EU-Japan Cluster Match-making Event on Green Materials and Clean Technologies November 12-15, 2012 Tokyo

Mission report

This initiative is supported by the European Commission's Directorate-General for Enterprise and Industry and financed under the Competitiveness and Innovation Framework Programme (CIP).

Index

1. Reminder of the event details and objectives

1.1 Place and dates

The event took place in Tokyo from the 12th to the 15th of November 2012. More precisely, the delegation gathered on the first day at the EU-Japan Centre in the centre of Tokyo, the second day consisted of companies visits in Yokohama and Kawasaki (outside Tokyo), and the last two days were dedicated to the B2B meetings in the framework of the GREEN INNOVATION EXPO 2012 at Tokyo Big Sight, a large exhibition centre.

Figure 1 – Event place

1.2 Topic(s)

The event was focused on the topic of Green Materials and Clean Technology, i.e.:

- Materials & components promoting energy saving (eg. Urethane materials, Display components, Nanotechnology-related materials, Organic EL materials, Coating materials);
- Materials & components promoting reduction of environmental burdens (eg. Ceramic materials, Intelligent materials, Liquid crystal materials, Photocatalysis-related materials, Synthetic rubbers, critical raw materials' substitute, Rare earth substitute materials,

Biomimetics-related materials, Nanotechnology-related materials, Inorganic materials, Membrane-related materials, Surface active agents);

- Materials & components promoting weight reduction (eg. High polymer materials, Chemical fibers, Film materials, Carbon materials, Organic materials, Inorganic materials, Molded plastic products, Unwoven cloths, Sheet materials, Nanotechnology-related materials);
- Materials & components for energy generation & storage (eg. Conductive materials, Semiconductor devices, Nanotechnology-related materials, Organic materials, Battery-related materials);
- Materials & components promoting longer life (eg. Metallic materials and minerals, Heat-resistant materials, High-function resins, Nanotechnology-related materials);
- Technologies supporting the development of new applications for materials and components (e.g. test equipment, recycling technologies, sensor technologies and analysers).

1.3 Objectives

The objectives of the event were the following:

- Establish and bring to the Japanese GREEN INNOVATION EXPO 2012 a delegation composed of 18 participants representing the most innovative European clusters and SMEs in the field of Green Materials and Clean Technology and having a strong interest for the Japanese market;
- establish during this exhibition and particularly through B2B meetings a first contact between these participants and Japanese clusters and SMEs in view of further collaboration:
  - Memorandums of understanding or cooperation agreements (for clusters and SMEs);
  - R&D partnerships (for clusters and SMEs);
  - Business deals (for SMEs);
  - Intercluster projects (for clusters).

2. Event attendees list

2.1 Europe

Contact Person	Organisation	Type	e-mail	Comments
Salvador JIMENEZ	AVAESEN	Cluster	salvador.jimenez@avaesen.es	
David SALVO	Power Electronics	SME	dsalvo@power-electronics.com	
Rune RASMUSSEN	CCC	Cluster	rur@cphcleantech.com	
Mads LONTOFT	Abeo	SME	ml@abeo.dk	
Hatice ANIS	CD2E	Cluster	h.anis@cd2e.com	
Christian THOMAS	Terra Nova	SME	christian.thomas@tnmetal.fr	Absent, represented by CD2E
Philipp WOLFF	CleanTech NRW	Cluster	p.wolff@dcti.de	
Peter WELTERS	Phytowelt	SME	p.welters@phytowelt.com	
Jacob MOGENSEN	INBIOM	Cluster	jm@agropark.dk	
Lars VISBECH SORENSEN	WebsTech ApS	SME	lvs@agropark.dk	
Mariusz STACHNIK	Mazovia ICT Cluster	Cluster	mstachnik@klasterict.pl	
Arek WOJTIK	Ekokogeneracja S.A.	SME	arek.wotjtik@wp.pl	
Patrik KÄMPE	Paper Province	Cluster	p.kampe@paperprovince.com	
Anders WASSBERG	Cellcom AB	SME	anders.wassberg@cellcomb.com	
Patrick VUILLERMOZ	Plastipolis	Cluster	patrick.vuillermoz@plastipolis.fr	
Constantin IACOB	Lifco Industrie	SME	contact@lifco-industrie.com	
Enzo SISTI	VenetoNanotech	Cluster	enzo.sisti@venetonanotech.it	
Roberto CAFAGNA	Nanto Protective Coating	SME	np@nantopaint.com	
Chrsistophe GUICHARD	European Commission	Other	christophe.guichard@ec.europa.eu	
Michael REID	European Expert	Other	mreid@milestonenpd.co.uk	
Jessica MICHELSON	EU-Japan Centre	Other	jessica@eu-japan.eu	
Guillaume ROUX	inno TSD	Other	g.roux@inno-group.com	

See the presentation of the couples cluster SME in 7.1

Figure 2 - The EU delegation

2.2 Host country

Contact Person	Organisation	Type	e-mail	Comments
Junji ADACHI	Fukuoka i3 Center for Organic Photonics and Electronics Research	Cluster		
Mitsuhiro KURASHIGE	Yamaguchi Green Materials Cluster	Cluster	kurashige@iti-yamaguchi.or.jp	
	Tokai Region Nanotechnology Manufacturing Cluster	Cluster		
Seiichi OKAZAKI	Keystone Technology Inc.	SME	s.okazaki@keystone-tech.co.jp	Visited company
	Kawasaki Biomass Electric Power Co., Ltd.	SME	www.kawasaki-biomass.jp	Visited company

See the complete list of Japanese companies in annex.

3. Summary of the plenary sessions

3.1 First day (12/11/12): preparation

3.1.1 Welcome and introduction

The first day of the event was dedicated to the preparation of the delegation to the Japanese market. It took place at the EU-Japan Centre Tokyo office. It started with a welcome by the EU-Japan Centre General Managers: Silviu JORA (EU-side), Hiroshi TSUKAMOTO (Japan-side) highlighting the 25 years of existence of their organisation and the importance to promote such collaboration especially at cluster level. It was followed by a round table presentation of the participants (see 7.1), an introduction of the mission objectives by Christophe GUICHARD (European commission DG Enterprise) and the presentation of the programme by Motohiro KITA (EU-Japan Centre).

Figure 3 - Hiroshi TSUKAMOTO (EU-Japan Centre) welcoming the delegation

3.1.2 The Japanese biomaterial industry

After this introduction session, Prof. Yoshiharu KIMURA (Center for Fibre and Textile Science of Kyoto Institute of Technology) made a presentation on the Japanese Green Sustainable Chemistry, reviewing the new types of biomaterials used nowadays in the Japanese industry (cellulosic/ploylactids) and comparing their characteristics with the materials used until the nineties (based on petrochemicals products). This presentation was very relevant especially for the clusters and SMEs in the field of polymers, paper and biomass

3.1.3 The Japanese culture

After lunch, the participants attended an introduction to the Japanese culture by Mr. Donald NORDENG (Ecocert Japan), teaching them the keys for dialogue with Japanese companies (how to present yourself, how to behave, what to expect...). This presentation revealed useful to prepare the participants for the B2B meetings.

3.2 Second day (13/11/12): company visits

On the second day, the delegation took a bus tour and visited two Japanese companies: Keystone Technology (in Yokohama) in the morning and the Kawasaki Biomass Plant (in Kawasaki) in the afternoon.

3.2.1 Keystone Technology

Keystone Technology produces LED-based equipment capable to generate photosynthesis and thus to grow vegetables in vitro, for private or hotel/restaurant usage.

Its manager, Seiichi OKAZAKI, made a presentation of the company technology and strategy, showed the participants some cultivation systems and offered them vegetables produced in these systems for tasting.

Figure 4 - Keystone Manager presenting his company

Figure 5 – Inside a cultivation system

Figure 6 – The LED technology

Figure 7 – Keystone showing the cultivation system

Figure 8 – Participants tasting the vegetables

This visit revealed very useful especially for biotechnology SMEs such as Phytowell (Peter WELTERS) who visited once more the company after its B2B meeting with the Manager of Keytsone Technology.

http://www.keystone-tech.co.jp/

3.2.2 Kawasaki Biomass Plant

The Kawasaki Biomass Plant transforms forest by-products (wood chips) into gas for the production of power, with a capacity of 33 000 kW for 180 000 tons of wood chips.

The participants were conducted through the site and were shown its different facilities (Chip Yards, Boiler, Turbine Generator, etc.).

Figure 9 – Wood Biomass

Figure 10 – Transforming Wood Biomass

Figure 11 – Chip Yards

Figure 12 – The boiler

This visit revealed very useful especially for the biomass and paper clusters (INBIOM and the Paper Province) since they both deal with biomass / forest waste industries.

http://www.kawasaki-biomass.jp/

3.3 Third day (14/11/12): working session

3.3.1 Introduction

Before the start of the B2B session, a plenary session was hold in a meeting room of Tokyo Big Sight in the morning of the third day in order to present the European delegation of clusters and SMEs to the Japanese actors (mostly clusters), and to exchange on the challenges and opportunities of the cooperation between European and Japanese clusters.

The session, moderated by Jean-Michel MOLLIER (ERAI), was introduced by Silviu JORA followed by Hirofumi ONO (Japanese Ministry of Economy, Trade and Industry) and Christophe GUICHARD reminding and highlighting the importance of this mission.

Figure 13 - Christophe GUICHARD presenting the mission

3.3.2 Cluster presentations

Patrick VUILERMOZ (Plastipolis cluster) made a short presentation of the WIINTECH project, a project supported by the EC DG Enterprise, gathering European clusters in the field of materials (polymers) - including the Veneto Nanotech Cluster which was represented in the delegation by Enzo SISTI – with the aim of analysing foreign markets (outside EU) through existing clusters and implementing an internationalisation strategy towards these markets.

Guillaume ROUX (inno TSD) presented the delegation by couple cluster-SME (9 couples, see the presentation of the couples cluster SME in 7.1).

