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Getting the best out of regional innovation systems (GEBRIS) - Cases and good practices

- Regional innovation system's capability to respond to needs of the cold climate related business sector
- Four case studies from different business sectors and technological perspectives: Arctic infrastructure; Arctic and sub-arctic testing; Human and cold; and Wellness and experience industry
- Results and recommendations



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Fact sheet

Title: Getting the Best Out of Regional Innovation Systems (GEBRIS) - Cases and Good Practices		
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<p>Abstract:</p> <p>Using the rough climate, long distances, sparse population and fragmented business structures of the Nordic regions as opportunities, regional actors have developed into leading experts in fields such as sub arctic testing, arctic infrastructure, wellness and experience industry and safety in cold conditions. There are still gaps to be filled in terms of further utilizing the existing resources available within the Regional Innovation System in the actual everyday business of the local SMEs. GEBRIS aim was to enhance the competitiveness of the region-specific business fields further by improving the regional innovation systems' pro-activity, exploitation of research results and raising awareness towards R&D-services. This was carried out through in depth analysis with interregional perspective and local case studies related to partner individual businesses.</p> <p>The findings were surprisingly common despite the variety of business fields involved, as was the conclusions derived. In many cases what could be interpreted as a lack of interest on the local SMEs part turned out to be a common communications and work methodology problem instead, which can be bridged by a simple change of approach. The strengthening of the RIS actor's network: internationally as well as locally, is equally important. It's simply easier to answer up to needs if you know what they are and what is on offer.</p> <p>Given the common features of the region the joint needs analysis also presented a variety of possible future opportunities for cooperation with great potential for real substantial value, particularly in the fields of education, innovation, information and development.</p>		
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Executive summary

Objectives of the project:

The GEBRIS project was aiming to enhance the competitiveness of the region-specific business fields by improving the regional innovation systems' pro-activity, exploitation of research results and raising the awareness towards the R&D-services. Having in mind this wide objective the project specifically aimed to forward the regional innovation system's capability to respond to the needs of the cold climate related business sector. The business sectors selected were from different areas of technological perspective such as the arctic infrastructure, arctic and sub-arctic testing, human and cold and wellness and experience industry(see table 1 in chapter 1). The selection of so diverse technological areas added complexity to the project as well as the opportunity to assess the diverse Nordic business environments.

As the objective of the project was so wide an approach to cases specific developments proved an important aspect of the project. During the project attention was paid to establish the interregional expert network to support and strengthen regional innovation in cold climate technology development and again this was done by thinking locally but acting internationally.

Method of implementation:

The general methodology of the project was double layered. The first and the main was the forwarding of the regional cases. These were activities that were different depending on the status of each case. The case specific objectives are further opened up in the chapter 2. The second layer is adding the international component to each of the cases. During the length of the project each case was presented chances for widening their expertise and enhancing their international activities. The links and common features such as needs and cooperation opportunities were searched for. The project in its appearance was searching for best ways to meet the other organizations needs. Methodology was based upon realizing the real needs, discussing those and searching for common features that could then turn in to the cooperation opportunities. For the general assumption it was taken that each partner is equally able to give

and willing to receive. Openness and genuine willingness to support has been the soul of this project.

Concrete results and conclusions:

For the cases

- Time and opportunity to work on the development issues
- The extended network with the possibilities for future cooperation (regional contacts)
- Needs based inventory. It is extra added value, to know that the needs are largely common over different fields and even countries
- Insight into other organisations way of working and thinking (similarities and differences)
- Giving higher priority both for the development group and the participating industry
- Interest in the market has been enhanced due to international attention
- The cases diversity has created new ideas that could result in spin offs for other participants, clearly that is the case for the Norwegian participation

Internationally

- Distributed seminar about EU and ways for funding
- Mutual needs when it comes to mining and environmental issues
- Information dissemination
- Widened network with international relevant actors
- The meeting with representatives for EU in Brussels at the end of the project period was a particular valuable and informative exercise

Recommendations:

Do they hear me?

During the project implementation phase the project deliverables and activities were reassessed continuously. The risk of having development cases from very different technological areas poses threats also for the whole of the project. One of the

recommendations is that specific attention must be paid to communication and identifying the right type of the communication means for the right type of actor.

What do they need?

Working with individual cases and trying to search for common activities appears to be challenging but at the same time also possible and interesting. It is important to identify the end user and keeping the end users involved in the process. This is a lesson learnt from our work and also a finding from our studies. This is also an approach taken in the case development work. The best way this is achieved by finding out the real needs of the end users and answering them with your actions.

Empty seminar room, why are they not interested?

Keeping the activities relevant to the changing situation is more important than sticking with the original plan. Assessing needs and acting upon those is the key for success. Besides having the right idea one also has to find the right time. As it proved in all of the cases at some point, there is the right time for right things. Especially when talking about the small enterprises it is crucial to learn their work schedule, the seasonality of their work and the specifics of each business. Individual approach to each customer is valuable point also from the perspective of Regional development organizations.

Table of Contents

Participants in the project:	2
Fact sheet	3
Authors of the Report – Contact details	4
Executive summary	5
1 Project background and case description	9
Case 1: Arctic infrastructure (Finland)	11
Case 2: Subarctic testing (Sweden).....	13
Case 3: Safety in cold conditions (Norway)	15
Case 4: Wellness and experience industry (Iceland).....	16
2 Project objective and purpose	17
2.1 Case based objectives and development needs	19
Case 1: Finland -Arctic Infrastructure	19
Case 2: Sweden - Arctic Testing.....	20
Case 3: Norway - Safety in cold conditions.....	21
Case 4: Iceland – Wellness and Experience Industry	22
3 Needs based business sector analysis and ideas for solutions.....	23
3.1 The needs assessment	24
3.2 Needs and ideas for solutions.....	25
Education	25
Investments	27
Cooperation.....	29
Information	31
Development and Innovation.....	33
4 Good Practices and Ideas for further cooperation.....	35
Good Practices	35
Ideas for further cooperation.....	38

1 Project background and case description

In this chapter the background and the initial needs for this project is explained. The common features and problems of the Nordic region are looked upon and discussed from the perspective of the different Regional Innovation System (RIS) actors. In the sub chapters each case is described and the area of the business is explained.

