

# EGNOS SERVICE NOTICE

**Number: 026**

**Version: 1.0**

**To:** All EGNOS Users

**Date:** 02/06/2023

**Subject:** EGNOS Space Segment changes in the Second and Third Quarters of 2023

**Internal ESSP classification:**

**BLUE**

This Service Notice informs EGNOS users that from the 15<sup>th</sup> June 2023 to 4<sup>th</sup> September 2023 the EGNOS Space segment configuration will undergo temporary changes. Two GEO swaps are planned:

- First GEO swap (15<sup>th</sup> June – 4<sup>th</sup> July): INMARSAT 4F2 (PRN 126) will be introduced in the operational platform replacing satellite ASTRA 5-B (GEO2/PRN 123).
- Second GEO swap (25<sup>th</sup> August – 4<sup>th</sup> September): ASTRA 5-B (GEO2/PRN 123) will be reintroduced in the operational platform replacing satellite INMARSAT 4F2 (PRN 126).

Please note that the process to swap two EGNOS GEOs includes a period with all three satellites broadcasting EGNOS operational signal as SES-5 (GEO1/PRN-136) will remain continuously in the operational platform.

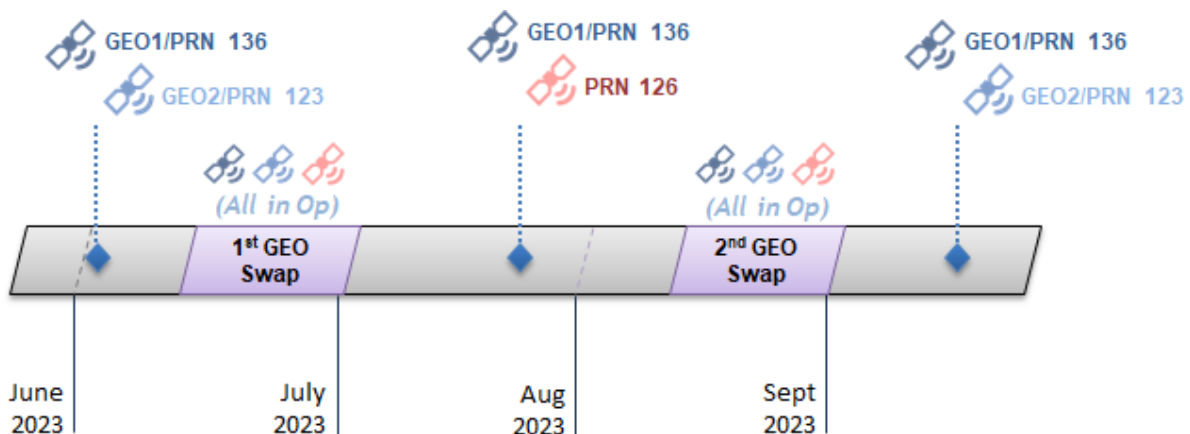


Figure 1. Satellites providing EGNOS operational service during the period of GEO swaps

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This Service Notice provides information about timeframes, GEO coverages and impact on the EGNOS Safety of Life service in each of the phases.

EGNOS Open Service users are advised to tune the best PRN in each of the phases, according to the operational satellites during each GEO swap detailed in the following sections. References to guidelines for equipment configuration are provided in section 4.

The latest information can be found in the EGNOS User Support website, as described in section 3.

## 1 DESCRIPTION OF 1<sup>ST</sup> GEO SWAP PROCESS AND OUTCOMES

### DESCRIPTION

The first GEO swap will consist in the following changes:

- On 15<sup>th</sup> June 2023, the GEO satellite INMARSAT 4F2 (PRN 126) will become part of the EGNOS operational platform broadcasting the Operational Signal-In-Space (OP SIS).
- On 4<sup>th</sup> July 2023, the GEO satellite ASTRA 5-B (GEO2/PRN 123) will become part of the EGNOS TEST Platform broadcasting the TEST SIS. Note that GEO2 payload will be off from the 5<sup>th</sup> to the 17<sup>th</sup> of July 2023.

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1 <sup>st</sup> GEO swap					
EGNOS GEO Name	PRN Number	Orbital Slot	Status BEFORE 15 <sup>th</sup> June 2023	Status FROM 15 <sup>th</sup> June 2023 TO 4 <sup>th</sup> July 2023	Status FROM 4 <sup>th</sup> July 2023 TO 25 <sup>th</sup> August 2023
ASTRA SES-5 (GEO1)	PRN 136	5 E	Operational	Operational	Operational
ASTRA 5-B (GEO2)	PRN 123	31.5 E → 23.5 E	Operational	Operational	Test
INMARSAT 4F2	PRN 126	64 E	Test	Operational	Operational

Table 1 – 1<sup>st</sup> GEO swap period

## IMPACT

The new Space Segment configuration will last from 4<sup>th</sup> July to 25<sup>th</sup> August 2023, when the second GEO swap starts.