Figure 14 – The European delegation of cluster representatives (front row) and SMEs representatives (back row)

Figure 15 - Overview of the EU delegation

The three representatives of Japanese clusters presented their clusters:

- Junji ADACHI, Fukuoka i3 Center for Organic Photonics and Electronics Research: creation of a world-class center for the development of advanced LSI technology systems;
- Mitsuhiro KURASHIGE, Yamaguchi Green Materials Cluster: establishment of a world-leading center (Green Valley) for industry and R&D relating to green materials, natural resources and energy saving materials;
- Tokai Region Nanotechnology Manufacturing Cluster: creating environmentally-friendly advanced functional materials and devices based on advanced plasma nanotechnology science and engineering. The cluster already collaborates with EU clusters (Minalogic, Grenoble).

Figure 16 – Presentation of the Japanese clusters

Figure 17 – Presentation of the Japanese clusters

3.3.3 Discussion on green materials

A presentation was made by Michael REID (European expert in Green Materials) as part of the exchange of view-panel discussion between Japanese and European cluster delegates. Below is a synthesis of the presentation and the subsequent discussions.

Figure 18 - Presentation of Michael REID (European expert in Green Materials)

Opportunities

There are three types of opportunity for green materials:

- Short term: reused or recycled materials: the main purpose of these is making the most of diminishing resources.
- Long term: replacement materials. what can we replace, rare or energy hungry metals, polymers & OPC (Portland cement) with permanently?
- Materials that allow green things to happen: cheaper PV, more efficient energy use, cheaper wind power. But low cost is imperative to avoid serious negative economic consequences.

Examples

- Depolymerisation/devulcanisation – These technologies get over some problems of plastic and rubber recycling, the main one being the limited number of cycles possible before the polymer is too degraded to use.
- Biopolymers, these use plant or animal materials to create sustainable polymers. The biggest problem being the food versus material ethical discussion.
- Geopolymers, these are analogues of oil-based polymers using sustainable and environmentally friendly feedstocks as well as having much lower embodied energies than traditional polymers. They are an exiting and rapidly growing field of development mainly in France, UK and Czech Republic as well as United States and Australia.
- Graphene, an exciting new material made from graphite that is many times stronger than steel and very conductive. It stands to be a large part of the future of electronic components, metal replacement and copper conductor replacement. This was discovered in UK and earned its inventors a Nobel prize.
- Fibres, are a useful replacement for glass or carbon fibre, both of which are very energy hungry. One notable example is the use of waste vegetable fibres by Cellucomp.
- Nanotechnology, is rapidly discovering more cost-effective ways to collect photovoltaic power and produce very high efficiency lighting and electronics.
- Synthetic Photosynthesis is a large field of research that aims to produce energy materials such as oils directly from sunlight, making the production of oil in areas not suitable for food production or photovoltaic generation possible.
- Algal material supply is a high investment area seeking to overcome the cost of production barriers to oil production in photobioreactors.

Barriers to Cluster Cooperation

Competitive routes to development: it is crucial that the technologies developed will produce materials that are likely to be competitive once placed on the market. History is littered with great ideas, some of which have worked well but have eventually proved to be not cost effective in application. This accounts for a great majority of such projects and their failure.

Intellectual property ownership: lack of clarity and agreed exploitation routes often gives rise to conflict and failure. This aspect must be addressed and agreed as soon as possible.

Finding genuine synergy: partners must all see a win-win outcome of the cooperation. They must also possess genuinely complementary skill sets and contributions to the project. Many well-meaning projects are set up without firmly establishing this aspect of the project and amount to nothing.

Funding structures: the timescale, amount and sources of funding for all parties must be fully understood and supply sufficient funds for all parties for sufficient time for successful completion of the project.

Exploitation routes: all parties must identify, understand, agree and, above all, establish the validity, of valid and profitable exploitation of the technology on completion of the project.

Barriers to green material development

Costs of development: the full costs of development can be too large for one organisation to fund. International cooperation can overcome this barrier.

Costs of green materials versus current: often, current unsustainable materials are much cheaper to produce. This creates a barrier to development. For instance in the 1980s, when geopolymers were first developed, there was little interest because oil was $9 a barrel. Now oil is $110 a barrel the economics makes geopolymers competitive. A clear judgement needs to be made of the current and future comparative costs to overcome this barrier.

Raw material availability: certain green materials require completely new supply chains for their mass production. Lack of these supply chains can obstruct the material's development.

Acceptability of green alternatives: ethical concerns can obstruct green materials. The most recent being the production of sugar cane in Brazil for biopolymer feedstocks. If the production substitutes food production or required destruction of rainforest (like palm oil production has), then food prices go up and the poorest are at risk of starvation.

Vested interests: for instance, if a new green material substitutes for a material produced unsustainably by a business that has just invested $20m in a new production plant, there may be obstruction from that business.

Lack of true understanding of the opportunities and going down blind alleys: often at the early stage of development, projects are set up and started without proper market, and technical due diligence. This leads to unnecessary failures and can cause technologies, institutions and organisations to loose credibility amongst those providing funding. This loss of credibility can obstruct future developments despite their good prospects.

This is whole field too big, too important and requires too much resource and concerted work to be done by individual organisations. International cooperation amongst centres of excellence throughout the world is the only viable solution.

Subsequent discussions

Graphene: a great deal of interest was expressed in this material which is currently being developed in the UK and also in several other European countries. Discussions centred around their potential to displace rare materials in electronics, to replace copper in provision of conductors in electricity supply and motors and to allow new extra lightweight structures to replace the carbon hungry use of steel and concrete.

Geopolymers: the future expansion of geopolymers was discussed as a replacement for oil-based plastic materials, cast metals and electrical ceramics. Lightweight concrete replacement was also discussed.

Fibres: vegetable waste fibre composites were also interesting have been discussed.

Cooperation structuring: there was widespread agreement about the need for proper structuring for cooperation partnerships to ensure successful completion and rewarding exploitation of green materials projects. Several tales of massive failures in this area because of poor setting up were told.

3.3.4 Exchanges between EU and Japanese clusters

Finally, EU and Japanese clusters exchanged about possible cooperation between themselves and their members in the field of Green Materials. The main discussions can be summarized below:

Although clusters are quite different in European and in Japan, even inside Europe (big, smalls, R&d/business, international/national…), there is room for collaboration especially in useful technologies for both sides.

Although Japanese clusters are already collaborating with European clusters (numerous examples in the field of biotechnology, automotive, medicine, etc.), their main focus is South East Asia and especially Singapore and Honk Kong.

Figure 19 - Discussions between the Japanese and the European participants

The next European programme for research (Horizon 2020) might offer European clusters cooperation opportunities with Japanese clusters if these ones are funding by Japanese programmes.

This mission is the first initiative of the European Commission to bridge European clusters with Japanese clusters and looks quite promising in terms of future collaboration between these clusters.

4. Summary of the B2B sessions

4.1 General description

4.1.1 The fair

The B2B session took place from Wednesday 14 afternoon to Thursday 15 in the evening in Tokyo Big Sight exhibition hall, in the framework of the GREEN INNOVATION EXPO 2012. This exhibition, gathers 200 companies and 300 booths, and bringing approximately 35 000 visitors.

For more information about this event, see: http://www.jma.or.jp/green/en/about/about.html

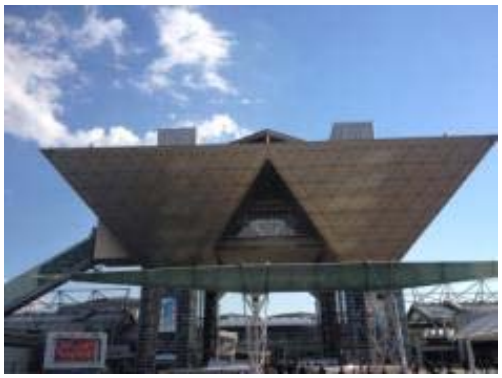


Figure 20 - Tokyo Big Sight

Figure 21 – The fair

Figure 22 - A company booth

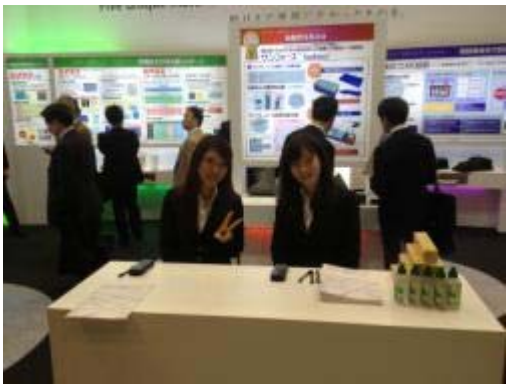


Figure 23 – Company hostesses

Before the start of the event, a booth dedicated to the European delegation was prepared, showing the posters of the couples cluster SME, as well as other relevant materials (clusters' and SMEs' presentation leaflets, ongoing internationalization projects such as the WIINTECH project and European Commission documents on clusters and innovation). Many Japanese participants were interested about this booth.

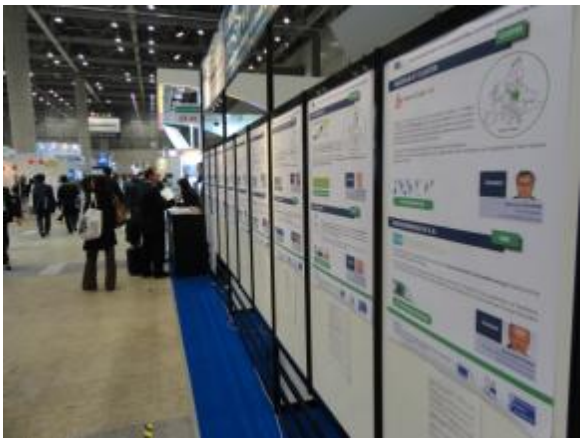


Figure 24 – The EU-Japan mission booth

Figure 25 – A Japanese participant asking information

At the beginning of the fair, a session was organised on the site in order for the clusters and their SMEs to have the opportunity to present themselves to an attendance composed of the trade fair exhibitors and visitors. This presentation session had been rehearsed by each cluster and SME representative the day before, in order to coordinate with the "no simultaneous" translation in Japanese.