Remote areas in the Nordic countries have several common features: rough climate, long distances, sparse population and fragmented business structures that influence dramatically on the competitiveness of the region. Nordic regions have reached high quality results in research and development activities becoming leading experts in fields such as: arctic and subarctic testing, arctic infrastructure, wellness and experience industry and safety in cold conditions. While the research is taking off successfully the knowledge and the use of the reached results from the R&D activities in the local business sector is still quite limited. Improvements to communicate the existing R&D results can be achieved by improving the interaction between different levels of actors such as regional authorities, R&D institutions, industry and small and medium enterprises (SME's).

In addition to the common general circumstances, the remote Nordic regions also face the challenge of reaching the critical mass of research, development and education. The assumption is that SME's in the selected Nordic regions are struggling with much the same problems as they are mostly operating locally and are in size very small. It is worth noting here that in this project when we talk about small enterprises we talk about companies with 1-5 up to 10 employees. GEBRIS project analyzed these similarities in the selected four business sectors, the findings you can see summarized in table 2.

The level of SME's sensitivity towards the R&D-activities and services is rather low, but with a tendency to increase. The research and educational institutions are not fully capable to meet the business needs. There are many reasons for this kind of a gap between the actors. Besides the lack of "common language", there is also a lack of tradition for clustering and utilizing the expertise in regional and inter-regional networks. Also trust, openness and right timing are factors that largely influence on the success of the cooperation.

With joining the forces between the regions we can promote the regional development of the key business sectors. By enhancing the knowledge and reducing the lack of experience of the

multi layered cooperation model the grounds will also be set for more sufficient collaboration between actors and for improvement of the regional innovation system. **Although the theory is simple the question still remains, are companies ready to cooperate?** GEBRIS project aims to answer this question with simple and hands on approach.

GEBRIS project is based on four selected cases that each represents one of the business sectors including arctic and subarctic testing (Sweden), arctic infrastructure (Finland), wellness and experience industry (Iceland) and safety in cold conditions (Norway). All four of the participating cases are challenged to reach the critical mass of resources of some kind. In the chapter 2 the case based challenges and the development needs are clarified.

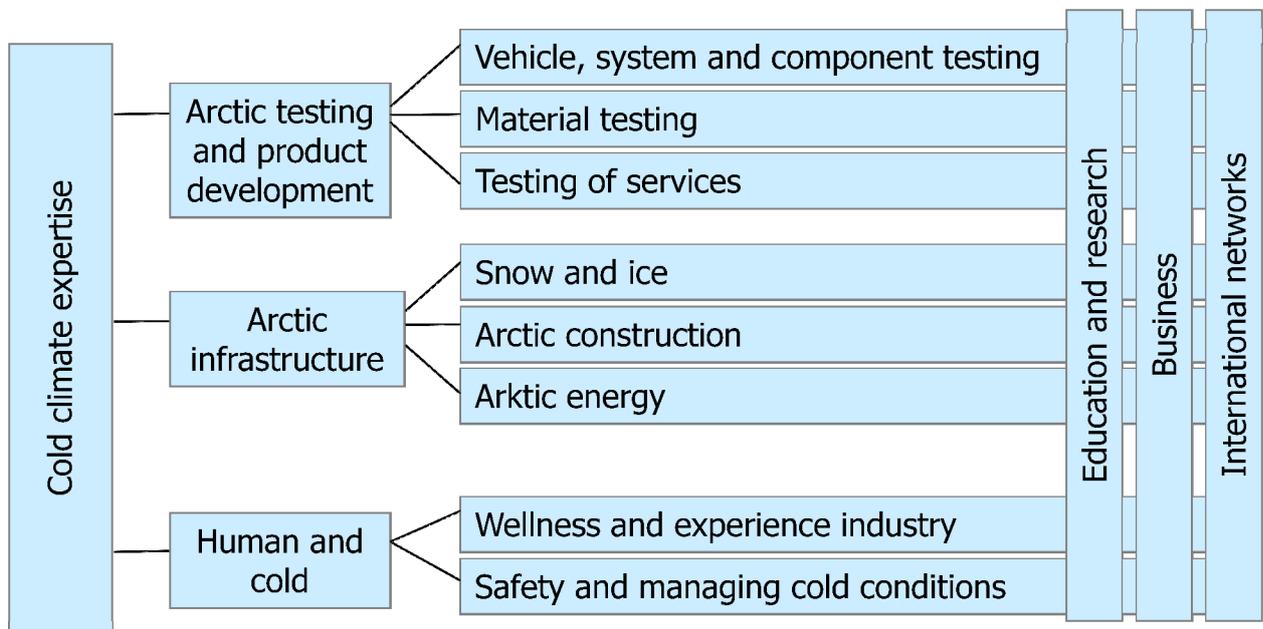


Table 1: Cold Climate expertise: © Tanja Risikko 2007

Case 1: Arctic infrastructure (Finland)



Pictures: Roadscanners Oy

Some areas of expertise in the Nordic countries have developed further than others. One of such example of cutting edge expertise, knowledge, skills and development of tools is in Ground Penetrating Radar (GPR) method use in road rehabilitation planning. Large concentration of skills and knowledge are located in Finland, specifically in Rovaniemi. Important part and expertise in means of research, producers and contractors are in Sweden and in Norway. Anyhow the problem is that GPR equipment is used differently in each of the countries and common standards do not exist, that makes cross border business challenging for contractor companies.

