Lowering the barrier to unleash innovation : GNSS downstream case

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on behalf of Gard Ueland
Galileo Services

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Who are we?

Galileo services

Galileo services

AIRBUS DEFENCE & SPACE
Ansaldo STS
CGI
ESSP
eutelsat communications via satellite

FDC
FUGRO
gmv INNOVATING SOLUTIONS
GUIDE
GPS HERTZ SYSTEMS
Honeywell

indra
JAVAD
KONGSBERG
KAYSER-THREDE
m3 SYSTEMS

NavCert
nlr
NovAtel
NSL
OHB
QinetiQ

septentrio
cATAPULT Satellite Applications
sogei
SPIRENT
THALES
veripos

oregin

Introduction

- Role of public sector in lowering the barrier to unleash innovation

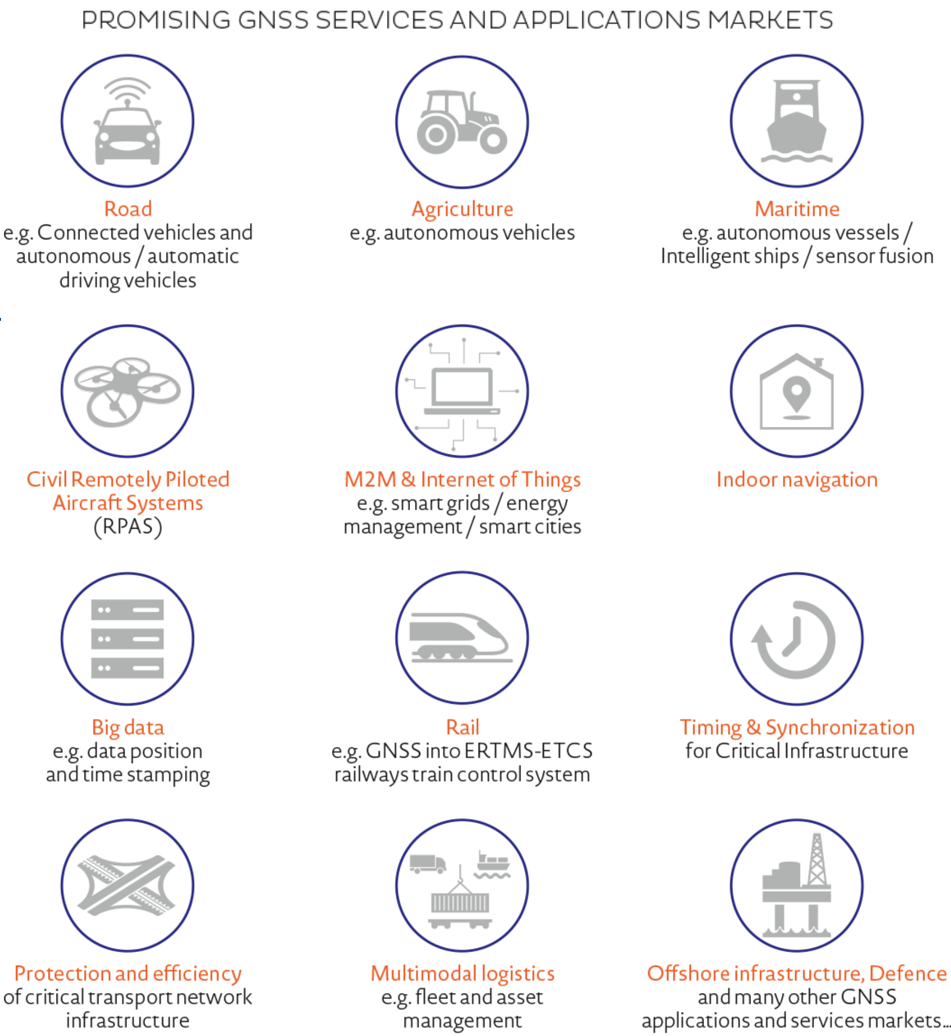
- Case of GNSS downstream sector
  - GNSS Market & Industry Trends <u>and</u> Opportunities ahead
  - A European Strategic Plan is vital to unleash SatNav innovation and downstream potential
  - The Reward for Europe