Further to the presentation, and thanks to the information displayed on the booths, Japanese companies shown interest in visiting the booths, collecting information or requesting meetings with some of the participating companies.

Figure 26 - Presentation of PHYTOWELL

4.1.2 The B2B meetings

The B2B (and C2C – cluster to cluster) meetings took place in different ways:

- B2B and C2C organised with clusters and companies encountered during the visits (Keystone Technology), the plenary session (the three Japanese clusters), and with other Japanese organisations (such as the French Chamber of Commerce in Japan) that took place in the meeting boxes behind the EU-Japan mission booth;
- B2B organised "on the spot": SMEs and clusters visiting booth of companies of the fair and making with the help of the EU Japan Centre and ERAI intermediaries for translation
- B2B organised by the SMEs with their own contacts outside the fair (CELLCOMB, PHYTOWELL, POWER ELECTRONICS).

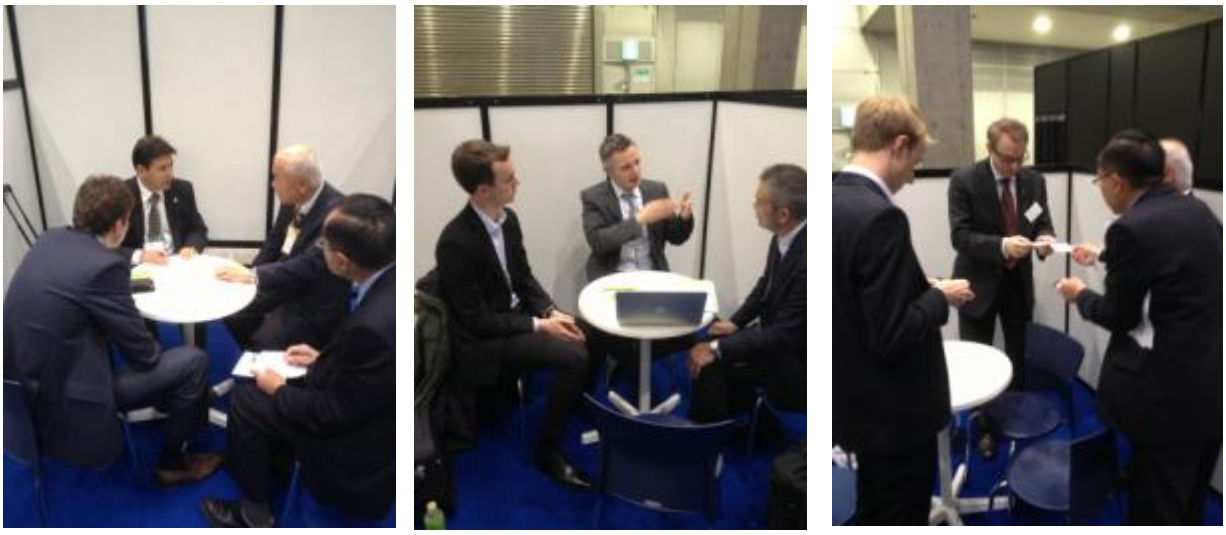


Figure 27 – B2B and C2C meetings at the EU-Japan mission booth

Figure 28 – B2B "on the spot"

Indeed, despite the lack of pre-organised B2B meetings, most of the European SMEs turned out to be quite proactive by visiting booths and establishing first contacts with Japanese enterprises, with the help of the EU-Japan Centre and ERAI providing translation intermediaries.

In total, more than 64 B2B and C2C meetings have taken place (see details in 4.2.2) in the framework of the exhibition plus 2 outside the fair. These contacts will be mostly followed by further email exchanges and video conferences in the coming months starting from December 2012 and sometimes by visits of Japanese companies in Europe.

4.1.3 Videos

A series of videos interviews from the participants after most of their B2B meeting has been realised.

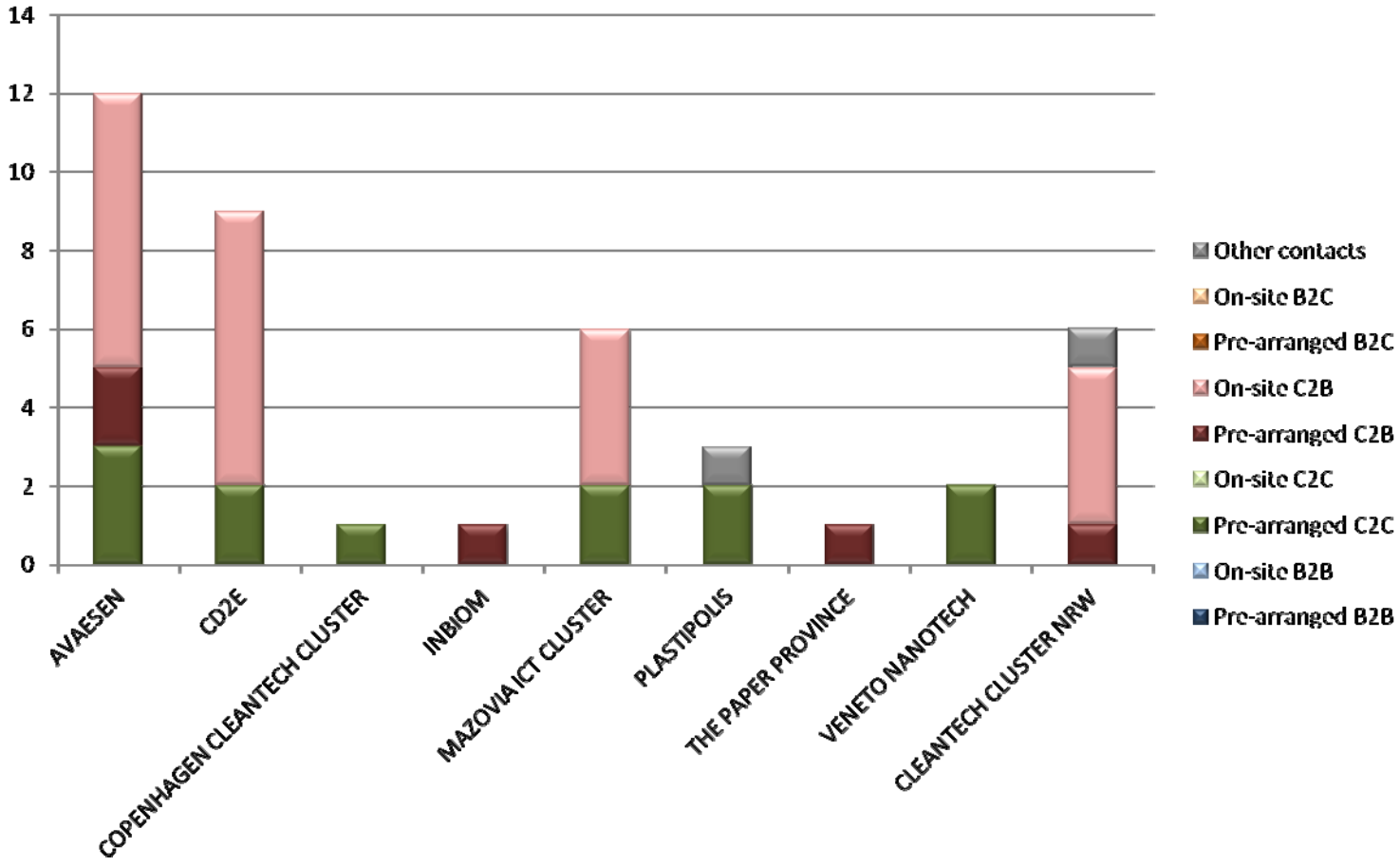
4.1.4 The debriefing session

At the end of the last day, the participants gathered for a last session to give one by one their impression of the event (organisation, visits, B2B...). Their feedbacks are summarized in section 5.2 (qualitative evaluation).

