



30 YEARS  
周年



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

# EU-Japan Industrial Cooperation

30 Years Together





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# EU-Japan Centre 30th Anniversary Publication

## Contribution by Jean-Claude Juncker, President of the European Commission



The EU and Japan have long been partners, friends and allies. Our bond is built on common values, a rich history of cultural and business exchange, and on being there for each other in times of need, in solidarity and friendship.

Since 1987, the EU-Japan Centre has played a leading and invaluable role in that ever strengthening partnership. The numbers speak for themselves: 2500 graduates in Japan and Europe, 900 students it has helped follow language courses and traineeships in Japanese and European companies, 25,000 participants in its policy seminars. Countless more business leaders on both sides of the bridge have learnt from each other, made new contacts and broken into a new market which was previously inaccessible to them.

All of that has helped take our industrial and commercial relations to the next level. Every year the EU exports over €80bn of goods and services to Japan, making it our second largest trading partner in Asia and our sixth worldwide. More than 600,000 jobs in the EU are tied to exports to Japan and another half a million people are employed by Japanese companies in the EU.

And in this special 30th anniversary year for the Centre, the EU and Japan are on the cusp of another landmark moment in our relations. We have recently reached a political agreement on a future Economic Partnership Agreement which would help treble EU exports to Japan, cut 1 billion EUR worth of customs tariffs and create new opportunities for small businesses on both sides. And it would do so by respecting the highest international standards, putting fairness first. This is a message to the rest of the world that the EU-Japan stand together for open and free trade.

I am proud of the EU-Japan Centre for its visionary and pioneering work in helping us get this far. It is a unique venture between the European Commission and the Japanese government and the greatest tribute I can pay is that with every one of its 30 birthdays, the Centre has become more relevant and more important for both sides. Long may that continue!



## Japan, EC cement trade ties with joint Tokyo center

Japan and the European Community (EC) announced Tuesday they have established a joint center in Tokyo to train European businessmen in Japanese methods and promote trade and investment between the two trading blocs.

The EC-Japan Center for Industrial Cooperation was formed May 15 under an agreement reached last December. Its Human Resources Program will begin next April, with an initial 12 European managers and engineers in the four-month course which concentrates on Japan's production management, officials said. The number of trainees will later be increased to 40.

The center will also provide European businessmen with

information on expanding EC exports to Japan and will promote bilateral investments, the officials said.

The center's decision-making body, its supervisory board, will be co-chaired by Shoichi Akazawa, chairman of Japan External Trade Organization (JETRO), and Viscount E. Davignon, director of the Society General of Belgium.

Its ¥350 million budget will be jointly funded by Japan and the EC.

The announcement was made at a Tokyo press conference attended by Akazawa and Andreas van Agt, the leader of the EC delegation to Japan.

For further information, call the center at (03) 221-6161.

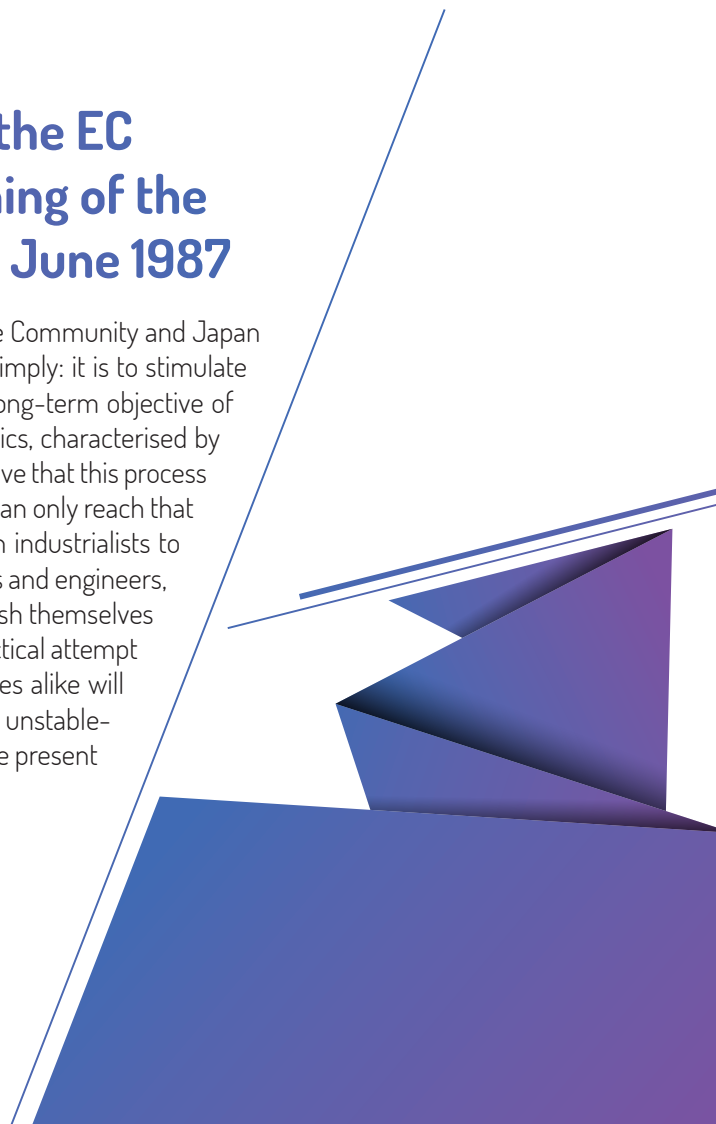


SHOICHI AKAZAWA, joint chairman of the EC-Japan Center for Industrial Cooperation, speaks at a press conference. At left is Andreas van Agt, leader of the EC delegation to Japan.

## Speech by H.E. Mr. Van Agt, Ambassador, Head of the EC Delegation at the press conference for the launching of the EC-Japan Centre for Industrial Cooperation\* on 2 June 1987

“For the Commission the establishment of the EC-Japan Centre represents an opportunity for the Community and Japan to move in a more positive direction. The immediate task of the Centre can be expressed quite simply: it is to stimulate and to assist our industrialists to work together in ways which they have not done before. The long-term objective of the exercise is also clear – it is the fusion of important points of our respective industrial economics, characterised by stronger and more balanced flows of capital and technology from one partner to the other. We believe that this process eventually contribute to long-term economic stability and the reduction of trade tensions, but we can only reach that objective by small steps, and we hope that the Centre will make those steps easier for European industrialists to make. The activities which the Centre is to undertake – the training in Japan of European managers and engineers, on the one hand, and the provision of information services to assist European companies to establish themselves in Japan either independently or with Japanese partners – seems to us to be a reasonable and practical attempt to help industry. (...) In conclusion, the Commission hopes that European and Japanese companies alike will give the Centre a try, and will help to transform it progressively from what it may appear as now, an unstable-looking rope-bridge across the economic divide into what could become a very busy highway. In the present climate of EC-Japan relations we need such solid bridges rather badly.”

\* EC - Japan Centre was the original name of the EU - Japan Centre





## Etienne Davignon's Memories of the Events that led up to the Creation of the EU-Japan Centre for Industrial Cooperation

"Thirty years have passed since the birth of the EU-Japan Centre for Industrial Cooperation (originally called the EC-Japan Centre for Industrial Cooperation), a dynamic symbol and milestone of the commitment of European and Japanese industry to work together.

When I took up my job as Commissioner ten years earlier, the relations between the EU and Japan were at an all-time low. The trade disputes were numerous and the absence of structural dialogue remarkable. Japan was accustomed to talk with member states and ignored the EU institutions.

All this changed over time as both parties were finally convinced that cooperation was better than confrontation. As the relations improved at the official level, it became obvious that it should also be extended to the private sector and individuals so as to ensure we understand each other.

The Commission played a central role in convincing MITI (the predecessor to METI), Keidanren and a group of European

business representatives to organise an annual on-going dialogue, alternatively in Japan and Brussels. The success of these meetings led to the creation of a permanent centre.

Since 1987, the Centre has proven its value by setting up specific programmes and organising exchanges of people. I witnessed this success story and welcomed the change it brought about for the relations between Japan and the EU. So I am sure that, thanks to its competence and commitment, the Centre will pursue its very useful mission for many years to come."



(Source : EC audiovisual Service)

Note : Mr Shoichi Akazawa, at the time Chairman of Japan External trade Organization and co-founder of the EU-Japan Centre with Viscount Etienne Davignon, passed away in 1996.

## Message from the EU-Japan Centre

The year 2017 represents a major milestone for the EU-Japan Centre: our 30th Anniversary!

For the past three decades, the EU-Japan Centre has played a significant role as a bridge between Europe and Japan.

In relative numbers, since its creation in 1987, the Centre has produced over 2,000 graduates of its managerial courses in Japan and Europe, 900 alumni of its Vulcanus programmes, 25,000 participants in 300 policy seminars, and over 200 analytical reports and e-learning videos.

We believe the Centre remains as relevant as it was back in 1987, since Japan continues to be a key market and partner for Europe and vice versa. In the same context, the “joint venture” (European Commission / Ministry of Economy, Trade and Industry of Japan) characteristic of the Centre still has a substantial win-win significance. This makes the Centre a unique benchmark amongst other business support initiatives established, by the European Commission, more recently in Asia and Europe.

Nevertheless, we are well aware that we cannot live exclusively on the back of our heritage – instead the EU-Japan Centre must continuously evolve, expand and calibrate its mission to meet the current and future needs of the EU and Japanese industrial and business communities, particularly in the new era to be opened with the conclusion of a Free Trade Agreement / Economic Partnership Agreement (FTA/EPA).

In the last five years, we have placed supporting SMEs at the core of all our activities since SMEs are considered – both in the EU and Japan – as the principal driver for economic growth. We have also initiated many new services such as the Enterprise Europe Network

– Japan, the Cluster Support Helpdesk, the Tax and Public Procurement Helpdesk, the Step in Japan business incubator, the Technology Transfer Helpdesk, the Minerva Fellowship, the Horizon2020 Contact Point etc. We went even further by exploring the business potential in narrow high-tech niche markets such as Space or GNSS industries.

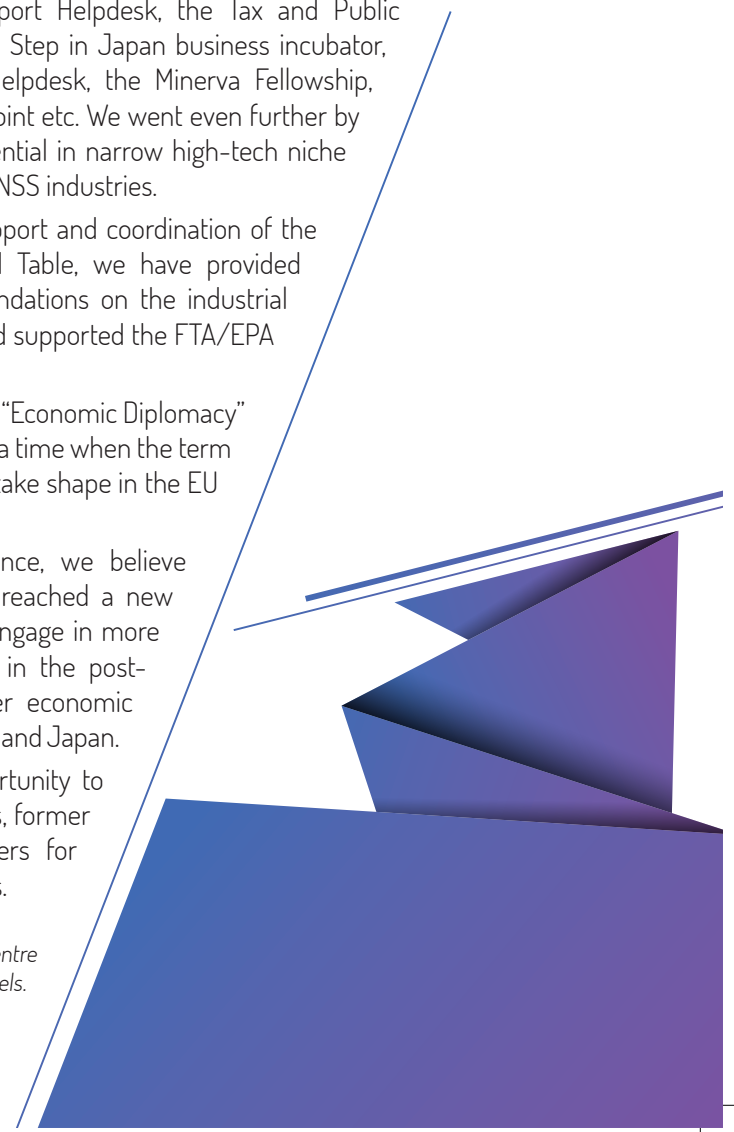
Through our secretarial support and coordination of the EU-Japan Business Round Table, we have provided meaningful joint recommendations on the industrial and regulatory situation, and supported the FTA/EPA negotiations.

We should also mention the “Economic Diplomacy” role played by the Centre at a time when the term itself was just beginning to take shape in the EU policy lexicon.

With 30 years of experience, we believe the EU-Japan Centre has reached a new level and is now ready to engage in more complex support missions in the post-FTA era, for an ever-closer economic partnership between the EU and Japan.

We wish to take this opportunity to thank all of our contributors, former participants and other users for their interest in our activities.

*The team of the EU-Japan Centre  
in Tokyo and Brussels.*





# MILESTONES

Responding to Changing Needs

1987

**Opening of the EU-Japan Centre** for Industrial Cooperation (Tokyo, Japan).

**Launch** of annual comprehensive training missions in Japan, “**Japan Industry Insight**” (HRTF) for EU managers.

**Launch** of the “**Renewable Energy**” programme for EU and Japanese experts.

1989

**Launch** of annual training missions in Japan focusing on “**Innovation Made in Japan**”, for EU managers.

1992

**Launch** of annual training missions in Japan focusing on “**World Class Manufacturing**”, for EU managers.

1996

**Launch** of the “**Vulcanus in Europe**” programme offering language courses and internships in EU companies for Japanese students.

**Opening of the European Office of the EU-Japan Centre** (Brussels, Belgium).

The EU-Japan Centre is appointed the Secretariat for the **EU-Japan Business Round Table** which gathers about 50 leaders of EU and Japanese corporations.

1997

Launch of the “**Vulcanus in Japan**” programme offering language courses and traineeships in Japanese companies for EU students.

Launch of annual training missions in Japan on “**Meet Asia in Japan**” for EU managers.

1998

Launch of annual training missions in Japan on “**Distribution & Business Practices**” for EU managers.

2000

Launch of an ICT version of the “**Japan Industry Insight**” programme.

Centre appointed “Coordinator in Europe” of Osaka Chamber of Commerce & Industry’s annual “**Global Venture Forum**” – a forum for EU and Japanese companies in new, high-tech, and emerging fields of business.

2001

Launch of an ICT version of the “**Meet Asia in Japan**” programme.



Dr. Tadahiro Sekimoto, Co-Chairman of the EUJBDRT and Senior Member of the Board, NEC

Viscount Etienne Davignon, Co-Chairman of the EUJBDRT and Chairman, Société Générale de Belgique

Mr. Romano Prodi, President, European Commission

EU-Japan Business Dialogue Round Table

Brussels, 7-8 October 1999

# MILESTONES

Responding to Changing Needs

2003

**Launch** of a series of **seminars on EC policies** intended for Japanese managers.

2005

Extension of the “Vulcanus in Japan” programme to engineers in architecture.  
Publication of “**EU-Japan Bridge**”, the first directory ever of all EU-Japan related organisations.

2007

**Launch** of annual missions in Japan on “**FDI in Japan**” for EU managers.  
**Launch** of **seminars on EU-Japan intercultural management**.

2008

**Launch** of a series of **seminars on Industrial Policy, Trade & Investment, and Environment & Energy**.





2010

The EU-Japan Centre is appointed coordinator for J-BILAT (**EC support towards the participation of the Japanese research community in the EU 7th Research Framework Programme**).

The EU-Japan Centre is appointed coordinator of the **Enterprise Europe Network** – Japan, with the support of the Japanese Ministry of Economy, Trade and Industry.

2011

The Centre signs a Memorandum of Understanding with ZENIT GmbH (representing the **European Cluster Collaboration Platform**) with the objective to strengthen business, research and technological cooperation between EU and Japanese clusters.

2012

The Centre becomes part of the EU funded consortium **GNSS.Asia** with the aim to promote EU-Japan industrial cooperation on satellite navigation applications.

The Centre starts a new comprehensive info service in English on **government procurement** tender notices in Japan.

The Centre has as its main strategic priorities the reinforced support for the **internationalisation of SMEs** and the **post-Fukushima** economic and business opportunities.

**Launch of Cluster Missions** in Japan, with couples (cluster + SME) active in specific sectors.

2013

**Launch of “Step in Japan”**, a landing pad for EU-based SMEs planning on entering into or expanding within Japan. The initiative encompasses a full range of essential support measures for businesses.

**Launch of “Lean visits in Europe”** with a view to help European engineers improve their activities with a better understanding of best practice.

**Launch of “Minerva”**, a 6 months in-house fellowship scheme in Japan targeting young EU and Japanese academics, trade/ economic analysts and civil servants, and designed to support its research and policy analysis of EU-Japan economic and industrial issues.

In September 2013, a new BILAT project, **Japan-EU Partnership in Innovation, Science and Technology (JEUPISTE)** was launched.

# MILESTONES

## Responding to Changing Needs

2014

**Launch of “Keys to Japan”** whose objective is to assist EU SMEs with the definition and production of detailed, real-world and high quality market entry strategies in Japan.

**Launch of a Tax and Public Procurement Helpdesk**, intended to support the market access of EU companies (particularly SMEs) to Japan, through the provision of free information and related training, materials and online resources.

**Launch of [www.eubusinessinJapan.eu](http://www.eubusinessinJapan.eu), the Japan-related information portal.**

In accordance with the objective of the European Commission to develop a global platform to provide EU companies with relevant information about business with third countries, the EU-Japan Centre has launched a new website which will serve as an online portal of information for all EU SMEs seeking to do business with or in Japan

**Launch of “About Japan” webinars, monthly e-News and reports.**

Targeting EU companies and support organisations, the webinars are designed to improve your knowledge of conducting “business in Japan”. During the webinars, participants will have the unique opportunity to listen to selected experts who have agreed to share their knowledge and expertise

**Launch of “Kaizen” webinars**

The annual series of webinars cover a full range of methods at basic level, offering attendees the key success factors for introducing and implementing KAIZEN within their company.

2015

**Launch of Japan Incoming Missions** support within EEN framework. Incoming missions offer EU companies a chance to meet federations and companies from Japan in the EU.

**Launch of Cross Cultural Workshops** in the EU: in cooperation with local members of EEN, the EU-Japan Centre offers EU companies a chance to get acquainted to the principles of Japanese business culture.





2016

**Launch** of the “**Japan Industry & Policy**” monthly newsletter The EU-Japan Centre regularly publishes “Industry and Policy News” from various Japanese language sources of potential interest, including newly released policy documents, surveys, and official statements, in the context of EU-Japan industrial cooperation.

**Launch of EU-Japan Tech Transfer Helpdesk**

The EU-Japan Centre launches this new service aimed at supporting EU and Japanese companies and individuals in their steps to search for and acquire technologies, as well as bridging the knowledge gap about current available technologies from both Japan and the EU. The service is backed by a web portal <http://www.eu-jp-tthelpdesk.eu> which will provide general content about intellectual property rights, their use and possible monetization options.

2017

30th anniversary of the EU-Japan Centre.