Role of Public Sector in Innovation

- Decisive in times of economic and financial crisis
- Help to mitigate the technology risks, the marketing risks, the financing risks and the regulatory risks
- Examples of support actions from public sector:
  - R&D programme, which helps to underpin private companies sector investment
  - Public procurement, which ensures commercialization and radically boosts private investment
  - Investment in manufacturing capabilities, which supports process innovation and industry development

GNSS Market & Industry Trends

- GNSS applications & services market *
  - Global market 2013 : **200 B€**
  - Annual growth rate by 2023 : +**7%**
- European market share: **< 20%**
  - Usual Europe Market share in other High-Tech Sectors : 33%
- Markets in which European industry must position itself include:
  - Promising markets (high growth)
  - Strategic markets
- Technology trends:
  - Multi-constellation, multi-frequency, hybridization, sensor fusion, etc.
- Reputation of European equipment & industries
  - Innovation, quality & reliability



* GSA GNSS Market Report – Issue 4

Opportunities ahead

- Potential and capabilities of all global constellations
  - High potential for innovation
    - Leveraging in particular the key European GNSS differentiators also in a multi-constellation environment
  - Offer opportunities that Europe must not miss:
    - Opportunity to develop new GNSS-based positioning, navigation and timing applications and services
    - Opportunity to create new industrial activities in Europe & hundreds of thousands of jobs

- Strong interest from European industry to provide solutions for European GNSS applications globally
  - Notably, **GS** and **Oregin** Members already have or are developing receivers for a broad range of applications, in particular building on Galileo differentiators

A European Strategic Plan - I

- Increased focus from European institutions with the coming Space Strategy for Europe & the new ESA Programme in Navigation
  - Optimism for an increased presence of European players in the future

- Dedicated national strategies in the US, Russia, China, and Japan to support innovation and competitiveness of their industry & to enhance GNSS market take up, including:
  - Massive funding from R&D to manufacturing capabilities
  - Regulation
  - Massive Public Procurement

- European Strategic Plan
  - Crucial to restore a level playing field
  - Crucial to unleash innovation in European SatNav downstream activities
  - Crucial to achieve the main objectives of the European GNSS programmes
    - Socio-economic expectations, Europe’s GNSS autonomy

A European Strategic Plan - I

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  - Optimism for an increased presence of European players in the future

EC, GSA & ESA must combine their particular skills and competences to guarantee the success of the European GNSS Programmes – from upstream to downstream – and European industry's competitiveness

- European Strategic Plan
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European Investment Paradox

- In the years 2014-2020, the Union will invest around
  - **8 B€** in the European GNSS infrastructure
  - **0.2 B€** (200 M€) in the development of value-added applications and services (where job creation is)

"EU" Ratio of 40 to 1

Need for an additional 2 B€ to support innovation and development of value-added applications and services

- In comparison – US spent similar amounts on space infrastructure and user equipment development

"US" Ratio of 1 to 1

* EC Space Strategy Roadmap 2015

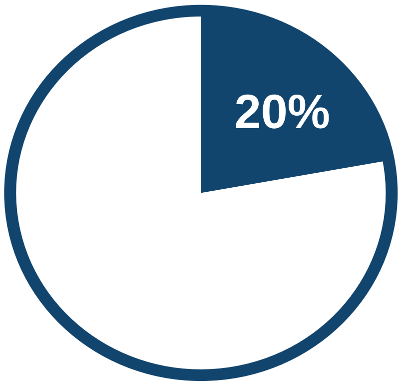
A European Strategic Plan - II

- The European Strategic Plan must
  - Support innovation and development of a competitive GNSS downstream industry in Europe
  - By considering several support actions/instruments
    - → R&D funding, public procurement (e.g. PCP/PPI), education, support to the development of manufacturing capabilities, regulations, awareness, etc....
  - Define quantitative objectives in terms of : market share, revenue, job creation…
  - Be supported by funding at a strategic level to grow Europe's share
    - → Recommended Union investment in innovation & development of value-added GNSS applications and services : EUR 2 billion 2014 - 2020

The objective is for Europe to win **33%** **of the global GNSS downstream market by 2025**