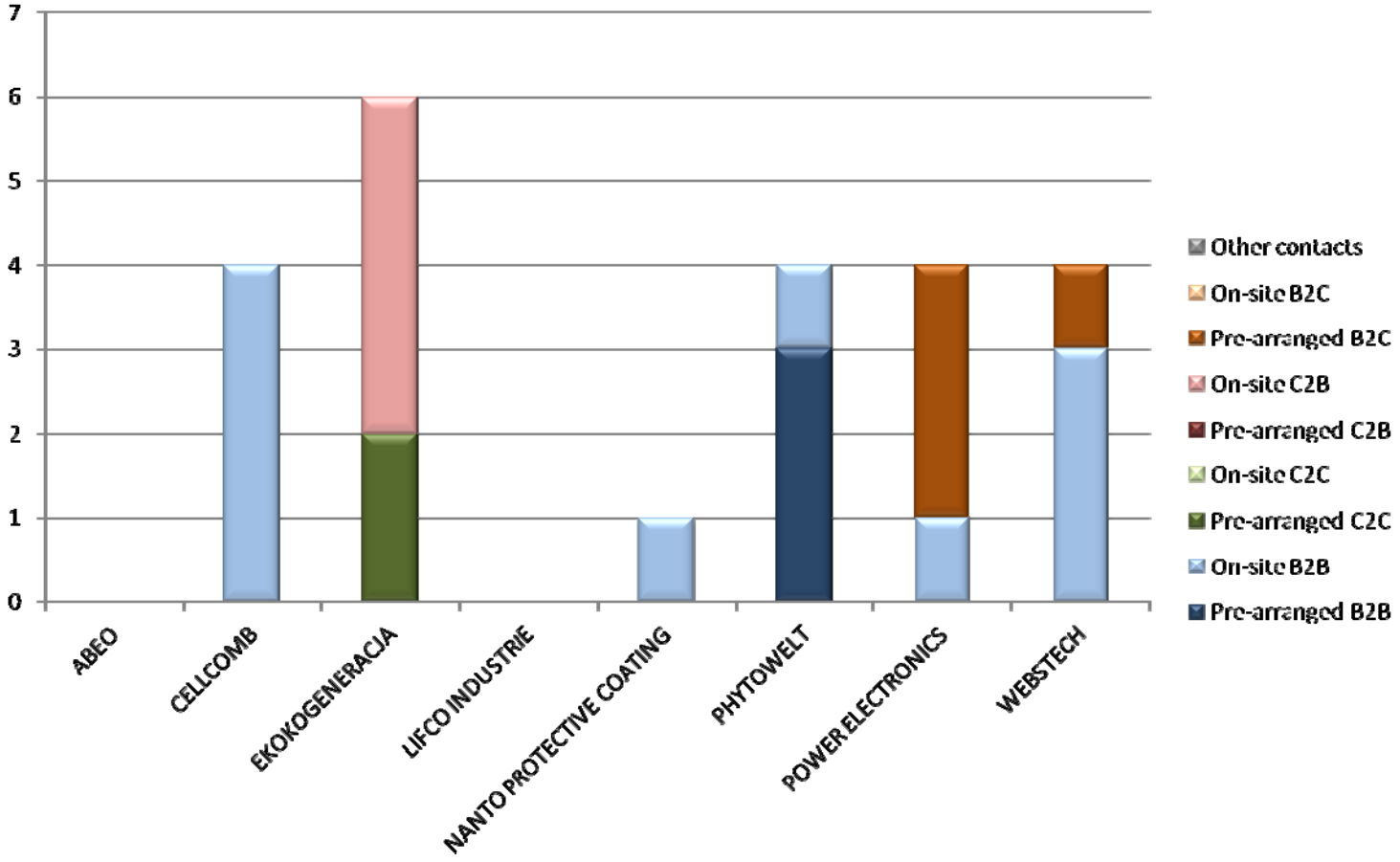
4.2 B2B session summary

4.2.1 Figures

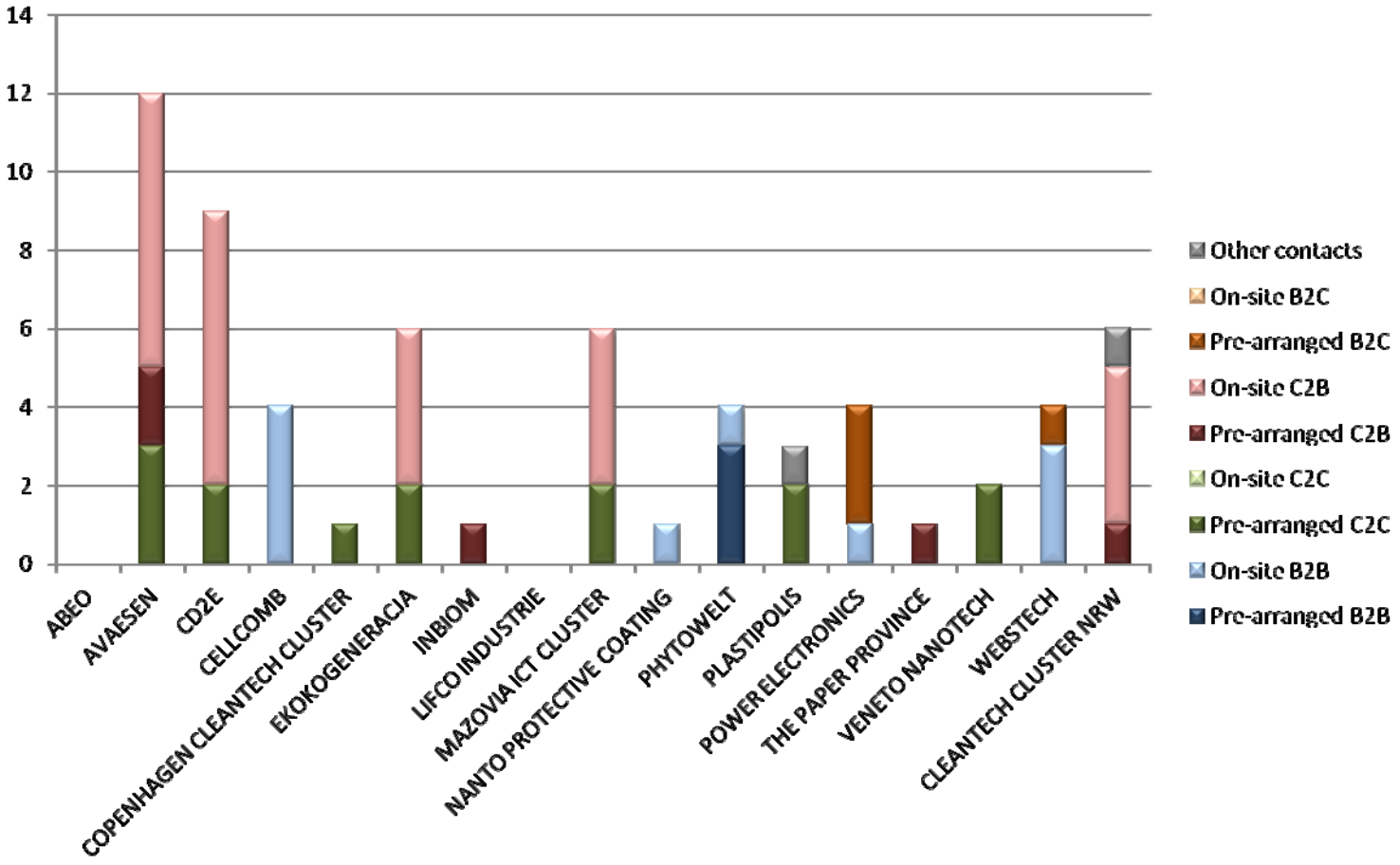
Number of contacts established by the **clusters**: 41



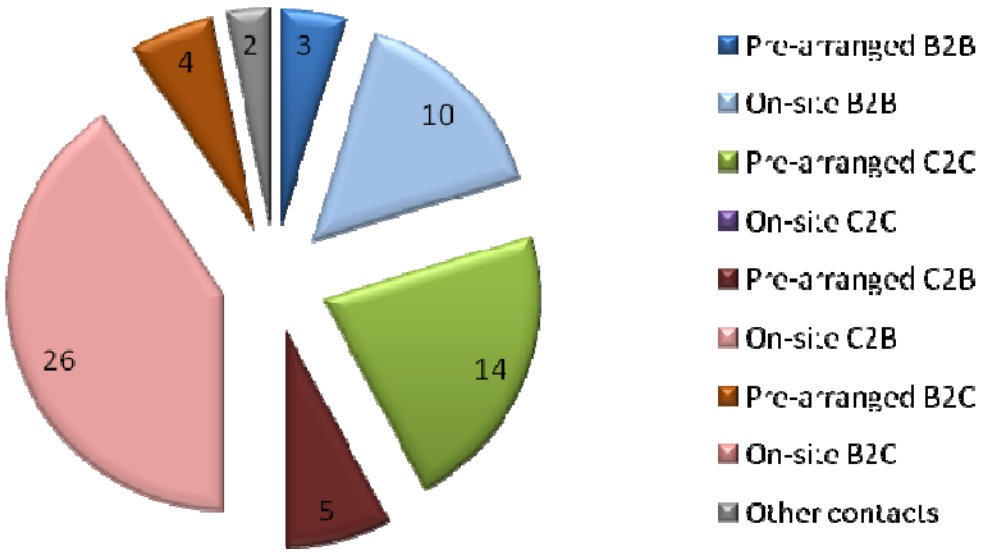
Number of contacts established by the **SMEs**: 23



Number of contacts established by **all participants**: 64



Types of contacts:



4.2.2 Detailed table

Organisation name	Organisation type		B2B meetings		C2C meetings		C2B meetings		B2C meetings		Other contacts	Details
	Cluster	SME	pre-arranged	on-site	pre-arranged	on-site	pre-arranged	on-site	pre-arranged	on-site		
CLEANTECH CLUSTER NRW	x						1	4			1	1. KEYSTONE (LED growing vegetables) *pre-arranged* 2.PANASONIC *on-site* 3.GLOBAL INFORMATION INC *on-site* 4.TEAMWIN LED *on-site* 5.SUMITOMO CHEMICAL *on-site* 6. ALISTEZ *other contacts*
PHYTOWELT		x	3	1								1.KEYSTONE (LED growing vegetables) *pre-arranged* 2. ASAHI KASEI *pre-arranged* 3. KRI *pre-arranged* 4. HOB CO. LTD. *on-site*
COPENHAGEN CLEANTECH CLUSTER	x				1							1. FUKUOKA I3 CENTER FOR ORGANIC PHOTONICS AND ELECTRONICS RESEARCH *pre-arranged*
ABEO		x										
INBIOM	x						1					1.KEYSTONE (LED growing vegetables) *pre-arranged*
WEBSTECH		x		3					1			1.KEYSTONE (LED growing vegetables) *pre-arranged* 2.TAGASAKO THEMA ENGINEERING *on-site* 3.THE NIPPON SIOWAK *on-site* 4.GLOBAL WATER INTELLIGENCE *on-site*

