



EGNOS, the preferred GNSS technology in precision agriculture



GSA - Market Development - Jan. 2011

- Precision Agriculture

- EGNOS market and value added

- EGNOS Market initiatives



What is Precision Agriculture?



- Precision Agriculture refers to the use of satellite navigation, sensors, aerial images, and other tools to determine optimum sowing density, fertiliser cover and other inputs

“Precision Agriculture is about doing the right thing, in the right place, in the right way, at the right time”



Why Precision Agriculture?

- Agriculture challenges:
 - Rise in the demand of crops:
 - Population increase
 - Chemical industry diversification
 - Bio-fuel demand
 - Limited resources
 - Limited increase of the cultivable land
 - Water shortage
 - Energy Prices Rise
- Precision Agriculture has an answer:
 - Provides:
 - Increase yield production
 - Better management of resources
 - Reduces:
 - Chemical Pollution
 - Energy consumption
 - Time



- Precision Agriculture
- EGNOS value added
- EGNOS Market initiatives

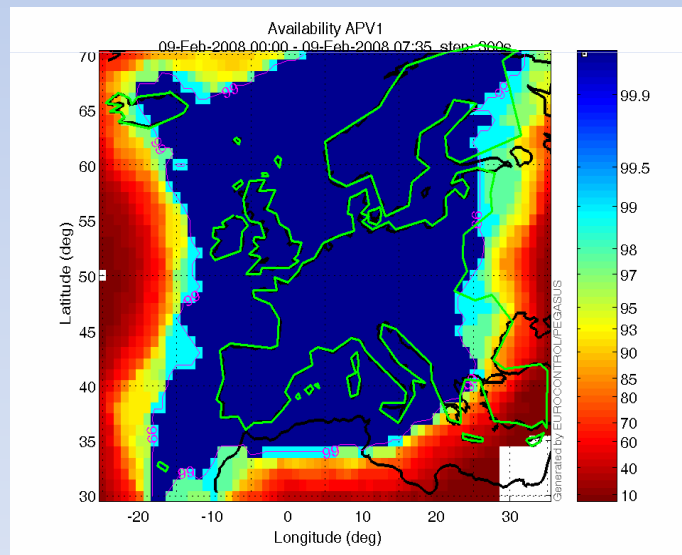


EGNOS, it's there. Use it!



EGNOS, it's there. Use it.

