

Beyond GNSS.asia : supporting EU-Japan industrial cooperation in and around Space

GNSS. asia



HORIZON 2020



22 June 2023

Fabrizio Mura, Team leader, Space.Japan

Summary of presentation

What was GNSS.Asia

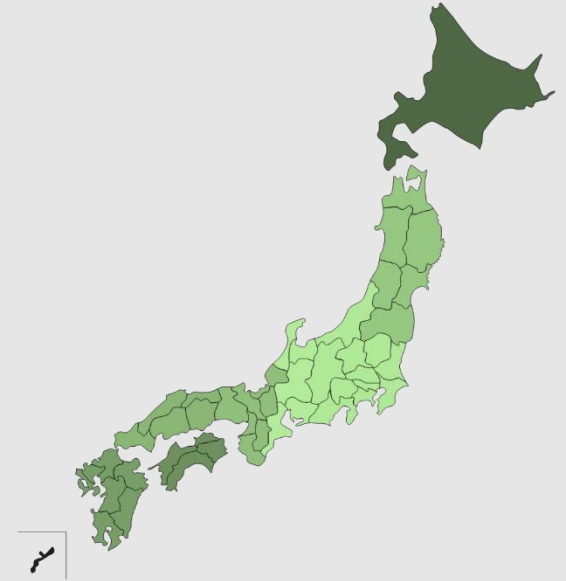
Actions and results under GNSS.Asia Japan

Why Space.Japan

EU-Japan Centre services overview

Summary

Q&A anytime during the presentation



GNSS is a promising segment

Preparation is key to success

- Huge effort is needed to support EU-Japan GNSS / Space cooperation for SMEs.
- GNSS.Asia is a good start - must be well integrated with other internationalisation actions.
- Combined knowledge of technology, markets, local business practices and regulations are key.
- Beyond GNSS, company commitment must be long-term and strategic
- do SMEs offer what they need? are they considered reliable?
- SMEs must build trust; be patient and resilient
- Space is a key enabling ecosystem for non-Space business in both the EU and Japan;



EU-Japan Centre
for Industrial Cooperation

日欧産業協力センター



Co-funded by the
European Union



○ What was GNSS.asia?



Funded by Horizon 2020 (EU money)



Running for 10 years (2012 –end 2021)



