

Globalization of Business R&D in Canon



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For OECD Workshop



Introduction of the speaker

- Dr. Kazuya Matsumoto
 - Chief of Canon Europe Limited Advanced Technology Business Unit since 2000
 - President of Canon Research Centre France since 1994
 - Research area: Applied optics
 - Holography, optical measurement, optical memory



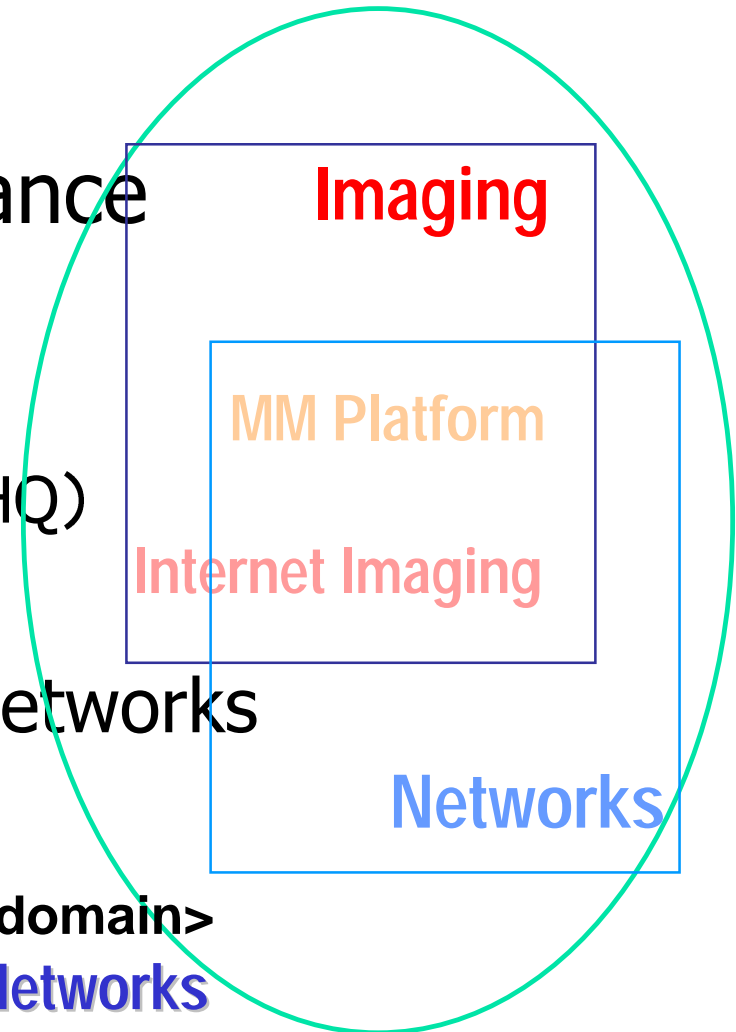
Issues to be discussed

- 1. What motivates overseas investments in R&D
- 2. How do overseas labs interact with local research communities
- 3. How do they complement research in the home country
- 4. Barriers we face
- 5. Conclusion

Introduction of Canon Research Centre France (CRF)

- Inauguration: 1990
- Location: Rennes, France
- Number of staff:
70 members
(3 employees from Japan HQ)
- Research area:
 - Digital Imaging and Networks

