

32154	32154
321454	321454
1125	1125
22358	22358
3356	3356
45627	45627
32159	32159
22548	22548
99563	99563
22548	22548
22549	22549
322155	322155
5182	5182
3546	3546
66549	66549
32564	32564

Transnational Cooperation for Prosperity in the Baltic Sea Region

This publication was prepared by the BSR InnoNet management team, to be launched at the NCM-hosted BSR InnoNet conference on *Innovation and Prosperity in the Baltic Sea Region – new tools for transnational collaboration*. The BSR InnoNet is a project financed within the PRO INNO Europe initiative.

ANP 2009:731

ISBN 978-92-893-1867-9

Print: Scanprint as

Layout: Par No. 1 A/S

Copies: 500

Printed on environmentally friendly paper

This publication can be ordered on www.norden.org/order.

Other Nordic publications are available at www.norden.org/publications

Printed in Denmark



Nordic Council of Ministers

Store Strandstræde 18

DK-1255 Copenhagen K

Phone (+45) 3396 0200

Fax (+45) 3396 0202

www.norden.org

Nordic cooperation

Nordic cooperation is one of the world's most extensive forms of regional collaboration, involving Denmark, Finland, Iceland, Norway, Sweden, and three autonomous areas: the Faroe Islands, Greenland, and Åland.

Nordic cooperation has firm traditions in politics, the economy, and culture. It plays an important role in Euro-

pean and international collaboration, and aims at creating a strong Nordic community in a strong Europe.

Nordic cooperation seeks to safeguard Nordic and regional interests and principles in the global community. Common Nordic values help the region solidify its position as one of the world's most innovative and competitive.



Preface

In today's globalised and highly competitive world, many countries are increasingly reliant on their ability to work with other countries in order to ensure the successful implementation of national priorities. The 'innovate or die' mantra is now supplemented with a 'cooperate or die' mantra. For the countries of the Baltic Sea Region, this is nothing new. For centuries, the countries of this European macro-region have traded together, studied and researched together, bought and sold each other's companies, and formed formal transnational cooperation with another. Driven by a need to create a stronger voice and more competitive position globally, these types of activities have intensified in recent years. Many stakeholder groups are looking for ways to strengthen cooperation – on all levels – in the Baltic Sea Region (BSR). The aim is to form a functional hub from which broader international collaboration can take place.

Over the past three years, the BSR InnoNet project has succeeded in developing and implementing transnational cluster analysis, capacity building activities, cluster linkages and policy frameworks. All of the analytical results, methods used, and lessons learned will be further developed and used as integral parts of a flagship programme of the EU strategy for the Baltic Sea Region aimed to fulfil the objective of making the region a more prosperous place.

On behalf of the BSR InnoNet project, the Nordic Council of Ministers is hosting the conference "Innovation and Prosperity in the Baltic Sea Region – New tools for transnational collaboration" on May 7, 2009. This conference publication is intended to share our experiences and lessons learned with others. The objective of this publication is threefold:

1. To present a number of perspectives on the overall rationale for 'cooperating for prosperity' and positioning of the Baltic Sea Region;
2. To present some of the results and tools from the Baltic Sea Region Innovation Network (BSR InnoNet) – which serve as building blocks for continued activities aimed at making the BSR a prosperous place; and
3. To present remaining challenges and visions for the future

The management committee would like to thank all of the authors for their contributions and the editors (Emily Wise and Anna Zingmark) for their work in compiling this publication. We would also like to thank VINNOVA, who provided the financial support necessary to produce this publication.

The BSR InnoNet Management Committee, April 2009

Contents

PART ONE – Perspectives on ‘Cooperating for Prosperity’ in the BSR.....	5
1.1 The Baltic Sea Region – resolving the economic downturn via cooperation.....	6
1.2 Innovation Capacity in the BSR	9
1.3 The Global Competitive Position of the Baltic Sea Region.....	15
PART TWO – Building Blocks from the BSR InnoNet.....	21
2.1 Fact-basing Cluster Policy in a Transnational Context.....	22
2.2. Tools for Transnational Collaboration	33
Capacity Building: Clustering is a people thing!	37
Creating Transnational Cluster Cooperation across the BSR	43
2.3 Policy Frameworks for Transnational Cooperation.....	52
PART THREE – Looking into the Future	59
3.1 Transnational cluster policy cooperation in the EU – challenges and perspectives	60
3.2 Results and Lessons of the BSR InnoNet	62
3.3 Footprints into the Future.....	66



PART ONE

Perspectives on ‘Cooperating for Prosperity’ in the BSR

Part One aims to describe the Baltic Sea Region. It presents perspectives on the rationale for macroregional cooperation; illustrates the strengths and challenges in the field of innovation; and describes the region’s global competitive position. Each of these areas is presented in separate chapters.

Chapter 1.1 examines how cooperation has helped the Baltic Sea Region to address a number of challenges and presents expectations for continuing to strengthen this co-operation in the framework of the EU’s Strategy for the BSR.

*Chapter 1.2 presents an extract from the recently-published **Nordic Innovation Monitor 2009**, a benchmarking of innovation framework conditions and performance in the Nordic region.*

*Chapter 1.3 presents an overview of the BSR’s global competitive position – using material from the **Nordic Globalisation Barometer** (focusing on how the Nordic region is doing in the world) and the **State of the Region Report** (focusing on an overview and analysis of the economic situation of the Baltic Sea Region).*

*The **Nordic Innovation Monitor** and **Nordic Globalisation Barometer** reports can be downloaded at www.norden.org. The **State of the Region Report** series, financed by the NCM and the Nordic Investment Bank and produced by the Baltic Development Forum, can be downloaded at www.bdforum.org.*

1.1 The Baltic Sea Region – resolving the economic downturn via cooperation

By Halldór Ásgrímsson, Secretary General of the Nordic Council of Ministers

Introduction

The Baltic Sea Region is now more globalised and interconnected than ever before. But how do we strengthen welfare and growth further in the age of fast-moving globalisation? This is perhaps one of the most pressing challenges and for the Nordic countries for the entire Baltic Sea Region. The challenges of globalisation cannot be met by countries acting in isolation. The nature of the challenges presently faced requires countries and regions to take action individually and jointly. Strengthening the Region's global competitiveness is necessary to emerge from the current economic crisis and reach long-term goals. Ambitious and highly-demanding measures at the national level must be complemented by stronger links with neighbours and with global partners. One means of furthering welfare and growth of the Baltic Sea region is to pool resources and utilise expertise and know-how in a more strategic way. Countries must work together to raise the importance and visibility of the Region in the global economy.

The BSR InnoNet is an example of successful cooperation in the Region. Cooperation between 13 partners in 10 countries of the Region has resulted in a network with a common understanding and conceptual framework. The lead partners (FORA, VINNOVA, and NCM) and the coordinator (Nordic Innovation Centre) have put a lot of effort into making the project a success. We have high expectations regarding continued regional cooperation and the forthcoming Swedish EU presidency. The Swedish government has established the goal of forming a larger cluster and innovation program under the EU Baltic Sea Strategy and action plan, supplemented by knowledge from the BSR InnoNet project.

As the host of the conference “Innovation and Prosperity in the Baltic Sea Region – New tools for transnational cooperation” held on 7 May 2009 in Copenhagen, I would like to begin this conference publication with the NCM's broader view on the cooperation for prosperity in the Baltic Sea Region.

The Baltic Sea Region – the Top of Europe

The Baltic Sea Region is, as most of the world, suffering the consequences of a severe financial crisis. We need to react in smart ways to resolve the crisis. A new approach to policy is required. We must further develop regional cooperation, focusing on strengths and improving on weaknesses. We must demonstrate a dynamism that other regions can learn from. Our countries have good opportunities to implement joint policies and to cope collectively with challenges so that they are transformed into added value and economic progress. The Region must conceive of challenges as opportunities instead of threats and take a proactive stance.

The countries of the Region have a long tradition of trade cooperation. Historically, the Baltic has been a sea of trade. A few hundred years ago, many of the Baltic cities belonged to the Hanseatic League, dominating commerce in Northern Europe for centuries as the world's first free trade alliance. Different forms of cooperation have been possible in differing geopolitical situations and, at present, cooperation and trade are hindered only by bad habits, unintended effects of regulations and lack of knowledge. Put differently, great opportunities exist for positive developments in the context of the EU and beyond.

The Nordic Globalisation Process

Economic development of the Nordic and Baltic Sea Region is also high on the NCM agenda, especially if one considers the ‘globalisation process’ initiated by the Nordic premiers in the summer of 2007. The main objective of the Nordic globalisation process is to enhance a more skilled, visible and thriving Region that promotes welfare and growth. Central elements of the process include energy, environment, climate, research and innovation. Cooperation in the Baltic Sea Region is of importance to this work.



Presently the NCM is working on a number of concrete projects that support overall globalisation policy objectives. They address in different ways the main challenges that are common to the five Nordic countries. Projects typically address joint research efforts and joint branding efforts. Many of these projects are designed to be open to participation from other parts of the BSR. The BSR InnoNet project addresses some of these challenges. We can no longer focus solely on national efforts, but have to be heavily engaged in international networks of different kinds.

The Nordic Globalisation Forum of the prime ministers took place in Sweden in April 2008 and in Iceland in February 2009. The NCM has decided to explore the following themes during a subsequent phase of globalisation initiatives: financial instruments; energy and transport; health care; and creative industries.

EU Strategy for the Baltic Sea Region

An EU strategy for the Baltic Sea Region is a new and important means of strengthening cooperation in competitiveness and accelerating economic integration in the Region. The strategy serves to establish closer ties between the Nordic and the other Baltic Sea countries, and will create a joint platform from which we can act together in an EU context.

It is also important that we continue to work together with our neighbours within the framework of the Northern Dimension – not least because Russia is and will continue to be an important partner for the whole region. Regional cooperation is a necessity if our societies are to be prosperous and experience economic growth in a sustainable manner in this age of globalisation.

A European macroregional strategy is an interesting new concept that encourages cooperation in the Region. The expansion of the EU to 27 member countries has brought new opportunities within the EU, but it has also raised the level of competition. In light of recent EU developments, a revival of regional cooperation is likely within parts of the EU. We must work closely and efficiently together both in the macroregion of the Baltic Sea, but certainly also in broader European and global frameworks in order to succeed in the competition for jobs, investment and knowledge.

The NCM is in favour of a concise, concrete and focused EU strategy for the Baltic Sea Region. The strategy should entail a regional cross-sector and cross-border approach that leads to tangible results. The NCM believes that the strategy would be of extra benefit if it includes projects and actions developed by countries and in other regional fora, especially if the role of implementation is assigned to actors with long-term regional experience and credibility (regional councils, for example) on a case-by-case basis.

The Nordic Innovation Centre has coordinated the BSR InnoNet project funded by DG Enterprise, PRO INNO Europe. All of the 10 BSR countries have taken an active role in the project, which will be concluded in the fall 2009. Lead partners have been responsible for different parts of the project. FORA has been responsible for the analytical working group; VINNOVA has been responsible for the practitioner's working group and for initiating the task forces. The pilot on capacity building has been carried out by Innovation Norway, and the pilot on innovation and clusters (PIC) by VINNOVA. Participating countries have been able to allocate funding to these extra activities in addition to the planned project.

The NCM has been a lead partner responsible for the policymaker's working group. It is obvious that countries have different political priorities reflecting different industrial structures, different ways of organising public and private initiatives, and different strongholds. Interesting common grounds for cooperation have been identified, focusing on specific thematic areas and on cooperation between strong innovation environments.

As pointed out by Prof. Christian Ketels (see chapter 1.3 below), the region has not yet achieved full economic integration. The BSR InnoNet project has shown that companies do not fully exploit cross-border potentials due to a range of obstacles. The removal of such obstacles is vital for clusters and company networks to benefit from cooperation with partners in the Region. The project is an example of successful cooperation in the Region. It has resulted in a network with a common understanding and conceptual framework which is recommended as a platform for the proposed flagship project to develop linkages between SME networks, clusters, and innovation environments in the BSR.

We have high expectations regarding continued regional cooperation and the forthcoming Swedish EU presidency, during which the Swedish government has established the goal of transforming this platform into a larger program under the EU Baltic Sea Region Strategy and action plan.

We think that these efforts should build on findings and experiences gained from the BSR InnoNet project. These experiences are valuable for the development of the proposed flagship project and in the implementation of the cluster and innovation programme.



1.2 Innovation Capacity in the BSR

By Lise Andersen, FORA (extracted from the Nordic Innovation Monitor 2009)

Introduction

The severity and duration of the economic crisis depends largely on future policy design. Economic and financial stability are crucial, but macroeconomic policy will no longer be sufficient to ensure welfare and resolve threatening global challenges. In the innovation economy, a responsive public sector coupled with comprehensive microeconomic policies must seek to harvest the benefits of a new breed of innovation.

The Baltic Sea Region is one of the more prosperous regions in the world, and the Region has the potential to turn the current economic crisis into new opportunities that – if exploited properly – may lead to stronger and more sustainable economic growth for the Region as a whole. This presupposes that national policy contributes to solving serious global challenges such as climate change, resource scarcity and social needs.

Innovation is a prerequisite for developing new solutions to global challenges. It is therefore evident that a strong innovation capacity is crucial to a dynamic economic policy. Furthermore, innovation is regarded as one of the main sources of competitive power, value creation and job creation. Hence one of the dominating elements in a dynamic economic policy in the coming years could – and should be – the ability of countries to innovate.

Nordic Innovation Monitor

In February 2009, the Nordic Council of Ministers introduced the Nordic Innovation Monitor for the prime ministers' summit as a new tool for measuring and comparing the innovative capacities of the five Nordic countries and 20 other OECD countries.

The Nordic Innovation Monitor's core purpose is to identify initiatives that can improve framework conditions and innovative performance. By distinguishing between framework conditions and performance, it is possible to pinpoint the shortcomings of the former such that targeted policy measures can be implemented that benefit the latter. The

Monitor facilitates the identification of critical framework conditions (i.e. areas that need to be addressed) for each country in question.

The Nordic Innovation Monitor 2009 distinguishes itself from other indicator systems by applying a broader definition of innovation. Other indicator systems underline the importance of knowledge creation and ICT, whereas the Nordic Innovation Monitor also emphasises the role of entrepreneurship and human resources as drivers of innovation.

The Nordic Innovation Monitor consists of two composite indices that summarise performance and framework conditions. The high correlation between the indices suggests that changes in framework conditions have the potential to impact on a country's performance and overall innovative capacity¹.

Four framework conditions are believed to have the largest impact on innovative capacity, and a country's innovative capacity therefore relates to investments in these four areas:

- Human Resources – because innovation is about promoting human talent and freeing-up resources for innovative thinking;
- Knowledge Creation – because innovation is about developing new and relevant knowledge and applying knowledge in the proper fora;
- Innovation and Communication Technology (ICT) – because innovation is about utilising the opportunities offered by technology; and
- Entrepreneurship – because innovation is about commercialising entrepreneurial behaviour.

The Nordic Innovation Monitor measures the strength of the four framework conditions and their output. There are

1 Nordic Innovation Monitor 2009

no explicit rules on how many indicators can be used in a benchmark model. Generally speaking, a larger number of indicators are required to facilitate a broader assessment of framework conditions. The Nordic Innovation Monitor 2009 is the most comprehensive in terms of measuring innovation. It encompasses 165 indicators; 30 of which measure country performance and 135 describe framework conditions for innovation. The indicators are collected from *bona fide* sources including OECD, WEF, IMF, IMD, ILO and Eurostat.

The model compares country performance over a five-year period and has been updated annually since 2003 – allowing the tracking of national innovation performance over time.

Best Practice from the Nordic Region

The ranking of regions and the ranking of each country in terms of innovative capacity underscores that the Nordic countries could benefit from cross-border learning to improve national innovative capacities. The Nordic countries share cultural values and share relatively high rankings in the overall index comprising framework conditions and innovation performance. The Nordic Region exemplifies best practice, which is positive for the Baltic Sea Region. Individual country rankings underline the fact that the countries in the Baltic Sea Region² could benefit from a systematic exchange of experiences in pursuit of world-class innovative capacities.

Innovation Performance

When compared with the OECD countries, Denmark was the most innovative country in the Baltic Sea Region in 2008 followed closely by Sweden, Iceland and Finland. Germany and Norway are lower in the ranking. Both Germany and Denmark improved their performance significantly, whereas Sweden, Norway and Iceland managed only slight improvements. Finland dropped substantially in the ranking (see Table 1).

Table 1: The OECD Countries' individual ranking in the Nordic Innovation Monitor - Performance

Performance	Ranking 2008	Index 2008	Index 2003	Change in rank 2003-2008
Korea	1	73	63	3
United States	2	73	71	0
Japan	3	72	55	5
Denmark	4	71	52	8
Sweden	5	68	56	1
Iceland	6	66	56	1
Finland	7	66	66	-4
Canada	8	65	49	6
United Kingdom	9	64	55	0
Netherlands	10	63	53	0
Germany	11	60	44	5
Switzerland	12	60	53	-1
Australia	13	58	57	-8
New Zealand	14	57	73	-13
Norway	15	56	40	2
Ireland	16	55	50	-3
Belgium	17	52	45	-2
Austria	18	43	29	2
Spain	19	42	38	-1
France	20	41	35	-1
Portugal	21	36	14	2
Turkey	22	17	8	2
Italy	23	15	19	-2
Greece	24	11	14	-2
Mexico	25	8	7	0

Source: Nordic Innovation Monitor 2009, FORA

2 For the Baltic Sea Region, the Nordic Innovation Monitor only provides available data on the five Nordic countries and Germany.

The ranking indicates that countries in the Baltic Sea Region may benefit from learning from Denmark, whose improved performance suggests that the Danish innovation policies are favourable. These findings also indicate that the model's explanatory power is solid, as the countries with the best performance are also, to some extent, the countries with the best framework conditions for innovation.

Framework Conditions for Innovation

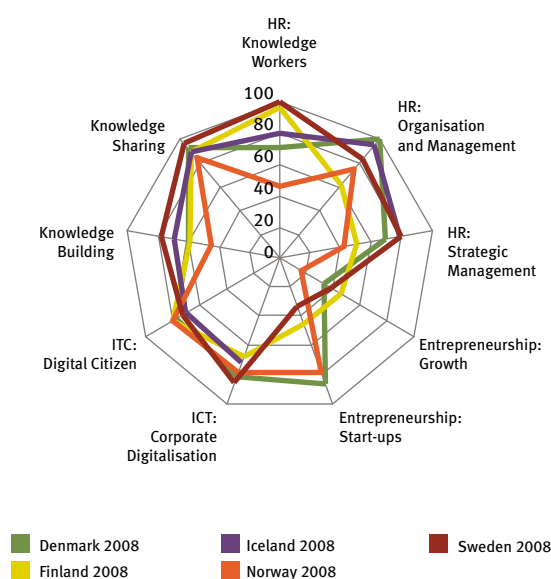
Three Nordic countries in particular have made significant improvements on the overall index for framework conditions – Denmark, Finland and Iceland³, whereas Sweden is ranked 9th, Norway 12th and Germany 17th. Iceland, Denmark and Norway have improved their framework conditions, whereas Germany made no improvement and Sweden and Finland lost ground.

