



User needs for space, the implementation perspective SDM

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SESAR DEPLOYMENT MANAGER

A NEW CONSORTIUM THAT BRINGS TOGETHER THE MAJOR ATM ACTORS



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“MODERNISING AIR TRAFFIC MANAGEMENT AS ONE”

GNSS USERS

SDM well invested in space-based CNS

- SATCOM
- Coordinated PBN implementation prior to PBN IR (2014-2018)
- ADS-B



SDM Airspace User perspective: GNSS



GNSS Outages:

- A crucial topic particularly in recent months
- Improve resilience of CNS applications



Outage recovery:

- Different behaviours in different architectures and configurations.
- Consistent behaviour desirable.



SiS Monitoring:

- Crew is both the first observer and first impacted.
- Realtime assessment and reporting tools desirable.





SDM Airspace User perspective: SBAS



SBAS

- **Well deployed in Europe**, proven to work with **expected performance** and **without coverage issues**, also in Nordic areas
- Both EGNOS and Galileo have satellite coverage to satisfy **operational performance requirements**
- **Safety benefit to LPV (or APV/SBAS)** is now obvious and definitely confirmed after the april CDG incident
- EUSPA supporting **ASECNA Airbus project in ICAO AFI (Africa region)**.
 - Airspace Users see a huge potential for safety and accessibility if SBAS becomes available in AFI
- Any performance outlook **below CAT I minima** is desirable
- **New constellations** providing services on high bandwidth
 - **New constellations:** consider Future Communication Infrastructure (FCI) and LEO satellites, can they play a role? Could add value to FCI
 - Iridium, others?
- Multiconstellation considerations: Which core constellations and which signals will EGNOS augment (and when)



SDM Airspace User perspective: GBAS



GBAS

Accelerate DFMC:

- Faster progress on the roadmap
- CAT III performance is needed
- GAST F too far in the future
- GAST D+ = missed opportunity
- Hardware ready for certification/approvals
 - **Airborne:**
 - Honeywell, Collins
 - Boeing 2023, Airbus 2025?
 - **Ground:**
 - Several R&D prototypes

- GBAS supports multiple glide paths: interesting as per **environmental constraints**. Positive impact on noise considerations around airports, as well as more efficient approach patterns



SDM Airspace User perspective:

Other

GBAS or SBAS:

- For AU **difficult to decide on particular technology** because the framework for future ATC comms not yet set
- Hard to build a CBA

- Airlines want to be able to use **Galileo RLS service**
 - Consider AF447 experience – important for AUs to have the remote “trigger button”
 - AU aware of the aircraft/flight context, early activation can be crucial to SAR efforts. Avoid a lengthy communication/decision chain



SDM Airport Operator perspective: GNSS vulnerabilities



Jamming is a concern:

- Evolving geopolitical situation in Europe
- GBAS superior performance but GNSS dependent: difficult to justify investment
- GNSS-independent backup is a must – but what form and fit?
 - DME/DME, ILS, onboard capabilities (INS), spectrum protection



DME:

- DME/DME PBN not precise enough for approach
- Not widely deployed
- Siting challenging: cannot compete with mobile data for mast space



ILS:

- In general, no plans to phase-out current ILS yet, category regardless
- The 2030 PBN requirement has to be interpreted against the backdrop of EASA SIB 2022-02





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