< technology domain >
Imaging across Networks

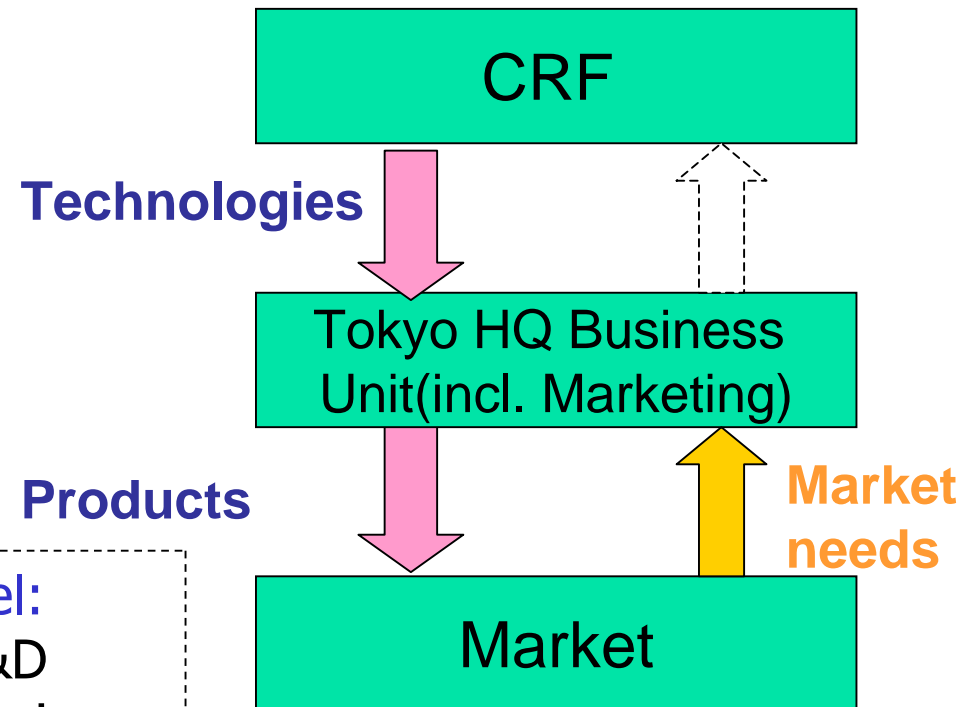


Missions of CRF Phase 1

- 1990-1999: “Indirect contribution to the business strategy by researching innovative core technology”

Advantage of old model:
Can concentrate on R&D without influence of Business Groups or of the market, however...

