

The Competence Brokering Initiative: Linking SME needs to research opportunities

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REBASING
Research-based Competence Brokering

Competence brokering – experiences from Hordaland, Norway

- 1. Framework
- 2. Brief description of the instrument
- 3. Impact/results of the instrument
- 4. Success Factors
- 5. Bottlenecks/ Need for improvement



Hordaland

- Population: 478.000
- City of Bergen: 257.000
- Workforce : ab. 245.000 (74% of popl. 15-74 yr)
- Growth in workforce 2004 - 2008: 2,7 % pr. year
- Unemployment rate: 2,8 % (Febr. 2010)
- GDP: € 18 625 M
- R&D expenditures of industry: NOK 1 525M (~ € 191M)
- Main industrial sectors:
- Mechanical manufacturing, metallurgical, petrochemical, shipbuilding, off-shore related and supply, aquaculture, fisheries, building and construction, energy



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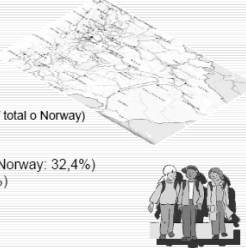
Actual situation in Hordaland within business and industry, 2010

- optimism and growth in industry
- aquaculture “all time high”
- oil and gas are stable
- lower activity within manufacturing and construction industry
- skilled working force imported
- investment in new competence and technology



Hordaland

- Number of SME in region: 39.479 (tot. in Norway: 460.000)
- SME structure:
 - 8% less than 5 employees
 - 89% less than 10 employees
 - 98% less than 50 employees
- Number of students: 31.200 (ab. 15% of total o Norway)
- Level of education:
 - General / Basic school: 34,1% (Norway: 32,4%)
 - Higher Education: 47,7% (42,4%)
 - University: 18,1% (24,8%)



Research and Education

- University of Bergen,
- The Norwegian School of Economic and Business Administration
- Bergen University College
- Regional University Colleges
- University College of Art,
- College of Teacher Education
- R&D on Human Rights
- The High Tech. Center,
- Under Water Technology
- Climate Research
- Chr.Michelsen Research AS
- 3 regional Centres of Excellence
 - (Medieval studies, Climate Research, Integrated Petroleum Research)
- Industrial Centers of PetroChemistry, Oil and Gas Tech



Norwegian School of Economics and Business Admin.



University of Bergen



Christian Michelsen Research AS



Christian Michelsen Institute



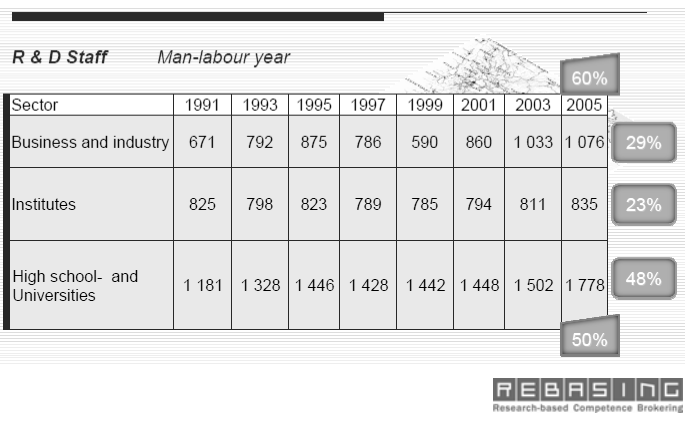
Bergen University College



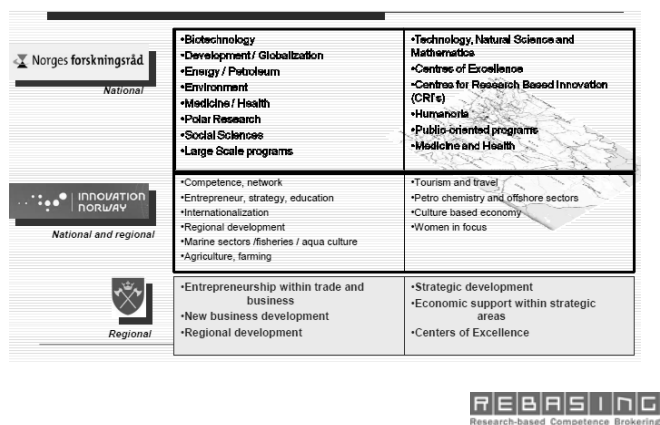
The Norwegian Under water Technology Centre



Hordaland



Main R&F focus areas



Description of the instrument

“ **Research based Competence Brokering** ” - a national initiative based on experience from the former “TEFT” program

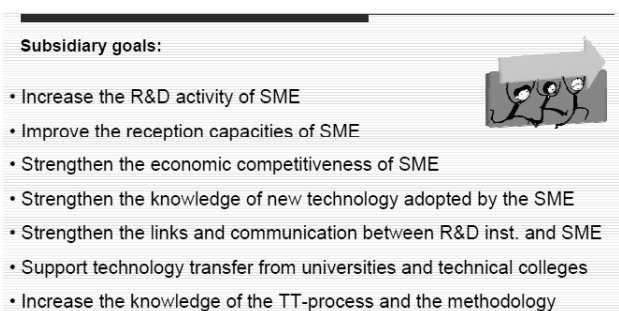
TEFT Program	Competence Brokering	VRI
1994 - 2003 National program National funded TT between SME - R&D inst. Pro-active focus Technology Focus	2005 - 2007 National Program National and regional funded Regional focus / Regional Coalitions TT between SME - R&D resources Pro-active focus "Broad innovation perspective"	2007 - 2016 Regional Program National and regional funded Regional focus / Regional Coalitions Competence transfer between SME - R&D resources Pro-active focus "Broad innovation perspective"