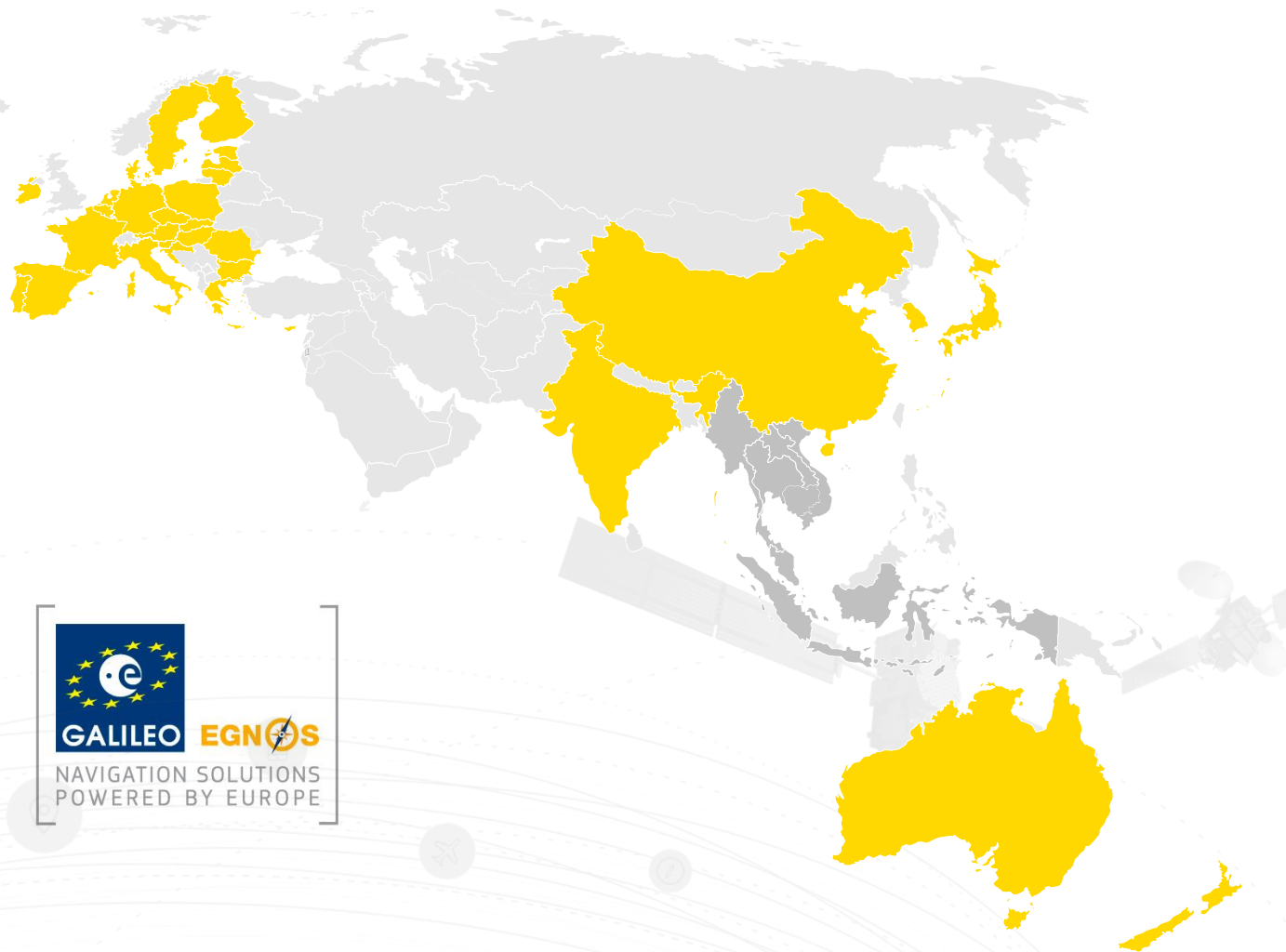
3 main objectives:

