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South East Europe TCP

Best Practice Report

COMPETENCE BROKERING LINKING SME NEEDS TO
RESEARCH OPPORTUNITIES

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Good Practice Report

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Everybody please state revision index and short description of what has been done + partners involved and date.

Final approval	Name	Partner
Reviewer		

1. Best Practice Title

Competence brokering Linking SME needs to research opportunities

2. Location of Best Practice

Country, region, town

Norway, National

3. Best Practice Executive Summary

Describe briefly (max 10 lines) the GP context (partnership, funding, objectives, approach followed, results)

Research-based brokering is a sub-programme of the programme Mobilisation for R&D-related innovation (MOBI), organized by the Research Council of Norway. Research-based brokering has two equal goals: To promote greater focus on R&D activity in companies with little or no R&D experience in order to increase their internal innovative capacity, thereby enhancing value creation and competitiveness (stimulation of R&D demand). To strengthen the role of the research institutes as partners in collaboration with industry (stimulation of R&D supply). Through organisation in regional coalitions, competence mediators should contribute to a heightened awareness of the possibilities and potential offered regional development by research.

The main R&D focus areas are biotechnology, energy/petroleum, environment, medicine/health, polar research, social sciences and large scale programs (national basis), regional development, agriculture, farming, marine sectors/fisheries/aqua culture, entrepreneurship and new business development (regional basis).

The most important measures the “Competence Broker” has taken are to educate competence brokers, identify SMEs’ research needs, make a match between them with relevant local research outputs and follow-up projects.

4. Best Practice Classification

Best Practice Theme

- Research Transformed to Innovative Product*
- Research Transformed to Innovative Service*
- Research Transformed to Innovative Methodology*
- Research Transformed to Innovative Production Process***
- Financial Mechanism for Transformation of Research to Innovation*
- Support Mechanism for Transformation of Research to Innovation***
- Other (describe)*

Best Practice Research / Application Areas

X Industrial / Manufacturing Systems

- Industrial Informatics and Communications*
- Intelligent Devices*

- Distributed Control Systems*
- Flexible Manufacturing Systems*

X Embedded Systems

- Industrial Embedded Systems*
- Nomadic Environments*
- Private Spaces*
- Public Infrastructures*

5. Description of Best Practice

5.1 Best Practice Context

Overall background of the Best Practice. Location, socio-economic, technical & policy background of the BP (max 10 lines)

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

The TEFT national program ran between 1994 and 2003, it was nationally funded and concerned Technology Transfer between SME and R&D institutes. Following, the “Competence Brokering” ran between 2005 and 2007 on a national basis (national & regional funding). The focus of “Competence Brokering” was regional and concerned the Technology Transfer between SME and R&D institutes, with a pro-active focus and a “broad innovation perspective”.

For the period of 2007-1017, another National Program is currently running, named “VRI” concerning the Regional R&D policy. In terms of the VRI, national and regional funding is secured for SMEs initiated projects with regional focus and regional coalitions. The focus is again proactive under the perspective of “broad innovation”.

5.1.1 Policy Elements

What are the policy initiatives that have influenced the contextual environment of BP: innovation promotion policies, research funding policies, certification ect as well as relevant tools (max 10 lines)

The policy initiatives that have influenced the contextual environment of BP are mainly initiated by the **Research Council of Norway**, over the last 12 years. The main purpose of these initiatives is to increase value creation in regional trade and industry by promoting innovation and knowledge transfer, which both expand existing business areas and create new ones. These initiatives among others are:

- The **Centres for Research-based Innovation (SFI)**, aiming at building up and strengthen Norwegian research groups that work in close collaboration with partners from innovative industry and innovative public enterprises. At present, there are 14 centres devoted to research-based innovation of a high international calibre within a range of areas.
- The **Centres of Excellence (CoE)** scheme with the intention of bringing more Norwegian researchers and research groups up to a high international standard. The centres are affiliated with Norway's top universities and premier independent research institutes. The Research Council of Norway provides the basic source of funding for the scheme, based on funding from the yield on the Fund for Research and Innovation. A Centre of Excellence is a time-limited research centre affiliated with a research institution that is responsible for the activities. CoE host institutions can be universities, university colleges or research institutes. A host institution for a centre usually cooperates with one or more research institutions, organisations or enterprises in respect of the establishment, operation and funding of the centre and thus form a CoE consortium.

5.1.2 Socio-economic & Other factors

Other contextual factors such as customer / target market addressed, international validity, customer density, economic conditions, customer values, research area addressed (max 10 lines)

Norway has **certain advantages** that can be utilized to promote knowledge development at the regional level. The cultural and geographic proximity of the players in the Norwegian regions makes greater interaction possible.

A regional knowledge system consisting of university colleges and independent research institutes is already in place. Norwegian society in general is characterized by a cooperative relationship based on trust between the social partners.

Moreover, the Nordic model, as manifested in practical tripartite cooperation and cooperation between employers' and employee's organizations within companies, provides a sound basis for innovation-oriented efforts.

