

The European Satellite Programme: EGNOS/EDAS and Galileo







- Global Navigation Satellite Systems (GNSS)
- Compatible with most other GNSS
- Inter-operable with GPS
- 2 prototypes launched (GIOVE)
- 2 first constellation satellites launched
October 2011 – 2 more to follow in 2012
- Operational system planned for 2014/15

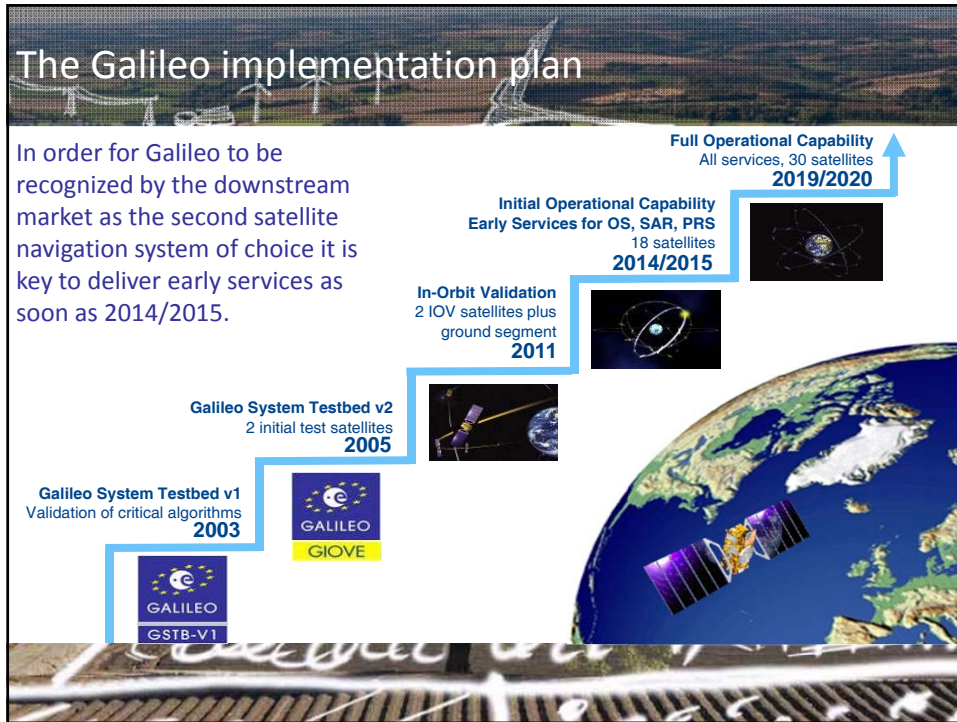
- Satellite Based Augmentation System (SBAS)
- Measures GPS performance
- Corrections to users via satellite or terrestrial links (EDAS)
- Covers most of EU
- Expansion to Africa, Middle East and Eastern Europe planned
- Officially operational since 2009
- Certified for Safety Of Life since March 2011

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Not just revenues: monetized indirect GNSS benefits

	LBS	Road	Aviation	Precision Agriculture
Institutional benefits		<ul style="list-style-type: none"> □ Social benefit: <ul style="list-style-type: none"> ▪ New jobs* 	<ul style="list-style-type: none"> □ Public economic benefit: <ul style="list-style-type: none"> ▪ Additional VAT on device and services ▪ Additional corporate tax 	
Social benefits	<ul style="list-style-type: none"> □ Violent crimes reduction □ Quality of life improvements (e.g. blind people)* □ Saved lives* 	<ul style="list-style-type: none"> □ Decrease of severity of injuries □ Scaled lives* □ Congestion reduction per avoided accidents □ Saved lives* 	<ul style="list-style-type: none"> □ Less noise* □ Decrease of delays □ Decrease of diversions □ Decrease of cancelled flights 	<ul style="list-style-type: none"> □ Fatigue reduction*
Environmental benefits			<ul style="list-style-type: none"> □ Fuel consumption □ Air pollution reduction □ CO2 emissions reduction 	<ul style="list-style-type: none"> □ Pesticides consumption reduction □ Fertilizers consumption reduction

