



EGNOS, it's there. Use it.

# EGNOS Users' Satisfaction

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European  
Global Navigation  
Satellite Systems  
Agency



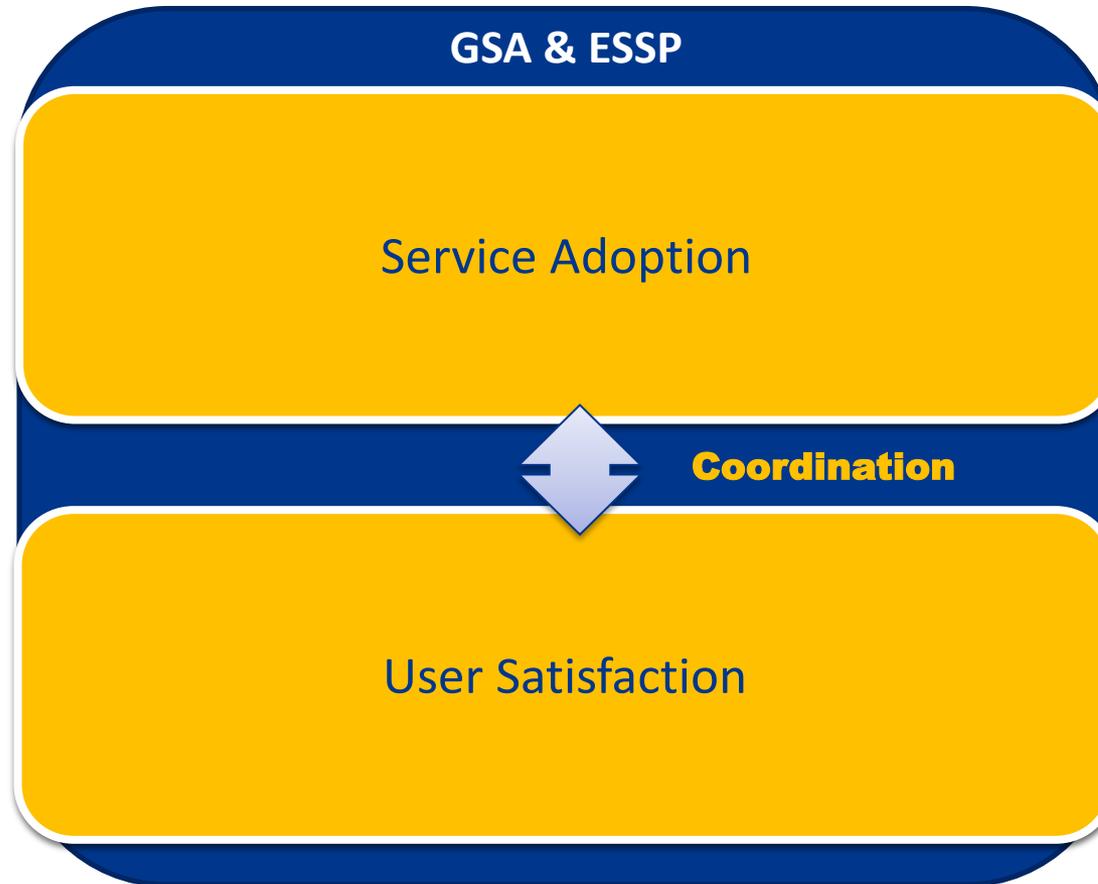
Precise navigation,  
powered by Europe



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# EGNOS User Support Improvement Process