Old R&D-Marketing model



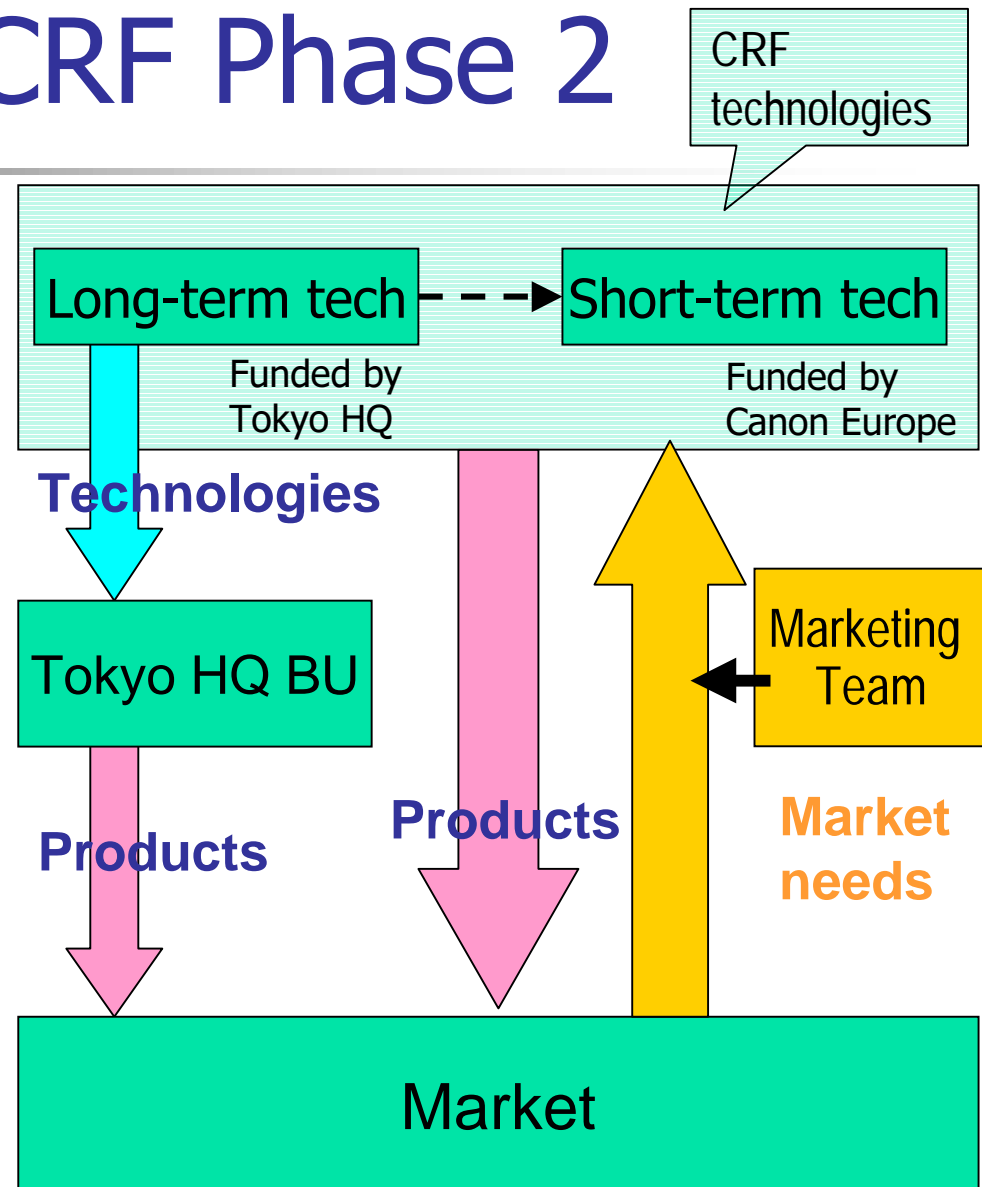


Problems of the old model (indirect contribution)

- Too long development time
 - Long process (Technology transfer -> Product launch)
- Sometimes the technology can be “hoarded”
 - if it is not within the current business domain
 - Even if the technology is an important one for tomorrow’s new business
- Direction of R&D can be inappropriate
 - Link between local market (Europe) and R&D was weak -> No direct market feed back
- Researchers’ frustration
 - If the result is not rightly evaluated, or it is “hoarded” uselessly

Missions of CRF Phase 2

- 2000- and on: “Direct contribution to the business strategy by researching and development of a innovative product as well as innovative core technology”



New R&D-Marketing model



Advantages of new model: direct Contribution

- Advantages
 - Can shorten development time
 - Shorter distance between R&D and the market
 - Concurrent R&D is possible based on market information
 - Encouragement and directions can be given to researchers
 - R&D result is evaluated by the market
 - Higher motivation of researchers
 - Researchers can directly make a proposal of new business



Challenges of new model: direct Contribution

- Challenges
 - Long-term based R&D themes need to be set deliberately; we still keep close relationship with Canon Tokyo HQs