*non-monetized benefits

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So far four the GSA Market Development is focussing on four EGNOS segments

 <p>EGNOS FOR MAPPING FREE ACCURACY, WIDELY AVAILABLE</p>	 <p>EGNOS FOR AGRICULTURE HIGH PRECISION, LOW COST</p>
 <p>EGNOS FOR ROAD ITS HIGH FLEXIBILITY, LOW INVESTMENT</p>	 <p>EGNOS FOR AVIATION High Precision, Low investment</p>

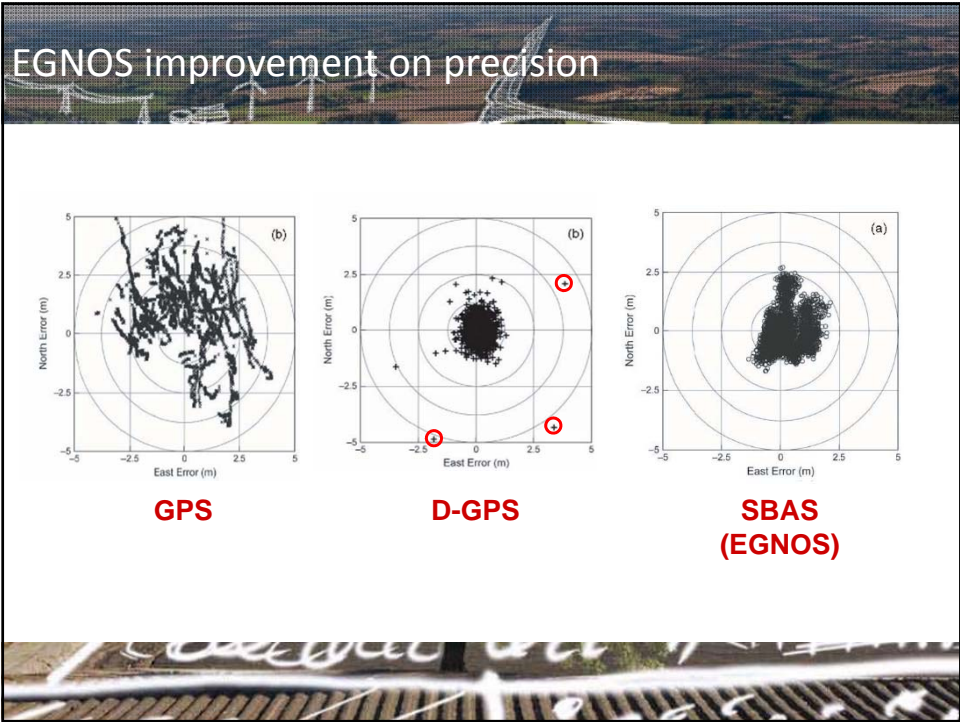
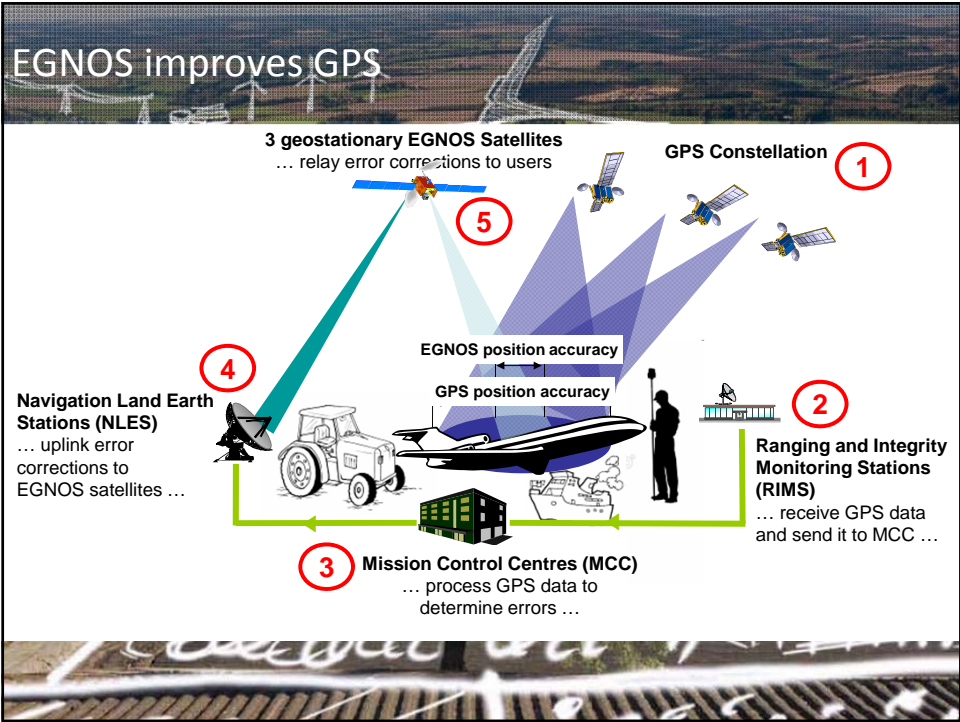
While Galileo is being built up, EGNOS is operational, certified and well performing



