



A word from Aena

The Aena Board of Directors officially approved Aena’s participation in the EGNOS Programme on the 19th of October 1998. 15 years later, on 17th October 2013, the first RNP APCH procedure including LPV minima has been implemented in a Spanish airport (Santander).

In these 15 years, Aena has successfully played different roles through the EGNOS Programme: from the earliest contribution to the EGNOS development phases together with the participation in the EOIG (*EGNOS Operator Infrastructure Group*), to the setting up of the ESSP and the leadership of some of the first (2006) EGNOS-based procedure flight demonstrations involving real operators.

Aena has firmly supported EGNOS and ESSP from the very beginning, the efficient and professional operation and maintenance of key EGNOS elements (MCC, RIMS, NLES, EDAS, EURNOTAM...), the provision of specialized services (Training Entity, VET, NRB...), the integration of the former ASQF or the hosting of the SPU are clear examples of this permanent and stable commitment.

Thanks to its professional expertise and *savoir-faire*, the ESSP has recently been selected among much bigger competitors as the EGNOS Service Provider for another eight years. Throughout this period, ESSP can count on Aena again to guarantee the fulfillment of the EGNOS Service Provision contract.

In parallel, Aena will do its best to spread the implementation of EGNOS-based procedures in Spain so as to promote and secure the use of EGNOS.

Let us explicitly appreciate and thank ESSP for the continuous support and good collaboration. As it is often said, *if you want to go fast, go alone; if you want to go far, go in a group*. Aena does want to “go” with the ESSP.



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Status of the EGNOS implementation in aviation EGNOS LPV procedures already published in Europe

Country	Airports	LPV Procedures	APV Baro Procedures ¹
France	39	50	0
Switzerland	4	4	0
Italy	4	7	0
Guernsey	1	2	0
Germany	39	11	73
Spain	1	2	0
Total	88	76	73

¹ Enabled to be flown with EGNOS vertical guidance

EGNOS new release deployment

EGNOS system release V2.3.2 was qualified by the European Space Agency and Thales Alenia Space in September 2013. Deployment of this release was done end October 2013 in view of being fully operational by early November 2013.

Beyond the resolution of the obsolescence of some sub-systems, this V2.3.2 system release will bring significant improvements in terms of EGNOS services:



- ✦ Improvement of the **robustness** of the system to GPS events such as loss of satellite lock or erroneous ephemeris broadcast, that will allow avoiding impacts on the service as those observed in June 2012.
- ✦ Improvement of the **monitoring of the ionosphere** in the continuity of the improvements already gained with V2.3.1i, but most of all to increase performances in the North of the ECAC area.
- ✦ Increase the system performances towards the **Mediterranean** region with the introduction of two new RIMS; one in Morocco (Agadir) and the other in Egypt (in Abu Simbel, where the picture is taken).

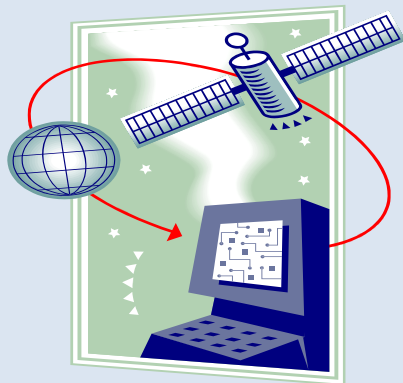
EDAS Service Evolution

The EDAS corrective maintenance release (v2.2.6) deployed on September 4th corrects the availability underperformances in NTRIP and SISNET Services of previous months.

ESSP has activated the installation of two new fiber optic lines of 20 Mbps (instead of one of 20Mbps) in order to deploy in EDAS system the Link & DNS Load Balancing functionality included inside EDAS v2 project.

Successful deployment of EDAS release v2.2.7 was on September 26th, which includes the E-Message implementation.

The continuous EDAS service evolution is an ESSP commitment that aims to provide better and better performance to its increasing number of users.



A new version of the EDAS Service Definition Document (SDD V2.0) can be downloaded from ESSP site

First LPV operational in Spain

At the beginning of 2013 ESSP President Dirk Werquin and Aena's Navigation Director Ignacio González officially signed the **EGNOS Working Agreement** (EWA) as the first step for the implementation of EGNOS-based approach procedures at Spanish airports managed by Aena.

And it is now, October 17th, when the first approach procedure based on EGNOS has been published at Santander airport, allowing aircraft to land at this airport with the aid of an LPV procedure.