5.2 Objectives

Aim of the project, specific objectives & strategies to achieve these objectives (max 10 lines)

The main aims of the "Competence Broker" Good Practice are two:

To link the SMEs needs to research opportunities (to promote greater focus on R&D activity in companies with little or no R&D experience in order to increase their internal innovative capacity, thereby enhancing value creation and competitiveness -> stimulation of R&D demand).

To build working collaborations between research institutes and SMEs (to strengthen the role of the research institutes as partners in collaboration with industry).

To achieve the above aims the project employs subsidiaries, which are distributed, based on specific goals. The subsidiary goals are the following:

Increase the R&D activity of SME

Improve the reception capacities of SME

Strengthen the economic competitiveness of SME

Strengthen the knowledge of new technology adopted by the SME

Strengthen the links and communication between R&D institutes and SME

Support technology transfer from universities and technical colleges

Increase the knowledge of the TT-process and the methodology

The main strategy of the project is the involvement of the competence mediators who work as innovation carriers between SMEs and Research Institutes within a framework, which takes advantage of a proactive approach to transferring innovation.

6. Process

Describe the project including key concepts and the overall approach followed. Indicate project end users, target market, main project phases, problems encountered and solutions, problem resolution (max 10 lines)

The Research Council of Norway organizes the particular research-based brokering. The project actors are mainly the Brokers who act as intermediate actors between the R&D institutions and resources and the participating SMEs. The typical project funding concerns small-scale projects having limited funding, time and research and development.

The target market of the project are biotechnology, energy/petroleum, environment, medicine/health, polar research, social sciences and large scale programs (national basis), regional development, agriculture, farming, marine sectors/fisheries/aqua culture, entrepreneurship and new business development (regional basis).

The main **project phases** include (1) the preliminary work for start-ups, which involves a feasibility study and a pre research investigation, and (2) the Competence Broker who usually is an experienced researcher with a broad R&D network (national and regional) and experience in projects' planning and implementation. The project actors are mainly the Brokers who act as intermediate actors between the R&D institutions and resources and the participating SMEs.

6.1 Project Design

Project design based on targeted market complete understanding, project structure, policies and procedures, management and implementation actions (max 10 lines)

Small and medium-sized industrial enterprises (SME) play an important role in the industrial sector of Norway. Some are making a substantial contribution to the creation of new jobs. Norway has 11.000 such enterprises of which the 70% employ less than 10 employees, while the 95% of the SMEs employ less than 100 employees. However, the majority of them make little use of research and development and they are less aware of innovation activities and processes. A large number of enterprises had not been in contact with the Norwegian Research Council or had done research by themselves.

Based on the above, the Research Council of Norway has invested significant resources and developed particular policies to encourage SMEs adopt new knowledge and strengthen competitiveness. In order to achieve this, it employs particular mechanisms with a proactive approach. A representative example is the particular BP which has been designed to convince SME that R & D is a better and more profitable way of doing innovation.

6.2 Project Management

Activities relevant to project coordination and management, project documentation and reporting, quality control, validation and verification (max 10 lines)

The Project Management involved the hire of staff as competence brokers in different geographical areas with a good background on science and applied research. The brokers were responsible to run the program in their regions.

The project documentation was kept minimum and included (1) a pre-research investigation with a short description of the SME based on the facts collected during the meeting of the broker and the information from different databases and (2) a feasibility study which documents that the stakeholders have sufficient qualifications and capacity to implement the project.

The important point was that the research community was approaching SME, the paperwork was kept minimum and the decision for funding was rather quick, something which was appreciated by the SME.

6.3 Project Implementation

Main elements associated with the project implementation. Realization of new idea, or new technological realization or improvement / novelty to known technology and means to achieve this. Innovation associated with the project realization in terms of new products, services, methodologies. Marketing, advertising and customer service. (max 10 lines)

A high focus on Technology Transfer (TT) Process is implemented on **success factors**, such as **technology results at the SME**, which acts as a base for further developmental work, **higher technology knowledge** at the SME so as to become more adaptable to further R&D work, **proven and consistent methods** and a **considerable number of projects** implemented at the different regional R&D institutions.

6.4 Project Evaluation

Project feedback mechanisms and evaluation mechanisms. (max 10 lines)

As main recommendations for the “Competence Brokering” Good Practice it can be said that it is a national project and that makes it difficult to get influenced by external sources, while it is easy to be implemented provided that there will be a smooth flow of the necessary funding.

The network effects that have been achieved are really remarkable and significant. Finally it would be also of great benefit if the network could be introduced within joint EU-funded projects so as to achieve further promotion and dissemination. After almost 3 years of operations, the GP “Competence Broker” is entering a new national program and despite the thorough collection of relevant information, little or no common accessible feedback information is yet available so as to assess the true impact and effect of the Good Practice.

7. Description of Research team/Institution

Short description of R&D team and institution (max. 10 lines)

In the particular country, there are a few Innovative Teams; working in a dynamic and temporary structure will support the demand to quickly grasp the ‘invisible’ market indicators and to chase information for the purpose of inventiveness.