EGNOS It's there. Use it. 



EGNOS
EUROPE'S FIRST VENTURE INTO
SATELLITE NAVIGATION



EGNOS and Mapping - providing free accuracy that is widely available

GNSS provides an efficient technology for mapping and are widely used by organisations such as utility companies as well as regional and local authorities.

The use of GNSS in mapping often means services with centimetre level accuracy and substantial costs (e.g., infrastructure, equipment, software, service)...

Now EGNOS can contribute in growing the use of GNSS in real time.

Free accuracy...

For many mapping applications meter level accuracy is sufficient

Applications such as thematic mapping for small and medium **municipalities, forestry and park management** as well as surveying of **utility infrastructures** can benefit from EGNOS.

Most of the devices used for Mapping are already EGNOS-ready. Thus, EGNOS also allows more and more non-professionals to access GNSS mapping technologies

... widely available (1/3)

EGNOS with constant level of position accuracy throughout most of Europe. EGNOS corrections can be received via different means:

- directly via EGNOS satellites without any communication costs
- via terrestrial communication means such as internet or cellular networks, thanks to **EDAS, the EGNOS Data Access Service**

EDAS is the single point of access for the data generated and collected by EGNOS. EDAS is freely available and currently in a test service phase.


... widely available (2/3)

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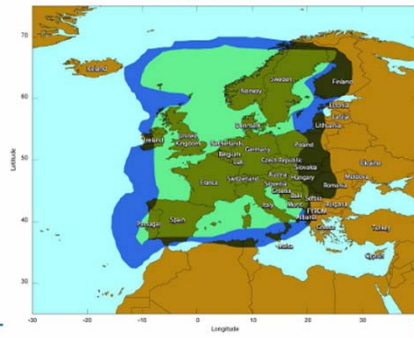
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EGNOS Service Area Improvements


EGNOS 99% APV-I Availability



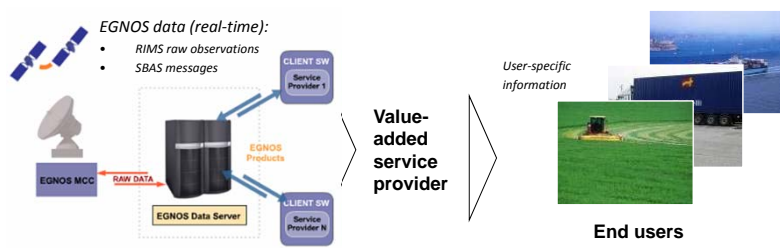
New RIMS in Athens, Alexandria, Palma

EGNOS release ESR2.3.1 Expected for end of 2011 with new RIMS and improved EGNOS functions will increase:

- the service area
- the service robustness in the service border area



The EDAS Service is free to use



EGNOS data (real-time):

- RIMS raw observations
- SBAS messages

Value-added service provider

End users

User-specific information

<http://www.gsa.europa.eu/go/egnos/edas>

EDAS on the way – Plug in for free

EDAS is now available. This allows any interested parties to sign-up to access EDAS for free.