Build industrial cooperation across continents

Support institutional relations

Drive EGNSS adoption

GNSS.asia drove Galileo adoption in Asia

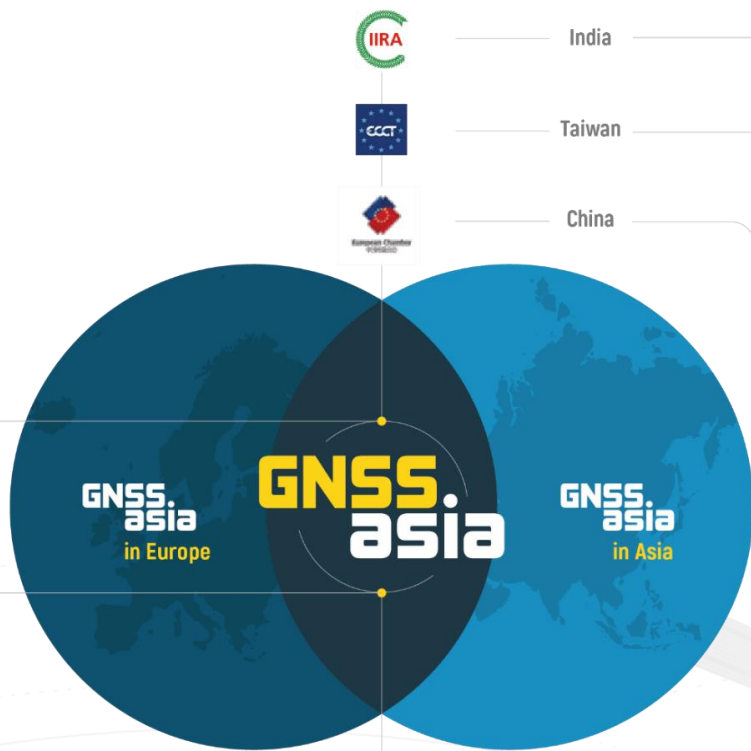


GNSS.asia networks in Asia

Industry



Institutions



India



Taiwan



China



South Korea



Japan



Australasia



INSTITUTIONS



INDUSTRY



INSTITUTIONS



INDUSTRY



INSTITUTIONS



INDUSTRY



INSTITUTIONS



INDUSTRY



INSTITUTIONS



INDUSTRY



INSTITUTIONS



INDUSTRY



GNSS.asia Japan (pre-COVID 19)



2016 The Hague



2017 Tokyo



2018 Bavaria



2019 Tokyo

Setting the Scene to strengthen the EU-Japan Partnership



 **Thierry Breton** @ThierryBreton · 23. Jan. 2020
1st anniversary of the EU-#Japan partnership agreement 🇪🇺 🇯🇵

We are #allies sharing the same values & vision of the world's evolution.

Together we cherish the importance of long-term #cooperation.

➡️ soon! will come personally to Japan to enhance our joint #sovereignty interests.



🗨️ 5 🔄 40 ❤️ 107 📎



Galileo Differentiators

- ✓ **Fully interoperable** with other GNSS constellations
- ✓ Open service **free of charge**, delivering **multiple frequencies**
- ✓ Modern signal is more **resistant to multipath**
- ✓ Global **high-accuracy service** for free delivering down to 20 cm accuracy
- ✓ Only constellation that provides **signal and data authentication**

Galileo services

More information:
www.usegalileo.eu

Besides offering **open access to precise positioning and timing data**, Galileo has a wide portfolio of **value added services**

Emergency Warning Service

- Leverages Galileo's messaging function
- Transmits alerts to smartphones within affected areas without relying on ground infrastructure

Open Service Navigation Message Authentication

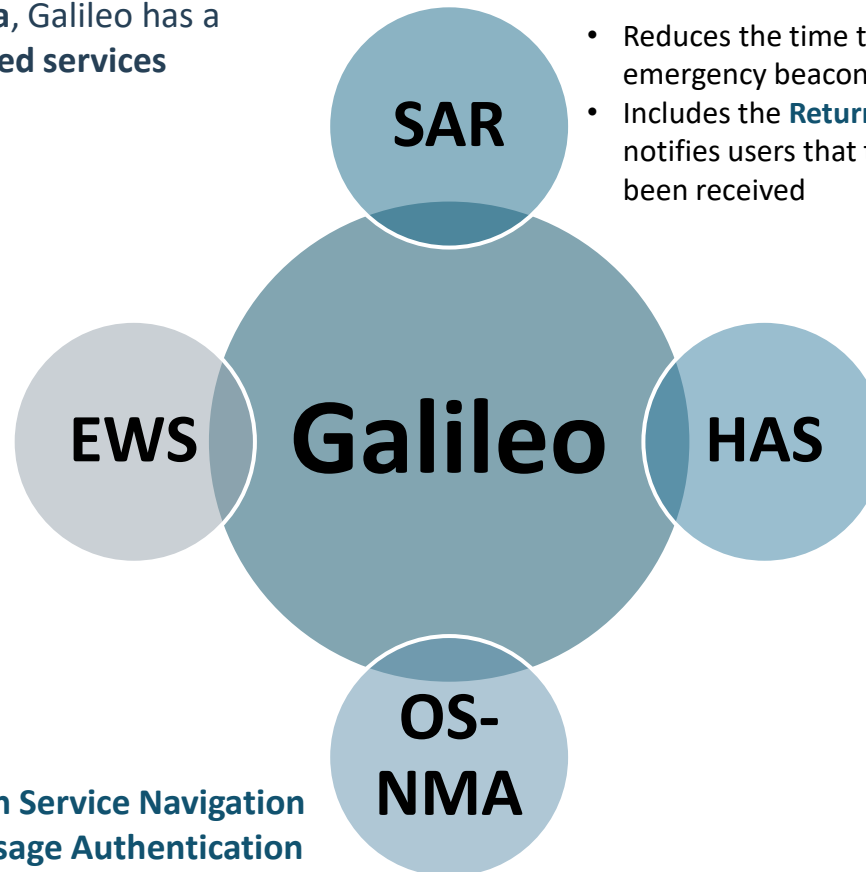
- Ensures the authenticity of circulating GNSS information
- Enables higher-than-before levels of service robustness
- Complemented through the **Commercial Authentication Service** that allows access to the encrypted E6-C codes

