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Industrial Cooperation Across Continents Europe

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Multi-GNSS Asia Conference 2015, Brunei Darussalam



European
Global Navigation
Satellite Systems
Agency

HORIZON 2020

Industrial Cooperation Across Continents - Europe

- **European GNSS context in a nutshell**
- **European GNSS industry landscape**
- **Opportunities for cooperation**
- **Industrial cooperation across continents**

What is European GNSS (EGNSS)?

European Geostationary Navigation Overlay Service (EGNOS)

- **Satellite Based Augmentation System (SBAS)**
- **Better accuracy than GPS only (ionosphere and system errors)**
- **Operational since 2009**



Galileo



- **Global Satellite Navigation System**
- **Currently under deployment (10 satellites launched)**
- **All Made in Europe**

European GNSS context in a nutshell (I)



- Numerous sectors of the European economy significantly rely upon satellite navigation services: already in 2011, **6-7% of Europe's GDP** (EUR 800 billion) was estimated to be **dependent on satellite navigation applications**
- The EU fully comprehends the huge potential of Global Navigation Satellite System (GNSS) solutions to contribute to **economic and social growth, breakthrough innovations** and a **globally competitive industry**



European GNSS context in a nutshell (II)

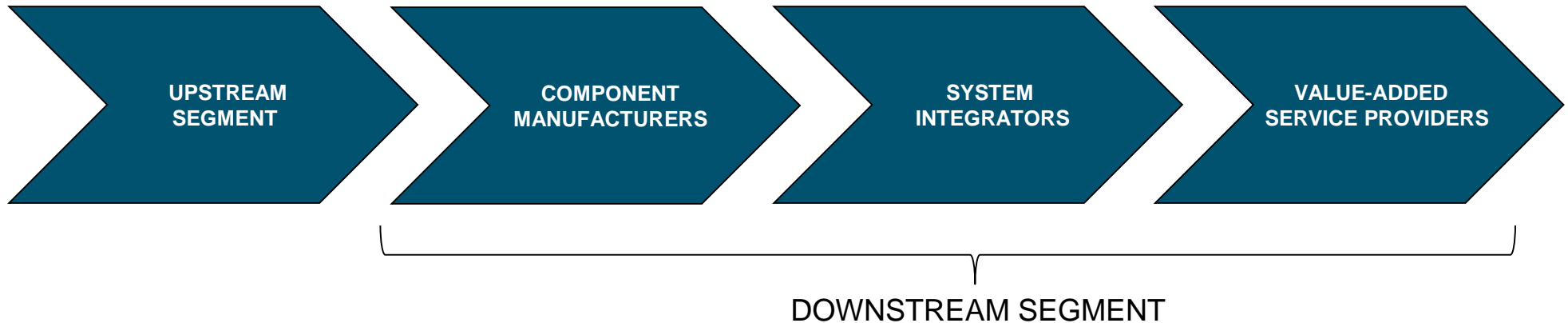
- The EU has invested in two ambitious flagship programmes, collectively known as the European GNSS Programme (EGNSS): **Galileo** and **EGNOS** (Europe's Satellite-Based Augmentation System)
- Benefits of EGNSS are not limited to Europe alone: the EU has actively been promoting **international cooperation** to achieve **global GNSS synergies**
- Aimed at capitalising on **multi-GNSS opportunities** and leveraging **GNSS expertise**, Europe is looking to further **strengthen its relations with the Asia-Pacific GNSS stakeholder community**



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- **Opportunities for cooperation**
- **Conclusion**

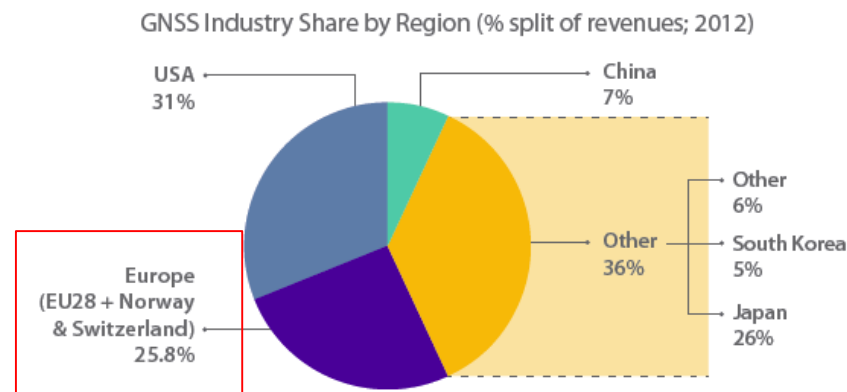
European GNSS industry landscape (I)