These are academic institutions, Centres of Excellence and Centres of Research-based Innovation. In the case of the present programme, SMEs had given the opportunity to develop a working relationship with a number of research institutes depending on their needs and the content of the signed innovation contract.

8. Applied Financial Mechanism

Describe financial mechanisms applied in transformation of research into innovation within BP, as well as means of connecting scientific research team and financiers (max. 1000 char.)

The particular financial mechanism funded typically small-scale projects, which involved 50% external funding, and 50% funding from the programme.

Mostly small manufactures (both high tech and low tech) with up to 50 employees expressed interest to the programme and where geographically scattered.

The main means of connecting scientific research team and financiers was the competence broker who was experienced researcher and worked for the BP.

9. Impact and benefits

Describe achieved benefits of R&D team and/or enterprise implemented innovation, as well as impacts on institutional and policy levels. (max. 1000 char.)

In terms of the impact and results of the instrument, those can be classified into **quantitative** and **qualitative**. The **quantitative results** for the period 2005-2007 are 24 number contracts signed, with a total funding of €250 million in funding from governmental sources, €200 million in funding from SMEs (in kind) and €200 million in funding from SMEs (cash).

On the other side, **qualitative results** for the same period are the **value or estimated expression of success** (subjective expressions from both parts – web based questionnaire) and **projects continued with funding from other sources** (such as through the “Skattefunn” instrument, through own / private financing and through other governmental innovation programs).

In terms of the **broader benefits** of the Good Practice, participation up to now is coming from mostly mechanical related industries from different branches, small manufactures up to approx. 50 employees, geographically scattered SMEs and both “high-tech” and “low-tech” manufacturers. As tangible results of participation, four (4) cases can be named and are presented here. Those are:

- Wema Systems** (development of fuel and AdBlue Censors (NOx removal))
- Tysse Mek. Industry** (Industrial design of new car hanger generation)
- Fitjar Betong** (Development of new product added to concrete)
- Bremnes Seafood** (Utilising fish scrap from salmon in new products)

10. Sustainability

Provide information on sustainability of innovation after financial aid within implemented financial mechanisms, and some multiplier effects as replication and extension of the action performed in BP. Expected use of Best Practice and lifecycle considerations. (max. 1000 char.)

The sustainability of the Good Practice can be characterized by strong elements as Norway possess a considerable element of research and education establishments, such the University of Bergen, Regional University Colleges, Regional Centres of Academic and Research Excellence etc.

On top of that in certain areas, like construction and building, there is a high economic activity and the presence of SMEs is very favorable. However, the shortage of labour and the importing of skilled working force threaten the overall situation.

11. Repeatability and transferability

Lessons learned from the project implementation team. Repeatability and transferability of the project. (max. 1000 char.)

The lessons to be learned from the implementation of the particular BP project are as follows:

- (1) The success of the particular GP lies also on the Brokers' capacity and the available networking activities. However, because of this dependency the whole venture appears also vulnerable.
- (2) Future incentives are absolutely necessary and should be provided focusing on enhanced cooperation between R&D institutions and universities. Such initiatives, in order to be successful should increase both the competence of the Brokers as well as for taking-over the funding of existing projects (extensions).

12. Evaluation

Describe reasons and evaluation criteria why the described example is a best practice. (max. 1000 char.)

The present example is a best practice for the following reasons:

- It is designed and implemented following a **system-oriented perspective** in which innovation is viewed as a collective and interactive process. It is collective as companies can absorb expertise and ideas from different players and it is interactive because it involves reciprocal learning among the players.
- It implements a **proactive approach** by agents/brokers who have a key role in visiting the SMEs, to identify critical innovation needs for SMEs and engage in a short-term research project with researchers. In this way, agents are empowered to achieve two results: (1) to market efficiently R&D by building a long-term and personal relation with the SME and (2) to influence changes in the innovation culture and practices within the SME towards enhancing its ability to fine and utilize the expertise of others. In fact, this is the application of the broad term "innovation intermediary" since the role of the broker is that of a "Carrier of Innovation" who works to transfer an innovation from the production place to the SME in need. Another key role played by innovation brokers in the innovation process is the independent validation of new ideas, thereby facilitating diffusion. In order to carry out this task, the innovation broker is functioning typically as a public-private partnership.
- It consists part of a **long-term national and regional policy** which is continuously committing resources to an acknowledged need to stimulate growth in the regions through greater investments in R & D and innovations as well as the application of more targeted instruments.

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Therefore the programme is targeted at specific industries and research institutions considered to be important to regional development.

13. Contact of research team/institution	14. Contact of financial mechanism facilitator
<i>Name, address, tel., fax, e-mail, URL</i>	<i>Name, address, tel., fax, e-mail, URL</i>
Dag Lothe Chr. Michelsen Research http://www.cmr.no dag.lothe@cmr.no	Not applicable Retrieved from " http://www.i3e.eu/i3e_wiki/index.php?title=RDF-RWG_GP2 " Category: RDF-RWG