Search and Rescue Service

- Reduces the time taken to locate emergency beacons
- Includes the **Return link service** that notifies users that their distress signal has been received

High Accuracy Service

- Reduces positioning errors to below 2 decimetres
- Based on the free transmission of Precise Point Positioning



Galileo constellation

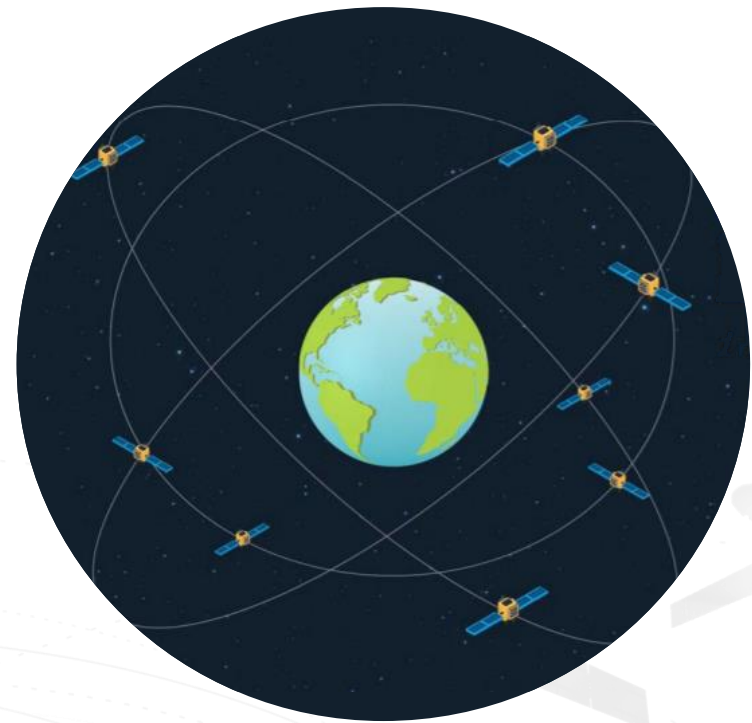
More information:
www.usegalileo.eu

Once fully deployed:

30 satellites
24 operational
+ 6 orbit spares

in 3 Medium Earth Orbit
(MEO) orbital planes:

