EGNOS

EGNOS, it's there. Use it.

*"The European Geostationary Navigation Overlay Service **(EGNOS)** provides an augmentation service to the Global Positioning System (GPS) Standard Positioning Service (SPS). Presently, **EGNOS** augments GPS using the L1 (1575.42 MHz) Coarse/ Acquisition (C/A) civilian signal function by providing correction data and integrity information for improving positioning, navigation and timing services over Europe".*

European
Global Navigation
Satellite Systems
Agency

GSA & ESSP

launched the EGNOS survey intended to measure EGNOS user satisfaction and gather valuable suggestions to improve the quality of the EGNOS services.

Thank you for your collaboration. Your opinion is essential to improve the EGNOS services!

EGNOS

YOUR SATISFACTION is our reason for being!

ESSP

USER SATISFACTION SURVEY 2015

QUESTIONNAIRE STRUCTURE

1.- Introduction and Classification

2.- EGNOS Use

3.- EGNOS Services (Performance & Satisfaction)

- Safety of Life (SoL)
- EDAS
- Open Service (OS)

4.- EGNOS Value (Market Segment)

- Agriculture
- Aviation
- Maritime
- Road
- Rail
- Surveying & mapping
- Location-Based Services
- Other

5.- EGNOS Market Development

6.- EGNOS User Support Services

- Website
- Documentation
- Helpdesk

Precise navigation,
powered by Europe

EGNOS

EGNOS, it's there. Use it.

The questionnaire has been filled by **200** respondents

64 Non-EGNOS Users + **136** EGNOS Users

7.6

Global Satisfaction Score

The Global Satisfaction Score shows a good level of satisfaction with respect to **EGNOS** in general terms.

7.6 - 2014

(*) All scores are graded out of 10 points and are based on 136 EGNOS Users' answers.

Your SATISFACTION is our reason for being!

EGNOS SUPPORT

Support Website: 2014: 7.1 → 7.1

Documentation: 2014: 7.9 → 8.2

Helpdesk: 2014: 8.0 → 7.8

User Satisfaction Survey 2015

USER SATISFACTION SCORE PER MARKET SEGMENT

	% respondents	2014	2014
Agriculture	22%	6.7 ▲	6.6
Rail	1%	7.8 ▼	8.3
Maritime	5%	8.2 ▲	7.6
Aviation	49%	7.9 ↔	7.9
Road	3%	6.3 ▼	7.7
Sur. & Map.	13%	7.4 ▲	6.9

(*) Surveying & Mapping (Sur.& Map.) includes "Location Based Services".

EGNOS SERVICES

	% EGNOS Users (*)	2014	2014
SoL	42%	8.1 ▲	7.7
OS	64%	7.2 ▲	6.9
EDAS	14%	7.7 ▲	7.3

(*) Each respondent can use more than one service.

Performance

	2014	2014
EGNOS SoL accuracy	8.3 ▼	8.6
EGNOS SoL availability	8.4 ▲	7.9
EGNOS SoL coverage	7.5 ▲	7.0
EGNOS OS accuracy	7.2 ▲	6.8
EGNOS OS availability	7.1 ▼	7.3
EGNOS OS coverage	7.4 ▲	6.6

EGNOS, it's there. Use it.

Recommendations derived from your feedback…

ARCHITECTURE/ EVOLUTIONS

- **Implement GEO ranging in ESR2.4.2 as a mean for mitigation potential impacts in user performance due to GPS constellation degradations.**
- **Allow PRN mask extensions in standards and in EGNOS System level.**
- **Analyse how to solve the overlapping SBAS service areas** (e.g. EGNOS may implement more accurate service area defined by MT27 (up to 5 regions can be defined, including rectangles and triangles), so overlapping in countries like Russian or Belarus can be avoided)**.**

SUPPORT TO IMPLEMENTATION

- **Give support to EGNOS Non-users who are considering using EGNOS, especially those have mentioned some novel applications in their sector where they have detected EGNOS may improve performance** (e.g. Explore the possibility of repeating or expanding previous "EGNOS Adoption for Aviation Grant" or STC common specification initiatives which can contribute to reducing the cost of EGNOS for airspace users)**.**
- **Disseminate the improvements brought by EGNOS V3, such as the augmentation of Galileo.**

EGNOS DOCUMENTATION

- **Translate the documentation into other languages to ease marketing efforts by solution providers.**

EGNOS, it's there. Use it.