Table 2: OECD Countries' individual ranking in the Nordic Innovation Monitor – Framework Conditions

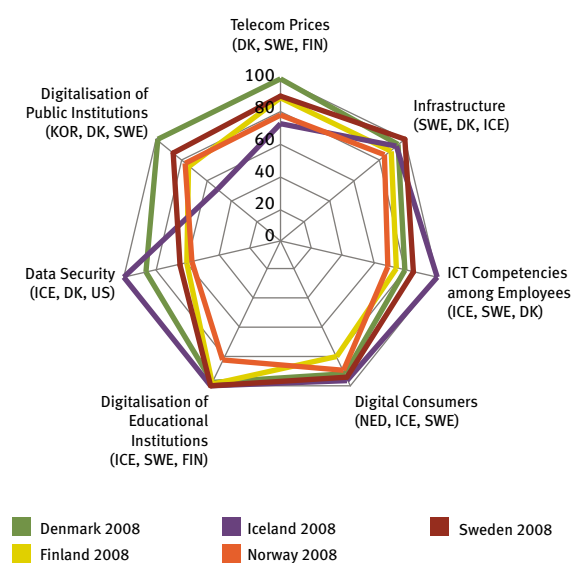
Framework Conditions	Ranking 2008	Index 2008	Index 2003	Change in rank 2003-2008
United States	1	87	93	0
Iceland	2	79	68	4
Canada	3	77	77	0
Denmark	4	77	64	6
Finland	5	75	80	-3
Switzerland	6	75	63	4
United Kingdom	7	75	76	-2
Australia	8	70	69	-3
Sweden	9	69	66	-2
Netherlands	10	68	61	2
Ireland	11	67	64	-2
Norway	12	62	55	2
Austria	13	61	53	2
New Zealand	14	61	66	-6
Korea	15	60	53	1
Belgium	16	59	58	-3
Germany	17	58	50	0
France	18	55	47	0
Japan	19	51	38	1
Spain	20	44	45	-1
Portugal	21	35	27	1
Italy	22	26	30	-1
Greece	23	16	16	0
Turkey	24	11	5	0
Mexico	25	5	5	0

Source: Nordic Innovation Monitor 2009, FORA

³ Note that the statistics used in the Nordic Innovation Monitor 2009 cover data up till 2008. The influence of the current economic crisis is not reflected directly by the indicators.

Figure 1: Innovative Performance (the Nordic Region)

Source: Nordic Innovation Monitor 2009, FORA

Figure 2: Innovation Framework – ICT (the Nordic Region)

Source: Nordic Innovation Monitor 2009, FORA

These findings indicate that Germany has less favourable framework conditions in comparison to the Nordic countries. The northern part of Germany may benefit from learning from Denmark as they have some comparable cultural values.

According to the Nordic Innovation Monitor, a large part of the Nordic countries' economic progress can be accredited to investments in policy initiatives that strengthen the framework conditions for innovation.

Monitoring the Four Drivers of Innovative Capacity

When comparing the innovative capacities of 25 OECD countries, the Nordic Innovation Monitor shows that the countries within the Nordic region share common strengths and are faced with similar challenges in creating innovative capacities that will ensure future prosperity (see Figure 1).

The Nordic region performs well in information and communication technology (ICT). Both citizens and businesses master ICT and the Nordic region offers the world's best framework conditions for ICT (see Figure 2).

In terms of knowledge creation, and particularly research and technology diffusion, the Nordic region is investing heavily and matches the world's top-performing countries. There is, however, some uncertainty as to whether these investments will help secure all of the key competencies that are necessary to cope with future competition (see Figure 3).

The Nordic region performs well in the domain of human resources. There is a large pool of talent across the Nordic countries, and the framework conditions for education and competence building match the world's top-performers. However, the Nordic region has stagnated in this area, suggesting that it will be difficult

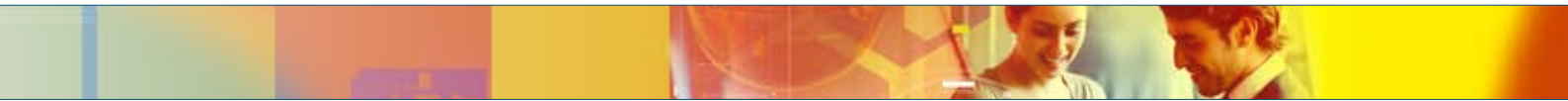
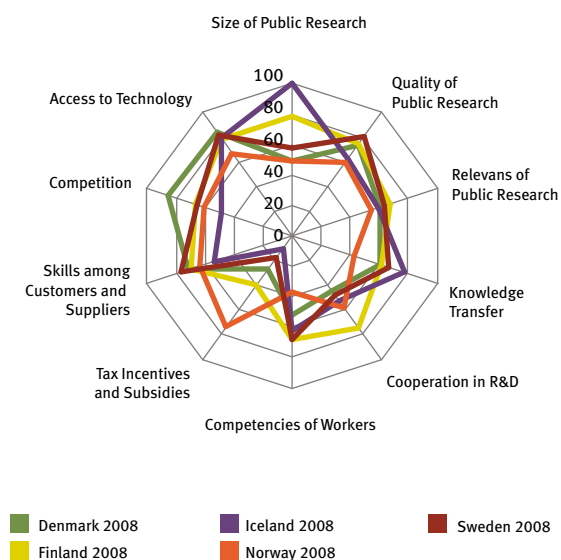
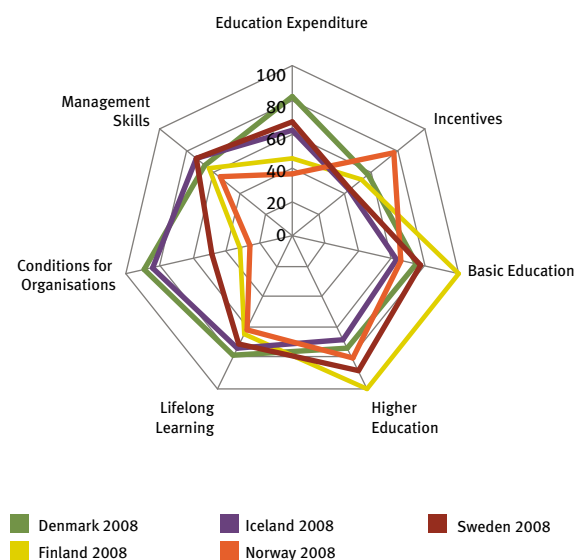


Figure 3: Innovation Framework – Knowledge Creation (the Nordic Region)



Source: Nordic Innovation Monitor 2009, FORA

Figure 4: Innovation Framework – Human Resources (the Nordic Region)



Source: Nordic Innovation Monitor 2009, FORA

to maintain a highly competent Nordic workforce (see Figure 4).

The Nordic countries lag significantly in terms of entrepreneurship. The Nordic countries have a weak entrepreneurial culture, and there is a shortage of emerging growth entrepreneurs in comparison to the best-performing countries (see Figure 5).

The most significant challenge for the Nordic region is to harness the full effects of citizens' enterprising activities via growth-focused start-up companies. There could be a wealth potential for the Nordic countries to join forces, identifying specific aspects of the Nordic set of values that should be reinforced to encourage enterprising behaviour and a willingness to take risks.

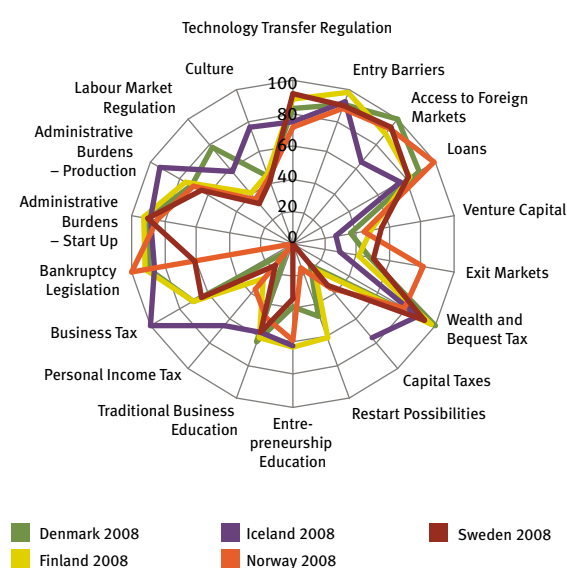
New Challenges in the Nordic Region

The Nordic Innovation Monitor highlights new innovative trends that the Nordic countries can turn into competitive advantages and sources of growth.

Pace-setting companies around the world have opened up their innovative processes to include customers and users in core innovative and production processes. These so-called user-driven innovation processes create products that are tailored to meet individual user needs. It is a trend that requires strong ICT and collaborative skills – skills that are prominent in the Nordic region. By further developing these competencies, the Nordic countries will be able to build new competitive advantages.

Globalisation has made the world's knowledge and skills accessible to even the smallest of companies. It is important for companies to be able to take part in global knowledge sharing and to have access to specialised

Figure 5: Innovation Framework Entrepreneurship (the Nordic Region)



Source: *Nordic Innovation Monitor 2009, FORA*

Innovative Capacity in the Baltic Sea Region

The implementation of initiatives similar to those in the Nordic countries as central elements of future economic policies in the rest of the Baltic Sea Region appears to be a straightforward task. This could be facilitated in part by broadening the scope of the Nordic Innovation Monitor, and by performing cross-border comparisons of the four framework conditions for innovation within the Region and with other world leaders. However, the cultural distinctions among the individual countries in the Baltic Sea Region may complicate the transfer of best practices from one country to another.

A benchmarking analysis of the Baltic Sea Region should seek to highlight the Region's strengths and identify areas of improvement, providing a common vision that allows national governments to pursue united efforts and provide improved framework conditions for innovation for their citizens.

knowledge of relevance to their entrepreneurial activities. It is an important task for Nordic governments to draft policy measures that ensure that the surrounding world is involved in Nordic knowledge creation and competence development.

Global issues such as climate change and other societal have gained increasing importance as drivers of innovation. More and more companies are putting efforts into developing new solutions to these challenges in public/private partnerships. The Nordic countries are well-prepared to develop new solutions to deal with these challenges, and by implementing framework conditions for collaboration in this area, the Nordic countries will be better equipped to exploit opportunities on a global scale.

1.3 The Global Competitive Position of the Baltic Sea Region

By Dr. Christian Ketels, Harvard Business School and Stockholm School of Economics

Introduction

Transnational collaboration between neighbouring countries can make significant contributions to the prosperity of the region in question. Economic research provides significant evidence that neighbouring countries are often partners in terms of trade and investment. Removing barriers to flows of goods, services, capital, ideas, and people thus has a clear potential to raise prosperity. This is the fundamental argument that, together with a strong political will to improve security and democracy, has driven regional collaboration in the Baltic Sea Region since 1990. It is particularly important for a region that is largely made of smaller economies that have little option of 'going it alone'.

Effective collaboration must take into account the status of the region and its countries in terms of their competitive positions in the global economy. Since 2004, the State of the Region Report provides a tool to track the progress of the Baltic Sea Region. The Region is defined to include all of its surrounding countries (and regions of Germany, Poland, and Russia), Iceland and Norway. In 2008, the Nordic Council of Ministers introduced the Nordic Globalisation Barometer as an additional tool to focus more specifically on how the Nordic countries are coping with the new competitive realities of globalisation. This chapter will provide a short summary of where the Baltic Sea Region stands today based on the most recent findings of these reports.

The framework for analysing the competitiveness of the Baltic Sea Region organises the various relevant factors into five main categories (see Figure 1):

- **Prosperity:** actual prosperity is the ultimate measure of whether or not the Baltic Sea Region encompasses a high standard of living in the context of global competition. The relative measure of labour productivity, labour utilisation and domestic price-levels, which explain prosperity in an accounting sense are also relevant;

Figure 1: Competitive Analysis Framework



- **Endowments:** natural resources, geographic location, and the overall size and density of a region also influence a region's level of prosperity. Endowments cannot be changed, although the value that can be derived from them can be significantly increased or diminished via policy choices regarding regulation and complementary investments;
- **Competitiveness:** factors that affect the level of productivity and innovative capacity for individual companies in specific locations also affect the level of prosperity a country or region can sustain over time. Macroeconomic competitiveness is determined by the quality of institutions and macroeconomic policies. Microeconomic competitiveness is also determined by the quality of the business environment. In addition to these generic factors, the unique qualities that define the specific positioning of the

Region are crucial for understanding its overall competitiveness;

- **Globalisation Readiness:** in the global economy, locations must have inward and outward linkages to perform competitively on global markets. Locations must also have the flexibility that is necessary to cope with the external shocks posed by global integration; and
- **Regional Integration:** it is crucial to understand whether the Baltic Sea Region is something more than the statistical sum of its constituent countries and sub-national regions. Trade and investment flows indicate the level of market integration and the extent to which companies perceive the market as one. Common policy institutions are another important indicator of regional integration.

Economic Performance

The Baltic Sea Region is one of the more prosperous regions in Europe and the world. Its overall level of GDP per capita (PPP adjusted) puts it slightly behind the Iberian Peninsula but ahead of the group of Central European EU members (see Figure 2). This is no minor achievement for a region that has more than 40% of its population in Russia, Poland, and the Baltic countries – the so-called transition economies. The Region has consistently grown faster than

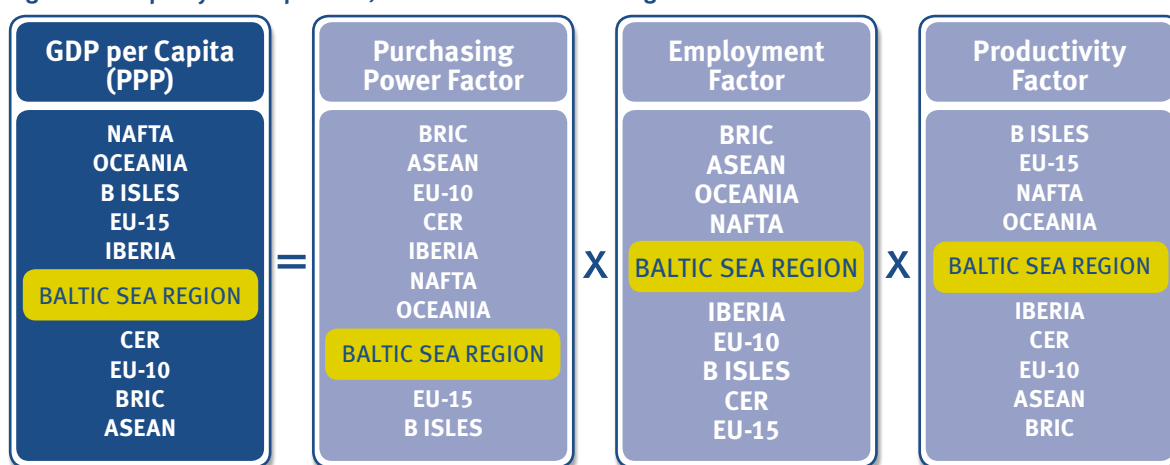
the EU average over the last few years, although the catch-up rate has slowed slightly in the most recent years.

Other indicators confirm that the Baltic Sea Region has been able to transform solid economic performance into an impressive quality of life. The Human Development Report regularly classifies the Baltic countries at the very top of their global rankings. Equality is high as is access to education and health care. The Region also boasts a strong position in assessments of subjective ‘happiness’.

The Region’s solid overall economic performance is based on a combination of strong employment and productivity, and relatively high local prices. The Baltic Sea Region is unusual when compared to its European peers in that it has solid productivity *and* labour mobilization. Despite the fact that North America and Australia/New Zealand demonstrate the same pattern, the rest of Europe performs well in one of these categories not both. Over the last decade, the Baltic Sea Region has caught up in terms of labour productivity and lost some of its advantage in terms of labour mobilisation relative to the EU average.

The current economic crisis has not circumvented the Baltic Sea Region. The overall slow-down in growth is comparable to the rest of Europe and the United States. Some countries in the Region have been hit particularly hard. Iceland has suffered the collapse of its banking sector, and the Baltic

Figure 2: Prosperity Decomposition, selected cross-national regions





countries, especially Latvia, have experienced a shift from high rates of growth turn to deep recession. It would be premature to speculate about whether the crisis will fundamentally change the Baltic Sea Region's economic performance relative to its peers. While individual countries will undoubtedly suffer dramatic impacts, the current data does not suggest any transformation in the Region's relative position.

Endowments

A fundamental indicator of a location's prosperity is its natural resource endowment. Natural resources often play a significant role as regards the evolutionary path taken by an economy and for the specific positioning it has developed in the global economy.

The Region has large oil and gas reserves in Norway and Russia, and in Denmark to some extent. Sweden has significant endowments of ore and other metals. There are also large wooded areas that are beneficial for the pulp and paper industry. Denmark has large wind energy potentials; Norway and Sweden have good opportunities for hydroelectricity production; and Iceland has hydro- and geothermal energy assets. The region has extensive coastlines that are positive for accessibility, and Iceland in particular has rich fishing grounds.

The Region is however located at the periphery of Europe, relatively faraway from major trade routes and centres of economic activity and dynamism in Europe and the world economy. The Region's geographical location near the Arctic Circle creates significant energy needs. Its population of about 57.5m people is distributed across a relatively large geographic area with low average densities. While many of the Region's inhabitants live in cities rather than distant rural regions, cities tend to be of moderate size. This increases the costs of providing public services and raises logistical costs. It also has the potential to negatively affect economic activity and innovation, which tend to benefit from urbanisation.

Hence the Baltic Sea Region is endowed with a mix of positive and negative resources. 'Nature' has provided a fair starting position, but far from a free ride.

Competitiveness

The Baltic Sea Region is one of the most competitive

regions in the world. There have been few recent changes in the Region's overall economic positioning. Changes that have occurred were driven by countries' exposure to increasingly divergent business cycles.

The Baltic Sea Region is strong in terms of macroeconomic competitiveness. This is especially true as regards institutional quality, and the Region also registers a solid-to-strong performance on macroeconomic policy. The Region has demonstrated stability during the last year in both dimensions. The significant heterogeneity across the Region is the major remaining challenge, especially in terms of institutional quality. The gap between the leading Nordic countries and their eastern neighbours is not only large – there is also little evidence of convergence. This is a concern because without institutional improvements, there is a limit to how much economic convergence will be possible over time. It also raises concerns about the ability of the Baltic countries and Russia to deal effectively with the current economic crisis.

In terms of microeconomic competitiveness, the Region competes as a truly knowledge-driven economy with strengths in education, technology, innovative capacity, and business sophistication. Markets are open and provide a level playing field for companies. Low levels of entrepreneurship and moderate rates of investment signal weaknesses in incentives and bureaucracy. This applies to the Nordic countries but is only partially true elsewhere in the Region. Germany has less of a high-tech bend and a weaker overall education system but is strong on innovation and has a strong business sector. The Baltic countries and Poland leverage their comparative advantages for the most part from solid skills at relatively low wages in the proximity of western European markets. Russia has a large and growing domestic market yet is only starting to utilise its remaining scientific capabilities.

In the global economy, even good performance in many aspects of competitiveness does not guarantee success in the competition between locations. A clear positioning that builds on a location's unique merits for different types of activities and clusters is also required. In the Baltic Sea Region, specialisations across clusters provide a first indication of where these unique advantages exist. The Region has a strong world market position in forest products, furniture, and communication equipment (see

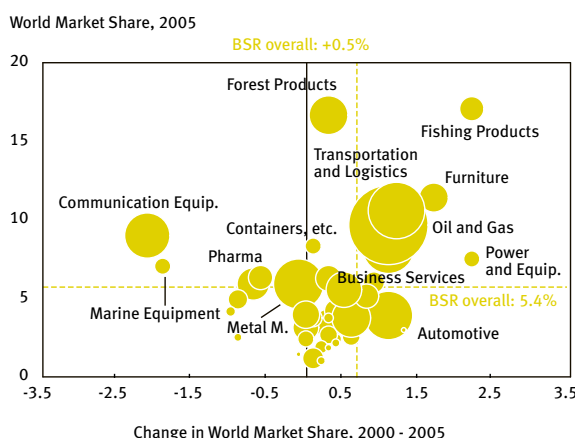
Figure 3: Export Portfolio by clusters

Figure 3). Other strengths of the Baltic Sea Region include environmental technologies and innovation in general. The Region's sophisticated consumers are open to new trends, which makes it an attractive test market.

