



# EGNOS Market status and adoption plan 2019

## Maritime, Rail, Agriculture and Geomatics

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# Market SEGMENTS



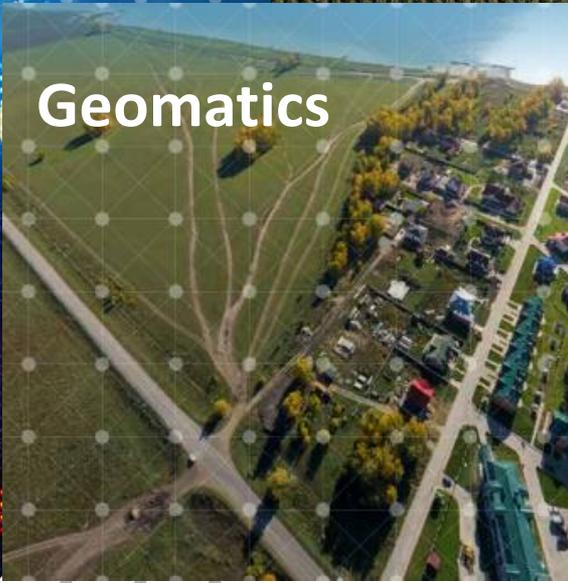
Maritime



Rail



Timing & Synchronisation



Geomatics



Agriculture

# GSA Adoption Strategy implementation overview

## EGNOS Service Provision contract



- ❑ EC Policy Objectives
- ❑ Market trends and needs
- ❑ 2018 User Satisfaction Survey

### GSA E-GNSS adoption strategy

Priorities

ESSP Objectives

Action plan

Time plan

*Per market segment*



Strategic actions  
User/Stakeholder coordination  
Contribution to policy  
Application and receiver R&D



Annual EGNOS Multimodal  
Adoption plan  
Operational support to  
adoption



Credit: ESSP



# MARITIME

## EGNOS Market Status



Regulated  
SOLAS

100% EGNOS enabled  
SOLAS devices

**January 2018:** Guidelines  
for the transmission of  
EGNOS correction  
published by IALA



Unregulated  
Leisure

89% EGNOS enabled  
non-SOLAS devices

**2019:** User needs analysis  
to support the definition  
of the technical  
requirements for new  
EGNOS maritime service  
and related receivers

❑ 90% of manufacturers with SBAS-enabled product

➤ *Accuracy*

**IMPROVED**

➤ *Integrity*



# MARITIME

## EGNOS Adoption plan 2019 Priorities



Cost-benefit analysis for IALA/AIS stations recapitalization using EGNOS

Guidelines update for the implementation of SBAS in shipborne receivers



- Availability & continuity maps (static performances)
- Test campaigns (dynamic performances)

Support Service Concept Definition, Provision Scheme and Liability Scheme

# Maritime: retransmission of SBAS corrections

On 2019:

CBA and architecture analysis has been done to Portuguese « Instituto Hidrográfico – Marinha, Divisão de Navegação »

On 2019:

First contacts established with « Galati Lower Danube River Administration » (Romania)

Customised **CBA**s under request at [egnos-adoption@essp-sas.eu](mailto:egnos-adoption@essp-sas.eu)

In previous years, other CBAs supported authorities decision to use



Read the latest issue of the EGNOS bulletin Q2 2019



France chooses EGNOS to improve services for sea users

Renewal of Estonian DGNSS stations powered by EDAS



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# RAIL

## EGNSS Market Status

### Safety relevant applications



- GSA + ERA + Shift2Rail towards having E-GNSS enabled ERTMS
- Environment characterisation and first requirements on E-GNSS by STAR project
- Architecture of E-GNSS in rail signalling virtual balise concept defined within the Shift2Rail X2RAIL2 Project
- CBA for GNSS in signalling launched by GSA in August 2019

### Non-safety relevant applications

- 250 TGV units equipped by January 2019 in France/SNCF with Galileo enabled receivers for passenger information
- DB Cargo AG rail car fleet (~30000) will be equipped with Galileo enabled smart sensors provided by Siemens Mobility AG
- **Other railway freight operators are already equipped with EGNOS enabled and configured devices**

# RAIL

## EGNOS Adoption Plan 2019 Priorities

Non-safety relevant applications



GNSS devices penetration on-board freight trains

Safety relevant applications



Cost Benefit Analysis

# Freight cargo: market overview

At least **9 European rail companies** are digitalizing entire freight wagon fleet with **GNSS tracking sensors**