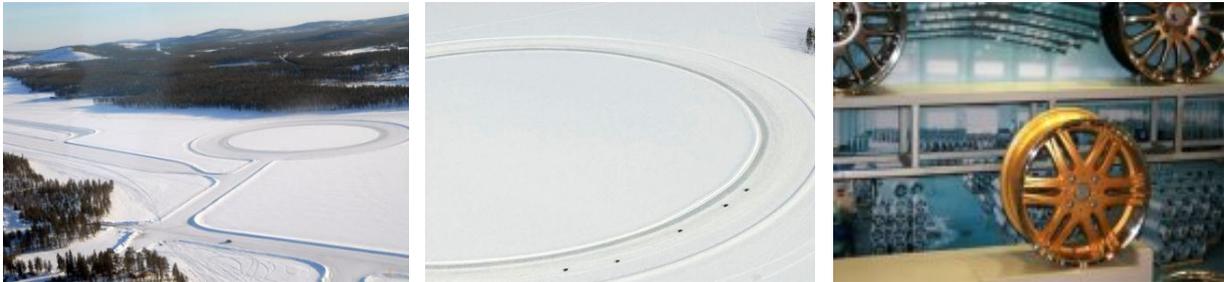
Ground Penetrating Radar (GPR) is a non-destructive ground survey method that can be used in assessing roads, railways, bridges, airports, tunnels, environmental objects etc. Its main advantage is the continuous profile it provides over the road structure and sub grade soil. The GPR is becoming an increasingly important tool especially for planning structural evaluation of roads. Another important advantage of GPR in road surveys is that it does not disrupt the flow of traffic during the survey. It also can be used to measure thicknesses of ice and snow that opens different opportunities in the Nordic market.

The companies that are providing consulting and services connected to GPR use in road rehabilitation planning are located in Lapland and for the most part provide services for Finnish Road Administration (Finnra). Amongst them there is an interest to expand their services to Nordic countries. The actors in Sweden are interested in expanding their knowledge and use of the method. In Sweden the method currently is used for assessing small roads only, but the interest is to use the method also for main roads and highways. GPR

method has not been used for road quality monitoring in Norway, but the Road Authorities are now expressing interest to start doing so and they are keen to learn from the experiences of Finland and Sweden.

Due to the different application methods and awareness about the equipments, it is hard for companies to compete in the Nordic market. The level of knowledge and experience regarding the use of GPR in road surveying in the Road Administrations is different in all three countries. There is a need to share knowledge and develop common recommendations to insure better quality of services and to make cross-border business easier. The research results on the method as such have to be updated, information gap evened and know-how disseminated evenly across the borders and across the businesses to promote the growth of expertise.

Case 2: Subarctic testing (Sweden)



Pictures: Kent Norberg,
Municipality of Arvidsjaur

In the year 2007, when GEBRIS project was started, the subarctic test and training industry in Swedish Lapland had experienced about fifteen years of massive growth and development, making it one of the most important industries in the region. The impact of the remote and sparsely populated societies was not to be underestimated. This is an excellent example of innovation where an entire industry has developed; turning what normally is considered obstacles of business, such as the cold weather and harsh environment, into opportunities.

This development has, up until now, largely been powered by the skill, innovation and enthusiasm of the individual entrepreneurs. The local population's attitude is also a crucial factor. The testing industry is a service based business that is completely reliant on the quality of the local incoming tourist field. The two are closely linked and cannot, from a society point of view, be separated when it comes to planning supporting actions. Growth inevitably means that the whole of the innovation system is facing new challenges.

As a service provider, whether it is technical services or other the staff is companies' greatest asset. Shortage of skilled people during the peak season, seasonal employment issues and the development of structures for lifelong learning of various levels are points that need the most attention.

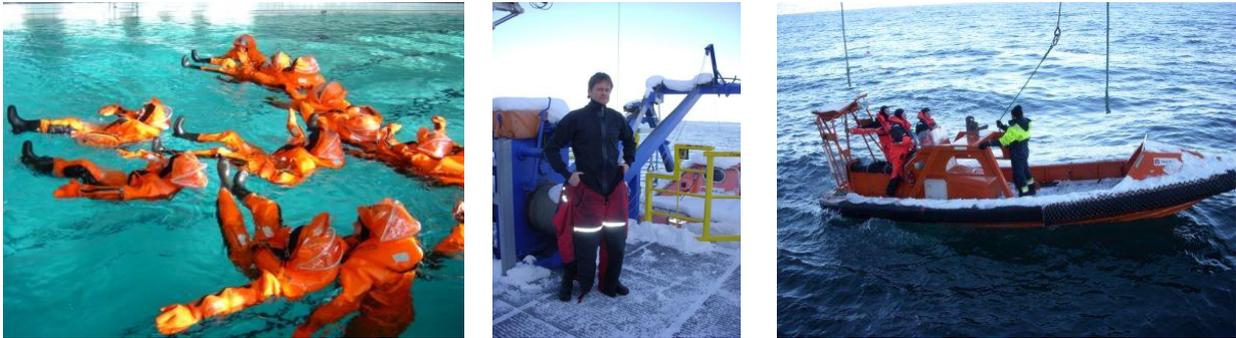
Some of the aspects that make it possible and suitable to conduct this kind of business in the Arvidsjaur region are also the aspects that provide for the greatest challenges. This is an industry where the pace of development as well as the demand for high technology solutions, high level of safety and security, infrastructural aspects and high quality service is increasing.

The effects of global events make its mark locally. The municipalities aim is to be able to cater to the industry's needs utilizing the means at disposal. The solution in many cases may be the injection of new ideas, technical solutions and a closer connection within the innovation system.

The focus is to give the testing industry in the region the best conditions for growth by working systematically and in a structured way with different growth-promoting factors. In order to do that the municipality is working in close co-operation with the testing business, neighboring cities, local universities, regional authorities, national and international projects and other independent organizations like for example Akademi Norr.

The idea is to investigate what role the municipality, as a member of the innovation system, has in supporting actions towards the testing industry in regards to education and staffing issues. There is a need for constant improvement, development and innovation to keep up with the competitors that should be reflected also in the education system. Historically the link between the industry and R&D is rather weak and there also is a great need for building networks between the two worlds. The aim is to combine already existing contacts and create a living network with mutual benefits to all members.

