

ICAO EUR/MID Radio Navigation Symposium

EGNOS Developments

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Antalya, Turkiye
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EGNOS V2 System Release Plan

Service Performance

Ionospheric Interferences

DFMC SBAS standardisation

European Aviation Regulatory Environment

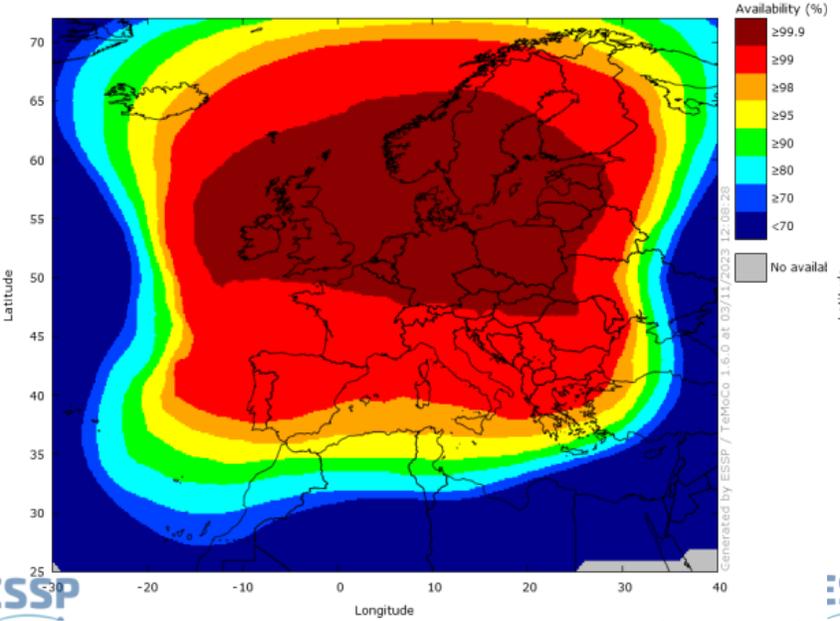
New EGNOS SoL Services

01: EGNOS V2 System Release Plan

| Release name | V242-B (contracted) | V243 (contracted) | LIFEX 1 (to be procured) | LIFEX 2 (to be procured) |
|-------------------------------------|--|--|---|--|
| Key Features | <ul style="list-style-type: none"> RIMS-C obsolescence New RIMS sites: Kuusamo, Kiev Coverage & iono perfos robustness INM-4F2 up to 4.8° inclination Security enhancement Increased robustness to L2 losses CMF/CPF anomalies correction | <ul style="list-style-type: none"> NLES G2 obsolescence RIMS-A/RIMS-B obsolescence refresh Introduction of GEO3 in V2 OPS Security enhancement | <ul style="list-style-type: none"> NLES G2 obso. for GEO-2 RIMS sites move Complete RIMS C legacy replacement by RIMS C G2 Network obsolescence definition and testing <i>(Security enhancements and SECMON interface)</i> | <ul style="list-style-type: none"> GPS Block IIIIF capable Network Obsolescence (deployment phase) RIMS NG qualification and deployment in a limited number of sites CPF G2 functionally qualified for L2C |
| Kick-Off | Done | PDR: done <i>Phase C/D KO: Jan.2022</i> | 2024 | 2025 |
| Critical Design Review – CDR | CDR-1 Done CDR-2: Done | CDR-1 Done CDR-2: Done | 2024 | 2025-26 |
| Qualification Review - QR | March 2023: SQR-1 Done May 2023: SQR-2 Done | July 2024 (risk: 8 weeks delay) | 2025 | 2027 |
| Entry in operations | DONE on 4 Nov 2023 | Dec 2024 (risk: 8 weeks delay) | 2026 | 2028 |