AVAESEN	x				3		2	7				1. FUKUOKA INDUSTRY, SCIENCE TECHNOLOGY FOUNDATION *pre-arranged* 2. YAMAGUCHI GREEN MATERIALS CLUSTER *pre-arranged* 3. WEDORTHUR *pre-arranged* 4. TOKAI REGION NANOTECHNOLOGY MANUFACTURING CLUSTER pre-arranged 5. KEYSTONE TECHNOLOGY *pre-arranged* 6. CHIYODA CORPORATION *on-site* 7. KANKEN TECHNO *on-site* 8. SUMITOMO CHEMICAL *on-site* 9. YASKAWA ELECTRIC CORPORATION *on-site* 10. JAPAN MANAGEMENT ASSOCIATION *on-site* 11.MANITOBA GROUP INC *on-site* 12. KEYSTONE *on-site* 13. KATAYAMA NALCO Not specified
POWER ELECTRONICS		x		1					3			1.CHIYODA *pre-arranged* 2.HITACHI *pre-arranged* 3.OKAWARA *pre-arranged* 4.EUROPEAN CLEAN ENERGIES *on-site*

CD2E	x				2			7				1.YAMAGUCHI GREEN MATERIAL CLUSTER *pre-arranged* 2. TOKAI REGION KNOWLEDGE CLUSTER *pre-arranged* 3. KOBE STEEL *on-site* 4.TOKYO METROPOLITAN INDUSTRIAL TECHNO RESEARCH CENTRE *on-site* 5. ITOCHU ENEX *on-site* 6. COSMOTEC BUSINESS CORPORATION *on-site* 7. OKAWARA MFG CO *on-site* 8. KRI INC (formerly Kansai Research Institute, Inc.) *on-site* 9. SHIKOKU KOSEN CENTER for Innovative technologies *on-site* 10. AGRU PLASTICS *on-site*
PLASTIPOLIS	x				2						1	1. YAMAGUCHI GREEN MATERIAL CLUSTER *pre-arranged* 2. FUKUOKA I3 CENTER FOR ORGANIC PHOTONICS AND ELECTRONICS RESEARCH *pre-arranged* 3.FRENCH CHAMBER of COMMERCE *other contacts*
LIFCO INDUSTRIE		x										
VENETO NANOTECH	x				2							1. YAMAGUCHI GREEN MATERIAL CLUSTER *pre-arranged* 2. TOKAI REGION NANOTECHNOLOGY MANUFACTURING CLUSTER (polymers) *pre-arranged*
NANTO PROTECTIVE COATING		x		1								1.BESTERRA (robots for painting) *on-site*

MAZOVIA ICT CLUSTER	x				2			4				1.YAMAGUHI GREEN MATERIALS CLUSTER *pre-arranged* 2. JSJ PNEUMATIC CO. LTD. *on-site* 3. TAKASAGO THERMAL ENGINEERING CO. LTD *on-site* 4. FUKUOKA I3 CENTER FOR ORGANIC PHOTONICS AND ELECTRONICS RESEARCH *pre-arranged* 5. THE PROMINE PROJECT *on-site* 6. YUGE NATIONAL COLLEGE *on-site*
EKOKOGENERACJA		x			2			4				1.YAMAGUHI GREEN MATERIALS CLUSTER *pre-arranged* 2. JSJ PNEUMATIC CO. LTD. *on-site* 3. TAKASAGO THERMAL ENGINEERING CO. LTD *on-site* 4. FUKUOKA I3 CENTER FOR ORGANIC PHOTONICS AND ELECTRONICS RESEARCH *pre-arranged* 5. THE PROMINE PROJECT *on-site* 6. YUGE NATIONAL COLLEGE *on-site*
THE PAPER PROVINCE	x						1					1. MARUBENI *pre-arranged* 2. MAZOVIA CLUSTER ICT *synergies*
CELLCOMB		x		4								1.WAKOH ENTERPRISES ENGINEERING CO. LTD : *on-site* 2.PROSEED CORPORATION: *on-site* 3.QUINTILES TRANSNATIONAL JAPAN K.K.: *on-site* 4.NIPPON PAPER (food packaging) *on-site*
Total : 64			3	10	14	0	5	26	4		2	

5. Evaluation

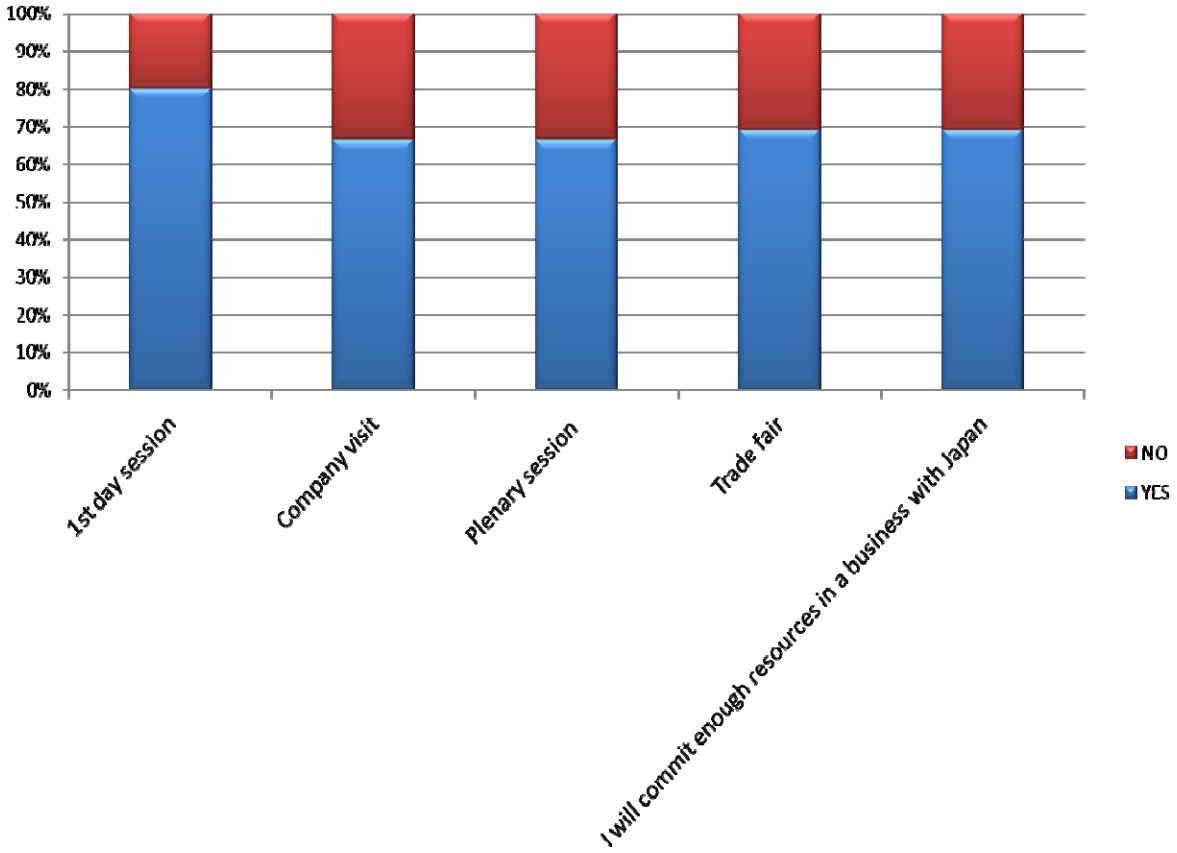
This evaluation was made on the basis of questionnaires given to the participants at the end of the mission, but also from the inputs given during the debriefing session.

5.1 Quantitative evaluation (indicators)

5.1.1 Previous engagement in a business relationship with Japan

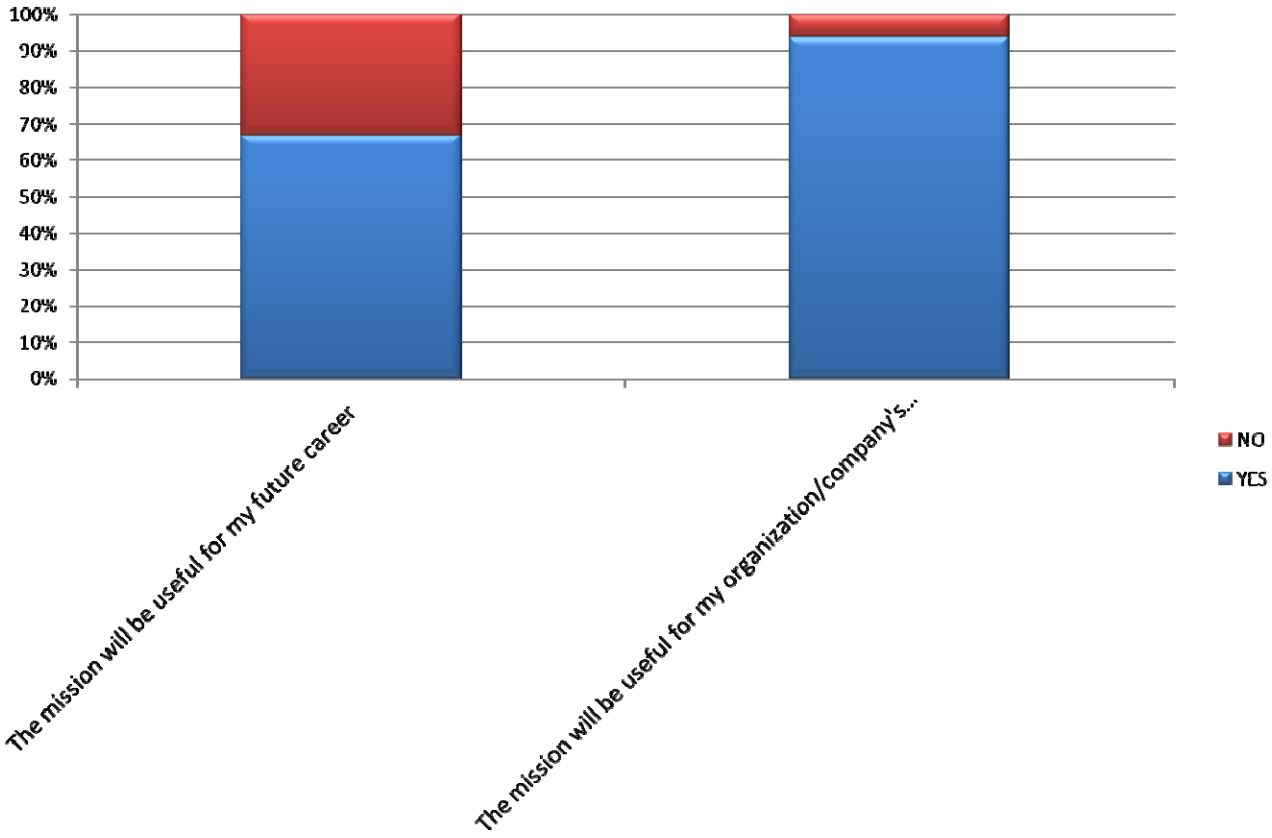
More than half of the participants businesses/clusters had previous business relationship with Japan.