Globalisation Readiness

In the global economy, economic success is not only a function of the internal competitive strengths a region has to offer. Solid linkages to other locations allow economic value to be derived from various strengths and raise the possibility of utilising foreign capital and skills. Flexibility in domestic markets enables a more rapid pace of structural change that exposure to external economic shocks may require.

The Baltic Sea Region is performing well in terms of projecting its competitiveness on global markets. Exports are relatively strong. Global world exports are balanced at around 5.3% and display a slight positive trend. The Region has performed slightly less well in exports of goods – a reflection of the increasing presence of China in many of these markets. The Region is constantly gaining position in terms of service exports. Companies from the Region are also strong investors globally. The Region's share of the global outward FDI stock is roughly comparable to its global export market share. Given its size, the Baltic Sea Region is also home to a significant number of multinational companies, with Sweden being the most prominent host.

The picture is more mixed when it comes to attracting foreign capital and talent. The inward FDI stock is relatively solid but below the level of outward FDI. Inflows to the Region have been highly volatile and have tended to underperform in recent years. The Baltic Sea Region is an attractive location for research by foreign companies, and researchers from the Region frequently engage in research projects with foreign partners. Yet there are also several indications that the Region is lagging as regards the attraction and subsequent integration of skilled employees.

A similar mixed assessment applies to the flexibility of the Region. Formal indicators of labour market flexibility suggest that the Region is performing very poorly. In terms of the costs of registering new businesses, the Region is performing better but still significantly below its overall level of competitiveness. There are, however, indications that the labour markets in the Nordic countries demonstrate much higher flexibility.

Regional Integration

The analysis so far has focused on the Region as the aggregate of individual countries and regions. The extent to which the various constituents function as an economic region depends on the appropriateness of this aggregation.

It has been noted that the individual parts of the Region are largely heterogeneous. The Nordic countries are the most prosperous and innovation-driven, while the former Communist countries are much less prosperous, driven by resources and investments. There are also significant differences within these groups. This creates opportunities for gains from trade that can benefit everyone in the Region, but also creates a more complex political environment where competitive advantages and policy priorities differ.

Trade and investment flows are high but not unusual given the proximities and characteristics of the countries in the Region (see Figure 4). Migration flows are low and are comparable to other similar regions. Until recently, migration from Poland and the Baltic countries to the UK and Ireland was higher than migration to Baltic Sea Region neighbours. There are several overlaps as regards export specialisations between countries in the Region, which suggests a strong potential for close economic integration in these parts of the economy (see Figure 5).

Figure 4: Share of Inward FDI from other BSR Countries

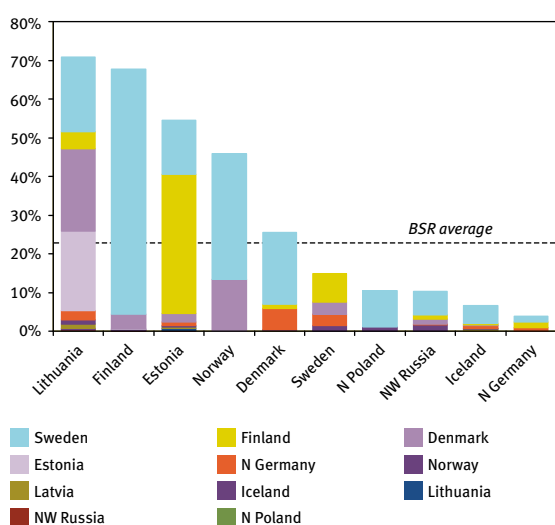
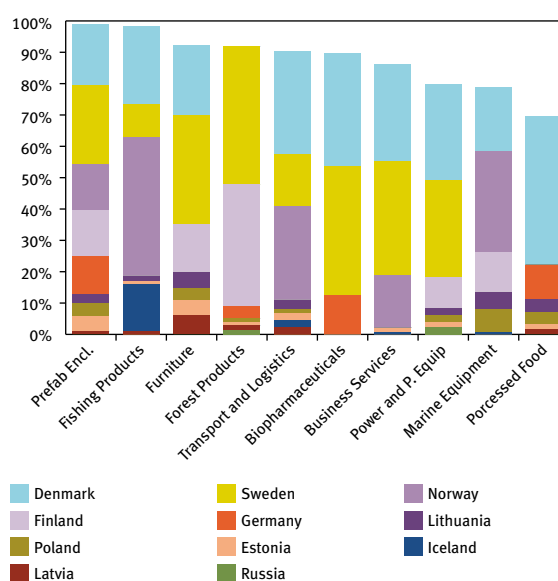


Figure 5: Cluster Specialisation Overlaps



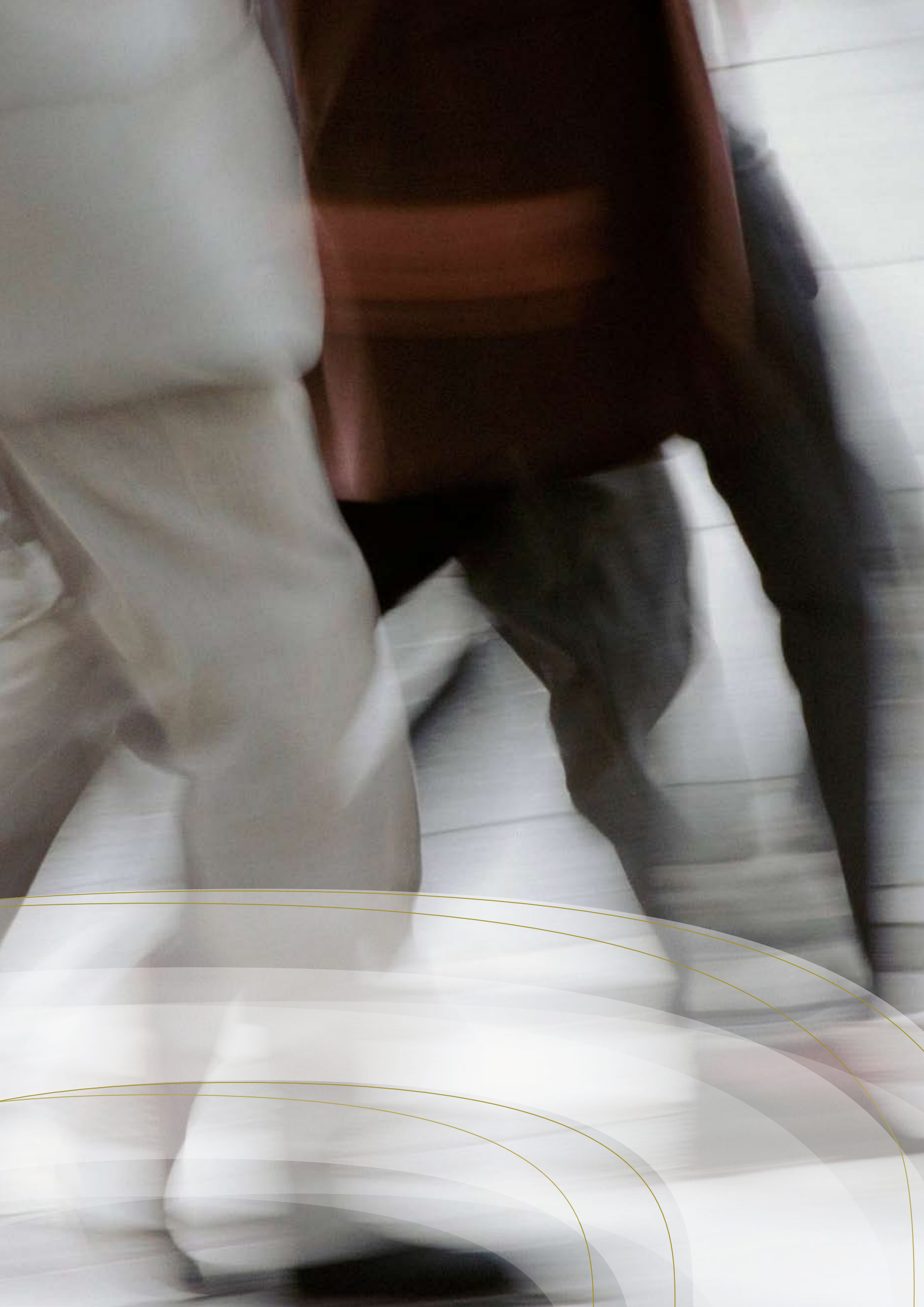
The ultimate stage of regional integration is realised if companies perceive the market as integrated and unified. This is clearly not yet the case for the BSR, even in sectors where the same companies operate across the entire Region. Natural barriers such as language, customs, and incumbent market structures remain. Despite the almost universal application of EU common market rules across the Region, there are also many administrative rules and practices that work against full market integration.

There are a large number of institutional platforms for collaboration on economic issues in the Baltic Sea Region. There is history of close collaboration between the Nordic countries that dates back much farther than 1990. Since 1990 the CBSS and other institutions were established to incorporate the Central and Eastern European parts of the Region. The emergence of the EU during the last decade has added another layer of collaboration. The EU Strategy for the Baltic Sea Region provides further opportunities for integration. While the public sector (and to some degree NGOs) have created strong institutional linkages across the

Region, there is no organisation that represents business interests in the context of the Baltic Sea Region.

Conclusions

The Baltic Sea Region has a strong position on global markets, based on various competitive advantages and a high level of integration into the global economy. Some of the growth in recent years has overshoot these fundamentals – the countries to which this applies are currently the collateral victims of the global economic crisis. Yet these fundamentals provide a platform to regain growth at the Top of Europe. If the Region can address the competitive challenges that remain, at both a national and regional level, it will stand a better chance of emerging from the crisis in a strong position.





PART TWO

Building Blocks from the BSR InnoNet

Part Two presents some of the results and tools from the Baltic Sea Region Innovation Network (BSR InnoNet) – which serve as building blocks for continued activities aimed at making the BSR a more prosperous place.

The BSR InnoNet project has been financed by DG Enterprise and Industry, under the PRO INNO Europe programme. Project activities were launched September 1st 2006 for a three-year period. The project's partners and core actors represent the national policy level from the 10 BSR countries.⁴

The vision of the project and its core participants has been not only to promote transnational cooperation based on the triple-helix concept, but also to develop real transnational collaboration among countries and cluster actors in the Baltic Sea Region on areas and themes that are beneficial for the participating actors.

Based on this vision, the project has had the following three core objectives:

- 1 To establish a shared conceptual framework for cluster policy formation, evaluation and operational activities across national borders in the Baltic Sea Region;*
- 2 To establish one or more transnational innovation programme(s) (focused on cluster development) among partner countries in the Baltic Sea Region; and*
- 3 To serve as a European learning case on the Baltic Sea Region.*

Over the past three years the BSR InnoNet project has, succeeded in developing and implementing transnational cluster analysis, capacity building activities, innovation and cluster linkages and policy frameworks. A description of the activities, methods and lessons learned for each of these areas is presented in separate chapters.

Chapter 2.1 presents an overview of the analytical work within the project, and introduces the cluster benchmarking model which is currently being piloted.

Chapter 2.2 presents an overview of the practitioner's work within the project, including the activities and lessons learned from the capacity building and pilot innovation and cluster programme task forces.

Chapter 2.3 presents an overview of policymakers' work within the project, including the characteristics of policy cooperation within the BSR InnoNet project.

⁴ **Denmark:** Ministry of Economy and Business & Danish Agency for Enterprise and Construction (FORA); **Estonia:** Ministry of Economics and Communication & Enterprise Estonia; **Finland:** Ministry of Economy and Regional Development & Tekes, Finnish Funding Agency for Technology and Innovation; **Germany:** Mecklenburg Vorpommern, Ministry of Economics, Labour and Tourism & AT Kuste, Germany; **Iceland:** Ministry of Industry and Commerce & RANNIS, Icelandic Centre for Research; **Latvia:** Ministry of Economics & Latvian Investment and Development Agency; **Lithuania:** Ministry of Economy & Lithuanian Innovation Centre; **Nordic Council of Ministers;** **Nordic Innovation Centre;** **Norway:** Ministry of Trade and Industry & Innovation Norway; **Poland:** Ministry of Economy; **Sweden:** Ministry of Enterprise, Energy and Communication & VINNOVA, Swedish Governmental Agency for Innovation Systems

2.1 Fact-basing Cluster Policy in a Transnational Context

By Emily Wise,⁵ Andreas Graversen and Markus Bjerre, FORA

Introduction

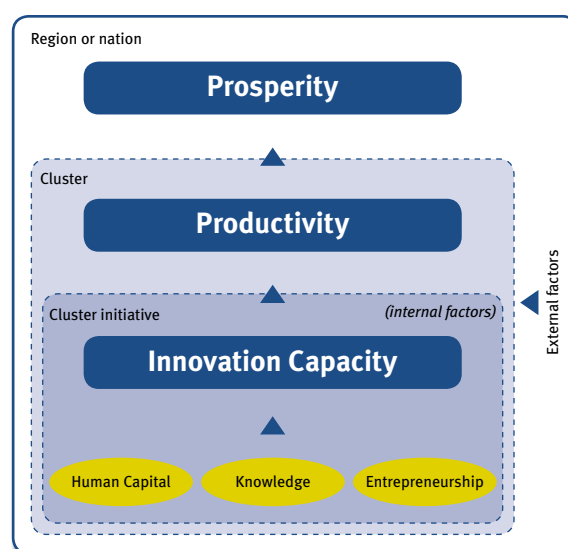
The global map of businesses is increasingly dominated by geographically concentrated groups of companies and related economic actors and institutions. These groupings are often referred to as clusters. Companies within clusters are remarkably good at creating jobs, high wages and surplus. Their success is attributed to the fact that clusters provide an effective framework to spur innovation and competitiveness. Actors draw on advantages that arise from mutual proximity and connections. These are elements that attain increasing importance in the context of a more 'innovative society'.

The key competitive factor is no longer the price/quality ratio, but the ability to use competencies and knowledge to launch new innovations. Hence the dynamics in clusters are changing and a competitive innovative environment is more essential than before. Various international studies have emphasised that innovation and economic growth are positively influenced by certain dynamics of the clustering process and by clusters with higher levels of specialisation (see Figure 1).

Analyses of clusters in the Baltic Sea Region have reinforced others' findings. Specialisation has a significant positive effect on productivity and an additional positive effect on general regional economic wealth. This means that BSR companies in specialised clusters tend to be more successful than other BSR companies and that this success is translated into positive spillover effects for the surrounding region. Hence **clusters DO matter**.

Clusters are not a new phenomenon. They have existed since the rise of civilisation and co-evolve naturally with business activities. This means that 'creating clusters' is not an easy task for policymakers or public institutions – attempts to form new cluster strongholds have all too often failed. Despite the fact that cluster creation is not a plausible means for policymakers to enhance competitiveness and economic growth, public support that strengthens the positive dynamics in existing clusters is generally

Figure 1: Cluster dynamics



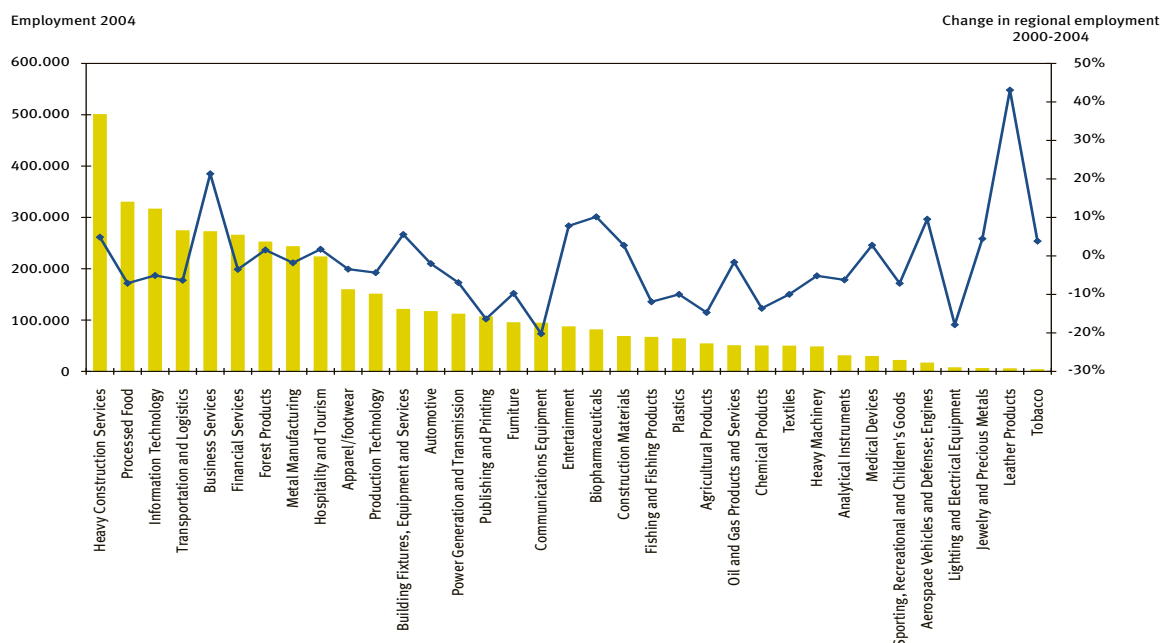
Source: Presentation by Martin Thelle at BSR InnoNet Workshop
'Using Statistical Data for Policymaking' (May 2007)

welcomed. Initiatives that aim to improve the institutional context for innovative activities can stimulate better performance in existing clusters. **Cluster policies seem to be motivated.**

Since clusters matter, and given that the positive dynamics in existing clusters can be supported and strengthened, several countries and regions have invested increasing amounts of public resources in specific initiatives and programmes aimed at developing competencies and knowledge in clusters and knowledge units. Furthermore, there is an increased demand from policymakers to evaluate the success of their investments to enable fact-based policy formulations.

⁵ Research Policy Institute, Lund University

Figure 2: Change in BSR cluster employment (2000–2004)



Source: *The BSR Cluster Database, 2009*

From a public organisations/policymaker perspective, it is crucial to illustrate whether the public has a role to play in spurring and developing innovative and competitive clusters. It is also crucial to study how this role may be addressed most effectively. Hence two central questions to address are:

1. **What are the impacts of policy instruments, initiatives, and programmes on cluster development?**
2. **What are the implications for national/regional cluster strategies?**

One means of addressing these questions is systematic international benchmarking. This means testing the links between cluster performance and what may be referred to as cluster-specific framework conditions or 'the cluster environment for innovation'. Analysis of specific framework conditions in regions/countries with the most successful cluster(s) provides unique possibilities for cross-fertilisation of policy ideas and initiatives.

The analysts' working group of the BSR InnoNet project has addressed these issues via three analytical tasks:

1. Development of the BSR cluster map – to show how clusters are located in the region and how their value is created;
2. Identification of cluster potentials – to demonstrate the potential for cluster improvements and areas for collaboration in the BSR; and
3. Evaluation of policy initiatives – to find effective cluster policies in the BSR.

