

## EGNOS SERVICE NOTICE

Number: 022

Version: 4.0

**To:** All EGNOS Users

**Date:** 27/03/2020

**Subject:** EGNOS Space Segment Updates in the First Quarter of 2020

This Service Notice informs EGNOS users about the successful completion of the three GEO swaps planned for the EGNOS Space segment in the first quarter of 2020.

After the 3<sup>rd</sup> GEO swap finalized on 26<sup>th</sup> March 2020, the Space Segment is back to nominal with both ASTRA GEOs in the EGNOS operational platform. More information on the GEO swaps can be found in the Annex 1 of this Service Notice.

The current configuration of the Operational EGNOS Space segment (EGNOS satellite mask broadcast in message Type 1) is:

- ASTRA SES-5 (GEO-1/PRN136)
- ASTRA 5-B (GEO-2/PRN 123)

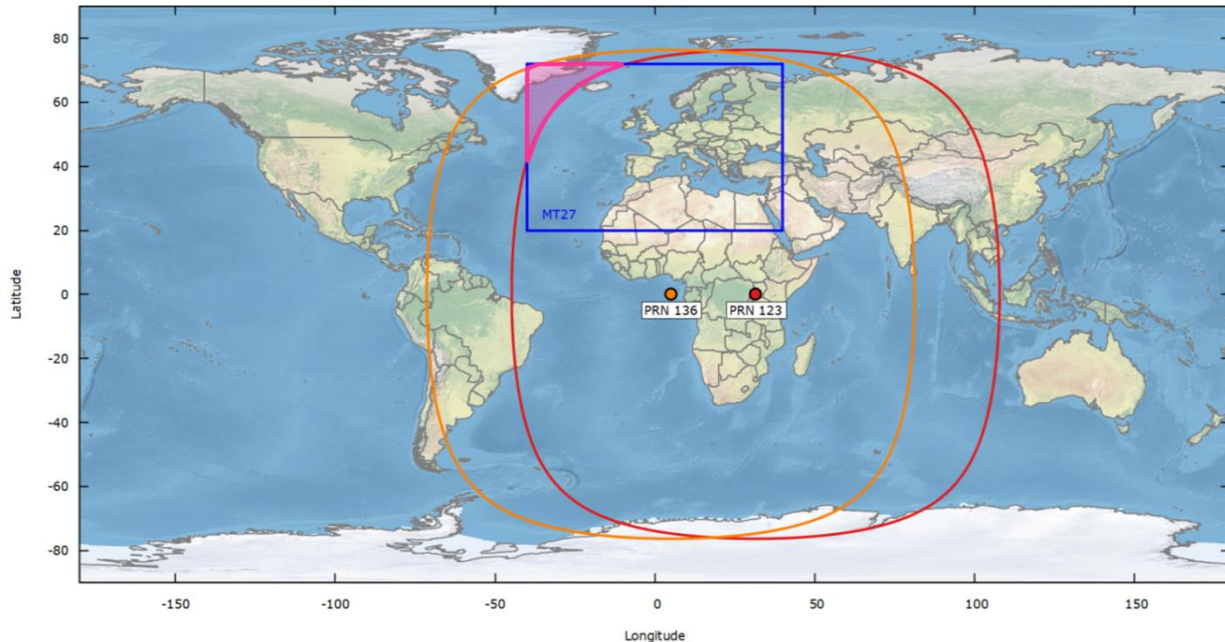


Figure 1. Coverage of EGNOS GEOs with 5° masking angle after 3<sup>rd</sup> GEO Swap

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The North-West corner of the EGNOS service area (the pink area in Figure 1) will be covered by a single GEO: SES-5 (GEO-1/PRN 136). Only SoL En-route to NPA users will be concerned by this situation. The entire SoL APV-1 and LPV200 service areas will remain covered by two GEOs.

According to the above GEO coverage, 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 (GEO-1/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.

### MORE INFORMATION ON EGNOS

#### 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>.

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>).

#### CONFIGURATION GUIDELINES FOR OPEN SERVICE EQUIPMENT

Guidance material can be found in the Resources and Tools section of the EGNOS User Support Website: [https://egnos-user-support.essp-sas.eu/new\\_egnos\\_ops/resources-tools/guidance-material](https://egnos-user-support.essp-sas.eu/new_egnos_ops/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.

#### CONTACT US

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 \(H24/7\)](tel:+34911236555)

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

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### ANNEX 1. DESCRIPTION OF THE Q1 2020 GEO SWAPS

To provide additional information to the user, the three GEO swaps that the EGNOS Space segment configuration underwent during the first quarter of 2020 are the following:

- The first GEO Swap, with the INMARSAT 4F2 (PRN 126) introduced in the operational platform replacing satellite ASTRA 5-B (GEO-2/PRN 123).
- The second GEO Swap, with the ASTRA 5-B (GEO-2/PRN 123) introduced in the operational platform replacing satellite ASTRA SES-5 (GEO-1/PRN 136).
- The third GEO swap, with the ASTRA SES-5 (GEO-1/PRN136) reintroduced in the operational platform replacing satellite INMARSAT 4F2 (PRN126).

