GBAS FAA / Europe Meeting

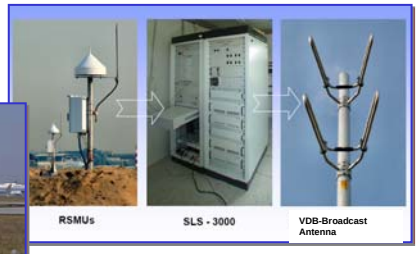
DFS GBAS Activities

14 December 2004

Washington D.C.

herbert.hoffmann@dfs.de

- GBAS Goals
- Initial Timeline
- GBAS Current Activities

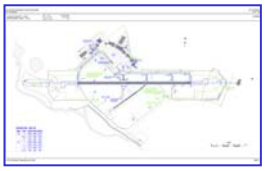


DFS Ground Based Augmentation System (GBAS)

DFS GBAS Goals:

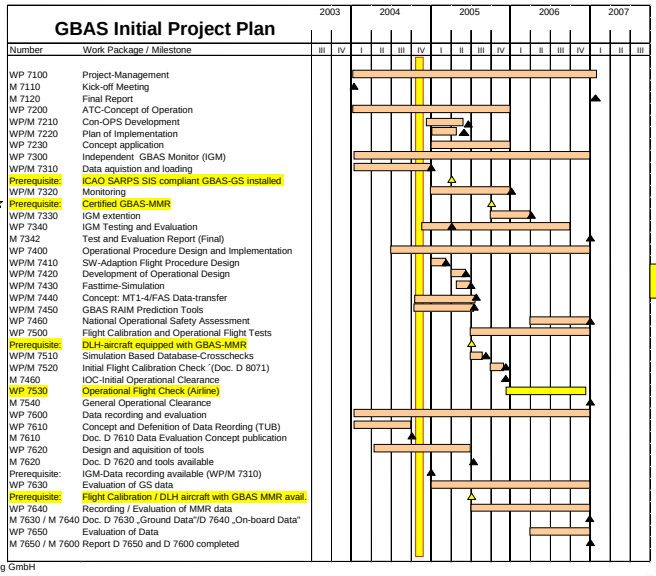
- Short-term: OPS Implementation of GBAS CAT I at Bremen (EDDW), Germany.

- Long-term: OPS Implementation of GBAS CAT III in Germany.



Ground Based Augmentation System (GBAS)

Major Work Package



DFS Ground Based Augmentation System (GBAS)

DFS GBAS Time Line

1. **ICAO SARPS *SIS* compliant GS Installation (2nd Quarter 2005)**

- EDDF SLS-3000 upgraded and moved to EDDW or
- New GS (SLS-4000) installed at EDDW

DFS Ground Based Augmentation System (GBAS)

DFS GBAS Time Line

2. **DLH aircraft equipped with GBAS / MMR:**

- Aircraft will receive GBAS / MMR and monitoring equipment to be used for data recording (Pending Airbus Aircraft Certification).
- New aircraft aquisitions and aircraft receiving avionics upgrades: Airbus A-380, A-340, A-330, A-320 (Pending Airbus Certification)

DFS Ground Based Augmentation System (GBAS)

DFS GBAS Time Line

4. **Flight-calibration aircraft equipped with GBAS / MMR** (2nd Quarter 2006)
5. **ICAO Doc. 8071 Vol. II Chapter 4 is published**

DFS Ground Based Augmentation System (GBAS)

DFS GBAS Time Line

6. **Daily Ops (Airline) Approaches (4th Quarter 2005)**

Possible regulatory waivers allowing GBAS CAT I approaches under IMC conditions on revenue flights

DFS Ground Based Augmentation System (GBAS)

DFS GBAS Current Activities

1. ATC-Concept of Operations GBAS

Initial Draft (9 December 2004)

- Ground Station (Ground Subsystem)
- ATC User Interface
- GBAS Airborne Systems
- Procedure Design
- Training und Application
- Flight Plan Criteria
- New Phraseology
- Maintenance

DFS Deutsche Flugsicherung

GBAS CAT-I

DFS Concept of Operations

(Draft) Initial

prepared by

Noise Abatement, Environment, Navigation

DFS Deutsche Flugsicherung GmbH

9 December 2004

DFS Ground Based Augmentation System (GBAS)

DFS GBAS Current Activities

2. Independent GBAS Monitor (IGM)
Dr. Winfried Dunkel

DFS Ground Based Augmentation System (GBAS)

DFS GBAS Current Activities

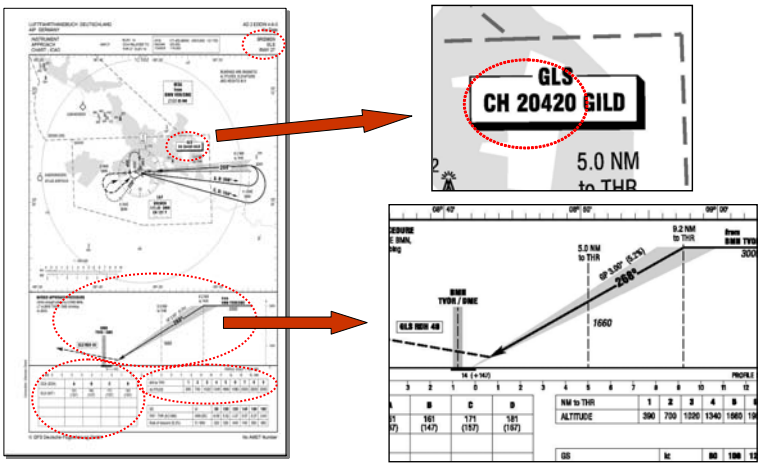
3. Operational Procedure Design and Implementation

PANS OPS 8168, Vol II, AMDT 12, GBAS procedure design criteria was published on 25 November 2004.

The procedure design software FPDAM, will be upgraded in December 2004. This software will become available beginning January 2005.

DFS Ground Based Augmentation System (GBAS)

- **Operational Procedure Design and Implementation**



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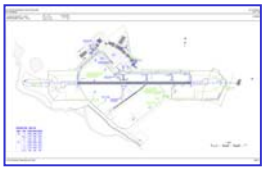

DFS Ground Based Augmentation System (GBAS)

Questions ?

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DFS Deutsche Flugsicherung GmbH
GBAS