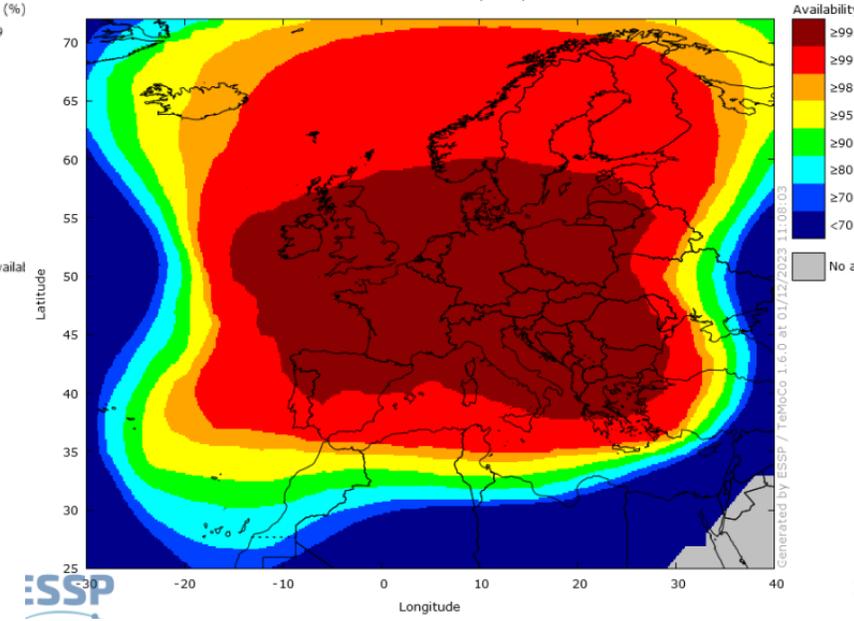
02: Service Performance: APV-1 Availability

SIS Op - 01/10/2023 00:00:00 to 31/10/2023 23:59:59
APV-I Availability Map



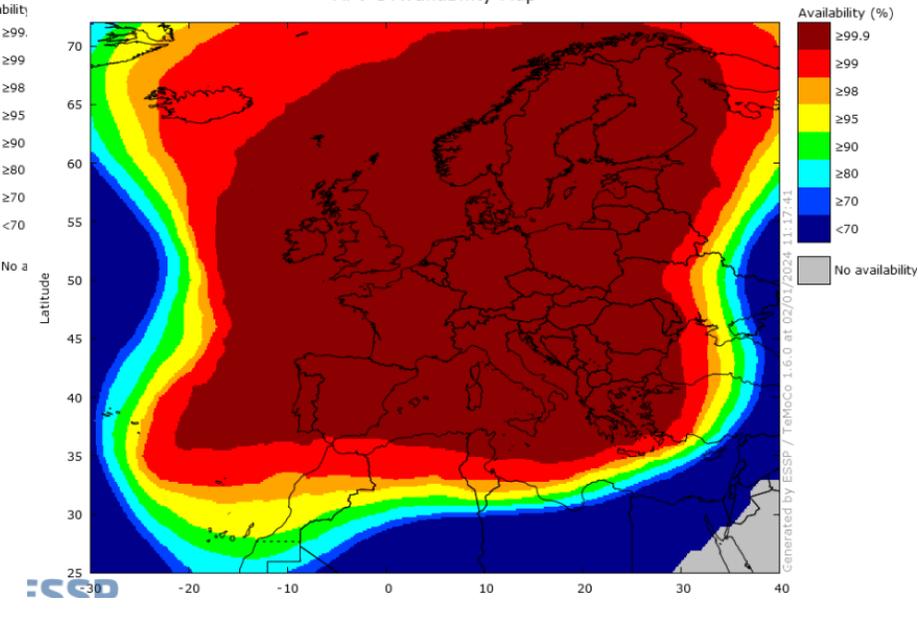
October (V242A)

SIS Op - 01/11/2023 00:00:00 to 30/11/2023 23:59:59
APV-I Availability Map



November (V242B)

