



# EGNOS SERVICE NOTICE

**Number: 003**

**Revision: 1.1**

**To:** EGNOS SoL Service and Open Service users

**Date:** 03/04/2012

**Subject:** EGNOS upgrades deployed in the first quarter of 2012

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This Service Notice describes the EGNOS upgrades deployed in the first quarter of 2012. These changes include:

1. EGNOS uses more GPS satellites
2. Improved EGNOS Services coverage area and use by receivers.
3. EGNOS Geostationary satellite swap.

During the activities related to these EGNOS upgrades, the EGNOS Service performances was guaranteed, except from the 6<sup>th</sup> to the 8<sup>th</sup> of February 2012 in which only the Geostationary satellite PRN 120 was available for the SoL Service. The following sections provide additional details for each of these changes.

These upgrades improved the performance of EGNOS Services at user level, without requiring changes to the receivers. This enhancement can be observed through the EGNOS User Support website, which provides the historical data of the service performances and the EGNOS performances on real time:

[http://egnos-user-support.essp-sas.eu/egnos\\_ops/index.php](http://egnos-user-support.essp-sas.eu/egnos_ops/index.php)

## 1 EGNOS USES MORE GPS SATELLITES

**Release date:** 10<sup>th</sup> of February 2012.

Previously, the two GPS satellites corresponding to the Block IIF, with PRN codes 1 and 25, were not part of the EGNOS satellites mask, and so, no corrections were broadcast by EGNOS for these satellites.

From the 10<sup>th</sup> of February onwards, these new GPS satellites have been fully usable by EGNOS, providing the users with more satellites to compute their position and thus, improving SoL and Open Service performances.

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## 2 IMPROVED EGNOS SERVICES COVERAGE AREA AND USE BY RECEIVERS

**Release date:** 10<sup>th</sup> of February 2012.

On the 10<sup>th</sup> of February, the EGNOS System Release 2.3.1P was deployed. This version includes the following main features:

- EGNOS GEO MT9 and MT17 coherent fixed content.

Following the agreement reached by aviation standardisation committees to resolve the discrepancy existing in previous version of the standards, EGNOS was modified such that it is fully available for the receivers implementing the MT9/MT17 consistency check. This evolution consists in setting the GEO satellite position broadcast in both MT9 and MT17 to the same fixed position (x,y,z). The GEO position rate of change in MT9 & MT17, GEO acceleration in MT 9, along with  $a_{GF0}$  &  $a_{GF1}$  parameters are permanently set to zero.

Therefore the geostationary position information contained in MT 9 and MT17 permanently differ less than 200 km (MOPS RTCA DO229 C and D, Section 2.1.1.3.1). The GEO tracking problems detected in some EGNOS receives and explained in Service Notice #1<sup>1</sup> disappeared with this EGNOS System Release.

- Improvement of ionosphere monitoring, increasing the number of monitored Ionospheric Grid Points, especially of those located at the ECAC border providing an enhanced of APV-I performances.

**Release date:** 23<sup>rd</sup> of February 2012.

On the 23<sup>rd</sup> of February, it was included two new Reference Stations in EGNOS Operational Platform, which are La Palma (Spain) and Alexandria (Egypt). The Reference Station at Athens (Greece) is planned to be deployed in the short term.

The inclusion of these ground stations supports a larger EGNOS SoL and OS Services volume, improving the availability, continuity and accuracy mainly over the South of EGNOS Service areas.

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<sup>1</sup> Service Notice #1 described the EGNOS situation on the previous EGNOS System Release v2.2ext regarding the broadcast of GEO orbit information in messages MT9 and MT17, including the impact on certified EGNOS receivers. Once this release v2.3.1p was deployed, this SN#1 has not been applicable.

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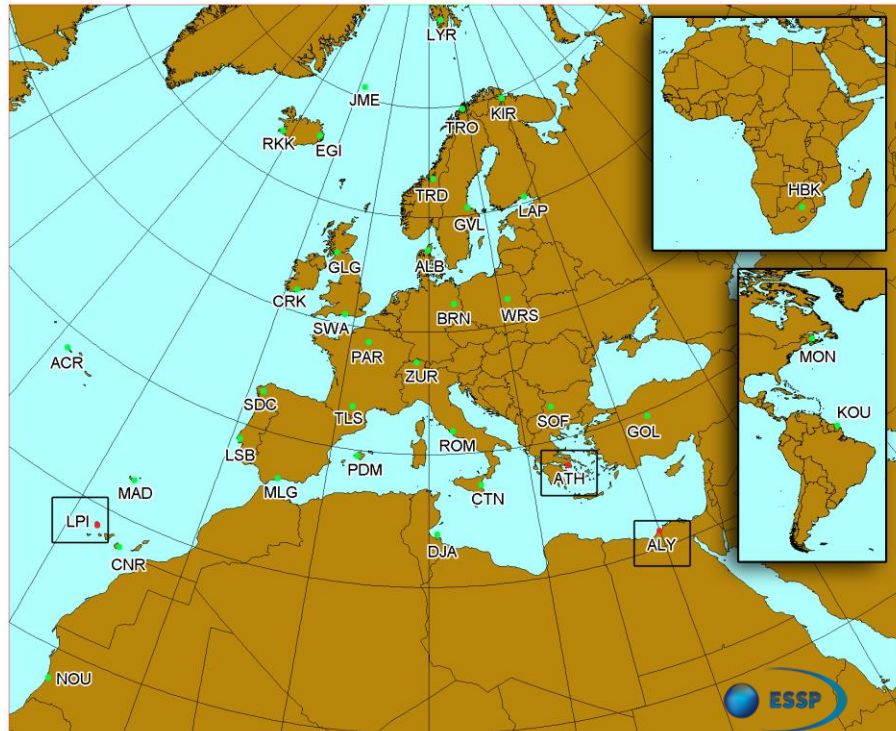