30 YEARS  
周年



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



## Main deliverables so far include:

- 1 500 EU executives participating in business & training missions to Japan
- 150 EU and Japanese experts participating in Alternative Energy missions
- 1 000 EU participants in Lean/Kaizen/WCM-related missions in Japan or Europe.
- 25 000 EU and Japanese participants in 300 policy seminars.
- 900 EU and Japanese engineering students participating in the Vulcanus programme.
- 30 Cross-cultural events and 40 R&D-Innovation events
- 200 analytical reports and e-learning webinars / videos
- 3 regular newsletters (business - policy - R&D) reaching a total of ca 20.000 recipients
- 15 000 inquiries handled by the Centre's helpdesk

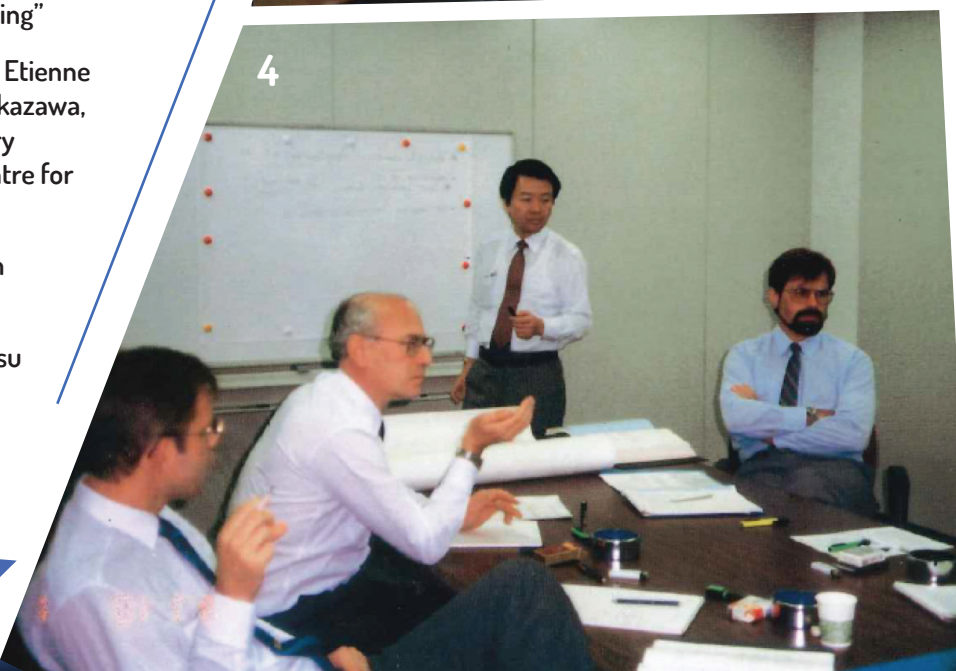
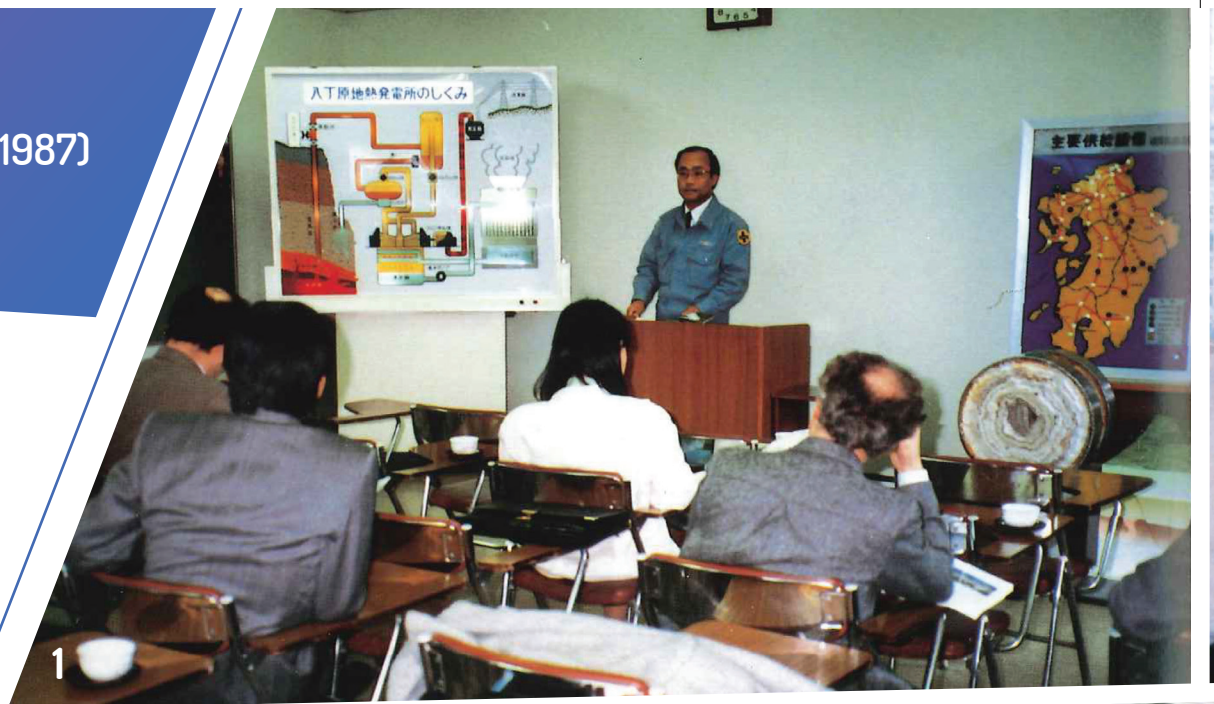




# Commemorative Photos of H RTP (1987)

Archive pictures

1. Visit to Kyushu Electric Power
2. Lecture on "Relationships between Banks and Enterprises in Japan"
3. Visit to the Kumamoto Technopolis Center
4. Lecture on "Value Engineering"
5. Participants meet Viscount Etienne Davignon and Mr. Shoichi Akazawa, chairmen of the Supervisory Board of the EU-Japan Centre for Industrial Cooperation
6. Case Study + visit of Nippon Steel, Nagoya Works
7. Case study + visit of Komatsu Ltd, Oyama plant







# IN SEARCH FOR GROWTH

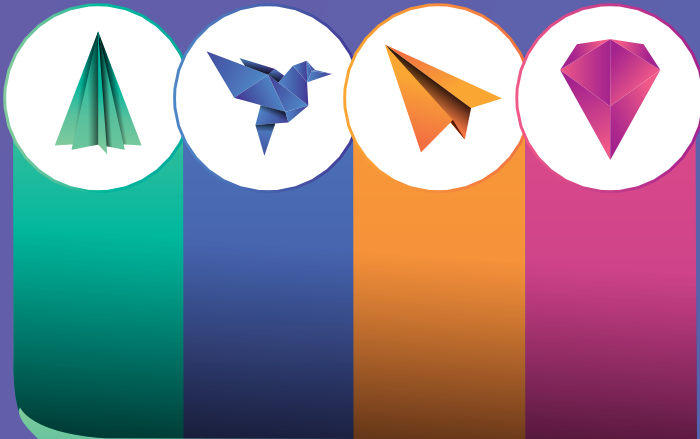
## DISCLAIMER

All the executive summaries gathered together in the four following chapters have been drafted by sectoral experts from all over the EU and Japan.

Few of them are native English speakers – most speak and write English as a foreign language.

We have decided to take the side of respecting the original text, in its original state.

You will therefore find some English-language quirks or typos, which all make this publication a perfect example of our EU-Japan community.

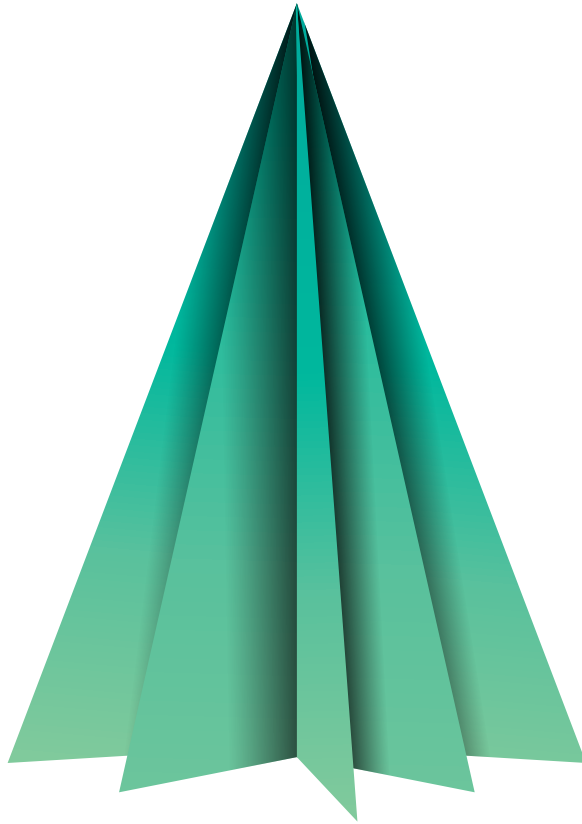


The Quest for Green

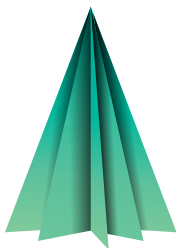
Opportunities Everywhere:  
from Smart Cities to Biomass

Space: the Final (Business) Frontier?

Defense & Security: an Opening Market?



# THE QUEST FOR GREEN



## Clean Energy Sector in Japan - An analysis on Investment and Industrial Cooperation Opportunities for EU SMEs

While the EU and Japan are at the forefront of the deployment of clean technologies, there is still an unexplored potential in terms of experience sharing, technological cooperation, and mutual investment in this area. The similarities in geographical, environmental, political, and economic structures make Japan an ideal market for green technologies in which European companies can succeed. For Japan,

there is a clear benefit to learn from the EU experience in technologies and solutions to accommodate large quantities of clean energy sources into its energy market.

The Japanese market only started to move after the Fukushima disaster in 2011 and there is a chance for foreign players to be part of the game. However, Japan is in a luxurious position as it is able to choose from the best approaches worldwide. Therefore, it is essential to present these solutions in Japan and show the Japanese players in this market that Europe is here and engaged.

This report outlines the current status of EU-Japan cooperation on clean energy and how business could fit into these activities. Cooperation takes

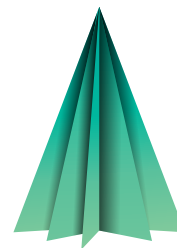
place through the EU-Japan Energy Dialogue, Science and Technology Agreement and seminars organised by stakeholders in Japan. However, a comprehensive focus on clean energy is missing and could be accommodated by the forthcoming Free Trade Agreement (FTA)/ Economic Partnership Agreement (EPA) and Strategic Partnership Agreement (SPA).

This report further reports on the conditions for clean energy in Japan for EU companies. The main obstacles, funding and cooperation opportunities are subsequently set out. While several issues underpin the growth of clean energy, they are not being seen as insurmountable. Japanese policy-makers are aware of the necessity to remove the obstacles withholding growth in order for Japan to attain a higher share of renewable energy in the energy mix and increase energy efficiency. It was also found that the business conditions in this sector are not remarkably different from other sectors in Japan.

To draw a clear picture of the status of EU Small and Medium-sized Enterprises (SMEs) on this market, SMEs active on the clean energy market in Japan were identified and a selection of them interviewed in order to listen to their experiences and demands. 61 companies were found of which 31 have representations and nine have a local office in Japan. Success factors for SMEs on the Japanese market include hiring of a local expert who has a track record in the specific field the company

*Success factors for SMEs on the Japanese market include hiring of a local expert who has a track record in the specific field the company is getting into.*





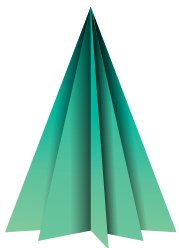
is getting into. In addition, a prior connection to Japanese clients and international experience were also found to be correlating factors. These companies would like to receive more market information, trade fair participation of the EU that could facilitate their participation, activities to showcase their company on the Japanese market and information for access to Japanese funds.

Opportunities for SMEs can be found in most sectors of the clean energy market from all types of renewable energy to smart grids and energy efficiency related technologies. Through interviews and literature review, wind and bio energy have been identified as having the most potential for European companies.

Finally, a number of conclusions and recommendations for policy makers are given that could encourage investment and technological cooperation in this field. The main actions the EU can take to promote European companies in Japan are:

- Organising activities focused on a specific technology or service.
- Include clean energy in the upcoming EU-Japan FTA/EPA.
- Include clean energy in the upcoming EU-Japan SPA.
- Trade fair participation.
- EU business missions for SMEs within a specific theme.
- Expand the information service for EU companies interested in Japan.





Lyckle Griek

## Japanese Water Treatment Sector Market Review

This report gives an outline of the current state of affairs and developments in the field of water technology in Japan, and is an adaptation of a market review performed earlier in 2012 on behalf of a Dutch water technology consultancy company.

The Japanese water technology sector is a very diverse sector, ranging from sophisticated civil engineering solutions and advanced water treatment solutions to consultancy services in the field of water technology. Covering this broad spectrum, this report does not claim to give a complete overview of the whole range of activities in the Japanese market, but aims to give EU companies an exploratory insight into the structure of and trends in the Japanese water technology market, and the subsequent opportunities.

The Japanese water technology market is highly developed and the sector operates at the global forefront of innovative technologies, particularly in terms of hardware. Similar to the sector in the EU, the Japanese government is actively promoting the water business sector internationally and supporting the sector's endeavors abroad.

This report provides an outline of the major policy parties involved in the sector. Recent policies with regard to water treatment are introduced along with a summary of the current infrastructure with regard to (waste) water treatment. An assessment of the water-technology market, the character of the sector, access to the sector including possibilities for scientific cooperation and advice on corporate communication and marketing when entering the Japanese market are also covered.

*The Japanese water technology market is highly developed and the sector operates at the global forefront of innovative technologies.*

Published in August 2013.

The full report is available in the Centre's library: <http://eubusinessinJapan.eu/library/publications/>

## Sector Mapping and Industry Landscape of the Clean-Tech Industry

The Japanese Clean-tech sector spans many complementary and inter-related technologies. This industry covers various fields such as renewable energy generation technologies, energy-storage technologies, smart energy demand-management technologies and energy-efficient transport. In addition, the Clean-tech sector includes different techniques from the recycling process such as waste treatment, waste-to-energy processes, and transit issues.

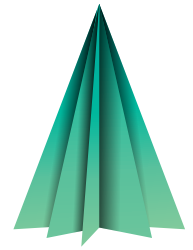
After the Fukushima nuclear accident, the need for energy reforms in Japan became immediately apparent. Aside from the risks shown by the Fukushima incident itself, the subsequent shutdown of the nuclear energy sector led to a dramatic contraction of Japan's balance of trade figures in the months following Fukushima, especially as Japan became considerably more dependent on energy imports.

Finally, this incident led to widespread efforts to reduce Japan's energy needs, and to diversify its sources of energy. Accordingly, in 2014, Japan's

Ministry of Economy, Trade, and Industry (METI) published Japan's 4th Strategic Energy Plan, emphasizing regional flexibility, energy diversification, and improved regional self-sufficiency.

In parallel with the post-Fukushima energy challenge, some significant changes occurred in Japan such as the emergence of Japanese smart cities, a paradigm shift started in the early 2000s and accelerated by the Fukushima disaster, as well as political changes emerging from Fukushima aftermath.

This results in an increase of specific business and cooperation opportunities to European firms in the clean technology industry. While more geographically dispersed than what the traditional idea of economic clusters implies, the Japanese clean-tech market presents many other traditional economic cluster dynamics. Using Porter's theories, the inter-relatedness of various cities and sectors inherent to the Clean-tech industry is analysed here.



*Significant changes occurred in Japan such as the emergence of Japanese smart cities, a paradigm shift started in the early 2000s.*



## Solar PV Market and Industry in Japan – Opportunities for European SME

Prior to the Fukushima nuclear disaster of March 11th, 2011 renewable energy has only played a minor role in Japan's energy strategy – only about 2 percent of the total energy supply have been provided by means of renewable energy (excluding hydro power). However, Japan's rapid denuclearisation in the aftermath of the catastrophe determined a reconsideration of the importance of renewable energy sources, which was reflected in a series of government incentives such as the enactment of a Feed-in Tariff (FiT) in July 2012. Due to this new promotional policy scheme, in particular, the Japanese PV market has been able to gain strength. Within a period of 2 years a total of 10.5 GW of new PV capacity

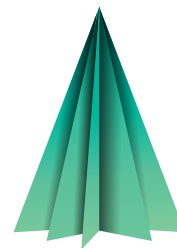
*By 2013 Japan emerged as the second fastest growing PV market in the world.*

has been installed and by 2013 Japan emerged as the second fastest growing PV market in the world (after China and ahead of the US). The FiT targeted especially the non-residential sector with generous purchasing tariffs. More than 70 percent of total installations have been utility and commercial installations, and only 30 percent residential installations.

The growth in the residential sector has been particularly due to a broader dissemination among newly constructed detached houses. In order to differentiate themselves many homebuilders started after the introduction of the FiT to equip their housing models with solar PV

systems. In FY 2013, almost every fourth newly build detached house has been equipped with a solar PV system. This trend is prone to expand further with declining system costs. The non-residential sector has experienced a myriad of companies entering the marketplace throughout the last two years – among them trading companies, general contractors, banks, electrical manufacturers, developers, etc. The largest growth area in terms of installed and approved capacity has been the mega solar segment (above 1 MW). In parts, due to the lack of suitable wide land plots in the vicinity of grid power connection points, this trend is currently shifting toward mid-scale solar farms.

Market entry strategies and potential for PV component manufacturers varies across the different sectors. While rigid market channels and relatively high market control in the hands of a few domestic PV panel manufacturers have complicated market access to the residential sector, the non-residential sector has been more welcoming to foreign PV components. A particularly favorable entry route for European PV components manufacturers has been the close relationship to EPC contractors active in the Japanese PV market. The future development of solar PV in Japan is overshadowed by the recent announcement of a number of electricity utilities stating that they stop taking in more renewable energy due to grid stability issues – this, if not tackled early, may have a detrimental impact on the further development of the non-residential sector.



However, the still generously high tariffs offered by the Japanese government (excessive tariff reductions are unlikely) offer potential for innovative European PV solutions. For instance, due to weight limitations of Japanese rooftops, lightweight PV systems are in high demand. In addition, the willingness of Japanese consumers to pay a premium for aesthetic PV system design creates potential for integrated rooftop PV panels and Building-Integrated Photovoltaic (BIPV) elements. Furthermore, innovative PV systems solutions that do not impair the usage of land underneath (e.g. farmland, greenhouses and parking lots) possess likewise high potential.

Thus, the report aims at clarifying trends and recent movements in the Japanese PV market. For instance, does the Japanese market still offer enough growth potential and stability to European businesses in order to consider market entry? What are the segments, services, and technologies that are going to be increasingly in demand in a market that shifts from expansion to consolidation?

In terms of content, the report begins with a detailed analysis of the policy framework facilitating the current growth in solar PV. That includes the FiT scheme as well as other policies, regulating for instance the usage of land plots and rooftops for PV-Installation. Secondly, the report provides the development of the Japanese PV market after July

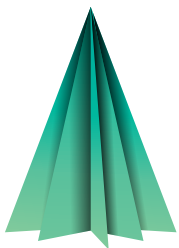
2012 as well as selected appliance sectors. The market analysis is clearly divided between the residential and non-residential sectors. Thirdly, by taking current market trends into account, the report points out the yet untapped potential and suggests a number of market entry opportunities for European businesses, including SMEs. It concludes with a number of recommendations for European companies and the policy makers involved (the European Commission and Japanese authorities). For the authorities, both sides should make efforts in reducing market entry barriers in form of technical and safety regulations for PV components. Furthermore, the European Commission should consider proactively promoting the visibility of European SMEs– for this matter, the EU could make use of the annual PV trade fairs in Japan to stage an EU PV Pavilion promoting innovative European PV companies. As for the Japanese side, it is pivotal to rapidly resolve the issue of grid stability in the face of PV capacity growth.

*The report points out the yet untapped potential and suggests a number of market entry opportunities for European businesses, including SMEs.*

Published in November 2014.

The full report is available in the Centre's library: <http://www.eu-japan.eu/library>





Guillaume Hennequin

## Hydro, Tidal and Wave Energy in Japan – Business, Research and Technological Cooperation Opportunities for European Companies.

In the long history of the Japanese electricity market, Japan has often concentrated on the use of one specific electricity power resource to fulfil its energy needs. After using mainly hydropower, followed by a period of mostly fossil fuel generated power, Japan's regional monopolistic electricity market reverted to the use of nuclear energy for its main energy resource.