SIS Op - 01/12/2023 00:00:00 to 31/12/2023 23:59:59
APV-I Availability Map

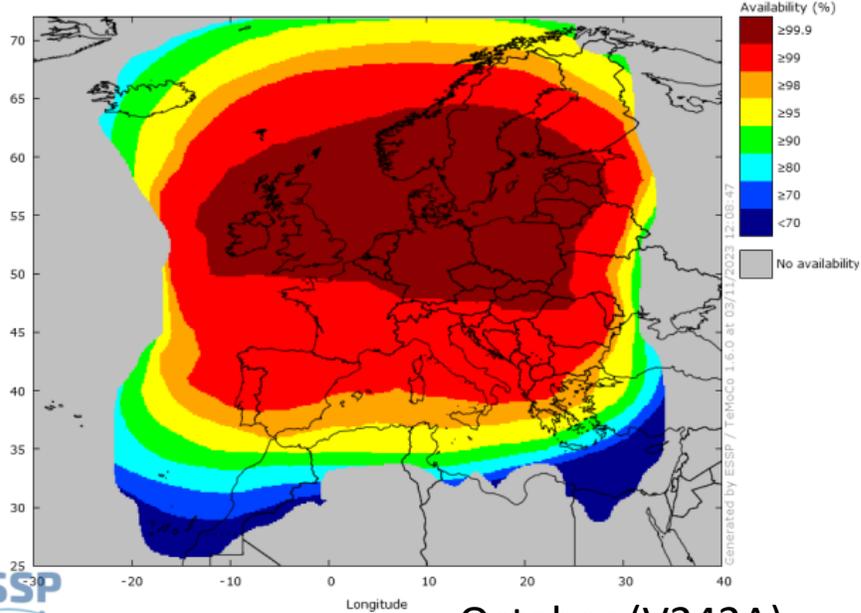


December (V242B)

Solar & ionospheric activity continued to impact EGNOS performance mainly in the **south west (Canary)**
Lack of Egypt & Israel RIMS have impacted EGNOS performance in the **south east (Cyprus)**
Very significant improvement have been brought by the **242B** release since 4 Nov.

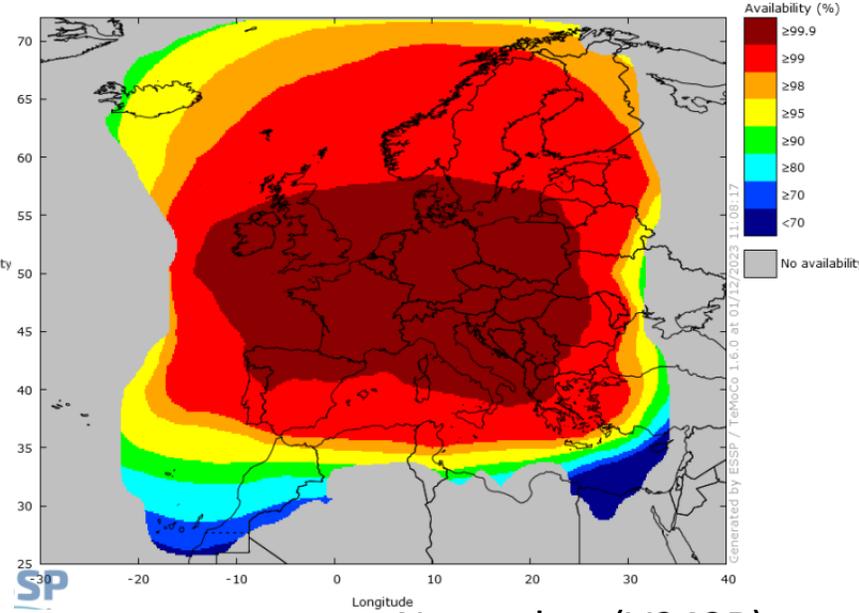
02: Service Performance: LPV-200 Availability

