Technology Transfer from Universities to Industry - A Personal View -

Evolutionary Computing in Practice
GECCO 2006

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Introduction

- A Difficult Topic
- Necessarily a Personal View
- At Least 4 Main Factors (Country – Specific)
  - Economic Growth Rates
  - Governmental Policies
  - History & Culture of University – Industry Interactions
  - IP Issues
- Other Factors
  - Active Role of the Researcher / University
  - Sales & Marketing
  - The Human Factor („Professor Factor“)
My Personal Background

- Dortmund University, 1990 – 1994
  - No Industry Interaction
  - No University Attempts / Support in Doing so
- Informatik Centrum Dortmund, 1994 – 1999
  - Research Projects with Industry
  - Governmental Funding (also for Industry !)
    - Makes it Easy for Industry to Accept Participation …
- Leiden University, since 1996
- NuTech Solutions, since 2000
  - Understand where the Market is ! What it wants !
4 Components

Many more Aspects play a Role!

- **Economy**
  - Company’s budgets
  - Innovation climate
  - Risk acceptance
  - ...

- **Gov. Policies**
  - Invest in Research
  - Subsidizing programs
  - Funding for company/university cooperations

- **History & Culture**
  - Was it common in the past?
  - Society view of universities
  - Emphasis on education & research
  - ...

- **IP Issues**
  - Who owns results?
  - University – researcher
  - University – industry
  - Univ. sometimes too strict

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Other Factors

- The Researcher / Professor
  - Avoid Thinking of University Research being more Advanced than Company‘s Research …
  - Try to Listen & Understand the Company‘s Needs.
  - Be Active – University Normally does not do it …

- Sales & Marketing
  - Somehow, Industry must learn about you.
  - Some Universities Really Support This
    - Seminars for Industry
    - Industry on Advisory Board on University
    - Alumni Networks
    - Support of startup companies (also gov‘t programs)
Gov't Programs

- Germany / EU / US …
- Often Huge Effort (Proposal Writing …)
- Typically want Industry Participation
- Industry sometimes happy about „subsidies“ …
- Real Tech. Transfer Sometimes Happens
- Start Industry Cooperation Based on This
Observations

- Can it fit with a PhD study? Yes!
- Good programming standards & high quality delivered.
- „We pay taxes anyway“ – why pay for it?
- Need for outside money at universities implies growing activities
- Interesting to observe: Univ. needs to sell.
- Huge companies: Own research departments.
- Small companies: Can’t afford, don’t think about it.
Advices I

- R & D Departments of Big Industry
  - Good for „small money“
  - Often pretty open for collaboration
  - Typically try to just finance / co-finance a PhD student
  - Are not used to the idea to pay a University
  - Typically well aware of technology and algorithms
Advices II

- Production Departments of Big Industry
  - A better target!
  - You need to talk their language, not yours!
  - Try to understand their needs

- Advice:
  - Listen
  - Listen
  - Listen
  - Do not talk about your algorithms on a technical level
Advices III

Don’t be shy asking for money!