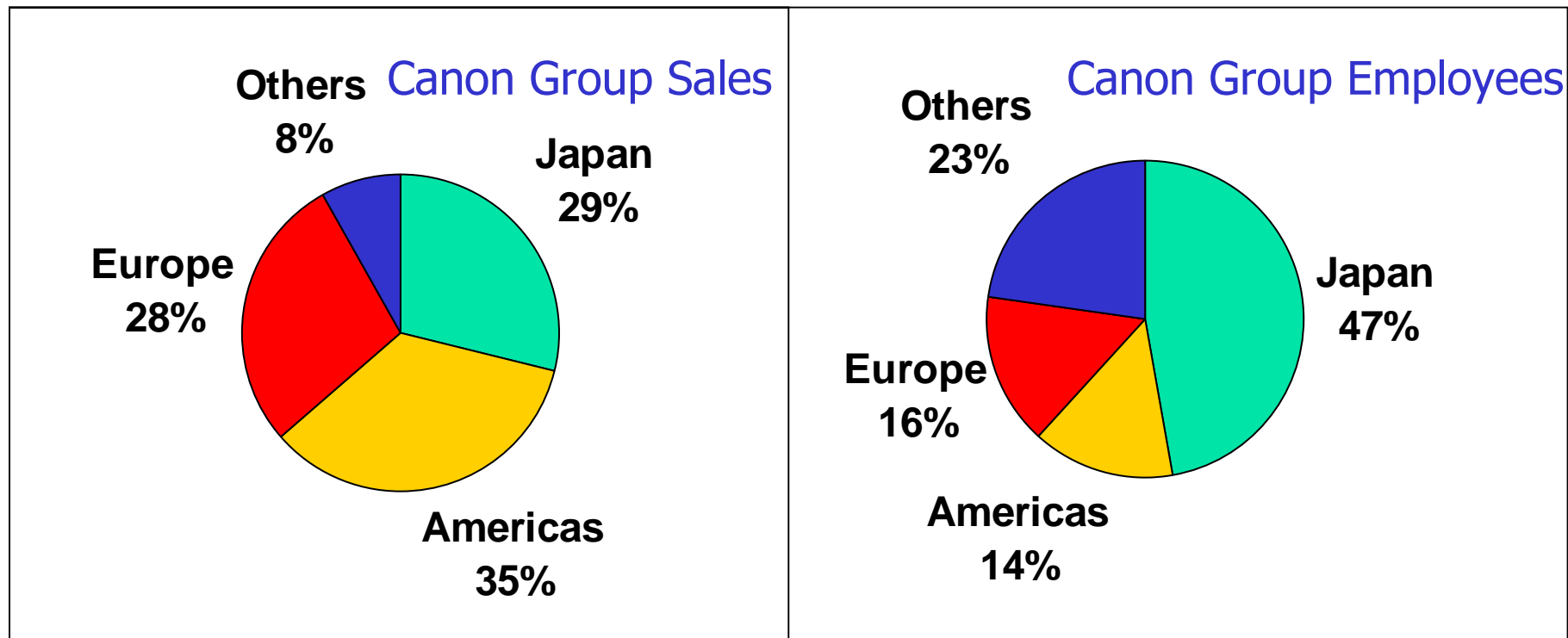
1. Motivation for the overseas investment in R&D



