> Datalink Ground Server

Malaysia Expert Dialogue on Real-time Monitoring of Flight Data

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Lufthansa Systems

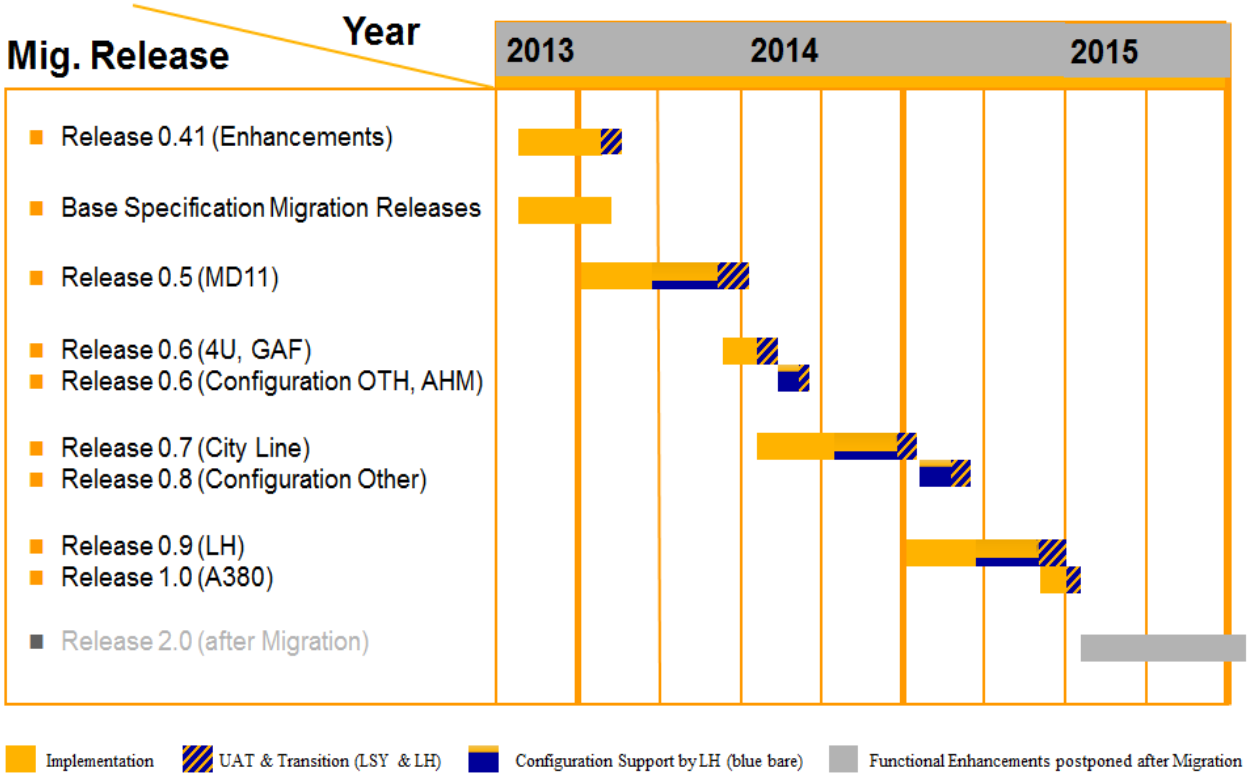
IT that makes your life easier

> Introduction

- Matthias Lienert, Lufthansa Systems AG, DLK System Architect
- Department: Lufthansa Passage Solutions, Team Flight Support & Information, FRA AY/P-F
- Development, maintenance and operation support of communication, planning and information systems to support efficient flight operations
- Datalink - Air/Gnd data communication system
  - **DLK GM** = legacy system, UNISYS mainframe (20 years old)
  - **DLK GS** = successor to DLK GM, (Linux, JEE) complete redesign. Project name GADCom (Ground Air Data Communication).

