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civil air navigation services organisation

ANSPs views on EGNOS: lessons learnt and perspectives

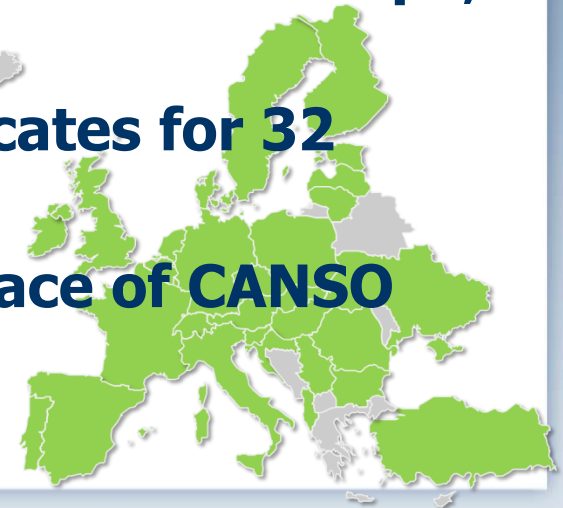
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DSNA

TRANSFORMING
GLOBAL ATM PERFORMANCE

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Introducing CANSO

- **CANSO – the Civil Air Navigation Services Organisation – is the global voice of air traffic management (ATM) worldwide**
- **CANSO Members support over 85% of world air traffic**
- **CANSO's objectives in Europe are: to deliver a safe, efficient and sustainable ATM system across Europe; and strengthen ATM performance**
- **CANSO Europe represents and advocates for 32 European ANSPs**
- **26 million flights transited the airspace of CANSO Europe members in 2015**



ANSP VIEWS on EGNOS

- **GNSS is the core technology that has led to the development of Performance Based Navigation (PBN). It is also the basis for future improvements in navigation services.**
 - ➔ EGNOS is an enabler for safety improvements by introduction of Localizer Performance with Vertical guidance (LPV) procedures in replacement of Non Precision Approaches (NPA) currently supported by NDBs and VORs
 - ➔ Cost-effectiveness by introduction of LPV enabling rationalization of ILS Cat I ground stations

- **In consistency with the up to come PBN Implementing Rule, Europe is now clearly engaged in taking advantage of satellite technology for approach and landing operations.**

- **ANSPs are committed to implement the requirements for safety and efficiency of operations while improving the service area.**
 - ➔ Indeed, each ANSP will be able to expand precision approach cat I network by LPV, and even replace ILS cat I by SBAS. (rationalisation)

ANSP VIEWS on EGNOS

- **CANSO believes that GNSS augmented by EGNOS represents the most performant technology supporting 3D type A approaches in Europe (vertical guidance down to 250ft)**
- **The elaboration of a European Air Navigation Strategy for the long term needs to consider the reliability of new GNSS technologies (in particular dual-frequency multi-constellation (DFMC) architectures) for which getting enough confidence is necessary. In addition the potential issue of access to all airspace users needs to be addressed. (European vs non European)**

CANSO VIEWS on EGNOS

Extracts from CANSO slide to EU NAV STRATEGY WORKSHOP (2016)

- **CANSO agrees to build a “3D approaches everywhere, every time” network for Europe as far as practicable. Such network should be composed of ILS on main airports (and/or GBAS where supported by a local business case and/or according to local performance needs) and LPV and APV Baro everywhere it is feasible. Priority should be given to those airports with instrument runways, but no precision approach capabilities.**
- **CANSO urges to find a way forward for implementing a smooth and prompt transition to dual-frequency multi-constellation (DFMC) avionics including Galileo by means of suitable forward-fit mandates and adequate incentives.**
- **For CAT II/III landing capabilities CANSO recommends the continued use of ILS and the installation of GBAS where supported by local business case and/or according to local performance needs.**

Note: The comment on DFMC and forward-fit mandates in point 2) applies here as well.

- **CANSO stresses out the importance of having a high percentage of aircraft operators capable of flying the published routes to obtain benefits.**

Perspectives – new challenges

- **Now that it has been proven that LPV supported by SBAS/EGNOS is a fully feasible alternative to ILS Cat I, it is also important to assess some additional operational benefits that LPV can bring :**
 - Multiple glide paths to minimise further wake vortex constraints or to reduce fuel consumption
 - Tight coordination with airspace users and European Institutions to facilitate airborne equipage implementation
 - increased robustness to external events of EGNOS V3
- **CANSO recommends to improve the alignment with ICAO Annex 10 vol.I. requirements: E.g. continuity requirements defined for the signal in space performances.**

Many thanks to all of you!



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