Case 3: Safety in cold conditions (Norway)



Pictures: Ergopro

Small manufacturing companies in high cost countries have considerable difficulties in the competition with bigger companies. These difficulties are related to limited resources for research and development work as well as limitations in sales and marketing possibilities. Production cost in high cost countries is another major disadvantage for smaller manufacturing companies. A strategy commonly applied by these smaller manufacturers is to aim for specialized products, where the production volume is smaller, and where the product buyer is less focused upon the price of the product. Innovative approach is crucial. Products that can be of importance for the health and safety of the workers are commonly in this category.

For countries in the northern region and with a considerable coast line and industrial activity in or near the sea, accidental immersion in cold water is a highly relevant risk, and actually causes fatalities every year. With regards to preventive means against this hazard, much focus has been towards providing protection against drowning (by using buoyancy aids) and against hypothermia. Little or no attention so far has been paid to the cold shock risk resulting from sudden body exposure to cold water. This is a risk factor that can result in fatalities during the first minute of the cold water immersion.

For GEBRIS case the specific product addressing the above mentioned fields was selected. The objective was to assist a small local manufacturer in developing cold protective suit for offshore industry. This also included assistance in the marketing activities of this new product.

Case 4: Wellness and experience industry (Iceland)



Pictures:Atthing

Four villages with population ranging from 81 to 388 inhabitants are located on the long stretch of the coastline that reaches to the northernmost tip of Northeast Iceland region. The region has suffered severe population decrease in recent years, but there is strong drive among actors in each locality for innovation and development. The region faced challenges are remoteness, limited number of inhabitants and access to financial support systems.

The approach implemented in GEBRIS project is to research and analyze the regional potential. Connect the local SMEs to form a regional network building on the models successfully used in the neighboring region. By doing so a unified image of the region will be created and it will make the product development easier for local players.

There are actors in the localities that have ideas and drive for innovation, but the small size, remoteness and lack of human and financial resources are limiting. The idea is to connect these actors, to form cooperation between the localities, to pool resources and form a regional network, merging ideas to create a unified regional image based on the concepts of the North and the Arctic, nature and culture.

Apply the proved success of the Snow Magic project innovation system to engage and motivate the local actors, strengthen the regional network and build on efforts already underway via the NORCE project to harness the growing tourist flow in nearby regions such as Mývatn and Jökulsárgljúfur National Park. By engaging the individual actors into a network, fusing ideas to develop attractions, we create an image that promotes both tourist and local activity in this remote region.

2 Project objective and purpose

In this chapter the different levels of objectives of the project as well as the cases are described.

Overall Objective:

To enhance competitiveness of the region-specific business fields by improving the regional innovation systems' pro-activity, exploitation of research results and raising the awareness towards the R&D-services. The project forwards specifically the regional innovation system's capability to respond to the needs of the cold climate related business sector.

Project purpose:

During the project has been developed "The interregional expert network to support and strengthen regional innovation in cold climate technology development".

To achieve the project purpose, the following results have been completed:

1. Widened expertise network of Nordic innovation actors
2. Engagement of the interregional expertise for cold climate business development in target regions
3. Results are disseminated in target regions in order to increase the awareness, sensitivity and capability to use the R&D-resources in development and business.

This project will concentrate on building and strengthening of the international network for cold climate innovation actors by stimulating the continuous discussion between the different levels of actors like regional authorities, R&D and educational institutions and a business sector. The industries chosen for the cases are: cold climate road construction, car testing industry, wellness and experience industry and safety management in cold conditions. By participating in the project the cases will get access to the know-how of the international expert network. Through the cases the functionality of the existing innovation systems will be assessed. The interregional cooperation will give added value to the regional innovation system development.

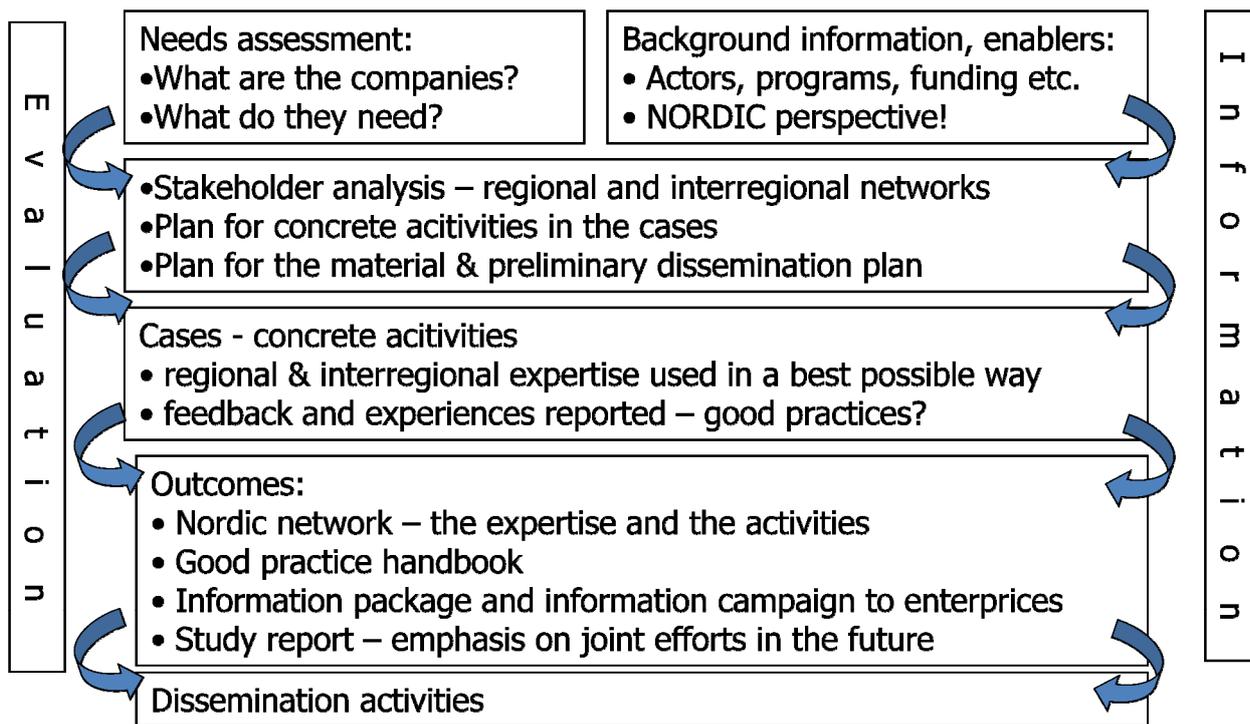


Table 2. Project operational model: ©Tanja Risikko 2007

2.1 Case based objectives and development needs

Case 1: Finland -Arctic Infrastructure

Internationalization of non destructive road measurement methods

Rovaniemi University of Applied Sciences (RAMK)