In this phase, a section of the EGNOS Service area (the pink area in Figure 2 below) will be covered by a single GEO: the SES-5 (GEO1/PRN 136).

The Safety of Life (SoL) Service users in this area will remain covered by the GEO mentioned above at all times, with no impact in the existing levels of performance. The EGNOS SoL service integrity will remain unaffected at all times and locations within the EGNOS coverage area.

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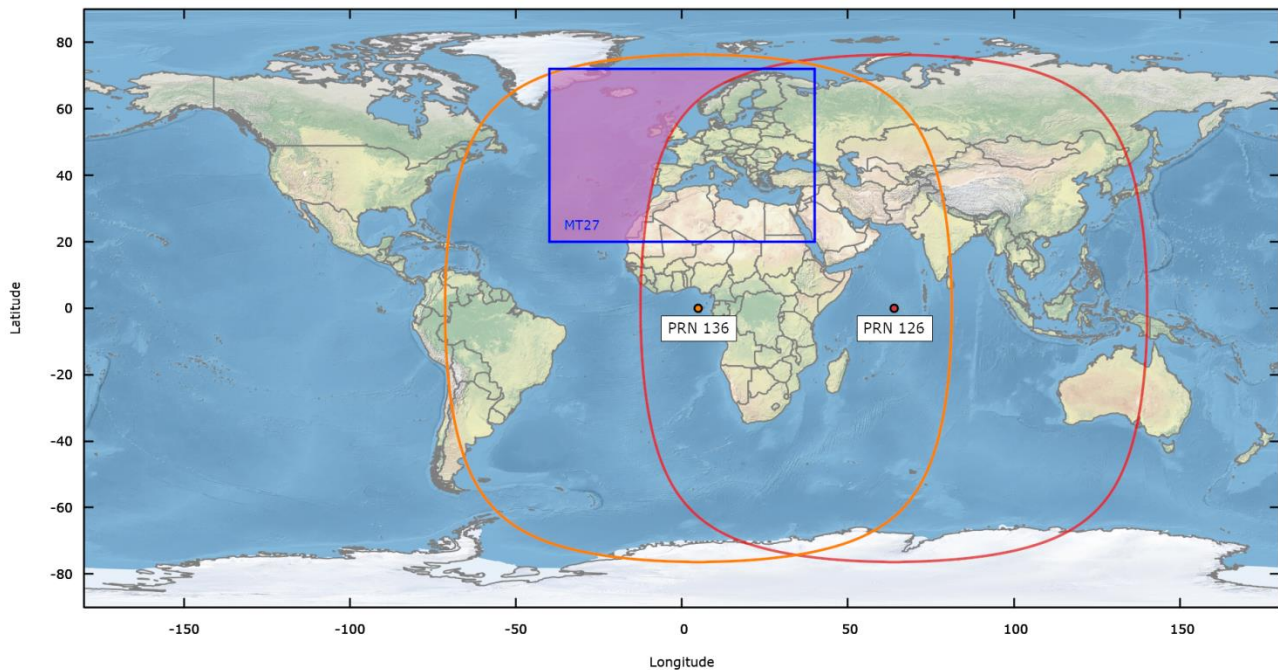


Figure 2. Coverage of EGNOS GEOs with 5° masking angle after 1<sup>st</sup> GEO swap

## 2 DESCRIPTION OF 2<sup>ND</sup> GEO SWAP PROCESS AND OUTCOMES

### DESCRIPTION

The second GEO swap will consist in the following changes:

- On 25<sup>th</sup> August 2023, the GEO satellite ASTRA 5-B (GEO-2/PRN 123) will become part of the EGNOS operational platform broadcasting the OP SIS.

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- On 4<sup>th</sup> September 2023, the GEO satellite INMARSAT 4F2 (PRN 126) will become part of the EGNOS TEST Platform broadcasting the TEST SIS.

			2 <sup>nd</sup> GEO swap		
EGNOS GEO Name	PRN Number	Orbital Slot	Status BEFORE 25 <sup>th</sup> August 2023	Status FROM 25 <sup>th</sup> August 2023 TO 4 <sup>th</sup> September 2023	Status FROM 4 <sup>th</sup> September 2023
ASTRA SES-5 (GEO1)	PRN 136	5 E	Operational	Operational	Operational
ASTRA 5-B (GEO2)	PRN 123	23.5 E	Test	Operational	Operational
INMARSAT 4F2	PRN 126	64 E	Operational	Operational	Test

Table 2 – 2<sup>nd</sup> GEO swap period

## IMPACT

After completion of the 2<sup>nd</sup> GEO swap on 4<sup>th</sup> September 2023, the Space Segment will be back to nominal with both GEO1 and GEO2 in the EGNOS operational platform.