In 1995, the Japanese electricity market saw its first significant paradigm shift through the electricity market liberalisation process, until it was put on hold in 2008 for various reasons.

It was not until 2011, when the Great East Japan Earthquake struck Japan that both the current electricity output supply structure and electricity market itself were shaken up, with a sudden change in the way the implementation of renewable energy in Japan was promoted: the introduction of the FIT system, and with the long-awaited implementation of the full retail-market liberalisation in 2016.

Now, with the explosive growth in solar power, causing a decrease in the generous Solar PV FIT rate, local communities are increasingly looking at stable energy supply such as small hydro to respond to their local energy demands. With an increasingly brighter future for renewables in general, and the insufficient domestic market supply, the Japanese hydropower market represents a big opportunity for European companies in small-scale hydropower looking to increase their business potential.

In the case of marine energy, such as wave and tidal, the lack of publicly-funded research in this field has caused Japan to lag behind in terms of marine energy development, which presents a big opportunity for European companies interested in entering this market and becoming some of the pioneering companies in the land of the rising sun.

All information and matters discussed in this report were gathered through interviews with Japanese market players, as well as official Japanese government reports and presentations, research papers, news articles and other relevant materials.

*The Japanese hydropower market represents a big opportunity for European companies in small-scale hydropower.*

Published in September 2016.

The full report is available in the Centre's library: <http://www.eu-japan.eu/library>

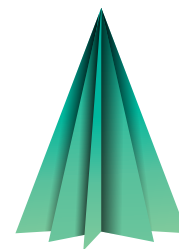
Ines Heger

## Wind Energy in Japan: Technological Cooperation and Business Potential for European Companies

Japan has unfavorable conditions for wind energy as it regularly experiences typhoons, lightning strikes, and strong turbulent flows caused by the complex terrain. Also, Japan does not have a tradition of wind power installation and management like European countries. Thus, wind energy had long not been considered as an important pillar of Japan's electricity mix. Following the oil crisis in the 1970's, the sunshine project was created with the intent to substitute fossil fuels with renewable energy alternatives, but the main boost favored PV. Even after the introduction of a FIT system in 2012, wind turbine installations were way behind. PV has been easy to install since the strict EIA did not apply and grid connections were no longer cumbersome. However, a shift towards more wind is hoped as the FIT for PV has been cut back early this year and wind potential is bigger than the one for other

renewable energy sources in Japan. The government started preparing the power grid in strong wind areas such as the island of Hokkaido and Tohoku region from 2013. But the utilities have been resisting efforts to integrate more wind into the grid especially in the north. Due to recent advancements in the unbundling of electricity segments, with full retail progression from April this year, 2016 is a time when decisive steps are taken, that shape Japan's energy future and might solve current bottlenecks. The use of wind power is expected to increase in the coming years, opening doors for EU Companies to carry out business in a resource-rich environment.

All information and aspects discussed in this report were gathered through interviews with WTG manufacturers, developers, their associations, official sources and other WTG industry avenues.

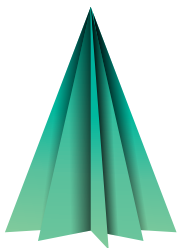


*The use of wind power is expected to increase in the coming years, opening doors for EU Companies.*

Published in November 2016.

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Marc Schmitter

## Demand Analysis on Japan's Market in the Decommissioning of the Nuclear Plant

The decommissioning of nuclear power plants is currently gaining increased momentum in Japan. However, since decommissioning has in many cases only started after the Fukushima nuclear accidents, most projects are not yet very advanced. Several lingering uncertainties and unsolved problems, such as the method for the retrieval of the fuel debris from the damaged reactors of the Fukushima No. 1 nuclear power plant or the management of the radioactive waste, threaten to lead to serious delays and increased costs. Despite these issues, several new projects were announced in early 2015, while the future of other nuclear power plants remains uncertain. For these reasons, the market will likely see further growth in the future, which is expected to increase demand for

strategic business interests. The decommissioning projects are managed by the nuclear operators, but actual work is usually contracted to the major Japanese industrial corporations and construction companies, which in turn employ further subcontractors. This indirect access as a subcontractor of a Japanese company offers the best opportunities for European companies.

In order to be successful under these circumstances, European companies should consider to work together with Japanese partners seeking foreign technologies to complement their own technology. The area of R&D, in particular fundamental R&D, research into alternative technologies and technical feasibility studies, also seems to offer good opportunities for European activities. Many organisations in Japan are interested in the practical experiences gained in Europe. Applied R&D, especially for Fukushima, is more difficult to access, as Japanese companies with strong interests in this field have a significant stake in the organisation responsible for carrying out such projects. In any case, an excellent reputation in the industry and established business relations with Japanese companies are essential “ingredients” for the European companies with ambitions on this market. While SMEs in the nuclear industry, with their highly specialised product portfolio, could also find opportunities in the market for nuclear decommissioning in Japan, the start-ups are likely to face serious obstacles as they will often lack the all-important connections and means to support business in Japan.

*Now seems to be a good time for European companies to position themselves early on the market.*

foreign products and services. Therefore, now seems to be a good time for European companies to position themselves early on the market, despite the limited demand in the present, due to the early state of many such projects in Japan.

The reason for the current limited demand is due to several structural characteristics of the market in Japan. The close relationship between the utilities and the large industrial corporations and the preference of domestic companies as main contractors make it difficult for external companies to gain direct access to this market. This is especially the case in the field of robotics, where domestic companies have strong

Published in March 2016.

The full report is available in the Centre's library: <http://www.eu-japan.eu/library>



Christine Yolin

## Waste management and Recycling in Japan – Opportunities for European Companies (SMEs Focus)

This report is primarily intended for EU Small and Medium Enterprises (SMEs) that consider approaching the Japanese waste market and is meant to give them an overview of this sector as well as recommendations to take advantage of the business opportunities it offers.

The Japanese waste market is a mature market but it is still in evolution due to environmental, economic, social and political circumstances, domestically and around the world. Resource scarcity and energy dependence call for a circular economy, further exploiting waste as a resource. The overall reduction of waste generation is also one of the main objectives.

When considering entering this market, companies should first understand the main concern (limited space) and conception

(responsibilities' sharing) that drove the Japanese approach to waste management.

Biomass and R&D for strategic materials recovery from urban mines appear to be the most promising opportunities for EU SMEs in Japan. Regarding treatment facilities, few new constructions are to be expected in the near future but the many existing plants throughout the country are potential outlets for innovative machinery and technology as replacement parts.

Same as for other sectors, finding a good partner is often the first and most important step to enter the market. As a natural result, the main expectation from companies towards support organization is to introduce them to relevant parties and help them build a network.

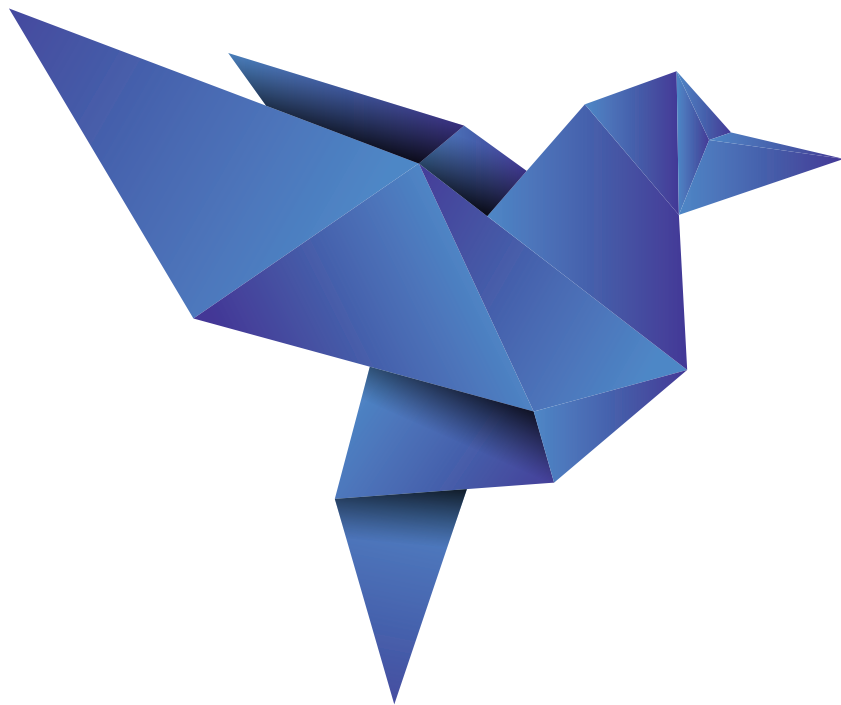
*Biomass and R&D for strategic materials recovery from urban mines appear to be the most promising opportunities for EU SMEs in Japan.*

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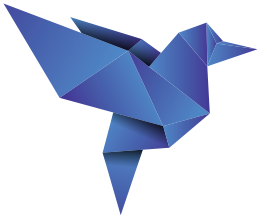
Published in September 2015.

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**OPPORTUNITIES EVERYWHERE:  
FROM SMART CITIES TO BIOMASS**



Clarisse Pham

## Tokyo Smart City Development in Perspective of 2020 Olympics - Opportunities for EU-Japan Cooperation and Business Development

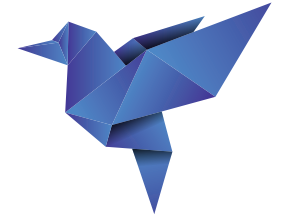
In 2020, Tokyo will host the Summer Olympic and Paralympic Games. As a result of their preparations, urban development has accelerated as the 2020 Olympics approach. Environment and sustainability are more and more promoted by the International Olympic Committee; and the Tokyo 2020 Committee in charge of organising the Games is cooperating with Tokyo Metropolitan Government to ensure the Games are as sustainable as possible. This partially builds on the existing smart city strategy, which includes the upgrading of energy efficiency in buildings via installations of Energy Management Systems, fostering take up of renewable energy sources such as solar PV and hydrogen, and a number of other measures to ensure a stable energy supply and lower carbon dioxide emissions.

The 2020 Olympic and Paralympic Games will provide an opportunity to increase awareness of renewable energy, energy saving and waste management. The mega-event will also be the opportunity for the EU and Japan to cooperate further in terms of smart city development. This report investigates Tokyo's smart city policy and assesses the potential for further partnerships in business, research and city-to-city cooperation. There is a wide range of sectors which offer market and cooperation opportunities, from sustainable construction to renewable energy production and urban consulting. Complex business practises and competition can make market access difficult, however these opportunities can translate into long term business in the smart city sector in Japan.

*The 2020 Olympic and Paralympic Games will provide an opportunity to increase awareness of renewable energy, energy saving and waste management.*

Published in April 2015.

The full report is available in the Centre's library: <http://www.eu-japan.eu/library>



Debbie Howard & Susanne Walloscheck & Mihoko Kohinata

## Dental Devices & Materials in Japan

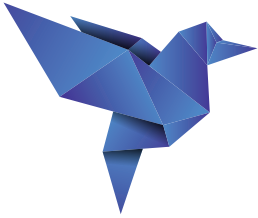
Data on Japan's hyper-aging population show that the elderly will make up a significant demographic force in the future and represent great potential for products and services that complement healthy living, provide added convenience and have an impact on individuals' quality of life. The relationship between the medical and dental fields is becoming more apparent.

This report gives an overview of current Dental Devices and Materials market development, considering macro trends impacting the market as well as broader categories; products, key market drivers, restraints and future opportunities of the market including guidelines that need to be considered by foreign manufacturers when entering the Japanese market.

*The elderly will make up a significant demographic force in the future.*

Published in January 2014.

The full report is available in the Centre's library: <http://eubusinessinJapan.eu/library/publications/>



## Silver Market: Providing Products and Services for Ageing Population

Due to a longer life expectancy and fewer births, Japan's population is ageing significantly: the share of people aged 65 and older in 2012 was 24%; in 2030, it will be 31%. This trend is also true for the age group over 74: from 11.5% today, it will increase to nearly 20% in 2030. In 2055, researchers estimate it will account for a 26.5% share of the population.

This means that the needs of elderly citizens as consumers will become more and more important. Due to their advanced age, they are more in need of medical assistance as well as care products and services. In addition, after retirement, they have much time and financial means for leisure activities at their hands. The market for products and services that cater to these needs has been dubbed the "silver market". "Silver" refers to the hair colour of elderly consumers.

This report examines the conditions surrounding export to Japan for the following three categories of products and services:

1. Medical care products for the elderly. These include clinic beds, wheelchairs, catheters, etc.
2. Consumer products for elderly people. This category covers, for example, easy-to-use household appliances, furniture or dietary supplements.
3. Services aimed at an ageing population. These are healthcare and care services on the one hand and services geared to the lifestyle and leisure of elderly yet active people on the other.

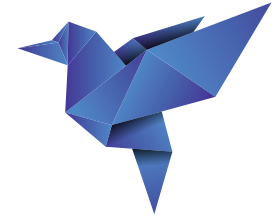
After 2000, Japan has remodeled its social security system reacting to the rising expenses for healthcare and long-term care. Long-term care insurance is now compulsory for people over 40 years. Expenses for long term-care are covered by this insurance scheme.

The overall market for medical equipment in Japan amounts to 20.3 billion euros. It is expected to grow due to the ageing population and its need for medical assistance. Same is true for assistive products. Japan is a net importer of medical equipment; nearly half of the sales are made by non-Japanese suppliers. Japan is definitely a key

market for medical products. Care robotics is a field with high potential, both for manufacturers of personal robots as well as for parts suppliers.

Due to the risks medical procedures and items can pose to the human body, this field is highly regulated. Manufacturers and distributors of medical equipment have to register with Japanese authorities; each product has to be approved by Japanese medical standards.

*Japan is a net importer of medical equipment; nearly half of the sales are made by non-Japanese suppliers.*



The market for “silver” consumer items is heterogeneous both on the supply as well as on the demand side. People over 60 differ very much in their state of health, lifestyle and spending habits. On the supply side, the product range covers for example food items (e.g. supplements), furniture, apparel, or easy-to-use electric devices. The market for products with special features for easy use for everybody (universal design products) in Japan is estimated at 24 billion euros. It has nearly doubled since the year 2000.

Especially elderly consumers are well-informed and discriminating with regard to quality and the surrounding services. Products with a high quality, innovative design and other features which set them apart from other products in the market are attractive for the Japanese market. On the other hand, it is difficult to create a universal marketing strategy for this heterogeneous consumer group.

*Products with a high quality, innovative design and other features which set them apart from other products in the market are attractive for the Japanese market.*

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Published in November 2013.

The full report is available in the Centre's library: <http://eubusinessinjapan.eu/library/publications/>



## Ambient Assisted Living Market

As a result of population ageing and increasing chronic diseases, developed markets like Europe, the U.S. and Japan are facing rising health costs. To cope with this situation, it will be necessary for elderly people to live longer in their homes supported by various home healthcare systems and personalised solutions.

The literature review has made it clear that there is a need to realign the established patterns of healthcare in order to take advantage of opportunities created by technological advances in recent years.

*It will be necessary for elderly people to live longer in their homes supported by various home healthcare systems and personalised solutions.*

Initially, various types of assistive technology-based products and services entered the market. Since around mid-2000s, advanced ICT-based solutions are being developed. The Ambient Assisted Living (AAL) concept, i.e. Assisted Living + Ambient Intelligence (AmI), is gradually turning into a market potential for interactive AAL solutions showing large opportunities in the years to come.

AAL systems are aimed at creating an intelligent (ambient) environment which can adapt independently, proactively and situation-specifically to the needs of its users.

To tackle the challenges, different approaches have been taken across the markets. In Europe, the EU Commission has presented several roadmaps and implemented many AAL related projects (programmes).

Many of the presented solutions, however, have only addressed one specific need and have not been integrated across different platforms and, therefore, not yet reached any large scale.

In the U.S., PERS (Personal Emergency Responsive System) represents a large component of home monitoring systems with 1.6 million subscribers. The American approach to help people live independently builds to a large extent on entrepreneurial solutions. This is in stark contrast with Europe, where governments have funded many projects.

In Japan, where the low birth rate, increasing longevity and the rapid pace of ageing complicate the demographic challenge, no detailed roadmaps have been observed in the literature review. The Japanese government has implemented various initiatives and some are related to AAL such as the prioritising of home care/service robotics.

Use of home alarm systems to alert emergency situations started early in Japan (1981). The adoption rate is low, around 3 percent, based on a private/pay business model.

Some projects using smart home environments have been conducted in Japan. The Kashiwanoha smart health project, supported by the Ministry of Internal Affairs and Communications, was run for one month in 2013. The aim was to prevent people from becoming ill by letting them use various applications and devices. Data about the users' vital signs was sent via devices for data analysis and people were encouraged to stay healthy, as they get older.



Japan has always had a high focus on health. Almost every day there are TV-programmes explaining what to eat and not to eat to be able to live a long and happy life. High tech toilets, for instance, usually come with built-in analysers.

Regarding the market size, the definition of products and services vary in market reports. According to Frost & Sullivan (2010), the European AAL market was estimated to be worth US \$154.9 million in 2009 and predicted to grow to US \$525.6 million in 2015. Concerning Japan, there is no open data available about the size of the AAL market.

A study by PwC and GSMA (2012) predicts that the global mobile health market will increase from US \$4.5 billion in 2013 to US \$23 billion by 2017 (a nearly six-fold increase). Europe and the Asia-Pacific region will be the biggest markets, each with a 30 percent share.

In Japan, there is limited collaboration between companies related to AAL products. With the exception of robotics, most of the development appears to be carried out in non-integrated directions by each company.

Japan has a long history in robotics, which is reflected in the academic research. Several universities such as the University of Tsukuba are conducting research related to robotics. Other universities are involved in research how to cope with the ageing society like Waseda University. Some research related to ambient intelligence has also been identified at other universities.

This report shows that there exist significant challenges in Japan for the industry to solve. Included are regulatory issues, data security and privacy, technology interoperability and integration issues as well as reimbursement issues.

Several of the domestic players are large Japanese companies that have launched various robots within several application areas. Mobility aid robots are represented by Panasonic (robotic bed converting into a wheelchair) and Honda that has developed a walking assist device.

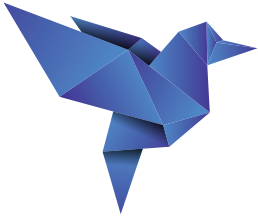
*Few foreign companies are present in the Japanese market.*

Robot companions/communication robots are a field with lots of new development. Toshiba, for instance, has developed the first humanoid communication robot that uses sign language. The robot is called Aiko Chihara, dressed in a kimono, being able to act as a caregiver to elderly suffering from dementia. Softbank has launched a robot called Pepper, which is the world's first personal robot that reads emotions.

The study has identified few domestic players active in the home healthcare monitoring segment. Hitachi has developed a compact wristband-type life recorder that can continuously collect and analyse data on the users' daily activities such as sleep, etc. Fujitsu has developed a sound system to monitor elderly living alone. The system can detect household noise and if an abnormality is detected, it alerts family members.







Few foreign companies are present in the Japanese market. SHL Telemedicine, headquartered in Israel, is a leading developer of advanced telemedicine solutions. In 2015, the company signed a distribution agreement with a Japanese company, USCI Holdings.

Potential AAL opportunity areas in Japan for European companies are the application segment. Japan is not a frontrunner when it comes to software development, which could offer opportunities for European companies.

Japan is lacking a little bit of entrepreneurial companies. Instead large companies try to build on their existing competencies. But the Japanese bottom-up approach does not work well when developing software where it is important to take a top-down approach (which European companies usually do), i.e. first decide how the complete system shall be

and function, and from there concentrate on the underlying structure and its different parts.

Additionally, the telemedicine market in Japan, which is still in its infancy and in a phase of development, could offer opportunities. Rehabilitation equipment for home use is a fast expanding sector that also could be a good business potential opportunity.

Globally including Japan, the AAL market is increasingly seeking more integrated solutions that are innovative, reflecting the actual needs of the end users. New growth of the market will primarily depend on end users' receptiveness towards technology, price levels and product customisation.

*Japan is not a frontrunner when it comes to software development, which could offer opportunities for European companies.*

Published in October 2015.