SIS Op - 01/10/2023 00:00:00 to 31/10/2023 23:59:59
LPV200 Availability Map



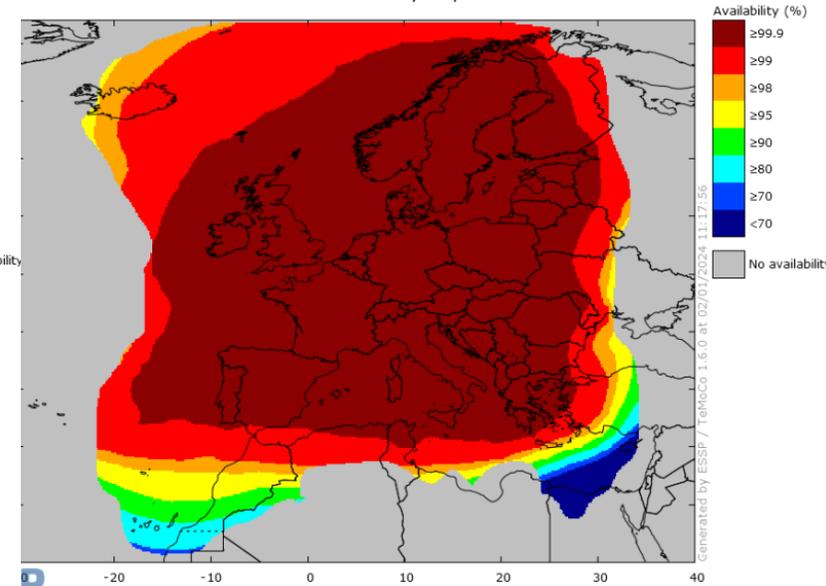
October (V242A)

SIS Op - 01/11/2023 00:00:00 to 30/11/2023 23:59:59
LPV200 Availability Map



November (V242B)

SIS Op - 01/12/2023 00:00:00 to 31/12/2023 23:59:59
LPV200 Availability Map



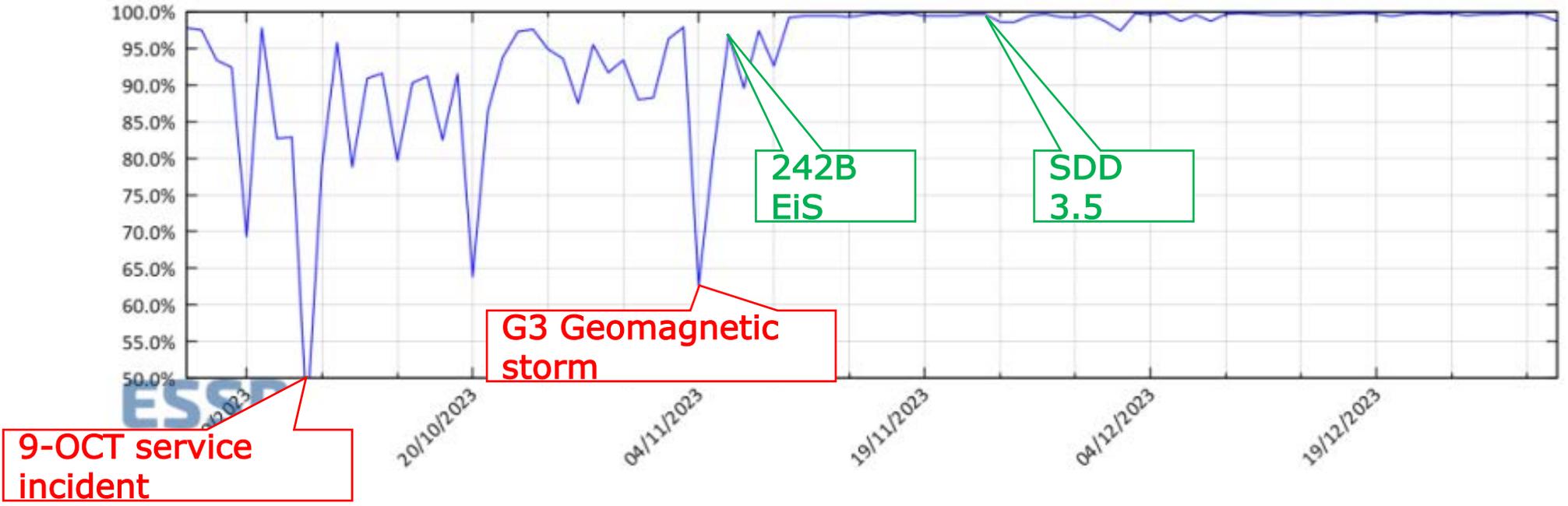
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02: Service Performance