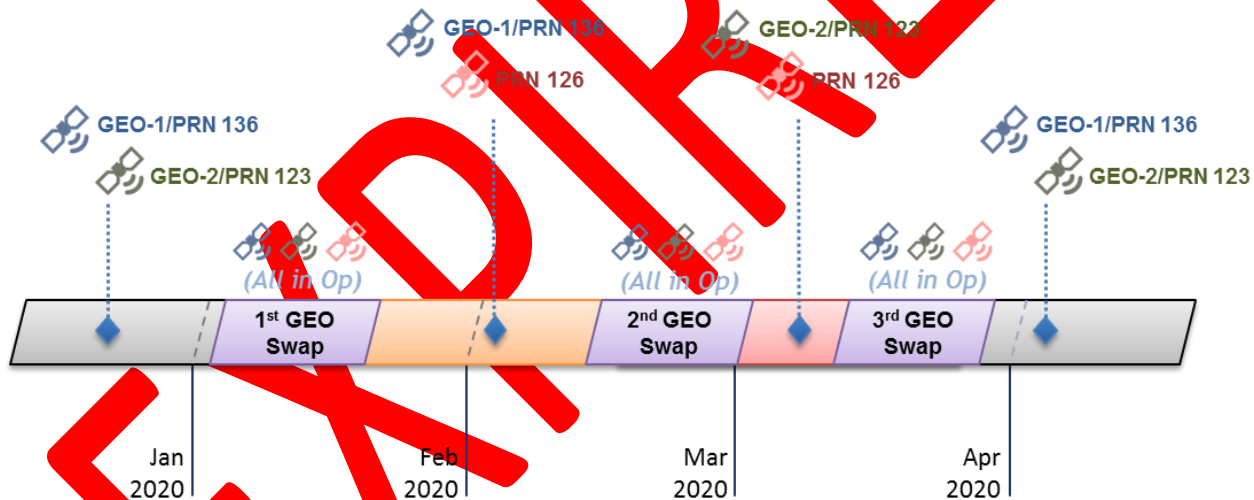


Figure 2. GEO Swaps Roadmaps

It is important to remark that these changes in the EGNOS GEO space segment are performed in a seamless manner without any interruption of the service from an EGNOS user point of view and without compromising at any moment the EGNOS performance. In particular the EGNOS SoL service integrity was ensured at all times and locations within the EGNOS coverage area.

Please note that the process to swap two EGNOS GEOs includes a temporary period with all the satellites providing EGNOS operational signal.

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### • FIRST GEO SWAP

The first GEO swap was completed and consisted in the following changes:

- On 9<sup>th</sup> January 2020, the GEO satellite INMARSAT 4F2 (PRN 126) became part of the EGNOS operational platform broadcasting the Operational Signal-In-Space (OP SIS).
- On 16<sup>th</sup> January 2020, the GEO satellite ASTRA 5-B (GEO-2/PRN 123) became part of the EGNOS TEST Platform broadcasting the TEST SIS.

1 <sup>st</sup> GEO Swap					
EGNOS GEO Name	PRN Number	Orbital Slot	Status BEFORE 9 <sup>th</sup> January 2020 (10:00h UTC)	Status FROM 9 <sup>th</sup> January 2020 (10:00h UTC) TO 16 <sup>th</sup> January 2020 (12:42h UTC)	Status FROM 16 <sup>th</sup> January 2020 (12:42h UTC) TO 20 <sup>th</sup> February 2020 (10:53h UTC)
ASTRA SES-5 (GEO-1)	PRN 136	5 E	Operational	Operational	Operational
ASTRA 5-B (GEO-2)	PRN 123	31.5 E	Operational	Operational	Test
INMARSAT 4F2	PRN 126	64 E	Test	Operational	Operational

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

### • SECOND GEO SWAP

The second GEO swap was completed and consisted in the following changes:

- On 20<sup>th</sup> February 2020, the GEO satellite ASTRA 5-B (GEO-2/PRN 123) became part of the EGNOS operational platform broadcasting the Operational Signal-In-Space (OP SIS).
- On 27<sup>th</sup> February 2020, the GEO satellite ASTRA SES-5 (GEO-1/PRN 136) became 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 20 <sup>th</sup> February 2020 (10:53h UTC)	Status FROM 20 <sup>th</sup> February 2020 (10:53h UTC) TO 27 <sup>th</sup> February 2020 (15:28h UTC)	Status FROM 27 <sup>th</sup> February 2020 (15:28h UTC) TO 16 <sup>th</sup> March 2020 (08:25h UTC)
ASTRA SES-5 (GEO-1)	PRN 136	5 E	Operational	Operational	Test
ASTRA 5-B (GEO-2)	PRN 123	31.5 E	Test	Operational	Operational
INMARSAT 4F2	PRN 126	64 E	Operational	Operational	Operational

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

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- **THIRD GEO SWAP**

The third and last GEO swap consisted in the following changes:

- On 16<sup>th</sup> March 2020, the GEO satellite ASTRA SES-5 (GEO-1/PRN 136) will become part of the EGNOS operational platform broadcasting the OP SIS.
- On 26<sup>th</sup> March 2020, the GEO satellite INMARSAT 4F2 (PRN 126) will become part of the EGNOS TEST Platform broadcasting the TEST SIS.

3 <sup>rd</sup> GEO Swap					
EGNOS GEO Name	PRN Number	Orbital Slot	Status BEFORE 16 <sup>th</sup> March 2020 (08:25h UTC)	Status FROM 16 <sup>th</sup> March 2020 (08:25h UTC) TO 26 <sup>th</sup> March 2020 (15:15h UTC)	Status FROM 26 <sup>th</sup> March 2020 (15:15h UTC) ONWARDS
ASTRA SES-5 (GEO-1)	PRN 136	5 E	Test	Operational	Operational
ASTRA 5-B (GEO-2)	PRN 123	31.5 E	Operational	Operational	Operational
INMARSAT 4F2	PRN 126	64 E	Operational	Operational	Test

Table 3 – 3<sup>rd</sup> GEO Swap period