> Migration DLK GM → DLK GS

- „flleet by fleet“ migration concept from legacy system to new system
- Start 2013, DLK GS Release 0.4 is productive since October with the new LH Cargo B777 fleet



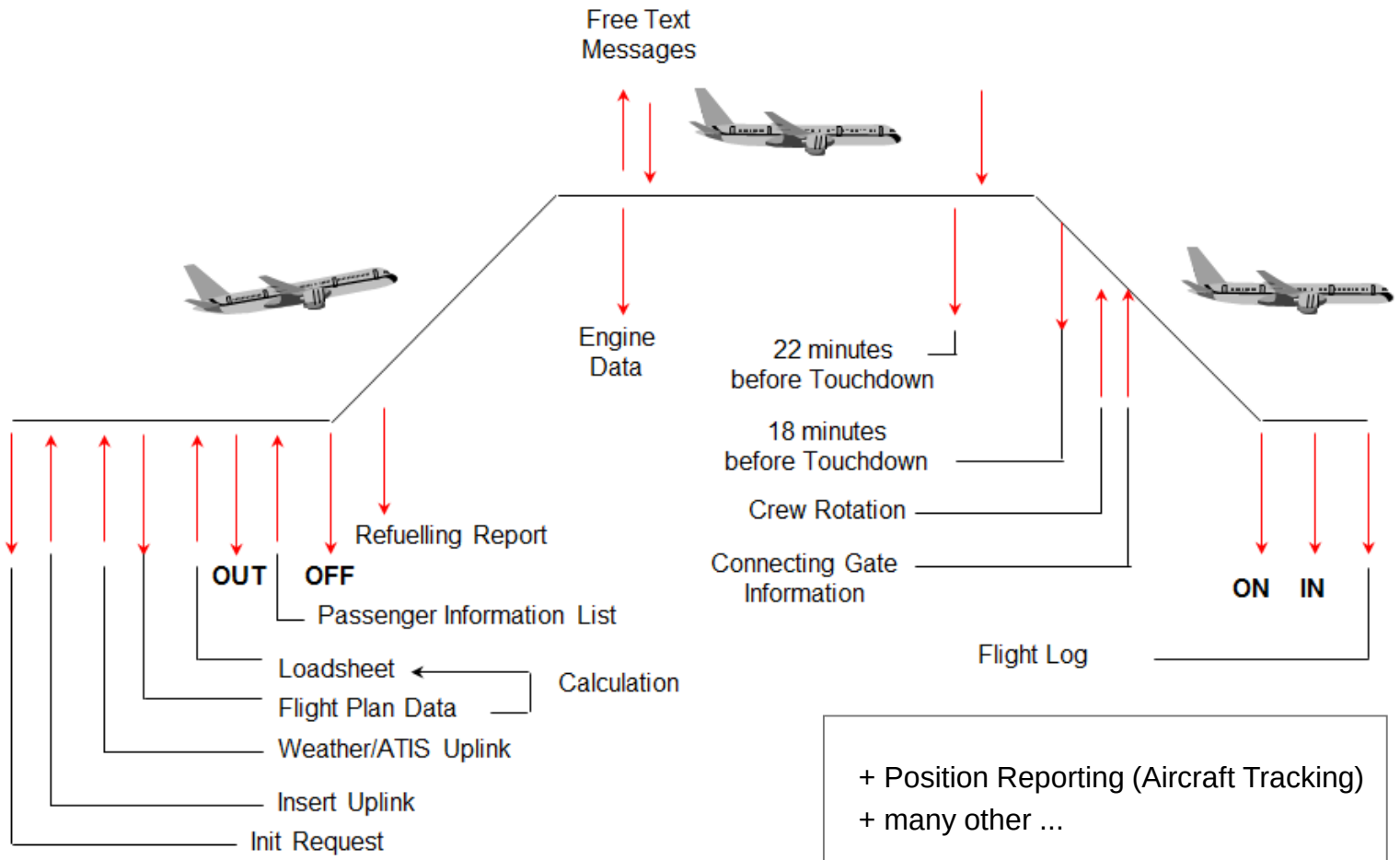
> Datalink facts

- About 20 customer airlines
- More than 700 aircrafts
- 100-150 messages for short distance / 150-200 for long distance flights (main part at ground)
- About 8000 Air/Gnd + Gnd/Air messages per hour
- Current load maximum on DLK GM: 20 msg/s; New requirement for DLK-GS: up to 50msg/s

- Aircraft diversity:
  - Many customers with different fleets
  - Every customer has different services, business logic and interfacing systems
  - Each fleet has different functions, message formats and configurations
  - Each aircraft might differ from another caused by different onboard device configurations and software versions

