

GNSS. asia



EU-Japan cooperation on satellite navigation applications and services

Rainer Horn, Coordinator GNSS.asia
Europe-Japan Space Forum
Tokyo, 8 October 2014



*Funded by the EU's
Framework Programme for
Research (Grant No. 287244)
and managed by*



European
Global Navigation
Satellite Systems
Agency



Key achievements under FP7

- Engaged **circle of companies** interested in collaboration across continents
- **> 20 business trips** to Asia by EU companies motivated by our events
- 50-150 participants in **10 Asian events** to date
- Numerous **company visits** in different countries
- **6 thematic workshops** with industry and associations
- Active engagement with Asian GNSS actors, institutions and associations
- Annual EU-Asia Industry Collaboration Seminars: Brussels, Munich, Prague
- **Multi-language information** and communication on GNSS
- **GNSS.asia will continue with funding from Horizon 2020**

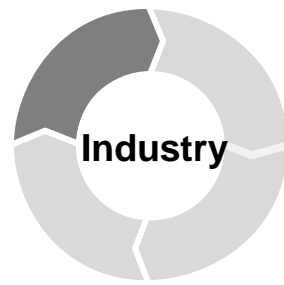
GNSS.asia collaboration network in Asia-Pacific



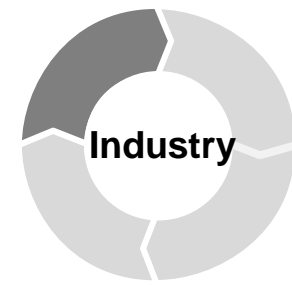
GNSS.asia Industry Advisory Board

Industrial cooperation across continents in Multi-GNSS

European companies engaged in GNSS.asia activities



Mapping GNSS actors in Japan



Institutions



Multi-GNSS Demonstration Campaign



Chipsets/Receivers



Applications/System Integrators/Solution Providers



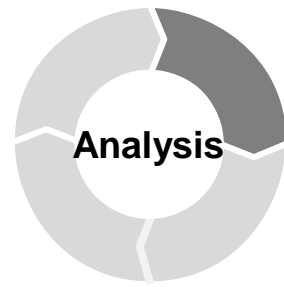
ジョルダン株式会社



NAVITIME



Application opportunities for industrial cooperation



Japanese global automotive players interested in e-call. Niche for sophisticated **car navigation solutions** “made for Japan”



Japan is home to some of the market leaders in **maritime GNSS**



Need to **increase efficiency in agriculture** is key in Japan

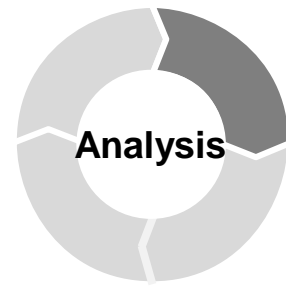


Disaster warning and emergency message management for Japan and wider Asia: Tsunami / landslide monitoring etc.

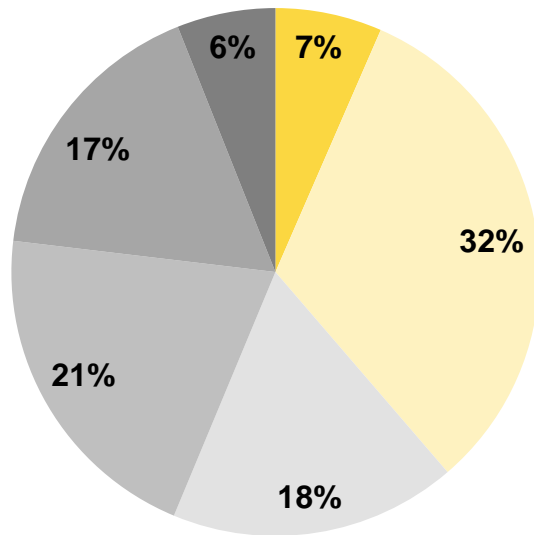


LBS: innovative applications requiring minimal additional hardware. Accommodate innovative local indoor solution IMES

Japan GNSS Industry is dominated by large firms but bears potential for wider Asia



GNSS Industry Structure in Japan
[By company size]



Number of employees

- >100,000
- 10,000 - 100,000
- 1,000 - 10,000
- 250 - 1,000
- SME
- Micro-SME

■ Domestic:

- Most firms are members of SPAC or the national cluster QBIC
- A big and attractive market, but challenging for foreign firms
- Interest in R&D cooperation

■ Beyond Japan:

- Access Asia Multi-GNSS opportunity with together with Japanese players
- Opportunities in Receivers, High Precision and Asian applications (Indoor/Outdoor, emergency applications)

