY A3 closed due to repair. REF AIP UKBB AD 2.24.2-1.	(A0306/11)



# Other briefing application

## Graphical SNOWTAM



**EUROCONTROL's Digital SNOWTAM Trial**

EUROCONTROL's Digital SNOWTAM Trial

Provider: EDUARD POROSNICU @ EUROCONTROL Helpdesk

EDDW/BREMEN

Filters

UTC Date/Time: 2010-01-06 12:39

Dataset:  EAD  Local

Apply Filters

**Airport**

EDDW >>

**Aprons**

No apron data available.

**Runways**

RWY-09/27 >>

RWY-23 >>

**Taxiways**

No taxiway data available.

**Aircraft Stands**

No Aircraft Stand data available.

**SNOWTAM and Contamination - Text format**

Contamination - as SNOWTAM draft   Contamination - as plain text   EAD - SNOWTAM

A) EDDW  
B) 01061130  
C) 09 F) 2/2/2 G) 01/01/01 H) 4/4/4  
C) 23 F) 5/5/5 G) 50/50/50 H) 9/9/9  
N) 25  
R) 25  
T) APRON AND TWYS PARTLY COVERED WITH WET SNOW, HEIGHT 5CM.  
CLEARING IN PROGRESS. CAUTION WHILE TAXIING.  
RWY 09/27 CHEMICALLY DEICED. MARKINGS ARE SLIPPERY.  
RWY 23 CLOSED.

Last Updated at: 11:30 UTC (06 Jan)  
- observation time

Map   Satellite   Terrain

1000 ft  
200 m

POWERED BY Google

v1.0.4

Powered by **Pulsar** Consulting

The screenshot shows a web-based application for displaying SNOWTAM information. The main window is titled "EUROCONTROL's Digital SNOWTAM Trial" and shows a map of the EDDW/BREMEN airport. A central window displays the SNOWTAM text in a structured format, including airport identifier, time, runway status, and weather observations. The map shows runways 09/27 and 23, with various markers for water and snow. The interface includes a filter panel on the left, a search bar at the top, and a map control panel on the right. The application is powered by Google Maps and Pulsar Consulting.



## Summary / Conclusion

- Digital Briefing enabled by AIXM/WXXM/FIXM
  - Service adapted to the end user needs
  - Various forms
    - ePIB
    - Interactive (local, Web)
    - EFB
  - Common aspects
    - Graphical
    - Organized per phase of flight
- SESAR (WP 13.2.2) contribution
  - Digital Briefing research & prototypes

# Questions & Answers / Feedback



Air Transportation Information  
Exchange Conference - (featuring  
AIXM, WXXM and FIXM)



Federal Aviation  
Administration