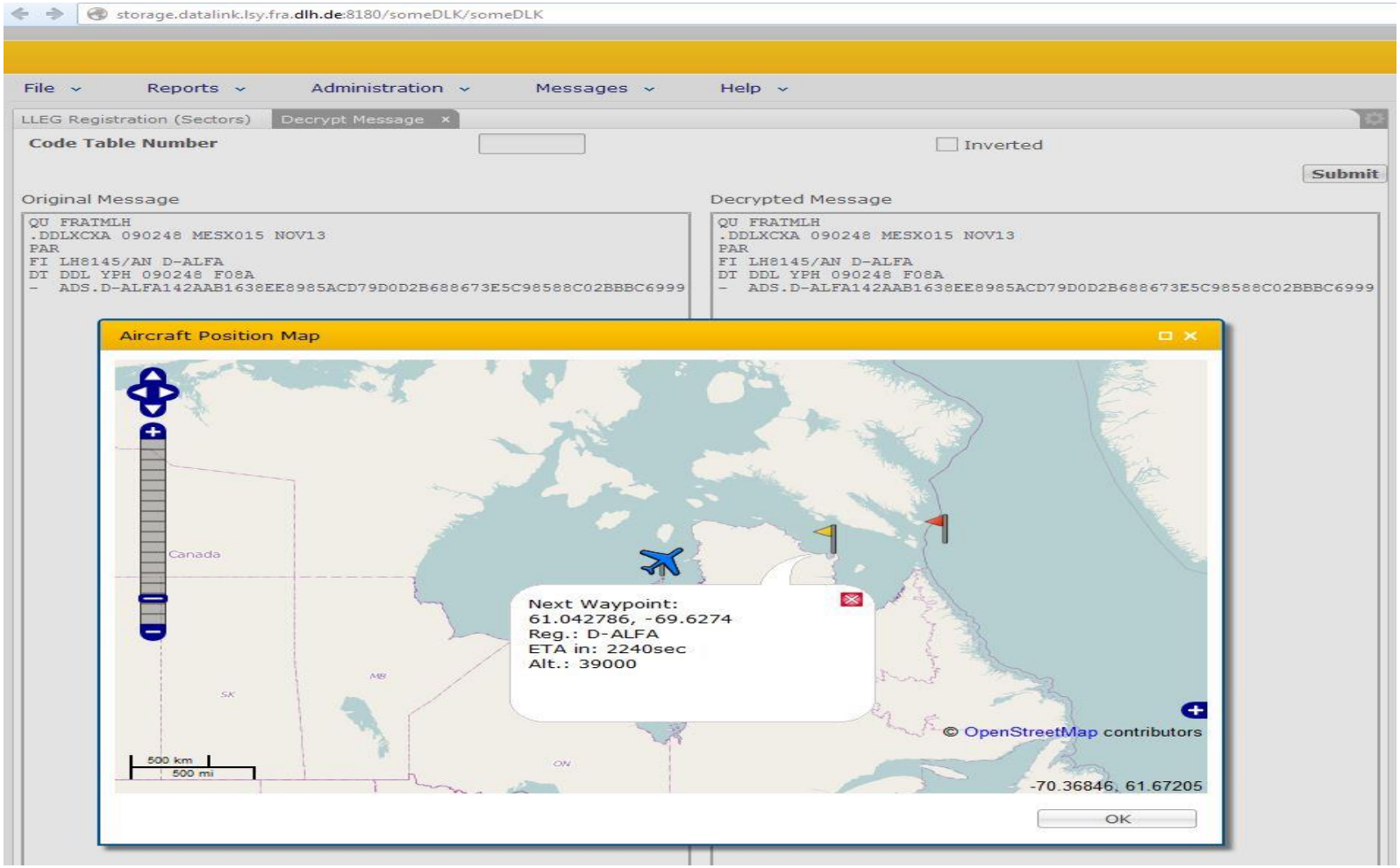
- In DLK GM legacy system the diversity is covered by different software (code) versions, implemented by software developers
- In the new DLK GS the diversity is covered by system configuration and may be configured by airline DLK specialists

> Datalink Services - Flight Profile



> Tracking with ADS-C Messages

- Tracking by ADS-C Messages was introduced with the DLK GS Prototype – Example:



> Benefits of new DLK GS

- DLK cost benefits
  - Usage of IP based message routing instead of classic ACARS wherever possible (60% of traffic is on ground)
  - System configuration through airline experts is possible – instead of software changes made by programmers
  - Reduction of operation and maintenance cost due to state of the art technology

- Competitive advantage for airlines
  - Easy adaption of new business processes and requirements through configurability
  - Integration with fuel saving approaches (e.g. Lufthansa eFlightOps)

- Savety improvements
  - More communication channels and devices (IP based message routing, integration of EFB and mobild devices like purser workpad)
  - Graphical display of latest current weather data (SIGMET areas, ash clouds etc.)
  - Aircraft position tracking

> Thank you for your attention

Contact

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