Pictures: Roadscanners Oy

Targets of the case:

Start international cooperation on Ground Penetrating Radar (GPR) equipment use in road rehabilitation planning to open Nordic market for business companies.

Stakeholders of the cases:

Small and medium size companies working in field of road construction and maintenance, software developers, equipment manufacturers, research organizations and Nordic Road Administrations.

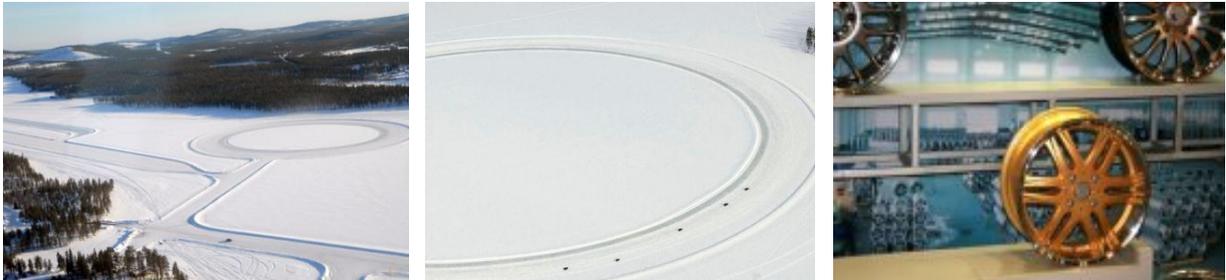
Needs and expectations from GEBRIS project:

1. Internationalization
2. Process and action plan development
3. Promotion and marketing
4. Partnership building and contacts

Case 2: Sweden - Arctic Testing

Community development for sustainable testing industry

Arvidsjaur Municipality



Pictures: Kent Norberg,
Municipality of Arvidsjaur

Targets of the case:

To promote the Arvidsjaur community development towards more attractive and sustainable testing region.

Stakeholders of the cases:

Arvidsjaur community, companies working in the region, Local and regional authorities, Universities and Akademi Norr

Needs and expectations from GEBRIS project:

1. How can society be involved in to support the developed industry?
2. Need for support from higher education organizations and R&D
3. Involve the industry actors in the development processes
4. Find ways how the testing can be developed in year round activity
5. Market the education
6. Further develop and internationalize the education

Case 3: Norway - Safety in cold conditions

Cold Protective equipment development for offshore industry

Thelma AS; ErgoPro



Pictures: Ergopro

Targets of the case:

To promote and support small companies that are working on developing the cold protective suit for off shore industry.

Stakeholders of the cases:

Small companies in cold protective equipment development, manufacturers, end users, offshore industry big companies

Needs and expectations from GEBRIS project:

1. Need for R&D
2. Compensate the SMEs lack of money with high quality product
3. End users involvement in the development process
4. Involve other actors in the process (trade union, big companies)
5. Inform and promote the safety issues
6. Develop standards where cold protection is taken in to account for offshore industry

Case 4: Iceland – Wellness and Experience Industry

Integrated approach to tourism product development

Northeast Iceland Regional Development Agency – Atthing



Pictures:Atthing

Targets of the case:

To facilitate the development and promotion of attractive products, services and experiences in the remote Melrakkaslétta and Langanes regions in Northeast Iceland.

Stakeholders of the cases:

Local municipalities, the local entrepreneurs, people living in the regions

Needs and expectations from GEBRIS project:

1. Research and analyze the regional potential
2. Promote the potential in the local authorities
3. Build a regional network to facilitate the synergy between actors
4. Learn from previous success examples in the region: Myvötn Snow Magic project
5. Market the region as attractive tourism destination
6. Build links and connection to experience exchange in tourism product development

3 Needs based business sector analysis and ideas for solutions

Education	Investments	Co-operation	Information	Development/ Innovation
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In this chapter the findings of the carried out survey of the Nordic business sectors are described. The summary of those needs are provided in the table 3. Each of the needs is further explained in table 4, individually providing realistic background of the Nordic entrepreneurial environment. Table 4 also provides the ideas for solutions where applicable and possible against the realized needs.

The aim of the project is to forward specifically the regional innovation system's capability to respond to the needs of the cold climate related business sectors. To be able to respond to the needs the first steps was to discover and realize those needs. As the partnering organizations have working history with their local SME's, the surveys and interviews amongst the business companies where carried out. Later these needs where assessed and "top 5 needs" where listed for each business sector representing the arctic infrastructure, subarctic testing, wellness and experience industry and safety in cold conditions.

The 5 top needs then where combined in a way that reflects each of the cold climate related business sector by each participating country separately. The international top needs table was analyzed by GEBRIS partners. The common features of those needs where grouped in 5 groups including Education, Investments, Cooperation, Information and Development & Innovation (table 3). Those groups reflect the different areas of Innovation system and help us to analyze the possible transfer of good practices across regions. The grouping also helps in identifying which needs are best addressed by different innovation systems actors.

As assumed at the beginning of the project, despite the very different business sectors GEBRIS project was working with, still it was possible to make common thread through the analysis. It really confirms that the common features are more than differences.