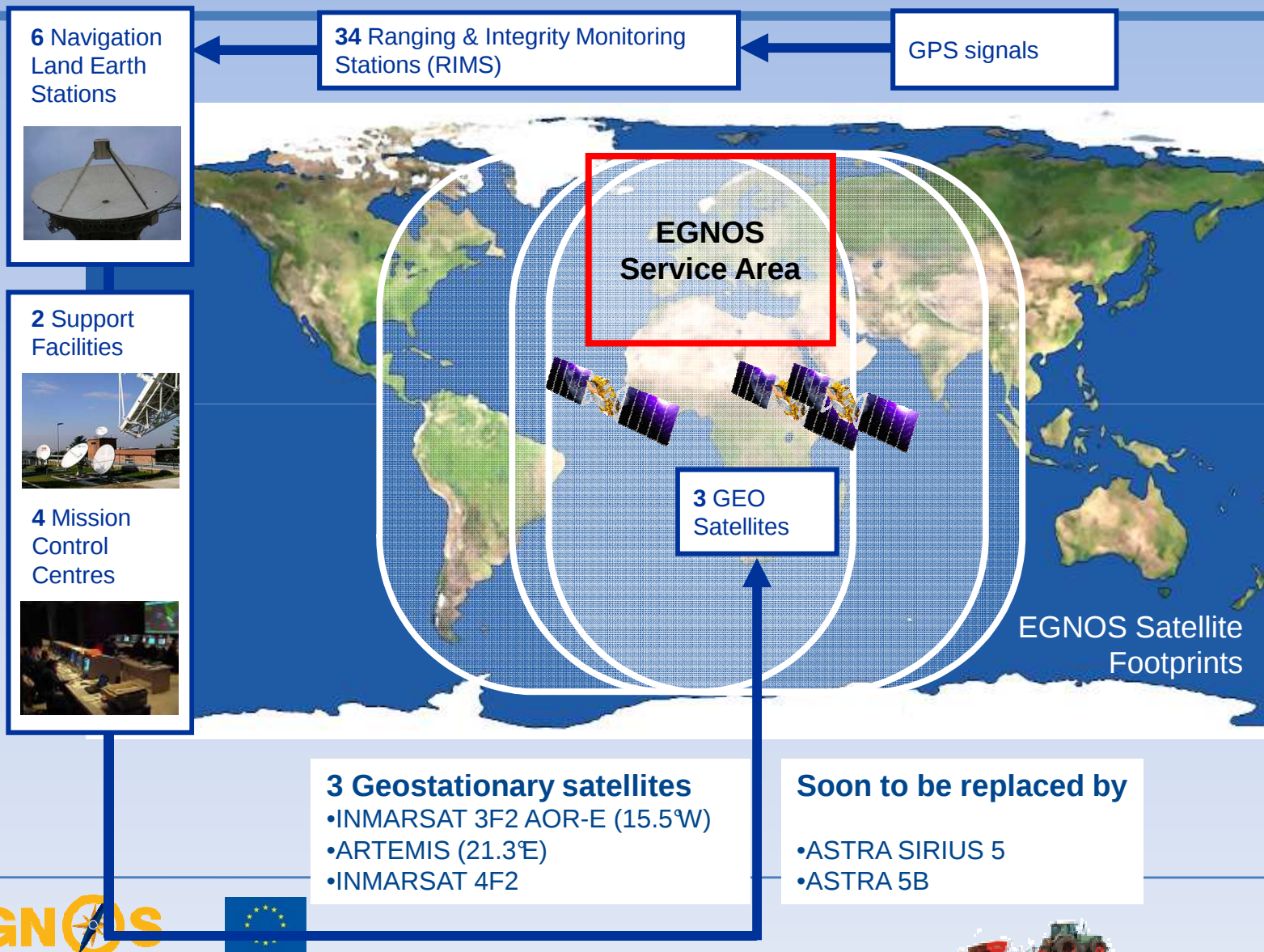
EGNOS availability



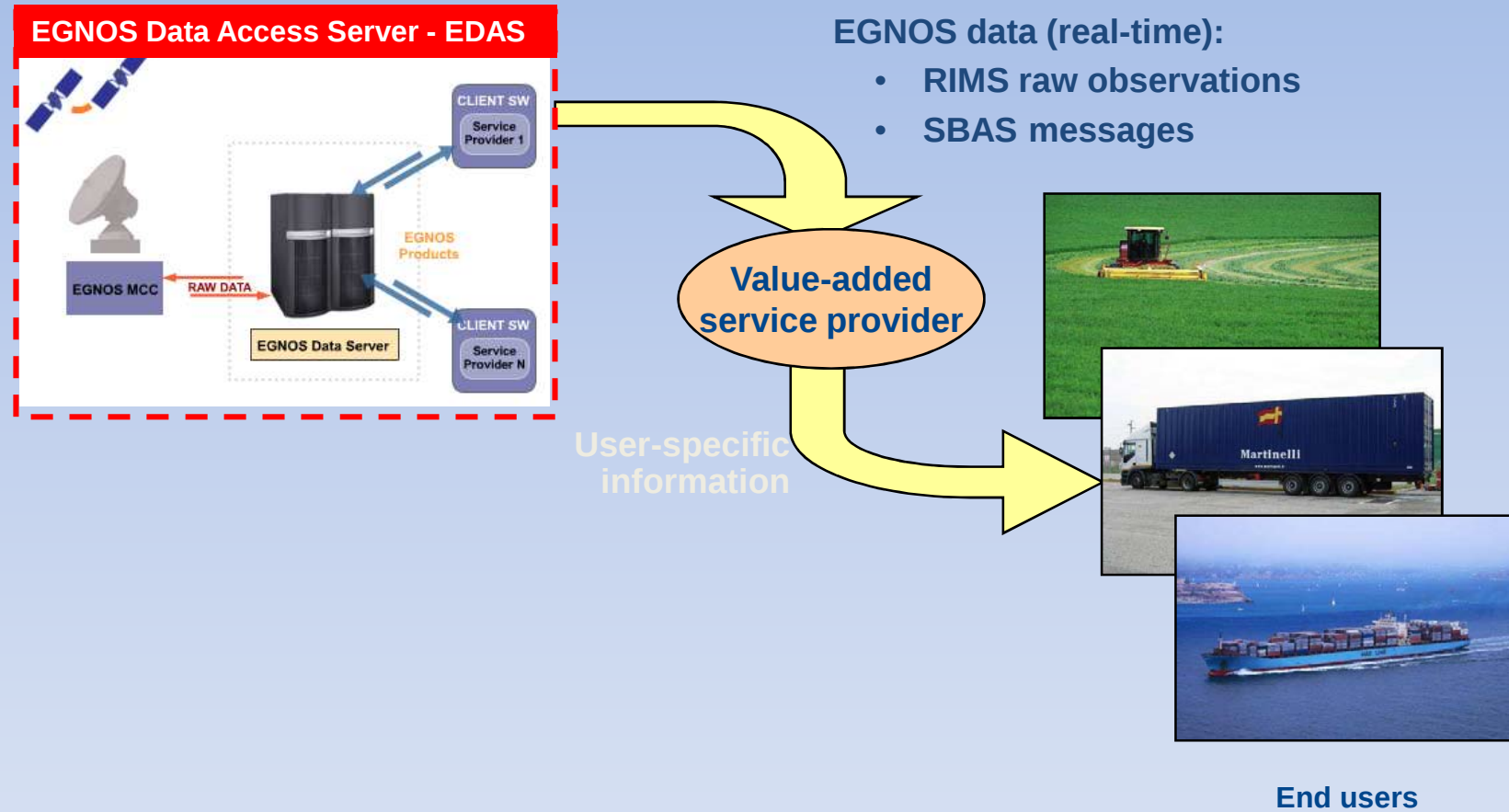
- EGNOS is the European Geostationary Navigation Overlay Service
- EGNOS improves the accuracy of position measurements by sending out signals that correct GPS data and providing information on its reliability
- EGNOS signal is free and already widely used in agriculture