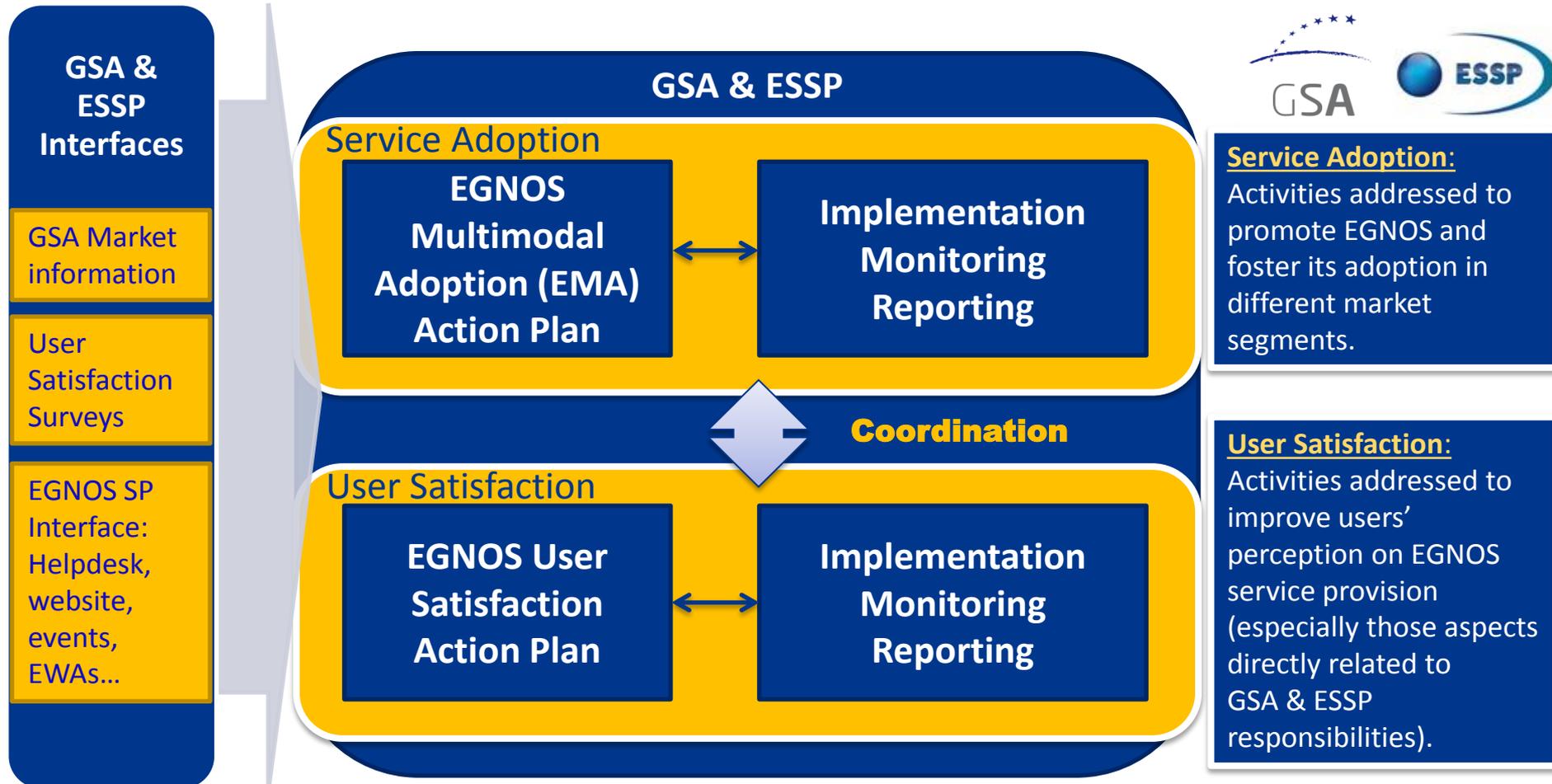
## Service Adoption:

Activities addressed to promote EGNOS and foster its adoption in different market segments.