During the evaluation of the free trial different market scenarios are currently assessed

Illustrative <klick>  Excel Worksheet

Many devices are EGNOS enabled.....



Trimble
NOMAD 900G Series



TOPCON
GMS-2 Pro



Leica Zeno 10 & 15
Geosystems



ashtech
MobileMapper100



SOKKIA
GIR1600



GENEQ inc.
Scientific instruments
SXBlue Mapper 200, 400 & 800

....these devices are out there.
You're using them.
Do you use EGNOS?
How is the EGNOS feature
performing in different
situations?

THANK YOU FOR YOUR ATTENTION



EGNOS, it's there. Use it.



Navigation solutions
powered by Europe

www.egnos-portal.eu

Dr Gian Gherardo Calini
gian-gherardo.calini@gsa.europa.eu
Head of Market Development
European GNSS Agency, GSA



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Highlights

GSA releases the first GNSS Market Report 2010
Read more

New research funding available. Apply today
Read more

EGNOS network

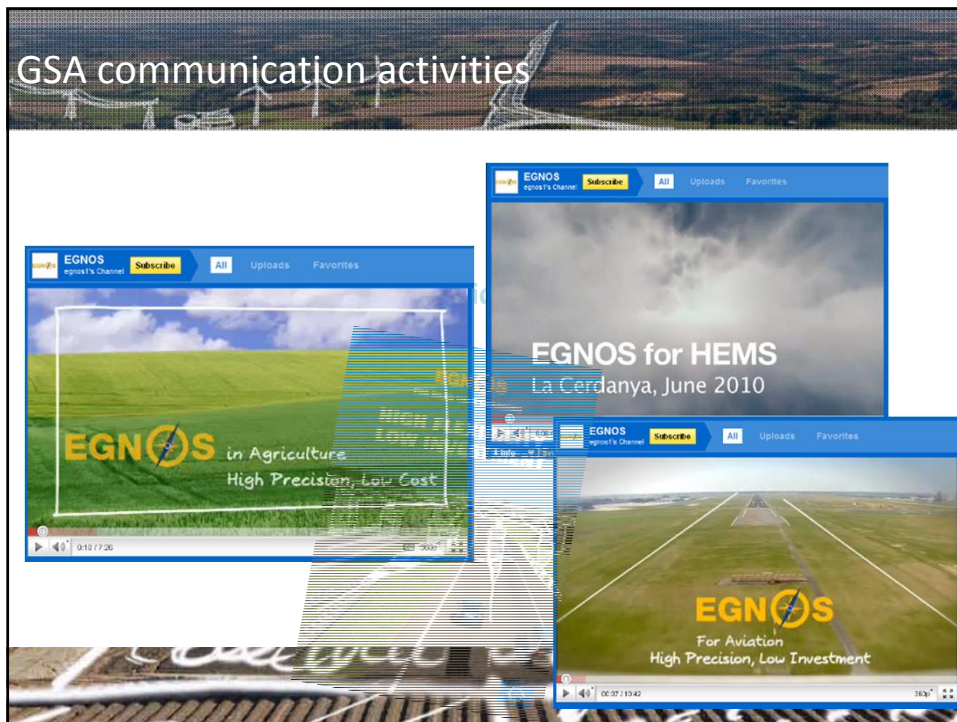
Help desk
Our experts will provide answers to your questions about EGNOS.