- Can adapt to the globalization of the Canon business

Canon's Globalization

Globalization in Sales and Employees



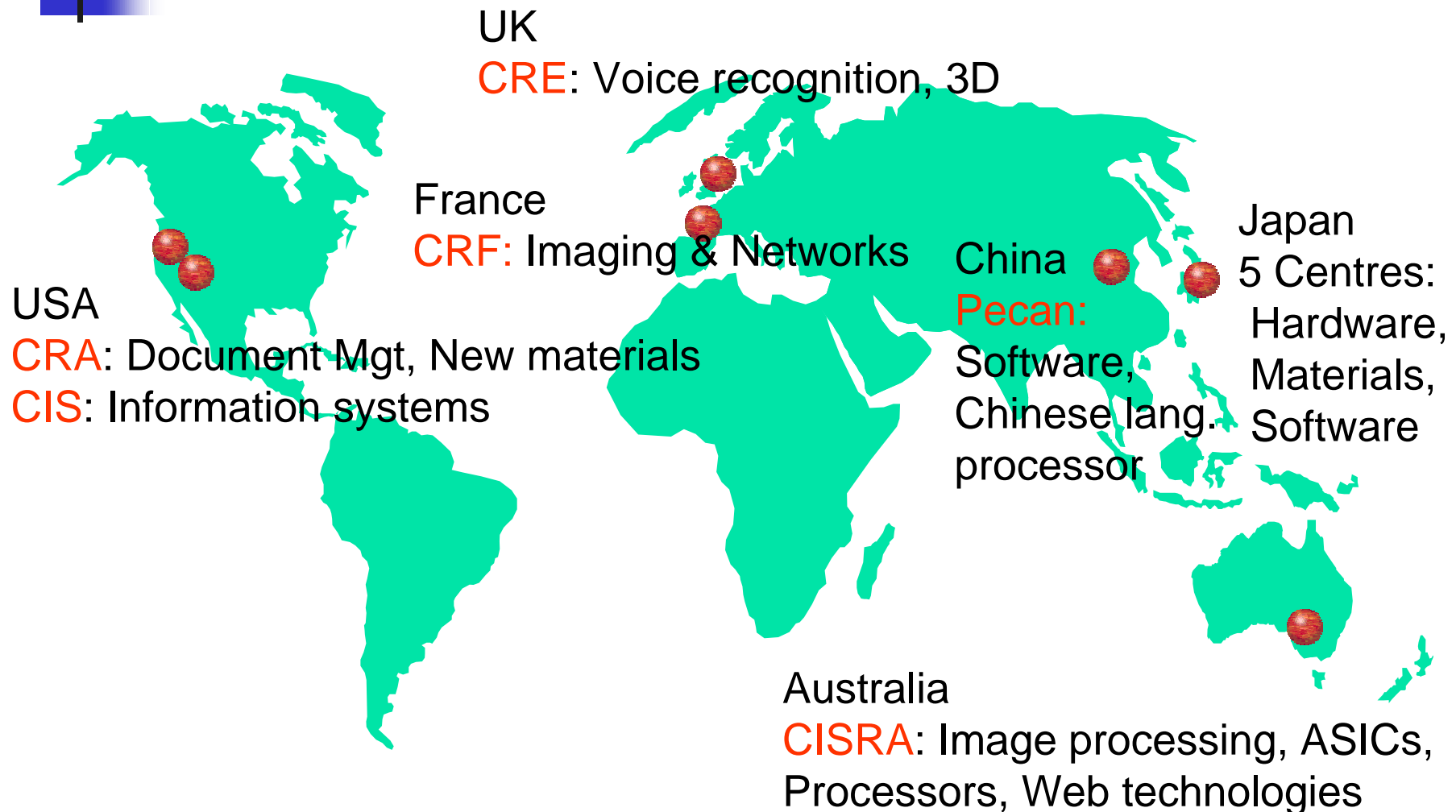
(in year 1999)

1. Motivation for the overseas investment in R&D



- Can adapt to the globalization of the Canon business
 - Technology
 - Can make a research in the most appropriate places in the world (availability of researcher and R&D environment)
 - Input of advanced edge technology in the worldwide point of view

Canon's R&D Globalization



1. Motivation for the overseas investment in R&D



- Can adapt to the globalization of the Canon business
 - Technology
 - Can make a research in the most appropriate places in the world (availability of researcher and R&D environment)
 - Input of advanced edge technology in the worldwide point of view
 - Market
 - Interactive R&D with the each regional market
 - Short path between R&D and the market

