European Radio Navigation Plan

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CONTEXT - BENEFITS

★ Space Strategy for Europe

★ Introduction of EGNSS in EU sectoral policies

➢ Better strategic autonomy, being less dependent on GPS
➢ Optimise/modernise the PNT landscape in Europe
➢ Rationalise investments in PNT infrastructures
➢ Improve robustness and resilience of PNT systems
➢ Establish fruitful synergies between sectors
OBJECTIVES

The Plan will support EU policy-making by providing factual information to take full advantage of Galileo and EGNOS services and on their impact on performances in sectors.

- Provide the full picture of RADIO – based PNT systems in Europe (for both space and ground)
- Increase awareness of the added value/benefit but also challenges/opportunities of using EGNSS against using existing ground PNT systems
- Introduce the need for a Backup PNT investigation in specific situations
  - critical infrastructures and applications with SoL aspects
  - Responds to MS interest expressed in last EGPC (in June 2017)
  - Not only Radio Navigation Technologies
EUROPEAN Radio Navigation Plan - CONTENT

• The purpose of the ERNP with the benefits of an optimized PNT landscape, the structure of the SWD including scope and short description of Annexes

• A general overview of the current radio navigation landscape in Europe (space and ground systems) with its expected evolution

• The guiding principles that should drive the use of EGNSS across all sectors and specific to each sector in view of optimizing the PNT landscape

• The benefits and opportunities of using EGNSS sector by sector.

• The Challenges of using EGNSS in each sector

• ANNEX 1: detailed description of the Radio Navigation systems

• ANNEX 2: existing User requirements in targeted sectors

• ANNEX 3: roles and responsibilities of the main stakeholders involved in the design, management, and operation of radio navigation systems.

• ANNEX 4: summary of relevant EU regulations.
TARGETED SECTORS

- Air navigation
- Maritime and inland water ways navigation
- Road transport
- Agriculture
- Mapping and Surveying
- Location-Based Services
- Emergency Services (e.g. Search and Rescue)
- Rail transport
- Space Users
- Precise Timing and Synchronisation (Energy, Telecom, Finance)
- Emerging applications (UAV, Autonomous driving, others)
- Defence and Security
Radio Navigation Systems in the ERNP

- GPS
- Glonass
- Galileo
- BeiDou
- EGNOS
- GBAS
- DGNSS
- NDB
- VOR
- DME
- ILS
- MLS
- Loran-C, / Chayka
- eLoran,
- eDLoran
- DCF77
- Cellular networks based positioning
- Iridium Satelles Time and Location , STL
PROCESS

• Consultation with MS through EGPC (2 dedicated workshops)

• Team effort with
  • JRC, GSA, ESA and EDA
  • EC Policy DGS with support of their sectoral agencies:
    ➢ DG MOVE, DG MARE, DG HOME, DG CNECT, DG ENER, DG AGRI

• Request for ISC introduced
  ➢ Staff Working Document to be released soon (180 pages)

• Regular Update (every 3 years)
Example - MARITIME and inland waterways – HIGHLIGHTS (1/2)

• Strong involvement of DG MOVE and DG MARE

➢ Benefits and opportunities
  • Ship operations
  • Fisheries control
  • Port operations
  • Multimodal logistics
  • Marine engineering
  • Search and Rescue
  • Unmaned, remotely piloted and autonomous vessels
  • IMO recognition
  • Surveillance and environmental protection
Example - MARITIME and inland water ways – HIGHLIGHTS (2/2)

Examples of Challenges addressed:

• Choice of components for a maritime resilient PNT
• DGNSS infrastructure
• Uptake of SBAS-enabled shipborne receivers
• Inland waterways specific needs
• Number of installed GNSS devices
• Coverage of EGNOS
• GNSS in multimodal logistics
• Identification of vessels using GNSS services
Survey on Backup PNT solutions 1/2

- Complementary to the objective of the UCP
- Map point of views of users
- Collect user requirements, anticipate future needs and identify possible synergies
- Inputs to next edition of ERNP

Methodology

- Preparatory work (Nov – Jan ‘18)
- Questionnaire(s) and Bilateral meetings (Feb - May ‘18)
- Pre-Analysis and draft recommendations (June - Sep ‘18)
- Workshop with stakeholders (Oct ‘18)
- Final results (end 2018)
Survey on Backup PNT solutions 2/2

Interested to participate in the survey on backup PNT solutions?

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THANK YOU