The full report is available in the Centre's library: <http://eubusinessinjapan.eu/library/publications/>



Maki Umemura

## Developments in the Japanese Healthcare Industry: Pharmaceuticals and Medical Devices

The Japanese pharmaceutical market presents robust business opportunities for European companies considering entering this market. Expansion into Japan also offers European companies the opportunity to acquire knowledge that can be utilised throughout their worldwide operations. Japan has the second largest pharmaceutical market in the world, after the United States, and offers a large potential market for selling pharmaceutical products. In 2012, the Japanese prescription drug market reached 9.5 trillion yen (IMS). Japanese companies have originated some global blockbuster therapies, such as the statin Crestor (Rosuvastatin, by Shinogi) and the antipsychotic Ablify (aripiprazole, by Eisai). Cancer therapies constituted the largest therapeutic market, led by drugs such as Remicade and Avastin. The market for cancer drugs, in particular, is increasing each year, helped by recent government measures to reflect innovative therapies into higher drug prices.

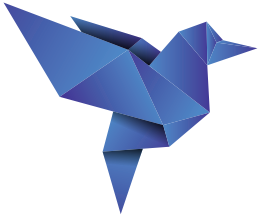
Japan has world-class pharmaceutical firms such as Takeda, Astellas and Daiichi Sankyo. Japanese R&D investment has continued to increase steadily, averaging almost 12% of sales in 2011. Particularly noteworthy in recent years are government initiatives to support innovative R&D through a range of reforms, including higher drug pricing for innovative therapies and cluster initiatives. Indeed, the government has been keen to encourage collaborative, international collaboration at the technological frontier through regional clusters such as the Kansai cluster, which has

partnerships with Medicon Valley (Denmark) or Seoul University (South Korea). It should be noted that Japan is an important centre of biomedical research and innovation; and Japanese companies and universities have increasingly been keen to collaborate with foreign organisations through international research networks and joint ventures. European companies may also be able to profit from Japanese research through licensing arrangements. For instance, Crestor, which was developed by Shionogi & Co., is marketed outside of Japan by AstraZeneca.

*The government has been keen to encourage collaborative, international collaboration at the technological frontier.*

Published in January 2014.

The full report is available in the Centre's library: <http://eubusinessinJapan.eu/library/publications/>



## Digital Economy in Japan and the EU - an Assessment of the Common Challenges and the Collaboration Potential

This study has been independently prepared by the EU-Japan Centre for Industrial Cooperation with the aim of providing a source of inspiration for enhanced EU-Japan dialogue and cooperation on the Digital Economy (with its multi-sectoral components, primarily the ICT) which is expected to play a key role in unlocking economic growth and competitiveness, as well as in the general improvement of societal wellbeing. The study analyses the Digital Economy landscape in the EU and Japan and their related strategic policy agendas and identifies a number of common challenges and matching policy priorities, on the base of which it makes a number of recommendations for cooperation on policy exchange and benchmarking, R&D/Horizon 2020 and on regulatory issues.

*The ICT sector provides 9% of GDP in Japan and 4% in the EU, 7% of employment in Japan and 3% in the EU.*

The first part provides an overview of the main statistics relevant for the Digital Economy landscape in Japan and the EU, emphasising the important role which the related sectors play in both economies (i.e., only the ICT sector provides 9% of GDP in Japan and 4% in the EU, 7% of employment in Japan and 3% in the EU). It is clear that in both cases the full potential of the Digital Economy is far from being reached due

to a mix of domestic challenges, bottlenecks and increased external competition. This study also presents the main policy strategies for addressing the development of the Digital Economy in both Japan and the EU including the main identified challenges.

The second part reveals the strong interlinked relations already existing between the EU and Japan on Digital Economy/ICT, by presenting the level of investment in each other's markets, as well as rapidly emerging cooperation on R&D under the Horizon 2020 framework.

The third part presents a number of recommendations for policy cooperation and benchmarking priority topics, based on the identified common challenges and bottlenecks as well as the EU and Japan's matching policy agendas, which include: ICT Training/e-Skills; ICT enabled Advanced Manufacturing; ICT-enabled Smart City Solutions; e-Government, Open Data Governance; Cyber-security; ICT R&D& Innovation market uptake; Digital Content IPR; Digitally Active and Healthy Society; GNSS-ICT enabled services; "Technology diplomacy"- international standards. The role that the EU-Japan Centre for Industrial Cooperation can play in supporting a number of such activities (through its policy seminars, policy analysis, business training and R&D support) is also mentioned.

The final part is dedicated to recommendations on the potential for regulatory cooperation, most of which are based on the work of the



EU-Japan Business Roundtable. These recommendations focus on the expansion of the ITA Agreement; private copy levy reform; trade liberalisation of ICT services through mutual recognition of certificates, etc.

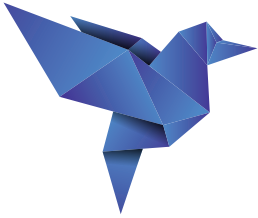
This study is based on existing open sources of information and it is non-exhaustive in character. Its main ambition is to support the stepping-up of dialogue, policy exchange and cooperation between the EU and Japan on such a mutually important topic for competitiveness and growth.

*Strong interlinked relations already existing between the EU and Japan on Digital Economy/ICT.*

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Published in March 2015.

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## Human Assistant Robotics in Japan – Challenges and Opportunities for European Companies

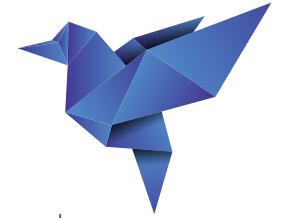
In 2007, Japan had reached the state of a hyper-aged society and people aged 65 years and older represented at least 21% of the population. Today demographic projections even predict a further rise to 40% by 2060. Having resulted both in a severe shortage of nursing personnel and an increasing demand of care, Japan's ageing population is now accelerating the development and implementation of human assistant robots.

Since Japan is leading in developing advanced robot technologies, the government has pushed forward its "Industrial Revolution driven by Robots" or "Robot Revolution" in order to showcase a society in which assistant robots are common. Meanwhile the market for such robots is growing, showing an increasing potential over the coming decades.

Typical types of human assistant robots are mobile servant robots, physical assistant robots, person carrier robots, robots for monitoring and for companionship. All of them are expected to rise significantly in sales worldwide. In Japan nursing care robots are predicted to grow the fastest among service robots expecting a market growth from JPY 16.7 billion to JPY 404.3 billion (2015 to 2035).

The report offers an overview of the Japanese human assistant robotics market including the analysis of influencing factors and societal trends, a portrait of the market environment, as well as the discussion of opportunities and challenges for the European companies.

*The market for robots is growing, showing an increasing potential over the coming decades.*



Jay Nelson

## Japan's Emerging Dominant Electronics Companies

Even now, 25 years after Japan's economic 'bubble' burst, observers often look to Sony, Panasonic, Sharp, and other very well-known global electronics brand names as the barometer of the health of Japan's electronics industry.

But this is an incorrect view. Today there are several other ways of looking at Japan's electronics industry, and the action is really with a much wider range of companies, many much younger than Sony and Panasonic and almost all of them smaller. Each has its own highly-specialized area of expertise, be it sapphire crystals, 3D/2D graphics and computing intellectual property (IP) cores for screens, innovative batteries, or micro-electric mechanical system (MEMS) knowledge used in robotics. It is these firms that today allow the globally-revered

Apple, Boeing, Tesla, Samsung, Intel, Toyota, Microsoft, Siemens, and other mega-brands to unceasingly unveil improved functionality and innovation with each new generation of products in their respective industries. Thousands of Japanese electronics companies now act as key suppliers of high-performance components and systems to these and other giants. Although few have names likely to be recognized even by many long-time industry observers, their accomplishments to date are obvious to those in the know and are even more impressive when one considers that many have only been in operation for a quarter-century or less.

These are Japan's emerging dominant electronics companies.

*Thousands of Japanese electronics companies now act as key suppliers of high-performance components and systems.*

Published in March 2015.

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## Executive Summary

### High hopes for IoT in Japan

Internet of things, or “Mono no Internet” as it is called in Japanese, is a well-known buzzword even among ordinary people in Japan. The term is visible in newspapers, TV and conferences. The Japanese government is expecting that IoT will give a big push to the ICT industry and provides subsidies to application developers in order to stimulate the IoT device market. We can see that many Japanese projects including IoT are aiming for a demonstration in 2020, when the Olympics will be held in Tokyo.

### The Japanese IoT market will be worth around 25 trillion yen (250 Billion USD) in 2020.

#### What is the difference between M2M and IoT?

There is some confusion about the meaning of M2M (Machine-to-Machine) versus IoT. Those two industries are overlapping but M2M is not exactly a sub-segment of IoT, since the early applications of M2M was not based on Internet and, consequently, not a part of IoT. Today M2M usually refers to B2B applications and very often with cellular networks as transport media. However, IoT is much wider, and it includes sensors,

*Japan is a country, which, despite high labor-costs, tries to increase its competitiveness by automation, robotics, telemetry.*

## Internet of Things Market in Japan

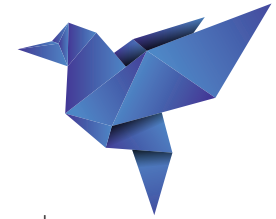
applications that can be accessed, for example, through mobile phones with the support of NFC and Bluetooth etc. Wearable devices, such as cameras, pulse meters, watches and glasses are not a part of M2M but belong to IoT. We can therefore understand that M2M is maybe only around one tenth of the size of the IoT market.

### The IoT evolution in Japan

In Japan the M2M industry had a very early start. The focus, however, was only to cover Japan and mainly B2B. Applications were in the areas of logistics, transport, car navigation and vending machines. Suppliers of infrastructure, devices and applications were mainly Japanese companies, using proprietary standards.

Foreign M2M companies started to provide worldwide roaming, and Japanese operators quickly had to join alliances to provide similar services for global Japanese companies or lose the business. It became also a little surprise in Japan when large Japanese companies selected applications from foreign software houses; instead of as traditionally cooperate with Japanese software houses.

During the last few years, we can see that this M2M or IoT market will explode not only in Japan but also worldwide. Japan is a country,



which, despite high labor-costs, tries to increase its competitiveness by automation, robotics, telemetry etc. Japan also has the highest ratio of senior people, which is accelerating the need for telemedicine etc.

Japanese companies are very skillful in making sensors; small, accurate and very low power consuming. This will be a strong export segment for Japan and the Japanese government tries to support this by stimulating the development of applications using such sensors. Considering the high focus on IoT in Japan, we can expect that Asia will grow into an enormous market driven by Japanese sensor manufacturers.

### Opportunities for EU companies

EU SME companies will therefore have interesting opportunities in the applications areas. Especially in case of applications which will be used on a global scale, when there is a need to adapt to different languages and cultures, as well as legal, financial and tax systems.

Also small and medium size EU companies are very innovative, mainly because they are independent and lacking the complicated decision making, which exists in large companies, and especially in Japan. (In Japan ICT SMEs are usually low cost subcontractors to large companies. Exception is the Japanese fashion industry, which is very innovative.) This innovation power is very appreciated by Japanese consumers; examples of European developed successful applications are Skype, Spotify and Minecraft.

Another area, which should be interesting for EU's SMEs, is the consumer market in Japan. Japanese consumers focus not only on functionality

or price, but also design. There are many high-priced European brands, which sell very well in Japan. This is especially applicable to wearable devices.

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**We have estimated the total market in Japan, which EU SMEs can access, to be around 10 trillion yen in 2020.**

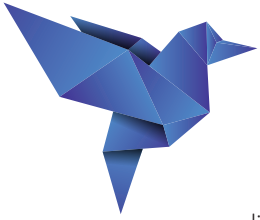
This market is of course fragmented and only a small part is accessible for each company.

### Are the products competitive on the Japanese market?

Before jumping into this fantastic market, we need to ask ourselves if our products are the right products for Japan. This is usually a price or product question according to Kotler's theories. In cases of prices, I have seen several European SMEs, which have very flexible software







applications, which easily can compete with the large Japanese software houses trying to build everything from scratch. I have also seen several EU companies, which have a large worldwide market and can therefore easily compete with Japanese “Galapagos” vendors.

*Before selecting any distributor it is important to investigate the market, to identify potential customers and which company should be the best distributor.*

Japanese companies tend to copy each other, focusing on some few features. Fifteen years ago all mobile phone manufacturers tried to make smaller and smaller mobile phones. Every new product introduced was x gram less in weight compared with the previous. Now the trend is larger displays. EU companies have a good possibility to go against the stream with good design, famous brand names and unique features.

### **Is it difficult to do business in Japan?**

Even if we hear a lot about the difficulties in doing business in Japan, there are a lot of merits on the Japanese market. Business in Japan is a partnership and not just a supplier and buyer relation. It requires that both parties are satisfied and that there is a mutual trust and understanding. It is therefore very unusual that Japanese business people say something, which is not trustworthy or reliable. Japanese business people are also very helpful; do not try to push if not beneficial to their partners. Payments are in most cases paid very promptly and

in accordance with the original promise. (In many European companies there are special departments chasing customers who do not pay on time.)

### **In general it is not very difficult to do business in Japan, it is just time consuming.**

From the initial contact to the first PO it can take a year or two. It is therefore important to consider the sales channel carefully before starting.

### **How to establish a representation in Japan?**

Since we are talking about EU SMEs it is probably not possible to set up a local subsidiary due to cost reasons but maybe a liaison office with 2-3 employees. In order to cover Japan there will be some need for local distributors.

It is important to understand that distributors in Japan are usually restricted in some way; such as type of products handled, customers or geographical area. This means that some distributors only work with certain products and therefore not interested in your complete product range. Other distributors are more like a purchasing department of large companies, and they can sell anything to this company but have not relations with other companies and definitely not with their competitors.

Some distributors in Japan do not perform “cold calls” or initial sales calls but expect the manufacturer to do that. This can become a potential



misunderstanding between the foreign manufacturer and the Japanese distributors, and create frictions in their mutual relations.

Therefore, before selecting any distributor it is important to investigate the market, to identify potential customers and which company should be the best distributor.

I have a long list of several Swedish companies, which initially selected the wrong partner, and this delayed the sales growth by several years.

### **When in Rome, do as the Romans do?**

This is a very good recommendation if you just want to adapt, but in many cases the strength of foreign companies is that they are working differently. So please do not give up this!

Very often foreign companies are told that they need a Japanese partner. Then the Japanese partner tries to do everything in a Japanese way, which may create problems for the foreign company.

When the Telecom Company Ericsson entered the Japanese market, they were told by their partner that in Japan Ericsson should do it in

the Japanese way. Luckily, Ericsson ignored this and did everything the “Ericsson way”. Initially the Japanese customers were upset, but later they realized that this was a better way for all parties.

### **Your presence is really important!**

Many foreign companies tend to believe that they cannot understand the Japanese market and leave everything to the local organization, either a distributor or a local subsidiary. This, usually, results in internal barriers and problems with communication. It is important that HQ visits end-customers frequently.

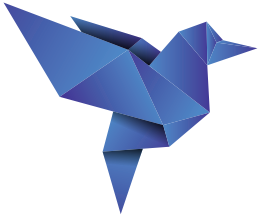
### **Sunshine Story**

Is it possible to be successful in Japan, even if you are a small company? Yes, with good products and close relations with the customers. As a stimulating example, I have finally included the story about the Danish shop Flying Tiger. They are not unique in this sense; there are many other small companies, which have been very successful.

*Is it possible to be successful in Japan, even if you are a small company? Yes.*

Published in March 2015.

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## Technology Transfer System in Japan - Challenges and Opportunities for European SMEs

This work has two major objectives. Firstly, to investigate the technology transfer system in Japan and understand its nature, and characteristics, by highlighting its strengths and weaknesses. Secondly, the study aims at being a practical tool, especially for European SMEs (but not only), to realize an effective technology transfer pathway when seeking available technologies from Japanese universities and research institutions.

*The assistance and services offered by governmental entities in Japan cannot be found anywhere else in the world.*

The research for the drafting of this report has been split evenly between primary and secondary sources: analysis of the existing literature and face-to face meetings (where interviews were conducted with key people that operate in the IP Japanese system in academia as well as in public research organisations). Several public meetings and conferences, concerning the role of IP in Japan, have also been attended during the course of the study.

In the next 5-10 years, the Japanese tech transfer system may be on the right track to potentially achieve results (especially, in terms of licensing revenues) that could be in line with those reported by the U.S. as long as the international licensing activity and a tendency to license-out technologies to spin-off companies will be further developed.

The entire ecosystem covering the generation of potential innovations is quite unique, as the assistance and services offered by governmental entities in Japan cannot be found anywhere else in the world. Any company or research institution in Japan can benefit from an unparalleled spectrum of services and wealth of information (in some cases even in English) which is normally difficult to acquire in other countries.

It is clear, though, that in terms of licensing activities, domestic partners are still privileged and they constitute the major source of the generated licensing revenues. In addition, from most of the interviews it appears that there is an absolute willingness to operate internationally to find potential licensees or assignees for the existing available technologies, but marketing efforts and techniques should probably be honed to widen the current outreach.

The analysis of the challenges and opportunities shows that in both cases these exogenous elements relate to the quantity and quality of information being communicated and to the means used to communicate it.

Therefore, an external, centralised repository of information (in English) related to available technologies of universities and research centers might be a viable solution to tackle part of the existing challenges. This would help create a smoother and streamlined procedure for favoring tech transfer-related activities at the international level.



From the analysis, thus, it also emerged that there are indeed some indicators that could be improved in the future, such as the number of spin-offs generated by universities, research organizations and international licensing activities. However, the system, overall, seems to have taken giant leaps since the creation of TLOs in the late '90s and the opportunities for foreign entities interested in entering into negotiations to license a technology may grow exponentially allowing smoother, faster and borderless deals.

Recommendations for European SMEs mainly include having a more proactive approach when looking for available technologies. On the other hand, recommendations for Japanese universities and research centers regard the quality of information, which should be displayed

more in public, easily retrievable, and user-friendly on-line resources. The widespread use of English, together with Japanese, would also increase the outreach to foreign stakeholders.

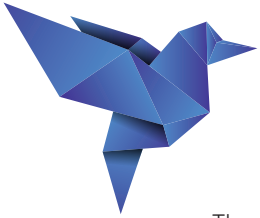
In appendix, an exhaustive collection of major of IP-related Japanese laws and regulations and a contact list are included and could be used when trying to reach out to some of the major Japanese TLOs. This report serves as a useful tool for all those interested in i) understanding the technology transfer ecosystem in Japan and its performance and ii) pursuing effective technology searches for licensing-in or buying Japanese technologies stemming from universities and research organisations.

*The opportunities for foreign entities interested in entering into negotiations to license a technology may grow exponentially allowing smoother, faster and borderless deals.*

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Published in April 2015.

The full report is available in the Centre's library: <http://www.eu-japan.eu/library>



The aim of this study is to investigate the Japanese nanomedicine market. The study involves identifying nanopharmaceuticals that have been approved and launched on the Japanese market. The report includes an overview of the global nanomedicine market with the main focus on market drivers and market trends.

*Japan's pharmaceutical industry is the world's second largest after U.S., valued at US\$112.1 billion in 2012 or 11.6 percent of the world market.*

Applications of medical nanotechnology span over a variety of areas such as drugs and therapeutics, drug delivery, in vivo imaging and regenerative medicine. This report focuses on nanopharmaceuticals and systems to transport drugs in the body which is the segment that has mainly been commercialized in Japan so far.

In addition to information about the market size in Japan including market trends, various government initiatives to develop innovative medicine will be presented including some R&D at leading universities and profiles of the key players.

**Global industry overview:** U.S. is the strong player – especially when it comes to commercialization. It is leading in the number of nanotechnology patent applications.

## The Japanese Nanomedicine Market

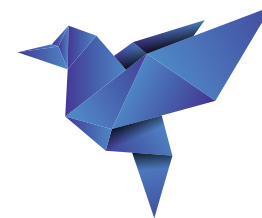
Starting in 2001, many countries including U.S. and Japan have allocated national budgets to prioritize nanotechnology and its applications in different fields. Additional drivers for the nanomedicine market development are new technologies for drug delivery, advantages of nanomedicine in various health segments and a general need to cut expenditures for medical treatment.