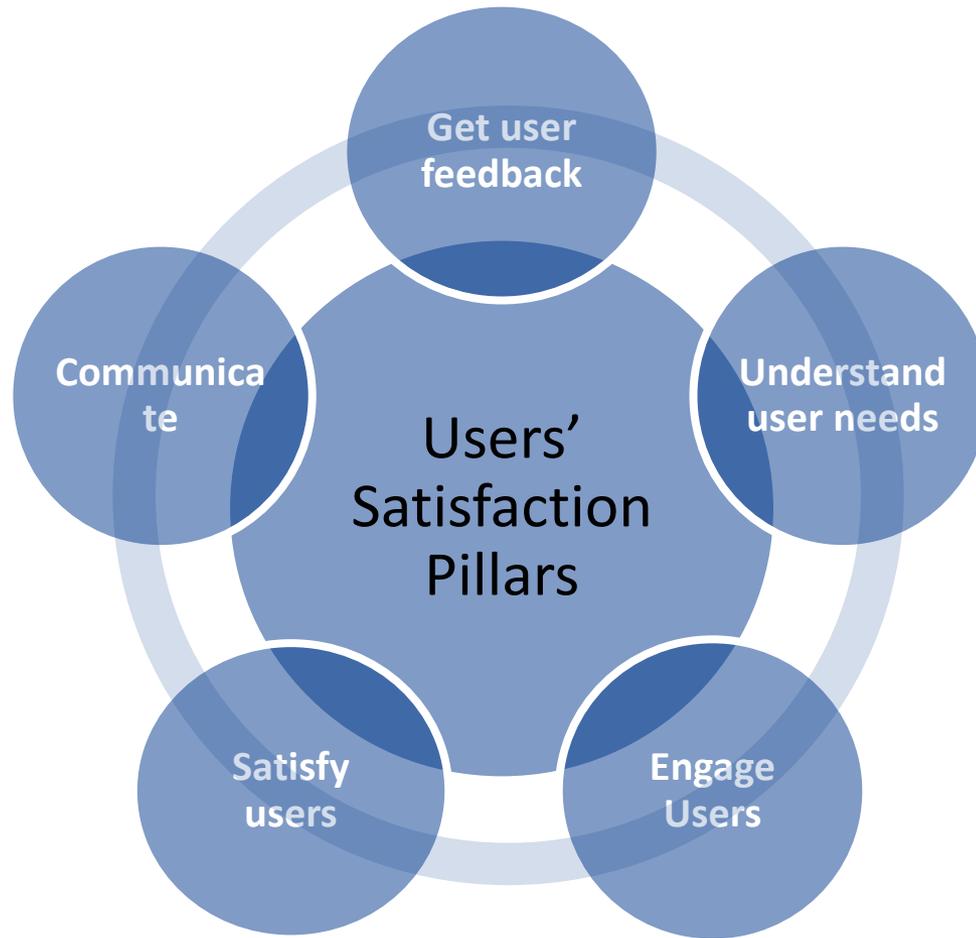
## User Satisfaction:

Activities addressed to improve users' perception on EGNOS service provision (especially those aspects directly related to GSA & ESSP responsibilities).