23.200 km



More **reliable coverage** through satellites located in a higher orbit

Galileo authority and reports

More information:
www.usegalileo.eu

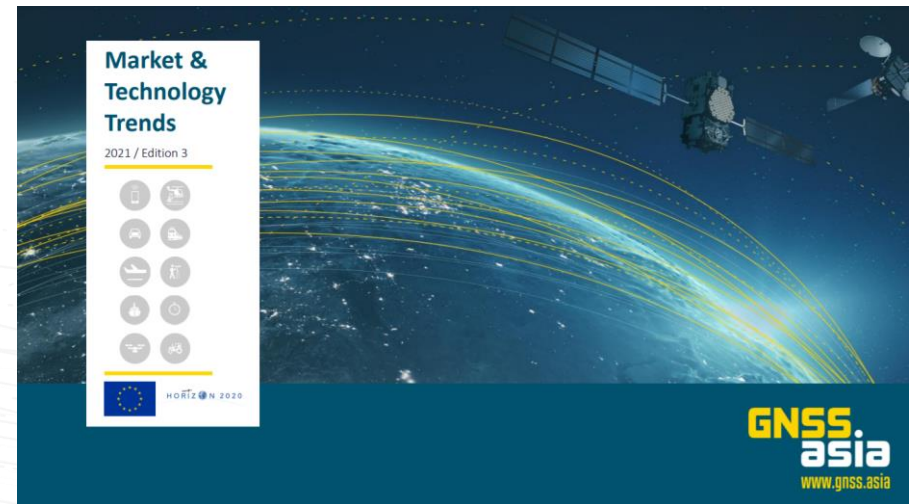


Designed specifically for civilian applications & managed by civil authorities

GNSS Market Report from EUSPA



Market & Technology Trends Report from GNSS.asia



From GNSS to Space

Satellite Navigation



Galileo is Europe's **Global Navigation Satellite System (GNSS)**, providing improved positioning and timing information with significant positive implications for many European services and users.

Earth Observation



Space situational awareness



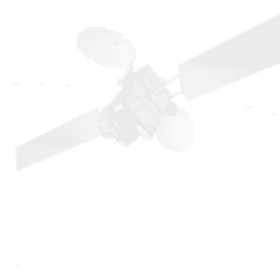
Secure Connectivity



○ The European Union Agency for the Space Programme



EUSPA is responsible for Galileo and the user-oriented operational Agency of the EU Space Programme, contributing to **sustainable growth, security and safety** of the European Union. By fostering the development of innovative and competitive upstream and downstream sectors and engaging with the entire EU Space community worldwide, EUSPA is **driving innovation-based economic growth**.



European GNSS Agency (GSA) to EUSPA



European
Global Navigation
Satellite Systems
Agency

GSA was set up to manage the development phase of the Galileo Programme. It was established to recognise the strategic value of Europe having its own independent satellite positioning and navigation programme, EGNOS and Galileo.



In line with the new EU Space Regulation, the scope of GSA has been expanded to include new responsibilities, resulting the creation of EUSPA. EUSPA leverages the GSA's technical expertise, market intelligence, security know-how, and the extensive EU space-based community that it has built, to create synergies that will take EU space services and applications to a new level in Europe and around the world.

○ The EU Space Programme (2021-2027)

- ✓ **Investment continuity** in EU space activities
- ✓ Supports the **competitiveness and innovation capacity** of the European space industry
- ✓ Fund projects that provide **high-quality space-related data and services with key socio-economic benefits**
- ✓ Strengthen **Europe's strategic autonomy**
- ✓ Improve **flagship initiatives** such as **Galileo, Copernicus and the European Geostationary Navigation Overlay Service (EGNOS)**

Space.Japan



Support EU Space and Space-related SMEs connect with Japan

- Helpdesk: answer queries on EU Space Assets (COPERNICUS, GALILEO, EGNOS) for Japanese firms
- Pitching support for EU SMEs (and Japanese companies)
- Organization of sector specific workshops:
 - Present the latest market-oriented developments of Copernicus from the EU in Japan
 - Invite Japanese companies to meet and network with Europeans at major EU events
 - Facilitate open discussion to engage Japanese stakeholders on cooperation with the EU
- Extension of the EUJCIC's training, partner search and information services to industrial actors involved in Space and Space-related sectors
- Partner search and dissemination services (missions and trade fairs)

Launched in 2015

AEROMART Nagoya, October 2021

- 6 EU SMEs companies introduced by Space.Japan (Hybrid)



Arca Dynamics
(Italy)

Provider of maritime and space traffic management services through nanosatellite infrastructure and A.I.



Loctio (Greece)

Cloud/Edge-based GNSS positioning service provider for IoT devices with applications in asset tracking services



Magics Instruments
(Belgium)

Development of autonomous electronics hardware for space exploration with track-record in Japanese nuclear industry



Peak Technology GmbH (Austria)

Design and development of composite overwrapped pressure vessels valued in the high-end Japanese industry



Satsearch b.v
(Netherlands)

Online marketplace service provider for sourcing of ground, launch, and space systems



Skudo (Estonia)

Developer of custom encryption solutions for space communications providing opportunity to fill a gap



- Virtual Booth of the EU-Japan Center for Industrial Cooperation
- On the screen the selection of 6 EU companies chosen for the mission, and interested in business opportunities in Japan.