Communicating opportunities for industrial cooperation



GNSS profile Taiwan

GNSS profile China

GNSS profile Korea

GNSS profile India

GNSS profile Japan

In a nutshell

Japan's economy has matured since the burst of the bubble of the 1990's. The growing mobile phone industry and IT sectors will likely spur a slow expansion, driven by reconstruction demand related to the Great East Japan Earthquake of 2011. Japanese industry can rely on its strong domestic market, but is also highly export-oriented and thus subject to currency fluctuations. Japan faces competition from increasingly competitive neighbours, especially in high-tech areas. Japan is currently building its own regional satellite-based augmentation system – QZSS – slated for completion beyond 2018, setting the target for centimetre-class accuracy to drive future demand in applications in road transport, agriculture, Location-based Services, Indoor navigation and disaster management.



Key opportunities



Whereas leading Japanese automakers and suppliers have demonstrated both readiness and willingness to export eCall-compliant vehicles to the EU, growth is expected in road safety and accident prevention applications, map data provider services (combining location + navigation devices) and potentially high revenue growth in designing personalised, navigation-dependent advertisement services.



The navigation applications in the maritime transport sector are already covered by mature Japanese industry leaders. Other areas of expected potential include fishing fleet monitoring and catch control.



Early validation experiments involving QZSS have catered to automated precision farming (expected to significantly improve the efficiency of Japan's agriculture), remote sensing and monitoring of the environment.



GNSS applications for earthquake and tsunami warning, landslide monitoring and emergency message management are in testing phase, driven by regional cooperation projects in Asia-Oceania under the Multi-GNSS Asia demonstration campaign.



Japan sees a growing need to develop applications for better maintenance of municipal infrastructure (water and sewage), including precise guidance of construction machinery, as well as developing better GIS to preserve important touristic sites.

Strengths

- Technology-driven GNSS industry, with emphasis on building excellent development infrastructure for both outdoor and indoor navigation.
- A highly educated, homogenous and wealthy end-consumer base, desirous of new, value-added applications.
- Growing future expectations to use Galileo in Japan at the private sector level may become an opportunity for rich receiver makers.

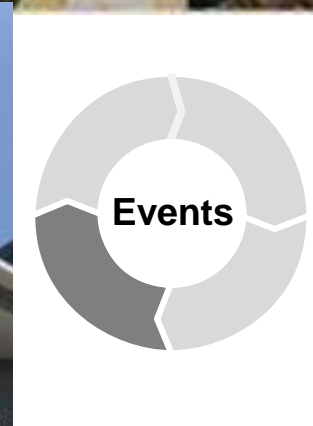
Weaknesses

- Large, attractive market with mature, highly competitive industries in concentrated sectors makes it difficult for new entrants.
- A sceptical view of foreign firms entering the Japanese market prevails, which means that developing partnerships with Japanese companies is demanding.

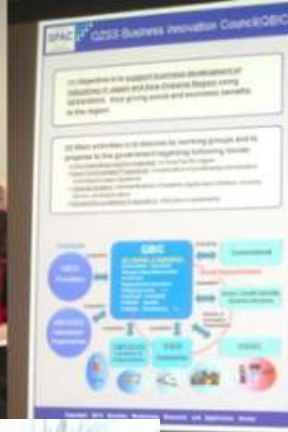




Tokyo

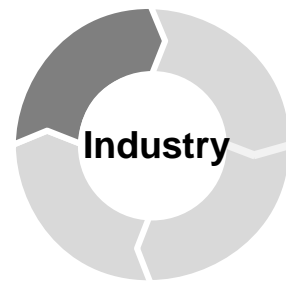


Munich 2013



Prague 2014

GNSS.asia will intensify cooperation with its Japanese Partners



- The Satellite Positioning Application Centre promotes QZSS and multi-GNSS
- Excellent work relationship with SPAC. Several visits to European events
- GNSS.asia and GSA have presented at SPAC events



- National GNSS cluster QBIC, founded in 2013
- Brings together the 200 most important companies in GNSS applications in JP
- GNSS.asia seminars will also be targeted to QBIC members



- Multi-GNSS Asia (MGA) is the only Multi-GNSS network recognised by ICG
- Initiated by JAXA in 2009, now 40 members from Asia and beyond
- GNSS.asia will provide an industrial angle to MGA network events in Asia
- GNSS.asia and MGA will support testing of Galileo Multi-GNSS services

GNSS. asia

Industrial cooperation
across continents

Follow our activities on
www.gnss.asia

www.gnss.asia



EU Events 2015

IS-GNSS Jeju
21-24 Oct

Japan Seminar
2015

IS-GNSS
Tokyo, Oct 2015

Contact:
horn@spaceteccpartners.eu
+49 171 377 5555



MGA-AOR
Phuket, 9 Oct