In this final configuration, the North-West corner of the EGNOS service area (the pink area in Figure 3) will be still covered by a single GEO: SES-5 (GEO1/PRN 136). Only SoL En-route to NPA users will be concerned by this situation. The entire SoL APV-I and LPV200 service areas will remain covered by two GEOs.

According to the GEO coverage (Figure 3), depending on masking angle receiver configuration, ‘En-Route to NPA’ users in the North-West corner of the EGNOS service area could experience periods of EGNOS unavailability during SES-5 (GEO1/PRN136) outages. Nevertheless, the navigation should not be affected as MOPS compliant receivers should always automatically switch to GPS RAIM during those interruptions, ensuring the “En-Route to NPA” service when EGNOS is not available.

The EGNOS SoL service integrity will remain unaffected at all times and locations within the EGNOS coverage area.

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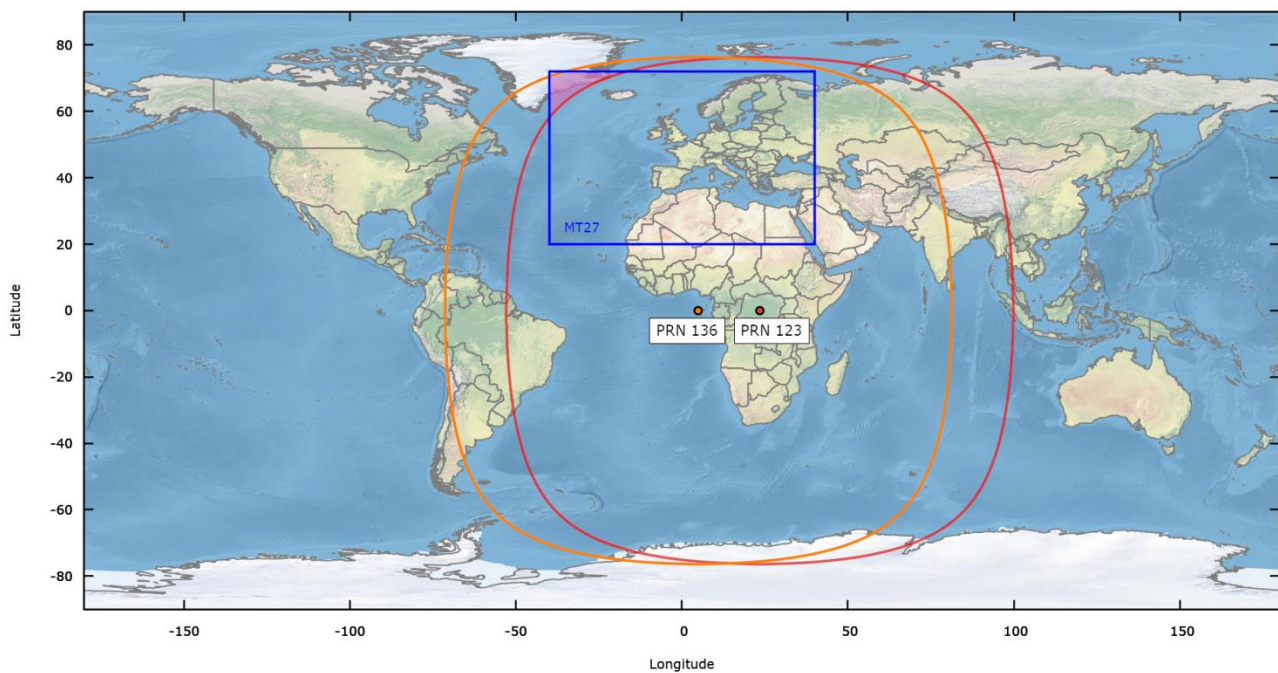


Figure 3. Coverage of EGNOS GEOs with 5° masking angle after 2<sup>nd</sup> GEO swap

## 3 EGNOS STATUS AND PERFORMANCES

Latest information on EGNOS system status and performances can be found at the EGNOS User Support website <https://egnos-user-support.essp-sas.eu>

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Users can subscribe to notifications about planned GEO outages and configuration changes and to real-time notifications of unplanned GEO SIS outages and recoveries in the EGNOS User Support website (<https://egnos-user-support.essp-sas.eu>).

### 4 CONFIGURATION GUIDELINES FOR OPEN SERVICE EQUIPMENT

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Guidance material can be found in the Resources and Tools section of the EGNOS User Support Website: <https://egnos-user-support.essp-sas.eu/resources-tools/guidance-material>

This section contains several documents among others which describe how to configure some EGNOS capable receivers, including examples and detailed pictures.

### 5 CONTACT US

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Should you have any question related to this Service Notice or EGNOS, please, contact [egnos-helpdesk@essp-sas.eu](mailto:egnos-helpdesk@essp-sas.eu) or [+34 911 236 555](tel:+34911236555) (H24/7)

For more information about EGNOS, please, visit the EGNOS User Support website at <https://egnos-user-support.essp-sas.eu>