The Industry’s Role in Research Training – a Case Study

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Introduction

Global Competition
Globalisation? I didn’t vote for that…
The role of the Industrial Researcher

Enterprises of the knowledge society
R&D – a vital part of the new industry

- **Siemens**: “Around 50,000 researchers and developers are employed at over 150 development centers in more than 30 countries around the world”.


- **Philips Research**: “With laboratories in five different countries (The Netherlands, England, Germany, China and the United States) and staffed by around 2,100 people, our common vision is to create technologies that will lead to products for improving people's lives”

- **Lucent / Bell Labs**: “6 Nobel Prizes in Physics shared by 11 scientists. On March 10, 2003, Bell Labs was granted its 30,000th U.S. patent”.

- **Intel**: “7000 people in Intel Research”.

The Value-Chain has changed

Skills ↓  Output ↓
Agriculture

Skills ↓  Output ↑
Coal & Metal

Skills →  Output ↑
Consumer Products

Skills →  Output ↑
Information & Services
Nokia R&D

In 2003, Nokia increased its R&D spending to EUR 3.760 billion or 12.8% of its net sales.

- Global network with 55 R&D centers in 15 countries
- Over 20,000 people - or 39% of our employees - work in R&D at the end of 2003
- Nokia Research Center is the corporate R&D unit of Nokia
Research Training in Practice

…how do we get the best out of them?
Case 1: Industry and Academia Co-financing

The motivation:

- Ph.D’s ensures the competences 5-6 years ahead
- Cutting Edge Technologies today requires enhanced effort = extended time frame
- Ph.D’s bridges the knowledge gab between Industry and Academia

The solution:

- The Danish Industrial Ph.D. program
  - Shared expenses: State 50% - Enterprise 50%
  - Topic from Industry, approved by Academia
  - Supervisor from both Academia and Industry
  - Benefits:
    - A great opportunity for the Industry Researcher
    - Shared responsibility and commitment “protects” the Ph.D. student during the program
    - Knowledge flow from Academia to Industry and from Industry to Academia
Case 2: The CICT School of Research

Industry Support Group

Ph.D. School

M.Sc. Program

B.Sc. Program

“Company on Campus”

International Co-operation

Minor R&D units and SME’s under the same roof

Several ICT Specializations

Based on Career Space Curriculum

Several ICT Specializations
Global Competition part II

Final Remarks
Can YOU compete?

Shanghai Daily – September 12, 2002

A 12-year-old boy studies his dorm key at University of Science and Technology in Hefei, Anhui Province. The boy, who finished his primary school education in only two years and secondary schooling in three years, is the youngest student enrolled to the university this year.

— Xinhua
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