



UNIVERSITY OF GOTHENBURG

Practical Approach to Entrepreneurship

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GIBBS is part of Göteborg Bio

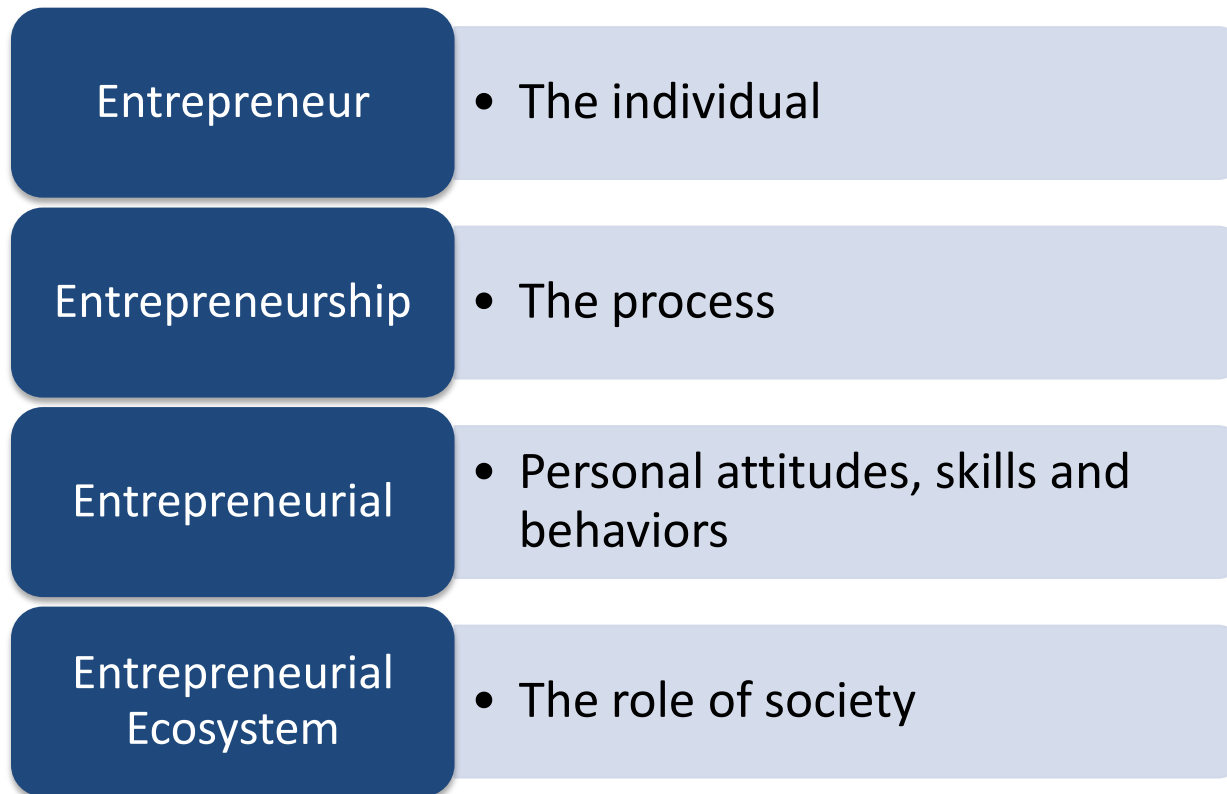


Agenda

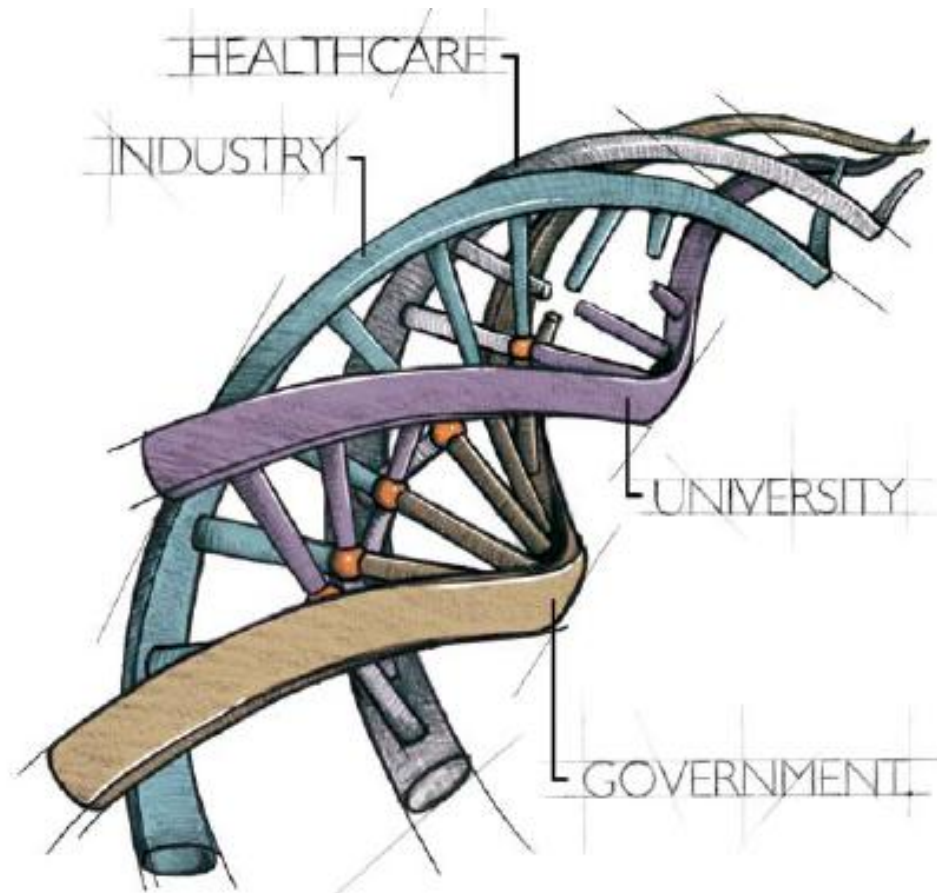
- The Ecosystem
- The knowledge triangle/university role
- Education in entrepreneurship
- Our reasoning
- What we do
- What we have achieved
- And now...