- **Stable and centralised GNSS upstream segment**, with over 20 leading European companies
- GNSS downstream segment is more **dynamic and fragmented**, yet very **competitive and innovative**, with niche companies competing with global giants
- Studies show that European companies are **increasingly well placed to capture GNSS market opportunities**, especially in developing **downstream services and applications**

European GNSS industry landscape (II)

- European companies account for **25.8% of global GNSS downstream market**
- In **components manufacturing**, European companies are strong in **Road, Rail and Aviation**
- European **system integrators** are global leaders in **Rail, Maritime and Road**
- Strong EU development of **innovative value-added applications**, driven by **SMEs** and rapidly developing **start-up scene**
- Great **opportunities for Asia-Pacific industry** to contribute to the GNSS value chains in Europe and **leverage European technology, intellectual property and services**



Source: European GNSS Agency

Galileo Services – supporting EU GNSS industry

- GS as non-profit organisation founded in 2002, acting as major partner for **EGNSS downstream technology & business development**



www.galileo-services.org

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European promising application domains



AGRICULTURE



MARITIME



RAIL



LBS &
INDOOR NAVIGATION



INTERNET
OF THINGS



AVIATION
& UAVs



SMART
MOBILITY

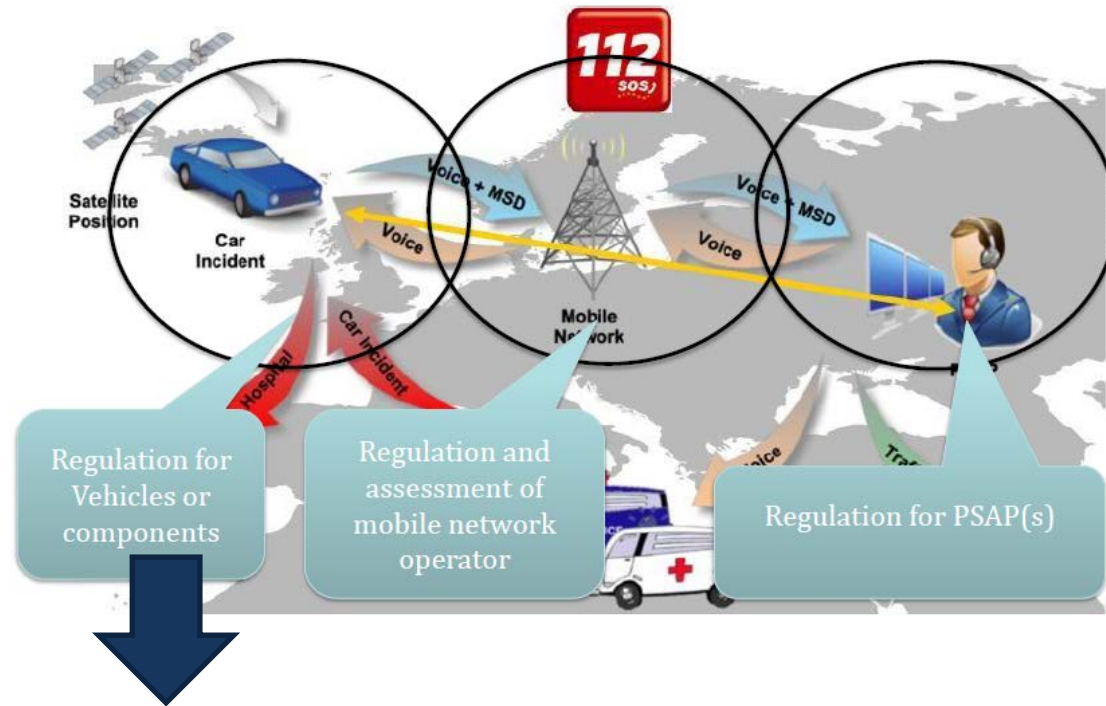


SURVEYING &
INFRASTRUCTURE



Rapid development of industrial
capabilities and market demand

eCall – regulation and related obligations



- Every **new model of car or light van** that must be type approved for Europe from March 2018, must be equipped with an eCall on board device.
- The obligation is imposed by **REGULATION (EU) 2015/758** of the European Parliament and of the Council of 29 April 2015 concerning type-approval requirements for the deployment of the eCall in-vehicle system based on the 112 service and amending Directive 2007/46/EC

European SBAS industry expertise



- The **European Geostationary Navigation Overlay Service (EGNOS)** has been successful in delivering accuracy, reliability gains and associated safety and productivity benefits across Europe and beyond
- Uptake of EGNOS has been considerably successful in several industries, including **aviation, agriculture and surveying**
- European industry has in-depth experience in **SBAS system development, user definition, system implementation and application development** in several different sectors
- EU industry is actively looking to contribute to **cooperation possibilities on interoperability, application development, enhanced international coordination and exchange of GNSS, SBAS and PNT expertise**