An overview of the various analytical tasks and some preliminary findings are presented in the following sections.

Clusters in the BSR – what do the facts tell us?

Public sector activities to support clusters – cluster policies – often aim to improve the performance and innovative potential of existing clusters, which in turn boost economic productivity and growth. Hence questions posed by policymakers include: What clusters exist in our region/country? How do they perform relative to other clusters? These questions can be addressed on many levels: a regional (NUTS-2) level, a national level, or even a multinational level (macro-

regional or EU-wide). Figures 2-5 provide illustrations of clusters in the BSR on a macro-regional level.

A typical starting point is a cluster mapping – normally using employment data to illustrate size and growth dynamics over time. Figure 2 above illustrates cluster employment⁶ in the BSR, and how cluster employment levels have changed during the period 2000–2004. The size of the cluster (based on employment) is represented by the height of the bars (with the scale on the left axis). Employment growth/decline rates are represented by the blue line (with the scale on the right axis).

The figure shows that the largest clusters in the BSR (i.e. those with the highest employment) are heavy construction services, processed food, and information technology. Leather products and tobacco are among the smallest clusters in the BSR (lowest levels of employment). Business services, biopharmaceuticals and entertainment clusters stand out as the three clusters that have experienced the highest rates of employment growth⁷.

This information shows clusters that are large and growing, but more information is needed to identify those areas in which the BSR performs better relative to other geographical locations. Data on specialisation is also required.

The European Cluster Observatory provides information on cluster size, specialisation and focus (based on employment data). The specialisation measure compares the proportion of employment in a cluster category and region to the total employment in the same region, and the proportion of total European employment in that cluster category to total European employment. Put simply, the measure highlights cluster specialisation in a specific region relative to Europe. If a region is more specialised in a specific cluster category than the overall economy across all regions, it is likely an indication that the cluster has attracted related economic activity from other regions and that spillovers and linkages will be stronger.⁸ Therefore, companies within more specialised clusters would be

expected to show better performance than companies in less specialised clusters.

Figure 3 provides an illustration of cluster specialisation in the BSR. The level of specialisation (measured by the location quotient) is shown on the y-axis, and the various clusters are shown on the x-axis. The figure illustrates that the BSR is most specialised in the fishing, forestry, oil and gas, and communications equipment clusters. Policymakers can use this information to identify macroregional ‘positions of strength’. However, this information should be examined and understood in a broader context – particularly given outsourcing trends. ‘Positions of strength’ may be in areas where employment has been outsourced to lower-cost regions, and where the ‘home region’ has focused on higher value-added activities (generally reflected in wage levels). If this is so, the region’s ‘positions of strength’ will not necessarily identify themselves in the picture presented in Figure 3 below.

Cluster size and specialisation measures are based on employment data. Employment is an important measure of performance, but other measures are required. In order to develop a more nuanced case for transnational collaboration, policymakers require information on the most productive clusters in the BSR and on how productivity levels have changed over time. Hence additional data is needed. The BSR cluster database includes both employment and productivity data⁹.

Figure 4 below illustrates the dynamics of cluster employment and wage levels in clusters in the BSR (during the period 2000–2004). The size of the cluster (based on employment) is represented by the size of the bubbles. The rate of employment growth or decline is represented by the placement of the bubbles along the x-axis¹⁰.

The rate of increase or decrease in wages (relative to average wage levels in the BSR) is represented by the placement of the bubbles along the y-axis. In the BSR, the average wage increase across the 35 clusters was 13% during

6 Clusters are defined based on the research of Michael Porter (2003) *The Economic Performance of Regions*, and the translation of the ‘cluster code’ done by Lindqvist, Malmberg and Sölvell (2002). Based on this research, there are 38 statistically-defined clusters. Additional research done within the BSR InnoNet project has resulted in the use of 35 cluster categories in the BSR.

7 Except for leather products which experienced a very significant increase. The leather products cluster is, however, a very small cluster which means that even small changes in employment will seem dramatic in relative terms.

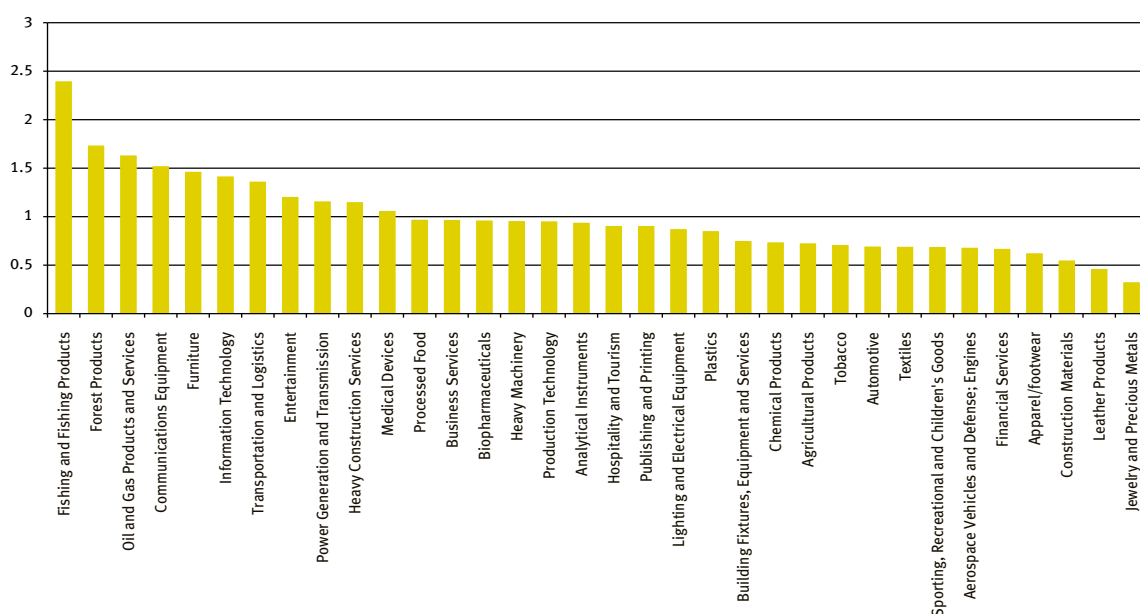
8 Extracted from the European Cluster Observatory methodology section

9 Wage levels are used as a proxy for productivity in the BSR cluster database.

10 Cluster bubbles placed to the right of the mid-line have experienced an increase in employment; cluster bubbles placed to the left of the mid-line have experienced a decrease in employment.

Figure 3: Cluster specialization in the BSR

Specialization, 2006



Source: European Cluster Observatory

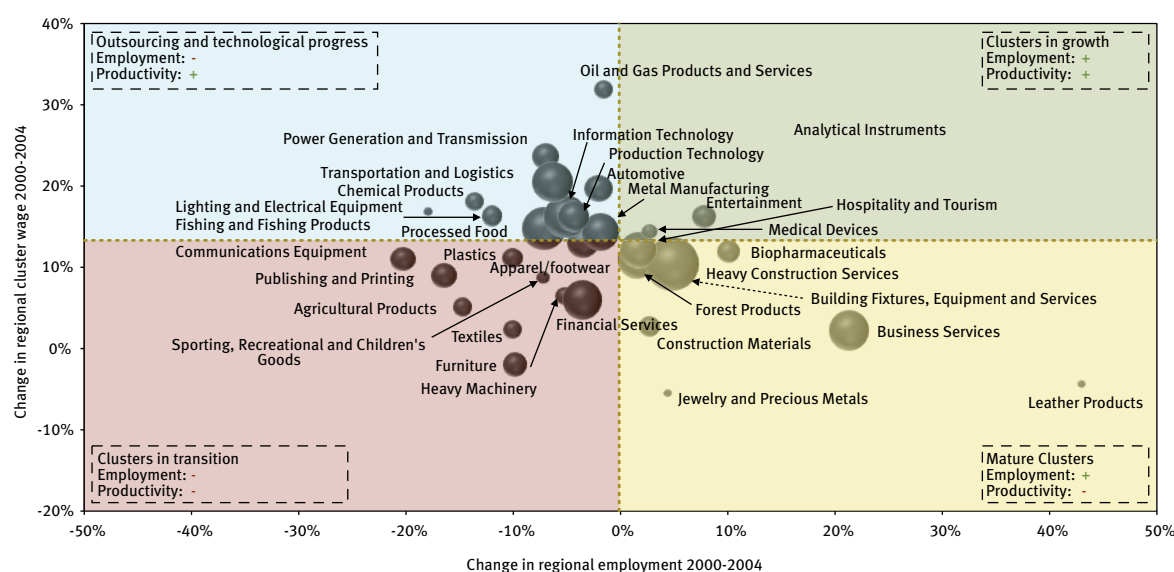
this period. All clusters placed above the line experienced wage increases greater than 13%, whereas those below the line experienced wage increases less than 13%. With wage increases greater than 13%, clusters above the line experienced a real increase in productivity.

The upper right corner of the figure (the green quadrant) consists of clusters that have experienced growth in employment and productivity higher than the regional average. These are characterised as 'growth' clusters.

The lower right corner (yellow quadrant) contains clusters that have experienced positive employment growth and below-average productivity growth during the given period. Lower than average productivity growth may occur for different reasons, and clusters in this quadrant are characterised as 'challenged' or 'mature' clusters. Challenged clusters are

clusters which have attracted more employment but have not been able to match the general growth in productivity, while mature clusters are clusters which previously have had a high productivity growth but now have reached a higher level with a lower possibility of maintaining the high level of productivity growth within the period.

The upper left corner (blue quadrant) consists of clusters that have experienced a decline in employment, but higher than average productivity growth. These clusters have typically outsourced part of their production (during the given period) or introduced new technology in place of manpower. A decline in employment is not necessarily negative since clusters may be in the process of making operations more productive, by keeping their high-end of the value chain and outsourcing the low productive parts of production, for example.

Figure 4: Change in BSR cluster employment and average wage (2000–2004)

Source: The BSR Cluster Database, 2009

The lower left corner (red quadrant) consists of clusters that have experienced a decline in employment and lower than average productivity growth. These are characterised as 'clusters in transition' i.e. clusters which may be phasing out or about to explore new fields of expertise.

This additional information provides a more nuanced illustration of the BSR's cluster portfolio, but it does NOT indicate why these changes have occurred, whether or not policy action is beneficial, or suggest what actions to take. Cluster maps can identify the starting point for action by indicating where one should look. However, strategies for action should be based on more highly-detailed analyses.

Facts as Inputs to Transnational Activities

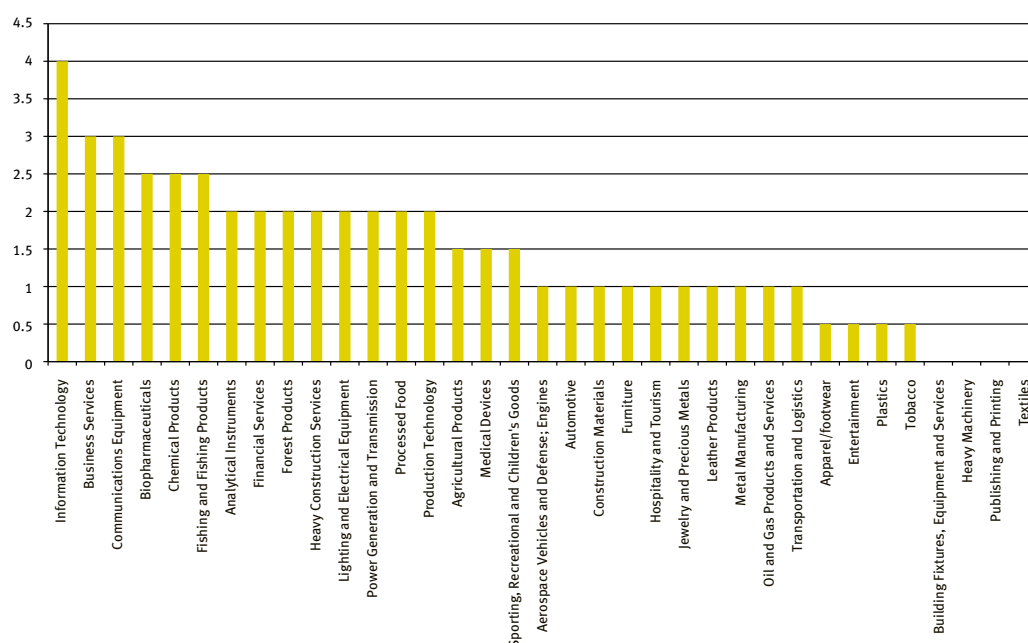
One objective of the BSR InnoNet project was to establish a transnational innovation programme. In order to develop and test transnational cluster activities, it was necessary

to select a number of 'target clusters'. Another objective of the BSR InnoNet project was to develop and test a model for benchmarking clusters. In order to pilot this model, it was again necessary to select a 'target cluster'. Analysis of statistical cluster data provided one of the inputs to the decision-making process in both of these cases.

Several criteria were used to identify 'target clusters' for each of the two above-mentioned transnational activities:

- Forming a BSR stronghold (relative specialisation compared to EU total);
- Representation in the BSR (critical mass and broad representation of employment);
- Learning potential between countries (variation in productivity across regions);

Figure 5: Summary of “Cluster Criteria” for the BSR



Source: Draft Internal Summary Report, WP4, BSR InnoNet, March 2008

- Importance in the new knowledge economy (based on European Trend Chart);
- Important driver of regional/national economic performance (cluster's share of total NUTS-2 regional productivity and employment growth); and
- High priority in a regional/national policy context.

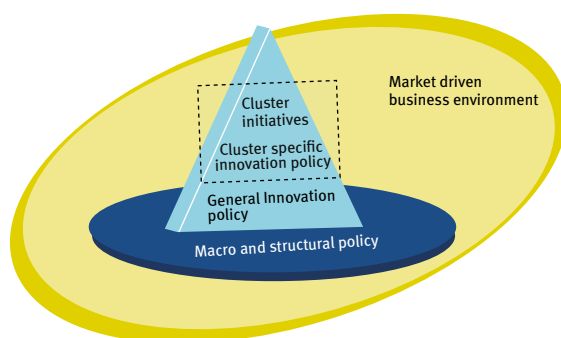
Clusters in the BSR were analysed based on an equal weighting of each of these criteria. The result was a ranking of clusters in the BSR (see Figure 5).

This information was used as an input to select targets for transnational cluster pilot activities (chapter 2.2) and to select a target cluster (the life science cluster) to pilot the cluster benchmarking model. The model is described in the next section.

The Cluster Benchmarking Model and Pilot Study

When comparing cluster performance across regions, it is obvious that there are huge differences in terms of absolute levels of employment, specialisation and real wages and in terms of the growth rates. How can these differences be explained? Why are some regions very good at promoting successful clusters and others not?

There are of course historical and cultural factors that affect regions'/countries' cluster performance. Varying market dynamics and general framework conditions also explain some of the differences in cluster performance as do the cluster-specific framework conditions (cluster innovation policy and cluster programmes/initiatives). Regions that demonstrate an awareness of their strengths are able to introduce targeted innovation policies and improve the innovative environment for clusters (see Figure 6).

Figure 6: The cluster environment

Source: FORA

Despite the fact that numerous studies have illustrated the importance of general framework conditions (e.g. macro-/structural policies and innovation policy), there is a lack of tools to illustrate the linkages between company/cluster performance and cluster-specific framework conditions.

The purpose of the benchmarking model developed within the BSR InnoNet project is to examine whether cluster-specific framework conditions (cluster-focused innovation policy and cluster programmes/initiatives) have any demonstrable impacts on cluster performance. By utilising benchmarking and peer-reviews, clusters in regions with less-favourable framework conditions can learn from their counterparts from regions with better framework conditions.



Elements of the Cluster Environment

The cluster environment consists of three dimensions – the market driven business environment, the basic policy framework and the innovation policy framework.

The *market-driven business environment* encompasses the policy framework and includes factors such as suppliers, local competition, inputs, labour market, etc. The market-driven business environment can be seen from a policy perspective as a set of 'external' factors that affect the competitive advantages of clusters. These factors are not typically part of the policy framework but are equally important to cluster competitiveness.

The *basic policy framework* is based on macro- and structural policies. These policies are the foundation on which industries operate. Macro- and structural policies must be effective and well-functioning to provide the best competitive platform to industries and clusters.

In addition to the basic policy framework is the so-called *pyramid of innovation policy*. Global competition is based on innovation and the ability to engage in innovative activities, providing impetus to the need for well-designed innovation policy.

The *bottom layer* of the innovative pyramid represents *horizontal or general* innovation policies, including national and regional innovation programmes and innovation systems.

The *middle layer* of the pyramid represents *cluster-specific innovation policy* – policies targeted at the innovative competitiveness of clusters.

The *top layer* of the pyramid represents *cluster programmes or cluster initiatives* – policies that focus on the organisation of and collaboration between companies and supporting actors in specific cluster initiatives.

It is important to stress that all the elements in the policy framework and the market-driven business environment serve as a base for development of clusters. And the initiatives targeted at these elements can be seen as an iterative process over time to improve the cluster environment.

The cluster benchmarking model methodology¹¹ is based on the hypothesis that cluster performance is dependent on four dimensions (or drivers) of cluster-specific framework conditions: human resources; knowledge; entrepreneurship; and collaboration between companies. Clusters with better framework conditions will achieve higher levels of performance. Other dimensions may be important for specific clusters, and can be included in the methodology¹². The structure of the cluster benchmarking model is illustrated in Figure 7.

Each of these drivers is an umbrella term for a number of related policy areas. *Policy areas* are structures that policy-

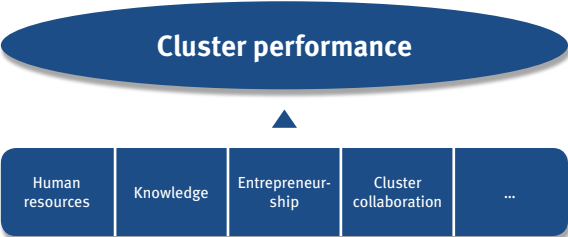
makers have some ability to influence in order to improve overall performance i.e. *areas where policy can make a difference*.

For example, policymakers can help to secure cluster-specific educational and research resources for universities; establish well functioning financial structures for entrepreneurs in the cluster; and provide professional advice within their line of business. However it is not always easy to evaluate policy areas. Hence a set of indicators is designed for each policy area in order to provide the best possible evaluation of the 'state of the policy area' (see Figure 8).

11 This methodology builds on FORA's work in the BSR-InnoNet project; extensive work performed by the OECD (e.g. 'OECD Growth Project: Beyond the Hype'); and FORA's work in developing the Innovation Monitor over the past 5 years.

12 Work on the life science cluster in the BSR has shown that life science companies are highly influenced by cluster-specific rules and conditions for clinical testing, rules for bringing a product to the market, etc. Hence a fifth driver/framework condition entitled 'Regulatory aspects in life science and cluster-specific procurement schemes' was included.

