erwicon 2010 – Netzwerkstatt Erfurt

"Netzwerke in Europa – Effektive Plattformen für Thüringer Unternehmen"

Unternehmensfokussierte Vernetzung Thüringen –Finland, hands on. Micropolis Ltd

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Unternehmensfokusierte Vernetzung Thüringen–Finland, hands on. Micropolis Ltd

1. Micropolis Ltd, Netzwerkpartner mit Thüringen

- *Unternehmen , Mission/Ziele*

2. Warum transregionale Vernetzung von innovativen hi-tech KMUs

3. Finnland und zwei wichtige Pole Oulu und Otaniemi als innovative Hochtechnologieräume

- *Oulu Region – Hi-tech Zentrum in Nord Finnland*
- *Otaniemi in Helsinki Region*

4. Thüringen – Finland, viele Möglichkeiten für Zusammenarbeit im Bereich von Hochtechnologie – Intressengebiete/Themen

5. Netzwerksarbeit in der Praxis

- *-EU- Projekte/ Rahmenprogramm*
- *-Transregionale Kooperation – Praxis*
- *-Werkzeuge in Netzwerksarbeit – ein Konzept*

6. Zusammenfassung

Micropolis is an Innovation&Development Company and a Technology Centre

Micropolis Ltd: Personnel 6 (....8) persons; turnover 700 000 €/a +

The innovation&development company Micropolis Ii Ltd is responsible for enhancing business activities on technology fields of Micro and Nanotechnologies and Clean Air in Oulu Region, North-Finland.

- *Supporting company founding and SME growth*
- *Exploiting new commercial opportunities for SMEs on High-tech*
- *Networking activities*
- *Industrial and business premises for enterprises (premises in municipal ownership – Iilaakso Oy)*

A place to suit your company´s needs

Micropolis comprises a network between companies, research and regional developers.

Techonology center offers office and industrial facilities - incl. Clean room facilities - for start-ups, growing businesses and internationally established companies.

Micropolis actions are strongly focused directly on high-tech SMEs

R&D Activator -project, services for SMEs

***Aim of Project*:** To increase R&D activities in the Oulu region by supporting SMEs in starting R&D projects and assist in *finanzing alternatives*.

- *Regional and national calls*

Project Activator – EU-projects, services to SMEs, and subregions

Aim: To inform about *actual EU- programs* (FP7, CIP, LIFE+, Interreg, ERA-NET), calls and *finanzing alternatives.* To help in making preparations of propositions.

- Cooperation with North Finland EU Office in Brussels.

Minact II

MINACT 2
MIKRO- JA NANOYRITYSTEN KANSAINVÄLISTYMINEN

Micro-Nano Activation among companies and research units

Technology fields: micro- and nanotechnologies, optics and optronics, electronics, measurement technique and testing.

Activities:

- International Match-Making (specially activities with SMEs in North Sweden)
- Mini-Projects&Financing,
- Joint Stands for SMEs at International Trade fairs, Seminars

opera

SEVENTH FRAMEWORK PROGRAMME

OPERA, Organic/Plastic Electronics Research Alliance; as Partner of VTT Technical Research Centre of Finland.

Objective: proposes to coordinate the work of academia and industry in organic & large area electronics [OLEA] in Europe. Opera unites Europe's leading authorities in plastic electronics.

Test Lab Gate

- **MiniCluster** of SMEs and research organizations in North- Finland offering testing services to industry
- One Desk Policy
- Micropolis as coordinator

Testing Services
in Product development phase and through Product Life Cycle

- Test planning
- Testing
- Reporting
- Consulting

- Electronics and RF-Testing, ESD, EMC
- Shocks and Vibrations
- Environmental: Wind and Rain Temperature and Moisture
- Corrosion
- Chemical Analysis
- Analysis of Microstructure in materials
- Mechanical testing
- NDT and DT Failure analysis
- Simulation/Planning
- Problem solving
- Consulting Life Cycle

Nano- and Microsystems and Materials of the Future

OSKE NANOTECHNOLOGY CLUSTER PROGRAMME

Mission: To foster the implementation of nano and micro technologies and future materials in Finnish companies

- Covers more than 90% of the NMT players in Finland
- Key universities and research organizations

Integrated micro and nanotechnology products
Oulu Innovation Ltd / Micropolis Ltd

Industrial applications of chemistry
Technology Centre Ketek Ltd

Nanotechnology, specially functional and self-assembling nanostructures
Jyväskylä Innovation Ltd

Photonics and advanced materials
Technology Centre Hermia Ltd, Tampere

Photonics, material and precision technologies
Joensuu Science Park Ltd

Thin film coatings and polymer composites
Mikkeli Technology Centre Ltd

Nano and micro systems and international business development
Culminatum Ltd Oy, Helsinki Region

E. Peltonen, J Strand

CleantechOulu

Center of environmental business

Water (CEWIC)
water purification technologies

Air (SKYPRO)
catalytic air purification, VOC

Material efficiency E-Waste, wireless waste, biooils

Renewable energy bioenergy, wind power

SkyPro Oulu
CLEAN AIR CLUSTER

Micropolis is managing SkyPro Oulu, Centre of expertise in air-related technology

Leverage from the EU 2007–2013
European Union
European Regional Development Fund

- *Business Development Program* → *New international cleantech business in Oulu region*
- *Promotes cooperation between environmental engineering companies and other actors*
  - *~60 Cleantech companies*
  - *Oulu University, VTT, Oulu University of Applied Sciences, METLA, Finnish environmental center*

Micropolis challenge: how to boost our Hi-tech SMEs to join as part of European value chains of innovative SMEs to help them grow.

In the New Economy, Knowledge based Society:

- The big role of knowledge for economical growth gives importance for innovative hi-tech SMEs
- The growth of hi-tech SMEs is important for Europe to give jobs and wellfare
- ***Networking is a tool which Europe needs to boost the growt of high-tech SMEs! Potentials.....****Financing,Sales&Marketing, European level Mergers, cooperation of SMEs with big industies*
- Clusters / networks give an effective way for cooperation between **Companies – Research Organisations& Education – Society**

New Technologies more Important than before

In high-tech companies new innovations represent (Harvard Business Review study)