5.1.2 Relevance of the sessions



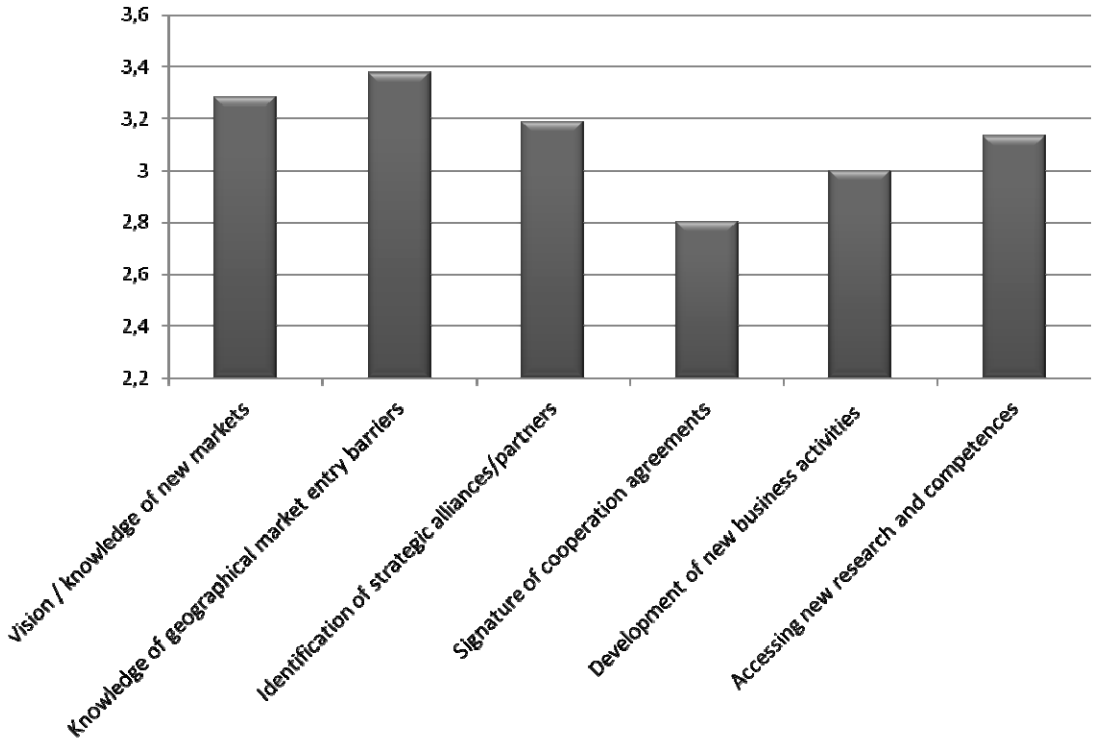
The participants have preferred plenary and informative sessions, whereas the trade fair seems to be the less favourite session although it was supposed to be the most important of the mission.

5.1.3 Personal value on the mission experience



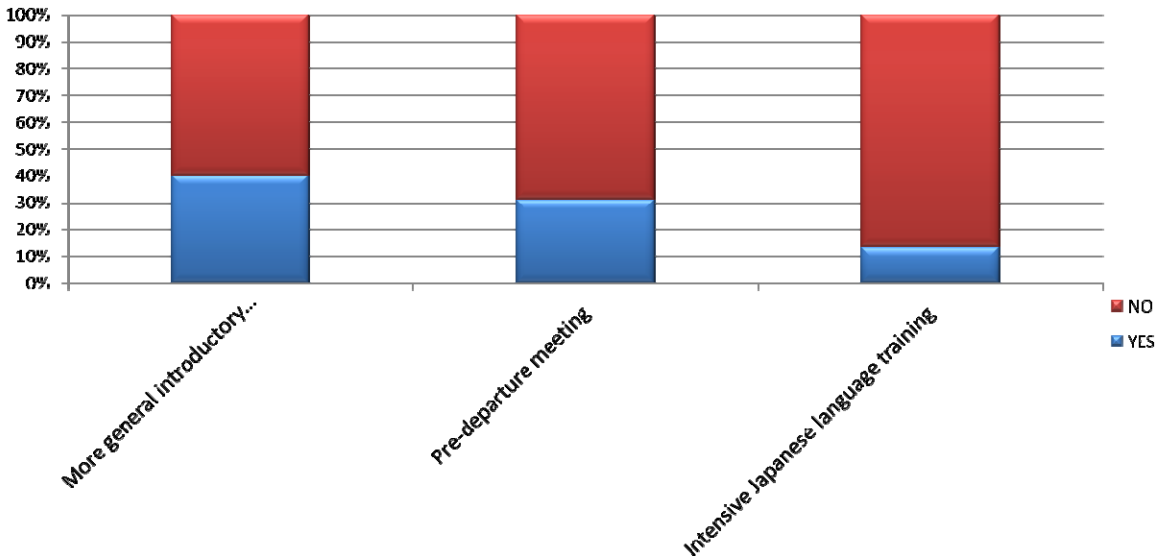
Anyway, 90 % of the participants see this mission as useful for the future of their company / cluster.

5.1.4 *Relevance of the mission towards individual objectives*



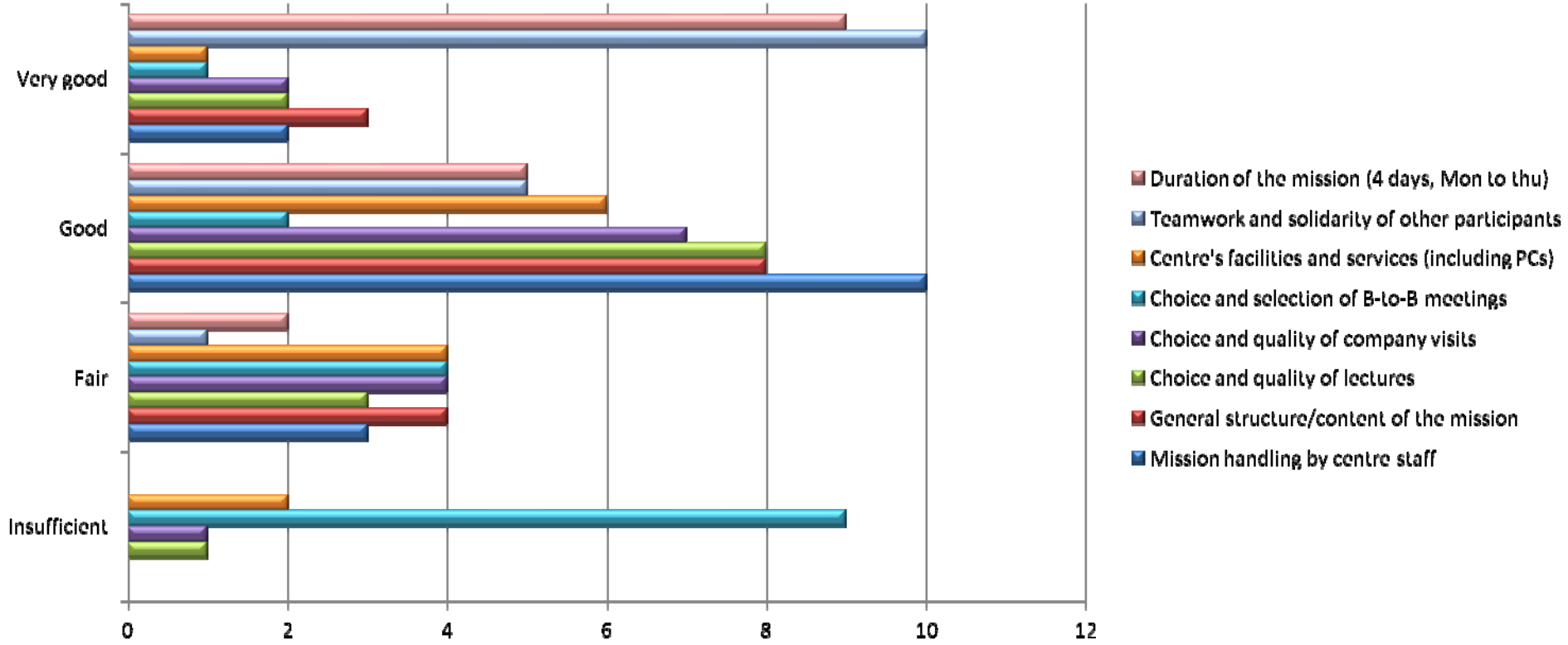
The mission was rather considered as informative (vision/knowledge, identification of partners...) than leading to concrete actions (development of business activities, signature of cooperation agreements).

5.1.5 *Needs before departure*



More than 30% of the participants consider important to have held a meeting in Europe before departure.

5.1.6 Execution of the mission by the EU-Japan Centre



The participants have found the design of the mission as well as the atmosphere with other participants very good. However, the pre-organisation of the B2B meetings appears to be insufficient.