Compliance to SDD

Compliance area percentage wrt ECAC Landmasses - APV-I

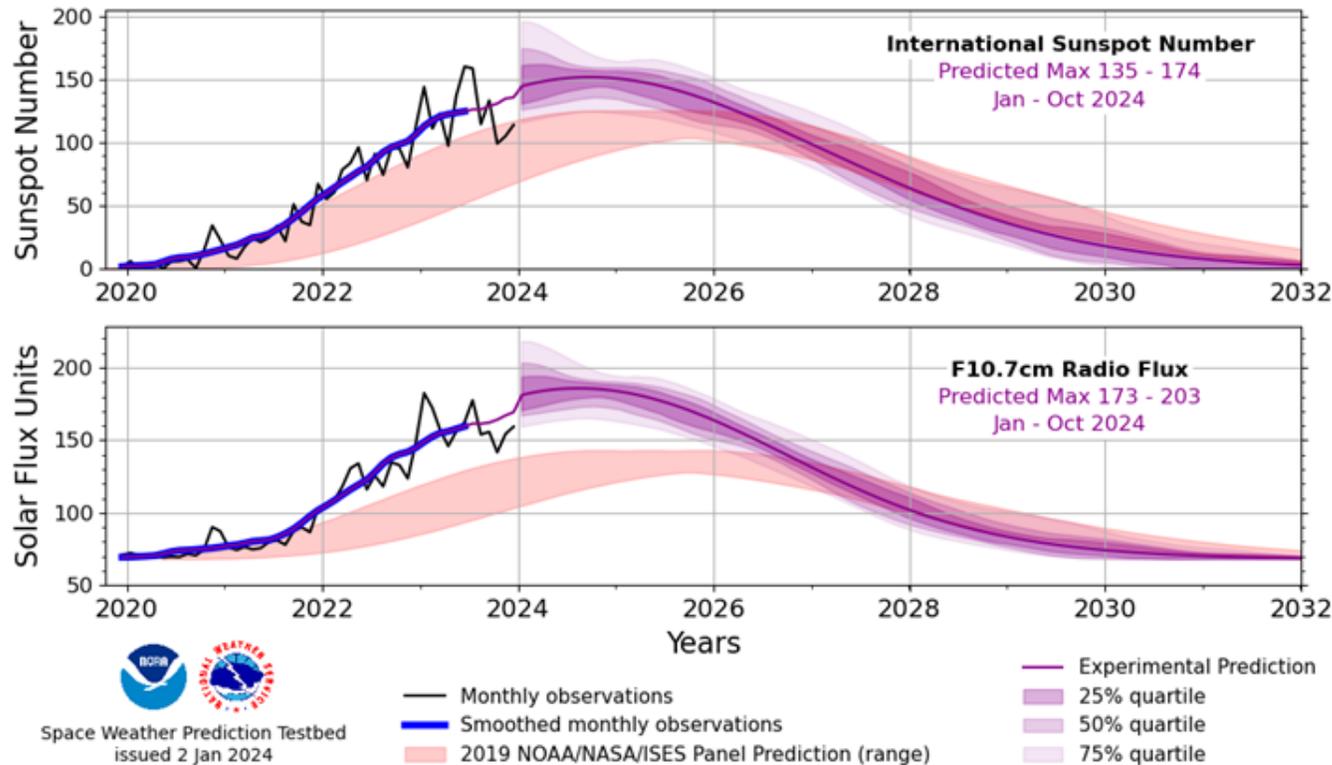


Adherence to SDD commitment have been restored thanks to revised SDD and 242B release. New SDD has been published V3.5 in November 2023.