Figure 7: Structure of the cluster benchmarking model

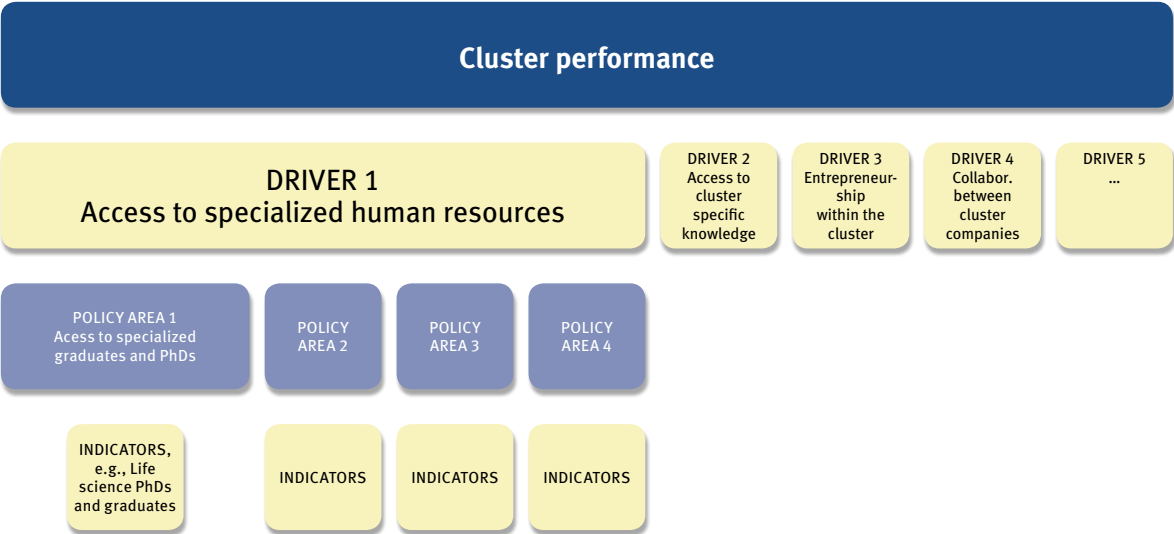


One challenge in benchmarking cluster-specific framework conditions is that existing statistical data is somewhat limited. Hence it is necessary to supplement hard data with other sources of facts in order to illustrate precisely which cluster-specific framework conditions affect cluster performance. Surveys have been used in the BSR InnoNet pilot to achieve this task.

An overall description of each of the four main drivers is presented in the box below. Survey questions were structured according to the various policy areas.

Source: FORA 2008

Figure 8: Indicators that evaluate the human resource driver



Source: FORA 2009



The four drivers of cluster-specific framework conditions

The cluster-specific framework conditions in a given region are driven by four (or more) policy areas: human resources; knowledge; entrepreneurship; and collaboration between cluster companies.

Human resources

- Access to specialised human resources is crucial to the success of companies in all clusters. The driver consists of four policy areas:
- Access to specialised graduates and PhDs
- Collaboration on developing new educational programmes
- Access to experienced and specialised employees
- Employee and management culture in companies

Knowledge

Access to knowledge in the form of cutting-edge research is of central importance to the success of many companies in the cluster. The driver consists of two policy areas:

- Supply and quality of knowledge and advisory services
- Collaboration on knowledge creation

Entrepreneurship within the cluster

The number of new companies in a cluster and the innovativeness/growth of these companies has a great influence on the success of the cluster. Two factors influence the entrepreneurship of a cluster:

- Start-up rate/fast-growing cluster companies
- Access to specialised capital, incubators, etc.

Collaboration between cluster companies

Collaboration between the companies in the cluster – and between companies and knowledge institutions – is important for the success of the cluster. This interaction seems to drive innovation as it increases the likelihood of positive network externalities. Collaborative activities may exist at varying levels in different clusters – hence the model accounts for different phases of collaboration. The hypothesis is that a high degree of collaboration helps to improve the cluster's chances of higher innovation and growth. There are three factors driving collaboration between cluster companies:

- Rivalry/industry organization
- Soft (informal) networks
- Hard (formal) networks

The cluster benchmarking model is currently being piloted on life science clusters in the Baltic Sea Region. In order to examine the relationship between cluster-specific framework conditions (the business environment of a specific cluster) and cluster performance, **survey data on cluster-specific framework conditions has been collected** from representatives of the life-science cluster in the 31 regions

of the BSR. Surveys were sent to representatives in three target groups: companies, knowledge institutions and experts. Experts and knowledge institutions were identified through the snowball method¹³, and companies were identified through business databases (complemented with information provided by trade union and/or industry organisations). An overview of the (approximately 5000)

13 The 'snowball' method refers to a research method used to identify the composition of a group of people. The method involves identifying a small group of individuals (that are considered definite 'members' of the target group) and asking them to identify other individuals of the group. The method is repeated until all the members of the group in question have been identified.

survey recipients in the 31 NUTS-2 regions of the BSR is provided in the table below.

Surveying each of these three target groups and compiling responses will provide invaluable information on the cluster-specific framework conditions in each of the BSR regions. Once survey responses are compiled, the final step is to **analyse the relationship between cluster-specific framework conditions and cluster performance**. The first and most important question to address is: *Do the (five) drivers of cluster-specific framework conditions have a positive impact on cluster performance?* If a positive relationship exists, then more detailed analysis can be made on the relationship between each of the drivers and cluster performance.

The pilot is still underway, so analytical results are not yet available. However the implementation of the pilot has already provided a number of important findings. These are presented in the next section.

Some Preliminary Lessons Learned

Besides specific analytical results, the analytical work of the BSR InnoNet has provided useful information regarding the use of data for fact-based cluster policies in a transnational context¹⁴.

Lesson #1: Tools and methodologies that help to formulate fact-based cluster policy should utilise as broad a base of information as possible

In order for cluster analytical tools to be useful – for policy-makers as well as other user groups – standardised cluster data on a range of indicators is needed. Data should include both indicators of cluster performance (employment, wage/productivity, and firm-level data) and indicators of cluster-specific framework conditions¹⁵.

Lesson #2: Analytical frameworks should be based on a combination of top-down and bottom-up information since both provide valuable and complementary insights

Given that there is very limited standardised and internationally comparable data on cluster-specific framework conditions, it is necessary to collect this data. Surveys are an appropriate methodology, although centralised surveys

Table 1: Overview of survey recipients

	Knowledge		
	Companies	Institutions	Experts
Sweden	2007	264	75
Denmark	1124	61	23
Norway	789	47	24
N-Germany	749	70	4
Finland	532	154	20
Estonia	217	25	4
Lithuania	133	124	13
Latvia	128	68	4
Iceland	73	3	4
N-Poland	29	39	-

Source: FORA 2008

Source: FORA 2008

are complex and often expensive to implement. A possible alternative is to provide a standard survey framework which individual regions or clusters have the possibility to facilitate data collection.

Lesson #3: Tools that provide inputs to the policy process should be user-friendly, flexible and reliable

Different tools and methodologies should be usable for different purposes and at different stages of the policymaking process. Analytical tools should also be based on a combination of centralised, standardised, and internationally comparable frameworks with flexible, reliable, and easy-to-use platforms. Users should be able to choose the composition of the cluster/sub-cluster, the indicators they wish to include in the analysis, and even the types of analysis (or algorithms) they wish to apply to the chosen data. The tool should also allow the user to generate standard types of output (tables, graphs, maps and other figures).

¹⁴ These lessons have been previously discussed and presented in connection to the BSR InnoNet-led working area of the European Cluster Alliance 'Measuring the economic impact of cluster policies'.

¹⁵ Also referred to as the 'business environment for clusters'

2.2. Tools for Transnational Collaboration

By Helene Vogelmann, VINNOVA

Introduction to the Pilot Programmes of the BSR InnoNet

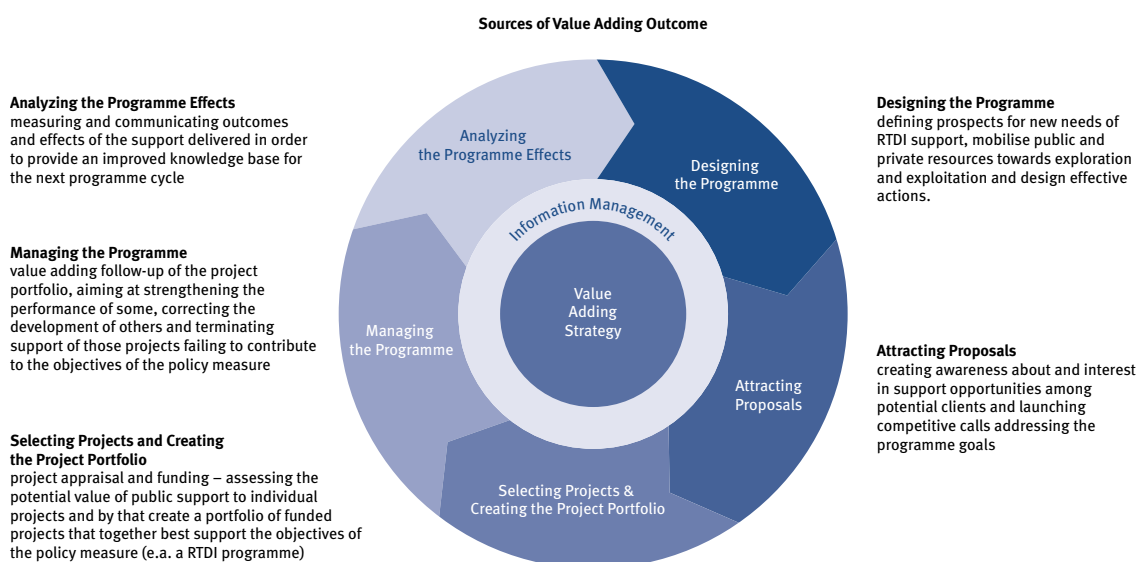
In 2007, the Management team of BSR InnoNet conducted national consultations¹⁶ and two working group meetings¹⁷. These events were attended by policymakers, analysts and practitioners and sought to establish the needs and status of cluster and innovation programmes, in addition to the individual needs of the cluster teams and managers. As a result, concept proposals were initiated. This included straightforward plans for transnational support programmes and pilots as an incremental learning methodology. As a model, the programme- and learning

wheel of the TAFTE organisation¹⁸ was used as an inspiration, (see Figure 1):

The objective of the concept proposals was to mimic a full-scale process from design of support and pilot programmes to the last step of analysing the effects, with a value-added strategy and with the focus and main objective in order to systemise learning processes.

The concept of launching activities within support programmes and transnational pilots on cross-border cluster cooperation was inspired by the experiences from Norway

Figure 1 TAFTE 2008 on programme design



16 Mapping of national cluster policies and programmes in the Baltic Sea Region, Parts One and Two, June 2007.

17 Baltic Sea Region (BSR) InnoNet transnational support programmes i.e. support activities and transnational pilot programmes (WP3) Copenhagen, May 2007.

18 TAFTE model, (The Association For Technology Implementation in Europe), on program design

Figure 2 Overview of needs expressed during national consultations

	BSR COUNTRIES									
NEEDS	Denmark	Estonia	Finland	Germany	Iceland	Latvia	Lithuania	Norway	Poland	Sweden
Training – Cluster development										
- Cluster facilitation	x	x		x	x	x	x	x	x	x
- Policy makers	x	x	x		x	x	x	x	x	x
- Handbook and other resources		x		x						
- Next practice (the innovative dimension)	x		x		x			x		x
Program design										
- Training	x	x				x	x	x	x	x
- Knowledge sharing/Consultation	x	x		x	x	x	x	x	x	x
- Handbook and other resources							x			
Good-practice examples										
- Cluster programs	x	x			x	x	x		x	
- Sectorial Cluster Initiatives		x		x	x	x	x		x	
- Intersectorial Cluster Initiatives	x	x	x	x	x	x	x	x	x	x
- Benchlearning (of clusters in BSR)	x			x				x	x	x
Institutional framework and strategies										
- Knowledge sharing/Consultation	x	x	x	x	x	x	x	x	x	x
- Awareness raising (whole of triple helix)	x	x			x	x	x	x	x	x
- Funding (new sources including EU)		x		x		x	x		x	x
- How to handle transboundary issues	x	x	x	x	x	x	x	x	x	x
Analysis										
- Identification of emerging sectors	x		x					x		x
- Alternative to the Porterian analysis	x		x					x		x
- Mapping of clusters in BSR	x		x	x	x	x	x	x	x	x
Bi- or trilateral needs	x	x		x		x	x	x	x	x

in the Arena programme¹⁹ as well as by Sweden in the VIN-NVÄXT programme²⁰. The main philosophy was to “kick start” the pilots on cluster collaboration and to meet the needs expressed in national consultations on support programmes

i.e. capacity building programmes. In both Norway and Sweden, capacity building and a process-oriented approach has been used with great success. The activities on capacity building have, among other things, led to cluster facilitators

¹⁹ www.invanor.no

²⁰ www.vinnova.se

Figure 3 Cluster and Innovation Programme Typologies in the BSR



having tools for developing cluster initiatives, knowledge on how to create common goals and visions when it comes to different triple helix actors, and a collegial network of cluster facilitators in the countries. The approach has very much focused on strengthening individuals in their roles as entrepreneurs and managers of long-term system-oriented initiatives. Experience is that capacity building is an important part of cluster development, and that capacity has to be built within cluster initiatives (and also on regional and national levels).

Transnational support programmes refer to awareness-raising, training and capacity-building activities in the field of cluster management and program design.

The summary report of the national consultations highlighted that these kind of support activities were in high demand as shown in Figure 2.

Transnational pilots refer to short-term projects or mini programmes that test different structures or components of a transnational cluster and innovation programme. Transnational pilots could contribute valuable first-hand

knowledge via experiments with different approaches on clusters cooperating over national borders. Both support activities and pilots were assumed to contribute to the overall goal of the BSR InnoNet project i.e. to develop one or several models for a long-term transnational framework of programs and activities in the field of cluster initiatives. One of the main findings in the national consultations was that different rationales and typologies regarding cluster and innovation system programmes were to be found in the 10 BSR countries analysed. These were grouped into four types (see Figure 3).

The assumption was made by the working groups and Steering Committee that the most promising approach could be to create pilots on cluster collaborations targeting sector-based cluster innovative inter-sector clusters/ themes and innovative networks of clusters. It was thus decided that a design and implementation structure for transnational support activities should be implemented via various task forces.

Two Pilot Programmes of the BSR InnoNet

The concepts described above could be seen as frameworks and starting points for the creation of two task forces:

- The task force on capacity-building programmes²¹; and
- The task force on transnational pilot programmes (i.e. consortia of BSR cluster initiatives²²).

The task forces added an operational level to the project with the mandate of formulating two pilot programmes 2008–2009. Financing of the pre-pilot period was provided mainly by contributions from partners within the BSR InnoNet project. The two task forces presented their pilot programmes in spring, 2008. The pilot programmes were fully financed by contributions from partners and from the Nordic Council of Ministers. In total approximately 800.000 EUR was raised.

The two pilot programmes that will run until end September 2009 are:

- The pilot capacity-building programme²³; and
- The pilot on innovation and clusters²⁴.

21 Participating countries are Norway, Denmark, Sweden, Island, Latvia and Sweden.

22 Participating countries are Poland, Lithuania, Latvia, Island, Norway and Sweden

23 Project plan BSR InnoNet WP3 – Pilot Capacity Building programme, 21st January, 2008

24 Project plan BSR InnoNet Wp3 – Pilot on Innovation and Clusters, 21st April, 2008

The overall aim of the two pilot programmes is to approach learning from a bottom-up perspective based on individuals and operative cluster initiatives within the Baltic Sea Region. The methodology could be referred to as 'learning-by-doing' (and sometimes fighting).

It was foreseen that the two pilot programmes would provide information on whether BSR countries can attain a stronger position in Europe via collaborations in clusters and by enhancing the collective knowledge base, thereby

enhancing their global competitiveness. The programmes also sought to examine whether factors like geography, sector-based cluster collaborations and innovative cross-sector collaborations (thematic collaborations between cluster initiatives) matter in terms of efficiency and outputs/value added. The pilot programmes also addressed more specific issues that will be discussed in the following sections. Lessons learned so far from the two pilot programmes are also presented.



Capacity Building: Clustering is a people thing!

By Eivind Petershagen and Trine Steen, Innovation Norway, Helene Vogelmann and Dan Sjögren, VINNOVA

The Process

Bold visions and action plans for cluster initiatives that are put into practice via well-designed cluster policies may be useless and even counter-productive if people don't have the knowledge and skills to use them. For this reason, the task force on capacity building designed and implemented various training modules and actions during 2008 and 2009.

Systemic policy approaches and programmes are challenging for politicians, ministerial officials, innovation agencies and cluster initiatives (i.e. the primary target for the public investments).

Changing and renewing industrial structures require 'multi-goggles' as does collaboration between industry, academia and the public sphere. Individual, organisational and systemic level changes are difficult to predict and instigate. Such changes do not occur mechanically, logically or theoretically but rather via manifestations of human and individual will power. Hence clustering is truly a people thing!

The national summary report²⁵ and the BSR survey to member countries showed that there is a need for training and capacity building modules. There is a need for increased knowledge and common framework building. In Norway and Sweden, modules of this sort have traditionally adopted a systemic approach via cluster and innovation programmes that focus on 'hard processes' (e.g. financing R+D, product development activities, branding, etc.) and 'supporting soft processes' (e.g. training, network support functions, etc.). Others use capacity building activities more randomly. However, all agree that the most important factors for successful implementation of programmes and initiatives are knowledge sharing and cross-boundary networking.

The task force on capacity building has included participants from Latvia, Denmark, Sweden, Iceland and Norway. Innovation Norway has been the task force leader and project manager. The task force members included:

- Eivind Petershagen and Trine Steen, Innovation Norway;
- Lotte Langkilde, Danish Enterprise and Construction Authority;
- Dan Sjögren, VINNOVA, Sweden;
- Thorvald Finnbjörnsson, Rannis, Iceland; and
- Maris Elerts, Investment and Development Agency of Latvia.

National consultations, bench learning and mapping²⁶ have confirmed the need for capacity building. The task force identified two key target groups for capacity building:

- Cluster facilitators and managers; and
- Policymakers and civil servants.

The cluster facilitators and their needs were met by the design of the "A-modules". The policymakers in the BSR region were approached by the design of the "B-modules" with the ambition to create an understanding of how policy frameworks can promote innovativeness and competitiveness in participating countries and in the BSR as a whole.

The purpose of the capacity building activities in both modules is to increase the number of trained professionals, either being facilitators of clusters, implementing agencies or policymakers on a regional or national level, and to increase their ability to efficiently perform their task with updated and an enhanced knowledge base and tools.

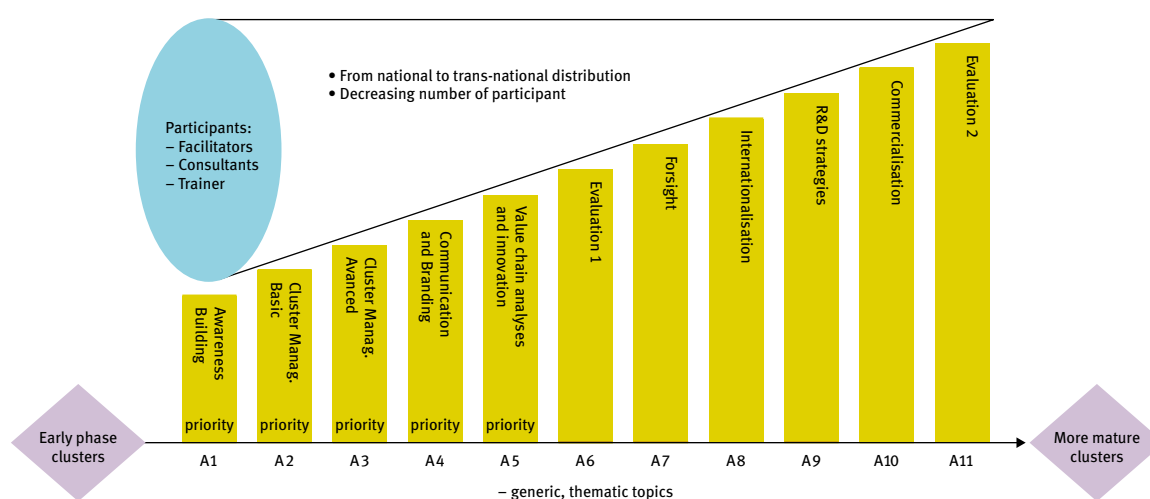
Hence, the capacity building activities are packaged as modules: A modules 1–11 and B modules 1-4 (illustrated in the figures below).