# EGNOS User Support Improvement Process



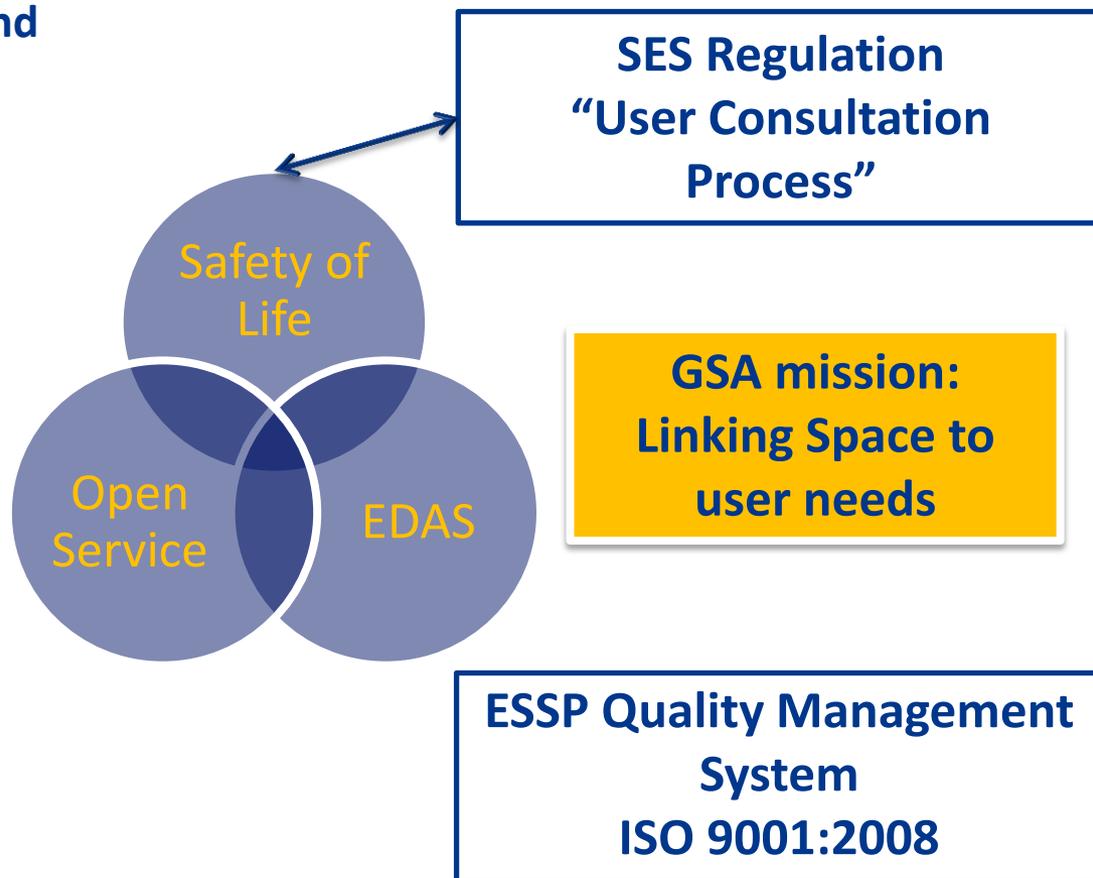
# EGNOS Users' Satisfaction Pillars



# EGNOS Users' Satisfaction

GSA & ESSP objective: to identify and satisfy user needs:

Aviation	
Maritime	
Agriculture	
Road	
Rail	
Surveying & Mapping	
LBS	



# EGNOS Users' Satisfaction

## ESSP & GSA INTERFACES

- GSA Market Information
- EGNOS Helpdesk
- Events & Projects
- Adoption (EMA) activities
- EGNOS Service Provision WS
- .....



EGNOS Users



Satisfaction Process

## EGNOS User Support Improvement Process

- **EMA Action Plan**
- **EGNOS User Satisfaction Action Plan**

## Inputs to EGNOS Mission Evolutions

## EGNOS Users Satisfaction Survey

(Online)



Independent Company

More than **6,000** EGNOS users contacted



**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.

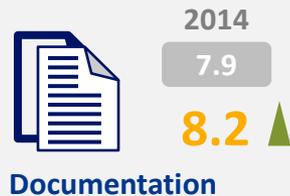
**USER SATISFACTION SCORE PER MARKET SEGMENT**



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

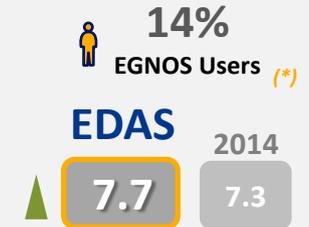
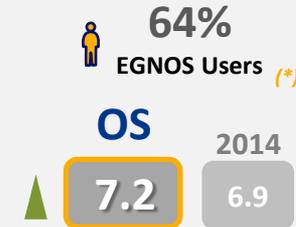
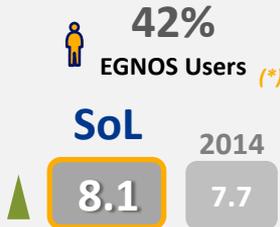
Your SATISFACTION is our reason for being!