- 14% of products
- 38% or revenue
- 61% of profit

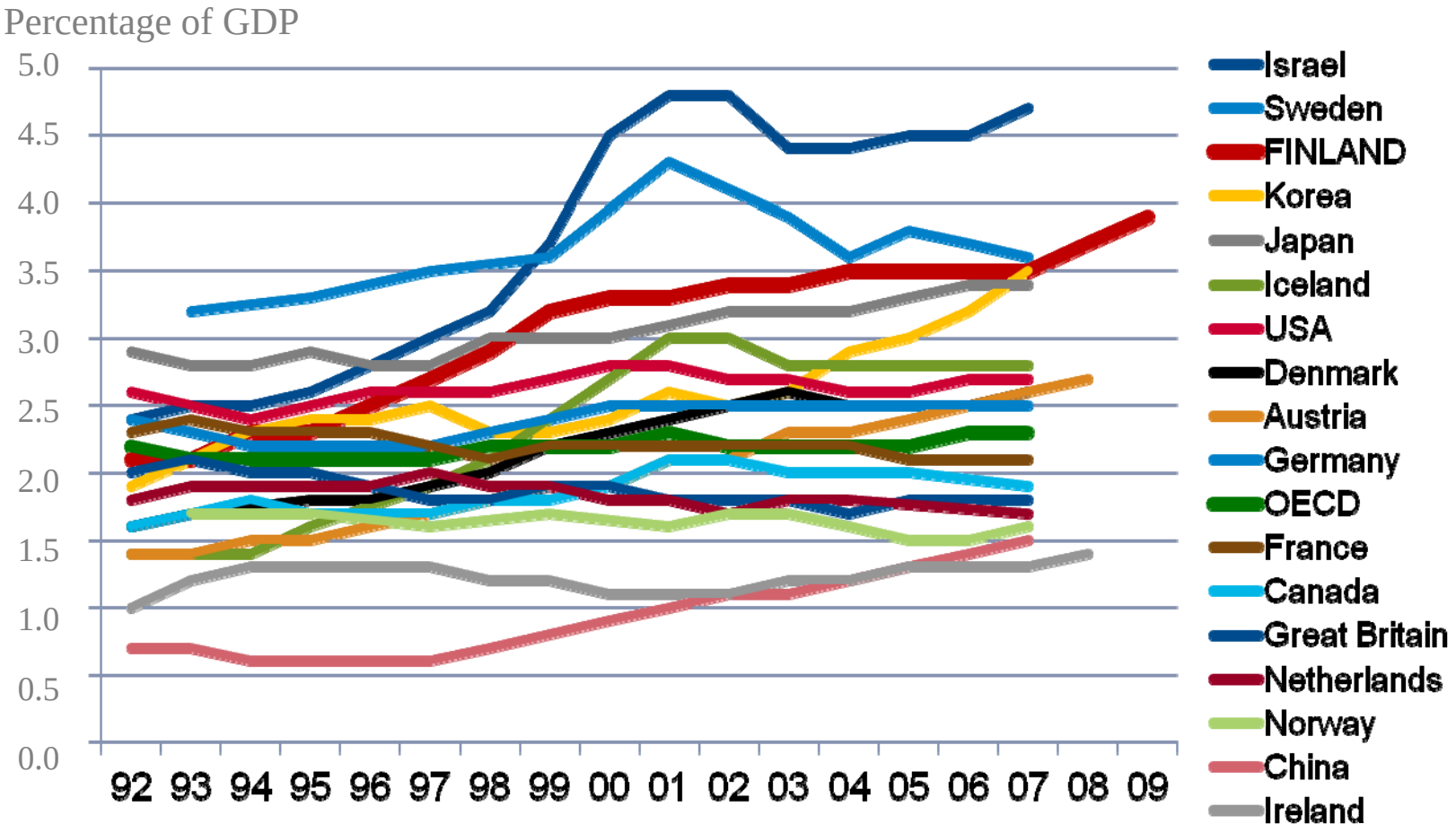
Global Industry Strategic Demands for R&D

- Increasing rate of product innovations
- Accelerated time-to-market

Global Industry trends

- Externally sourced innovations a major factor in future R&D programs

R&D investments in some countries



Sources: OECD, Main Science and Technology Indicators and Statistics Finland

Without ability to turn Research into Business, Investments on Education and R&D will be lost

Time to market is one of most important factors for new innovations and for the profitability of the new products

Knowledge transfer needs to be fast and effective!

Long-term cooperation gives good possibilities to invent and develop jointly the knowledge („Open Innovation“)

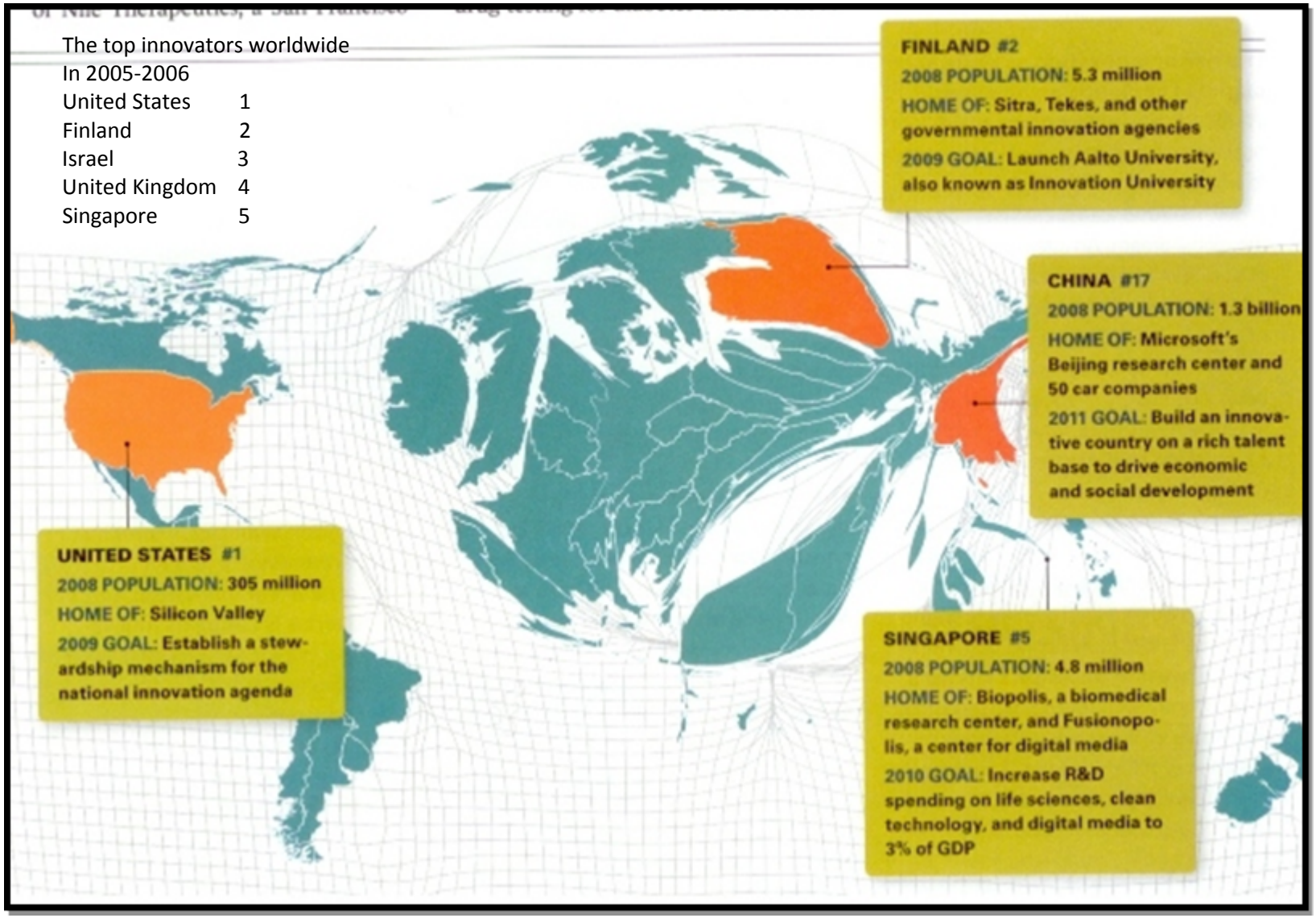
Transnational and Transregional Networking of companies and research institutes is an effective instrument in Innovation transfer

Networking / clustering on European level will help the spezialiced knowledge to find users wider and faster and to help SMEs to GROW.