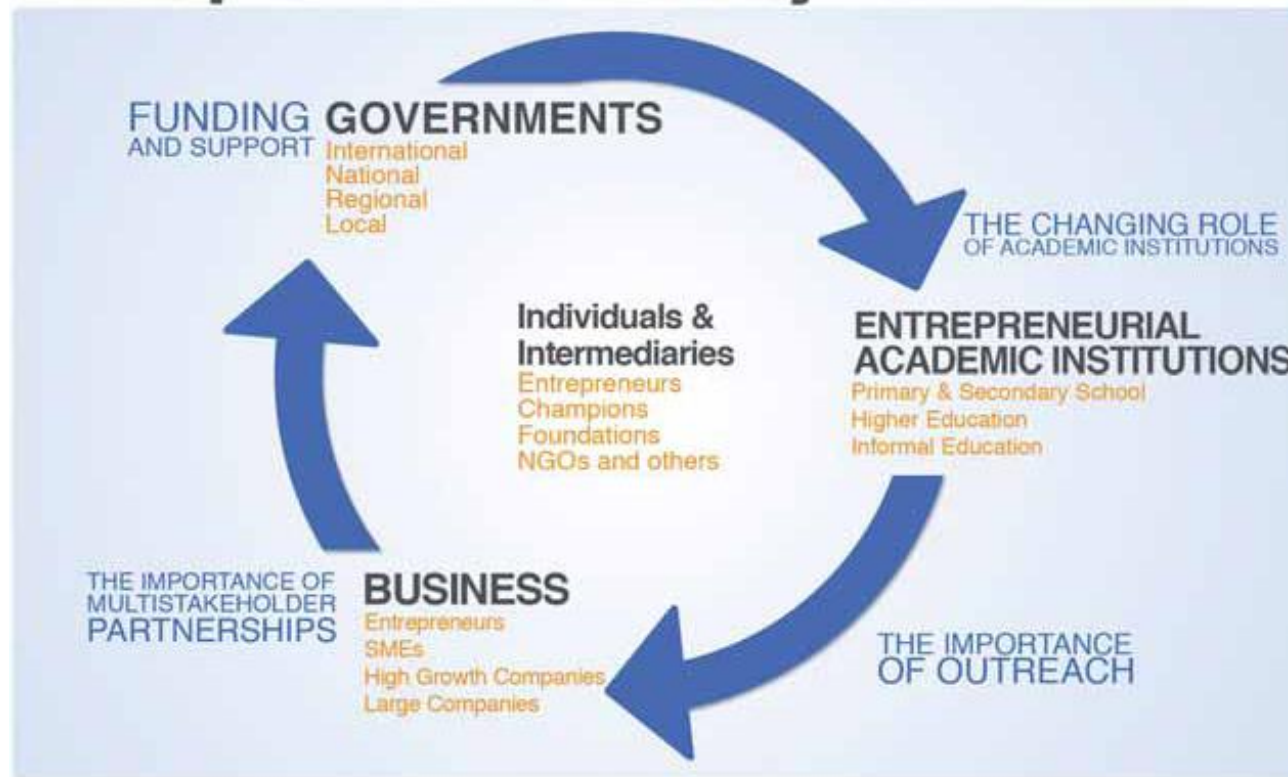
Entrepreneur What?



Adapted from World Economic Forum; Educating the next wave of entrepreneurs, 2009