**EGNOS SUPPORT**



**User Satisfaction Survey  
2015**

**EGNOS SERVICES**



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

**Performance**



# EGNOS Users' Satisfaction Analysis (Recommendations)

## 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.

★ Input to mission evolution    ★ EMA Action Plan    ★ New Action

# EGNOS Users' Satisfaction Analysis (Recommendations)

## 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.

## 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. ★

## DOCUMENTATION

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

★ Input to mission evolution    ★ EMA Action Plan    ★ New Action

# EGNOS Users' Satisfaction Analysis (Recommendations)

## 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. ★

★ Input to mission evolution    ★ EMA Action Plan    ★ New Action

# EGNOS Users' Satisfaction Analysis (Recommendations)

- ❑ Support at EGNOS programme level other types of SoL service levels beyond APV-I/NPA (e.g. LP/RNPO.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 SoL  
AVIATION

- ★ Input to mission evolution
- ★ EMA Action Plan
- ★ New Action



# EGNOS Users' Satisfaction Analysis (Recommendations)

## 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.

★ Input to mission evolution

★ EMA Action Plan

★ New Action



# EGNOS Users' Satisfaction Implemented Actions

- ❑ 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



# EGNOS Users' Satisfaction Implemented Actions

The screenshot shows the EGNOS User Support website. At the top, there's a navigation bar with links for Register, Login, NEWS, DOCS & TOOLS, HELPDESK, EGNOS SYSTEM, SAFETY OF LIFE SERVICE, OPEN SERVICE, and EDAS SERVICE. The main banner features a tractor in a field with the text 'OPEN SERVICE OS Open Service'. Below this, there are several dashboards: 'EGNOS System' with a calendar for September 2016, 'Safety of Life' with a signal availability map, 'Open Service' with a signal availability map, and 'EDAS Service' with a signal availability map. A 'COMING SOON' watermark is overlaid on the image.

The screenshot shows the EGNOS mobile app home screen. It features a grid of icons: HELPDESK, SIGNAL IN SPACE, DOCS & TOOLS, PERFORMANCE, and ABOUT EGNOS. At the bottom, there is a HOME button.

The screenshot shows the 'AVAILABILITY REALTIME' screen in the EGNOS mobile app. It displays 'Current availability 100.00%' and 'Last updated: 29/08/2016 05:44:59 GPST'. Below this is a heatmap showing signal availability over a geographic area.

The screenshot shows the 'LPV MAP' screen in the EGNOS mobile app. It displays a map of Europe with various locations marked. A legend at the bottom indicates 'Operational' and 'Planned' status for 'AURIGNY AIR SERVICE'. At the bottom, there is a HOME button.

The screenshot shows the 'AVAILABILITY FORECAST' screen in the EGNOS mobile app. It displays a calendar for August 2016. The selected date is Monday, August 29th 2016. A legend at the bottom indicates 'Planned Signal Available', 'Planned Signal Outage', 'Risk of Signal Outage', and 'TBC Signal Available'.

# EGNOS Survey 2016 open !!

- **EGNOS Survey (GSA-ESSP) launched in 2016 (27/09)** covering EGNOS Services' users during 2015

## Take Part in the EGNOS User Satisfaction Survey!

Dear EGNOS User/Stakeholder,

The actual EGNOS services are currently delivered by European Satellite Services Provider (ESSP SAS) under contract with the European GNSS Agency (GSA) for the period 2014 – 2021. Together, GSA and ESSP work to meet and improve EGNOS users' needs and expectations and to support the promotion and marketing of the services offered by the EGNOS programme.

The **EGNOS User Satisfaction Survey\*** is intended to measure EGNOS user satisfaction and gather valuable suggestions to improve the quality of the EGNOS services and to measure the ESSP performance as EGNOS Service Provider. Your opinions are important to us, and will help EGNOS continue to improve, meet and hopefully exceed your expectations.

*Completing the survey should only take about 15 minutes and all responses will be treated under applicable European Data Protection law.*



EGNOS, it's there. Use it.



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Corporate Video

Thank you!