New Map of Innovation World

The top innovators worldwide
In 2005-2006

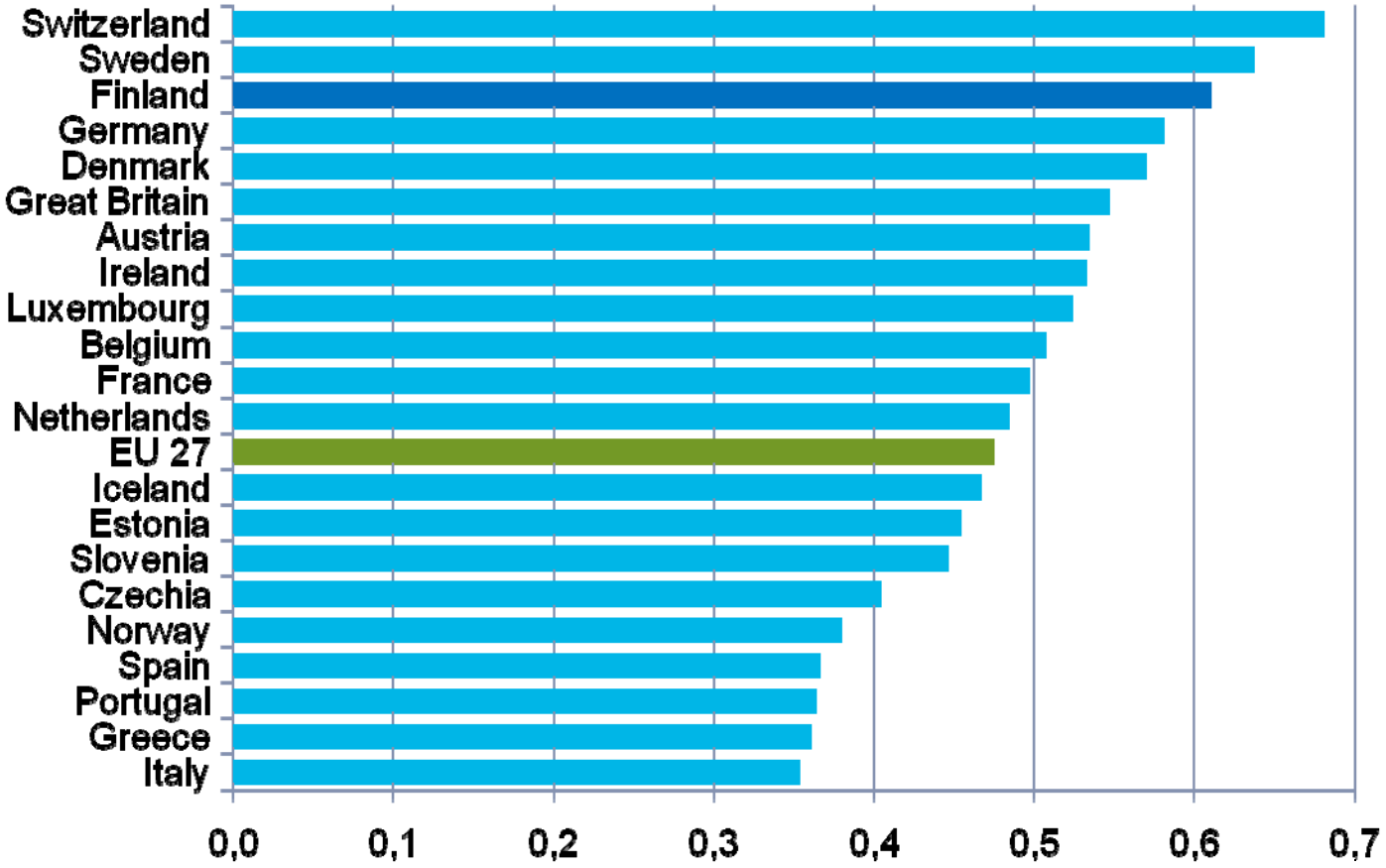
United States	1
Finland	2
Israel	3
United Kingdom	4
Singapore	5