According to BCC Research LLC (2012), the global market for nanomedicine was estimated at US\$50.1 billion in 2011 and projected to expand to US\$96.9 billion in 2016. This corresponds to approximately 5 percent of the total pharmaceutical market size (2011) constituting a small niche segment.

The first generation of nanopharmaceuticals were liposomes that were developed to increase the solubility that was achieved through encapsulation of drugs in nanomaterials. Nanoparticles have a high surface-to-volume ratio that increases a drug's dissolution rate.

In recent years, multifunctional nanomedicine is being developed and some drug candidates are in clinical trials. BIND Therapeutics is a U.S. venture start-up adopting enhanced functionalization. A nanoparticle formulation is not only used to transport a drug. Additional functions such as putting ligands (antibodies) on the surface of the nanoparticles will improve the accumulation of drugs at the intended location of action.

Although nanomedicine enables engineering of new nanocompounds that have advantages over existing treatments it is still in its infancy. Some issues to consider are possible risks with nanomedicine as well as the need to work on the classification of nanomedicine.



**Japanese market:** Japan's pharmaceutical industry is the world's second largest after U.S., valued at US\$112.1 billion in 2012 or 11.6 percent of the world market.

When it comes to nanomedicine, Japan's share of the global segment is much smaller. A rough estimate is 1-2 percent of the Japanese pharmaceutical market or US\$1 billion – US\$2 billion.

Nanomedicines have not been defined in Japan and are regulated within the general framework of the Pharmaceutical Affairs Law (PAL) on a product-by-product basis.

Sixteen approved nanodrugs have been identified. Five of these (Palux, Liple, Limethason, Ropion and Smancs) are manufactured and launched by Japanese companies. These nanodrugs have been developed during the 1987-1994 period and all except one are lipid emulsions belonging to the early stage of the nanomedicine development.

Lipid emulsions have mainly been developed in Japan and are based on lipid technology developed by LTT Bio-Pharma. The fifth approved Japanese nanodrug is a polymer-conjugated protein (Smancs) developed by Astellas Pharma and launched in 1994.

The eleven imported nanopharmaceuticals are (1) lipid emulsion (Diprivan), (2) liposomes (AmBisome, Doxil and Visudyne), (3) antibody conjugates (Mylotarg and Zevalin), (4) polymer-conjugated proteins (Pegasys, PegINTRON and Somavert), (5) nanocrystal (Emend) and (6) polymeric nanoparticles (Abraxane).

*The fifth approved Japanese nanodrug is a polymer-conjugated protein (Smancs) developed by Astellas Pharma and launched in 1994.*

Seven of the imported nanodrugs are marketed by Japanese subsidiaries of the manufacturers and four nanodrugs (AmBisome, Abraxane, Emend and Pegasys) are marketed by Japanese pharmaceutical companies. Four drugs (Diprivan, Visudyne, Zevalin and Pegasys) are manufactured by European companies.

In some cases, it took many years for a foreign nanodrug to be launched in Japan. For AmBisome it took as long as 16 years. This nanodrug was approved by FDA in U.S. in 1990 and entered the Japanese market in 2006. In case of Doxil it took 12 years.

This is a contributing factor to the slow penetration of nanomedicine in Japan. Another cause is the lack of interest of large Japanese pharmaceutical companies in promoting investments in nanomedicine R&D.





Currently, three nano-based pharmaceuticals (NK105, NK012 and NC-6004) developed by Japanese companies are in clinical trials in Japan. NK105 is a Paclitaxel micelle technology platform that Nippon Kayaku has in-licensed from NanoCarrier that entered Phase III clinical trials in July, 2012. This nanodrug candidate has potential to be approved within a couple of years.

*To achieve the goals of this plan, the target level of government R&D is 1 percent of GDP with the total for five years to be approximately 25 trillion yen.*

Nippon Kayaku has developed NK012 which is a micellar anti-cancer drug (Phase II). NC-6004 is a drug that NanoCarrier has developed applying its micellar technology to the chemotherapy Cisplatin (Phase I). Micelles developed by NanoCarrier are primarily based on research at the University of Tokyo.

A nanopharmaceutical with the brand name Neulasta and manufactured by Amgen is presently being reviewed by the Pharmaceutical and Medical Devices Agency (PMDA) for approval in Japan. The application for marketing approval has been filed by Kyowa Hakko Kirin that has licensed this drug from Amgen.

**Government initiatives:** The government has implemented various basic plans over the years including nanotechnology. Under the 4th Science & Technology Basic Plan (FY2011-FY2015), nanotechnology is no longer prioritized in favour of Life Innovation and Green Innovation.

To achieve the goals of this plan, the target level of government R&D is 1 percent of GDP with the total for five years to be approximately 25 trillion yen.

Some of the sub-goals related to Life Innovation include the development of innovative diagnostic and treatment methods as well as promoting transnational research.

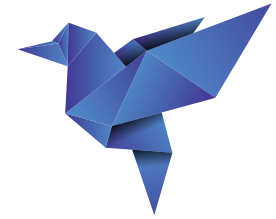
The government is aiming at more concrete and speedy results for R&D. Issue-driven innovation based on “exit-oriented” R&D will serve as means to shorten the time span leading to innovation. Additionally, the integration of dissimilar fields and academic-industry collaboration are emphasized.

A report by the Japan Science & Technology Agency (2011) indicates the time span to reach selected targets such as (1) molecular imaging (2015-2020), (2) integrated systems of drug delivery, diagnosis and treatment (2015-2020), (3) nano-cell surgery (2020-2030) and (4) 3D-imaging in cells (2020-2030).

Through government-initiated policies the infrastructure surrounding nanomedicine is improving. One example is the promotion by the Ministry of Health, Labour and Welfare (MHLW) and EU of the development of nano-based block copolymer micelles.

Another example is PMDA’s “Pharmaceutical Affairs Consultation on R&D Strategy” for universities, research institutes and venture businesses related to tests needed for commercialization. PMDA has also created a Science Board of external experts to help the agency when reviewing applications involving cutting-edge technologies.





As the Japanese venture business landscape is immature the government will foster drug development ventures.

**Research and development:** Japan's R&D within nanodrug delivery systems is unique and competitive. Prof. Kataoka, Faculty of Medicine at the University of Tokyo, pioneered the development of a roundshaped carrier called polymer micelles in the late 1980s. Later, Prof. Kataoka further developed his research focusing on practical applications that have primarily been utilized by NanoCarrier.

Prof. Kataoka and his team are at the forefront of research on nanomedicine. Other universities with frontline research is Hokkaido University where Prof. Harashima has developed a liposomal siRNA carrier that can deliver siRNA to target cells in tumor tissue.

Prof. Kojima, Osaka Prefecture University, has conducted research on dendritic nanoparticles that will play critical roles in the next generation of nanomedicine. At Osaka University, Prof. Akashi and his group are conducting research together with Takeda Pharmaceutical to develop a platform for application and commercialization of nanoparticle vaccines.

At Tohoku University, Prof. Kasai is proposing a new concept termed "pure nanodrugs" that are delivered into cells in a carrier-free state without use of polymer.

**Key players:** The key players are NanoCarrier, LTT Bio-Pharma and Mebiopharm. They all have adopted a business model focusing primarily on off-patent drugs that are transported using own drug delivery technology platforms.

*As the Japanese venture business landscape is immature the government will foster drug development ventures.*

NanoCarrier is a leader in targeted delivery technologies utilizing micellar nanoparticles. The company has 36 employees and Prof. Kataoka is one of the founding members. One strength of NanoCarrier is its strong ties to Prof. Kataoka (scientific advisor) with continuous access to new top-level research results.

Two of its platforms are in clinical trials such as Paclitaxel Micelle NK105 and Nanoplatin NC-6004. New pipelines include research on siRNA and sensor-incorporated micelles.

LTT Bio-Pharma is a bioventure company that has 6 employees. The company has collaborative research with several universities. Several of its products under development are at the basic research level.

Lipid formulation is one of its core technologies. The first generation of Lipo-PGE1 preparation was developed in 1987. Currently the third generation named LT-0101 is being developed. In recent years, it has started research on drug repositioning (identifying new indications for discontinued drugs).





Mebiopharm, a bioventure, currently has only 2 employees which is a reduction since 2012. The company is applying a liposomal approach through encapsulation of drugs.

Mebiopharm presently has no drug candidates in clinical trials in Japan. MBP-426 is an Oxaliplatincontaining liposome that has reached Phase II in U.S. Lack of funding has stopped further trials.

*The infrastructure for nanomedicine in Japan has improved in many ways that will expand the market size. Various government initiatives have made it easier to bring foreign drugs to Japan including approval procedures.*

Nippon Kayaku has several business lines including chemicals and pharmaceuticals focusing on anticancer drugs. The company has in-licensed NK105 (Phase III) from NanoCarrier with which it is conducting joint research to develop new formulations of micellar technologies.

Nippon Kayaku has developed NK012 (Phase II) that contains the chemo drug Irinotecan Metabolite SN38.

Kowa Company is engaged in various business fields including pharmaceuticals. The company has a codevelopment

agreement with NanoCarrier related to NC-6300. This drug delivery candidate is loaded with Epirubicin which can be selectively released by sensing the intracellular pH value. NC-6300 is expected to shortly enter Phase I clinical trials in Japan.

Minor players are Mitsubishi Tanabe Pharma (Liple and Limethason), Taisho Pharmaceutical (Palux), Astellas Pharma (Smancs) and Kaken Pharmaceutical (Ropion). All of these companies except Astellas Pharma have in-licensed early-developed formulations developed by LTT Bio-Pharma (1987-1992). No new development has been identified since then.

**Opportunities:** The infrastructure for nanomedicine in Japan has improved in many ways that will expand the market size. Various government initiatives have made it easier to bring foreign drugs to Japan including approval procedures.

This is expected to increase opportunities to out-license nanodrugs to Japanese pharmaceutical companies or to start own business in Japan. Especially, for European companies that have approved nanodrugs that are not yet available in Japan.

The government's stress to increase joint or contracted research with overseas universities and businesses will create opportunities for European counterparts.

The study has identified one approved imaging agent (Resovist) manufactured by Bayer AG. The contrast agent segment is gaining importance which could open up chances for companies specialized in this field.

There is only one approved nanocrystal (Emand). This could imply future potential in this nanodrug segment.

Published in October 2013.

The full report is available in the Centre's library: <http://eubusinessinJapan.eu/library/publications/>



Stephanie Krebs

## Food and Beverages Sector: Organic & Health Food

This report deals with organic and health foods within the Japanese food and beverage sector. It summarizes and reviews the most important laws and guidelines of the ministry in charge for certified organic food products. Since the report covers both, organic and health foods, it discusses the labelling and certification for organic foods, including export potentials and obstacles, and the problems resulting from the missing definition for health foods.

The attractiveness of the market and future growth potential are backed up with statistical data describing market size and trends in important product categories. This part of the report also refers to Foods for Specific Health Uses (FOSHU) which represent a completely different market

size and awareness in Japan. By introducing main players and sales channels the competitive intensity and characteristics of the Japanese food market become apparent.

Relating to consumer behavior and knowledge, the willingness to pay a price premium for certified organic food products is discussed and linked to real market prices. The animosity against imported food products and the possible effect of the Fukushima nuclear incident are also topics which are raised before the report concludes with information on trade fairs, importers, related organizations and recommendations for exporters.

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## Nanotech Cluster and Industry Landscape in Japan

Nanotechnology is a technology of producing very small “things”, which are particularly less than 100 nm in size. One nanometer is 10<sup>-9</sup> meters or about three atoms wide and for comparison, a human hair is about 60–80,000 nanometers wide. Nanotechnology has the potential to change every part of our lives, and will greatly impact us in the coming decade.

The technology affects all materials (ceramics, metals, polymers, biomaterials, etc.), which are the foundation of major technological advances.

Traditionally, Japan has been very active in the field of nanotechnology. In the 14th century the golden pavilion in Kyoto was built, later on when it was coated with gold leaf, the thickness of the coating was 100 nanometers<sup>1</sup>. Although that technique is not used anymore, it exemplifies that the

Japanese are historically innovative and precise engineers. Japan has been among the top three countries in patents and publications in the field of nanotechnology, although lately Asian countries such as China and Korea are gaining the momentum surpassing Japan in many fields.

Market size of the Japanese nanotech sector has ranged 29,6 billion euros in 2010 and is projected to grow extensively in the future reaching 94,4 billion euros in 2020 and should be worth 188,9 billion euros in 2030.

Japan has produced some important innovations and developments in the field of nanotechnology. The invention of carbon nanotubes has had a great impact on the area and it has been the foundation for diverse directions of development. Advancements in Silicon carbide lead to effective semiconductors bringing smaller computer devices with greater performances. Further developments have been done on Gallium arsenide used also for thin films in solar cells and detectors; all those achievements can bring new niches or major markets to Japanese companies.

Despite the economic difficulties that Japan is tackling with, advanced technologies have always been the driving force of new opportunities and further development. Constant research and development on new technologies namely nanotechnology can bring market advantage for innovative companies.

This report aims to provide an overview of the Japanese nanotech sector, its structure and an industry landscape. The author has had a European and business oriented perspective on Japan, therefore this report is perhaps more suitable for European nanotechnology companies potentially planning to enter the Japanese market. One can get the understanding of the structure of the nanotechnology sector in Japan, as well as the key government and research bodies, clusters, pointing out how to enter the market, etc. In the last part of the report one can find the nanotechnology industry landscape and in the annexes a broad database of Japanese companies that have activities in nanotechnology.

*Japan has been among the top three countries in patents and publications in the field of nanotechnology.*



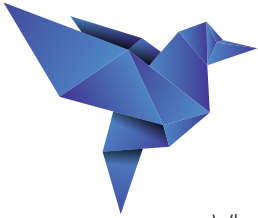
Additionally to the report, the author has made an interactive map displaying nanotechnology companies across Japan; their details, contacts and activities. This map can be found on the website of EU-Japan Centre for Industrial Cooperation – <http://www.eu-japan.eu/interactive-map-nanotech-cluster-and-industry-landscape-japan>.

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## Alcoholic Beverages in Japan

What do you need to know about the Japanese alcoholic beverages' market in order to plan a successful market entry in Japan?

The Japanese alcoholic beverages' market presents some specificities which EU companies, interested in entering the Japanese market, should know about:

- regulation and legislation, EU- Japan FTA negotiations
- labeling and packaging
- import procedures & issues when importing alcoholic beverages
- distribution channels
- tariffs and taxes
- market trends
- key factors for a successful market entry
- list of ministries, agencies, associations, trade fairs

Despite many efforts from both the EU and Japan, the trade volume between the EU and Japan is decreasing in size.

At just over 100 billion euro, it is smaller than with Turkey. The EU-Japan FTA negotiations were officially launched on 25 March 2013.

The aim of the ongoing negotiations is to conclude a mutually beneficial trade agreement that will lead to economic growth both in the EU and Japan. During the negotiations, EU concerns, including non-tariff barriers (NTBs) and access to public procurement, were addressed. The middle way lies in erasing the unnecessary differences in standards, legalisation and systems, erasing tariffs, tackle NTBs and open the public procurement market.

The food, drink and agricultural products' sector, where tariffs are still relatively high, is a potentially interesting sector.

*The food, drink and agricultural products' sector, where tariffs are still relatively high, is a potentially interesting sector.*



Sonia Pupaza

## Ceramic Products Market in Japan. Challenges and Opportunities for European SMEs

This Report provides to potentially interested European companies some useful information on the Japanese ceramic market, with a main focus on Ceramic Tableware, Wall and Floor Tiles and Bio-ceramics.

Chapter1 “Trade Trends” is intended to draw a general picture of all ceramics traded in Japan during the last six years (2010 – 2015), by analyzing the imports and local production of each group of products (Tableware; Wall & Floor Tiles; Sanitary-ware; Fine Ceramics; Refractory goods).

Chapter2 “Tableware” is treated from the Consumer Goods perspective as many aspects can be extrapolated, especially to other interior design products; Chapter2.1. “Market Overview & Trends” can deepen the understanding of the Japanese consumers’ buying behavior and their expectations regarding the products.

Chapter3 “Construction and Housing” is presenting the new trend in Japanese consumers’ behavior: their tendency to choose re-housing instead of the traditional “new house for a new family”, trend that is also influencing the choice of construction materials.

Chapter4 “Bio-ceramics” is dedicated to a small part of the technical ceramic market, a promising sector with new technical developments, studying in detail the Dental Implants Market (Chapter4.1) and the Joint Replacement Implants Market (Chapter4.2). The market demand for these products is on an ascending trend in Japan since the aging society factor.

All three chapters (2, 3 and 4) also include other trade related aspects like: Regulations, Labeling, Distribution, Retail and Promotion in order to provide a complete understanding on the subjects. The Key Players chapters are intended to add value by the power of example; helping the producers to decide which products are best suited for the Japanese market in terms of what novelty they can bring in.

The final part presents a number of recommendations focusing on business practicalities, such as choosing a suitable location in a Japanese city, adapting the products to the market and finding Japanese partners.

This Report is based on existing open sources of information, interviews, seminars and it has a non-exhaustive character, its main ambition to support European companies interested in Japanese market.

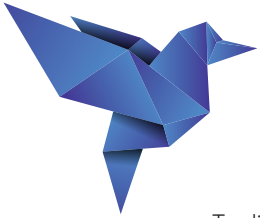
*New trend in Japanese consumers’ behavior: their tendency to choose re-housing instead of the traditional “new house for a new family”.*

Published in April 2016.

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## The Railway Market in Japan

*Japan has taken the leading position in small-scale residential power generation and development of hydrogen-powered cars.*

Traditionally, hydrogen has been used primarily to refine oil and for the production of ammonia. Hydrogen, however, has long been considered as a clean alternative to gasoline. Since the 1970s, there have been discussions about a hydrogen-based economy versus hydrocarbon economy. By simply combining hydrogen and oxygen, a fuel cell can produce electricity including heat and water. Applied to cars, including buses, trucks and forklifts, it could significantly reduce carbon dioxide (CO<sub>2</sub>) emissions.

However, in spite of this potential, there were many hurdles in the past for transforming to a hydrogen economy. One major hurdle, for instance, were the high development costs of fuel cells.

Although hydrogen is the simplest and most abundant element on Earth, it does not occur as a gas as it is always combined with other elements. It has therefore taken several decades before practical applications were ready.

The major markets in fuel cell development are Japan and the U.S., followed by China and Europe. Japan has taken the leading position in small-scale residential power generation and development of hydrogen-powered cars.

According to a forecast by Navigant Research, the global stationary fuel cell market is expected to grow from USD 1.4 billion in 2014 to USD 40

billion in 2022 [1]. Fuji Keizai Marketing Research & Consulting Group has estimated the corresponding market to be JPY 32.9 billion in 2013, constituting about 30 percent of the global market [2].

In order to cut carbon oxide emissions, Prime Minister Abe has vowed to make Japan a “hydrogen society” as described in a roadmap presented in 2014. From around 2040, the government is planning to supply CO<sub>2</sub>-free hydrogen by combining CCS (Carbon Capture and Storage) and renewable energy [3]. Tokyo that will host the 2020 Olympics plans to use the games to showcase the advantages of clean hydrogen power.

Since the commercialisation in 2009, Japan has been able to jumpstart the market for home-use stationary power generation as the result of extensive government funding over the last 10-15 years. Under the ENE-FARM (“energy farm”) scheme with hydrogen being extracted from natural gas, accumulatively 150,000 micro-CHP (Combined Heating and Power) units have been installed [4].

With several starts and stops over the last 10-15 years, hydrogen fuel cell vehicles (FCVs) are finally hitting the roads. In Japan, the government is subsidising FCVs with the aim of repeating a bet that paid off with the most popular hybrid model. In December 2014, Toyota launched the world's first mass-produced fuel cell car but for the market to grow, it is necessary to build out the hydrogen infrastructure. In addition to government initiatives, Toyota, Honda and Nissan have partnered with the aim to financially support the hydrogen refuelling network.