The Santander Airport had been chosen by Aena to be part of the GSA (European GNSS Agency) programme **ACCEPTA - ACCeleration of the EGNOS adopTion in the Aviation sector**- which has helped to foster the different steps to finally publish the LPV procedure at this airport.

Aena is planning to publish new LPV procedures in Almeria, Valencia and Sevilla airports first semester of 2014.

ANSP from Scotland and Portugal sign an EWA with ESSP

In the last weeks new EGNOS Working Agreements have been signed by ESSP and different European ANSPs: **HIAL** (*Highland and Islands Airports Limited*) and **NAV-P**, the Portuguese Air Navigation Service Provider.

From now on, both ANSP can publish EGNOS-based procedures that will improve safety, accessibility and efficiency to pilots and operators at their local airports managed by them.

In the particular case of HIAL, Scottish entity that manages 11 airports (Barra, Benbecula, Campbeltown, Dundee, Islay, Inverness, Kirkwall, Stornoway, Sumburgh, Tiree and Wick), the signature of the EWA has been done in the framework of the project **ACCEPTA - ACCceleration of the EGNOS adopTion in the Aviation sector**. Jointly with HIAL, Scottish operator Loganair is also part of this project managed by the GSA (European GNSS Agency), getting its fleet equipped with EGNOS enabled receivers. The HIAL airports involved in the project, and the first ones foreseen to publish EGNOS-based procedures, are Barra, Benbecula and Campbeltown.



Did you know?

The flights at Barra Airport (Scotland) are scheduled according to the Sea tides

EGNOS User Satisfaction Process

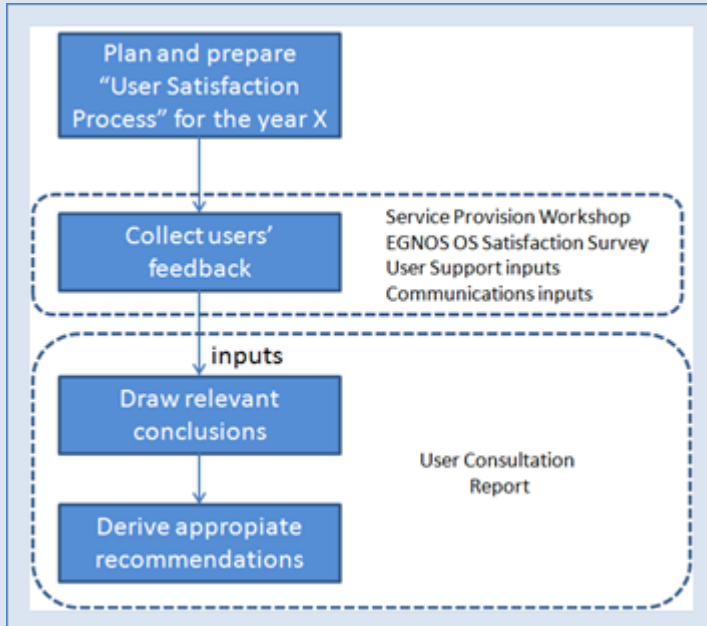
ESSP launches every year an overall EGNOS Users' Satisfaction Process covering the three EGNOS Services (SoL, OS and EDAS) and getting valuable feedback about EGNOS and ESSP performance in order to define improvement areas and recommendations on EGNOS and ESSP activities as EGNOS Services Provider.

This process considers the feedback received via different means and interfaces like the EGNOS Service Provision Workshop, the EGNOS User Support activities or the participation of ESSP to GNSS relevant events, but being the main input the customized satisfaction surveys that are widely distributed to the main users and stakeholders of each EGNOS Service.

This process also covers specific regulatory and quality requirements applying to ESSP and/or the three EGNOS Services (Open Service, Safety-of-Life and EDAS).



The following diagram depicts the methodology used in the Users' Satisfaction Process, which main outcome is the **Users Satisfaction Report** for each EGNOS Service:



The main outcomes and recommendations included in the corresponding satisfaction reports are made public mainly via the Yearly EGNOS Service Provision Workshop and related EGNOS Service Provision Yearly Report and, in the case of the SoL service recommendations, via the company Annual Report as required by the applicable regulation.

ESSP would like to thank all contributors having provided inputs to this process and encourages any user or stakeholder to provide any additional feedback that will support the continuous improvement of the EGNOS services.