33% European market share by 2025

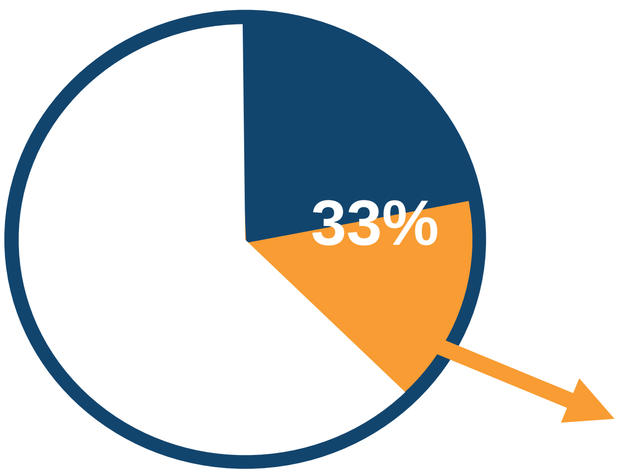
2013



Global GNSS market in 2013 : 200 B€ *

European market share : 20%
40 B€ ~ 400 000 jobs
Average annual man cost 100 k€

2025



Global GNSS market in 2025 : 300 B€ *

European market share : 20%
60 B€ ~ 600 000 jobs

European market share : 33%
100 B€ ~ 1 000 000 jobs

+ 400 000 jobs

* GSA Estimates [2013; 200B€ - 2023; 290B€]

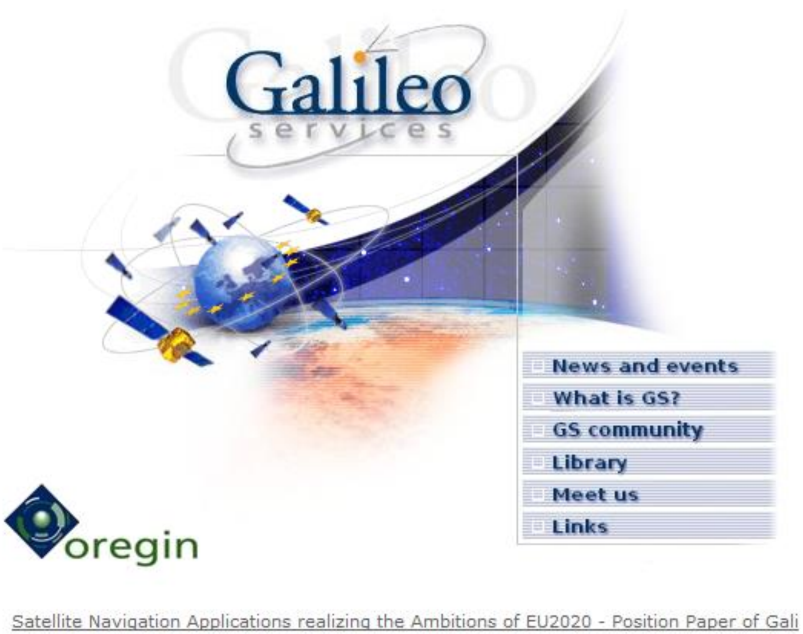
Conclusion

The time to act is Now !

- Decisive role of public sector in lowering the barrier to unleash innovation
- The potential and capabilities of all global constellations offer opportunities that Europe must not miss:
  - Development of new value-added GNSS applications and services
  - Creation of new industrial activities and 100 000s jobs in Europe
- Crucial need that Institutions offer more support to the European industry to innovate and achieve the downstream potential
- Increased focus from European institutions give Optimism for an increased presence of European players in the future

For 14 years, ensuring the benefits from European GNSS Programmes in Europe has been the Raison d'Être of Galileo Services

For Further Information



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Spares

Galileo Services Overview

- Non-profit Making Association aiming at developing, promoting and maximizing the potential of the GNSS applications' market
- Comprising key GNSS Downstream Industry players
- Representing all elements of the value chain and covering the different application sectors (aviation, maritime, road, rail, telecom…)
- Missions:
  - Voice Industry concerns & expectations toward the institutions
  - Share market experience and knowledge of user needs
  - Support the implementation of the European GNSS Programmes

Galileo Services Community

Galileo Services and Oregin
federate the most Active and Representative players
of GNSS Industry and Research supporting the European GNSS Programmes

GS & Oregin represent a community of almost 180 organisations

ORganization of European GNSS equipment and service INdustries