Harvard Business Review | March 2009

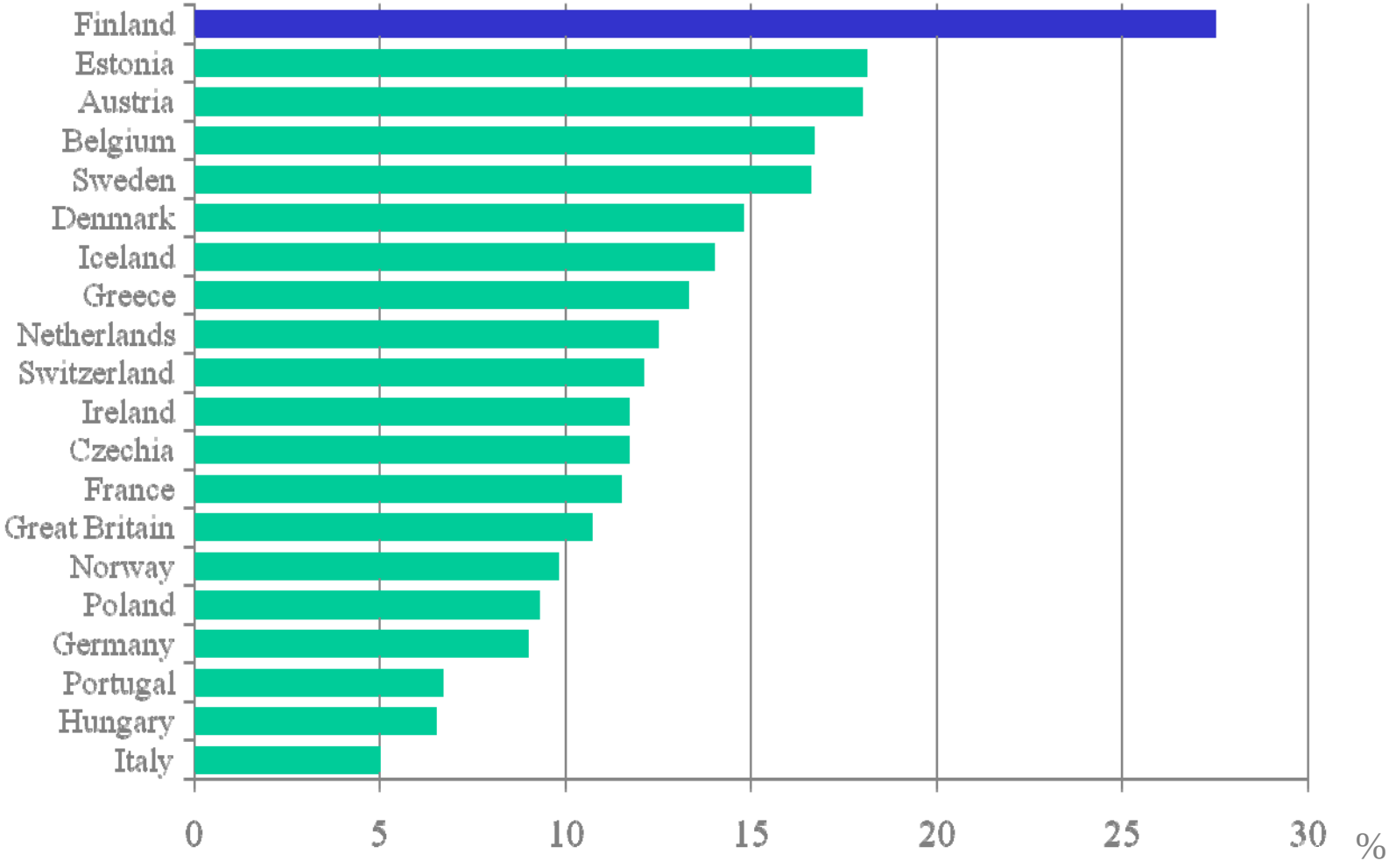
Innovation index

Index according to the European Commission in 2008



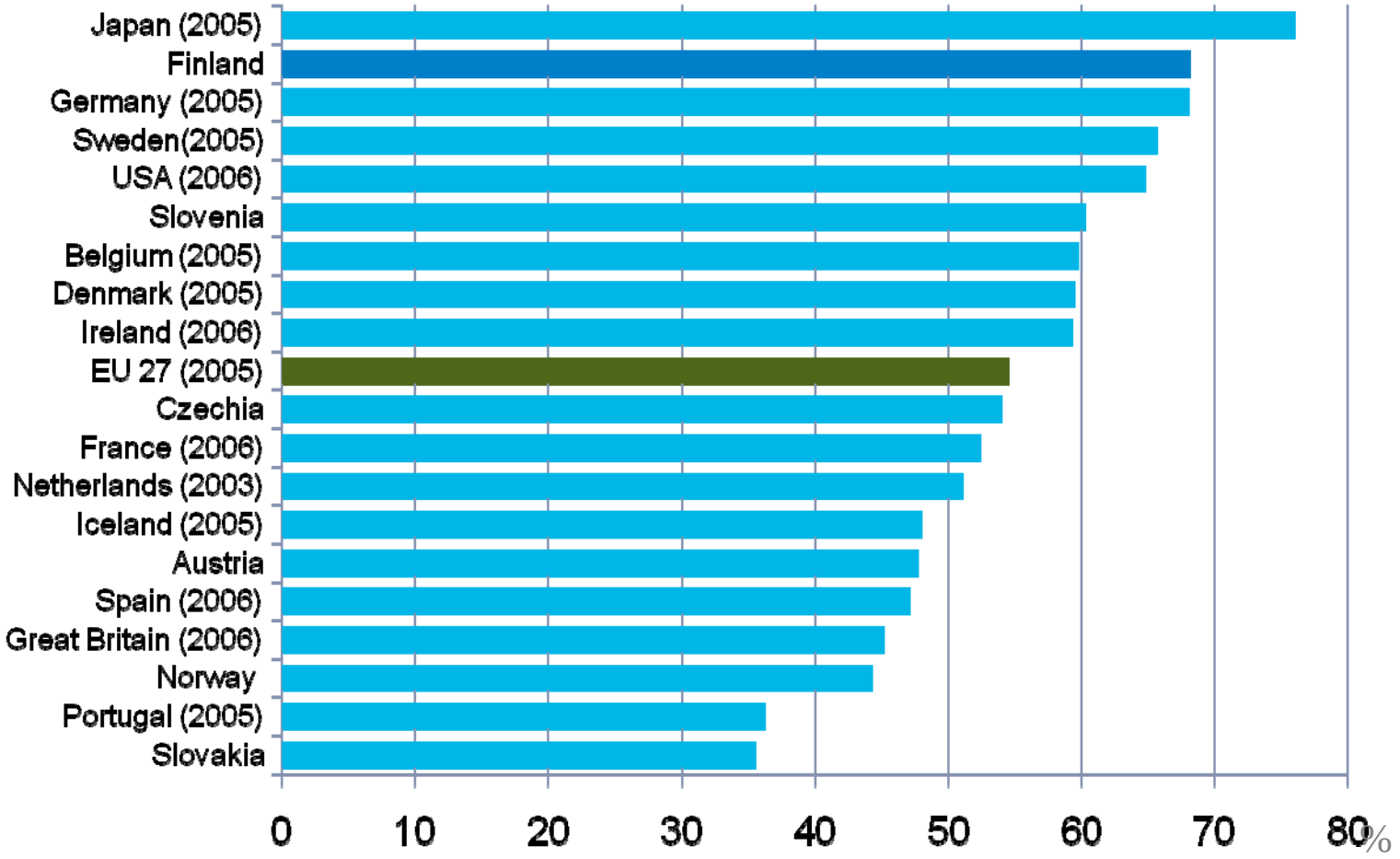
Source: European Innovation Scoreboard 2008

SMEs participating in innovation cooperation in 2006



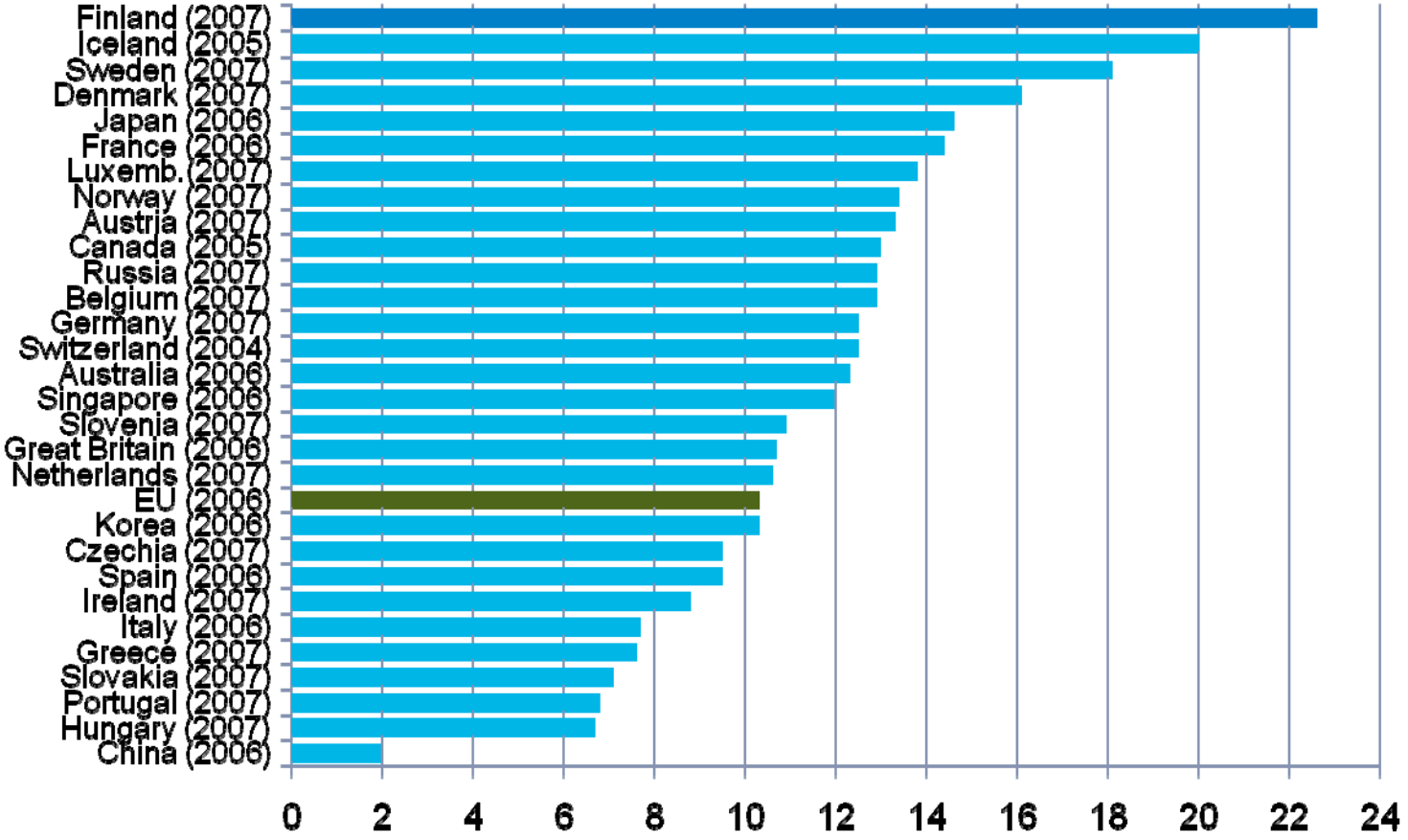
Source: European Innovation Scoreboard 2008

