

#### **GSA & ESSP**

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!



YOUR SATISFACTION is our reason for being!





"The European Geostationary Navigation Overlay Service (EGNOS) is Europe's regional satellite-based augmentation system (SBAS). It is used to improve the performance of global navigation satellite systems (GNSSs), such as GPS and Galileo in the future. EGNOS was deployed to provide safety of life navigation services to aviation, maritime and land-based users".



#### **QUESTIONNAIRE STRUCTURE**

- 1.- Introduction and Classification
- 2.- EGNOS Use
- 3.- Support in Developing Apps.
- 4.- EGNOS User Support Services
  - Website
  - Documentation
  - Helpdesk
  - Time Service
- **5.- EGNOS Services (Perceived Performance)** 
  - Safety of Life (SoL)
  - o EDAS
  - o Open Service (OS)
- 6.- EGNOS Value
- 7.- EGNOS Value (by Market Segment)
  - o Agriculture
  - Aviation
  - o Maritime
  - o Road
  - o Rail
  - Surveying & mapping
  - Location-Based Services
  - o Other
- 8.- EGNOS Market Development





#### The questionnaire has been filled by

respondents

#### **USER SATISFACTION SURVEY 2019**

**26** In 2018 **Non-EGNOS Users** 

In 2018 **EGNOS Users** 

**Global Satisfaction Score** 

**8.3** - 2018

59 respondents

2018 **Aviation** 

**USER SATISFACTION SCORE PER MARKET SEGMENT** 

3 respondents marked "other" Market Segment and 1 did not indicate it.

15 respondents

**Agriculture** 

1 respondent

Rail

4 respondents

2018 **Maritime** 

4 respondents

2018 Road

5 respondents

2018 Sur. & Map.

**6** respondents

(Location Based-Services)

**LBS** 

9 respondents are using **EGNOS Time Service** (2018: 4)

> 7.9 Satisfaction (2018:7.0)

18% could be interested in using this service. (2018: 18%)

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#### **EGNOS SUPPORT**

www **SUPPORT**  2018 8.0

**Support Website** 



(\*) All scores are graded out of 10 points and are based on 98 EGNOS Users' answers.

2018 8.3

**Documentation** 

### **EGNOS SERVICES**

**35** (36%) EGNOS Users (\*)

SoL

2018 8.7

**24** (24%) EGNOS Users (\*)

2018 8.1

19 (19%) EGNOS Users (\*)

**EDAS** 

2018

8.2

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

#### **Performance**

Helpdesk

2018

9.1

9.3

EGNOS SoL accuracv 2018

9.3

EGNOS SoL availability 2018 9.0

8.8 **EGNOS Sol** 

continuity 2018 8.5

8.9 **EGNOS SoL** 

coverage 2018

8.2

8.0 A

**EGNOS OS** accuracy 2018

7.9

8.8 **EGNOS OS** 

availability 2018

8.3

**EGNOS OS** coverage 2018

8.0





## Recommendations derived from your feedback...

## ARCHITECTURE/ EVOLUTIONS

- Generate awareness material on EGNOS V3 and increase the technical support on V3 development projects.
- Avoid or reduce temporary changes on the space segment since it impacts users with Open Service receivers.

#### **GENERAL SUPPORT**

- Multilingual User Support Services (website, helpdesk, etc.).
- ADS-B regulation and requirements awareness in relation to EGNOS.

## EGNOS USER SUPPORT WEBSITE

- For those contents that require login, make them available through the menu items and require login upon accessing the content instead.
- ☐ Generate support material for dealers and sales of EGNOS-capable devices vs other alternatives for Agriculture and Location Based Services (LBS) market segments.





## Recommendations derived from your feedback...

	ME SERV	

□ Define Service Levels and requirements for EGNOS Time Service.

## EGNOS SoL PERFORMANCE

Extend the EGNOS SoL Service Area.

#### ■ Lower VAL towards CAT-I Autoland (VAL = 10m).

Increase EGNOS robustness against spoofing attacks.

EGNOS SoL AVIATION

- Increase the awareness of Economical and Operational Benefits of implementing EGNOS LPV procedures and enabling EGNOS Capable aircrafts towards a larger number of procedures available in the EU.
- Several ANSPs have requested to improve the LPV200 capabilities to foster EGNOS-based approaches on their network.
- Provide NOTAM proposals by e-mail.





## Recommendations derived from your feedback...

	<ul> <li>Extend EGNOS OS Service Area towards North Africa and Ukraine (East of Europe in general) and improve EGNOS accuracy performance.</li> <li>Enable EGNOS GEO ranging and integrity in the pseudorange domain.</li> </ul>
EGNOS OS	More precision for clock corrections below the MT2-5 resolution (0.125 m).
	Increase EGNOS position errors stability / repeatability within time in order to improve P2P performance.
	Release implementation guidelines for Open Service Applications.

#### **EGNOS EDAS**

- Provide Rinex OBS data in the frequency of 1HZ full day.
- Provide EDAS reference implementation and client APIs.
- Inclusion of MSM on EDAS.



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





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- Generating support material for dealers and sales about EGNOS-capable devices for Agriculture and Geomatics.
- Innovative ways to present the information to users are being defined to be included in EGNOS User Support Website.
- EGNOS APP and EGNOS User Support website will include historical availability evolution of APV-I and LPV-200 services.







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## THANK YOU FOR YOUR ATTENTION!



YOUR SATISFACTION is our reason for being!



- Safety of Life
- o Open Service
- EDAS Service



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