One major challenge is the cost of fuel cells. Compared to combustion engines and batteries, fuel cells have been the target of less investment



and therefore are a much less mature technology. But the development of fuel cells is continuing and manufacturers are, for instance, reducing the quantity of platinum needed in PEM (proton exchange membrane) fuel cells [5]. In the future, the cost of fuel cells is expected to be further reduced and that will contribute the expansion of the market.

*Business opportunities for European companies exist in market sub-segments, such as fuel cell systems including components and materials, and hydrogen refuelling station technologies.*

Business opportunities for European companies exist in market sub-segments, such as fuel cell systems including components and materials, and hydrogen refuelling station technologies. The hydrogen production technology segment can also offer business opportunities.

Superlight materials are a subfield of strategic importance with business opportunities for European companies that can offer products with features that differentiate from their Japanese competitors.

Much R&D is focused on catalysts. Proton exchange membrane fuel cells (PEMFCs) use platinum as catalyst material. Platinum, however, is quite

expensive contributing to the high cost of fuel cells. Many Japanese producers are therefore looking for alternative materials instead of platinum. This is a subfield that could open up opportunities for European companies with attractive products.

The non-stationary application segment could bring opportunities for European players with attractive microapplication solutions for portable devices. This is a sub-segment where there are few Japanese players.

European companies that can deliver attractive technologies for hydrogen refuelling stations could be interesting for Japanese hydrogen station developers looking for solutions tailored to their needs.

It is important to choose the right mode for entry into the Japanese market. Some of the main modes are own subsidiary, local distributor, licensing or joint venture. Joint development is also a possible way to enter. One example of joint development is Nisshinbo's, a Japanese energy company, collaboration with Ballard Power Systems, a world leader in PEM fuel cell development, to develop a new catalyst [6].

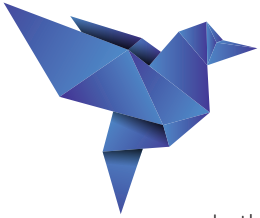
When evaluating entering the Japanese market, it is necessary to study the market in detail. As Japanese customers are very demanding, it is important to offer an extensive after-sales service system. The full understanding of top management in Europe is equally important as relationships in Japan are long-term. Adapting the products to the local needs is usually a prerequisite for success.

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Published in October 2016.

The full report is available in the Centre's library: <http://eubusinessinJapan.eu/library/publications/>





Rob Van Nylen

## Transport & Logistics

In this report about Doing Business with Japan, we put our focus on transport and logistics from Europe to Japan, when exporting to the land of the rising sun. It might sound obvious but very often we see that this segment is forgotten as an important connecting glue in the total commercial chain from sales agreement up till delivery at the premises of the client, 10,000 km away from Europe. In order to keep this report easy to read and digest, we have added visuals wherever possible.

No other country globally is as picky about packaging and damaging, not only for inner cartons but also for outer cartons as Japanese importers, distributors, trading companies and end-consumers have a credo that a company that does not control 100% the quality of its supply chain, is not able to guarantee a zero-defect ratio and high quality for its products either.

In this report, we will dissect each key aspect of Japan's available nationwide infrastructure and existing logistics service providers. We also sincerely hope that this deep understanding will help you assure perfect deliveries and satisfied customers in Japan, as we all know that happy clients come back and place repeating orders.

In Chapter 2, we take a close look at Japan's network of nationwide roads, railways, seaport and airports. As all major expressways are toll ways, this can add up quickly to the bill of domestic transport costs, when the exporter picks a far distant seaport till the customer's designated location of delivery. And as Japan is a very long country with 4 major islands, one should try to avoid this scenario whenever possible, also because transshipments and extra cargo handlings are the best-known formula for damaged goods.

The passenger railway network is close to perfection, with the speed, the punctuality and the safety levels of the famous shinkansen being nothing less than phenomenal. Actually, the same quality service standards go also for eco-friendly transport via rail cargo but nevertheless it represents a mere 1% of all freight transport domestically in Japan. Road trucks of all sizes remain the real masters when it comes to physical goods distribution in Japan.

The extensive network of over 100 seaports have been historically mainly used for international trade, serving the import and export needs of domestic manufacturers and trading companies. In recent years though cargo handling volume via short sea transport between Japanese seaports is gradually increasing given pressure for reduction of CO2 emissions, following the Kyoto Protocol. We briefly explain the facts and figures of the ports of Tokyo, Yokohama, Nagoya, Osaka and Kobe as sea freight to Japan is and remains the most cost effective transportation method from Europe, when dealing in larger volumes.

The geographic situation of Japan, being an island, has resulted in numerous airports spread over the country. As Japanese customers can be very demanding when it comes to lead times of ordered products, air freight is a big business both based on the dedicated cargo carriers and on the daily passenger flights to and from Japan.

The major airport gateways from Narita and Haneda in Kanto region over Chubu Centrair International Airport in Nagoya to Kansai International Airport in Osaka are looked into from 2 angles, namely both the passenger and the cargo terminal.



We also quickly touch upon the global parcel delivery companies active in Japan and Japan's dedicated cargo carrier named Nippon Cargo Airlines.

In chapter 3, we review the potential transport methods to Japan. Japan Airlines and All Nippon Airways pass our reviews, together with information about European carriers servicing Japan. A similar approach is applied for sea freight via the major shipping lines, both Japanese and global. Lead times for each transport method are also explained in order to allow you to better serve your client's needs within the available financial budget that can be allocated to your transporter.

As local transport costs in the country of the exporter or seller, sea or air freight charges, insurance fees, custom brokerage fees, duties and taxes and local transport costs in the country of the importer or buyer, will come on the account of either the exporter or importer, depending upon the agreed business terms in the commercial contract, we explain basically the Incoterms in Chapter 4 of this report. For easy understanding, we have limited our overview to the most often used terms being Ex Works (EXW), Free on Board (FOB), Cost & Freight (CFR), Cost, Insurance and Freight (CIF) and Delivered Duty Paid (DDP). A good understanding of these terms is key for a smooth delivery with clear understanding between the business partners of each other's responsibility and accountability during shipment from warehouse/manufacturing plant in Europe till delivery at the agreed location of the customer in Japan.

In order to assure a smooth custom clearance upon arrival and avoid expensive storage due to delays because of insufficient or incorrect

documents, we have prepared in Chapter 5 a detailed overview of all necessary documents that should accompany the shipped goods.

A complete set of shipping documents should include at least the following, without being exhaustive, namely original commercial invoices or pro forma invoices, a clean bill of lading for sea freight or a clean air waybill in case of air cargo, detailed and correct quantity of the goods mentioned on the original packing lists, certificate of origins (if applicable) and submission of necessary import licenses (if applicable).

In the last Chapter 6 of this report, we provide a practical overview to major Japanese and global transport, warehousing, logistics and parcel delivery companies that can assist your company in assuring a perfect and high quality handling of your goods up till the location as designated by your client in Japan. As most of these companies can provide a complete one-stop shop service from pick-up at your place in Europe till drop delivery at the doorsteps of your client, combined with usually direct air or sea freight connections, the risk of damaged goods and packaging is extremely limited. For obtaining cost-performing price quotes, we recommend to contact at least 5 companies, preferably a good mix of global and Japanese service providers.

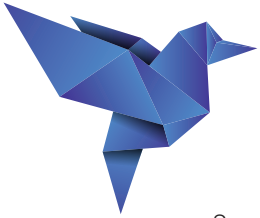
Good luck with both your new and existing/expanding business adventure in Japan!

*A good understanding of these terms is key for a smooth delivery with clear understanding between the business partners.*

Published in March 2014.

The full report is available in the Centre's library: <http://eubusinessinJapan.eu/library/publications/>





## Plastic Products and Components

Goods made of plastics are indispensable to everyday life. Products and parts made of plastics are used in construction, kitchen items, electronic devices and cars, among other things. This report gives an overview of the market conditions for plastics in non-primary forms (such as films, sheets, construction materials or household items) and plastic parts for automobiles and machinery.

*Japan is the fifth-largest producer of plastics in the world with an overall production volume of 12 million tons.*

Special regulations apply for the import and sale of items which come into contact with foodstuffs, construction materials and parts for medical devices. When selling these goods, labelling requirements must be followed. There are several voluntary quality labels supervised by the respective industry associations. Recycling laws regulate the reuse and recycling of plastic materials.

Japan is the fifth-largest producer of plastics in the world with an overall production volume of 12 million tons. The total production value of plastics in non-primary forms amounted to 2,904 billion yen (approx. 22.7 billion euro) in 2012. The industry suffered a setback due to the Lehman shock and the global economic crisis in 2008. However, as the target industries, such as the automotive and construction industries, began to recover after 2009, the production of plastic materials and parts was also stepped up. Most of these plastic materials are used for packaging and construction. The construction industry in Japan uses far

more plastics than Europe or the United States. After nearly two decades of sluggish growth, the construction market has recently experienced an upswing.

The general trends in the Japanese plastics market concern health and environmental issues, problems with production costs and prices, and new materials such as bio-plastics.

As is the case for other sectors in Japan, the distribution of plastics in non-primary forms for industrial use is characterised by a multi-layered structure of distributors. Choosing a suitable local distribution partner is crucial; both general trading firms and specialised traders present advantages and disadvantages. At nearly 70%, plastic parts for the automotive industry account for the largest share by far of plastic parts for industrial use. Production and sales are now recovering after the Lehman shock and the East Japan earthquake disaster. However, expectations for the automotive markets in Asia, North America and Europe are different.

Currently, e-vehicles and environmental issues constitute the most significant topics in the automotive parts industry. Demand for batteries, especially lithium ion batteries, for electric and hybrid vehicles will continue to rise. Hybrid vehicles contain more plastic parts than conventional cars due to efforts to reduce their weight. Another ongoing trend is the standardisation of parts.

The aftermath of the Lehman shock caused a drop in the production of machinery parts made of plastic; the production of parts for electric



and electronic devices continues to decline. The volume of parts manufactured for other types of machinery such as medical devices or precision instruments has risen slowly since 2009. Medical equipment in particular is a field with potential for growth: the overall market for medical equipment has increased steadily over the past decade.

Japan is one of the largest exporters of machinery. However, the majority of Japanese automobiles, consumer electronics and home appliances are produced outside Japan. Parts suppliers from other countries can use business with Japanese subsidiaries in their home markets as a stepping stone to enter the Japanese market.

A high degree of subcontracting is characteristic of the manufacturing industry in Japan: certain stages of the production process of plastic parts such as printing or coating are outsourced to external suppliers. The supply chain in the automotive sector is far more differentiated than in other manufacturing industries ("supply pyramid"). However, due to the difficult economic situation there is now a trend towards either

insourcing or relocating parts of the production chain abroad to take advantage of lower costs. The lessening of the supply chain ties offers greater opportunities for new market players.

Trading firms or institutions that promote trade (such as the Japan External Trade Organisation) could act as a go-between for companies planning to enter a supplier network. Trade fairs also offer a good opportunity to find prospective partners.

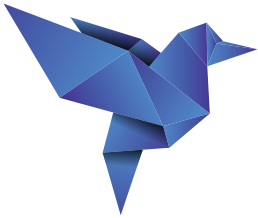
Japan has an advanced economy; its manufacturers are among the leading players in the world markets. Therefore, the plastic parts and products supplied by new companies in the market must set themselves apart with regard to quality, cost, innovation or (after-sales) services. The previously close-knit supply chains in the Japanese manufacturing industries are opening up to new suppliers. Furthermore, it is essential to observe this market to gain information on competitors' moves. A great deal of commitment is therefore necessary when entering this important market.

*Japan has an advanced economy; its manufacturers are among the leading players in the world markets.*

Published in December 2013.

The full report is available in the Centre's library: <http://eubusinessinJapan.eu/library/publications/>





## Japanese Cosmetics Market. Obstacles and Opportunities for European SMEs

Estimated at 20 billion euros and ranked second in the world, the Japanese cosmetics market is one of the most attractive in the world. Alongside active Japanese companies (representing 75% of sales),

*By its colossal size, the Japanese market is proving to be equally beneficial for large groups and for small companies.*

there are real opportunities for foreign brands that are able to combine identity, quality and innovation. Indeed, the share of imports in the market has steadily been increasing since 1999, and Europe remains one of the largest foreign suppliers in Japan in terms of cosmetics. Moreover, by its colossal size, the Japanese market is proving to be equally beneficial for large groups and for small companies, as long as they know how to target niche markets.

The challenge is to anticipate and capture key market trends, identify growth-oriented segments, and be able to create opportunities. Global market trends are easy to spot and many companies, both local and international, constantly cater to them with new products, and therefore, it seems hard for a newcomer to benefit from them and be successful in such saturated markets as the natural and organic, anti-aging care, men's sectors. Thus, being able to anticipate and adapt to trends seem more profitable. There are numerous ways to do this: adapt successful ideas

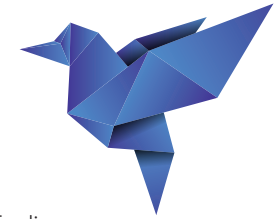
and concepts from other industries (bespoke products, rice, etc.); adapt to new concerns (environmental pollution, « look like yourself », etc.); be well-aware of actual social mutations (aging population, multifunctional products, etc.); benefit from old traditions (beauty advent calendars, etc.); tap in to current trends (selfie-ready products, connected beauty devices, etc.); make the best of new distribution channels (flash sales, beauty boxes, Line, etc.); and of course be innovative (nanotech tracker, Astaxanthin, etc.). These trends could be seized not only by brands but also by IT and software companies, ingredients suppliers, packaging factories, retailers, laboratories, distributors, etc., making the Japanese beauty market a destination of choice for any kind of SME. To help companies assess the current trends and booming products, store visits and analysis of the numerous rankings edited by the cosmetic portal @ cosme could be extremely helpful.

Importation, financial securities, business culture, market knowledge, local employment laws, are just few of the major obstacles and difficulties that companies on their way to the Japanese market have to face. Apart from being an importation guide, this report highlights the need for SMEs to benefit from the various services that the European Commission, Member States, and the Japanese government offers, and highlight the necessity of finding a local partner.

Published in March 2015.

The full report is available in the Centre's library: <http://www.eu-japan.eu/library>





Masahiro Tokeshi

## Pet Market in Japan

### Maturation of Japan's pet market

Japan's pet market was reported at \$3,440 million in 2013. The market has maintained this level for several years and is expected to level off for a while. This is mainly due to the decreasing number of dog and cat owners. In addition, some external environment factors are predicted to hinder the market growth such as the weakening of the yen, rising material cost for pet foods, and increasing budget-minded consumers.

### Urbanization stimulates smaller pet ownership

With the urbanization of population, more Japanese live in apartments. This limits the space for large pets while some apartments have rigid regulations on pets. Therefore, consumers increasingly prefer smaller pets such as cats and rabbits than dogs. The ownership of cats has increased since they are better suited to living in small apartments and more independent than dogs. This trend is supported by the increasing number of single-person households as well as the growing elderly population as cats and smaller dogs are easier to take care of.

### Leading players in Japan's pet market

There are many manufacturers and distributors in Japan's pet market. Manufacturers such as Unicharm and Mars Japan remained the overall leaders in the pet market in 2013. They offer an extensive dog and cat food portfolio for all price segments. To offset growing competition from cheaper brands and private label brands, they have launched new

products one after another. Distributors such as Japell and Eco Trading have a major presence in the market. They hold more than 50 % of the market share.

### Top 3 sales categories in Japan's pet market

Japan's pet market can be divided into "pet food" and "pet products". For pet food, dog and cat food have a large market size and account for 70% of total sales of pet foods in Japan. For pet products, cat litter and toilet sheet are considered the top 2 categories in terms of market size. They account for 50% of total sales of the market in Japan.

*Pets are not considered as just a "pet" but as "a member of the family" among most of the pet owners in recent years.*

### Expanding pet-related market in Japan

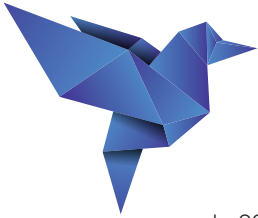
Pet-related markets, for instance, insurance, veterinary hospitals, animal drugs and funeral services are growing. Due to increasing single-person households, decreasing birth rate and aging population in Japan, these areas are expected to grow in the future. Pets are not considered as just a "pet" but as "a member of the family" among most of the pet owners in recent years. Therefore, pet owners don't mind spending money on these related products or services. This market is predicted to keep growing because of these trends.

Published in February 2015.

The full report is available in the Centre's library: <http://eubusinessinJapan.eu/library/publications/>







## Toy Industry in Japan

In 2014, global sales of traditional toys and games recorded the highest value growth in 6 years reaching US\$ 85 billion. Emerging regions were a strong sales driver with double-digit growth in some countries.

Including video games (hardware and software), the global sales of toys and games were around US\$ 151 billion in 2014, an increase by 6% over 2013.

Use of mobile devices is increasing in the toy and games industry. As brands in the future are likely to prosper as entertainment brands, it will be important for toy manufacturers to foster links with mobile platforms.

*Yo-Kai Watch may turn into Japan's next big "cultural export".*

The line between traditional toys, video games and applications are getting blurred. An emerging trend is the convergence between toys and video games.

With regards to Japan, retail sales of traditional toys and games surged by 9% in fiscal year (FY) 2014 that ended in March 2015, reaching 736.7 billion yen. One strong contributing factor that lifted this segment is sales related to *Yo-Kai Watch* video games developed by Level-5, a company based in Fukuoka.

In particular, sales of character toys for boys expanded largely. Bandai Namco Holdings, Japan's largest toy manufacturer, released a wide

range of *Yo-Kai* related toys that builds on the storyline of Level-5's video games.

*Yo-Kai Watch* may turn into Japan's next big "cultural export". In 2015, Level-5 entered into a partnership with Hasbro, a major U.S. toy manufacturer that will introduce *Yo-Kai Watch* into the rest of the world.

The Japanese video game industry, which for a long period in the 80s and 90s was a worldwide market leader, has since around 2005 gradually lost its global momentum.

Market data published by Yano Research Institute, which include video games as well as traditional toys and games based on shipments values by manufacturers, show that the industry peaked in 2007 and since then has been on a downward trend as a result of declining sales of video games (hardware and software).

As shown in figure 3 in section 5.1, the total shipments value of 9 toy categories including video games peaked in FY 2007 totaling 888.2 billion yen. During the 2008–2014 FY periods, shipments have fallen annually reaching 649.1 billion yen in FY 2014.

Global trends in toys and games are to a large extent common across markets. Competition on price and innovativeness are likely to remain intense. Traditional toys and games are expected to face increased competition from the use of smart phones and tablets as Japanese gamers increasingly obtain software online.



Changing demographics are impacting the toy market in Japan. Firstly, the number of children between 0-14 years is decreasing due to lower birth rates. Secondly, as children mature at earlier age, the playing period is getting shorter. Therefore, manufacturers will face more competition from substitutes for traditional toys and games such as smart phones and tablets.

Japan's toy industry has witnessed a restructuring since the early 2000s as a result of M&A activities. In 2003, Sega merged with Sammy becoming Sega Happy Holdings. And in 2005, Bandai Namco Holdings was created when Bandai, Japan's largest toy manufacturer merged with Namco, a leading game developer.

The distribution of toys and games in Japan has changed in recent years. Sales through specialised toy chain stores still hold the largest value share at 29%. Internet has expanded fast and is estimated to be around 20% today. In Japan, parents are increasingly comfortable buying toys and games online, in particular, as busy lifestyles limit the time available for visiting physical stores.

The cultural uniqueness of the Japanese toy market may to some extent limit the scope of possibilities for European companies in Japan.

One significant difference compared with Europe is that the toy business in Japan is very much TV-driven. One example is Licca-chan dress-up dolls, which have been very popular in Japan for many years due to TV

advertisement. Further, shelf life can be short, an observation that may be valid for other major markets.

*The cultural uniqueness of the Japanese toy market may to some extent limit the scope of possibilities for European companies in Japan.*

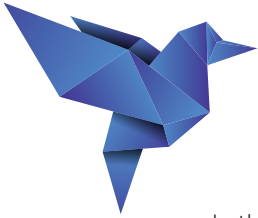
Potential areas could be eco-friendly products and toys for the construction segment where LEGO Japan has about 80% of the market value. In 2014, the construction segment was the fastest growing segment worldwide in traditional toys with a value growth of 13%. European toy manufacturers with interesting, unique products in this toy category could have opportunities in Japan as this segment is expected to further grow in Japan.