The two sets of modules were designed with the approval of the management and steering committee of the BSR

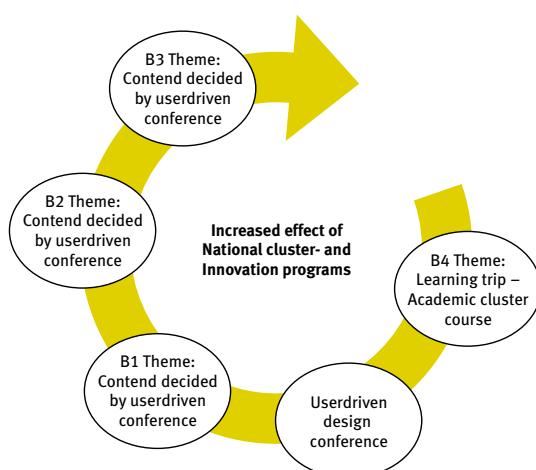
²⁵ 'Mapping of National Cluster Policies and Programmes in the Baltic Sea Region', Part One

²⁶ 'Activity report Phase 1', BSR InnoNet, WP3 Task force on Capacity Building, Appendix 3

Figure 4 Cluster Training Modules
Cluster facilitation and management, A modules 1–11



Cluster and innovation programme design, B modules 1-4



InnoNet project with a budget of approximately 400.000 EUR each, raised from the original project partners and the Nordic Council of Ministers.

In order to implement one or more of the modules twice, an application was sent to the Baltic Sea Region programme (ERUF) in spring 2008.

This meant that modules A 1-5 are developed and implemented for the cluster initiatives' facilitators participating in the pilot programme on cluster and innovation collaboration in a first round and as well as "free" to all cluster initiatives and their facilitation teams in the BSR. Modules 1 and 2 (targeted at Awareness building and Basic Cluster Management) are distributed as free materials and are implemented in the Baltic countries with resources from the Baltic Sea Region Programme, (ERUF). Modules B 1-3 are also implemented with resources from the Baltic Sea Region Programme, (ERUF). The coordination of the Baltic Sea Region Programme project during 2009 is done by the Triangle Region in Denmark.

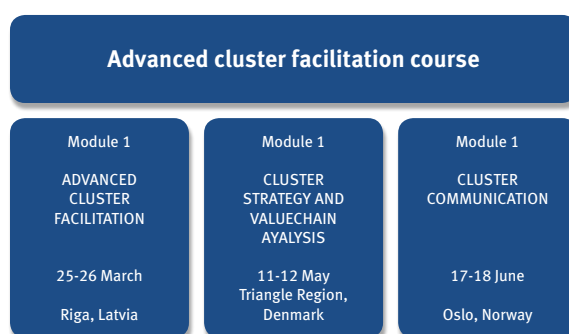
Implemented by the BSR InnoNet project:

Figure 5 Advanced cluster facilitation course



Implemented by the BSR Programme, (ERUF),
coordinated by the Triangle Region, project 2009:

Figure 6 Advanced cluster facilitation course



On cluster facilitation and management - Advanced cluster facilitation course

The Advanced cluster facilitation course invited 60 cluster facilitators from 10 countries in the BSR to participate in the following three-module course²⁷ held twice during spring 2009:

The three different modules provided general training on advanced cluster facilitation, cluster strategy, value chain analyses and cluster communication. The main goals were to increase skills and knowledge on how to support the development of cluster initiatives; to provide concepts, tools and methods that are applicable in daily cluster work; and to strengthen networks among cluster facilitators.

The modules on advanced cluster facilitation are consequently implemented twice: once with cluster initiatives that are part of the pilot programme on cluster and innovation initiatives, and once with cluster facilitators from other initiatives in the BSR region. This allows learning and re-design to sharpen and make the training even better the second time around.

Cluster and Innovation Programme Design

The national summary report and the survey performed by the BSR InnoNet policymakers group²⁸ showed that all BSR countries have cluster and innovation programs that are to be launched or that have been operating for several years. Bearing in mind that national programmes address national or regional challenges, two questions arose. *Firstly, can programmes operate more efficiently with more positive results; and secondly what knowledge bases and experiences could they provide for a trans-national cluster and innovation programme in the BSR?*

Policymakers and practitioners in innovation agencies need program design with a rationale and motivation as to why a country/region should have a cluster and innovation programme giving the necessary input on how the design of such a programme, should be made, as well as how the programme and activities should be implemented and evaluated.

27 Invitation to training course in cluster facilitation

28 BSR InnoNet transnational support programmes i.e. support activities and transnational pilots, Briefing Paper for the practitioners working group, Copenhagen, 24th May 2007.

29 Round table meeting, 15th of January 2009, Copenhagen, proceedings

Figure 7 Workshops on Programme Design, Implementation and Evaluation



Source: Roundtable meeting January 15, 2009

These needs provided fuel for further elaborations during a roundtable meeting²⁹ of national experts from the BSR ministries and innovation agencies. So far two modules have been implemented. The following modules and workshops will be executed during spring and fall of 2009.

Implementation of the Cluster Tour and the Academic cluster course

The Norwegian Cluster Tour³⁰ took place from 21–23rd November 2007, and the ‘Science, Technology and Innovation and STI policy for civil servants’³¹ course took place in April 2008 and in August/September 2008.

The Norwegian Cluster Tour attracted over 30 policymakers from nine of the ten countries participating in the BSR InnoNet project. The tour consisted of lectures and visits to four Norwegian cluster initiatives, and the evaluation showed that the tour was well received. All participants

agreed that they would like to take part in similar learning trips in the future. Visiting actual cluster initiatives proved to be a fruitful experience. The evaluation also showed that the tour provided valuable insights of how Norway is developing cluster programmes; increased social capital among BSR InnoNet partners; and provided a better understanding of the capacity building dimension of cluster and innovation programme design. As one of the participants stated:

“It would be interesting to visit Sweden, Finland and Denmark and to focus either on a specific sector such as ICT or have a cross-sectoral theme.”

The ‘Science, Technology and Innovation (STI) policy for civil servants’ course described the academic foundations and provided an overview of a number of thematic areas relevant to STI policy. The course was held in Sweden during spring 2008 and in Iceland during autumn 2008. The course had twenty registered participants and comprised 15 ECTS credits. The course aims were to provide an overview of various aspects of innovation policy from academic and policy perspectives; to provide opportunities for civil servants from agencies and ministries in the BSR region to discuss specific issues they encounter in their work; to strengthen policy learning networks; and to develop activities for continuous learning for public sector employees in the BSR. The course evaluation³² showed that all participants felt that presentations were relevant and interesting; that the course provided knowledge useful for everyday work; and indicated that the course should be offered again at some point in the future. Participants also claimed that they would recommend the course to the colleagues.

The Learning Methods

Participants in the BSR InnoNet project demonstrate a common understanding that knowledge gained from cluster and innovation programmes is useful for analytical, practical and policymaking activities. It is this common understanding, especially among individuals involved in task forces, that has driven pilots and the capacity pilot programme forward. The same philosophy was adopted during the design stage of the capacity building activities. Cluster facilitators and policymakers have therefore utilised participants’ own knowledge to develop training activities.

30 Evaluation 2007: Appendix 4 of the project report of the Capacity Building Task Force, 21st January 2008

31 Course invitation and schedule, April 2008, Lund University

32 Evaluation: summary of responses, June 2008.



“The starting point for designing modules is the knowledge and competence of each participant. Pedagogical methods facilitate knowledge sharing among participants as a basis for creating networks. State of the art knowledge and examples of best practice will be supplied where necessary.”

During the first module on advanced cluster management, cluster facilitators are identified as ‘front liners’. Cluster initiatives pose leadership challenges no single stakeholder can take the lead of. Cluster initiatives are not run like hierarchical companies. Multitasking and ‘multi-goggling’ are required to establish collaborative action plans and strategies. Therefore cluster facilitators must be able to demonstrate operational leadership of a cluster initiative. Universities, governments and the private sector must reach a collective understanding of specific driving forces and establish a common commitment to a preferred future. This is hard work, and the core task of a cluster facilitator is subsequently to facilitate these collaborative processes. Cluster facilitators must also act as peers. One cluster facilitator described this role in a clear way:

- Uphold and communicate shared visions;
- Facilitate value creation;
- Convene trust among triple helix stakeholders.

Methods used include collegial coaching; story-telling by peers and other cluster initiative participants; drawing knowledge from case studies; innovative team methodologies enabling groups to work towards collective goals; and hands-on activities such as analytical assessments.

Lessons learned³³

Lesson #1: Task force methodology/approach

One of the main lessons learned is at the project and task force level. Adding the task force meant positive aspects for the project. The management and steering committee of the BSR InnoNet project became rather complex,

General module of Advanced Cluster facilitation A3

A dual pedagogical approach was utilised to combine leading examples from the region with cluster facilitators’ personal experiences. The cluster initiatives participating in the pilot programme on cluster and innovation addressed issues related to facilitating visions and strategies. The last day of the training course was reserved for focusing on cluster facilitators’ personal experiences. Cluster facilitators had the opportunity to identify occupational challenges and to formulate personal action plans. The final part of the training course addressed collegial coaching. Participants were divided into small groups and prioritised the challenges.

Collegial coaching follows a strict format. One facilitator acts as the ‘problem owner’ and the other acts as the ‘advisor’. The problem owner outlines the problem and receives professional advice. The initial dialogue is observed by the rest of the group. Following the initial dialogue participants provide comments prior to another round of dialogue. Dialogues consist of in-depth exchanges and professional advice. By working together participants are also networking. Collegial coaching is the focus of the activity but informal conversations regarding further cluster collaborations are an important spin-off.

and the division of powers and responsibilities became somewhat blurred. This resulted in insecurities regarding who had the right to make decisions. This was dealt with partially by writing a contract between task forces and the management team³⁴. The lesson learned by the management group is that contracts should be included in future collaborations, and that activities should be closely coordinated with the management committee to prevent unnecessary uncertainties.

³³ All task force activities and modules have been evaluated.

³⁴ Task force contract

Lesson #2: Building on the individual needs and knowledge

Evaluations show that the approach was well received and that participants appreciate acting as knowledge providers rather than as subjects educated with traditional teaching methods. External inputs, theories and cases were perceived to be less interesting. Participants valued working with peer facilitators along with personal action-plans and having the opportunities to receive well-founded advice from colleagues i.e peer reviews. This builds a strong case for bottom-up approaches using the entrepreneurial powers of people in the region and networks that can be created.

Lesson #3: Networking and creating a common understanding with peers

Networking and trust-building are the foundations of conducive learning environments that foster collaborative skills required by cluster facilitators and policymakers in cluster initiatives and cluster and innovation programmes. During the different modules of cluster facilitation, people from the different clusters of the region have learned to know each other and have exchanged experiences of cluster facilitation and its opportunities and hindrances.

Lesson #4: Innovative methodologies and social/psychological approaches

The training courses are based on several core values such as active participation, bottom-up approaches, user-driven learning, professional coaching and networking. The implemented courses provide the opportunity to ‘work with the wisdom of the crowd’ and to focus on personal and collective experiences.

Lesson #5: Testing and re-designing from a user-driven innovation perspective

Pilots and module redesign were performed incrementally and were aligned with participants’ needs and expectations. The possibility of test-running the modules with cluster facilitators from the pilot programme on cluster and innovation was particularly useful.

Lesson #6: Cross border collaboration and capacity building

Finally, capacity building is clearly fundamental to cross border collaboration. In the work with the pilots on cluster cooperation, the capacity building activities have helped in creating trust and have provided arenas for learning more about the different cluster initiatives and the country-specific competencies. It is a fast, efficient, rewarding and targeted learning and networking approach. We strongly recommended that this approach is adapted to fit the needs of the Flagship Project in order to cope successfully with the challenges and to fulfil the potential of cross-cluster/cross-border collaboration for a competitive and prosperous BSR.



Creating Transnational Cluster Cooperation across the BSR

By Bogumil Hausman Karin Nygård Skelman, and Anna Zingmark

Internationalisation of clusters has become a key priority for cluster policy in the EU. According to the European Cluster memorandum, there is a need for stronger clusters based on innovation and excellence in Europe. Research shows that clusters provide an environment that stimulates innovation, and they are a key factor when it comes to attracting capital, people and knowledge. Strong clusters emerge and develop in open markets where there is both cooperation and competition. Creating linkages between locations with complementary capabilities can strengthen clusters further. Globalisation means that clusters require strong local fundamentals but should also have solid linkages to clusters and markets located elsewhere to take advantage of knowledge, experience and ways of working in other places. Policies at both the EU and national level are important instruments to support this globalisation process.

An important element of the BSR InnoNet is to create and test transnational pilot programs in order to gain experience from creating transnational links between clusters in the Region. Consequently a pilot program with an emphasis on gathering practical experience and on capacity building was launched in September 2008. The pilot program is still underway and will finish in September 2009. This article presents lessons learned so far and describes the methods used in the process. These preliminary results are very important for planned future programs. The final results will be presented after September 2009.

The Process

The BSR InnoNet pilots on cluster cooperation started with the assumption that all countries would benefit, adding to macroregional global competence and innovative capability. Large and small companies would gain access to knowledge and the Region's transnational R&D projects would lead to increased specialisation, productivity, innovation and competitiveness.

As part of the BSR InnoNet, a task force of national representatives from each country was created in December

2007. The work was led by Bogumil Hausman (program leader) and Karin N Skelman (program manager), VINNOVA, Sweden, and the task force consisted of (status in March 2009):

- Jukka Lähteenkorva, Head of the Food stuff cluster programme, Finland;
- Ottar Hermansen, Innovation Norway;
- Sóley Gréta Sveinsdóttir Morthens and Thorvald Finnbjörnsson, Rannis, Iceland;
- Toms Grinfelds, Ministry of Economics and Lilita Sparane, LIDA, Latvia; and
- Arkadiusz Kowalski, Ministry of Economic Affairs, Poland.

The mission was to verify the theories of transnational cluster cooperation by running concrete pilots, which would result in learning, provide insights and serve as the basis for defining a full-scale program on transnational cluster cooperation by the end of 2009. All countries participating in BSR InnoNet were interested to be part of the task force, except Germany, Denmark and Estonia. The task force and the pilot projects were financed by the participating countries and by the Nordic Council of Ministers. Task force representatives came from ministries and government agencies and provided competences in innovation and business development. The first step was to formulate a process to define and implement the planned pilot projects. Important consideration was given to the regional strongholds identified earlier through analysis and consultations with national policymakers within the BSR InnoNet project.

Ninw different strongholds in the region were identified: Energy and Environmental Technologies, Food Processing, Forestry and Wood, Health and Well-Being, ICT (Information and Communication Technologies), Biotechnology, Mari-

time, Nanotechnology and Tourism. The task force selected four areas that had been identified by most countries as strongholds: Wood, ICT, Biotechnology and Food.

To gain important experience for creating a full-scale program the task force also chose pilot participants based on the following criteria:

1. Emerging clusters with research-intensive activities
2. Mature clusters
3. Value chain clusters
4. New business opportunities for mature industries

It was important to include clusters at different stages of development and to define corresponding obstacles and opportunities.

Ministries and national authorities in each country then decided which clusters to include within different pilots. An invitation to participate in the pilot program was designed and sent out. Different countries had different ways of picking the participating clusters. In Sweden, clusters that were already defined via Swedish national programs like VINNVÄXT, Centres of Excellence and the regional cluster program were chosen to participate. In Poland, both universities and cluster initiatives were selected as potential partners. Iceland, on the other hand, had just started working on cluster development and appointed two newly created clusters. The clusters' competence, cooperation abilities, willingness to cooperate internationally and capacity to find potential common commercial interests were also identified as important selection criteria. Table 1 presents the four established pilot projects along with the participating countries.

The chosen cluster initiatives were then invited to a planning conference in Stockholm during May, 2008. The aim of the conference was to find a common ground for future cooperation and actions. During the conference, pilot project managers were nominated and discussed. Pilot project managers from different countries were selected. The Biotechnology pilot project manager comes from Norway; the Food pilot is managed by Finland; and the two other pilots – ICT and Wood – are managed by people

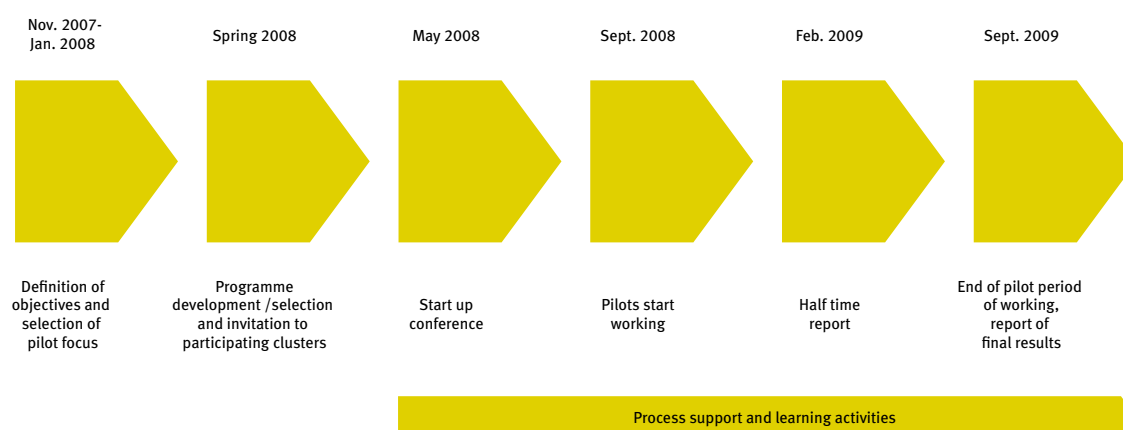
Table 1 Pilot projects selected for the BSR InnoNet cluster cooperation programme

	Pilot #1	Pilot #2	Pilot #3	Pilot #4
Focus	Emerging clusters with research-intensive activities	Mature clusters	Value-chain clusters	New business opportunities for mature industries
Area	Biotechnology with focus on environment	Food	ICT (entire value chain of mobile devices)	Wood production and furniture
Participants	Finland Iceland Norway Poland Sweden	Finland Iceland Poland Sweden Associate: Denmark	Denmark Finland Latvia Poland Sweden	Latvia Lithuania Poland Sweden

from Sweden. Some initial areas of common interest were identified, and people from the different clusters started to familiarise themselves with one another. The ambition was to establish commercial cooperation, improve research and political cooperation, and discuss the mobility of human resources and new marketing opportunities.

Building trust and mutual understanding was a crucial part of each pilot project. The pilots have, so far, spent a lot of time learning about each other's businesses, deepening their networks and personal relationships. The environment and the context in which every cluster is operating demonstrate similarities and differences. Finding common activities and business opportunities within the pilots has taken time. This is partly due to the fact that cluster managers have to secure their own stakeholder agreements and support while coordinating other transnational cluster links. In some pilots, the participating cluster managed to agree on activities very quickly. In others, it has taken almost a year.