Figure 1 – EGNOS Reference Stations (3 new Reference Stations highlighted with a frame)

## 3 EGNOS GEOSTATIONARY SATELLITE SWAP

**Release date:** 22<sup>nd</sup> of March 2012

Due to the aging state of the ARTEMIS satellite, it was removed from the Operational platform.

On the 22<sup>nd</sup> of March 2012, INMARSAT satellite 4F2 (PRN 126) replaced ARTEMIS satellite (PRN 124), thus improving the visibility over the North ECAC area. In consequence, the two EGNOS Geostationary satellites providing the EGNOS SoL Service are the PRN120 and PRN 126.

Currently, the EGNOS Space Segment is composed as follows:

Geostationary Satellite Name	PRN	Orbital Location	Status
INMARSAT-3F2 AOR-E	120	15.5° W	Operational
INMARSAT-4F2 IND-W	126	25.0°E	Operational
ARTEMIS	124	21.5° E	Test

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Table 1: EGNOS Geostationary satellites

with the following footprint for EGNOS Services:

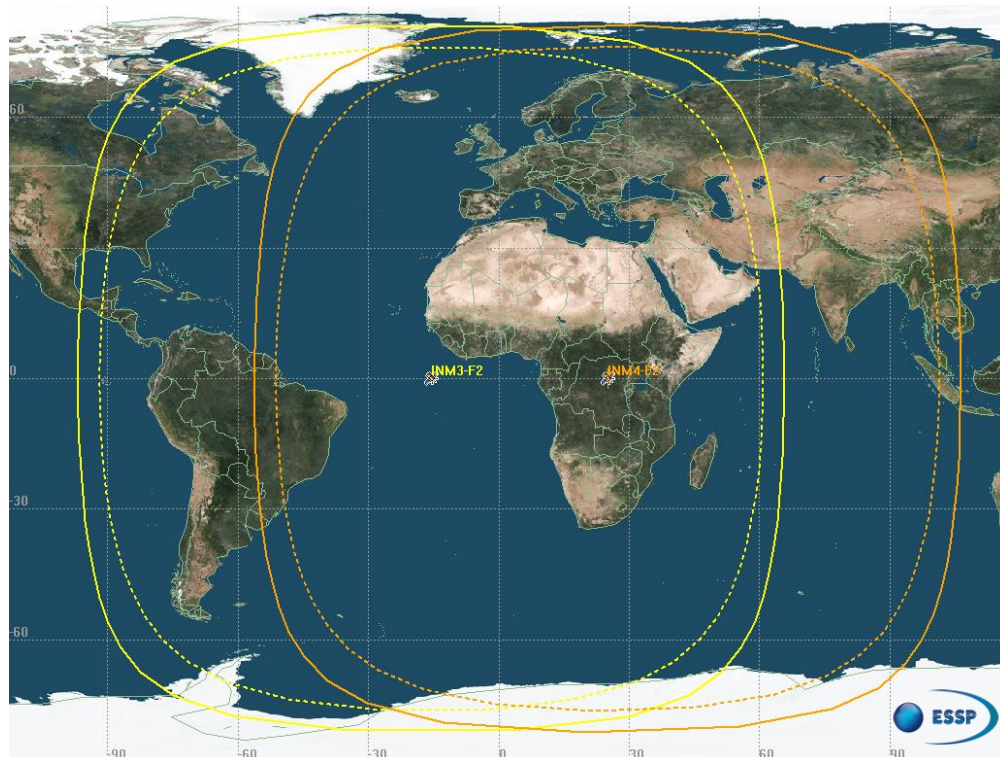


Figure 2 – Yellow INMARSAT 3F2 (PRN 120) and Orange INMARSAT 4F2 (PRN 126) current footprint  
*Solid line = 0° elevation, dotted line = 5° elevation*

## **CONTACT US**

Should you have any question related to this Service Notice or EGNOS Service Provision, please, contact [Egnos-helpdesk@essp-sas.eu](mailto:Egnos-helpdesk@essp-sas.eu)

For more information about EGNOS Service Provision, please, visit ESSP website at [www.essp-sas.eu](http://www.essp-sas.eu) and user support website at <http://egnos-user-support.essp-sas.eu>