Entrepreneurship support at the University of Twente: Acceleration of Growth

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Research and Business Development

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Presentation

• NIKOS
• Opportunities and results of spin off program from University of Twente
• Successes and issues to solve
• Approach of design of support structure
• Firm level
• University level
• New program high performance teams, high potential ideas
• Q & A
Look who’s talking?

- Mechanical Engineering / Industrial Engineering and Management
- Research: analyses of strategic processes of High tech start ups in a social network structure
- Business Development: consulting and training high tech start ups; 300 start ups.
- Consulting in curriculum development of new Innovation Management & Entrepreneurship Master at MEPhI (Moscow)
- Part time Entrepreneur
Activities in NIKOS

**Business Development**
- TOP
- NENSI
- KEB
- Bepart
- Mephi
- Global starts

**Research**
- The role of entrepreneurial networking
- University-Industry Interaction (ECIU)
- E-commerce in SME’s
- Global start ups
- Database of knowledge intensive firms
- Marie Curie Training site
- High Tech Small firm Conference

**Entrepreneurship in networks**

**Teaching**
- Minor Entrepreneurship, international management
- High tech business development
- Msc Innovative Entrepreneurship & business development
- ECIU Master Innovation & Entrepreneurship

**Training & consultancy**
- Market orientation HTSF
- VNO-NCW
- Rabo
- International consultancy
### Forms of creating value in different research types

<table>
<thead>
<tr>
<th>Research Process</th>
<th>Fundamental</th>
<th>Demonstrator</th>
<th>Integrator/Applicator</th>
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</thead>
<tbody>
<tr>
<td><strong>Opportunity Recognition</strong></td>
<td>Publication or IPR, External 2nd opinion on technology, Incentive for inventor, Social culture researchers</td>
<td>Proprietary IPR, Incentive for inventor, External 2nd opinion on business aspects</td>
<td>Scouting for business ideas, Market-pull and product-based technology development, Seed money</td>
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<tr>
<td><strong>Opportunity Preparation</strong></td>
<td>Role of technology in value chain, Application for grants/subsidy (NWO, EU, STW)</td>
<td>Demolab feasibility, Business model, Market data, PMC</td>
<td>Spin-off creation (TOP), Entrepreneurial process, Investors</td>
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<tr>
<td><strong>Opportunity Exploitation</strong></td>
<td>Concept creation (Industrial) scientific networking, External communication (science, education, society)</td>
<td>Business network, Business Development Process, Business valuation of technology, Licensing/Co-development with industry (grants)</td>
<td>Incubator (labs, offices, administration), Science Park, Production and commercialization, Management</td>
</tr>
</tbody>
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** PMC: Public Management Center **
The entrepreneurial process

Opportunity recognition → Opportunity development → Value creation

Entrepreneur

Environment
What are the needs of an entrepreneur?

- Culture, values, norms
- Facilities
- Personnel arrangements & Systems
- Knowledge

Scope: from idea to Strategy

Skills: Patterns of Organisation

Entrepreneur and Enterprise

Social Network-Contacts

Scale: Economy: Financial means

- Ideas
- Assessing the opportunity
- Strategic processes
- Business plan

Contacts with:
- clients
- suppliers
- experts
- colleagues
- support agents

- Own capital
- bridging development period
- Financing investments
  - Venture Capital
  - Loans
Support instruments

- Knowledge & Space Organisational support
- Contacts Brokerage
- Skills: Patterns of Organisation
- Social Network-Contacts
- Coaching, training & Courses
- Strategic Coach
- Scope: from idea to Strategy
- Scale: Economy: Financial means
- Soft loans participation

- Ideas
- Assesing the opportunity
- Strategic processes
- Business plan
- Culture, values, norms
- Facilities
- Personnel, arrangements & Systems
- Knowledge & Own capital
- Bridging development period
- Financing investments: Venture Capital, Loans
How to stimulate growth in high tech based firms?

• Laissez faire, the invisible hand of the market will do its work
• Governmental intervention, The visible hand steers the region: e.g. transfer state service organisations to the region; or start an university
• Co-ordinate many visible hands by building entrepreneurial networks on micro level
Spin off Companies University of Twente
Economic results:

• 500 firms in TOP program (since 1985)
• Approx. 400 survived
• Total direct employment in region > 3000 fte
• Indirect employment ?
• Clustering: ICT, biomedical, process technologies, nano (around Mesa+)
Issues

• Spin offs are small (medium) sized
• Growth is small
• Distance to market → valley of death
• IP management
• What about creating business in/with existing firms?
• Difference between inventor and entrepreneur
Issues

- Market orientation versus technology orientation
- Operational effectiveness versus Strategic flexibility
- Service or product / production
- Strategic partnering
- Management competencies
- Building of industrial networks
- Global arena
Valley of Death

Existing Research Resources (Technical and Market)

Existing Commercialization Resources

Level of Development

Idea  Research  Fuzzy Front End (18)  Product Development  Commercialization

Resources
Incubators

Twente Life Sciences Business Accelerator

Nanotech accelerator

Business & Technology Centre – BTC-Twente
Entrepreneurship in the curriculum (1)

3yr Bachelor / elective Minor

1 & 2 year Master programme
Characteristics of successful support of entrepreneurial processes

• Multi-dimensional (strategy, organisation, networking, economics)
• Multi-level networking: firm level, regional level, global networks enhancing University Industry Interaction across technological fields
• Multi-actor: combining heterogeneous competencies e.g. creativity, technology, and marketing competencies
New Program for generating High potential entrepreneurial teams creating business out of UT-technology
Group based support/selection

- Kansrijk eigen baas (200 firms created in 2,5 year in Achterhoek)
- Individual trajectories (self selection based)
- Group based (n=60, 4-6 months)
- Self selection + assessment
- Intensive training, ideas brought in, process of enterprise concept development
High Tech / High potential
Group based selection process

• Enterprising with knowledge
• Group based (n=60, 4-6 months) + team/concept based 1 year
• Target groups students & persons with work experience
• Using high potential business concepts UT
High Tech / High potential
Group based selection process

1. Self selection + assessment
2. Intensive training, general ideas brought in, process of enterprise concept development
3. Selection of high potential teams matched with high potential business concepts
4. Small group/personal coaching with high level business coaches
5. Network with international VC-funds
6. Office space 1000m2
Expected Results

- Groups of 60 persons
- 30 firms based on own idea development of participants (after 5 years 25 firms, employment >250)
- 5 firms based on high potential ideas matched with teams based on selection during program (after 5 years, 2-3 firms, employment >250)
- 2 groups per year, 3 years → employment after 8 year >3000
Questions and remarks?

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