#

Multi skilled well educated staff	Support for basic infrastructure <ul style="list-style-type: none"> - Rail access - Better roads - Airplane connections 	Internationalization (dissemination of information and networking)	Support for promotion and marketing	Technological support by bringing actors together working on specific topic
Business skills and knowledge	Alternative energy solutions available locally	Integrated efforts across the business sectors to guarantee safety	Regional promotion to capital areas	Long term planning and foresight
Short term targeted qualification courses	Communication technology solutions	Internationalizing national standards to increase the benefit	International dissemination of experience and sharing of information	Development of standards specifically directed towards the arctic environment
Information and technology transfer	Continuous updating of equipment to keep up with market	Access to Nordic market (doing business across borders)	Higher focus on pro-active means	Application of new methods to enhance collaboration
Merging technologies and IT skills		Collaboration in regards to investments	Sharing experiences internationally	International standards
Increased awareness and dissemination of information		Joint services and products across business sectors to offer better quality to customers	Local awareness rising to realize regional potential	
		Cross border collaboration in crisis management	Information about the RIS actors support available	

3.1 The needs assessment

Table3: Summary of the needs based business sector analysis; ©Anita Narbro

3.2 Needs and ideas for solutions

In the table below the needs as grouped are analyzed and the potential solutions for addressing those needs are identified. The potential RIS responses to address the needs are only suggestions.

Education

	The Need	Ideas for RIS to respond to the needs
Multi skilled well educated staff	In the Northern areas it is common to have a shortage of qualified personnel. The universities graduates often leave the area as the work prospects are not as attractive. The seasonal variation in activity is complicating the recruitment as well. To respond to the SMEs needs the personnel is preferably required to have several professions depending on the requirements from the seasonal work.	<ul style="list-style-type: none"> - Educational packages that are designed based on needs - Education is fast - Intensive courses - Easy to access and have a certificate - Education is specific - Material and content is concrete pragmatic, not so much theory - <i>needs based approach is crucial also in the design phase in terms of what, when and where</i>
Business skills and knowledge	The challenges of having small enterprises can also mean challenges in upgrading entrepreneurial skills. It is common that enterprises get passed from generation to next. That also means the management skills get passed on. Also the entrepreneurs working in small companies (1 to 5 employees) often do not have time to upgrade their skills, e.g. participate in the seminars. Current education requires long time and is not designed to address the business needs directly.	<p><i>As above</i></p> <ul style="list-style-type: none"> - Educational packages that are designed based on needs - Education is fast - Intensive courses - Easy to access and have a certificate - Education is specific - Material and content is concrete pragmatic, not so much theory - <i>needs based approach is crucial also in the design phase in terms of what, when and where</i>

<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Information and technology transfer</p>	<p>Some areas of the Nordic business sector, such as the testing industry, are extremely sensitive to the development of new technologies. Having the access to the latest knowledge and skills is extremely valuable. There is a need for continuous information and technology transfer and excellent skills with IT equipment for all levels of employees.</p>	<ul style="list-style-type: none"> - Upgrading the technical capacity - Access to new methodologies - Local Universities must be capable to provide expertise and knowledge - New graduates must meet the demands of the business sector - Short and dynamic educational packages related to concrete business area
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Increased awareness and dissemination</p>	<p>Working and being in cold condition can not only be challenging but even dangerous when one is not aware about the risks and dangers. The access to information especially when considering the visitors is important to lessen the potential risks. Often people are not prepared for the harshness of the climate. In the initial phase of new activities it is critical to avoid incidents.</p>	<ul style="list-style-type: none"> - Preventive means and preparedness are important to diminish the risk - Regional actors have to be prepared to respond to extreme situations before they have taken place - Due to the sparseness the local community citizens have to be educated in safety issues - The chain of command must be clear and simple and known - Foresight and research

Investments

	The Need	Ideas for RIS to respond to the needs
Support for basic infrastructure	A very important mean of access to remote areas would be rail bound traffic. The current rail access is slow and the lines does not always serve the regions needs. There is a particular problem in the cross regional connections as the Nordic countries rail tracks are not compatible between the countries. Also better air bound connections are necessary when considering the main business areas such as tourism and services of the region.	<i>Although the needs for investment exist and it can be crucial problem in many cases, GEBRIS project did not concentrate on analyzing the support mechanism for investment. But general activities such as promotion and negotiations are identified through the analysis of information support.</i>
Case specific infrastructure	Apart from the basic infrastructure the needs are also considered in case specific infrastructure. This includes new, better and safer tourism trails for different purposes such as snowmobiling, driving, skiing and walking. Also the mobile network has to be accessible everywhere in sense of safety and security of citizens. It is clear that technological development helps business to prosper faster and it must be integrated in the new product development.	-
Alternative energy solutions available locally	In the policy level the Nordic courtiers strive for several ambitious goals of excellence in energy solutions. The time has also come for local communities and actors to be involved in the intensive markets. The Nordic countries have a high level of expertise in renewable energy technology and the need for local investments, information is more relevant than ever.	-

<p>Continuous updating of equipment to keep up with market</p>	<p>For the research to be compatible to the market needs the RIS actors in the Nordic regions frequently need to follow the technological development and continuously update their technology skills and knowledge. The developments happen fast and the latest equipment is costly so the investment support is not only relevant for the business sector but also the support services of the RIS such as research and educational organizations.</p>	
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Cooperation

	The Need	Ideas for RIS to respond to the needs
Internationalization	<p>Currently the priorities for allocating the regional development funds by EU are under consideration. In future the regional success will largely depend on the capability to internationalize and find ways to bring the regional innovation in to international market. In many cases local operators have not yet realized this potential threat. Nordic regions have heavily relied on the regional funding systems that soon might not be as accessible as before.</p>	<ul style="list-style-type: none"> - It is important to realize the topics and the success cases in regions that can be forwarded in international market - Selecting the regional success cases and promoting those to gain more momentum on them - Building the skills and capabilities to compete internationally in the European Northern regions - Skills in EU and other external support mechanisms
Harmonization of national standards to make more benefit	<p>The Nordic region includes several small countries, if considered in world perspective. The sparseness of the population in the North is critical criteria and success in future markets is possible through joining the forces, branding the North as a common image and eliminating the national borders in product development and services.</p>	<ul style="list-style-type: none"> - Learning to see North as one common resource is critical - Internationalizing and standardizing national regulations will pay increasingly important role for the success in the North to increase the benefit for the whole region - Joining of forces and capacity will be critical to compete with large competitors in many of the business sectors of the North