The Innovation Leaders' Summit: Tokyo December 2022

- Mission to Japan: 4-day exhibition to support digital SMEs & startups with introducing their technologies (e.g., GNSS, VR, AI, blockchain, cybersecurity) to the Japanese market.
- 8 European SMEs selected to participate with a joint booth and given opportunities to meet with key players in the industry. The event resulted in over 160 B2B meetings for European SMEs.



Co-funded by the
European Union

enterprise
europe
network

Business Support on Your Doorstep

ISIEX, Tokyo Big Site, February 2023

- 3-day hybrid exhibition to introduce EU Space SMEs to the Japanese market (7 EU SMEs selected).

日欧産業センター-ISIEX 2023 欧州の宇宙関連企業の紹介

Cailabs



Cailabsは、TILBA製品群により、10Gbps以上の宇宙-地上レーザー通信のためのクラス最高のソリューションを提供しています：独自の乱流緩和サブシステムから完全な光地上局まで。



Super Garden

おいしいものが食べなくなったとき。みんなが大好きな、ワクワクするような料理が食べたいとき。
スーパーガーデン: 宇宙の食卓

Geomatics Research & Development



地盤や構造物の変位監視、移動体の高精度測位、低層・高層大気監視、地下探査など、衛星からのデータを処理する最先端のアルゴリズム開発を専門としています。

Peak Technology



PEAKの技術を宇宙とモータースポーツに。PEAKは、ロケット、人工衛星、宇宙船のための技術を設計し、専門としています。当社の超軽量複合材高圧タンクと構造体は、ミッションをサクセスストーリーに変えます。

Sidereus Space Dynamics



Sidereus Space Dynamicsは、誰もが宇宙にアクセスでき、安価に利用できるようにすることを目的としています。彼らのロケットは、誰もが宇宙からペイロードを打ち上げたり回収したりできるように、使いやすく、信頼性が高く、手頃な価格になっています。

Rokubun



Rokubunは、従来のGNSS（全地球衛星測位システム）を超える高精度かつ拡張性のあるナビゲーション技術に焦点を当てたソリューション指向の企業です。



Iguassu Space Systems

Iguassu Software Systems (ISS) は、地球観測データ（SARなど）の効率的な処理を含む衛星測位技術やグリッド技術に関連する技術ソフトウェアの設計・開発を得意としています。



Co-funded by the European Union



Business Support on Your Doorstep

Pitching webinars



1. "New Space for environmental sustainability: supporting maritime and space traffic management" (ARCA Dynamics, 17 June 2022);
2. "At the frontier of GNSS Applications: from precise positioning with low-cost receivers to meteorology, hydrometry and 5G hybridization" (GReD, 27 July 2022);
3. "Improving the Eating Experience in Space" (with Natural Machines, 29 September 2022);
4. "EOS, the First Personal Space Vehicle: a whole new class of Orbital Launch Vehicles" (Sidereus Space Dynamics, 22 November 2022);
5. "10+ Gbps Space-to-Ground Laser Communication" (Cailabs, 18 January 2023);
6. "Risk monitoring from Space" (Spotlite, 10 May 2023)



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European Union



Business Support on Your Doorstep



Next event

29

June

5:00-5:40 pm JST

10:00-10:40 am CET

Zoom link: Click [here](#) to register

Event Agenda

Introduction: Luca Escoffier, Project Manager Space.Japan Helpdesk, EU-Japan Centre for Industrial Cooperation

From Microgravity to Moon Cargo: The in-orbit Services Offer: Pierre Faucoup, Chief Space and Defence Business Officer, The Exploration Company

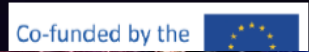
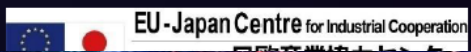
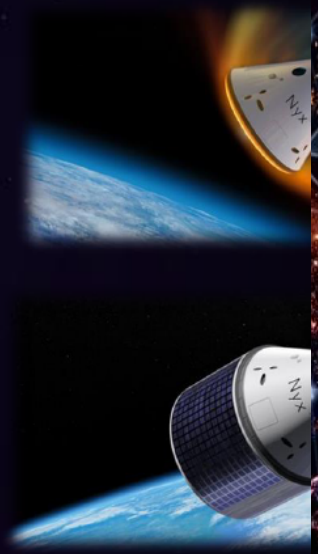
Victor Ertl, Lead Business Development & Marketing

From Microgravity to Moon Cargo

The in-orbit Services Offer of The Exploration Company

The Exploration Company, one of the fastest growing space start-up in Europe, is developing an all-new reusable spacecraft called Nyx. The roadmap will offer at each step new in-orbit services: LEO microgravity experiment, cargo to space station, cargo to Moon gateway, etc.

Commercialization of the first services is open for the next open flights in the period 2025-2027. Fly on Nyx is affordable and easy. Do you want to know more?



Co-funded by the European Union

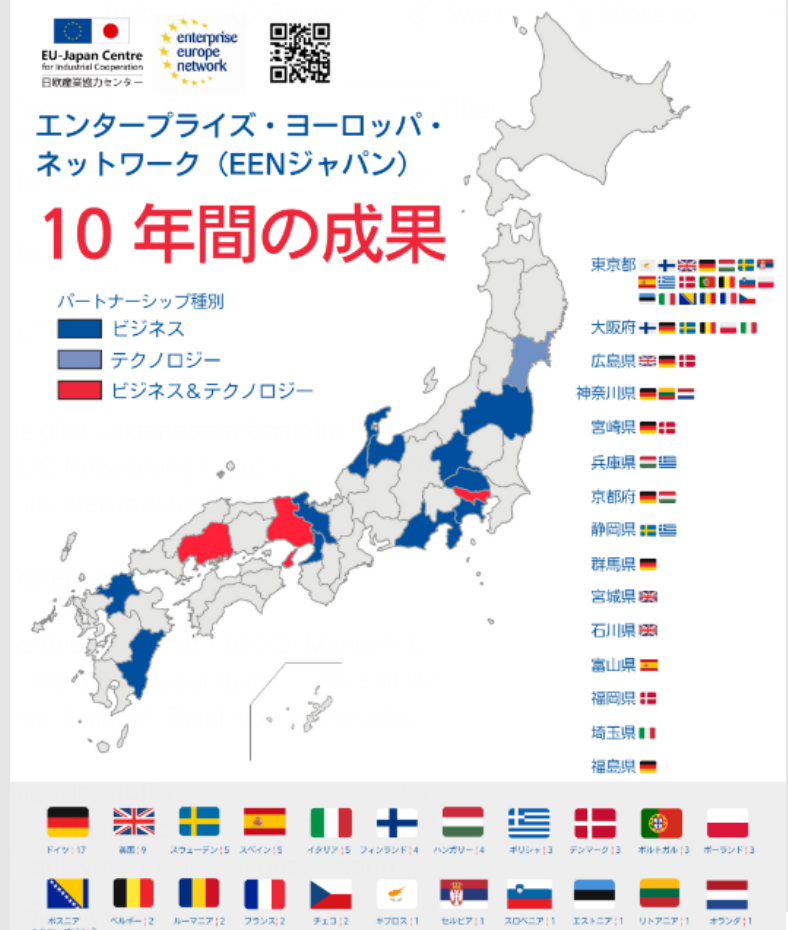
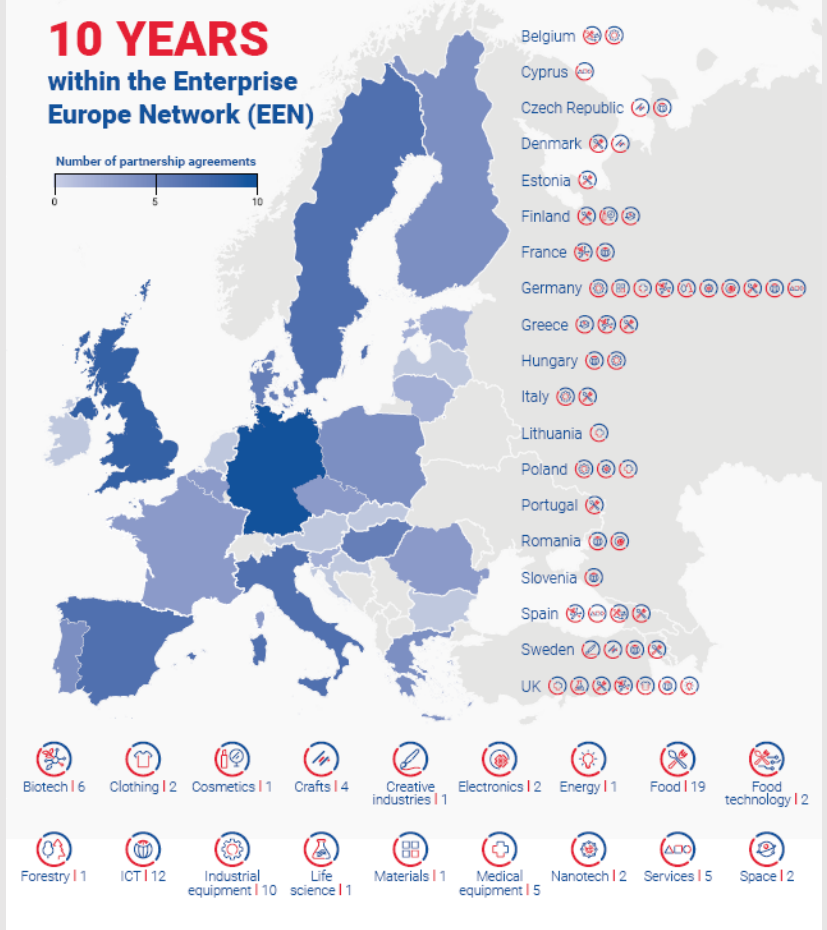