5.2 Qualitative evaluation

5.2.1 Attractiveness of Japan

In general, the SMEs see Japan as an access to a greater market for their products (concrete, healthcare and food industry, and renewable energy in general because of the government incentives and decision to abandon nuclear energy). Other, in particular clusters, are looking for partnership agreements and transfer of know-how for their companies (for instance in answers to climate and technological challenges). Many of the clusters' members have business in Japan.

5.2.2 Barriers in making business with Japan

The participants have highlighted language and culture as a barrier to achieve concrete business. Other think the Japanese market might be too small for their products (especially in agriculture) or too competitive (because of the presence of multinational companies). Finally, other see difficulties in identifying the relevant partners (especially the clusters).

5.2.3 Willingness to work with Japan

Some companies and clusters are ready to dedicate one person (sales, engineer...) to the Japanese market, especially if there this employment is supported by a public programme (regional).

5.2.4 Next steps in Japan

Most of the participants plan to continue exploring the Japanese market after the mission and follow-up the contacts made. However, only a few are planning another trip to Japan in a short term range, at least not before one year. Some will come back in the framework of European internationalisation projects (WIINTECH), and SMEs who already had established business relationship with Japan will come back for business purposes.

5.2.5 Expected support at EU-level

The participants are looking for support at EU level to facilitate the identification and the matching of clusters and companies: political support represented at high rank (from EC and but also regional authorities), mapping and even the pre organisation of meetings with local clusters and companies. The participants were expecting an active role from the EU-Japan Centre as an intermediary for the cooperation with local companies. Some partners also wish to include Japan in FP8 countries in order to prepare joint projects funded by the EC.

5.2.6 Personal value of the mission experience

Here are a few impressions:

"Good to learn about Japan and be here. The programme could be more focused." (Rune RASMUSSEN, Copenhagen Cleantech Cluster).

"It has been a very first contact with Japan that must be followed by many more." (David SALVO, Power Electronics).

"A very useful trip that have made me understand more about the culture to do business with Japanese companies and also gathering of useful information for the future." (Anders WASSBERG, CELLCOMB).

"As I have some knowledge of Japanese culture and language, it was interesting to see how I could exchange with Japanese counterparts. If we hire someone for this market, we will definitely choose someone who knows the culture and language." (Anis HATICE, CD2E).

5.2.7 General impressions

General impressions from the participants are quite diverse: when some have found "very little" in the mission, other have learnt a lot and gained much experience in internationalization.

In general, the two first days of the mission have been appreciated, especially the company visit which transformed into B2B meetings the day after (see section 4.1.2). The plenary sessions revealed not all relevant for all partners, especially the ones not concerned by the thematic topics.

All participants were unsatisfied about the B2B meeting session, and especially the lack of organization (information before the mission and absence of pre-arranged B2B and C2C meetings with host companies and clusters). Some of them were satisfied of the reactivity of the staff of the EU-Japan Centre that finally managed to organize last minute but very useful B2B meetings. It must be said that some SMEs found a "very promising" interlocutors, which can open access to specific markets in Japan.

Finally, most of the participants were satisfied of this delegation mission in the sense they were given the occasion to meet and exchange with other European clusters and SMEs in a same field. They also recognized that tremendous efforts have been made in the organization of this mission and are thankful for that.

5.2.8 Suggestions for improvement of future missions

Most of the partners would have expected more focus on pre-arranged B2B and C2C meetings, with a clear overview or at least more information of Japanese clusters, SMEs and their topics of interest. Some participants thought that this should have been better prepared but also better communicated to the participants before the mission. Also some thought that if there were no B2B they could have been replaced by another activity.

Most of the participants think that the topic of renewable energies in a wider prospective, green building, energy storage can be further exploited in eventual next events in Japan.

In addition, some would have expected more time for open discussion with Japanese clusters.

6. Conclusion and recommendations

6.1 Conclusion

At a first glance, we can consider this mission as a success in the sense that it helped the European SMEs to establish a first contact with clusters and SMEs in Japan and to prepare themselves for future business with Japanese companies. Despite the lack of pre-arranged B2B meetings, most of the clusters and the SMEs revealed quite pro-active in identifying and meeting on their own initiative relevant partners – or had already planned meetings with their own contacts. Moreover, the atmosphere between all participants of the delegation was very good; it created synergies between these different clusters and SMEs, and most of them are planning to implement joint activities and projects in Europe. Even if this was not the main objective of the mission, it turns out to be a very positive output.

On the lowlight side, it appears that the main issue was the lack of organisation for pre-arranged B2B meetings probably due to the lack of information on host clusters and SMEs. These are by definition difficult to get, given the business habits of Japanese companies that are not enclosed to accept meetings with people they have not met before. Japanese clusters could have played a stronger role as intermediaries in the identification and the liaison with relevant companies for the matchmaking. The lack of dialogue between the EU Japan Centre and the Japanese clusters has not helped either. However, it must be stated that not all participants had the same level of involvement in this mission which reflected especially in their pro-activity with respect to B2B meetings.

Another issue might have been the too wide dimension of the topic of Green Materials and Clean Technologies. Indeed, the clusters' focuses were quite diverse (clean technologies but also clusters focussed on biomass, ICT, nanotechnologies, polymers...) and the SMEs' technologies were even further from each other (sensors, solar inverters, powders, gasification technologies...). This might have made more complex the task of finding matching partners in Japan. However, we can also underline that within the European delegation, discussions have been undertaken to implement collaborative projects, 15 participants' synergies have been identified.

Finally, it must be reminded that this mission was the first one in the framework of the project *"SMEs internationalisation through clusters"* and it might be seen as an experimental one. Furthermore, it is well known than Japan is a very difficult country to access, especially in terms of business, given the language barrier (not all Japanese people speak English), the fact that it not that much open to internationalisation (98% of inhabitants are Japanese) and because of the cultural gap that spares Japan from Europe.

Europe seems not to be the priority number one for Japan (which is now more focused on South East Asia). Coming with a European delegation representing dynamic clusters and innovative enterprises in such an important sector (Green Materials and Clean Technologies), including putting forward the role of the European Commission in this mission is of high importance to link the Japanese and European economies. The role of European Commission and regional policies in making Europe relevant for Japan may be of key importance in that domain.

6.2 Recommendations for the next events

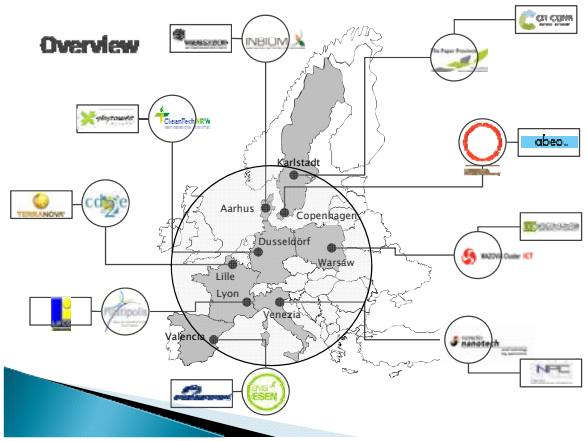
On the basis of these reflexions, our recommendations for the organisation of the next events (in the framework of the project *"SMEs internationalisation through clusters"* but also in general):

- Establish a mapping of clusters and SMEs focussed on the selected theme;
- Provide the participant with more information on potential matchmaking clusters and SMEs before the mission;
- Prepare B2B in advance in collaboration with the participants, the host organisation and with the support of ERAI;
- Select the participants with more expectations in terms of motivation towards the targeted country;
- Select a more focussed theme

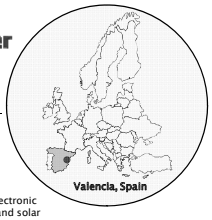
7. Annexes

7.1 Presentation of the EU delegation

Overview



Valencian Energy Industries Cluster
Power Electronics

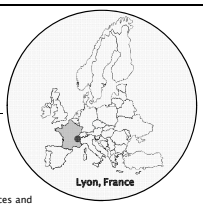


	Cluster	SME
Creation	2006	1987
Members / employees	210	ND
Sector	Renewable energy and clean technologies	Industrial automation and solar technology
Sub-sector / activities	Biomass and photovoltaics	High power A.C. motors, electronic soft-starters, speed drives and solar inverters
Strenghts	Strong presence in European clusters networks	Strong international experience and contacts with Japanese enterprises (Kawaden, Mitsubishi Electric…)
Mission objectives	Cooperation opportunities at cluster, business, and R&D level	Establish a technical branch in Japan

Contact: Mr. Salvador JIMENEZ, *Director*, salvador.jimenez@avaesen.es, www.avaesen.es

Mr. David SALVO, *Executive Director*, dsalvo@power-electronics.com, www.powerelectronics.es

PLASTIPOLIS
LIFCO Industrie

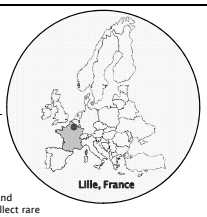


	Cluster	SME
Creation	2005	1999
Members / employees	380	3
Sector	Plastics engineering, polymer processing	Green materials
Sub-sector / activities	Bio-based products	Engineering powders surfaces and massive parts
Strenghts	Large network, collaborative R&D projects	An European reference for engineering powders surfaces and massive parts
Mission objectives	Learn about the new technologies in Japan in cleantechs / building R&D projects	R&D partnerships for the development of new bio-based composite materials for automotive and aeronautics

Contact: Mr. Patrick VUILLERMOZ, *General Director*, patrick.vuillermoz@plastipolis.fr, www.plastipolis.fr

Mr. Constantin IACOB, *CEO*, contact@lifco-industrie.com, www.lifco-industrie.com