**23,000 smart wagons** have been already equipped with EGNSS telematics devices. **> 7000 wagons already using EGNOS**



Freight cargo cars market size: **~ 170,000 units**  
Timeframe to equip with EGNSS sensors: **2022**

# EGNSS Device Penetration Plans at Freight Wagons Rail Cargo Companies

**DB Cargo**  
Deutsche Bahn Gruppe

**68,000**  
smart assets

to be installed with Telematics  
**SIEMENS CTmobile**

**VTG**

**80,000**  
smart assets

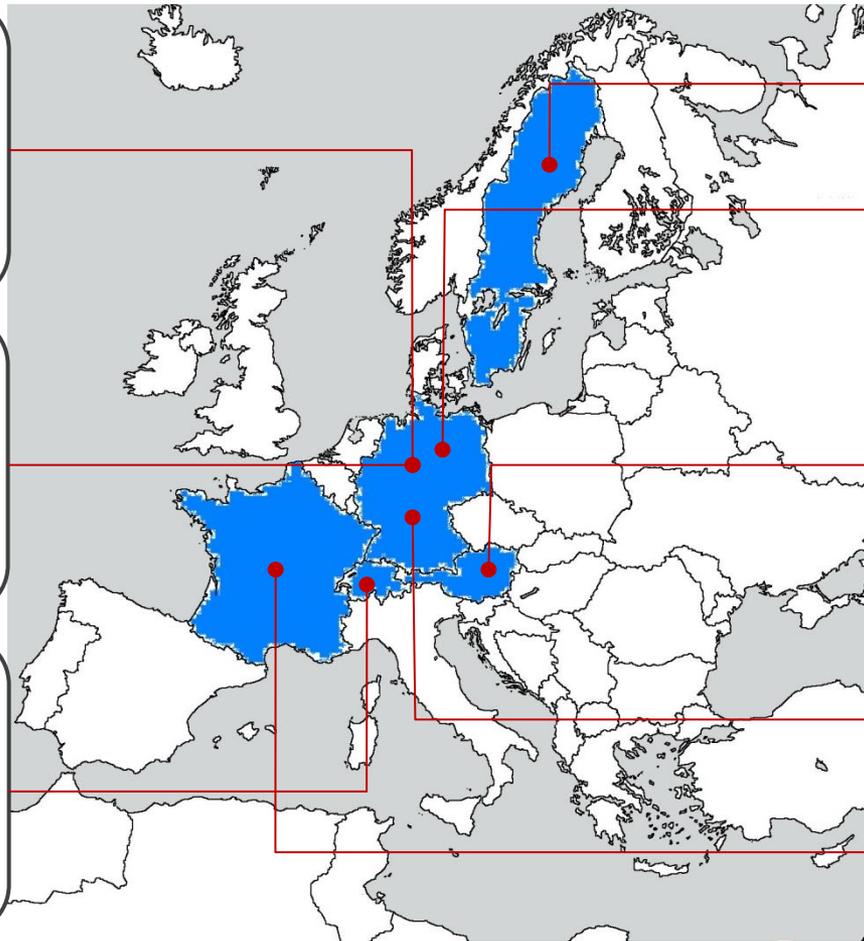
to be installed with Telematics  
**nexxiot**