<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Access to Nordic market</p>	<p>Currently many of the enterprises working in the regional business sectors are very small. Although the business is small, often it is unique. There are companies that are interested to penetrate the Nordic market with their unique services. The Nordic market is difficult because it means working across several borders as well as sea. Historically each of the countries have a very different culture, business standards and opportunities.</p>	<p><i>as above</i></p> <ul style="list-style-type: none"> - Learning to see North as one common resource is critical - Internationalizing and standardizing national regulations will pay increasingly important role for the success in the North to increase the benefit for the whole region - Joining of forces and capacity will be critical to compete with large competitors in many of the business sectors of the North
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Joint services and products across business sectors to offer services</p>	<p>Bridging the gap between different organizations and players. In the North enterprises are commonly very small with the consequent shortage of the competence, economy and resources. Joining efforts and establishing contacts between the SMEs to form local clusters for joint services has to be recognized as very important factor. Jointly working together to develop services and joint products that are easily accessible to customers.</p>	<ul style="list-style-type: none"> - Need for research on future market - Linking the actors - “Planting” the needs for cooperation - Insuring safe environment where it is easy to come and easy to leave - Offering support in the right time - Acting fast

Information

	The Need	Ideas for RIS to respond to the needs
Support in promotion and marketing	<p>The local SMEs in the north in many cases can be companies with a very small allowance for the staff. In some cases these are companies consisting of 1 to 5 employees. It is evident that such companies need not only very considerate approach in sense of timing and attitude from the R&D actors but also a support and assistance. During the survey stage it has been identified that many of the companies lack in skills and resources for promotion and marketing.</p>	<ul style="list-style-type: none"> - Developing common marketing material for the regions business sectors that inform not only about one company but all services available in the region - Bringing the actors together under common strategic principals - Use project to support business marketing needs - Involve students to create new potential links
Regional promotion to capital areas for investment needs	<p>There is another type of promotion for which needs have been realized throughout the study stage. That is the promotion of the regions as such in the capital areas. In many cases it is clear that decisions made in the head quarters of institutions such as banking and transportation services are not based on the real situation and the real needs of the region. It is obvious that based on lack of information some decisions are made that hinder the regional development and the prosperity of the business sector that in turn also reflects back to the national success as well.</p>	<ul style="list-style-type: none"> - Promotion to capital areas stating our needs clearly - Negotiations - Involving regional organizations to assist with promotion - Active participation and informing about the region - Disseminating good cases to attract positive attention - Branding of the area - Cooperation horizontally to create the Nordic brand

<p style="writing-mode: vertical-rl; transform: rotate(180deg);">International sharing of experience and information</p>	<p>In the Nordic regions many good examples exist in several industry sectors such as tourism, testing, ice construction and above all safety and health care. The local entrepreneurs have learned to utilize and benefit from what is normally seen as challenges - cold conditions, sparse population and long distances.</p>	<ul style="list-style-type: none"> - For the region to benefit more, it is important that a good communication is established between the countries for fast and effective solutions. - The cooperation must be developed not only between the business sectors but also authorities and the education sector. - Recent activities of the mining industry has clearly pointed out that the increase for education will have to be addressed in cooperation and international experience sharing - It is important that we are able to find the solutions within the regions in cooperation rather than subcontract large companies from abroad
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Information about the RIS actors support available</p>	<p>As the local companies are often small and the resources for the development work are limited it is often so that the information about the support available for them does not reach the entrepreneurs. The procedures to access the extra support are developed from the perspective of the authorities. These procedures are often too complex for the small enterprises and it requires too much effort and time and provides no guarantee for receiving the support. It is risky and time consuming from the perspective of the entrepreneur to get involved with development agencies and even more so when we talk about Research and Educational organizations. The business needs fast payback and fast results.</p>	<ul style="list-style-type: none"> - It is important for the development organizations to be more pro-active and establish that close direct link to the entrepreneurs - react as much as possible to their individual needs - The RIS services must support the business not the other way around. - It is important to keeping the contact with the end users - Bring the information to local destinations not asking locals to go to capital areas for information

Development and Innovation

	The Need	Ideas for RIS to respond to the needs
Technological support by bringing actors together working on specific topic	In remote areas the access to technology can be challenging. Lack of access to internet and external networks decreases the growth opportunities for business. Also the interaction between the different regional players slows down the development opportunities. The model of real case integration in the studies can be one successful way of solving both the potential growth of the business as well as insuring the work for new graduates.	<ul style="list-style-type: none"> - Enhanced access to technological support services for long distance communication - University and research centers utilized as technological support when not in use - Free access to seminar facilities when necessary - Also assistance with operating the technical equipment - Student involvement in real case projects, the student- business- teacher model maximized and utilized better
Long term planning and foresight	Amongst the other challenges, regional enterprises face the issue to foresee the developments in their specific business sector. To be able to meet the customers needs the companies must be on top of the market and the development processes. Often companies do not have the resources to carry out such a research and to analyze the upcoming needs. This kind of awareness requires in depth understanding of the business field and also requires a lot of information and contacts. Only few companies have evolved to that level where it is possible for them to have the sufficient contacts, information and time to gain such awareness.	<ul style="list-style-type: none"> - Cooperation amongst the regional actors - Promoting the services of research and education organizations - Research made accessible and easy to read - Pro-active approach from RIS actors - Demonstration of foresight cases - Development activities that are based on companies needs