Additionally, European game developers may have possibilities within applications. There could also be prospects for European companies within the AR (Augmented Reality) and VR (Virtual Reality) headsets segment. In the years to come, it is expected that such headsets will become the next major revolution in video gaming including Japan.

Published in March 2016.

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Silke Bromann

## Optics & Photonics

In the field of optics and photonics, Japan's manufacturers are among the world market leaders. For EU companies, therefore, Japan is not only interesting as a selling market but also the home market of their most important competitors. The report explores Japan as an export market for optical components and devices in the medical field and in electronics. Furthermore, it takes a look at the camera market.

*The production of simple parts has been transferred to countries with lower labour and production costs; the share of imports of optical components is 24%.*

The overall volume of the Japanese market for medical equipment in 2012 is 20.3 billion EUR. It is the second largest market in the world after the United States. Optical medical equipment, including contact lenses and eyeglasses, accounts for 30% of it. The market has grown steadily over the last decade; further growth is expected. Large companies and SMEs both are competing in this market. Players from other sectors such as electronics or optics are looking for chances in this field. Recently, Japanese medical technology firms also expand into overseas markets.

Due to the risks medical procedures and items can pose to the human body, this field is highly regulated. Manufacturers and distributors of medical equipment have to register with Japanese authorities; each product has to be approved by Japanese medical standards.

Overall domestic production of optical components has diminished since 2007. Exceptions are photovoltaic modules, solar battery cells and LEDs, due to the rising importance of alternative sources of energy not only in Japan. The production of simple parts has been transferred to countries with lower labour and production costs; the share of imports of optical components is 24%.

The domestic production of optical devices for industrial or general use in Japan is valued at 2.2 billion Euros. Overall production has decreased slightly after 2007; the production of analytical instruments was growing.

Only a few companies dominate both the components and devices markets. They are also among the world's leading players. The share of exports of optical devices for industrial use is high – more than half of products made in Japan are sold overseas; the industry is therefore dependent on the trends of the world markets.

The choice of a local distribution partner is crucial; both general trading firms and specialised traders offer advantages and disadvantages. It is advisable to keep a close contact to the Japanese market, be it frequent contact with the local partner or an affiliate in Japan.

Overall domestic production of cameras and camera accessories amounted to nearly 6 billion yen; it has been declining since 2007. The markets for video cameras and digital compact cameras – not only in Japan – are shrinking as smartphones offer similar functions. Digital mirrorless system cameras and easy-to-use single-lens reflex cameras are attracting consumers.



The world market and the Japanese market are dominated by Japanese manufacturers: they make two-thirds of digital cameras and four-fifths of all video cameras sold worldwide. In the same way, the domestic market is shared between the major Japanese manufacturers.

Retail chains specialising in consumer electronics and – with a growing share – online retail are the major distribution channels for photographic equipment.

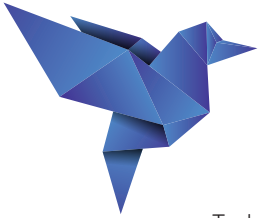
Entering the Japanese market implies challenging the sector's leading firms on their own territory. Therefore, the products have to set themselves apart with regard to quality, cost, innovative capacity or (after-sales) services. It is essential to observe this market to gain information on competitors' moves. To sum it up, it is necessary to put a great deal of commitment into this important market.

*The world market and the Japanese market are dominated by Japanese manufacturers: they make two-thirds of digital cameras and four-fifths of all video cameras sold worldwide.*

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Nele Duprix

## Technical Textile Market in Japan

Technical textiles are cloths/fabrics developed primarily based on their uses and not on their aesthetics. This industry has seen attractive growth in several sectors over the last few decades, and Asia in particular has been a prime location for development, manufacture, and consumption of technical textiles. Separated by a wide variety of end-uses, the industry has self-categorized according to twelve distinct sectors: transportation, industrial, sports, building, home goods, clothing components, medical, agricultural, protective, packaging, civil engineering, and environmental protection.

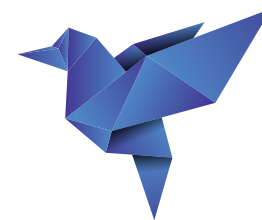
The global economic instability of the past decade, along with localized disasters, has led to a falloff of production and consumption in Japan.

However, these trends seem to be recovering as economies stabilize and new technological demands are aroused. Notably, a modern emphasis on healthy and environmentally-friendly alternatives opens up the market for new possibilities. This will be essential for business dealings in Japan, as the country's companies will be largely unable to compete with the cost-efficiency of bargain producers in places such as China. For the industry in Japan to thrive in the coming years, they will need to focus on innovative, niche variations of their existing technical textile foundations. This will allow players to remain in the game despite the changing times, and be competitive in the ever-widening global market.

*A modern emphasis on healthy and environmentally-friendly alternatives opens up the market for new possibilities.*

Published in March 2014.

The full report is available in the Centre's library: <http://eubusinessinjapan.eu/library/publications/>



Alice Tomaskova

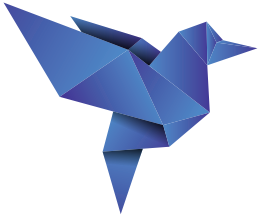
## Guide on Importers, Buyers and Wholesale Distributors in Japan for the Promotion of EU-Japan SME Partnerships

The main objective of this Report is to facilitate market access to Japan for the European exporters in a number of selected sectors (food and wine, ICT, medical devices) through the sharing of comprehensive and practical information. There is no doubt that the Japanese market presents a huge potential for the committed, diligent and performing European SMEs with a clear and long term business vision. However, most SMEs cannot afford to establish a branch office in Japan, preferring to operate through Japanese business partners, distributors etc. In this context, the Report provides some background on distribution networks in Japan in the above mentioned sectors, identifies the most commonly used import routes for EU products/services and provides a number of recommendations from interviewed Japanese and European managers on key factors to succeed in Japan.

*The Japanese market presents a huge potential for the committed, diligent and performing European SMEs with a clear and long term business vision.*

Published in September 2015.

The full report is available in the Centre's library: <http://www.eu-japan.eu/library>



## Export Fashion to Japan

Generally speaking, Japan remains a huge fashion market that is profitable, stable, with high levels of trust and plenty of demand. The Japanese fashion market however presents some specificities which EU companies should be aware of:

- Relevant legislation, regulation and labelling
- Intellectual property right and counterfeiting
- Japanese fashion market and trends
- Cost structure, pricing and trade practices
- Distribution channels and retail chain outlets
- Market entry strategy and opportunities

Selecting a distribution channel that is compatible with the EU company's export strategy is crucial. As it is not always easy to arrange a suitable agent/distributor from the very start, an alternative is working directly with retailers. EU fashion brands should also be aware of the importance of being present in the right retail outlet store.

The best way to market products to Japanese buyers is to exhibit at fashion trade shows both in Japan and Europe.

Japan does not have significant tariff or non-tariff barriers to imported clothing.

Clothing distribution channels in Japan are straight forward, but do require some time and effort to develop. As the apparel market in Japan

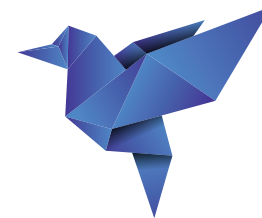
is mature and very competitive, EU companies should have excellent business controls, dependable communication, the ability to produce and ship their products on time, have a unique and exciting collection of apparel and differentiate from other brands.

Some points to keep in mind when doing business with Japan.

- Quality. Quality standards sought in Japan are stricter than in other countries and Japanese consumers appreciate items that show fine craftsmanship, are made with quality materials, have unique design elements and convey a message about the designer or place of origin.

*The best way to market products to Japanese buyers is to exhibit at fashion trade shows both in Japan and Europe.*

- Differentiate. The challenge is to differentiate and to create new and interesting goods that stand out from the crowd. In this sense EU companies are at an advantage as Europe is perceived as the centre of high fashion and European luxury products are also sought after by Japanese consumers for their 'brand image'.



- Production lot. Japanese importers/retailers are expecting small-lot production of diverse products.
- Size. Japanese buyers tend to order relatively more small sizes and they might have special requests, such as shorter sleeves and a smaller bust.
- Seasonality and on-time delivery. Japan enjoys four seasons throughout the year. Delays in shipping decrease the time frame for retailers to sell at the recommended retail price.
- Communication. Japanese companies respect long-lasting and mutually beneficial business relationships. It is important to communicate with the buyers on a frequent basis and maintain a close relationship with prospective clients.

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Published in February 2015.

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# SPACE: THE FINAL (BUSINESS) FRONTIER



Veronica La Regina

## Business Partnership Opportunities and Technology Transfer in the Space Sector Between EU and Japan

*Industrial cooperation is identified as the most promising tool for a successful EU-Japan collaboration.*

The European Union (EU) and Japan are both currently pursuing a host of similar challenges, including new governance structures with the recognition of new roles and functions, the launch of new

technologies with higher commercial vocation, the enhancement of economic returns from Space investments and the increasingly emerging enabling value of space-based technologies for multi-purpose requirements in other fields, such as energy, transport, climate change, managing early warning systems in case of natural disasters, security and poverty alleviation.

The EU and Japan have recently initiated the EU-Japan Space Policy Dialogue. The two bodies met first in October 2014 to discuss their current programs and interests and are expected to meet again in Brussels by the end of 2015. Space has since been explicitly described as an element of cooperation by the joint statement released by the last EU – Japan Summit<sup>1</sup>, held in Tokyo in May 2015.

Industrial cooperation is identified as the most promising tool for a successful EU-Japan collaboration. This report describes potential business opportunities within industrial cooperation between the EU and

Japan in the field of Space. These opportunities have been evaluated through the different segments of the Space value chain from the front-runner R&D activities to launching technologies, manufacturing, components, downstream applications and spin-offs. They have also been evaluated based on potential future challenges.

A successful industrial cooperation strategy will require, at minimum, a common understanding of both the technological challenges but also the soft-skills required for intercultural interaction. In order to increase mutual trust in the Space business, it is crucial to have a clear understanding of each region's respective political framework, policy-setting and industrial dimension. To this end, this report serves primarily to inform the two partners about the each other's governance, policy measures and markets. It also presents local dynamics and the diplomatic contexts.

This report also identifies a number of potential business and technological opportunities in each segment of the Space value chain and identifies required action. Space business can also often include a governmental dimension, and thus required actions tend to involve other agencies such as the European Space Agency (ESA) and the Japan Aerospace Exploration Agency (JAXA) in order to frame the guidelines for industrial player interactions. The report highlights three recommended goals for future EU-Japan industrial cooperation which are summarized in the table on the following page.



RECOMMENDATIONS	ACTIONS
<b>Make EU-Japan Space industrial cooperation the best tool for growing existing and new space businesses that promote enterprise and investment</b>	<b>1</b> Secure actionable measures to facilitate the exchange of expertise for downstream applications introducing unambiguous, flexible and achievable criteria for companies (mainly SMEs and startups) interested in entering the two areas • Harmonize the export control regimes between the two areas • Establish a Space session under the EU-Japan Business Round Table with the joint participation of the EU, supported by ESA, and the Japanese METI, supported by JAXA • Promote the trans-disciplinary dimension of Space under the scope of the EU-Japan Centre for Industrial Cooperation
<b>Increase economic returns from space-related public expenditures by continuing to pursue new technological challenges and securing greater influence in the global market</b>	<b>2</b> Facilitate Industry-to-Industry relations in the field of space launching systems, as a joint task of ESA and JAXA • Create an EU – Japan Engagement plan for the technological assets and facilities on board of the ISS for the fertilisation of spin-off opportunities • Develop a cost-effective space value chain by jointly funding innovative production procedures (e.g. a 3-D printer)
<b>Stimulate a vibrant space sector by promoting internationally-oriented professional skills</b>	<b>3</b> Propose the space sector to students, researchers and young professionals under the existing mobility programs (e.g. Vulcanus, Japan Society for the Promotion of Science, EURAXESS, etc.) • Motivate people to enhance the 3Is dimension of their professional profile with experiences at, for example, the ISU or the coming Okinawa School

Published in June 2015.

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## Space Industry Business Opportunities in Japan: Analysis on the Market Potential for EU SMEs Involved in the Earth Observation Products and Services

As of 2016, there are over 60 companies in Japan pertaining to Earth-observation (EO) products and services. Most prominent companies are the surveying and mapping companies that have taken up satellite remote-sensing data as one of their tools to conduct various analyses work. Despite the reasonably large number of companies involved,

the actual market size is relatively small. The market is estimated to be 0.8 bil JPY (approx. 70 mil EUR in current exchange rate) in 2010, but it is said that the majority is government contracts related the military, and the sum of non-military projects in public and private sectors is as little as 0.2 bil JPY. This is less than 1/10 of the market size of the EU, estimated to be approx. 1 bil EUR in 2015. The Japanese companies are heavily dependent on government contracts, where over 80% of their revenue comes from publicly funded projects and feasibility studies both in and

outside Japan, and revenues from the private sector only accounts for a small portion.

Such a heavy dependence on the publicly funded projects by the Japanese EO applications industry is largely attributed to the

Japanese government's struggle to promote commercialisation and industrialisation of space. Japan has been a late comer in the recent movement of "New Space", and the domain of space was completely focused on scientific R&D until mid-2000s, with no consideration for commercial applications. Thus, the public sector has been the dominant customer for the EO application companies, and the needs in the private were only given light treatment, in the form of publicly funded pilot projects. In farming applications, some companies have managed to establish an on-going business case, but only with the subsidies from the regional governments. Overall, with no incentives for the companies to explore alternative revenue source in the private sectors, combined with the typical conservatism and risk-averse attitude of the Japanese corporate culture, commercial EO applications catered for the private sector have not developed in Japan so far.

Nevertheless, the situation is slowly changing. To stimulate the commercialisation of space in Japan, the Japanese government has announced the Basic Plan of Space Policy in 2008 to make clear of their objectives and priority areas, as well as laying out the satellite development roadmap up to 2020. The country aims to grow the space industry to a cumulative total of 500 bil JPY by 2027. Although still in its infancy, the Japanese space agency, JAXA has established the New Enterprise Promotion Department to engage more companies to participate in space-related business. This movement is gaining traction

*The Japanese companies are heavily dependent on government contracts, where over 80% of their revenue comes from publicly funded projects.*



in the industry as well, and it could be said that 2016 is the year of change as the major EO application companies, such as PASC0, Kokusai Kogyo and Air Asia Survey, are realizing that they need to move away from government contracts, and explore new opportunities in the private sector inside Japan as well as overseas. The Japanese companies are interested in engaging with Europe, in terms of both information exchange as well as collaborative ventures. But the key requirement in any form of cooperation is that it must create a 'win-win' situation for the both sides, instead of competing for the same, small 'pie'.

*The EU should look to explore possible complementary operation of EO satellites with Japan.*

The Japanese EO communities have a strong expertise in L-band SAR, and satellite applications in agriculture and disaster management, and they also have unique and valuable EO satellites and instrument, GOSAT and AMSR, for monitoring greenhouse gases, and ocean and sea ice monitoring respectively. It is said that the EO communities need to improve the observation frequency to open up new commercial applications, and the EU should look to explore possible complementary operation of EO satellites with Japan. The project also identified 2 key weaknesses of Japan with respect to EO – lack of domestic optical satellite data until at least 2019, and the possible gap in their EO capability beyond 2021 due to largely uncertain development of their satellites.

The project also interviewed over 40 private and public entities in 8 industries that use EO products and services to understand their needs and opportunities with respect to satellite data. They are agriculture, forestry, fishery, urban infrastructure management, sea ice monitoring, with brief treatment of maritime management & AIS, disaster management, and renewable energy. The promising areas in Japan for EO applications are:

- Agriculture
- Maritime Management & Surveillance
- Fishery
- Urban Infrastructure Management





**Taking these matters into account, the recommendations for the European Commission are:**

- 1) Start an EU-Japan dialogue focused on EO products and services
- 2) Promote the EU's Copernicus in Japan
- 3) Sign a formal agreement between the EU and Japan on the use of Sentinel data
- 4) Resolve the issue of reciprocity of EO data
- 5) Find the funding infrastructure to support the formation of joint-research projects for the EO-related calls in Horizon 2020, to promote EU-Japan partnerships
- 6) Agree on a common set of goals and roadmaps for increasing the use of EO downstream applications
- 7) Set up EU-Japan collaborative projects by consolidating the funds of JICA, ADB, WB and EIB, and form an alliance to solve global problems together

**Similarly, for the European industry pertaining to EO products and services, the recommendations are:**

- 1) Build up relationship with Japanese companies through exchange of information, workshops and seminars
- 2) Participate in trade shows to network with Japanese industries and promote European EO products and services
- 3) Use the findings from the industry needs analysis in Chapter 4, and partner with Japanese companies to jointly develop applications to address those needs
- 4) Explore possible cooperation with the Japanese ICT industry and "New Space" companies
- 5) Approach prefectural and municipal governments about smart agriculture, smart forestry and smart fishery initiatives, and also approach large food companies and super market franchise

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Published in October 2016.

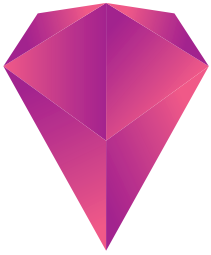
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# **DEFENSE & SECURITY: AN OPENING MARKET?**



Jérôme Camier

## EU-Japan Industrial Cooperation and Business Potential in the Defense Sector. Opportunities for European SMEs

Faced with growing concerns over China and keen to increase its “proactive contribution to peace”, **the Japanese government** has launched a major shake-up of its defence policy that includes an overhaul of its Self Defense Forces’ equipment. To make this endeavour possible within its budget and time constraints while promoting the local industry, it **has started to open up to defence R&D and industrial cooperation with international partners beyond the USA.**

**This may create opportunities** for European defence firms to import Japanese components or increase their exports to Japan. It also opens the potential for cooperation between European and Japanese contractors and defence ministries on joint equipment programmes.

**Japan, however, will have to overcome several challenges** to become a player on the global defence market: its public opposes these reforms, and neither its government nor its firms are fully ready to take part in international armament cooperation.

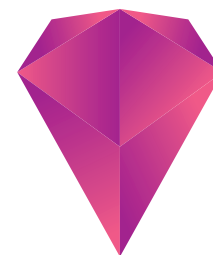
**For Europe also, cooperating with Japan will come with some risks and challenges:** it will never be more to Japan than a secondary partner after the USA; Japan may hurt its business interests; and entering the Japanese defence market requires a heavy and sustained investment from foreigners.

**The EU could complement in several ways the initiatives of certain member states to promote industrial cooperation:** by using its available dual-use funding tools to support SMEs on the Japanese market; by promoting the European defence industrial cooperation mechanisms in Japan; by intensifying its own defence and defence equipment relationship with Japan; and by using its overall relationship with Japanese authorities and the favourable momentum created by the multilayered FTA/SPA negotiation context to nudge them towards openness with Europe.

*The Japanese government has launched a major shake-up of its defence policy that includes an overhaul of its Self Defense Forces’ equipment.*

Published in April 2015.

Confidential Report – if interested please contact the Centre.



Jérôme Camier

## Defence and Security – Industry & Market In Japan – Opportunities for European Companies in Five Dual-Use Areas: Maritime Security Equipment, Unmanned Vehicles, Aeronautic Platform Integration, Sensors and Avionics

*This report follows and builds on a previous report from April 2015 (“EU-Japan Industrial Cooperation and Business Potential in the Defence Sector – Opportunities for European Companies (including SMEs)”), and updates it for the period from April to October 2015. It is therefore best understood in conjunction with this previous report.*

As part of its ongoing defence policy shift, Japan has clarified the types of militarily operations it is ready to conduct for its own protection but has not yet done the same at a regional and global level. It also has yet to give concrete forms to its interest in security policy ties with Europe. It is therefore **too early to assess whether its military’s equipment needs will change, and how likely it is to cooperate with Europe to satisfy them.**

The country has also continued to reform its defence equipment acquisition system and to put in place export promotion tools. **It has missed one significant opportunity to evolve as an international cooperation partner and to collaborate with Europe but it may be about to seize new ones.**

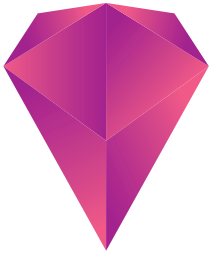
Business opportunities for European firms may materialise especially in the fields of **aeronautics and maritime security**, particularly for advanced components and equipment, but also for certain types of platforms.