Figure 8 The pilot programme process



Several workshops have been held within each pilot project. Workshops have provided an opportunity for people to get to know one other, to understand each other's cluster initiatives, and to identify topics for future cooperation and joint activities.

Some of the pilots focused their work on extensive networking in order to get to know one other better. Others, such as the ICT pilot, started directly with well defined activities aiming at so-called 'quick-wins'. The pilot on biotechnology, on the other hand, decided early in the process to arrange workshops on specific themes to better define common interests. A workshop on biofuels and biorefineries was arranged by the Swedish cluster initiative 'Biorefineries of the Future'. The Norwegian cluster entitled 'Inland Bio-energy Arena' decided to host a workshop on feedstocks, and the Polish cluster decided to arrange a workshop on renewable heat and power generation. The pilot programme process is presented in Figure 8.

Facts and Findings

ICT Pilot

Partners: From Sweden, Mobile Heights is participating in the pilot. Mobile Heights is a cluster initiative in Scania that works with research, innovation and entrepreneurship in mobile communications. The Finnish cluster is the Ubiquitous Computing Cluster, which has the vision that Finland will be the know-how leader in the development, commercialisation and capitalisation of embedded intelligence in human-centred, distributed, mobile and constructed environments by the end of 2013. The Latvian partner in the pilot is the Latvian IT Cluster. The initiative has been established to promote the collaboration among IT companies and related organisations to increase the competitiveness and growth of export of Latvia IS products and services. From Poland, the ICT Pomerania initiative is a part of the pilot. ICT Pomerania is a cluster initiative that aims to support the innovation process within SMEs in the region. From Denmark, the participating cluster initiative is Brains Business – ICT North Denmark. Northern Denmark is strong in intelligent logistics solutions, wireless and mobile solutions, and ICT-solutions for the health sector. Norway was a partner in the beginning of the pilot but decided not to continue.

Purpose: The overall purpose of the pilot is to develop a sustainable collaboration of the Baltic Sea Region ICT clusters supporting the growth potential within the area.

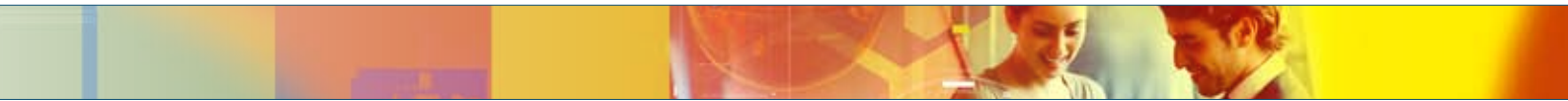
Key activities: One of the action points is to contribute to a sustainable environment by using ICT solutions for low energy living. The second action point is to develop models on how to support regional ICT companies at European trade fairs. Another important objective is to encourage female leadership within the ICT industry in the BSR. The pilot also has the aim of building a sustainable platform for internal and external knowledge sharing and communication.

Results so far: The ICT-pilot has developed a project Wiki (Wikipedia), where communication about the project and clusters is taking place. This has proven to enhance the activity of all the pilot stakeholders and the rate of collaboration.

Workshops have been arranged on the topic of ICT solutions for low energy living. The goal is to bring researchers from each of the BSR Pilot clusters to discuss the possibilities of writing joint applications within the field of low energy living. Thus far it has resulted in two application drafts for major EU calls.

In February 2009 the pilot partners participated in the Mobile World Congress in Barcelona. A roundtable meeting was held in conjunction with the conference regarding co-localisation issues at trade fairs. The participation in the MWC in Barcelona helped the cluster facilitators to better understand the conditions for SMEs as regards entering export markets.

During spring 2009, the pilot is working on a joint paper on female leadership. The paper is to be written by Professor Merle Jacob of Lund University. The aim is to present the paper in May 2009 to the Region's labour market ministers. In the near future, there will be a great lack in personnel in the ICT industry in most of the Baltic Sea Region.



Pilot on Biotechnology

Partners: The Swedish initiative 'Bio refineries of the Future' is a venture in future bio refineries fuelled by forest raw materials and energy crops in the north of Sweden (Örnsköldsvik/Umeå).

The Inland Bioenergy Arena is a cluster of Bioenergy companies in the counties of Hedmark and Oppland in Norway. The Baltic Eco-Energy Cluster in Poland is situated in the northern part of Poland and focuses on promoting small- and medium-scale production of thermal energy and electricity from renewable energy sources, mainly biomass, but also from hydro, solar and wind energy sources. The Arkea Technology Park in Iceland offers facilities and support for start-up companies that work in the fields of environmental science, health sciences and energy biotechnology.

Purpose: Bioenergy is a stronghold in the whole macro-region with a large growth potential. The initial objective was to get to know each other to be able to identify common research activities and in turn apply for a common EU FP7 program and identify common commercial interests. Participating clusters have different strengths and focus.

Key activities: Workshops with the participating clusters were held in May 2008 and common themes of interest were expressed. Areas such as bioenergy in general, biofuels and biorefineries, renewable heat and power generation and feedstock were identified. Another area of interest was how to build successful clusters around these themes.

Results so far: The group of cluster representatives decided to arrange workshops on specific themes to provide deeper understandings of common interests. The workshop on biofuels and biorefineries was arranged by the Swedish cluster initiative. Norway decided to host a workshop on feedstocks, and Poland decided to arrange a workshop on renewable heat and power generation. The main result so far is network creation with a focus on knowledge sharing. The different cluster competencies have been identified and shared.

Pilot on wood and furniture

Partners: From Poland the West Pomeranian wood-furniture cluster is participating. The initiative is fairly new and was established to create cooperation between wood and furniture SMEs and larger companies in areas such as new technologies, personnel, communication, internationalisation and marketing. The Lithuanian wood cluster participating in the pilot unites more than 350 companies, municipalities, incubators and universities, mainly from the south of Lithuania. Latvia is represented by the Agency for Investment and Development, as the furniture industry in the country is not organised as a cluster. The participating cluster from Sweden is the cluster initiative 'Kingdom of Furniture' – an association promoting collaboration between furniture and design retailers in the southern Sweden.

Purpose: The overall aim of the pilot is to create new business opportunities for a mature industry, such as the BSR wood sector. Furniture and design is seen as means for future sectoral development in the region. Participating countries were in the beginning Finland, Poland, Lithuania and Sweden. Finland later left, and Latvia joined.

Key activities: An important part of the pilot's activities are the ongoing discussions to find a common business agenda among participating actors. From the very beginning, the participants expressed different opinions on what the pilot should focus on. The Swedish initiative promotes design as the collaborative focal point. Other initiatives focus more on other business areas of the furniture sector. With time, more and more partners accepted design as the main focus of the pilot's activities. The partners met at the furniture fair in Stockholm in February 2009. They also met at a furniture fair in Vilnius in April 2009.

Results so far: Networks have been created between the different clusters, and increased knowledge on competencies, and cultural differences have been identified.

Pilot on Food

Partners: The Finnish participant is 'Foodwest Oy', a national Centre of Expertise and a competence cluster on food development with a focus on healthy and safe food. The Swedish participant is 'Skåne Food Innovation Network'. The goal is to develop an innovation system that focuses on strengthening the food industry by creating food products, services and concepts for the future. The Icelandic partner is the 'Northeast Iceland Culinary Experience', a network organising local food projects and researching on new food products in the northeast of Iceland. The participant from Poland is the Warsaw University of Life Sciences.

Purpose: The overall objective is to assemble researchers, food companies and development organisations from the BSR in order to establish a platform for better understanding the changes that are taking place in the BSR food and packaging industries. The pilot is a starting point to establish sustainable food development collaboration in the region.

Key activities: The pilot focuses on three main themes. The first theme is to identify the challenges of nutrition and to find health-promoting solutions. The second is to understand consumer needs and expectations, and the third is to contribute to the internationalisation of the food industry. Corresponding workshops have been arranged to discuss the issues described above in detail.

Results so far: The initial objective was to explore interesting and relevant issues in order to create common goals and a shared vision. Partners conducted a common questionnaire to gain an understanding of different countries' company-specific needs and to identify different consumer needs in participating countries. The pilot also aims to broaden the network of participants, and to expand cross-national networking within the region.



The Learning Methods

Monitoring the pilots' activities and development is an essential learning process that provides knowledge on how to stimulate transnational collaboration between clusters in the Region. It is especially important to learn from success stories, to learn from challenges to transnational cluster cooperation, and to examine ways of overcoming such challenges. What commercial arguments can be used and what kind of results can be expected? What potentials exist for transnational collaboration between participating clusters, and how can they be stimulated? How do clusters' local companies and other actors make use of international links? These are just a few questions that must be answered when it comes to clusters cooperating in the BSR.

Furthermore, there is a need to translate results into the policies that promote transnational cluster collaboration in the Region. The task force was charged with the task of initiating *and* evaluating pilot programmes to facilitate learning from the process as a whole. The methods used include follow-up activities, independent follow-up research, innovation journalism and internal task force reflections.

Follow-up activities sought to monitor pilots' day-to-day progress, creation of new contacts and networks, improvement of cluster competencies, and joint activities. Short reports were written to present results. Interviews with all participating partners were conducted to reflect on important aspects of learning.

Independent follow-up researchers have been assigned from CIRCLE (Centre for Innovation, Research and Competence in the Learning Economy) in Lund, Sweden. The independent follow-up researchers included Jerker Moodysson (PhD in Social and Economic Geography and Assistant Professor in Innovation Studies) and Jens Sörvik (PhD student), along with fellow researchers Marti Lindman (University of Vaasa) and Mari Sandell (University of Turku).

Jerker and Jens are performing research on international policy learning. The study focuses on opportunities and challenges for public actors to promote the internationalisation of firms through cluster initiatives and other types of innovation policies. The study applies qualitative methods and follows one of the BSR-InnoNet pilots in depth – the pilot of ICT-clusters headed by Mobile Heights in the

south of Sweden. The main objective is to explore various actor interests as regards internationalisation and to examine ways in which international policies can support these interests. Another question examines the extent to which expectations and incentives for participating in the pilot project correspond to the objectives defined by the project organisation. The study also examines knowledge-transfer activities between key actors in the cluster initiative.

Marti's and Mari's tasks are to evaluate the overall progress of the Food Pilot (i.e. how much value, in terms of the key themes/functions of the pilot, has been added following the activities of pilot members) and to examine the pilot from an academic perspective. Another task is to inform and update the Food Pilot on important findings, improvements and academic research trends in the field of food marketing and consumption.

As a complement to these more traditional methods of learning the Task force assigned an **innovation journalist**, Kajsa Linnarsson, to write articles about ongoing pilots. Kajsa is an innovation journalist from Stanford University. Innovation journalism is a rather new skills area covering innovation and innovation systems, reporting on the whole innovation process from a systemic perspective. In February 2009, Kajsa wrote an article about the opportunities and challenges faced by actors within furniture clusters.

The **Task force**, together with its national representatives, is an important source for policy learning. Each pilot has been assigned a task force member to report and reflect on progress made.

Lessons Learned as of April 2009

As mentioned earlier, the pilots last for one year and will cease in September 2009. In this section, we present a few of the lessons learned during the first seven months of the pilots' implementation. The final report will be written and presented following the conclusion of the whole pilot project later this year.

Lesson #1: Building trust takes time as people get to know each other

As of April 2009, the pilots have been up and running for seven months. Seven months is not a long time when it comes to clustering and creating transnational links

between clusters in different countries. Our experience and corresponding research shows that clustering takes time, since human-to-human relations have to develop. As one of the cluster managers put it: *“It’s a people thing, and people are getting to know each other. Collaboration takes place between people, and they have to be able to relate to one another”*.

When creating links between clusters in the BSR, it is important to build trust starting in the initial phase. This is often emphasised when it comes to clustering on a regional and national level. It also holds true for transnational cooperation.

“Trust is very important. You can’t build it in a day. Trust has to be built up. Trust is the most important thing. Not everybody is used to working like this.”

(Philip Stankovski, cluster facilitator and ICT pilot manager, Mobile Heights, Sweden)

Lesson #2: There is no patented method for stimulating transnational cluster cooperation

Cooperation between clusters in different countries can take place in very different ways. The ICT pilot started by picking quick-wins and creating tools for internal communication. The ICT pilot clusters also participated in the global ICT fair in Barcelona in February 2009. These are examples of activities that can be used to build communication and trust. The Bioenergy pilot started with design of a longer-term collaborative program stretching beyond September 2009. The food pilot has focused its work on identifying common commercial interests between companies in the different countries.

Lesson #3: It is important to identify quick-wins and to seek a longer term commitment

Despite the fact that cooperation is a relatively new concept for participants, the importance of identifying common interests and short-term activities – so called quick-wins – has been proven. Short-term results are important to sustain collaborative activities and, with time, help to define long-term goals and activities.

Lesson #4: Longer-term cooperation must involve several important stakeholders

Since building trust and cooperation is about relations between people, it is very important that clusters are represented by more people than just the cluster manager. In the initial phase of mobilisation and transnational cluster cooperation, it is important that cluster managers meet, but it is also important that regional and national stakeholders are involved in the long term. Actors from various levels of the cluster governance structure and from different stakeholder groups should be involved, such as companies, research institutions and the public sector. Sufficient financial means should be allocated from the outset to facilitate wider involvement. Linking clusters should not be limited to interactions between a few actors.

Lesson #5: Communication (internal and external) helps

As the ICT pilot shows, easily accessible communication tools can be an important platform for international cluster cooperation. This makes communication easier and more transparent. It can also be a tool for marketing various cluster competencies in respective countries. This also helps to promote the branding of transnational cluster collaborations.

Lesson #6: It is important to understand and respect cultural differences

An understanding of cultural differences is essential for clusters working together in the Baltic Sea Region. Ten different countries participate in the BSR InnoNet project. Countries in the Region are similar in many ways but also different in terms of history, ways of doing business and so on. A lesson learned for future cluster programs is that capacity can also be developed when it comes to understanding the different countries, the country strongholds and their business climates.



Lesson #7: International cooperation should be driven by demand

One of the major lessons learned is that cooperation should be driven by demand. This is a clear statement from cluster facilitators. In the pilot programmes, clusters were chosen by the national governments. This has been shown to have both advantages and disadvantages. The main advantage is that there is national legitimacy when governments are responsible for the selection. Another advantage is that it can help to link cluster initiatives that would otherwise not know one other. The main disadvantage is that the 'marriage does not work when the parents make the choice'. Future collaborations should probably encompass a mixture of the two perspectives. Clusters should have the opportunity to choose their own collaborations, but governments can assist by match-making to ensure quality.

Lesson #8: Transnational clustering creates added value

Most clusters that participated in the pilots believe that transnational links between clusters in the Region create added value. Early results show that knowledge on different cluster competencies has increased. Contacts between clusters have strengthened, and people have gotten to know each other. The majority of the pilots and the partner clusters perceive long-term cooperation as valuable in terms of boosting the competitiveness of the Region. One purpose of the pilots was to create commercial value. This is a very important aspect for future work on linking clusters in the BSR.

Summary

The pilot programme on cluster initiatives in the BSR region has provided a means of learning about transnational cooperation between clusters. The programme has been lead by a task force with representatives from the different BSR countries. There are important conclusions to be drawn regarding the initiation and organisation of these types of transnational programmes. Different learning methods have been used including follow-up activities, independent follow-up research, innovation journalism and internal task force reflections. This chapter of the report has presented lessons learnt from the first seven months of the pilot projects. The first lesson is that building trust takes time, as people from different clusters and different countries must get to know one other. There is no patented method when it comes to transnational cluster cooperation. Cooperation takes different forms. Identifying quick-wins and seeking long-term commitment seems to be important. Thus far, cooperation has been limited to relatively few actors. For cluster cooperation to create results in the long-term, a wider range of stakeholders must participate. Communication is an important means of creating trust and of marketing various cluster competencies. An understanding of cultural differences is essential. Capacity has to be built when it comes to understanding different countries, country strongholds and their business climates. Maybe one of the most important findings is that cooperation between clusters in the BSR seems to create added value. Cluster representatives see that commercial values (in both a short term and long term perspective) can be created by cooperating.

2.3 Policy Frameworks for Transnational Cooperation

By Emily Wise³⁵ and Pouline Terpager, Nordic Council of Ministers

Background

Although the history of cooperation between the peoples of the Baltic Sea Region dates back to the 13th century, policy-level cooperation is much newer. For the five Nordic countries, policy-level cooperation in more recent times was formalised with the start of the Nordic Council in 1952 and the Nordic Council of Ministers in 1971. For all of the countries of the Baltic Sea Region (BSR)³⁶, policy-level cooperation was formalised after independence of Estonia, Latvia and Lithuania with the start of the Council of Baltic Sea States in 1992 and the founding of the Baltic Sea Parliamentary Conference. This was complemented by an expansion of the Nordic cooperation formalising cooperation with the three Baltic countries in 1991 and northwest Russia in 1995, and establishing informal policy networks with all of the BSR countries. This BSR-wide policy cooperation is strong in the area of innovation policy.

Starting in 2004, the Nordic Council of Ministers' (NCM) acted on an exhibited opportunity to facilitate policy learning and cooperation between all the countries of the Baltic Sea Region – initiating a working group on innovation policy. The primary objectives were to: establish a network and forum for policy learning for innovation policymakers in the eleven countries of the region; raise awareness and competency levels on innovation policy; and strengthen regional cooperation and build the foundation for coordinated/joint action in the realm of innovation policy.

This working group (running in different forms since the end of 2004) was the foundation for the policy-level cooperation that was further developed within the BSR InnoNet project. This background has allowed policymakers in the BSR to develop their own *modus operandi* and characteristics of cooperation.

Characteristics of Policy Cooperation in the BSR³⁷

Policy cooperation in the NCM working groups that led to the BSR InnoNet project and in other policy-relevant fora is characterised in the following ways:

1. A tradition of cooperation and competition

The purpose of policymaker working groups has been to identify areas of innovation policy where it would be most beneficial to learn from one other, explore common issues and (if relevant) act collectively. Cooperation is pursued whilst each country competes to strengthen its own global competitive position – based on unique national contexts and innovation strategies. There are opportunities to learn from others' approaches given that each country deploys different methods to reach the same objectives. Continuous iterations between cooperation and competition help to ensure a fruitful learning environment.

2. A curiosity to investigate and learn from good practice (in the BSR and elsewhere)

Since each country context and innovation strategy is somewhat unique, there are ample opportunities to learn from other countries' 'best practice'. The countries of the BSR are curious to investigate 'best practice' cases (within the BSR and elsewhere) in order to learn about programme structures, processes, methods, etc. across a range of policy areas. All BSR countries are acutely aware of the fact that 'best practice' cannot simply be reproduced. Rather, key lessons are drawn and applied in specific contexts. This form of peer review strengthens learning opportunities and helps policymakers to expand their networks globally – laying the foundations for future cooperation.

³⁵ Research Policy Institute, Lund University, working for the Nordic Council of Ministers.

³⁶ In most contexts, the Baltic Sea Region is comprised of the five Nordic countries (Denmark, Finland, Iceland, Norway and Sweden), the three Baltic countries (Estonia, Latvia and Lithuania) and the three northern-most regions of Germany and Poland. Altogether, ten countries are represented. In the context of the Council of Baltic Sea States (and a number of other institutions), the Russian Federation or the three northwest regions of Russia (Kaliningrad, Leningrad and St. Petersburg oblasts) are also included.