<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Development of standards specifically directed towards the arctic environment</p>	<p>The arctic environment is harsh but it also provides opportunities for companies to develop their expertise in specific business areas that utilize the arctic as an added value.</p> <p>The work in the arctic conditions can be harsh, specifically when considering the offshore environment. Cold and working in cold can be even fatal in cases where incorrect clothing and protective gear has been used.</p> <p>On the other hand the arctic environment is fragile and sensitive towards the manmade and natural disasters. Currently it is still very clean and some plant species that have disappeared in Europe are still found in the arctic.</p>	<ul style="list-style-type: none"> - Proper assessment of potential of the arctic as a common resource - Promoting the arctic region in Europe - Realizing the potential for business development across the borders - Safety and security standards - Working in arctic standards - Promoting the environmental thinking
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4 Good Practices and Ideas for further cooperation

Based on the experiences of the project there are few things and practices that the consortium wants to bring forward to the attention of regional actors. Those experiences and practices are elaborated bellow. At the same time as conclusions GEBRIS project wants to point out that cooperation across borders and across sectors can be solution for many challenges. GEBRIS project wants to bring out the identified areas where the regions would greatly benefit from joint efforts and joint initiatives. Even though the need and the solution might be clear, there is always the third dimension and that is the right time that is at least as important as the right needs and the right answers.

Good Practices

Analyzing the potential pointing out the needs



Through the GEBRIS project it became very clear that finding out the real needs is neither easy nor simple. But at the same time it is critical to the success of the development case. In some cases the real needs are not even known by the companies themselves. Often the situation can be such that the partner organizations are better able to recognize the other organizations needs. After the needs have been realized starts the hard work of the development agency to “plant” the understanding for the needs in the company themselves. The business actors are often very sensitive towards having to admit, that they business has any needs at all. Long term contacts, good communication, strong relationship is vital to succeed in “need planting” process.

Compensating the lack of resources by something else

Apart from finding out the needs it is crucial also to discover how these needs can be answered. In some cases that implies finding out how the lack of something can be compensated by something else. In many cases it is the lack of resources (money or human capital) in small companies that needs to be replaced with something else. Some of the small enterprises have learned to use this in their advantage concentrating their activities on products and services that are vital such as health and safety and security issues. On the other hand, the potential of products has to be realized and where possible and applicable the products can be promoted to be included large industry standards, safety requirements and even international requirements. This was an approach taken in the Norwegian case, while working on the protective suite, the approach was taken to insure that the suite is included in the safety requirements for working in offshore industry. Also the Finnish case has taken similar approach working towards the standardized international requirements to provide specific services. Of course the need for such equipment or services must be clear and the benefit visible.



Right timing

As already described above, to realize and admit the real need is very important. Although the needs are realized and the development agencies and research organizations have the best answer to those needs there is the third element that must be noted. That element is the right time. Often funding institutions and large national organizations are not aware about the company ways of working. Especially when considering very small enterprises the timing becomes one of the key elements in successful cooperation. The Nordic seasonality and the fragmented business structures add to the complexity of the time management. Apart from the right time, the companies are interested in such a support that brings fast payback. This puts a strain to research and education oriented organizations because the standard processes in large organizations are time consuming and in general. But to meet the business needs it is clear, the future education must be more proactive and specific. The need for short targeted education courses is growing and the current change of the status of the Universities means that educational organizations will need to respond to the business needs even more to be able to meet their financial needs.



Ideas for further cooperation

Education

It is clear that recent developments in such business areas as mining will need the international cooperation to answer the educational needs in the North. The regional actors are too small to fully respond to the rapid growth of the needs for the specific education. Also the complex knowledge is not available in one educational organization. This is an area where it would be easy to start the cooperation, based on the region's needs and also by implementing innovative educational methods as online courses and distance learning by using new learning technology such as virtual learning environments.

This cooperation possibility has been identified between North of Finland and North Sweden.

Cooperation

It is increasingly important to learn to see the North as one common area without borders and common standards and practices. To be able to access the Nordic market across the Nordic countries the cooperation between the administration and regional authorities is important. Also to promote the business development it is important to learn to know the regional good examples and success stories. Creating a cross border product is the future and will serve as an attraction for European markets. Also this will boost the capability to compete with larger competitors for example for the automotive industry. This is a futuristic vision, but one that waits for the right time.

The cooperation in tourism cross border product development is being established between North of Finland, Northwest Russia including also North of Sweden and Norway.

The Cooperation among the Road Administrations of Finland, Sweden and Norway is being established through promoting success of specific services that all sides would benefit from.

Information

In the GEBRIS project one of the good practices learned was from Iceland case where the whole business sector is seen as one enterprise rather than many small actors. This includes finding a place and developing a common work platform for everyone that is willing to provide related services. Developing a common regional strategy, involving small companies and promoting networking among them was the key to success. One of the support actions that a regional organization can support with is developing common marketing material for the regions business sectors that inform not only about one company but all services available in the region.

Branding of the area is a way to promoting the image of the region and with that also increasing the business potential and success of the enterprises.

Development and Innovation

One area of development and innovation that the North of the Europe is striving for is the energy sector. There are many good regional solution and small scale activities that we yet have to explore and learn from. There is potential for learning from each other and transferring the technological solutions and still innovating. Sweden has very interesting activities in the field alternative heating of houses and district heating for small communities. In Norway the technology has developed around utilizing the wind and see for generating energy. Iceland has a huge potential to sell their energy and utilize it in so many different ways. It is potentially very interesting area to cooperate in but more specific ideas need to be refined.



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Nordic Innovation Centre

Nordic Innovation Centre

The Nordic Innovation Centre initiates and finances activities that enhance innovation collaboration and develop and maintain a smoothly functioning market in the Nordic region.

The Centre works primarily with small and medium-sized companies (SMEs) in the Nordic countries. Other important partners are those most closely involved with innovation and market surveillance, such as industrial organisations and interest groups, research institutions and public authorities.

The Nordic Innovation Centre is an institution under the Nordic Council of Ministers. Its secretariat is in Oslo.

For more information: www.nordicinnovation.net