03: Ionospheric Interferences

Updated solar cycle 25 predictions

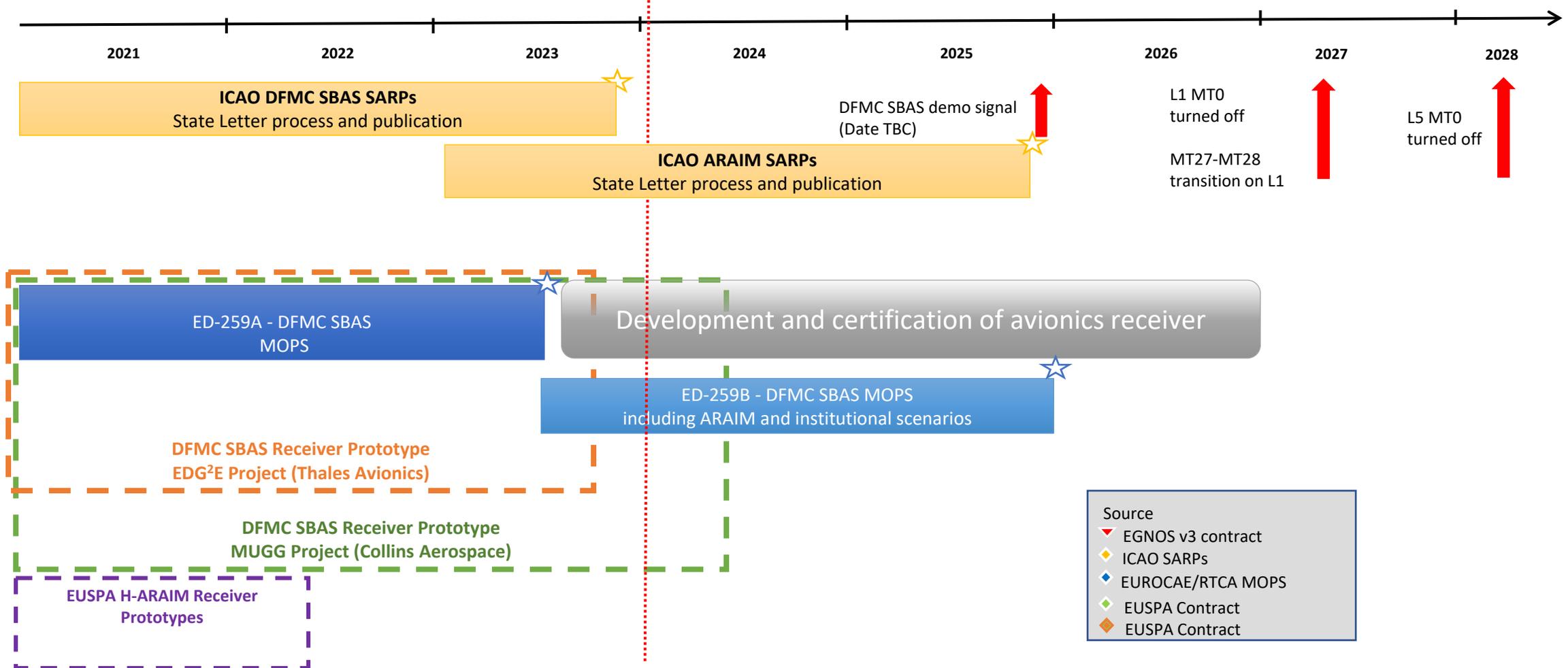
Experimental Solar Cycle 25 Prediction



NOAA's Space Weather Prediction Center (SWPC) issued a revised prediction for solar activity during Solar Cycle 25:

Peak: January-October 2024
(Earlier with higher peak)

04: DFMC SBAS standardisation



05: European Aviation Regulatory Environment

Single European Sky Regulations

Two new regulations, harmonising ATM/ANS with other areas, creating the role of a Design and Production Organisation (DPO), responsible for compliance of EGNOS equipment delivering the service.

New regulations have specific provisions in the case of EGNOS (e.g. clarify EUSPAs responsibilities inline with the Space Regulation).

EUSPA responsible for declaring the compliance of new versions to the EASA detailed specifications.

Memorandum of Cooperation being drafted to define working method.



06: New EGNOS SoL Services

EGNOS SoL Assisted Service for the Maritime users

Use of existing EGNOS SIS as alternative to existing D-GNSS network

Standard receiver “IEC-CD-61108-7” SBAS Standard, publication expected Q1 2024.

New SDD will be published, SoL assisted service.

Priority remains for aviation SoL service.

This service is tailored to maritime applications, however its performance and future evolution are driven by the priorities and needs of the existing EGNOS Safety of Life (SoL) service for Aviation.



Thank You!