EGNOS projects



Final User Forum

The SHERPA **Final user Forum** was held on the 16th and 17th October in Dubrovnik (Croatia) being organized by the SHERPA project team and the European GNSS Agency (GSA).

The SHERPA project raised high interest and triggered useful interactions with different Eastern European GNSS stakeholders concerning the EGNOS adoption and the implementation of EGNOS based operations (in particular LPVs).

More than 40 attendees participated in this event including representatives of GSA, SHERPA consortium members, Eurocontrol, industry, airports of Pristina, Pula and Dubrovnik, Civil Aviation Authorities from Estonia, Croatia and Montenegro and ANSPs from Spain, Portugal, Austria, Montenegro, Ukraine and Croatia.

To remark the specific session held concerning the future LPV implementation at Dubrovnik Airport for 2014.

The associated technical details, the expected benefits this operation will bring and the implementation roadmap were explained by CroControl (Croatian ANSP) and Dubrovnik Airport representatives followed by a fruitful discussion on procedure design.



The SHERPA **Final Meeting** will be held in Prague (at GSA premises) on November 13th. This final meeting with the customer (GSA) and rest of the Consortium members will present and assess the project activities outcomes, ensure completion, and derive any lessons learned and best practices to be applied to future projects. The Final Meeting objective is to ensure that all project activities are completed across all phases of the project and formally close the project from the technical point of view.



Satellite navigation services for AFRican Region

Next working session on Certification planned for December 3rd to 6th in Addis- Abeba; Ethiopia)

- ✚ This next workshop is focused on two main topics: Liability and Certification Policy, and Governance structure.

The SAFIR project will last two years and will cover the set-up, staffing and operations of an EGNOS-Africa Joint Programme Office (JPO) with a proper regional participation of the various beneficiary countries. The project consortium members are ASECNA, ESSP, EGIS AVIA and Pildo Labs.

EGNOS and GNSS recent Events



- Nashville (USA), 16-20 September
- The world's largest technical Meeting and Showcase of GNSS technology, products and services
- Europe GNSS represented by EC and ESSP members
- ESSP presented two subjects: "The EGNOS NOTAM Proposals Service: towards full ICAO compliance" and "Description and applications of EDAS"



- Salzburg, 4-5 October
- European Regions Airline Association (ERA) General Assembly
- Successful EGNOS stand explaining how EGNOS-based approaches can be implemented at their local airports, and how aircrafts can be equipped with SBAS compatible avionics
- ESSP and GSA presented a joint Paper "EGNOS Benefits for Regional Airlines"



- Berlin, 22-24 October
- International Symposium on Precision Approach and Performance Based Navigation
- ESSP presented "The EGNOS NOTAM proposal service"

Upcoming Events



Munich, 5-7 November

- ✓ European Space Solutions Event, co-organized by the GSA and the Copernicus Programme in partnership with ESA's Business Incubation Centers
- ✓ Encounter between Industry and public-sector with users and developers of space-based solutions
- ✓ 2nd GNSS LBS User Forum - SUNRISE
- ✓ European Space Expo in parallel



Hannover, 11-15 November

- ✓ Europe's leader show trade in precision agriculture
- ✓ EGNOS Information Point inside the CLASS Agrosystems stand
- ✓ 2700 exhibitors + 50000 expected visitors

More info on



essp-sas.eu

EGNOS Service Provider Website. Info on the EGNOS system, news on the service. Status on EGNOS implementation in Aviation. Projects. Events. Others.

egnos-user-support.essp-sas.eu

Information on past and current EGNOS performances. Signal in Space (SIS) status. Forecast on SIS availability. EDAS information and registration.

egnos-portal.gsa.europa.eu

EGNOS applications. Developers platform. Business support.

For questions & Information
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Disclaimer: EGNOS is a complex technical system and the users have certain obligations to exercise due care in using the EGNOS services. Before any use of the EGNOS services, all users should review the EGNOS SoL Service Definition Document ("SDD") and/or EGNOS Open Service SDD (both available on the ESSP SAS website <http://www.essp-sas.eu/>) in order to understand if and how they can use these EGNOS services, as well as to familiarise themselves with their respective performance level and other aspects the services may offer. Use of an EGNOS service implies acceptance of its corresponding SDD specific terms and conditions of use, including liability.

In case of doubt the users and other parties should contact the ESSP SAS helpdesk at egnos-helpdesk@essp-sas.eu. Aviation Users may also contact their National Supervisory Authority.

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