EGNOS System Architecture and Service Area



EGNOS Services – EDAS



EGNOS has a wide range of applications ...

Application category	Application field	Required accuracy level
Arable	High-value crop cultivation (e.g. potatoes and vegetables) and/ or precision operations (sowing and transplanting)	c.2cm
	Low-value crop cultivation (e.g. cereals) and low-accuracy operations (fertilising and reaping)	c.1m
Dairy	Individual livestock positioning and virtual fencing	2-5m
Agro-logistic	Land parcel identification/ geo-traceability, post harvest pick-up and supervised tracking of livestock, manure, etc.	c.2.5m
Legislation/ management	Field measurement and boundary mapping and updating	c.2.5m

EGNOS application domain



... and generates strong benefits for farmers

Traditionally, precision agriculture have been characterised by significant equipment investment and costs related to usage

EGNOS can offer an affordable precision solution

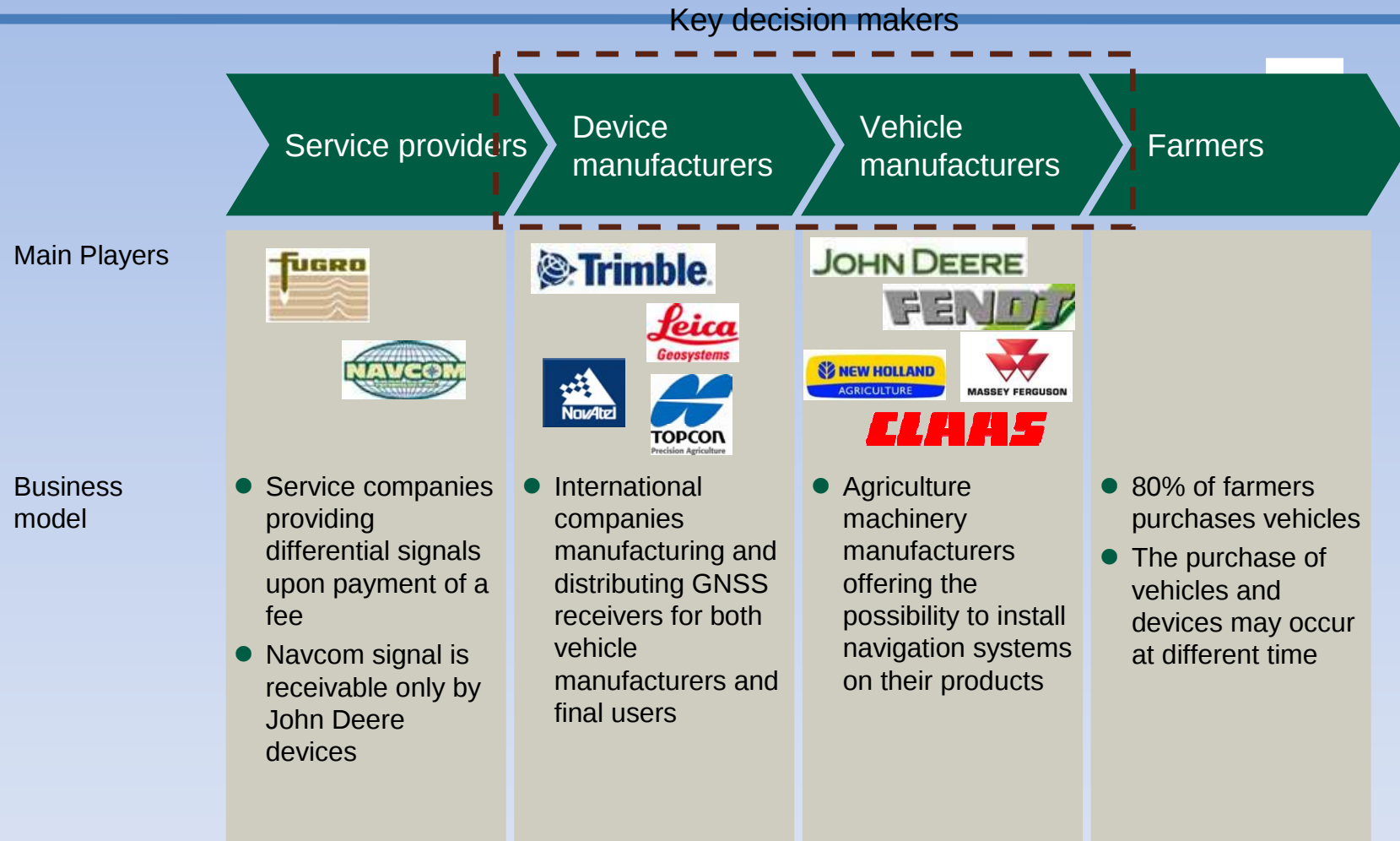
EGNOS enhances the benefits of Precision Agriculture

EGNOS value added

- Enhance precision
- Eliminate waste and over-application of fertilisers and herbicides
- Save time and money
- Reduce fatigue
- Extend equipment lifetime by optimizing its use
- Provide geo-traceability
- Optimise crop yields
- Increase profit margins

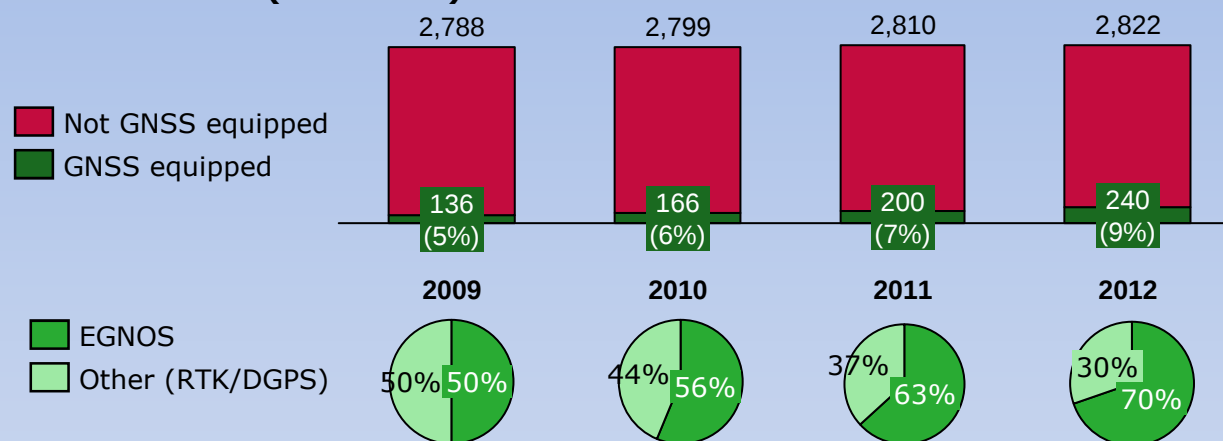


Value chain of GNSS in Agriculture



The number of GNSS devices is increasing and EGNOS is the preferred technology

of tractors in use in EU-27 (000' units)