Companies' share of total R&D funding in 2007



Source: Eurostat

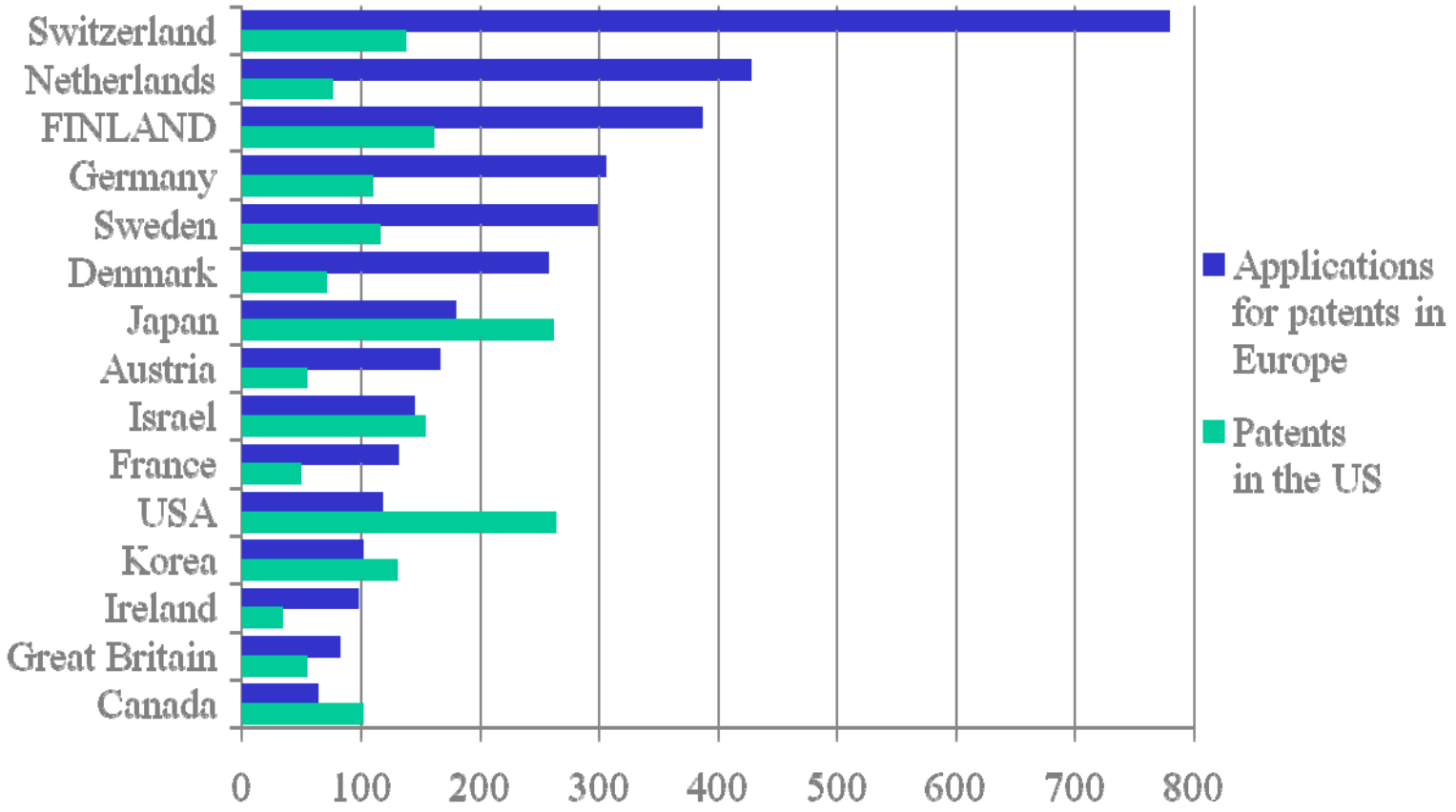
Personnel in R&D per thousand employed



Source: OECD, Main Science and Technology Indicators

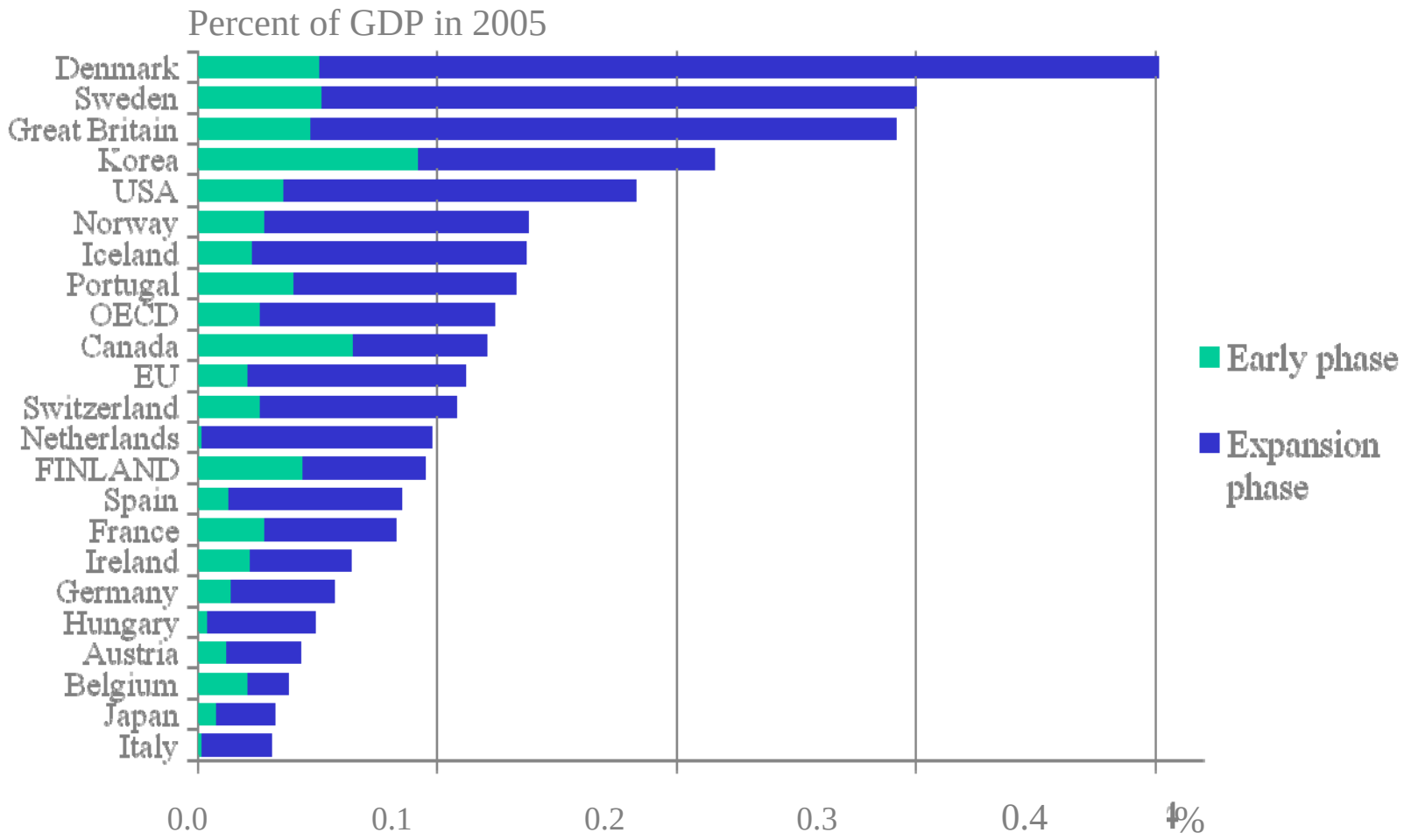
Patents in Europe and in the United States