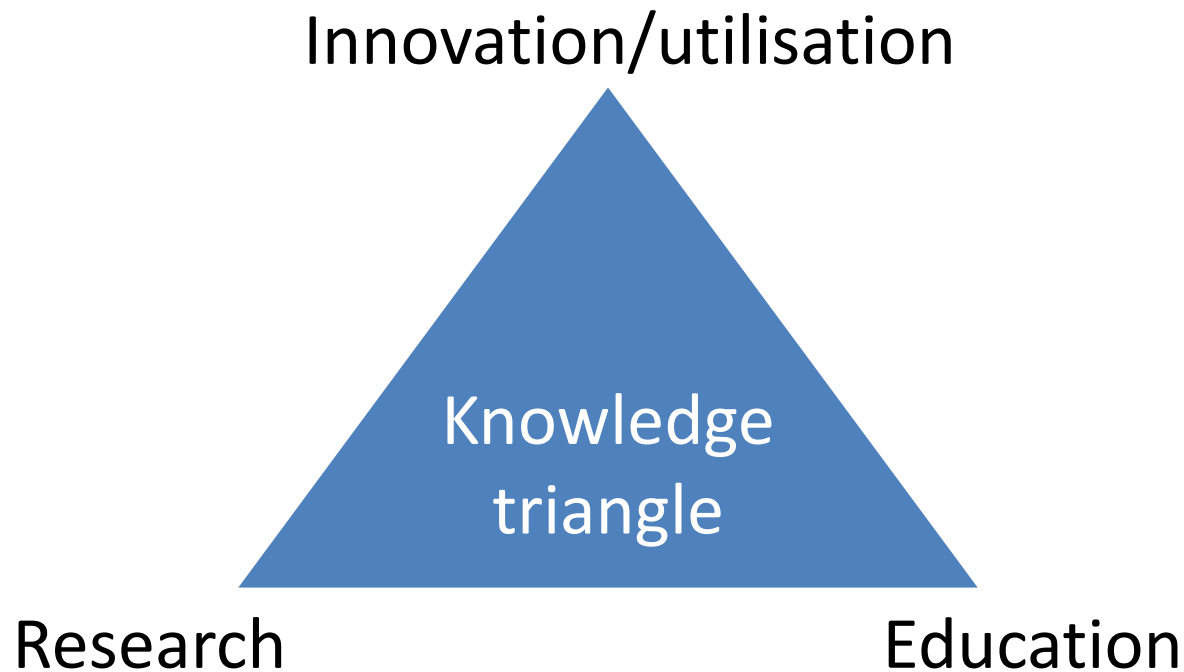
The ecosystem



World Economic Forum; Educating the next wave of entrepreneurs, 2009

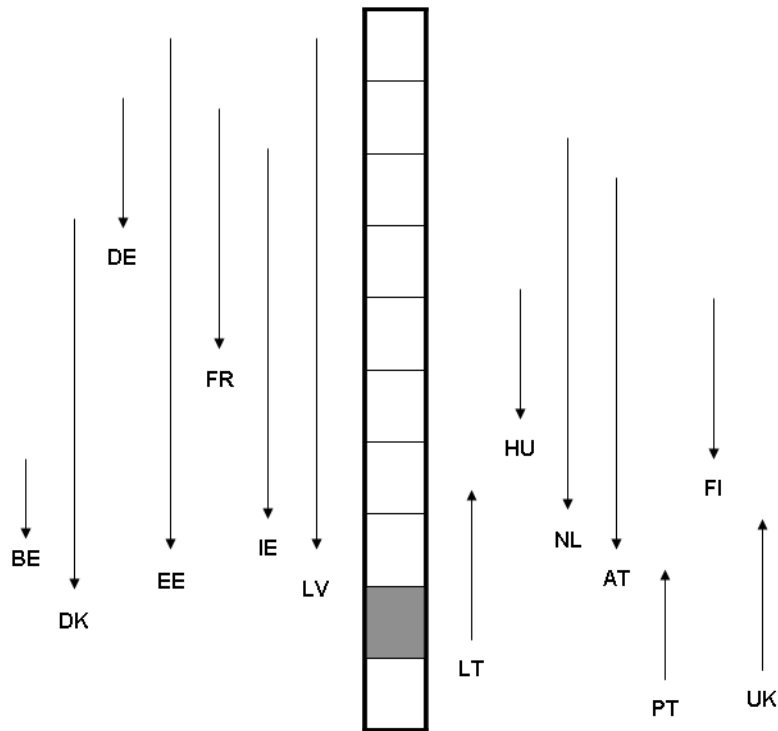


The Knowledge Triangle



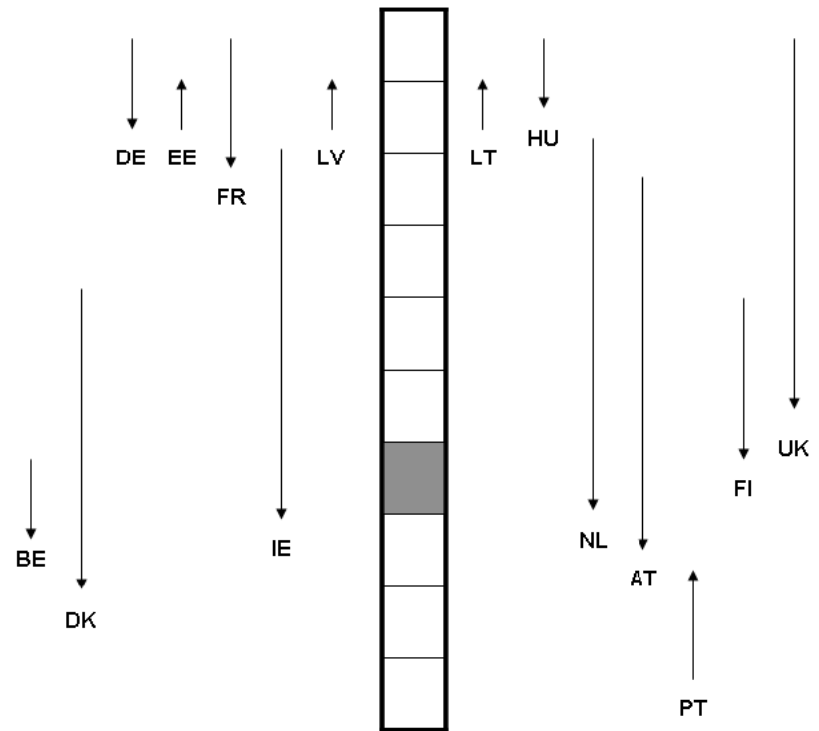
The autonomy of the universities

State regulation



Autonomous university (board)

Academic self-governance (professor)



University leadership (board)

Report on "University Governance", EU 2010



The role of the university





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Unlock the potential

“The pursuit of opportunity beyond the resources you currently control.”

Stevenson, 1983, 1985 ; Stevenson and Jarillo, 1991

there is a common belief that entrepreneurship education would help to influence culture and build enterprising economies. But, if looked at closely and within their individual groups of interest, these stakeholders (politicians, academics, students) are interested in entrepreneurship education due to the perceived socio-economic benefits, at both an individual and societal level.

(McKeown et al., 2006; Matley,2005; Kirby, 2004; McMullan and Long, 1987)

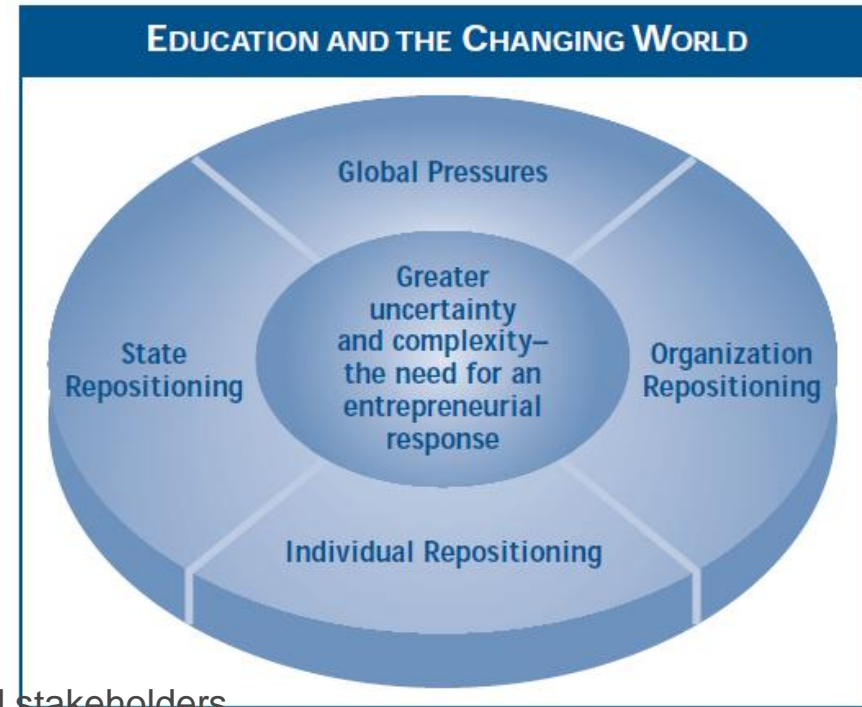
Why focus on entrepreneurship?

“We are living in a society that increasingly demands entrepreneurial behaviors at all levels.”

*Allan Gibb,
“Educating tomorrow’s Entrepreneurs”*

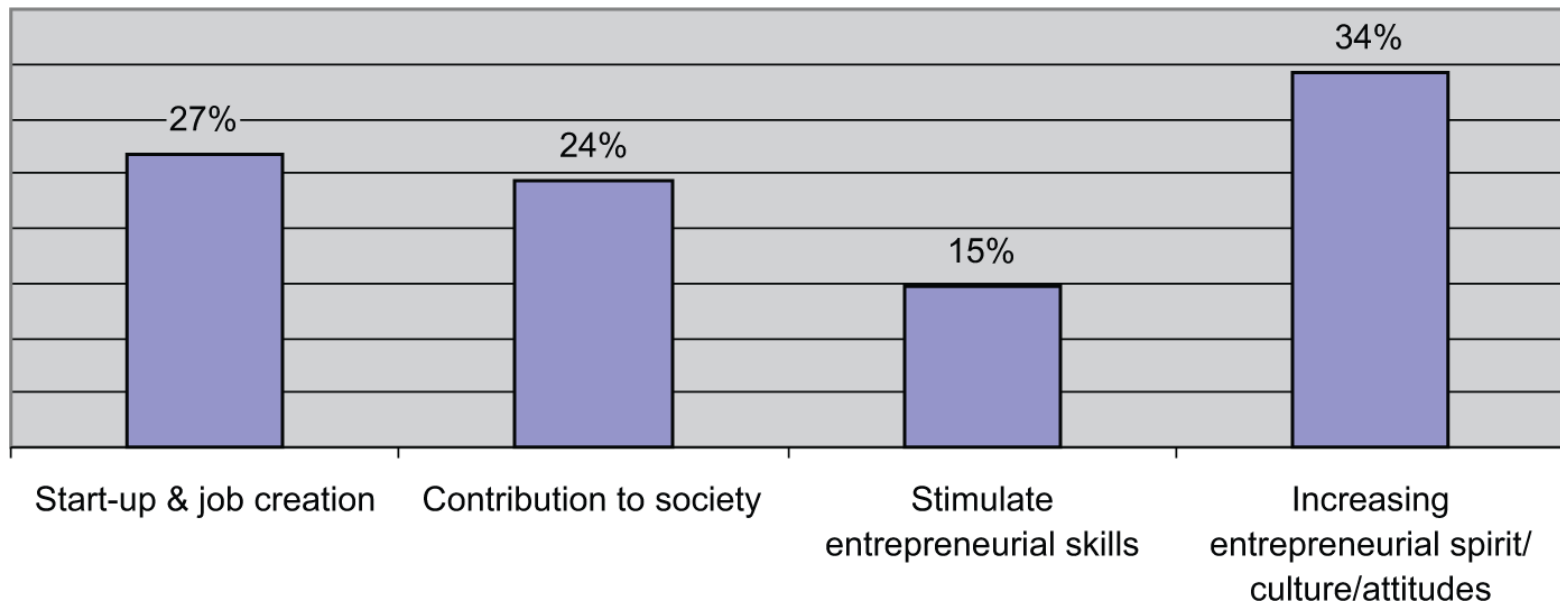
“The fully integrated entrepreneurial University”:

- University wide application of entrepreneurship teaching, joined with office of technology transfer
- Innovative pedagogical support for every department, all departments and subjects covered
- Entrepreneur teams invited in to harvest ideas
- Entrepreneurship as an office of the Vice Chancellor
- All activities academic led but in partnership with external stakeholders
- Active stakeholder participation with university staff in joint ventures
- Open approach to intellectual property and investment in university ventures
- Links to business support services and venture capitalists





The objectives?



“Entrepreneurship education: a review of its objectives, teaching methods, and impact indicators”, Ernest Samwel Mwasalwiba, VU University Amsterdam, Amsterdam, The Netherlands, 2010



How to educate?

- Focus on attitudes, behaviour, and personal skills
- Will need a different kind of pedagogy”Active / action based”

Educating about entrepreneurship vs.

Educating for / in entrepreneurship vs.

Educating through entrepreneurship

- Costly and hard to implement within Universities:
- Gothenburg has the knowledge in this action based education

“Entrepreneurship education: a review of its objectives, teaching methods, and impact indicators”, Ernest Samwel Mwasalwiba, VU University Amsterdam, Amsterdam, The Netherlands, 2010



Strategies for education in entrepreneurship

*Entrepreneurship education is a **joint effort** that requires the help and commitment from people from **all layers** in the institutions to truly be embedded across the institutions.”*

To foster entrepreneurial behaviours, skills and mind-sets	82%
To inspire students toward seeking an entrepreneurial career or life	67%
To provide access to entrepreneurship opportunities for ALL students at my institution	54%
To increase the number of graduate start-up busi-nesses	53%
To embed awareness of entrepreneurship throughout ALL curricula provision	48%
To seek opportunities for commercially exploiting knowledge present at my institution	48%
To maximise technology-transfer revenues	35%
To conduct state-of-the-art research on entrepreneur-ship	31%
That the entrepreneurship education as a whole should generate income for the institution	20%
My institution doesn't have entrepreneurship goals	6%
Other	6%

Source: "Survey of Entrepreneurship in Higher Education in Europe", NIRAS Consultants, FORA, ECON Pöyry on behalf of European Commission, Directorate-General for Enterprise and Industry.



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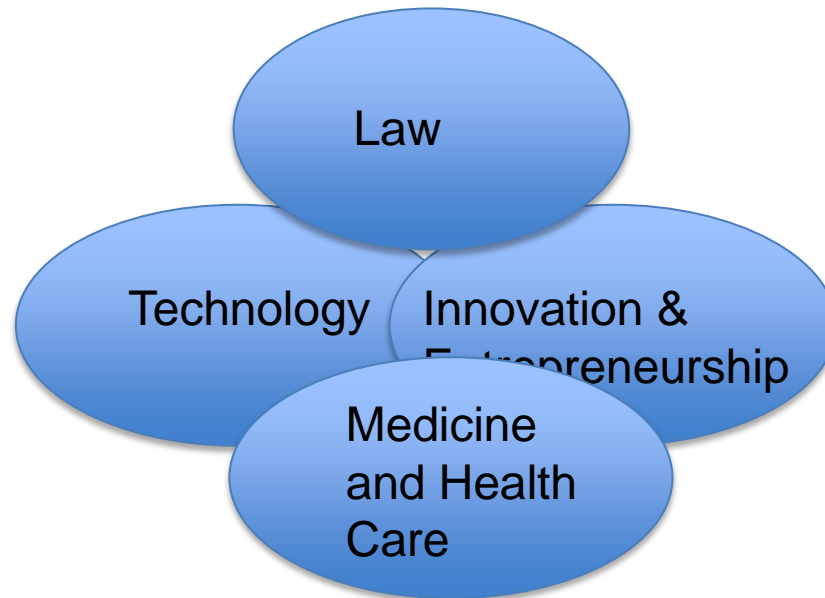


The reasoning

- Lack of
 - Managers
 - Entrepreneurs
 - Understanding of the knowledge economy
- Need to transform more ideas to business
- Existing documented 'education based pre-incubation'
 - Long experience



The normal knowledge parts in entrepreneurial education





The education is based on

- focus on the individual
- our own and others research
- alive and tacit knowledge
- live cases
- handling of the knowledge platform and venture creation
- utilisation of the knowledge created and,
- education through innovation and entrepreneurship



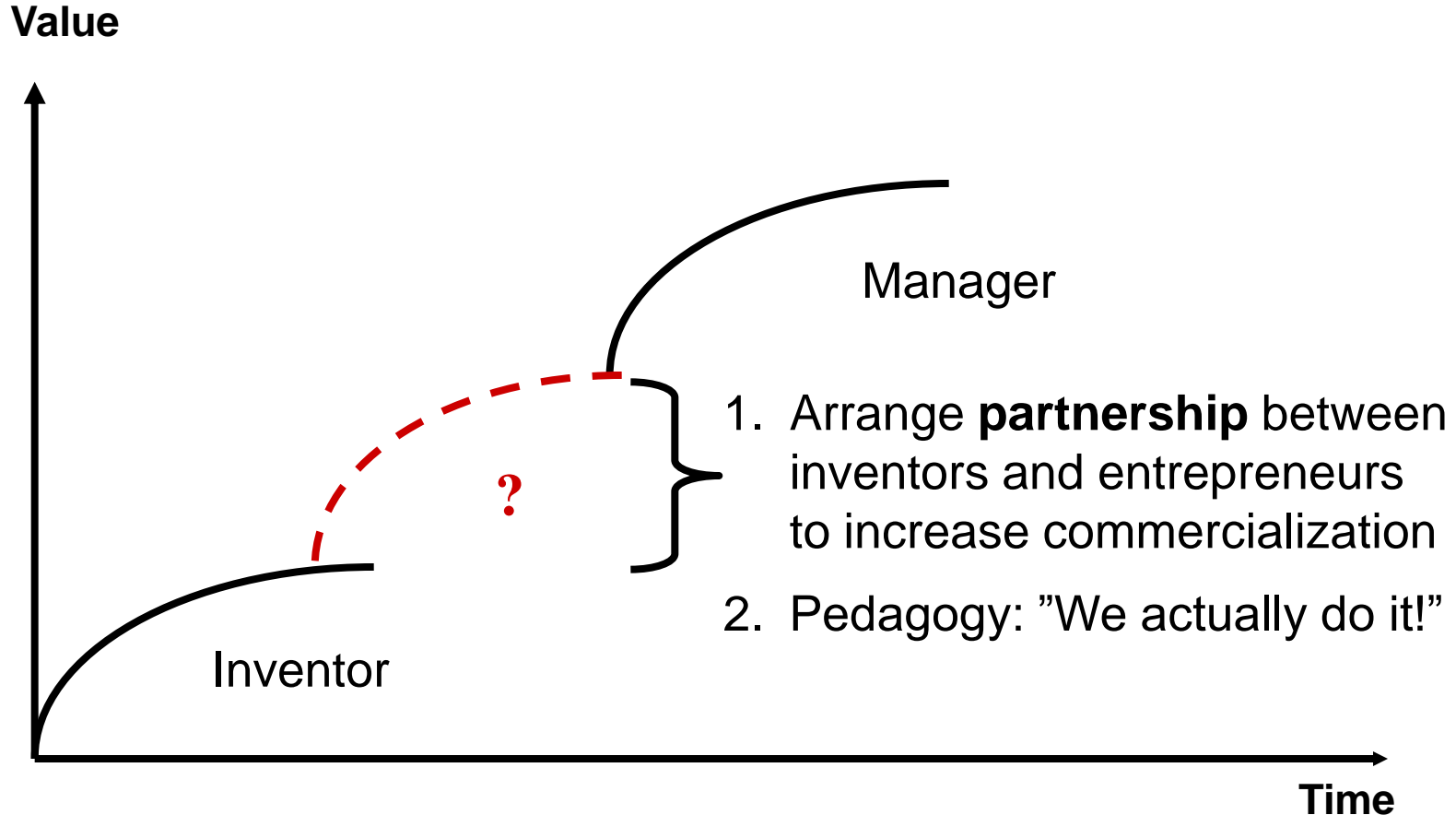
Göteborg International Bioscience Business School

Chalmers School of Entrepreneurship – CSE was formed 1997

Göteborg International Bioscience Business School - GIBBS 2005

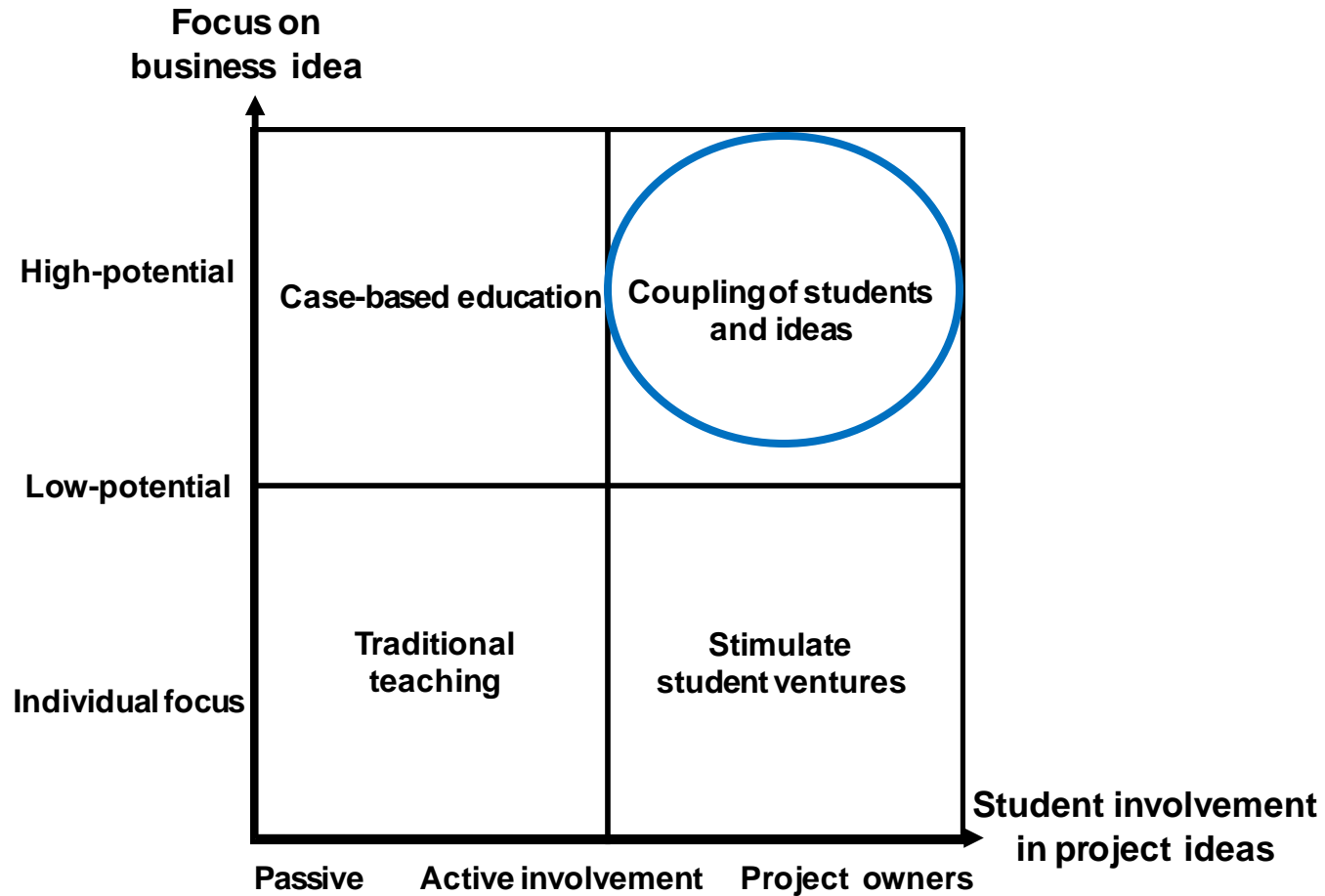
CSE and GIBBS are institutions that provides education for future managers and entrepreneurs within a pre-incubator environment, where new technical ideas are developed into strong start-ups

The was created to build a bridge between Inventor and Manager





The pedagogy



Rasmussen and Sørheim, 2006



The important things

- Projects and idea providers
- Motivated Students
- Education
- Fund or the pre- incubation



What do students do

- Construct knowledge-based business
- Analyze, construct, and use tools to design innovations
- Communicate, reflect, and manage group dynamics and responsible
- Consider citizenship and entrepreneurship for sustainable development; and
- Create and manage start-up ventures



Learning mechanism

- Role plays in which the students act and “negotiate”
- Two Project Reviews and two Business Reviews
- Individual and team-based assignments based on venture activities.
- In the school project the whole school class organizes, finances, and executes a joint project,

Everyone is a potential idea provider ..

- University researchers
- Industry
- Private inventors

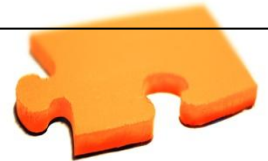


... but there are clear requirements on the projects we take on

- Technology based
- Early stage
- International market

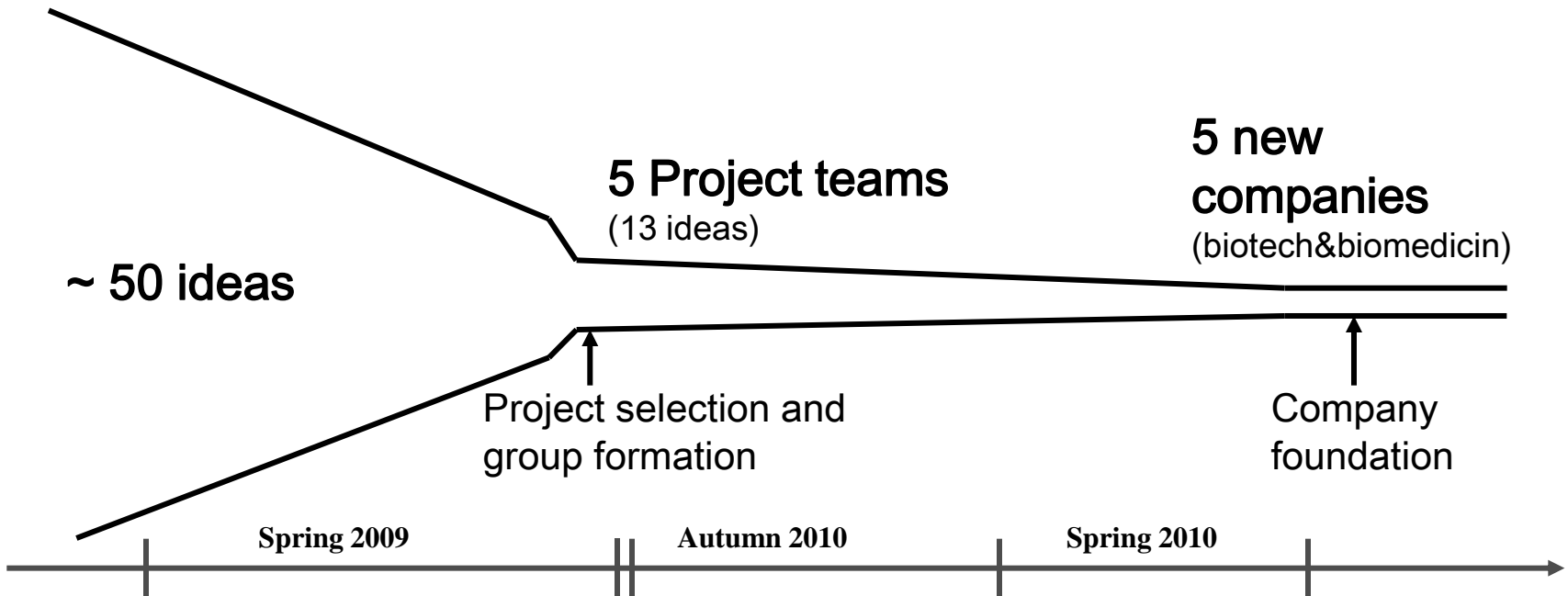
potential

- In need of a driving force





The process





Ideas for GIBBS

- More than 140 projects have been validated
 - » > 180 idea providers
 - » From Göteborg, Stockholm, Uppsala, Linköping, Oslo, VGR, Lund, Örebro, Tromsö, Budapest, Smith&Nephew, AstraZeneca
- About 90 projects have been analysed and submitted for degunkification (IA analysis)
- The ecosystem is essential
- A special course in idea evaluation has been developed
 - Experience
 - » 170 Master student in Gothenburg
 - » 20 Master Students in Tromsö
 - » 55 University teachers in Nicaragua



Ambitious recruiting process to get top students with drive (GIBBS)

Written applications
~150 a year

- Bachelor degree (engineering, economics or law)
- Curriculum Vitae
- Complete application form (10 questions focused on entrepreneurship and personality)



Interviews and tests
~35 a year

- Interviews with management
- Personality tests
- Interviews

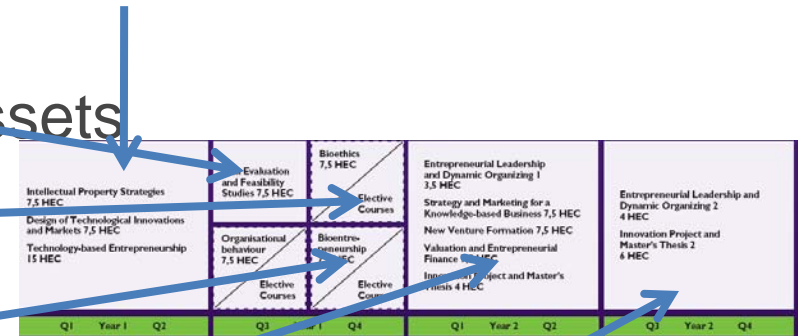


Students
~15 a year

- Student profile:
- Academic merits
- Internal drive
- Critical thinking and creativity
- Ability to function in teams and establish relationships
- Right attitude and willingness

Two year master

- Handling of intellectual assets
- Idea evaluations
- Ethics & regulatory
- Entrepreneurship in biomedicine
- Marketing study
- Real projects
- Business plan





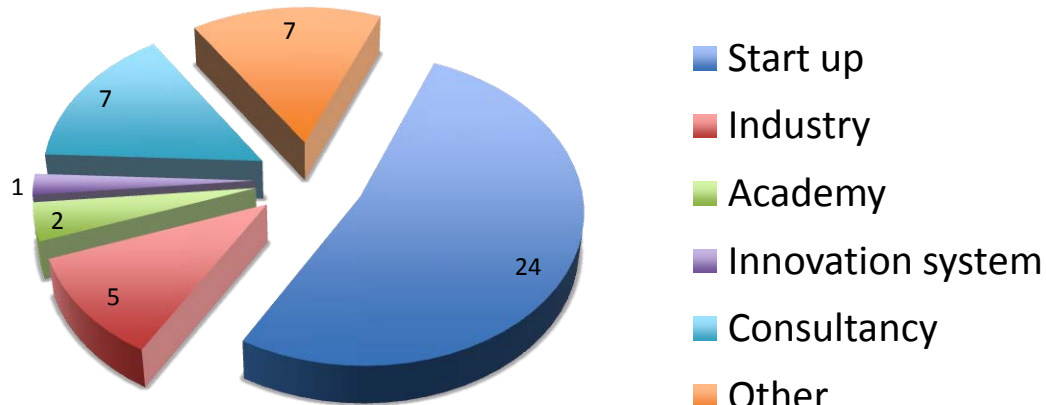
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What do the students do

GIBBS

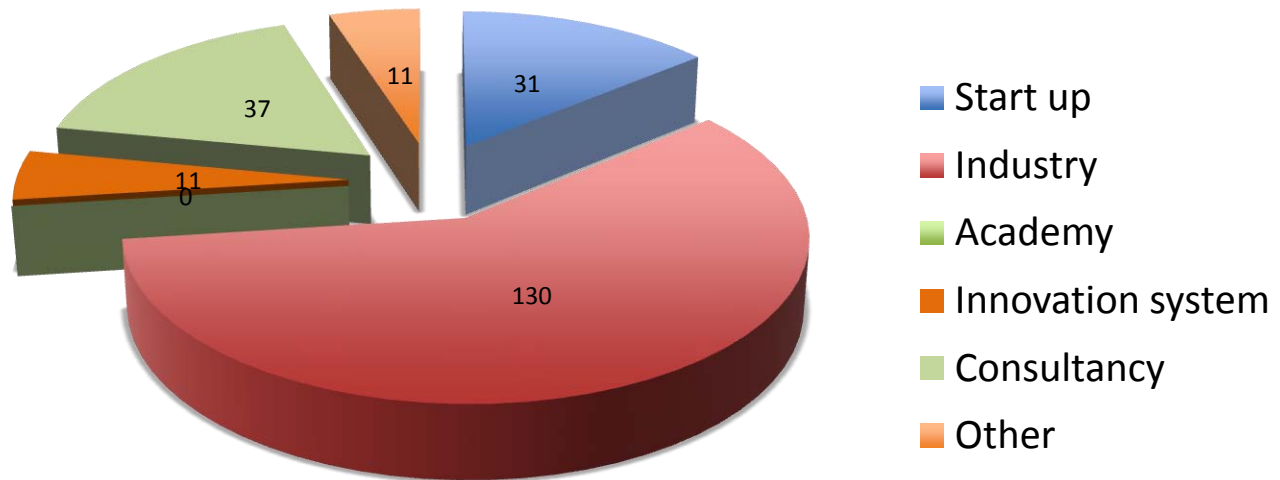


n=46



What do the students do long-term

CSE & GIBBS



n=220

Awards

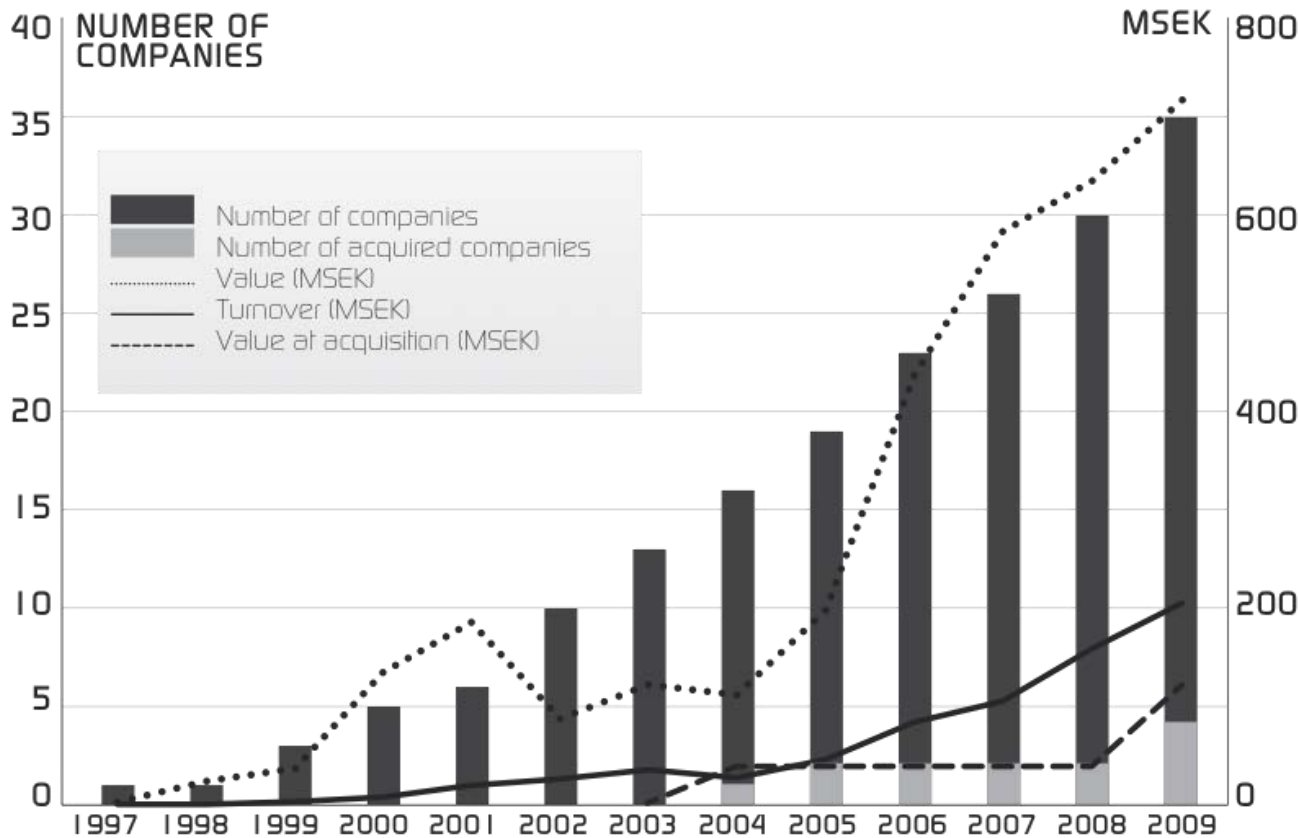




Ventures from CSE and GIBBS...



...and they grow



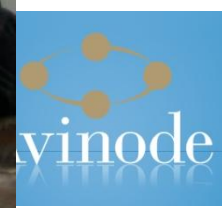
Statistics for 2009

333 employed
203 Mkr turnover
714 Mkr in value
240 Mkr venture capital
63 Mkr soft money
29 Patents



UNIVERSITY OF GOTHENBURG

The school projects



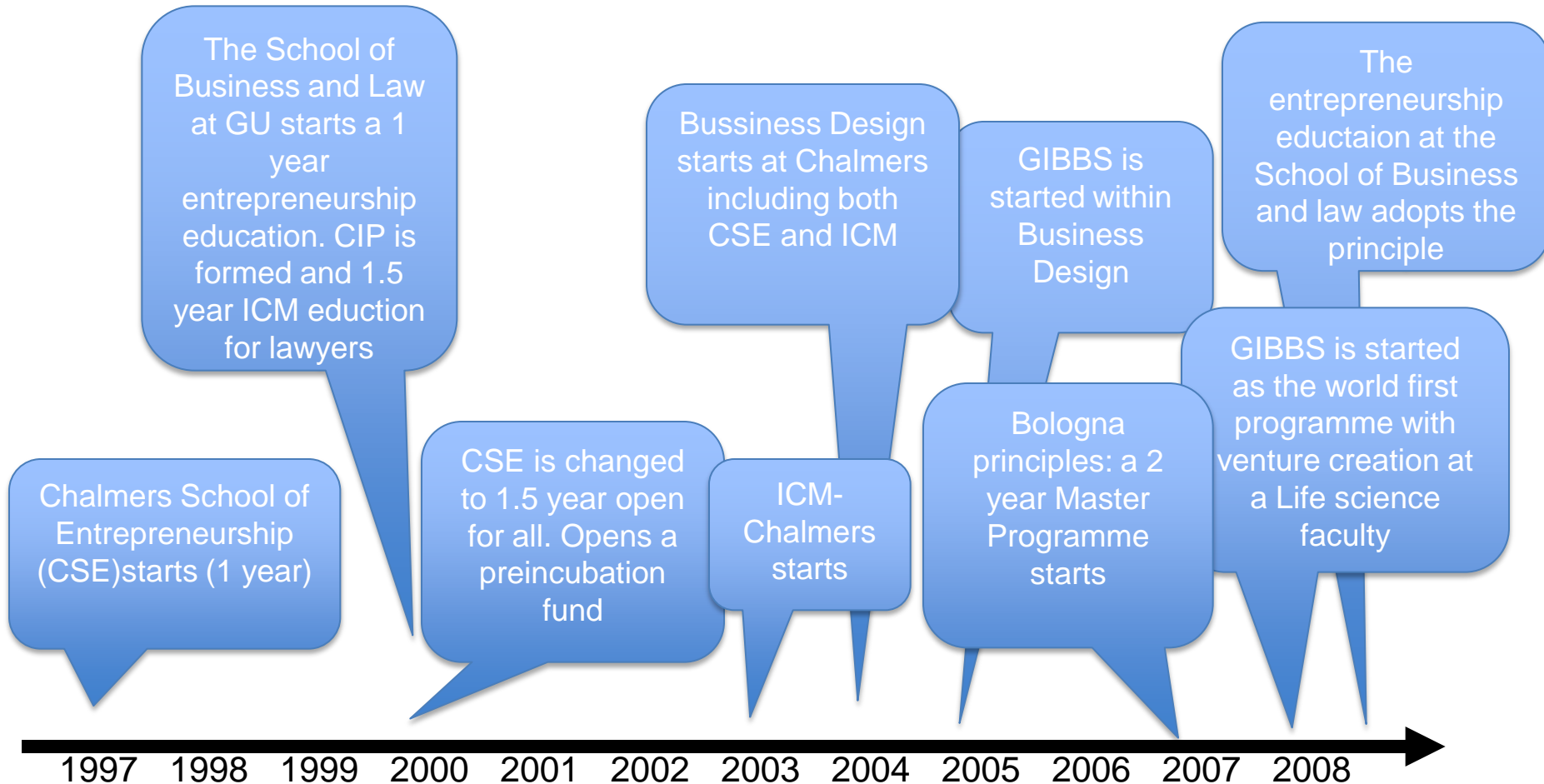


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The evolution of the action-based entrepreneurship education in Gothenburg on masterlevel





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Gothenburg* Schools of Entrepreneurship

The strategic engine for innovation at Chalmers and University of Gothenburg

Marketable services and products   Entrepreneurship Education

Technology innovation  CSE
| CHALMERS SCHOOL OF ENTREPRENEURSHIP |

Bioscience innovation  GIBBS
GÖTEBORG INTERNATIONAL
BIOSCIENCE BUSINESS SCHOOL

Invention verification  ICM

 HÖGSKOLEVERKET
Swedish National Agency for Higher Education

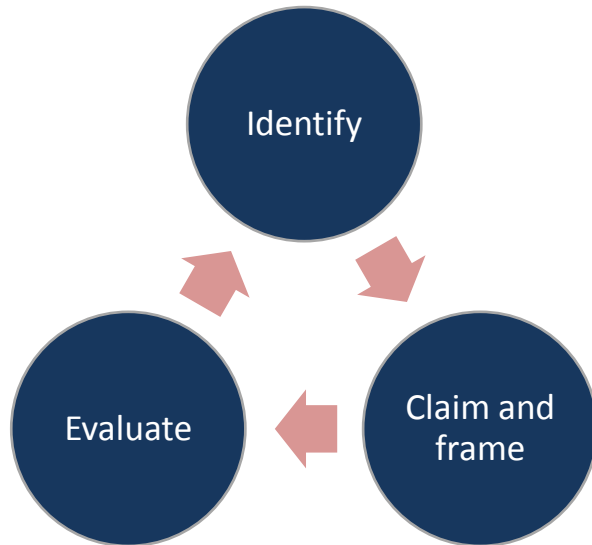
Early stage

Seed stage

Sales



Knowledge management platform



to identify, claim, frame and value intellectual assets.



- Research project/program governance
- Industry collaboration
- Licensing
- New venture formation
- Openness without losing control

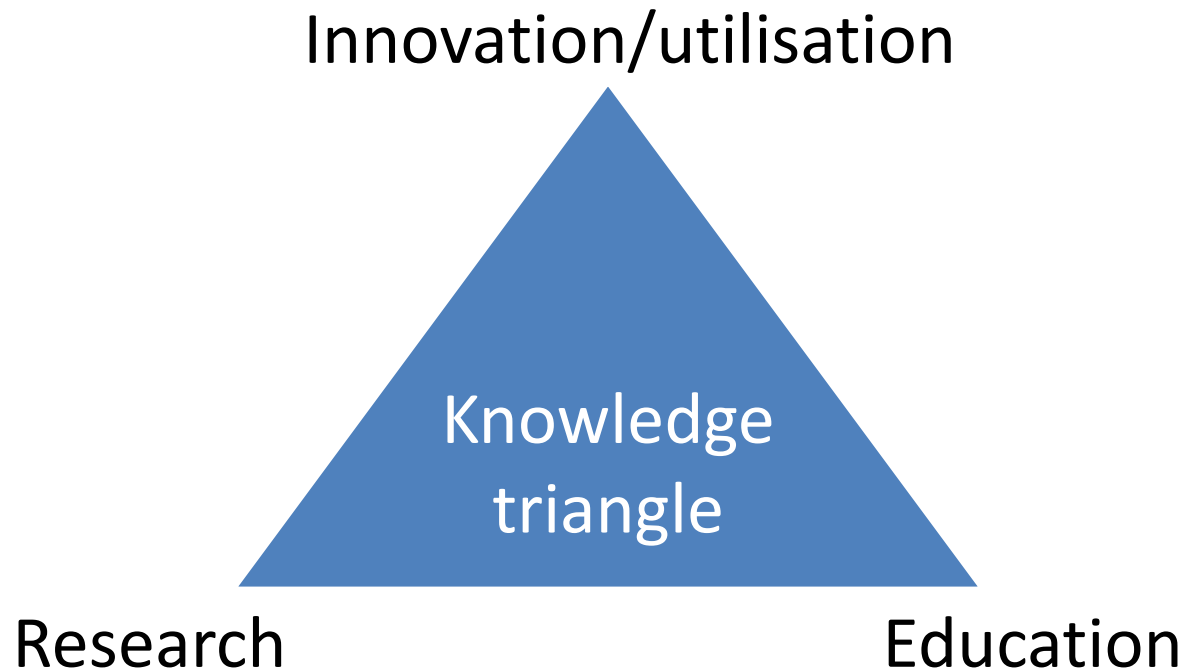


Projects thus far in biomedicine

- Retinal Image Project
- Biomarkers in Gastrointestinal Cancer
- Microbial regulation of the Metabolic Syndrome
- Contact Allergy
- Alginate
- Rheumatoid arthritis
- Oncology treatment model



The Knowledge Triangle





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