**SBB Cargo** **HUPAC**

**750** smart assets    **1,000** smart assets

to be installed with Telematics    to be installed with Telematics

**SAVVY FleetTrac**    **nexxiot**



**ScandFibre**  
**TRANSWAGGON TWA**

**7,500**  
smart assets

to be installed with Telematics  
**SAVVY CargoTrac**

**Rail Cargo Group**  
Member of OBB

**13,700**  
smart assets

to be installed with Telematics  
**SmartCargo**

**sasol**

to be installed with Telematics  
**ASTO Compact**

**SNCF**

to be installed with Telematics  
**TRAXENS-BOX**



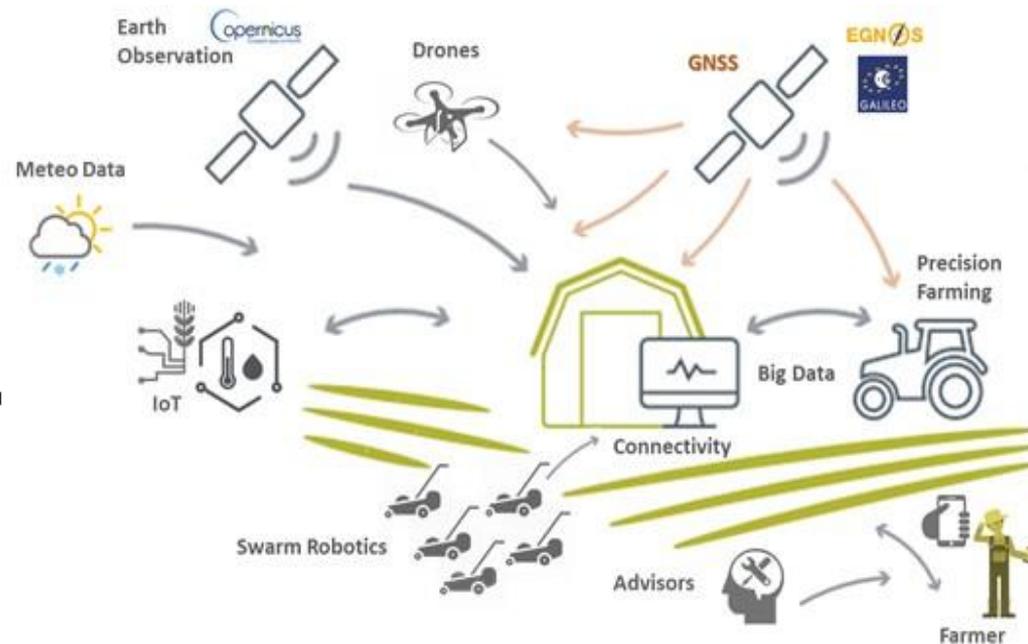
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# AGRICULTURE

## EGNOS Market Status

EGNOS provides affordable solutions for precision farming over Europe

- **Affordable entry-level solution** for precision agriculture
- Enables farmers to **optimise yields, increase labour productivity and reduce driver fatigue** – all with minimal investment
- Supports **machinery guidance** solutions with **sub-metre level accuracy**, which is suitable for basic-value crop cultivation (e.g. cereals)
- Enables more **efficient management** of farming activities such as **spreading, spraying and harvesting**
- **Around 85% of tractors** in Europe using GNSS are equipped **with EGNOS**



EGNSS is the core technology of Agriculture 4.0

# AGRICULTURE

## EGNOS Adoption Plan 2019 Priorities



Updated online CBA tool & Agriculture Demonstrator

Analysis of the use of GPS/EGNOS in other farming equipment



Success stories

# Agriculture Adoption Tools



CBA tool (EASE) for farmers



EGNOS demonstrator for agriculture



©GSA

# GEOMATICS

## EGNOS Market Status

- EGNOS = **an effective option** for a wide range of mapping applications where **meter accuracy is adequate**
- EGNOS = **widely accessible**: covers the majority of Europe, with no white spots
- EGNOS does not require installation of hardware
- EGNOS = real time positioning
- Most new GNSS devices are EGNOS-enabled so costs are kept on effective level



**TODAY**, more than **90% of new GNSS devices** in surveying and mapping are EGNOS enabled mapping professionals can benefit from free metre-level accuracy that is widely available.

# GEOMATICS

## EGNOS Adoption Plan 2019 Priorities

Eric Gakstatter talks about the present and future of GNSS and EGNOS in the mapping sector

Source: gsa.europa.eu



Performance analysis



**EGNOS** visibility maps



Testing in the field & under real conditions



Perform dynamic EGNOS data collection campaign and analysis in real conditions

Database of EGNOS enabled GNSS equipment

# Targeting success stories

## Use cases: collecting testimonies



Spanish Mountain Bike routes powered by EGNOS

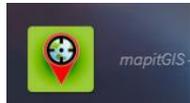


EGNOS guiding tractors

## Article in AIE newsletter



EGNOS supports electric grid field operations improving GPS accuracy for free



NEUROPUBLIC



# Supporting GSA in EGNOS Adoption



## HOW TO

Become compliant with European requirements for RNP APCH operations to LPV minima



Flight crew basic theoretical training for RNP APCH down to LPV minima

European Satellite Services Provider S.A.S.  
Service Provision Unit

Issue 1.1 - September 2015



Precise navigation, powered by Europe



EGNOS  
EGNOS, it's there. Use it.

### EGNOS TRAFFIC ASSESSMENT OMNI AVIATION

Service Adoption Team - ESSP SAS

30/09/2015

European Commission  
European Navigation Satellite Systems Agency

Precise navigation, powered by Europe

EGNOS  
EGNOS, it's there. Use it.

### NHV Cost Benefit Analysis for LPV retrofit

Service Adoption Team - ESSP SAS

16/02/2017 - Issaquah

European Commission  
European Navigation Satellite Systems Agency

Precise navigation, powered by Europe

EGNOS Annual Workshop 2015