CD2E
Terra Nova

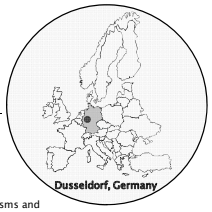


	Cluster	SME
Creation	2002	2006
Members / employees	660	52
Sector	Clean technologies	Metals recovering processes - urban mining
Sub-sector / activities	Waste management, recycling, eco-materials, energy efficiency, water treatment…	Recycling of "urban mine" and printed circuit boards to collect rare metals
Strenghts	10 members cooperating with Japan	Scientific experts in chemistry and (pyro) metallurgy, strong financial backing from an international group of investors
Mission objectives	Collaborative projects between members / better exchange among clusters	Meet potential users and looking for new technologies in pyro metallurgy or other technology for urban mining recycling

Contact: Mrs. Hatice ANIS, *International Advisor*, h.anis@cd2e.com, www.cd2e.com

Mr. Christian THOMAS, *CEO*, christian.thomas@tnmetal.fr, www.terranovametal.fr

CleanTechNRW cluster
Phytowelt

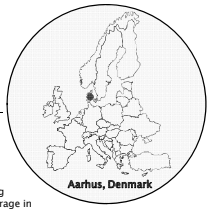


	Cluster	SME
Creation	2010	2006
Members / employees	80	30
Sector	Clean technologies	Biotechnology
Sub-sector / activities	Energy, steel, chemistry and biotechnology	Tissue culture and genetic engineering of microorganisms and plants
Strenghts	Excellent R&D world-class cluster	Previous successful collaboration with a Japanese enterprise (strawberry breeder)
Mission objectives	R&D projects	Extend client portfolio to the chemical and manufacturing industry (pharmaceuticals, agrochemical…) in Japan

Contact: Mr. Philipp WOLFF, Philipp.wolff@cleantechnrw.de, www.cleantechnrw.de

Mr. Peter WELTERS, *CEO*, p.welters@phytowelt.com, www.phytowelt.com

Innovation Network for Biomass
WebsTech ApS

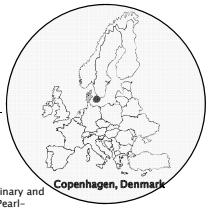


	Cluster	SME
Creation	2004	2009
Members / employees	576	9
Sector	Biomass energy	Wireless technologies
Sub-sector / activities	Entire value chain from production of biomass to conversion and utility	Wireless sensors monitoring crops/other biomass in storage in agriculture/food industry
Strenghts	Largest bioenergy network including triple helix partners	Knowhow in sensor technology, storage of biological material and ICT. Partnership with the DLG Group (one of the largest agricultural companies in Europe)
Mission objectives	Present Danish competences within the biomass to bioenergy area	Challenges in Japan regarding monitoring of crops (rice), fish, vegetables and above all biomass: role to play

Contact: Mr. Jacob MOGENSEN, *Project Manager*, jm@agropark.dk, www.inbiom.dk

Mr. Lars Visbech SØRENSEN, *Chairman of the Board*, Lvs@agropark.dk, www.webstech.dk

Copenhagen Cleantech Cluster
Abeo



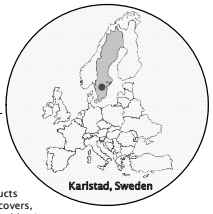
	Cluster	SME
Creation	2009	2010
Members / employees	300	10
Sector	Clean technologies	Building and construction
Sub-sector / activities	Green energy, energy efficiency, energy storage, sustainable materials, waste, etc.	Super-Light Structures (ordinary and lightweight concrete), and Pearl-Chain Reinforcement (construction of curved structures)
Strenghts	One of Europe's best funded cluster organisations, ICN	Patents and know-how for one of the most cutting-edge concrete technologies in the world
Mission objectives	New clusters for the International Cleantech Network	Understand the Japanese construction industry, contacts for collaboration (licensees and strategic partners), export to the Japanese market



Contact

	Cluster	SME
	Mr. Rune RASMUSSEN *Head of Secretariat*	Mr. Mads LONTOFT *Chief Financial Officer*
	rur@cphcleantech.com www.cphcleantech.com	ml@abeo.dk www.abeo.dk

The Paper Province
Cellcomb AB



	Cluster	SME
Creation	1999	1980
Members / employees	93	25
Sector	Wood, paper, furniture	
Sub-sector / activities	Energy, bio refinery, ICT, packaging, clean technologies	Laminated disposable products (bedding, towels, mattress covers, surgical laminates, nursing table…)
Strenghts	One of few world leading regions in pulp and paper industry	Business contact already established with Japanese companies (Food Pads)
Mission objectives	Exchange with other clusters/cooperation partners for companies	Establish serious and long-term business relations within medical care, geriatric care, retail, public transport and tourism



Contact

	Cluster	SME
	Mr. Patrik KAMPE	Mr. Anders WASSBERG *Product Sales Manager*
	p.kampe@paperprovince.com www.paperprovince.com	anders.wassberg@cellcomb.com www.cellcomb.com

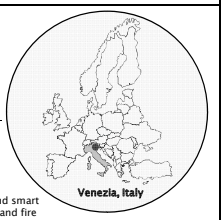
Mazovia Cluster ICT
Ekokogeneracja S.A.

	Cluster	SME
Creation	2007	2009
Members / employees	50	ND
Sector	ICT / Energy	Energy
Sub-sector / activities	Smart cities, smart grid, green energy, etc.	Gasification of feedstock (post-production waste)
Strenghts	One of the strongest clusters in Poland	Unique technology of heat energy production
Mission objectives	Search partners for cluster members to develop business partnerships	Looking for Japanese entities specialized in energy efficiency/ green technologies/renewable energy sources/smart grids, for transfer of know-know/cooperation in joint projects


Contact

	Cluster	SME
	Mr. Mariusz STACHNIK *Vice President*	Mr. Arek WOJTIK *Business Development Manager*
	mstachnik@klasterict.pl www.klasterict.pl	arek.wojtik@wp.pl www.ekokogeneracja.com

Veneto Nanotech
Nanto Protective Coating



	Cluster	SME
Creation	2003	2009
Members / employees	65	2
Sector	Nanotechnology	Intelligent coatings
Sub-sector / activities	Coating, new materials and sensors application	Multi functional coatings and smart coatings (ex: anticorrosion and fire retardant coating)
Strenghts	Knowledge on coating, new materials and sensors application	Flexibility, constant adaptation to the needs of the market and of the environment
Mission objectives	Joint participation in EU projects, technological services on nanotech R&D	Reactivate contact with Sumitomo and other companies interested on anticorrosion and fire retardant coating



Contact

	Cluster	SME
	Mr. Enzo SISTI *Corporate Manager*	Mr. Roberto CAFAGNA *CEO*
	enzo.sisti@venetonanotech.it www.venetonanotech.it	np@nantopaint.com www.nantopaint.com

7.2 Evaluation - Questionnaire

Name:

Organisation:

Type (cluster / SME / animator / other):

Email:

I. ASSESSMENT OF YOUR CURRENT BUSINESS SITUATION WITH JAPAN

yes	no	**Your current business relationship with Japan**
		My organization is currently engaged in a business relationship with Japan

Attractiveness and Challenges of doing business in Japan
Describe the **attractiveness of partnering with Japan for your organization** (describe **potential** attractive aspects if you are **not** currently doing business with Japan):
Explain (in 2-3 sentences) what **challenges your organization faces when doing business in Japan** (describe **possible future** challenges if you are **not** currently doing business with Japan):
What EU-level support could / should be offered to help your company expand partnerships / start business in Japan?

II. PROFESSIONAL AND PERSONAL VALUE OF MISSION EXPERIENCE

(Please tick the applicable box to the left side – multiple choice are allowed)

	Your company's business relations with Japan
	Participation will immediately improve my company's business relations with Japan
	Participation may improve my company's business in the next 6 months to 1 year
	My company's business relations with Japan will remain the same
	Other comments:

Relevance to subsequent employment	
	I will have subsequent opportunities to apply what I have learnt (first day session)
	I intend to commit enough be regularly involved in a business with Japan
	Other comments:

Personal value of the mission experience	
	The mission will be useful for my future career
	The mission will be useful for my company's business with Japan
	Other comments:

How relevant was the event towards your individual objectives?	1 (bad)	2	3	4	5 (good)
Vision and knowledge of new markets and technology trends					
Knowledge of geographical market entry barriers for cluster organizations /members					
Signature of cooperation agreements between companies and/or laboratories within participating clusters/regions/countries					
Development of new business activities					
Increased international visibility and market penetration: facilitate search for strategic alliances/partners					
Accessing new research and innovation competences and developing concrete projects					

III. B2B meetings

BtoB meetings	Enterprise met	Meeting summary	Results	Next steps
1				
2				
3				
4				
5				
6				
7				

IV. MISSION PREPARATION AND EXECUTION

(Please tick the applicable box)

Yes	No	Mission Preparation
		I would have appreciated more general introductory information before departing to Japan
		I consider it important to hold a pre-departure meeting in Europe
		I consider it important for participants to undergo several days of intensive Japanese language training in Europe before departure
		Other comments:

Execution of the mission by the EU-Japan Centre				
	Very Good	Good	Fair	Insufficient
Mission handling by Centre staff				

General structure/content of the mission				
Choice and selection of **B-to-B meetings**				
Choice and quality of **lectures**				
Choice and quality of **company visits**				
Centre's facilities and services (including PCs)				
Teamwork and solidarity of other participants				
Duration of the mission (4 days, Mon to Thu)				
If too long, or too short, what appropriate mission duration would you recommend?				
Other comments:				

V. FUTURE CLUSTER MISSIONS

Yes	No	Suggestions for improvement of future missions
		Would you be interested in joining the Alumni Network (Programme past participant's network)?
		Would agree to be contacted by other Alumni participants from the same training mission (Programme participant's network)?
		What do you believe the most attractive topic(s) would be for a future Cluster Mission? (please comment):
		What do you suggest as a topic or visit to be included for a future Cluster mission in Japan?

Do you plan a new travel in a short term range? (yes/no, explain)

What have you found (general impression)?

If you have any comments/remarks, thank you for letting us know

Date:

Signature: