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Entrepreneurship education in universities -
Strategies for commercialization of research:
Policy instruments in Norway to stimulate university – business
cooperation
HEKATE final conference

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NORWAY: The Landscape of HEIs and PROs



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Overview of higher education in Norway (population: 5,2 million)

- 33 state-owned HEIs
 - 8 universities
 - 5 specialized university institutions (architecture, business administration, music, sports, veterinary medicine)
 - 18 university colleges
 - 2 academies of the arts
- Military and police academies
- Private HEIs
 - approximately 10 % of students
 - 13 fully accredited institutions
- In all approximately 237.000 students (2015)
- In addition there are several research institutes partly financed by public money



How do we govern?

- Public Higher Education in Norway
 - State responsibility and state owned
 - HE institutions are supposed to cooperate with regional working and business life
 - Institutional autonomy
 - Academic freedom
 - ‘Institutional mobility’ following accreditation procedure
1. By law (Act relating to universities and university colleges)
 2. Trough the State budget and the budget allocation letter
 3. Governance meetings and dialogue



Entrepreneurship education in Norway: A prioritised area

- Since 2004: entrepreneurship in education and training has been a prioritised area in Norwegian educational policy
- Over the last few years there has been a significant increase in various types of entrepreneurship education all over the country.



Policy papers

- *See the Opportunities and Make them Work! – Strategic Plan for Entrepreneurship in the Education System (2004-2008).*
- Action Plan: Entrepreneurship in Education and Training– from compulsory school to higher education 2009–2014
- Long-term perspectives – knowledge provides opportunity — Meld. St. 18 (2012–2013) Report to the Storting (White Paper)
- Teacher Education: The *National Curriculum for Knowledge Promotion* contains expectations that pupils and apprentices have acquired competence linked to entrepreneurship.



Examples of collaboration between universities and working life

- The Norwegian School of Entrepreneurship (Gründerskolen)
- Young Entrepreneurship (Ungt entreprenørskap): student businesses, innovation camp, KAN (woman in entrepreneurship), "leader for a day", mentorship
- JA-YE Norway
- Norwegian Award for student businesses
- Council for Collaboration between State Universities and Colleges and Business Life (RSA)



Norwegian Student Business Award



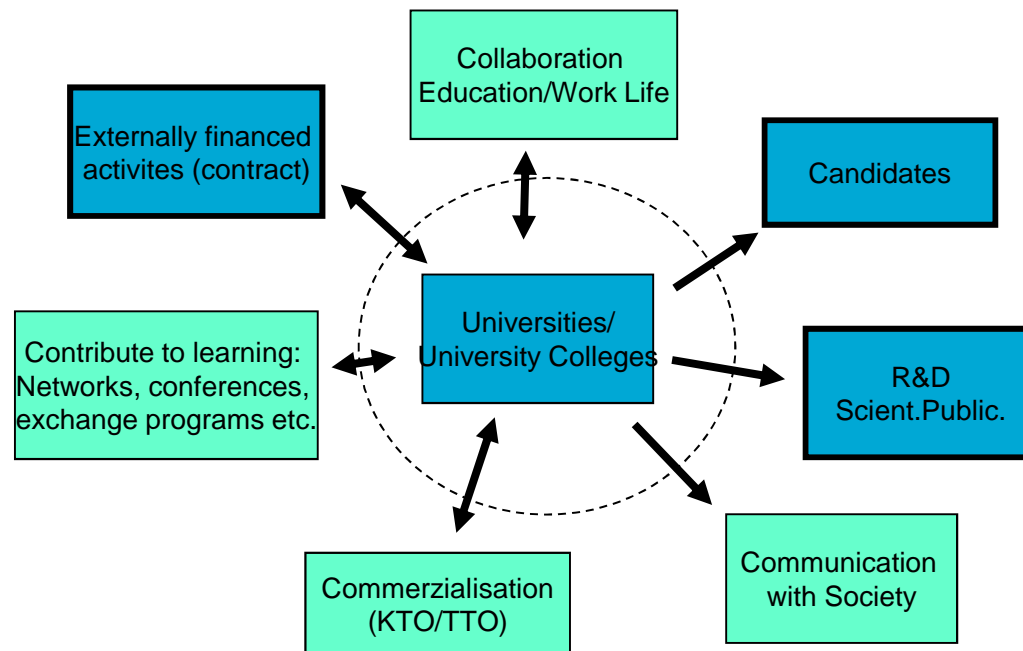
@ Foto: Klaudia Lech



Lessons learnt

- 83% of the students at universities in Norway have contact with business partners throughout their studies
- Contact and collaboration with business partners have a positive effect on motivation, completion rate and employment.
- Contact and cooperation with a certain intensity or frequency, length and obligations between the parties that have the greatest impact on learning outcomes, motivation, implementation and opportunity to gain relevant work

Knowledge transfer: HEI's and the interchange with the surroundings



Knowledge Transfer

Main point of departure:

- The Act on Employees' Inventions and the Universities and Colleges Act were changed with effect from 1st Jan. 2003, introducing a new third pillar of main tasks for PROs, namely to bring results of research out to the benefit of society.
 - The Professor privilege was abolished
- In the period 2003 – 2010 7 out of 8 universities have established a Technology Transfer Office (TTO)



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Knowledge Transfer activities I

- The government (Ministry of Education and Research) has incorporated IPR-management, University-business collaboration and other relevant issues important for the improvement of Knowledge Transfer in its steering dialogue and formal correspondence with the institutions.
- The HEIs are also obliged to report on their activities in this field in an increasing degree.
- The government strongly supports the establishment of TTOs and the promotion of commercialisation of research.
- Industrial PhD program (DK-model) 2008->
- The Norwegian government has not yet put in place any national guidelines on the management of IP at PROs.



Knowledge Transfer activities II

- In 2009 the government launched an action plan on Entrepreneurship in Education and Training 2009-2014
- A new industrial PhD programme (DK-model) was launched in 2008
- There are several user-oriented R&D programmes organised through the Research Council of Norway - RCN
- Several PROs have given themselves their own policy on this, and have used the EU Commission's Recommendation as part of the basis of their deliberations.

The most important tool for commercialisation of research is the

- FORNY program and the successor - FORNY 2020



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Political measures for commercialisation of public funded research – status and challenges

Evaluation of political measures for commercialisation of public funded research



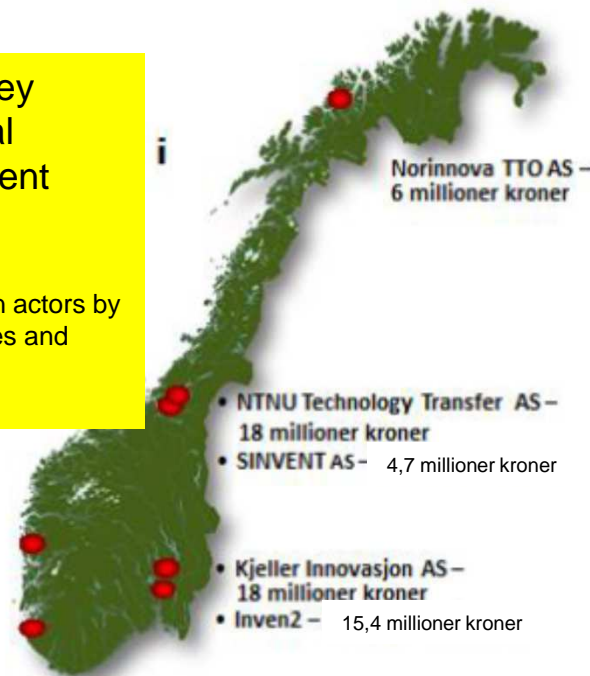
FORNY2020: 7 TTOs are supported by the program in 2014

2014: more money allocated for local project development

- For commercialisation actors by Universities, institutes and health organisations

Bergen teknologi-overføring AS (BTO) – 16 millioner kroner

Prekubator AS – 8 millioner kroner



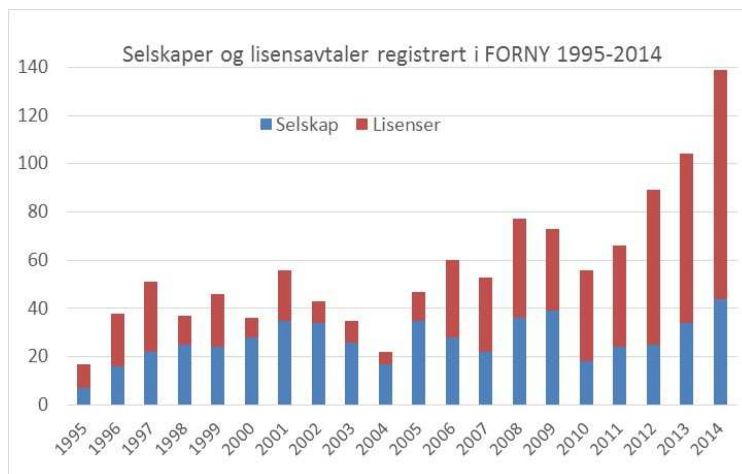
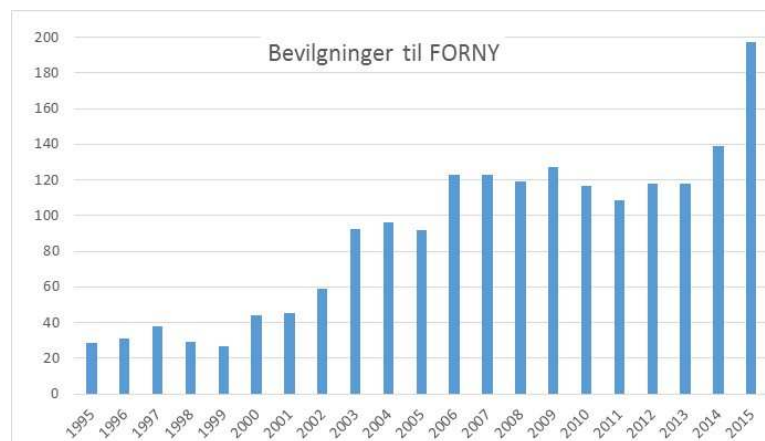
Criteria for allocation of money:

- Ability to manage commercialisation projects effectively
- Access to relevant reserach milieus
- Understanding of potential of commercialisation of scientific results
- Ability to staff the projects with relevant technical and commercial competencies
- Network towards customers, industry and investors



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FORNY – public funding and commercialisations



Public funding per commercialisation:

1995-98: 1 mill NOK

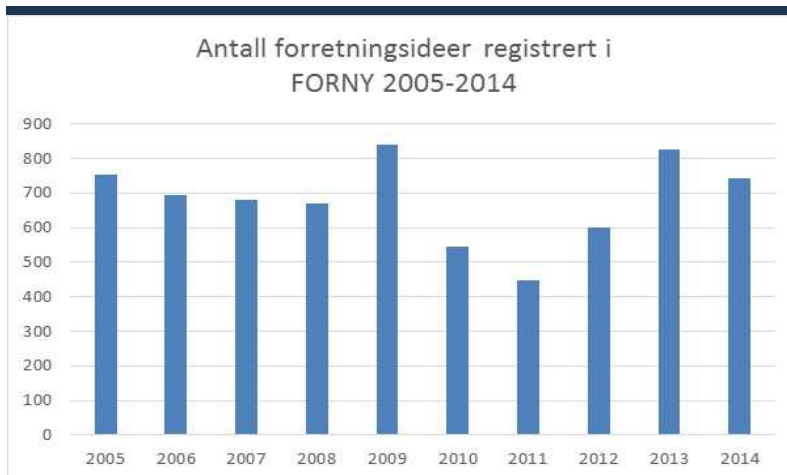
2003-11: 2 mill NOK

2014: 1 mill NOK



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Business ideas and commercialisations

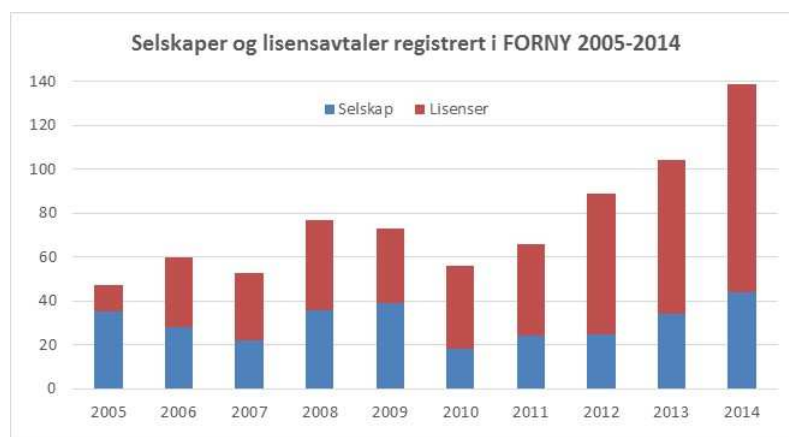


2005-2009:

Ca 12 ideas per commercialisation

2011-2014:

Ca 6,5 ideas per commercialisation



We found a comprehensive effectivisation of the TTO-system during the last years through:

- Increased demand on the TTOs
- More stringent selection mechanism within the research milieus
- Much faster selection of ideas of no interest



Coordination of policy measures

National level:

There is a need to adapt the different measures to avoid "bottle necks"

Simplification of routines of application treatment

Strengthen the focus on commercialisation within research milieus

Local level:

Proposal: Local development projects should be initiated to develop a strategy for the further improvement of local systems.

Representatives should be invited from:

- Universities/University colleges
- TTO/innovation companies
- Clusterorganisations
- Other representatives for regional business sector
- The research council of Norway, Innovation Norway and Siva



Holistic support of entrepreneurship

- The culture of entrepreneurship within the different HEIs is a necessary condition for commercialisation
- Entrepreneurship is something much broader than commercialisation, but it is important to look at the connection between them.

The gründerplan of the Minister of Trade and Industry:

it is important that this policy strategy

- Includes the work with commercialisation
- includes the role of the HEI to develop competencies of entrepreneurship and develop cultures of entrepreneurship

The Ministry of Education and Research should play a more significant role in this field

- A new action plan for entrepreneurship within education should focus more on higher education.
- The Ministry of Education and Research should strengthen its allocation to the FORNY2020 program



Thank you for your attention!



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