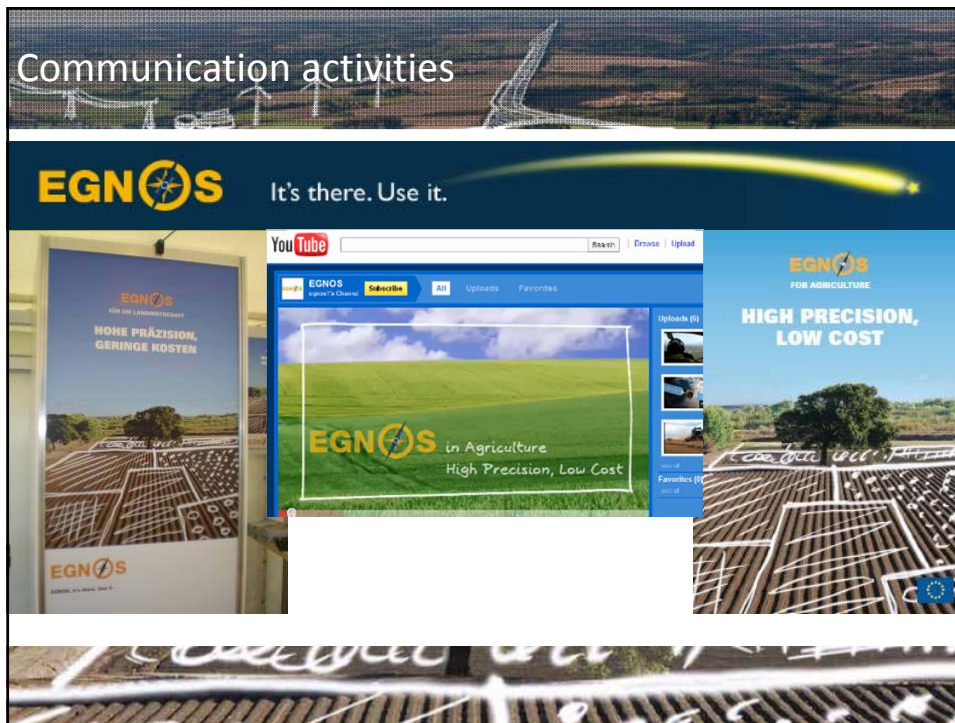
Forums
Join a forum of your peers to network and discuss EGNOS-related topics. Read the latest posts or become a member and contribute to the development of EGNOS as a service.

Aviation
Road
Agriculture
Location based services
Maritime
Mapping

How does EGNOS work?
What's new!

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More news





The GSA will publish a new Market Monitoring and Forecasting report later this year including Surveying

We are currently working on including the Surveying sector in the next release. More on this in separate workshop tomorrow.

GNSS MARKET REPORT

The market for GNSS will grow significantly over the next decade

Global: Core GNSS market to reach €165 bln in 10 years

Core GNSS market by segment (cumulative revenues 2010-2020)

Segment	Share (%)
Total	€120.6bn
Land	56.4%
Maritime	25.2%
Agriculture	0.6%
Air	18.2%

GNSS market share by companies' origins (2009)*

Origin	Share (%)
EU	39%
USA	33%
Others	28%

Shipments of GNSS devices worldwide (mln units)

Year	Shipments (mln units)
2010	637
2011	671
2012	707
2013	744
2014	782
2015	821
2016	861
2017	902
2018	944
2019	987
2020	1031

Global GNSS market size (€ bln)

Year	Market Size (€ bln)
2010	84
2011	93
2012	102
2013	111
2014	120
2015	129
2016	138
2017	147
2018	156
2019	165
2020	174

Global GNSS market size (€ bln)

Region	Market Size (€ bln)
Europe/Asia	63
North America	37
Rest of the World	20

Core GNSS market, accounting only parts of the retail prices that are directly attributable to GNSS (e.g. chipset, base, navigation software) in LBS sector

Excluded GNSS market, accounting only full price of GNSS mobile phones in LBS sector

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