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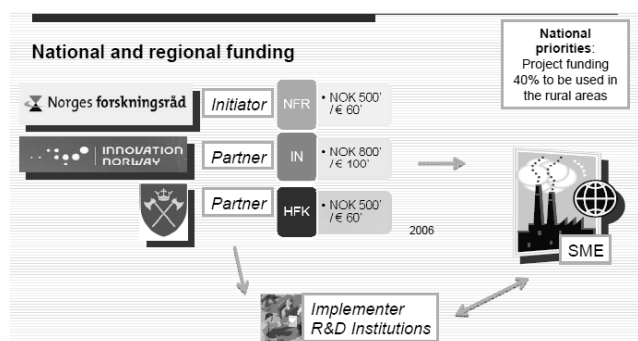
Description of the instrument



Description of the instrument



Description of the instrument



Description of the instrument

Project fundings:

Typical project budget 160' NOK (ca € 20')

External funding NOK 80' (50%) (ca € 10')

Private funding NOK 20' + 60' (50%) (ca € 10')

Typical:

- Small scale projects:
- Limited funding
- Limited time
- Limited R&D
- Preliminary work, start-ups
 - "Feasibility study"
 - "Pre research / investigation"



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Description of the instrument

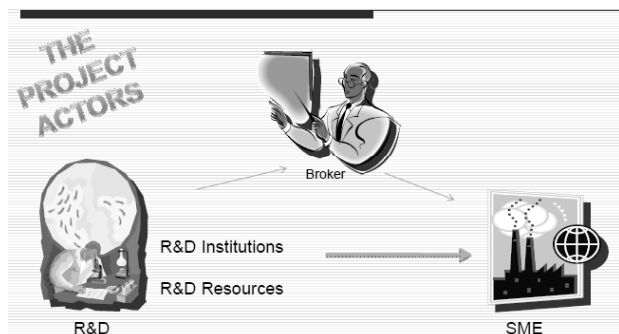
Characterisation of the Competence Broker :

- Experienced Researchers act as competence brokers
- The competence broker must:
 - Have a broad R&D network (national and regional)
 - Experience in Projects planning and Project performing
 - Have sufficient soft-skills (communicate, counseling, guiding, be determined ...)
 - To be an initiator, a pusher, following-up, TT mediator, quality assurer, TT-process experience
 - To establish interdisciplinary cooperation



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Description of the instrument



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Description of the instrument

Quantitative (2005 – 2007)

About 2 ½ year

Number contracts signed

24

Project funding:

- Governmental funding NOK 2 Mill (€ 250')
- Funding from SME, in kind NOK 1,6 Mill (€ 200')
- Funding from SME, cash NOK 0,6 Mill (€ 75')



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Description of the instrument

• Quantitative (2010)

- Total financing (Hordaland): € 250'
 - NRC : € 113'
 - Hordaland County Council: € 75'
 - Companies and R&D inst: € 62'
- This is to finance the infrastructure of the programme
- The company and network projects are financed 50% from Innovation Norway and 50% from the company involved

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Impact / result of the instrument

Qualitative (2005 – 2007)

• Value or estimated expression of success

(Subjective expressions from both parts –

Web based questionnaire)

• Projects continued with funding from other sources :

- through the „Skattefunn“ instrument
- through own / private financing
- through other governmental innovation programs
(eg. Innovation Norway instruments)



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Impact / result of the instrument

- **Qualitative (2010)**
- **Value or estimated expression of success**
 - 11 company projects : NOK 1.1 M, € 137´
 - 5 networking projects: NOK 1.250M, € 157´
 - The companies have to equal this amount
 - Total R&D initiated from the competence brokering: NOK 4.7 M, € 587´
- **Projects continued with funding from other sources**
 - through the „Skattefunn“ instrument
 - through own / private financing
 - through other governmental innovation programs (eg. Innovation Norway instruments)



Impact / result of the instrument

- **Who participate in Hordaland projects ?**
- industry from different branches mostly: energy, maritime, marine and tourism
- Mostly small and medium sized manufactures with from 5 to 250 employees
- geographically scattered
- both "high-tech" and "low-tech" manufacturers



Impact / result of the instrument
4 cases



Wema Systems	Tysse Mechanical	Fitjar Concrete	Bremnes Seafood
Development of fuel and AdBlue Censors (Nox removal)	Industrial design of new car hanger generation	Development of new product added to concrete	Utilising fish scrap from salmon in new products



Success factors of the instrument

High focus on:

The Technology Transfer Process

- **Success factor:** Technology Results at the SME
base for further Product Development work
- **Success factor:** Higher Technology knowledge at the SME
adaptable to further R&D work
- **Success factor:** A proven and consistent method
adaptable to further R&D work
- **Success factor:** Number of projects
at the different regional R&D institutions



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Bottlenecks of the instrument

- TT process is strong related to the Competence brokers capacity and network
- Incapacity, interpersonal barriers or lack of competence at the SME or R&D
- Low priority or interests in TT from the University-sector
- Limitation in outreach activities due to limited competence broker staff
- Limited funding allow “only” start-up projects, further R&D is dependent on other financing
- Unclear priorities (*and sub goals*) in the different national regions
- Focus on SME goals, but lower on Institute goals and system goals (regional)

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Needs for improvement of the instrument

Implementation

- Increase the competence of the competence broker (*incl. network*)
- Increase the possibilities of take-over project funding (*extensions*)

Further Improvements needed

- Incentives to motivate R&D-institutions / universities
- A more experimental approach to the competence brokerage instrument

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Future development

***"The efficient and successful
Technology Transfer
is an ART not a TECHNIQUE,
and the skill of communication
is an important talent."***

We hope that the REBASING project will help develop the instrument further, specially by looking to improve and professionalize the role as competence brokers