

March 4 & 5, 2008
Mita Kaigisho
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2008 EU-Japan Cooperation Forum on ICT Research

SESSION CONCLUSIONS

Potential R&D topics for future EU-Japan cooperation in the ICT field covering the following areas:

- E-Transport
- Nanoelectronics
- Photonic Network Technology
- Networked Electronic Media
- Next Generation Information Retrieval and Analysis Technologies
- Ubiquitous Network Technology
- New Generation Network
- RFID

as of March 2008
jointly prepared by all session chairmen

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Potential R&D topics for EU-Japan cooperation in e-Transport

1. New Co-operation Agreement EU-METI

- Closer co-operation in the domain of ICT for research for Mobility and Transport
- Continuing periodical dialogue EU-Japan
- Research in automated driving systems
- Research in assessment methodologies on impact of ITS on energy consumption and CO2 reduction

2. e-Transport parallel session

- Overview of ongoing work in EU and Japan
- Similarities of the challenges in road safety, energy efficiency and the reduction of CO2 emissions as well as need for co-operation
- Overview of activities under the Intelligent Car Initiative; research pillar, ongoing activities in Automated Driving Systems and methodology for measuring impact of ITS on energy efficiency.

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Potential R&D topics for EU-Japan cooperation in Nanoelectronics

1. Advanced processes & devices

- carbon based devices & technologies (CNT, graphene)
- 3D devices and technologies including design

2. Semiconductor manufacturing science & technology

- 300 mm guidelines, metrics and roadmaps
- equipment data structures for simulation & eqpt assessment
- sustainable manufacturing

3. Metrology and characterisation for nano devices and processes

- comparative analyses of methodologies, standardisation, development of test patterns

4. Pattern transfer technologies

- cooperation between OEM (EU) suppliers and integrators (Japan) to develop high end systems for high volume and flexible manufacturing

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Potential R&D topics for EU-Japan cooperation in Photonic Network Technology

1. Photonic integrated circuits – photonic integration;
2. Si-compatible processes for manufacturing photonic components;
3. Nano-photonic approaches;
4. Reduction of power consumption of communication equipment by shifting processing functions from the electronic to the photonic domain;
5. Setting-up standards in POF based networks, in secure communications based on quantum cryptography.

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Potential R&D topics for EU-Japan cooperation in Networked Electronic Media

1. Roger Torrenti, Sigma Consultants, member of NEM Steering Board of European Technology Platform:
 - Opportunities for EU-Japan cooperation were among Global NEM priorities
 - Home networks could be one of potential cooperation areas
2. Seiichiro Matsumoto, Hitachi, Director of the Secretariat of ECHONET:
 - Clear terms of reference needed to be defined in order to identify areas of cooperation
3. Lieven Vermaele, Technical Director of the European Broadcasting Union (EBU):
 - EU-Japan collaboration existed in terms of exchange of knowledge (e.g. ongoing contacts between BBC Research, IRT, RAI and Japanese NHK)
4. Dr. Tetsuya Yokotani, Manager of Optical Access Technical Department, Information R&D Centre, Mitsubishi Electric Corporation:
 - Cooperation possibilities between EU and Japan existed mainly in knowledge and experience sharing on Next Generation Home Gateway & Applications
 - Europe-based Mitsubishi organisations mentioned as the most natural cooperation partners with European counterparts.

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Next Generation Information Retrieval and Analysis Technologies

1. Future Events in Europe

- EU ICT Conference, Lyon (France) – 25-27/11/2008 http://ec.europa.eu/information_society/events/ict/2008/index_en.htm
- Call 4 of ICT theme in FP7 to support continuation of FP6 Call 6 RTD investment in multimedia search engines

2. Common EU-Japan Vision

- Web growth, richer information and sensor technology → “Information Explosion”
- From *information* through *communication* and *knowledge* to *intelligence*
- Need to build the infrastructure for future information retrieval/analysis technology
 - Web information (corporate & individual websites, images, videos and music)
 - Non-Web information (spatial, purchase history, audio-visual, healthcare)

3. Technology development

- Next generation technology, incl. privacy preserving data mining technology

4. Non-technological issues

- Demonstration and piloting of model services
 - e.g. Business models for searching in IPTV
- Regulations and policy (privacy and copyright protection, IPR...)
 - New privacy paradigm: privacy on lifestyle, on citizen rights, on personal information

5. Conclusions

- A ‘window opportunity’ for EU and Japan to cooperate
 - ICT in FP7 (Europe), “Information Grand Voyage Project” (Japan)
- Need to address future challenges and innovations as well as how bridging the gaps (roadmaps)
- Common EU-Japan commitment to privacy, security & other social/legal issues

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Potential R&D topics for EU-Japan cooperation in Ubiquitous Network Technology

- What ? (examples)
 - Interoperability and standardization of RFID
 - Interoperability of communications on NW robots
 - Multimedia Vehicle-to-vehicle communications
 - Applications and services (in general)
- How ?
 - Joint research work of either on academia or industries in a proactive manner
 - Information exchange between government projects.
 - Joint collaborations through FP7 program

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Conclusions - Session on Future Internet (EU) / New Generation Networks (Japan)

1. Valuable first exchange on important Research Projects
 - 4Ward, SENSEI (EU) – AKARI (Japan)
 - Similar long term goals in redesigning the internet, e.g. clean slate approaches, addressing energy efficiency, starting from individual strength (e.g. EU: mobile communications, embedded systems; Japan: optical networks)
2. Deepening the exchange on experimentation
 - EU and Japan collaborate in Planetlab on introducing the concept of “federation of testbeds” leading to decentralised management of Planetlab Japan and Europe (ONELAB)
 - Both sides work on investigating whether the principle of virtualisation of testbeds is applicable as an architecture principle for a new internet in general

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Conclusions - Session on Future Internet (EU) / New Generation Networks (Japan)

3. EU and Japan are at the beginning of collaboration
 - Public authorities can only stimulate collaboration
 - Actual collaboration to be between respective researchers/industry
4. Next steps
 - Possibility for cross participation in research programmes: Initiative has to come from the respective “home” players
 - Deeper exchange between research communities on EU-Japan Symposium on New Generation Networks / Future Internet Research, planned for 9-10 June 2008 in Brussels
5. Collaboration needs beyond research
 - Connecting networks and experiments
 - Collaboration on standardisation to support ideas of mutual interest

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Potential R&D topics for EU-Japan cooperation in RFID

- Social acceptance
 - Technology development on a strong security and a privacy protection
 - Enhancement of end user benefits of using RFID at the expense of privacy
 - Understanding of the difference on a social acceptance against a technology.
 - Development of global standards and harmonization of regional standards
- Networked RFID
 - Information system leveraging the automatic identification and the data cache capability of RFID tags. (from identification to communication)
 - Multiple use of RFID tags for the cost sharing and for non-SCM applications.
- Environmental impact
 - Understanding the Influence to medical devices, typically pacemakers, and the human exposure to radio wave
 - Recycle and disposal of RFIDs.
- Note: EU and Japan both have been doing a number of pilot projects related to RFID. Setting up an MoU will be needed to start the communication.