Support to search for cooperation partners / customers between the EU and Japan

EEN = free support to search for business / R&D cooperation with Japan

Target: start-ups, SMEs, Universities and Clusters

Build up lead generation from Europe



77 Partnership Agreements	155 EEN events (co)-organised	7704 B2B meetings facilitated	976 Expressions of Interest made by EU companies	215 Expressions of Interest made by Japanese companies	1548 Requests from EEN partners	80 Workshops co-organised with EEN
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77 パートナーシップ	155 EEN 共催 イベント	7704 商談 ミーティング	976 EUから日本への 引合い数	215 日本からEUへの 引合い数	1548 EEN パートナー からの問合せ	80 EEN 共催 ワークショップ
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ありがとうございました。

Spacejapan@eu-japan.or.jp



About the EU-Japan Centre

- Joint venture co-funded and co-managed by DG GROW and METI
- 2 offices in Tokyo and in Brussels
- 40 staff – mix of European and Japanese
- Launched in 1987 – 36 years of trust built and joint activities

- Promote industrial, trade, R&D, innovation and investment cooperation between the EU and Japan.
- Improve EU and Japanese companies' and SMEs competitiveness and cooperation by facilitating the exchange of experience and know-how between EU and Japanese businesses, R&D organizations and stakeholders.

Available services

Policy Analysis

Seminars in Japan and Europe

- Energy, environment, climate variation
- Trade and Investment
- Industrial Policy (including SME and innovation policy)

EU-Japan Business Round Table (BRT)

MINERVA expert research hservice



Service for Business

Training programmes

- Get Ready for Japan
- World Class Manufacturing (WCM)
- Engineering internships: Vulcanus

Information Service, EEN Japan, and
EPA helpdesk

Promotion of Cooperation in Industrial Innovation

- Horizon Europe National Contact Point
- Space.Japan (EU-Asia cooperation in satellite navigation applications)
- Technology Transfer Helpdesk



EU-Japan Centre
for Industrial Cooperation
日欧産業協力センター



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