In this context, **all the recommendations made to EU institutions in the first report remain relevant**, since they could all contribute to stimulate this process. Indeed some have started to be implemented.

*Business opportunities for European firms may materialise especially in the fields of aeronautics and maritime security.*

Published in October 2015

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## The Japanese Ministry of Defense's Equipment Acquisition Processes and Policies – Is it Becoming More Accessible to European Suppliers?

This report follows and builds on two previous reports:

- “EU-Japan Industrial Cooperation and Business Potential in the Defence Sector – Opportunities for European Companies (including SMEs)”, April 2015,
- “Defence & Security Industry and Market in Japan – Opportunities for European Companies in Five Dual-Use Areas”, October 2015.

*Many of the major acquisition reforms that were hoped would follow its launch have not materialised and probably will not soon.*

*It is therefore best understood in conjunction with these previous reports, which provide context and already touch on the JMoD's acquisition system.*

The Acquisition, Technology and Logistic Agency, **the Japanese Defense Ministry's equipment agency inaugurated in October 2015, has so far had an unconvincing start**, due to widespread resistance to change, industry lobbying and a lack of preparation. Many of the

major acquisition reforms that were hoped to follow its launch have not materialised and probably will not soon.

Despite some relatively marginal changes already enacted, **the JMoD's acquisition system therefore retains, and may retain in the future, its two key characteristics.**

**First, it keeps foreign suppliers away** thanks to multiple barriers:

- Contractor certification is a barrier in reality, though not on paper;
- Planning and budgeting, an important step, is influenced by incumbent suppliers and is much less controlled by the ATLA than by the staff offices and the Internal bureau;
- Requirements definition remains most often the step where suppliers are truly selected. It is also considerably influenced by incumbent suppliers and little by the ATLA;
- This often makes supplier selection procedures irrelevant, even when they are relatively transparent on paper.

**Second, outdated policies** make the JMoD's acquisition system economically inefficient while keeping domestic contractors uncompetitive:




























- Contracting still relies mainly on Cost Plus pricing and on one-year contracts;
- Programme management has so far lacked a consistent framework and has been characterised by rigid technical and financial management practices.

Contemplated changes in both policy areas often remain vague and will almost certainly lack the massive political backing that they would need to break the status quo.

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2015	Guide on Importers, Buyers and Wholesale Distributors in Japan for the Promotion of EU-Japan SME Partnerships	TOMASKOVA Alice				
2015	Challenges of the Japanese Market	VAN BENEDEN Olivier				
2015	Presentation: Communicating with the Japanese	VAN BENEDEN Olivier				
2015	Presentation: Japanese Business Realities	VAN BENEDEN Olivier				

YEAR	TOPICS	AUTHOR	 text	 video	 map	LINK
2015	ICT – Security	VAN DER WEEEN Peter (Akoni KK)				
2015	NanoTech – Wearable Technologies	VAN DER WEEEN Peter (Akoni KK)				
2015	Robotics in Japan	VAN DER WEEEN Peter (Akoni KK)				
2015	Food and Beverages: Regional Food Products	VAN NYLEN Rob				
2015	Alcoholic Beverages in Japan	VERHULST Elsje (E.L. Consulting and Trading Co. Ltd.)				
2015	Biotechnology Cluster Mapping and Industry Landscape	VERHULST Elsje (E.L. Consulting and Trading Co. Ltd.)				
2015	Fashion Export to Japan	VERHULST Elsje (E.L. Consulting and Trading Co. Ltd.)				
2015	Waste Management and Recycling in Japan – Opportunities for EU Companies (SMEs Focus)	YOLIN Christine				
2016	The Energy Storage Landscape in Japan	BERRE Maxens				
2016	The Japanese Composite Material Sector – Opportunities for EU Companies	BROMANN Silke				
2016	The Market for Safety and Protective Equipment in Japan	BROMANN Silke				
2016	The Japanese Ministry of Defense's Equipment Acquisition Processes and Policies – Is It Becoming More Accessible to European Suppliers? (Internal report – please contact the Centre)	CAMIER Jérôme				
2016	Technology Transfer Webinar: Universities and Banks: A Qinning Long-Term Relationship?	DE ROSSI Barbara				
2016	Space Industry Business Opportunities in Japan: Analysis on the Market Potential for EU SMEs Involved in the Earth Observation Products and Services	DUNPHY Ryuichi				

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Lean Masterclass Lectures

<http://www.eu-japan.eu/events/lean-masterclass>

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YEAR	TOPICS	AUTHOR	 text	 video	 map	LINK
2016	Technology Transfer Webinar: Services Offered by the EU-Japan Technology Transfer Helpdesk	ESCOFFIER Luca				
2016	Japan - the Land of the Rising Business Opportunities	EU-Japan Centre - Seminar report				
2016	Healthcare and Welfare Cluster Mapping and Industry Landscape in Japan	FRIIS Jørgen Jakob				
2016	Cultural Approach to Dealing with Japanese Business in Japan: Differences Between SMEs and Large Companies	GARCIA Gloria				
2016	Japan Tax and Public Procurement Helpdesk	GRIEK Lyckle				
2016	Tax and Public Procurement Helpdesk	GRIEK Lyckle				
2016	The Railway Market in Japan	GRIEK Lyckle				
2016	Tokyo 2020 Olympics and Procurement	GRIEK Lyckle				
2016	Wind Energy in Japan: Technological Cooperation and Business Potential for European Companies	HEGER Ines				
2016	Hydro, Tidal and Wave Energy in Japan - Business, Research and Technological Cooperation Opportunities for European Companies.	HENNEQUIN Guillaume				
2016	The Microalgae/Biomass Industry in Japan - an Assessment of Cooperation and Business Potential with European Companies.	HERRADOR Manuel				
2016	Technology Transfer Webinar: Maximizing IP Marketing Efforts by Harnessing the Power of Social Networks	HUBERMAN Tamir				
2016	Technology Transfer Webinar: Financial Value of Your IP Portfolio	KASZNIK Efrat				
2016	Lean in a Service Environment	KEEGAN Richard				
2016	Lean Innovation	KEEGAN Richard				

### Business in Japan Publications

<http://eubusinessinjapan.eu/library/publications/>

### Technology Transfer Helpdesk

<http://www.eu-jp-tthelpdesk.eu/category/events/>

YEAR	TOPICS	AUTHOR	 text	 video	 map	LINK
2016	Practical Simple Tools	KEEGAN Richard				
2016	Principles of Benchmarking – Real Facts & Real Data	KEEGAN Richard				
2016	Principles, Rules, Tools of Lean	KEEGAN Richard				
2016	Teams and Team Building – People Make the Difference	KEEGAN Richard				
2016	The Five Rings Concept	KEEGAN Richard				
2016	Five Key Questions for Driving Lean Implementation	KEEGAN Richard				
2016	Technology Transfer Webinar: Managing a Nanotechnology Patent Portfolio	KORMAN Sarah				
2016	Technology Transfer Webinar: Matching the EU – Japan Space Technological Needs	LA REGINA Veronica				
2016	Technology Transfer Webinar: Crowdsourcing Innovation	LA VOPA Adriano				
2016	Alternative Vehicle Technologies in Japan / Intelligent Transport Systems in Japan	LUNDIN Maths / ERIKSSON Sven				
2016	Artificial Intelligence in Japan (R&D, Market and Industry Analysis)	LUNDIN Maths / ERIKSSON Sven				
2016	Automobile and Transport Cluster Mapping and Industry Landscape in Japan	LUNDIN Maths / ERIKSSON Sven				
2016	Hydrogen Technology Market in Japan	LUNDIN Maths / ERIKSSON Sven				
2016	The Drone Market in Japan	LUNDIN Maths / ERIKSSON Sven				
2016	The Non-life Insurance Sector in Japan	LUNDIN Maths / ERIKSSON Sven				

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YEAR	TOPICS	AUTHOR	 text	 video	 map	LINK
2016	Toy Industry and Market in Japan	LUNDIN Maths / ERIKSSON Sven				
2016	Contract Management Vol. 3 - Intellectual Property Rights Protection in Japan	MATSUZAKI Michio (JAPANESEKERS LLC)				
2016	Contract Management Vol. 4 - Real Estate Transactions	MATSUZAKI Michio (JAPANESEKERS LLC)				
2016	Japan's Performing/Visual Arts Sector: Market Overview, Perceptions and Practical Market Entry	MEYER Natalie (Tokyoesque)				
2016	Distribution Channels for Fast-Moving Consumer Goods (FMCG)	NELSON Jay				
2016	Human Assistant Robotics in Japan - Challenges and Opportunities for European Companies	NEUMANN Dana				
2016	How to Advertise in Japan	NISHIDA Saori (JapanConnection)				
2016	Practical Booklet on 7 Major Cities in Japan	NISHIDA Saori (JapanConnection)				
2016	Presentation: Decision-Making Process in Japan	NISHIDA Saori (JapanConnection)				
2016	"Your First Meeting with Japanese 'Smart Guide' Booklet for PDB Participants"	NISHIDA Saori (JapanConnection)				
2016	Technology Transfer Webinar: Enterprise Patent Portfolio Commercialisation: Trends and Opportunities	PARK George				
2016	Technology Transfer Webinar: New Models for Licensing University Innovations	PRAGHAN Arundeeep S.				
2016	Ceramic Products Market in Japan - Challenges and Opportunities for European SMEs	PUPAZA Sonia				











### Business in Japan Publications

<http://eubusinessinjapan.eu/library/publications/>

### Technology Transfer Helpdesk

<http://www.eu-jp-tthelpdesk.eu/category/events/>



YEAR	TOPICS	AUTHOR	 text	 video	 map	LINK
2016	Industrial ("White") Biotechnology in Japan: Company Activities and Government Programs – and How to Become Involved. A Primer for European SMEs	SCHMID Rolf				
2016	Demand Analysis on Japan's Market in the Decommissioning of the Nuclear Plant	SCHMITTEM Marc				
2016	An Assessment on the Sources of Finance and Business Support For EU SME's Seeking to Internationalise in Japan	SMALLBONE David/MITSUI Itsutomo				
2016	Japan as a Hub for the Asian Market for European Companies	TAKAYAMA Megumi (Tepia Corporation Japan)				
2016	Challenges of the Japanese Market	VAN BENEDEN Olivier				
2016	E-learning/Online Language-Learning Market in Japan	VAN DER WEEEN Peter (Luminio bvba)				
2017	EU-Japan Collaborative Project on Intelligent Knowledge-as-a-Service (iKaaS)	GEORGOULAS Stylianos, SHINSAKU Kiyomoto				
2017	Japan Tax and Public Procurement	GRIEK Lyckle				
2017	Japan Tax and Public Procurement: Outline of Main Changes in Japanese Taxes for Fiscal	GRIEK Lyckle				
2017	Public Procurement in Japan – Opportunities for you?	GRIEK Lyckle				
2017	EU-Japan Collaborative Projects on Internet of Things and Smart cities: ClouT, FESTIVAL and BigClouT	GUERGEN Levent /YONEZAWA Takuro/ MAGGIO Martino				
2017	EU-Japan Smart City Project – City Platform as a Service (CPaaS.io)	HALLER Stephan				
2017	Differences Between European Management and Japanese Management: What to Expect After Being Acquired by a Japanese Company?	JACKSON Keith (SOAS)				

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YEAR	TOPICS	AUTHOR	 text	 video	 map	LINK
2017	Cross-Cultural Webinar Series Webinar 1: First contact	KESSEL Angela				
2017	Cross-Cultural Webinar Series Webinar 2: Sustaining Relations and Resolving Issues	KESSEL Angela				
2017	Cross-Cultural Webinar Series Webinar 3: Contract Negotiations	KESSEL Angela				
2017	Cross-Cultural Webinar Series Webinar 4: Managing Japanese Human Resources	KESSEL Angela				
2017	Biotech Market in Japan	KIM Nobuki (Fenetre partners)				
2017	Detergents and Soap Market in Japan	KIM Nobuki (Fenetre partners)				
2017	The Lot Market in Japan	KIM Nobuki (Fenetre partners)				
2017	The Japanese Start-up Ecosystem: Opportunities for EU Collaboration	MEYER Natalie (Tokyoesque)				
2017	Tokyo 2020 Games: Identifying Japan Market Entry & Partnership Opportunities for EU-based SMEs	MEYER Natalie (Tokyoesque)				
2017	Technology Transfer Webinar: Japan's Current Issues and Opportunities for EU Companies	MIYAZAKI Jun				
2017	Technology Transfer Webinar: Open Innovation and International Cooperation with Japanese Companies	NICOLAU Alexandre E.				
2017	EU-Japan Sunjet Project - Aeronautics Sector	PERELGRITZ Jean-Francois				
2017	Update on Cell Technology, Cell Therapy, Tissue Engineering and Gene Therapy in Japan	SCHMID Rolf				
2017	Technology Transfer Webinar: Infinity Computer	SERGEYEV Yaroslav				



# **SHORT PRESENTATION OF THE EU-JAPAN CENTRE'S ACTIVITIES**



## ABOUT THE CENTRE

Established in 1987, the EU-Japan Centre for Industrial Cooperation is a unique venture between the European Commission and the Japanese Government. It is a non-profit organisation whose objective is to **promote all forms of industrial, trade, science & technology or R&D cooperation between the EU and Japan**, as well as to improve EU and Japanese companies' competitiveness by facilitating exchanges of expertise and experience through a full range of support services.

The Centre's services benefit to participants from a variety of backgrounds, from engineering students seeking to immerse themselves in Europe's or Japan's business culture and language, to senior managers looking to consolidate their presence in Japan markets or get trained to the latest techniques in World Class Manufacturing.

The Centre's activities are under constant review to ensure that they are consistent with the actual current needs of EU and Japanese industry. The Centre's activities reflect the priorities of the EU and Japanese Authorities.

'Success stories', deliverables and testimonials from former participants confirm the relevance of the time, financial resources and energy invested in the Centre's activities.

## SERVICES TO BUSINESS

### BUSINESS MISSIONS TO JAPAN

The business missions organised by the Centre cover a variety of sectors and include lectures, case studies, company & factory tours, match-making and networking sessions, and much more. Most missions are organised in the margin of a relevant international trade fair (**Biotech, Nanotech, ICT, Food & Drink**) and target essentially SMEs and clusters.

### TRAINING IN THE EU AND JAPAN

In Japan, EU managers can discover the Japanese approach towards “**Worldx Class Manufacturing**” and meet senior Japanese industry leaders.

“**Lean in the EU**” offers EU managers a chance to visit world class European plants.

And the “**Lean Masterclass**” is a lecture series giving a sound introduction to the practical concepts of applied lean methods.

“**Get Ready for Japan**” is a training programme in Japan which offers EU managers a unique opportunity to experience and understand both cultural and economic elements of Japan’s business and technological achievements.

In cooperation with local members of the **Enterprise Europe Network**, the Centre organises **cross-cultural workshops** in the EU with a view to prepare European companies for doing business with Japan.

### INTERSHIP SCHEME FOR EU COMPANIES

With the ‘**Vulcanus in Europe**’ programme, EU companies can **host a highly skilled Japanese engineering student**, for 8 months, to help them in the development of their business with Japan.

The (master level) students are carefully selected to meet the host company’s requirements, and will speak the host company’s language when starting their internships after a 4-month intensive language training.



## INFORMATION SERVICES

With its “About Japan” **information portal**, its **publications**, its **webinar series**, its **eLearning** resources and helpdesk, the Centre provides extensive information to EU companies interested in exploring opportunities in the Japanese market.

In addition, SMEs can submit their questions to the Centre’s **helpdesk**.

Typical inquiries relate to general market information, import restrictions, potential business partners, local investment climate etc.

Two specific helpdesks are completing this information service:

- Japan tax & public procurement helpdesk
- cluster helpdesk

## PARTNERING SUPPORT

As the official **representative for Japan** of the **Enterprise Europe Network**, the Centre gives access to SMEs to the biggest worldwide network (60 countries – 3,000 experts – 600 organisations) offering support towards international partnerships and business innovation (Horizon 2020).

## OPERATIONAL SUPPORT

SMEs can avail themselves of the Centre’s logistical support service “**Step in Japan**” to help them enter into (or expand) their presence in Japan’s markets. Facilities include a “**hot desk**” in central Tokyo, telephone and internet, access to meeting facilities, as well as assistance with using the Enterprise Europe Network services.

Selected European SMEs can benefit from the Centre’s “**Keys to Japan**” service and receive a personalised **market-entry business plan** to help them sell their product or service on the Japanese market.

## POLICY ANALYSIS

### POLICY SEMINARS

The Centre organises **seminars** and workshops both in the EU and Japan about business or policy issues of common interest to European and Japanese companies, such as:

- Climate change, environment & energy
- Trade & investment
- Industrial policy

### EU-JAPAN BUSINESS ROUND TABLE

The “EU-Japan Business Round Table” consists of 50 CEOs or senior executives from leading EU and Japanese companies. It is a **forum for sectoral or cross-sectoral discussions** among EU and Japanese business leaders meant to review current factors affecting their economies and produce recommendations to the EU and Japanese governments.

### RESEARCH FELLOWSHIPS IN JAPAN

“**Minerva**” is a 6-month in-house fellowship scheme in Japan for EU and Japanese professionals, designed to support research in EU-Japan economic and industrial issues, and produce **policy reports**.

### JAPAN INDUSTRY AND POLICY NEWS

The Centre publishes a **monthly newsletter** with information from various Japanese language sources, including newly released policy documents, surveys, and official statements, in the context of EU-Japan industrial cooperation.





## R&D – INNOVATION

### R&D – INNOVATION

#### PROMOTION OF H2020 IN JAPAN

The Centre is the **National Contact Point (NCP) for Horizon 2020** to provide local support towards Japanese participation in Horizon 2020.

The Centre manages activities whose objective is to encourage **EU-Japan cooperation in Science, Technology and Innovation** through a range of support services: policy dialogues, bilateral information services, networking events, helpdesks and promotion of human resources for collaborative projects.

#### EU-JAPAN TECHNOLOGY TRANSFER HELPDESK

The helpdesk aims at supporting EU and Japanese companies, universities, research centres and individuals in their **search for technologies** and understanding of the mechanics of **tech transfer transactions**.

It helps bridging the gap between technologies available in Japan and the EU.

#### SPACE JAPAN

“**Space.Japan**” is a service aimed at promoting **EU-Japan Cooperation in Space related industries and technologies** both upstream and downstream with a focus on specific sub-sectors such as earth observation and global navigation satellite systems. It includes the organisation of a **Europe-Japan Forum**, workshops and an information helpdesk addressed to industrial actors involved in Space, which can contribute to future industrial EU-Japan partnerships.

## INTERNSHIPS IN JAPAN FOR EU ENGINEERING STUDENTS

“**Vulcanus in Japan**” consists of **industrial placements** for EU master students in science or engineering. The students follow a 4-month intensive Japanese language course, then do an 8-month internship in a Japanese company.

The scheme offers students a unique opportunity to learn Japanese and get acquainted with advanced technologies and corporate culture in Japan, benefiting from an excellent springboard for a future career with interaction with Japanese business and people.

The same annual scheme exists for Japanese students spending a year in the EU.

## CLUSTER SUPPORT HELPDESK

The Centre runs a helpdesk for the benefit of EU and Japanese clusters, with a view to help them **identify potential cooperation** partners in both regions.

The Centre also facilitates access to information about EU and Japanese clusters in general, and existing cooperation set-ups between EU and Japanese clusters.





30 YEARS  
周年



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**EU-Japan Centre**  
for Industrial Cooperation