Patents and applications for patents per million inhabitants in 2007



Sources: Calculated from USPTO- (patents) and EPO- (applications) figures and number of inhabitants in average from Statistics Finland

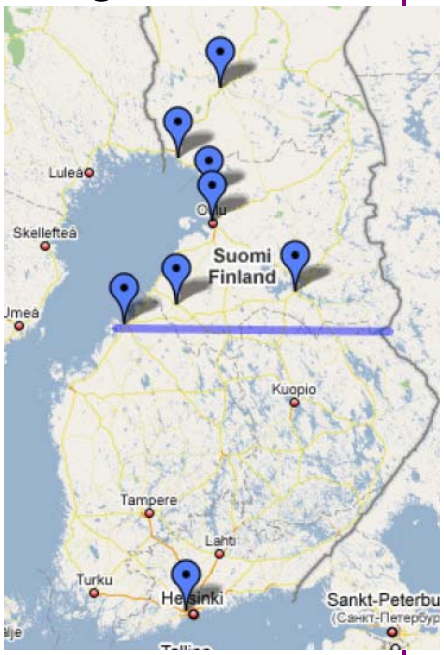
Venture capital investments



Source: OECD Science, Technology and Industry Scoreboard 2007

High-tech Oulu – *since NOKIA opened in Oulu one of its most important research departments more than 30 years ago*

Population - Oulu region	**230 000**
Population - City of Oulu	**130 000**
Hi-tech workforce	**18 000**
Hi-tech business turnover	**6,7 billion €**
University of Oulu - 2nd largest in Finland	
- 17 000 students, 3000 personnel	
Oulu University of Applied Sciences	
- 8000 students, 700 personnel	



Today Oulu is ICT, but with multidisciplinary competence

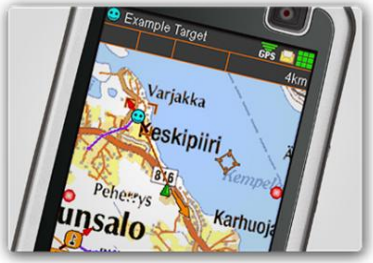
- Oulu is home to over 800 ICT companies, incl. 150 global companies.
- ICT companies specializes in focused areas such as *Near Field Communications (NFC)/RFID*, *Sensors*, *Assisted GPS (AGPS) location services*, *digital mobile media* and *realExtend virtual world technologies*.
- Wireless and Portable applications are important business areas.

New Strategic Fields of Oulu

Business OULU

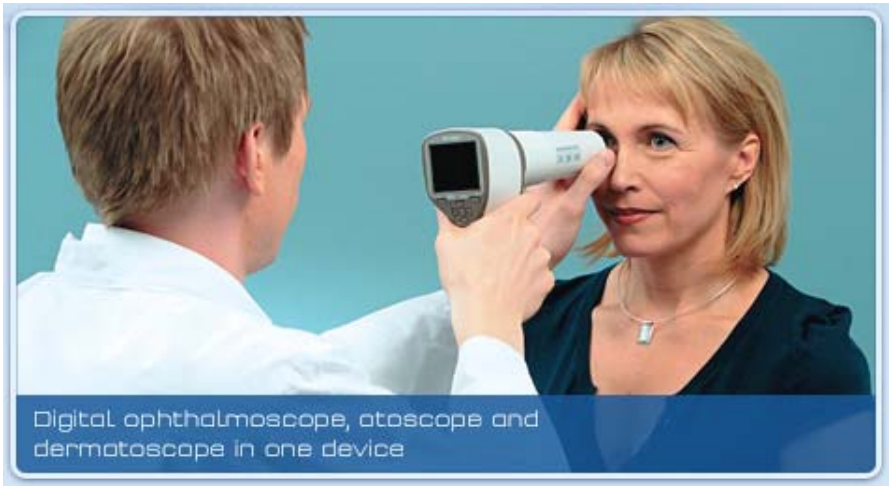
Oulu Innovation Centers of Excellence
– signed 02/2009 by key players in the region ...

- Cleantech
- Printed Electronics and Optical Measurements Innovation Center (PrintoCent)
- Center of Internet Excellence (CIE)
- Center of Global Business and Economics (MAIGBE)
- Life Sciences



OULU –
known for innovations...

Noptel Oy, Sports Shooter Training System



Optomed Oy; http://www.optomed.fi

High-tech Oulu – Micro&Nanotechnologies, Photonics, New materials and **emerging industry in Printed Intelligence&Printed Electronics**

PrintoCent , Printed Electronics and Optical Measurements Innovation Center

PrintoCent

an innovation program and environment
takes technologies from lab-to-fab-to-markets

Combines the printed electronics (printed intelligence) and optical measurements efforts at VTT, University of Oulu, Oulu University of Applied Sciences and Oulu Innovation/Micropolis : know-how, R&D, education, and business development

- *an innovative and competitive operating environment for R&D and education*
- *developing and testing innovation systems and processes to accelerate the development of new business*
- *establishing Oulu as an internationally attractive location for business in this field*
- *building international networks of collaboration for players in the Oulu region*

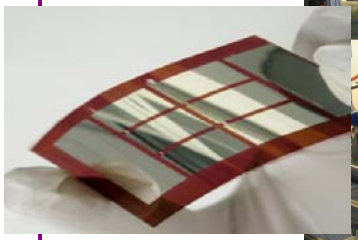
Printed intelligence & printed electronics will create disruptive innovations and new opportunities on wide area of businesses.

