

BCBU: Barents Cross-Border University (2010) Seminar Rovaniemi, 10 March 2010



The Role Institutions of Higher Education Have in Helping Business Meet the Challenges in the Barents Region

Dr. Lauri Lajunen Rector, University of Oulu

UNIVERSITY of OULU



Co-operation in Barents and Northwest region

In Education

Barents Cross Border University: Master Programs in Social Work; Environmental Engineering, Circumpolar Health and Well-being and Information Technology

In Research and Development

Northern and Environmental issues Northern and Environmental Technology Circumpolar Health and Well-being Special Themes: Mining, Energy and Water clusters, Information technology and wireless communications

Need to strengthen: Co-operation between Universities, Research Institutes, Industry and Authorities in Regional development



The importance of the universities is growing

- Knowledge based economy is on the agenda around the world
- global change challenges both private and public sector to develop more economical, more efficient and more environmentally sustainable production methods, products and services
- new innovations increasingly depend on observations and results achieved through scientific work
- universities occupy now an increasingly important role and that they are faced with vast expectations and demands
- National innovation systems rely on universities and politicians as well as businesses seek to cooperate with universities



The importance of the universities is growing

- High quality of research and up-to-date teaching make the foundation of a university's reputation
- A university which can offer this will attract to its campus and to the vicinity research and development capacity of businesses simply because the platform for research cooperation is naturally there and the companies can easily recruit educated work force
- It is the interest of companies to cooperate in research and offer diploma thesis projects and traineeships for the students
- In the best of cases a win-win situation is created: both the company and the university will thrive, since a university greatly benefits from the surrounding strong and versatile business and service structures
- On the other hand the service structures and the companies need the university
- Universities create innovations as a result of their research which translates into new products, new businesses or better services



University reforms

- University reforms have taken place or are under way in countries like Austria, Germany, Denmark, Sweden and Finland
- Japan, South Korea and China are actively developing their universities
- Goals for these reforms and development measures include the enhancement of the quality of research and teaching and the increasing of universities social and economic impact



Ways for Universities and Companies to Cooperate

- Diploma thesis work for companies
- Common research projects and programs
- Joint laboratories and/or centers
- Commissioned research
- Consultations
- Joint seminars
- Company experts as guest lecturers
- Donated professor's chairs
- Business life experts functioning in university Boards and committees



There are five basic necessities in the creation of a regional innovation centre

- 1) There should be one or more international research university of high standing in the area
- 2) A versatile industry structure and regional governance in support of entrepreneurship are needed
- 3) Enough capital for the development of innovations into products and businesses is needed
- Intellectual property rights and immaterial rights need to be defined so that they support the commercialization of innovations
- 5) A culture of innovation which favours entrepreneuriship is needed



The role of a research university in cooperation with the private sector

A research university of high international standing cannot and should not become a research and development laboratory or gopher for the assignments of a company

The primary role of a university is the production and creation of new knowledge

A university will carry out research which the businesses might need in 5 to 10 years time and which might not have a direct application at the moment

High quality of research and an ambition are the priorities of the universities











above average performers average performers below average performers poor performers no data

BE, DE4, PL4, PL5, PL6, UK: NUTS1 Source: DG Enterprise



Top research areas in European Union

25

10 top regions count 25 % of the total EU R&D investments



R&D Investments with respect to GDP

UNIVERSITY of OULU OULUN YLIOPISTO



R&D Investments by regions in Finland





University of Oulu

- Founded in 1958
- 6 faculties or schools (humanities, . education, science, technology, medicine, and economics and business administration
- 16 000 students
- 3 000 employees
- Total funding EUR 220 million (external funding EUR • 63 million)
- Among the largest universities in Finland with an exceptionally wide scientific base









Campuses

Linnanmaa Campus

- 5 faculties
- Infotech Oulu
- Thule Institute
- Martti Ahtisaari Institute
- CWC
- Centre for Advanced Steel Research (CASR)
- Micro and Nanotechnology Centre
- Department of Architecture (city of Oulu)

Kontinkangas Campus

- Faculty of Medicine
- Biocenter Oulu
- Centre for Arctic Research
- Clinical Research Centre (CRC)
- FinnTelemedicum
- Welltech Oulu

Kajaani University Consortium (City of Kajaani)



UNIVERSITY of OULU



University of Oulu 2008

- Master degrees 1932
- Doctoral degrees 123
- Publications 2879 (in 2007)
 - Scientific publications 2238
- 63 invention disclosures, 6 patent applications (2007)







Science is our core competence

- Research in 70 fields of science
- Four research focus areas:
 - Biosciences and Health
 - Information Technology
 - Cultural Identity and Interaction
 - Environment, Natural Resources and Materials
- New initiatives: advanced steel research, international business, geo- and mining engineering, science-based education



UNIVERSITY of OULU



Innovations and new specialists

- Annual crop of tens of inventions, patents and spinoff companies
- Education meets working life requirements and graduates gain employment
- 72 percent of graduates find employment in northern

Finland Regional placement of University of Oulu graduates 2000 - 2004







Guidelines of the Ministry of Education for 2020

 The profile of the University of Oulu
 The development of the University of Oulu will be continued as an international science university together with economic life and state sector research institutions



The strategy of the University of Oulu for 2010 - 2012

Central objectives of the development

- Elevation of the international level of the research
- Improving the quality of the teaching
- Development of the cooperation structures



Development program for cooperation structures

Cooperation with the state

setor institutions

Scientic development

Interdisciplinary doctoral and master programms



Interdisciplinary research centers

Cooperation with the economic life



Innovation Centers







The Strategic Alliance of the Oulu Innovation Centre



UNIVERSITY of OULU



Cooperation with economic life Innovation Centers Finnish Center of Printed Center of Center of Center of Social Mining Expertise Intelligence Internet Excellence Global Innovations Cluster in Water **Business** Excellence in Health **Business** Industry Centre (CIE) Technology and Cluster (PrintoCent) (CETH) **Economics** (CEWIC) (MAIGBE)









- Biocenter Oulu
- Center for Wireless
 Communication
- Infotech Oulu
- Thule-institute
- Center fot Advanced Steel Research
- Other

UNIVERSITY of OULU



Thank you!





UNIVERSITY of OULU