Recommendations derived from your feedback…

EGNOS USER SUPPORT WEBSITE

- **Improve the possibility to easily find and access information & the usability of the EGNOS User Support Website** (e.g. Content Dashboard).
- **Provide the historical availability of EGNOS GEO messages** (Proposal: Historical Outages Data Gaps).
- **Ensure the consistency of contents and links between the different EGNOS related websites (GSA website, EGNOS Portal, GSC Website, EGNOS User Support Website).**
- **Add a warning by SMS of outages or extraordinary conditions of EGNOS, as a faster alternative to email.**
- **Provide more information on the quality of OS on real time, especially concerning "vertical performance", and on a wider geography.**
- **Provide free material, documentation and tools in the EGNOS Support Website for educational purposes.**
- **Provide Space weather alerts via the EGNOS User Support Website to registered users.**

EGNOS HELPDESK

- **Reduce the time to answer questions and solving issues, especially for time-critical applications** (Proposal: add a feature to help detect when a fast answer is necessary, and when a more detailed explanation can be produced with sufficient time).
- **Improve the quality of the attention on the phone.**
- **Better managing automatic replies.**

EGNOS, it's there. Use it.

Recommendations derived from your feedback…

EGNOS SoL PERFORMANCE

- Continue with the current effort for APV-I service area extension to Ukraine.
- Extend the geographical coverage to northern Europe (including Artic area), West Iceland, ACAC and Middle East regions.

EGNOS SoL MARITIME

- Analyse how to give support the legal recording capability in the maritime market segment.
- Continue the support provided in different projects aimed at defining the appropriate service provision framework for EGNOS in the maritime market segment.

EGNOS SoL RAIL

- Analyse how current EGNOS performance could support Safety Integrity Levels (SIL) rail requirements.
- Continue the support provided in different projects aimed at defining the appropriate service provision framework for EGNOS in the rail market segment.

EGNOS, it's there. Use it.

Recommendations derived from your feedback…

EGNOS SoL AVIATION

- **Support at EGNOS programme level other types of SoL service levels beyond APV-I/NPA** (e.g. LP/RNP0.3**) by defining the corresponding EGNOS Service Provision framework** (e.g. NOTAM proposals, EWA amendments…)**.**
- **Define the EGNOS service provision framework for military operations.**
- **Increase awareness about the EGNOS Service Provision framework, LPV procedures and the EGNOS Working Agreement (EWA) (benefits, annexes, liability…).**
- **Provide further information about SBAS capabilities for different aircraft models, certified receivers available (ETSO, TSO) and certification status in Europe.**
- **Assess the impact of new training requirements for operators.**
- **Continue to improve information to pilots and especially general aviation IFR pilots. The operational benefits can be more clearly communicated.**
- **Strengthen the support provided for the introduction of EGNOS in aviation considering different applications:**
  - Support in the development of EGNOS based approach procedures.
  - Support in the certification of EGNOS avionics and onboard solution.
  - Support in the introduction of EGNOS in UAVs/RPAS operations.
  - Support in the certification of EGNOS based solutions for airports surface guidance.
  - Support in using EGNOS for ADS-B.

EGNOS, it's there. Use it.

Recommendations derived from your feedback…

EGNOS OS

- Overall improvement of availability and accuracy and extend the geographical coverage to MEDA and Middle East regions.
- Increase awareness of the EGNOS Time Service and about its use and potential applications.
- Provide assistance to users in overcoming line of sight trouble.
- Improve information contents and channels related to PRN changes.
- More info about EGNOS in agriculture market segment.

EGNOS EDAS

- Improve "the current EDAS Client Software", "EDAS connection setup", "the use and processing of the EDAS data" and "the service support to provide users with the documentation package containing all information necessary to decode and use EDAS".
- Assess data gaps in the service, the quality of GLONASS data and the possibility to provide DGPS corrections for a denser network of stations (VRS).
- Ease the connection to EDAS by implementing the HTTP/TCP/IP options of the NTRIP protocol.
- Clarify status of EGNOS development toolkits (EGNOS SDK, Signature, Pegasus) and define distribution actions.

EGNOS

EGNOS, it's there. Use it.

…and we are working on your suggestions. Some of them have already been implemented/launched…

- The **EGNOS Multimodal Adoption (EMA)** action plan for 2016 considers user recommendations to foster the EGNOS adoption in all market segments.
- **Different actions** are being implemented in order to improve user satisfaction levels.
- The **EGNOS User Support Website**: Dashboard created in the home page showing the most common contents and linking to the website sections
- **Innovative ways** to present the information to users are being defined. ESSP working on EGNOS APP to be freely available for users in the open markets.

http://egnos-user-support.essp-sas.eu

egnos-helpdesk@essp-sas.eu

+34 911 236 555 (H24/7)

European
Global Navigation
Satellite Systems
Agency

ESSP

Precise navigation,
powered by Europe

EGNOS

EGNOS, it's there. Use it.

THANK YOU FOR YOUR ATTENTION !

- Safety of Life
- Open Service
- EDAS Service

http://egnos-user-support.essp-sas.eu

egnos-helpdesk@essp-sas.eu

+34 911 236 555 (H24/7)

EGNOS

YOUR SATISFACTION is our reason for being!

ESSP-MEMO-18443-V01-00

European
Global Navigation
Satellite Systems
Agency

ESSP

Precise navigation,
powered by Europe