EU-Asia cooperation in R&D

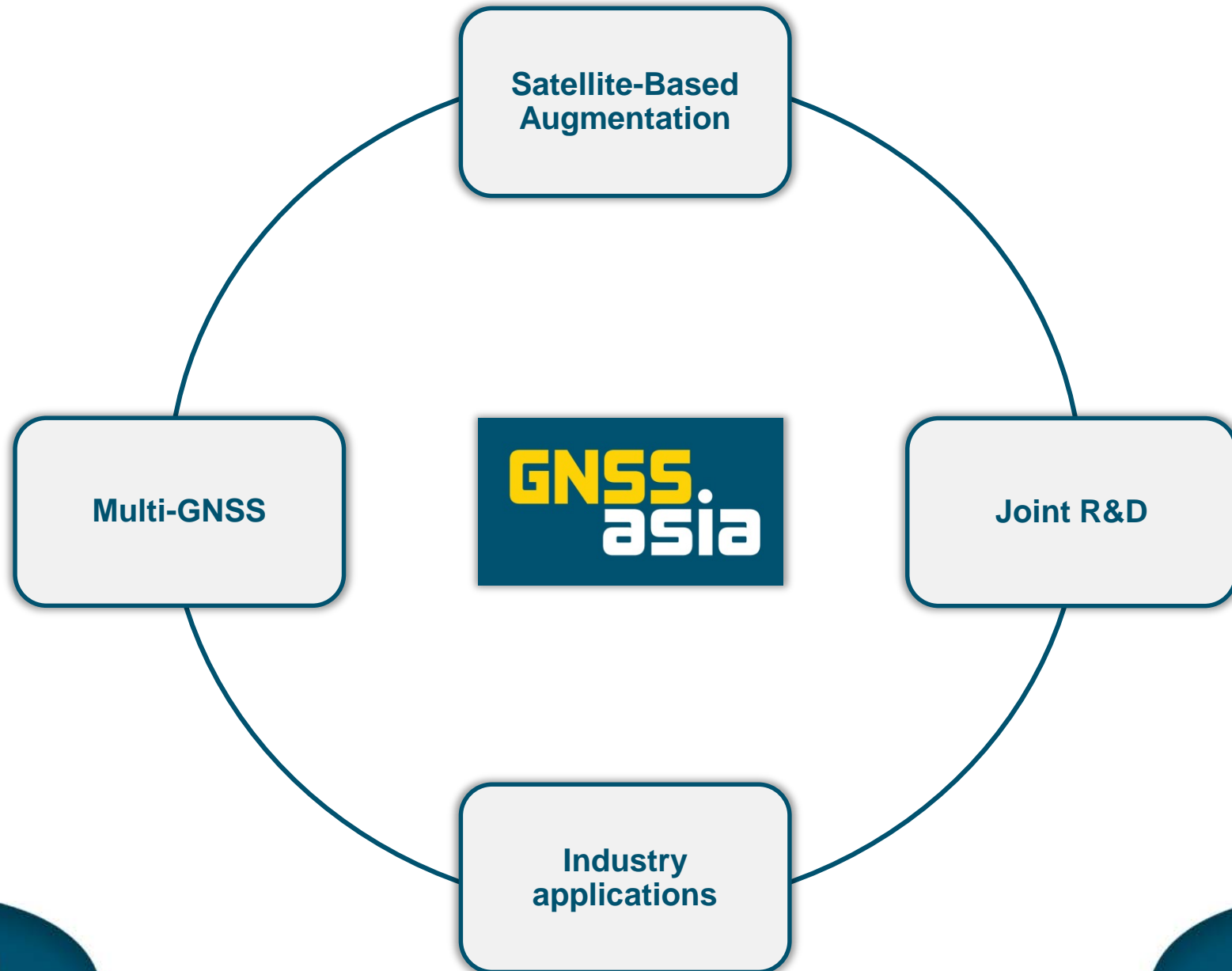
- Strong involvement of **EU industry** and **specialised research institutes** across Europe in numerous GNSS-focused R&D projects
- Accumulated expertise through dedicated **EU Framework Programmes for Research & Innovation**: FP7 (2007-2013) and Horizon 2020 (2014-2020)
- Generated stream of **innovative solutions and applications** in various GNSS market segments, such as road, aviation, LBS, maritime, rail, agriculture and surveying
- Horizon 2020 offers **international cooperation opportunities for joint R&D** projects in the field of downstream GNSS applications – eligibility depending on specific calls
- **Asia-Pacific partners** can offer valuable **know-how, industrial capabilities** and access to important **stakeholder communities** in joint R&D projects



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Industrial cooperation across continents



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