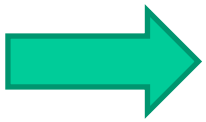
- Printed intelligence is **printing like mass-manufacturing method**
- Combining electronics, biotechnology, chemistry, optics, optoelectronics…

- **Interesting areas for future applications:** *optics and lighting*, *electronic paper*, *printed and packaging products*, *printed solar cells and fuel cells*, *batteries and supercapacitors*

… *totally new printed products*, e.g. *novel high volume smart products manufactured by Roll-to-Roll Printing.*

…high volume disposable applications: *disposable electronics* e.g. low-cost displays printed on paper and *disposable health care products.*





Otaniemi in Espoo Helsinki Region

The biggest concentration of R&D and innovation services, facilities and hitech infrastructure in the Nordic Region

32,000 people, 16,000 students, 16,000 hitech professionals
600 companies, several world headquarters, World Class Research

All located in

Otaniemi

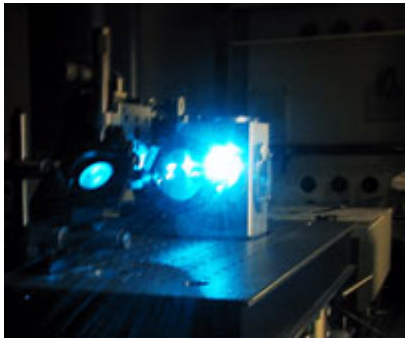
Heart of Finland's Hitech

http://www.otaniemi.fi

Otaniemi Science Park:

About 300 SME/micro Hi-tech companies, Aalto University School of Science and Technology (former Helsinki University of Technology), VTT Technical Research Centre of Finland, Micronova Center

Technopolis Innopoli, in Otaniemi



Micronova Center, VTT

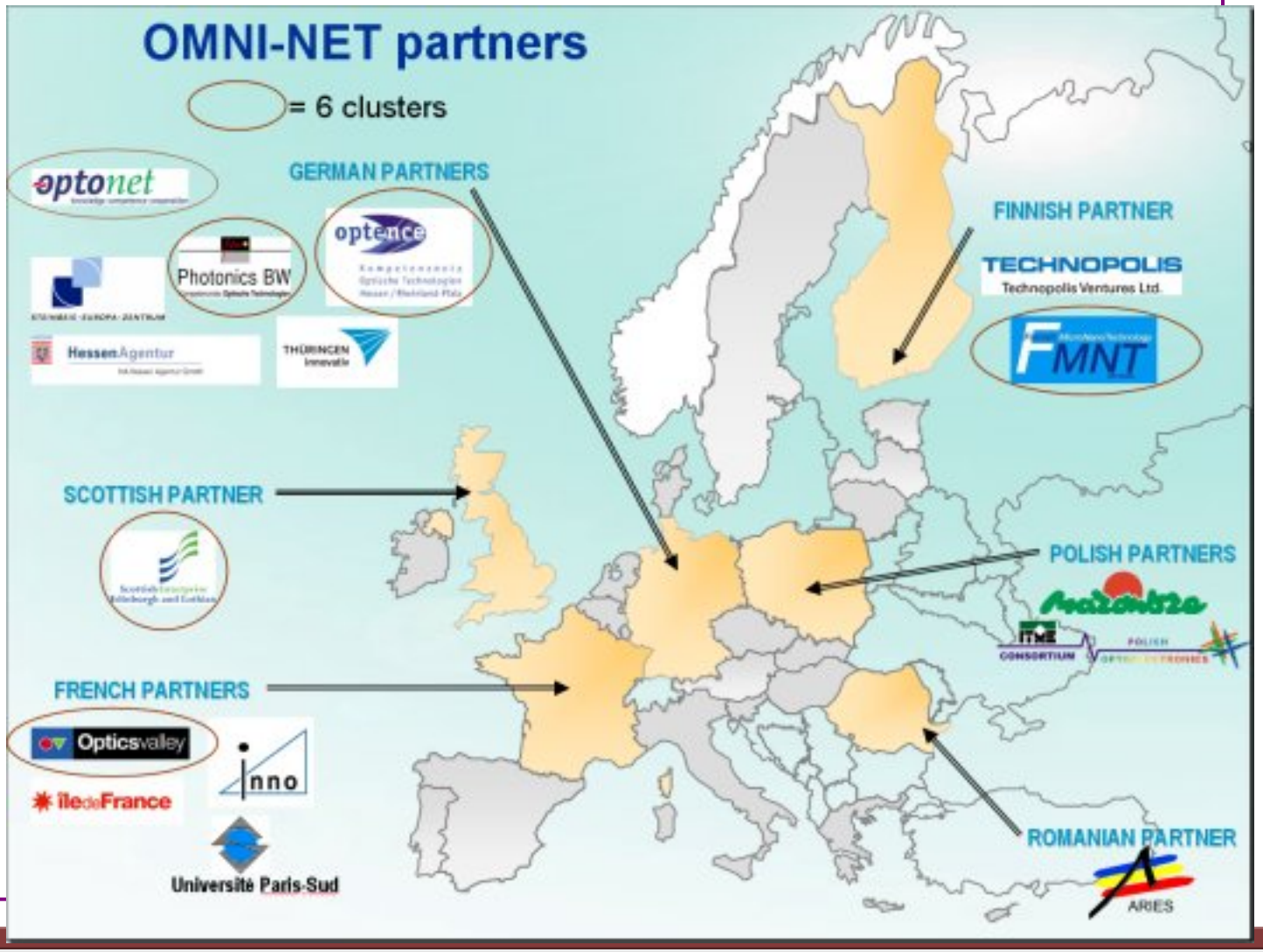
In all Otaniemi: more than 600 SME/Micro companies, 50% ICT companies, 3000 research workers, 16 000 students in technical faculties; www.otaniemi.fi

For Micropolis EU-projects are a strategical choice: besides content of project, a most important gate to European level networking.

- **While participating EU-projects Micropolis is creating possibilities for SMEs to open international contacts and cooperation.**

OmniNet – Opto-Micro-Nano Innovative Network

FP6, 10.2005 - 04.2008, Lead partner Optics Valley, Paris Region



EUROPE INNOVA
Innovation and Clusters
OMNI-NET

Continuous – long term cooperation – Backround&Actions in Thüringen-Finland cooperation (Technopolis/Micropolis)

Backround:

- Cooperation with Thüringen Innovation/STIFT and Optonet e.V. since 2004, *preparing EU-proposal*.
- Partners in EU/FP6-project OMNI-NET, Opto-Micro-Nano European metaCluster from 2005.
- Steinbeis Europa Zentrum, one of project partners in OMNI-NET.

Company Missions:

1. Thüringen Company Mission to **Helsinki** June 2005 (14 persons)
2. Finnish Company Delegation to Thüringen, 10 SMEs and Research&Innovation units), **Jena and Ilmenau** November 2006.
3. Thüringen Company Mission to **Oulu** February 2010 (14 persons)
4. Micropolis representantives in **Erfurt** June 2010

- Optonet representative in Finland,**Helsinki**, Conference in **Kajaani** North Finland
- Oulu representative (VTT) 10.5.2010 in **Erfurt**: **Kick-off /Third Call ERDF-TNA (Transnational activities), joint project ideas for ”Grüne Technologien”.**
- Meetings at International Trade Fairs in Germany, Frankreich...

Concept of Company Missions Thüringen-Finnland

Day 1

-Seminar

-Face to face meetings with company representatives

-Introduction /Tour in the Seminar facilities

-Get-together Party

-Mini Exposition *of Finnish and Thuringian organisations at the meeting place:*

Exposition with brochures, posters, demos and devices if possible

Day 2.

-Visits to Companies / Research Institutes

Thüringen photonic specialists at Aspocomp Oulu Oy 16.2.2010

Thüringen Company Mission to Oulu 15th -16th February 2010, Organized by STIFT, Micropolis, Optonet and VTT

Goals: Technology Transfer, International marketing, Networking

- 31 SMEs, Research institutes and Innovation organizations from Oulu and Thüringen were introducing in lectures their products and skills in one day.
  - 13 presentations by companies/institutes from Thüringen.
- Private discussion with persons/companies from Oulu and Thüringen
- Visit to VTT laboratories and to Printed Electronics Pilot Plant
- Excursions to 4 companies in Oulu
- Private visits to several companies and to University of Oulu.