Source: Tractor & Device Manufacturers/MMFP

Product characteristics

- Pass to pass accuracy of +/- 15 cm
- EGNOS-only corrections
- Ideal for fertilising, seeding and spraying
- Entry price, affordable for all farmers

EGNOS effect on farmers

- They start with EGNOS
- They appreciate the benefits
- In few years, some of them, migrate to advanced systems to cover new functions



- Precision Agriculture
- EGNOS value added
- EGNOS Market initiatives



“Harvesting” EGNOS potential

Enhancing EGNOS adoption



Measure



**Analyse
the market**

Seed



**Create
awareness
among
manufacturers**

Fertilise



**Identify
EGNOS
champions**

Harvest

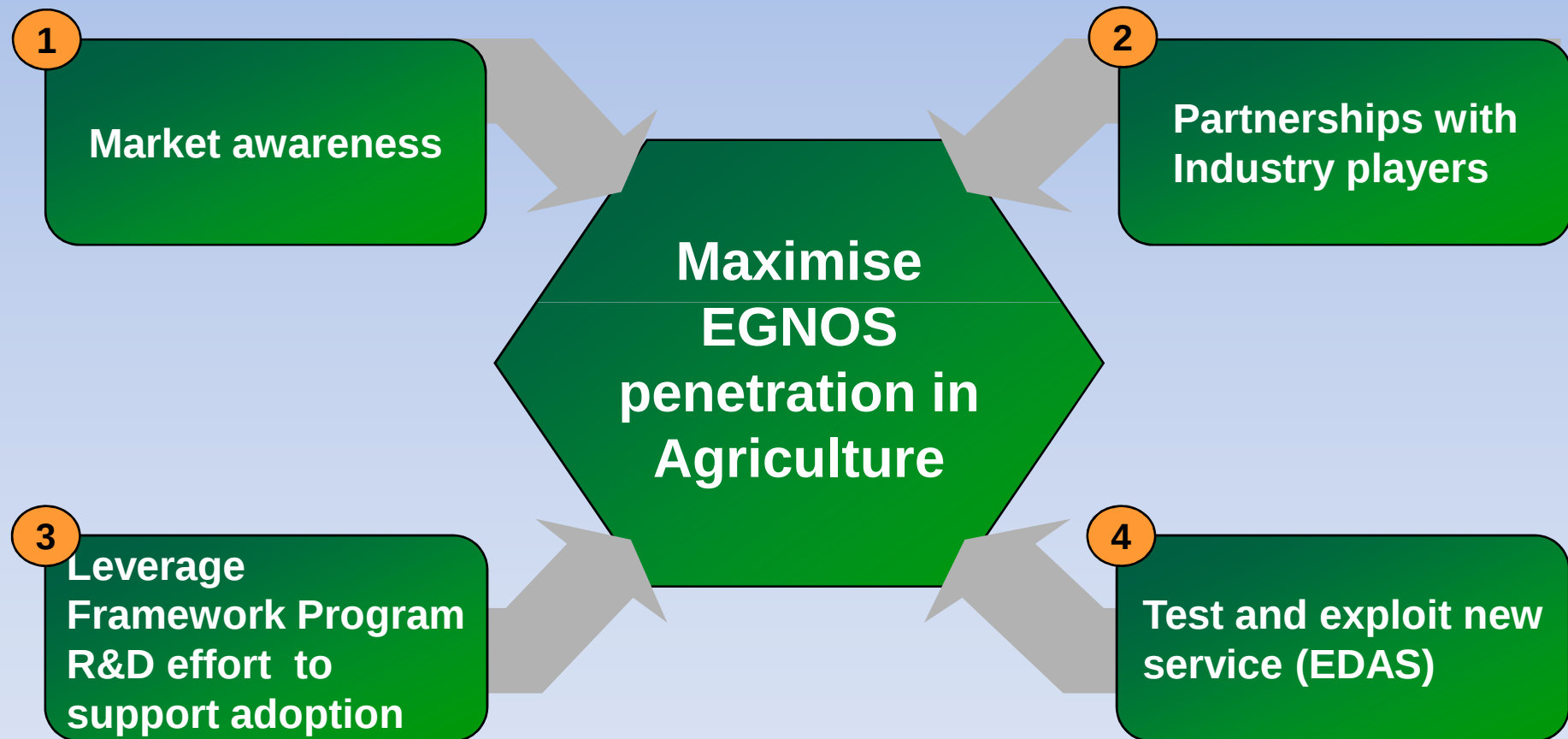


**Exploit
EGNOS
value
added**



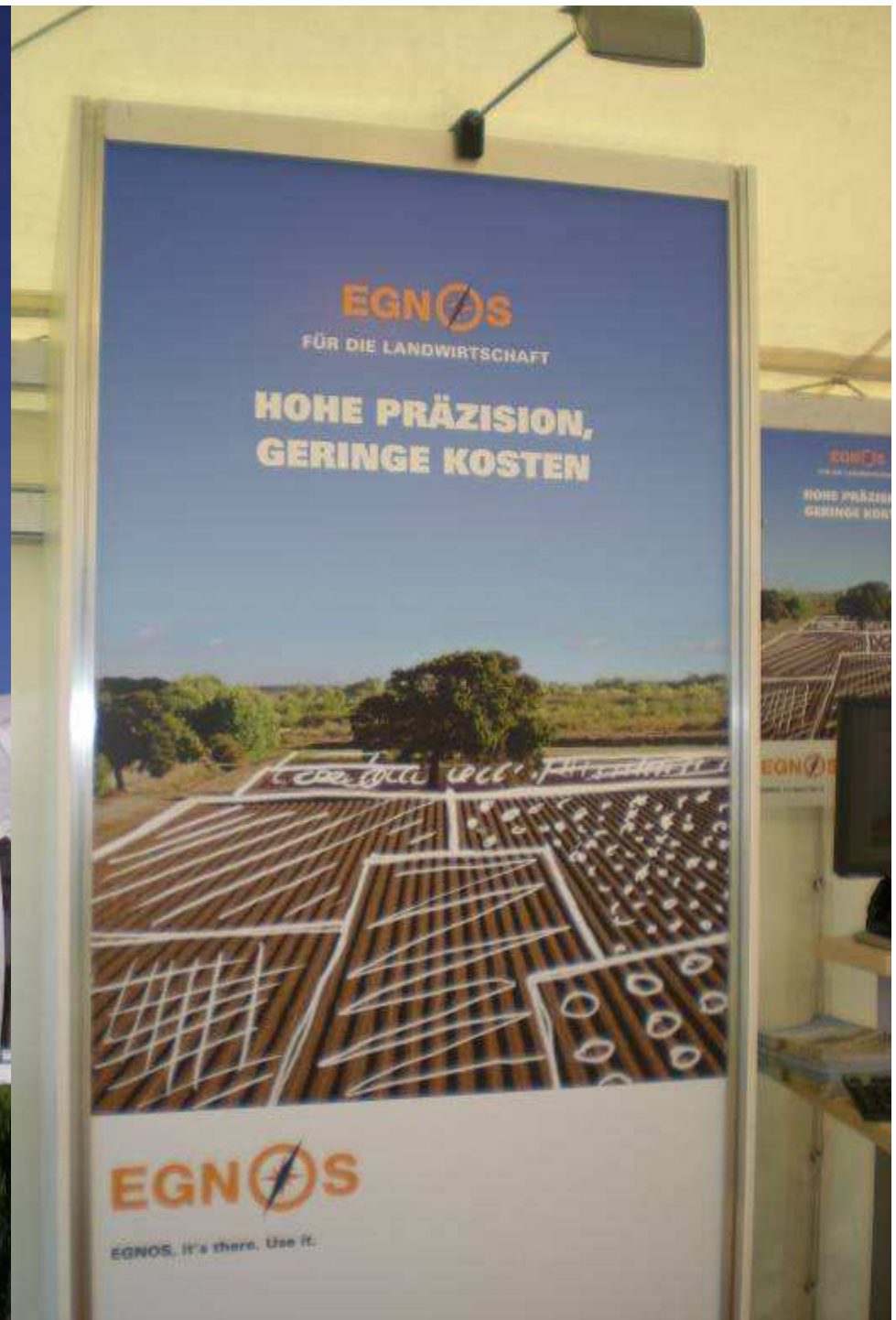
Strong effort on Key levers

Key levers and concrete actions





DLG Feldtage 2010
Hannover, Germany





www.egnos-portal.eu

Fiammetta.Dani@esa.europa.eu