Galileo Second Generation Authentication Capabilities

EUSPA OSNMA Day 2026

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Outline

- New Authentication Capabilities
- New System Capabilities
- High Level Service Overview
- OSNMA Evolution in G2G
- SAS Evolution in G2G

Current Galileo Authentication Capabilities

OSNMA

SAS

Future Galileo Authentication Capabilities

OS-Authentication (OS-A)

SAS

Open Service Navigation Message Authentication (OSNMA)

OS Ranging Authentication (OS RA)

SAS Evolution

New Galileo System Capabilities

The Galileo Second Generation satellites will

- have dedicated on board functions supporting authentication

- enable new signal components for authentication

High Level Service Overview

- Every information transmitted by Galileo will be authenticated (E1, E5 and E6)

- Backward compatibility

- Maximum reuse of cryptographic functions and keys for OSNMA and RA

- Multiple service levels to support different user needs

Target Performances

- Time Between Authentication:
  - < 60 seconds
  - < 10 seconds

- Good availability in urban environment

- Time To First Fix Authenticated (NMA + RA) in few seconds even in urban environment

OSNMA Evolution in G2G

- Improved availability

- Increased bandwidth

- Increased number of satellites transmitting OSNMA

- Reduced authentication latency

SAS Evolution

The updated SAS will enable:

- Independent operation from ground connection

- Time Between Authentication:
  - < 60 seconds
  - < 10 seconds

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Linking space to user needs

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