Company mission to Oulu , 14. - 15. February 2010

Mission was carefully prepared, 30 company profiles from Oulu were analyzed and evaluated in Thüringen before decision of the technological themes of mission.

Survey about the Finnish companies

Company / Institute	(Business) Fields of activity
Optoelectronics / Imaging Technologies	
Specim – Spectral Imaging Ltd. (www.specim.fi)	Imaging spectrographs, spectral cameras and hyperspectral **imaging technologies** Specim's AISA family of airborne hyperspectral sensors provides market leading solutions for **remote sensing**, from small UAV systems to full featured commercial, research and military remote sensing tools.

Survey on interest of Thuringian companies

Business Fields/Company profiles

Nr.	Company	PI Ceramic	TETRA	VIA electro-nic	IMMS	IMN	Jenoptik LOS	Jenoptik EPI GAP	POG	dilitro-nics	LEONI
1	VTT	X	X	X	X	X	X	X	X	X	X
Embedded systems / RFID											
2	Exens										
3	CHILI devices										
4	Esju			X	X						
5	EB Electrobit			X							
6	Idesco				X						
Optoelectronics/ Imaging technologies											
7	Specim			X	X		X		X		X
8	Braggone		X	X	X	X		X	X		
9	Noptel	X	X	X	X	X	X		X		X
10	Rikola	X	X	X	X		X	X		X	X
11	Upstream Eng.	X		X	X			X	X	X	
12	Detection Techn.	X	X	X	X		X	X	X		X
13	Nanocomp		X		X	X			X		X
14	Valopää			X	X			X	X	X	
Measurement/Sensorics7Microelectronics											
15	University / MILA					X					X
16	Measurepolis		X		X	X					
17	Senfit			X							
18	Inspex			X							
19	SensApex	X	X	X		X	X				
20	Selmic	X		X		X		X			
Medical technologies											
21	Polar Electro	X		X		X					
22	Optomed	X		X		X	X		X		
23	Optimon	X	X	X		X					X
24	SensApex	X				X					
Automation and software											
25	Mecano										
26	Metso	X									X
27	Epec	X	X								
28	Aspocomp		X					X			
29	Visidon										
30	Fara						X				

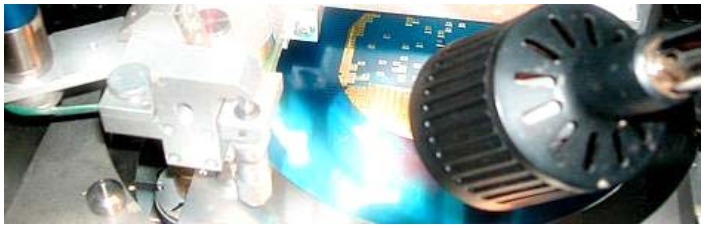
OPTO-, MICRO- & NANOTECHNOLOGIES
Precision made in Thuringia

Company mission to Oulu/Finland
14th – 17th February 2010

dilitronics GmbH, Jena
LEONI Fiber Optics GmbH, Neuhaus-Schierschnitz
Institute of Mechatronic and Micrelectronic Systems gGmbH (IMMS), Ilmenau
Institute of Micro and Nanotechnologies (IMN), Ilmenau
Jenoptik LOS GmbH, Jena
Jenoptik Polymer Systems/EPIGAP
PI Ceramic GmbH, Lederhose
POG Precision Optics Gera
TETRA GmbH, Ilmenau
VIA electronic GmbH, Hermsdorf

Organized by:
Foundation of Technology, Innovation and Research Thueringen (STIFT)
Enterprise Europe Network Thueringen
ELMUG e.G.
OptoNet e.V.

Thüringen Company Mission to Oulu
Finnish Company profiles



Profiles:

1. Specim – Spectral Imaging Ltd
2. Noptel Oy
3. Selmic Ltd
4. Exéns Development Oy CHILIdevices International
5. Aspocomp Oulu Oy
6. Nanocomp Oy
7. Optomed Oy
8. Braggone Oy
9. Rikola Ltd
10. Upstream Engineering Oy
11. Valopaa Oy
12. Detection Technologies Ltd.
13. Oplatek Oy
14. Nanofoot Oy
15. SensApex Oy
16. VTT
17. Iin Micropolis Oy

Micropolis
is a Technology hub

Excursions to Companies&Research Institutes

Company Visits 04.2010 in Finland, Oulu
Company/Organisation
Selmic Ltd, Electronic modules
Noptel Ltd, Optoelectronics
Specim-Spectral Imaging Ltd
Aspocomp Oulu Oy advanced printed circuit boards

Company Visits 11.2006 In Thüringen
Company/Organisation
Jena
Fraunhofer Institute IOF
IPHT-Institute for Physical High Technologies
Jenoptik Laser, Optik, Systeme GmbH
Jenoptik Automatisierungstechnik GmbH
LASOS Lasertechnik GmbH
Ilmenau
LLT Applikation GmbH
SIOS Meßtechnik GmbH
TETRA Gesellschaft für Sensorik, Robotik und Automation mbH

Company Visits 06.2005 in Finland Helsinki Region
Company/Organisation
Espoo
VTT Technical Research Centre of Finland, Micronova
Planar Ltd EL Displays
Vantaa
VTI Technologies, Si-sensors
Okmetic Si-wafers (MEMS)

On period 2005-2010 Thüringen-Finland Networking

- Totally more than 70 company&institute presentations made for qualified, potential partners.
- Visits to about 20 factories and research institutes – in Jena, Ilmenau, Helsinki and Oulu.
- Lot of face-to-face discussions.
- Commercial agreements done.
- Innovation transfer cases in process
- Joined projects performed and new ones under discussion
- New ideas for future cooperation growing...

Sauna und Hightech aus Thüringen

Company Mission von Thüringer Optikfirmen nach Finnland erfolgreich zu Ende gegangen

Seit gestern sind neun Thüringer Unternehmen und Institute aus den Bereichen Optik, Opto- und Mikroelektronik von einer gemeinsamen Firmenkontaktreise nach Helsinki zurück. Neben innovativen KMU wurden auch der Weltmarktführer VTI und das Nationale Forschungsinstitut VTT besucht und erste Ansätze für gemeinsame Technologiekooperationen erörtert. Organisiert von der THATI GmbH-IRC und dem OptoNet e.V. fanden Workshops mit Firmenpräsentationen in Espoo nahe Helsinki statt. Im Anschluss standen Besuche bei Firmen, Technologieparks und Forschungsinstituten auf dem Programm, die ein eindrucksvolles Bild von der finnischen Technologielandschaft boten.

Immer kann man etwas neues lernen !

Dass finnische Unternehmer ihre Geschäftskontakte in der Sauna vertiefen, schien für die Thüringer Gäste zunächst ungewöhnlich, erwies sich aber schließlich als durchaus anregend für Körper und Geist. *So gab es erste konkrete Kontakte für die Colandis GmbH aus Kahla, ein innovatives Thüringer Unternehmen, das sich mit Ausrüstungen für die Reinraumtechnik befasst. Geschäftsführer Joachim L..*

KIITOS