2. Interaction with local communities



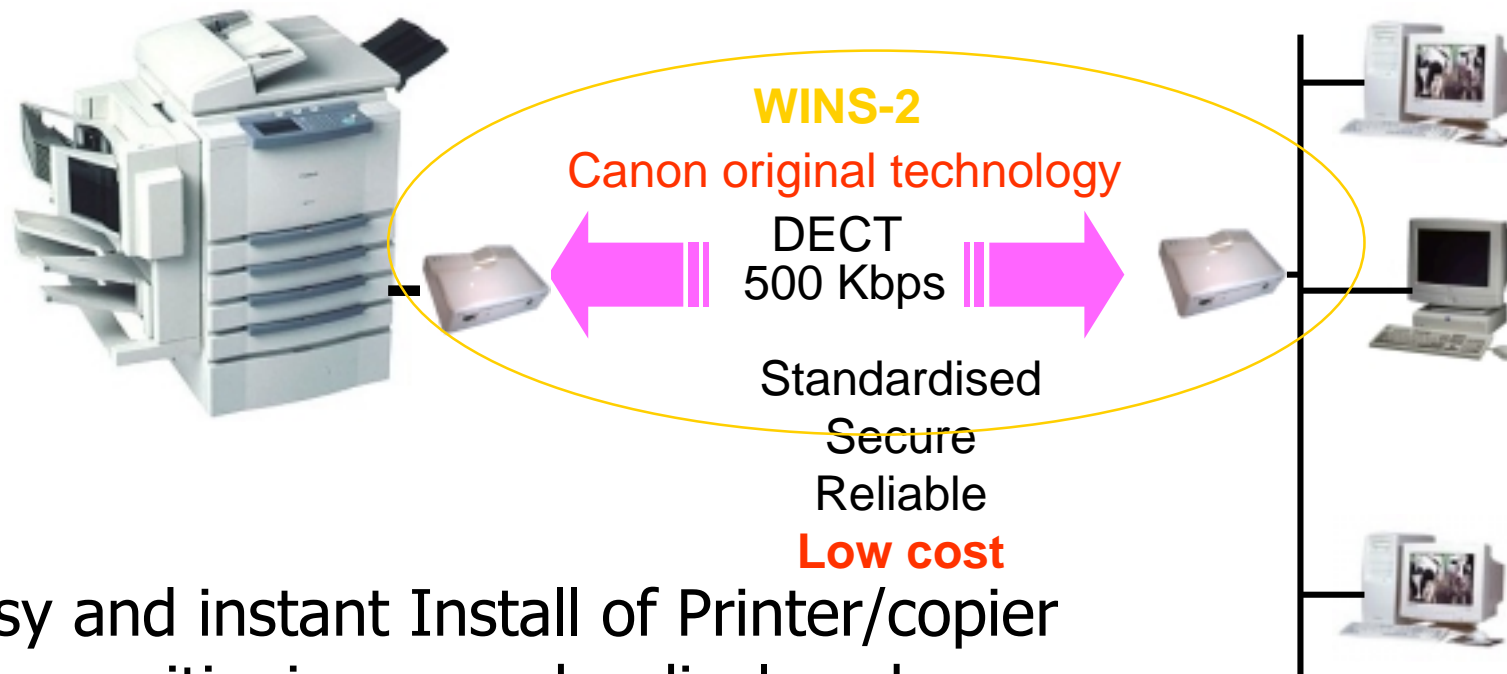
- Standardization
- Consortium
- National Project
- Alliance and Codevelopment
- Sharing of market information



Examples of activities linked with the communities 1/1

- Ex 1) R&D of DECT-DPRS* (data packet radio service)
 - Process from standardization to product commercialization has been made in close relationship with the community
 - Standardization->Consortium->Co-development ->Manufacturing/Marketing ->Commercialization (1st product in new R&D-Marketing model)
 - Participation to European standard activities (ETSI)
 - Collaboration with European companies for a product development

DECT wireless adapter



- Easy and instant Install of Printer/copier
- Free positioning - can be displaced
- No network plug to install
- No wall / ceiling to hole



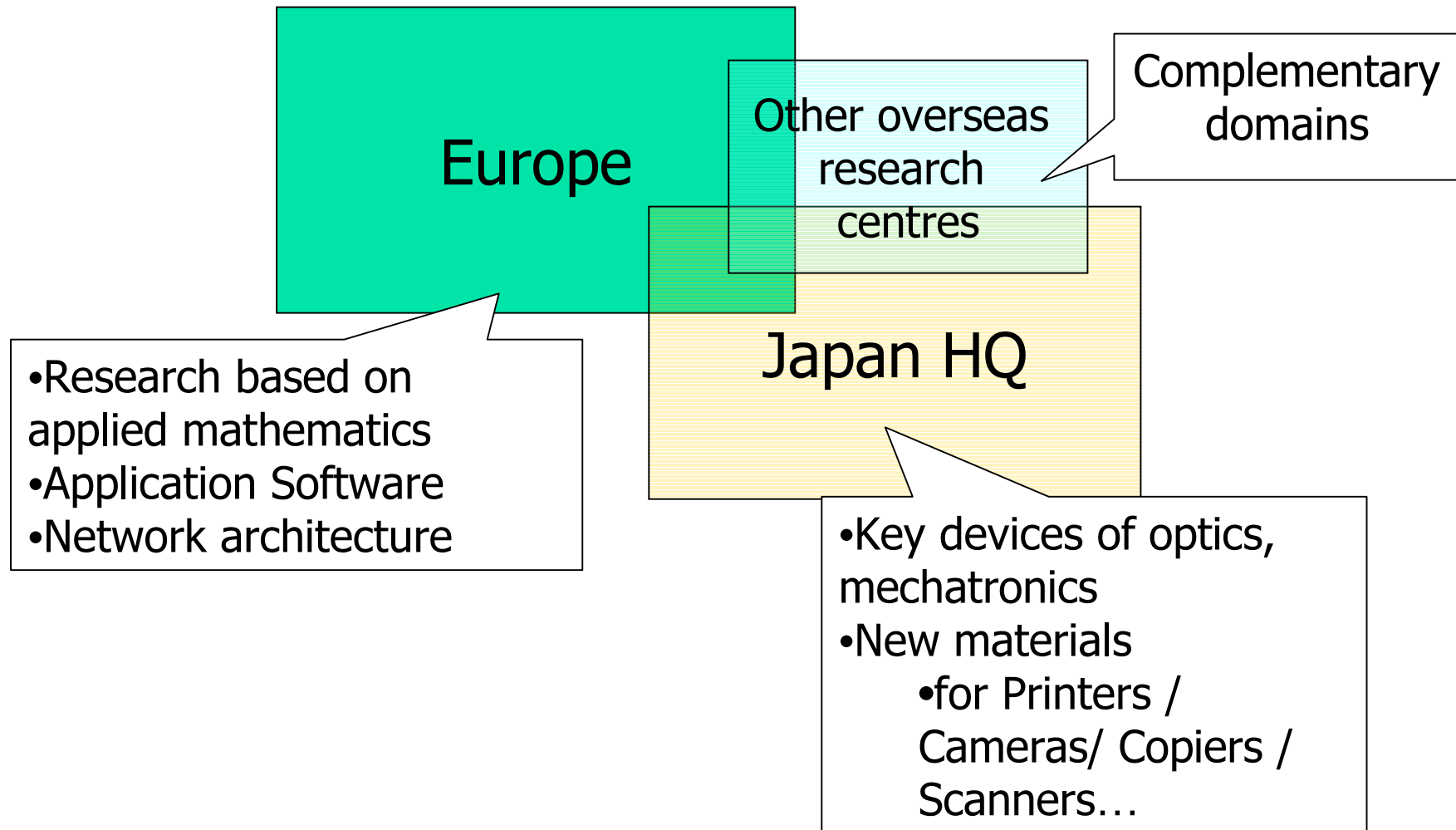
**Presented in
CeBit 2001**

Examples of activities linked with the communities (2/2)



- JPEG2000 Image compression technology
 - Collaboration between CRF researcher and University of Paris was the beginning
 - Effective activities in Standardization with European community
 - Research->Standardization-> Prototyping -> On-line Photo Service in Europe

3. Complement research in the home country



4. The barriers we face in the research community



- No barriers in the research community, except...



5. Conclusion

- Benefits to our company through overseas R&D;
 - Globalization
 - Hiring skilled researchers and engineers
 - Access and acquire of the most advanced edge technology
 - Interactive R&D with the Market
 - Contribution to the International Standardization
 - Focusing core competence through strategic alliance
-  **Clear contribution to the business strategy**