³⁷ In this context, 'Characteristics of policy cooperation in the BSR' refers to the characteristics of the policymaker working groups hosted by the Nordic Council of Ministers.

3. Openness to share perspectives

In addition to a curiosity to investigate others' 'best practices', BSR countries demonstrate a willingness to share their own perspectives openly. This characteristic is particularly important for the BSR countries as they progress from collective learning to collective action via the implementation of joint innovation programmes. In order to ensure that joint activities are beneficial to all involved parties, it is critical that each party openly communicates their individual perspectives and expectations.

4. A need to establish consensus on the rationale and objectives for action

Policymakers in the BSR are focused on pursuing win-wins. Cooperation is pursued only in those situations where individual countries can identify a benefit. For this reason, it is important that a consensus is reached before transnational cooperative activities are set forth. It is therefore essential to define a clear rationale for joint action before activities are initiated.

5. A drive to define and agree on governance structures for cooperation

The final characteristic of policy cooperation in the BSR is driven by the need to define and agree on governance structures – including financing, coordination, decision-making processes, monitoring and evaluation. With all of these governance processes, a number of principles are generally agreed:

- Three or more different countries' participation is required to pursue a certain activity;
- Each participating country (or region) should make financial contributions based on their individual economic capacities (GDP);
- A process leader or coordinator should be decided in advance, responsible for ensuring that activities meet objectives (on time and within budget);
- All involved parties should participate in decision-making processes – the coordinator is responsible for collecting 'individual' perspectives as inputs to decisions and convening regular 'steering' meetings; and

- Processes for monitoring and evaluating activities should be clearly defined in advance, ensuring that there are opportunities to provide input, adjust activities (as required), and to learn (from successful, and less successful activities).

Policy Cooperation within the BSR InnoNet project

Policy cooperation within the BSR InnoNet project followed the same general characteristics described above. Activities focused on exploring different challenges in order to find common ground, establishing a clear rationale to act (as a macro-region), and defining concrete objectives, activities and governance structures for transnational cluster activities.

The policymakers' working group of the BSR InnoNet project aimed to fulfil the following objectives:

1. Identify common strategic policy priorities in the area of cluster development;
2. Provide a forum for structured policy learning, focused on the field of cluster policies and evaluation;
3. Take responsibility for formulating joint conclusions and nationally anchoring analysis and recommendations coming from other areas of the project; and
4. Work in collaboration with the practitioners' working group to facilitate decision-making processes regarding development and implementation of joint programme(s).

Common Grounds for Cluster Policy in the BSR

An investigation of national strategic priorities provided the basis for identifying common strategic priorities in the area of cluster development. Priorities of the BSR countries were focused on several common themes that cluster policies address, including: the goal of *strengthening 'triple helix linkages'* (linkages between public, private and academic/research spheres) *within leading sectors/clusters*;

and the ambition to *support leading clusters in establishing international linkages* by forming networks of clusters in order to *strengthen global competitive positions*.

The policy rationale

Various international studies have shown that clusters have a positive impact on innovation and economic growth. In recent years, international research has also highlighted the benefits of establishing international linkages between innovation environments (or clusters)³⁸. The general conclusion that there are economic benefits of clusters – and international linkages between them – is based on the same basic logic, namely that:

Knowledge spillovers occur in environments where new knowledge is created. These environments exist all over the world, in spatially delimited locations. The overall objective for public policy is to nurture the absorptive capacity (of firms and knowledge institutions) to benefit from knowledge created in these 'innovative environments', independent of where they are located in the world.

Based on findings from BSR InnoNet and other studies, there is a common understanding of the benefits of working in cluster formations and of the opportunities of linking-up with clusters/innovation environments internationally. A first step is to foster transnational activities with neighbouring countries. There are many strong foundations for transnational cooperation in the BSR, but the region does not yet function as a macro-region³⁹. The support and facilitation of transnational linkages between clusters could help to strengthen economic and functional links within the BSR.

Although it is commonly accepted that market forces shape clusters, public sector involvement in cluster development is often motivated by a failure of the market to optimise cluster activities⁴⁰. Over the course of the BSR InnoNet project, a number of barriers to transnational linkages between clusters have been identified, including:

- Lack of knowledge on which clusters/cluster initiatives might be beneficial to learn from or collaborate with – resulting from *failure of the market* to initiate or sustain inter-linkages that are potentially favourable from a societal perspective;
- Inadequate institutional frameworks and practical support (such as joint strategic plans, executing joint activities, etc.) to facilitate transnational collaboration between clusters – issuing from a *systemic failure* to match interrelated institutions, organisations or playing rules;

Because there is limited knowledge on who to cooperate with, as well as inadequate frameworks – or platforms – for cooperation, it is not surprising that there is also a lack of policy support to establishing international linkages between clusters. In general, existing policy measures do not promote actors outside of national borders to participate in activities together with actors inside national borders (i.e. policy measures, such as skills development or venture capital, that support strengthened international linkages between clusters/innovation environments).

In terms of a policy rationale, the lack of knowledge and experience – combined with the lack of institutional frameworks (or playing rules) to facilitate the process – exemplify both market and systemic failures. These failures could potentially be addressed by policies to support transnational linkages between various cluster initiatives and innovation networks. Potential policy measures include: providing data (and other objective information) on clusters/innovation environments in international markets; facilitating the establishment of match-making platforms and processes; and supporting skills-building in developing strategies for international cooperation between clusters.

The overall objective and targets for transnational cooperation

For the BSR InnoNet policy group, the *long-term objective* for a transnational programme supporting cluster development is to *increase the international competitive position of the BSR as a whole and thereby also the competitiveness of individual states and their companies*. It is therefore prioritized to build on existing positions of strength.

38 See Archibugi, Daniele and Simona Iammarino (1999) 'The Policy Implications of the Globalisation of Innovation' in *Research Policy* 28 (1999), pp. 317-336; Carlsson, Bo (2006) 'Internationalization of Innovation Systems – a survey of the literature' in *Research Policy* 35 (2006), pp. 56-67; and Squicciarini, M. and T. Loikkanen (2008) *Going Global – The Challenges for Knowledge-based Economies*, Finnish Ministry of Employment and the Economy, Innovation, 20/2008.

39 See chapter 1.3 for additional details

40 See Andersson, Thomas, Sylvia Schwaag Serger, Jens Sörvik, Emily Wise Hansson (2004), *Cluster Policies Whitebook*, IKED, Malmö.

Table 1: Summary overview of national strongholds from a policy perspective

Clusters/Centres of Expertise/ Sectoral Strongholds	Denmark	Estonia	Finland	Germany	Iceland	Latvia	Lithuania	Norway	Poland	Sweden
Energy and Environmental Technologies	x		x					x		x
Food Processing	x		x		x		x	x	x	x
Forestry and Wood			x			x			x	x
Health and Well-being			x		x		x	x		
Information and Communications Technology	x	x	x	x		x	x	x		x
Life Science	x									
Biotechnology		x	x	x		x		x	x	x
Maritime			x	x			x	x	x	
Nanotechnology		x	x		x			x		x
Tourism		x	x		x	x	x	x		

Analyses of national strongholds have served to identify nine areas where four or more countries were represented (listed in Table 1). Transnational activities may be suitable as there is a broad representation of countries with national strongholds in these nine areas. Other criteria – based on statistical data – were also considered⁴¹.

Working group discussions concluded that efforts to establish transnational linkages between clusters/cluster initiatives should be focused on areas where there is most value-added from transnational collaboration, based on the following criteria:

- Importance of the cluster (in economic and political terms);
- Potential on international market (e.g. opportunities to exploit complementary strengths);
- Level of maturity for establishing transnational linkages;

- Expressed value from and interest in establishing transnational linkages;
- Strategic focus and long-term vision and plans.

It was agreed to jointly establish transnational cluster pilot activities for which the primary goal should be on learning (with a secondary goal of benefits for companies/clusters). The objective for a longer-term programme should aim at increasing international competitiveness of clusters and participating companies – NOT by building a BSR-level cluster, but rather by linking strong clusters internationally where it adds value.

The working group awaits the finalization and reporting of the task forces (which are described in chapter 2.2) – in September 2009 – in order to finalise its recommendations for a future programme.

⁴¹ See chapter 2.1 for additional details

Governance structures

As described above, there are a number of generally agreed governance principles for transnational cooperation within BSR InnoNet. These include: multiple country involvement; shared responsibilities as regards finance and decision-making; clear and objective coordination/leadership; and clear monitoring and evaluation procedures.

Shared financial responsibility seems to be one of the most complicated aspects of transnational governance. Different types of activities can be financed from different EU or national sources⁴². Establishing a financial framework that levers EU and national funding *and* ensures ownership and an appropriate balance between participating partners is a somewhat complex process.

For the transnational capacity building and cluster pilot activities, a financial framework was agreed – where each country participating in the activities, together with the intergovernmental organisation the Nordic Council of Ministers, contributed to the financing. In the case of the capacity building activities, financing was also secured from the BSR InterReg programme. In this general framework, the national level's combined resources represent approximately 60% of the total financing, and the intergovernmental level represents approximately 40% of the total financing.

For the longer-term 'full-scale' programme (within the EU BSR Strategy), the financial framework is still under discussion. This framework will be developed in the process of unfolding the BSR Action Plan of the EU. See the plans for the development of this work in Part Three of this publication.

Lessons Learned and Unresolved Issues

The BSR InnoNet project has come a long way in establishing policy frameworks for strategic transnational cooperation. However there are still a number of open questions regarding the next phase of transnational cooperation as regards the framework of the EU's Strategy for the BSR. Many years of cooperative policy learning and policymaking in the BSR has provided a basis for developing the longer-term transnational policy frameworks.

Lesson #1: Structured, goal-oriented meetings help to move policy and decision-making processes forward. Decision-making structures should be pragmatic, while ensuring legitimacy and efficient national anchoring.

The existing policy learning and decision-making structures (used within the BSR InnoNet project) have been based on regular face-to-face meetings (2-3 times a year), focused on specific discussion topics and questions. Briefing materials are prepared in advance, and policymakers are often engaged in this preparation by submitting information on national contexts and perspectives. National positions are discussed and considered when forming a general consensus on the questions or decisions. Minutes serve as the primary basis for moving forward – developing concrete activities in response to the policymakers' decisions on strategic direction, expressed needs, etc. This working mode seems appropriate for future policy learning, but may be less relevant a decision making structure.

A future decision-making structure should involve all participating countries at an appropriate level. National representatives should have the ability to represent the interests of multiple organizations/stakeholders, and have an efficient process for anchoring decisions at their home bases. Representatives should also have the capacity to mobilize national financing for transnational activities. The decision-making structure could be facilitated by one of the national representatives (on a rotating basis), or by one of the international organizations having experience in facilitating these type of transnational decision-making structures.

- Question: Can the existing policy learning and decision-making structures (used within the BSR InnoNet project) be used in the longer-term?

42 Coordination and 'soft' cooperation activities (e.g. training and mobility schemes) can be financed by EU structural funds. 'Hard' cooperation activities (e.g. joint research or commercial cooperation) cannot.

Lesson #2: It is important that transnational activities are coordinated in a manner that balances goals of objectivity and consensus with goals of ownership and engagement.

Given its role as a neutral actor that operates beyond national structures, the Nordic Innovation Centre has coordinated BSR InnoNet project activities. In addition to overall project coordination, various national and international organisations have been responsible for leading the three main working areas (analysis, policymaking and practical operations) and have undertaken specific task force activities. Positive experiences have resulted from these various coordinating roles. International organisations have guaranteed a degree of objectivity that has been important to reach consensus agreements, whereas engaging national parties has resulted in a feeling of ownership of activities.

- Question: How should activities be coordinated in the longer-term?

Lesson #3: It is important to establish financing structures that facilitate the participation of BSR countries that are not EU member states (Iceland and Norway) and which allow for various levels and types (i.e. cash or in-kind) of contributions dependent on country capacities. Financing instruments from both national and international sources should be leveraged.

Financing should also ensure engagement of all parties and ownership. The BSR InnoNet project was financed by the EU but transnational task force activities (capacity building and cluster pilots) were financed by national and international funds. Capacity building task force activities have been financed by various national sources, the Nordic Council of Ministers and the BSR InterReg programme. National participants and the Nordic Council of Ministers financed the pilot innovation system and cluster task force activities. In both cases, national financing is provided for activities in which the countries desire to participate. National financing represents between 40-50% of total financing, and funds from international organizations (the NCM and the BSR InterReg programme) were secured for the remainder. Financial structures were defined flexibly in line with country capacities and ensured that all BSR countries (including non-EU members) were able to participate.

- Questions: What is an appropriate (and feasible) financial structure in the longer-term? (How should financing be structured to ensure legitimacy and ownership from public sector, active engagement from the private sector, and pragmatism?) How can non-EU countries be continually involved/participate in the activities?

Lesson #4: It is critical that transnational cooperation activities are focused and goal-oriented as well as flexible and adaptable. There is a need to strike a balance between implementing planned activities (towards agreed goals) and addressing new needs/challenges/opportunities as they arise.

BSR InnoNet project activities focused on the three overall objectives: to establish a shared conceptual framework for cluster policy formation; to establish evaluation and operational activities across national borders in the BSR; to establish one or more transnational innovation programme(s) focused on cluster development among BSR partners; and to provide case studies that facilitate learning in the context of the EU. The three working groups (analysts, practitioners and policymakers) worked continually to achieve these overall objectives. New issues, challenges and opportunities arose during the process, highlighting the need for continual anchoring, learning procedures and development of activities and governance structures⁴³. The process was goal-oriented yet adequately flexible to respond to new needs, challenges or opportunities as they arose.

- Question: What sorts of strategic/future-oriented activities (e.g. analysis, studies and policy learning workshops) are necessary? How can they be facilitated?

These issues will be addressed in the coming months as the BSR InnoNet management team and the Swedish team leading efforts to design a flagship programme for the EU BSR Strategy prosperity objective work together to make a successful transition from the short-term transnational project to longer-term transnational cooperation.

⁴³ Regular national consultations were held to anchor activities and understand national needs/perspectives; regular working group meetings were held to ensure shared learning; new methods and activities were developed and implemented within task forces and BSR InnoNet work on the European theme; and new governance structures were developed as needed.





PART THREE

Looking into the Future

Part Three aims to remind readers of the Commission's initial vision and expectations of the InnoNet projects, providing an overview of the BSR InnoNet project conclusions and challenges still to be addressed, in addition to presenting visions for the future. Each of these three areas is presented in separate chapters.

Chapter 3.1 provides a perspective from the European Commission, DG Enterprise and Industry. It reflects on the initial goals and expectations of the InnoNet projects, commenting on the trends and working modes that have evolved over the course of implementation, and presents some thoughts on the future of transnational collaboration.

Chapter 3.2 summarises the BSR InnoNet project results and lessons learned that are useful for the development and implementation within the framework of the EU's BSR Strategy.

Chapter 3.3 presents an overview of how the results from the BSR InnoNet will be used as building blocks for future transnational activities in the framework of the EU BSR Strategy and Action Plan, and provides an overview of the proposed flagship programme on transnational innovation systems, clusters and SME networks.

3.1 Transnational cluster policy cooperation in the EU – challenges and perspectives

By Nikos Pantalos and Bo Caperman, European Commission, DG Enterprise and Industry

The support of transnational policy cooperation in the field of research and innovation is not really a new action developed at EU level. In the past, such transnational efforts have been supported among other activities mainly by the EU INTERREG initiative funded under the EU Cohesion Policy⁴⁴. Moreover, exchange of good practices for innovation has also been supported in the past through the PAXIS EU initiative⁴⁵, funded by the Innovation under the EU Framework Programme for Research and Development. However, policy cooperation was not systematically addressed as a core activity by these initiatives.

New challenges and objectives

More recently, transnational cooperation at policy level for research has been recognised as a cornerstone of the European Research Area (ERA), a major political initiative for promoting research and innovation in Europe. To support such research cooperation at policy level a new instrument was introduced for the first time under the FP6, called ERA-Net. The aim of ERA-Net projects, which have been further promoted under FP7, is to give the opportunity to bring research programmes in different scientific fields developed in different EU countries closer together. The expected benefits of this include better rationalised programme activities by minimising overlapping, optimising resources and developing common programmes for research. The response to this initiative from the Member States was positive, and many ERA-Net projects have been developed in FP6 and FP7 over the last years, several with great success.

A similar concept for innovation has been developed initially under the EU Framework Programme for Research and Development in 2006 and continued under the EU Competitiveness and Innovation Programme (CIP) as part of the PRO INNO Europe initiative. This concept represents a real shift in innovation policy development as it moves from a mere networking between public organisations which was focused on promoting mutual learning, to a “mutual doing” exercise focused to accelerate the development of better policies and practical tools of common interest.

The corresponding projects, called INNO-Nets, aimed at inviting innovation policymakers from different Member states and EU regions to work together on specific issues of common interest. Such projects facilitated the exchange of experiences between policymakers, mainly through developing common practical tools such as methodologies and guidelines in different innovation fields including innovation clusters, services innovation, and research results valorisation. The first generation of INNO-Net projects was launched in September 2006 for a period of 3 years.

In the area of cluster policy, 4 projects have been selected for funding – bringing together more than 50 public organisations such as ministries, regional authorities and innovation agencies responsible for the development of cluster programmes and specific cluster initiatives. The BSR InnoNet project, which is described earlier in this report, was one of the 4 such INNO-Net projects bringing together policymakers from all BSR countries.

Results obtained

The partners involved in these 4 INNO-Net projects on clusters have agreed to work together and constitute the so-called European Cluster Alliance. This Alliance offers an open platform to maintain a dialogue on cluster policies and practical tools at EU level. The European Cluster Alliance is an important component of the EU policy framework to foster the development of more competitive clusters in the EU as proposed in the Commission Communication “Towards world-clusters in the European Union: implementing the broad-based innovation strategy”⁴⁶ adopted in October 2008.

Initially, the Alliance was composed by the partners who were involved in the 4 INNO-Net projects, but more members have joined the Alliance and currently participate as associate members. Members of this Alliance, led by the BSR-InnoNet, have recently prepared a guide on “The use of data and analysis as a tool for cluster policy”.⁴⁷ Another report, led by the CEE-ClusterNetwork INNO-Net, is under preparation and will provide an overview and analysis of

⁴⁴ http://ec.europa.eu/regional_policy/index_en.htm

⁴⁵ http://cordis.europa.eu/paxis/src/about_paxis.htm

⁴⁶ http://ec.europa.eu/enterprise/policies/innovation/files/com_2008_652_en.pdf

⁴⁷ The report can be downloaded from: http://www.proinno-europe.eu/admin/uploaded_documents/GreenpaperECA_web.pdf



different policy actions as developed in the Member States to support internationalisation activities of clusters.

Moreover, the CLUNET cluster project has launched 8 pilot projects both at sectoral level (in areas such as aerospace, biotech, and environment), and at horizontal level (on areas such as incubation and internationalisation). As an example, the aerospace pilot project has set up an active network of European aerospace clusters and establishes active working groups within this network on recruitment/training/exchange workforce, on access to international markets (Asia), and on developing joint research projects for new products and services. The CLUNET project has also succeeded in engaging international partners such as the Montreal Metropolitan Community in Canada.

Furthermore, the INNET cluster project has developed and launched a pilot call for proposals supported and funded by a number of national and regional public organizations involved in this project. This action, called Innovation Express, aims at funding a set of innovation support activities to initiate / develop / enhance technological cooperation between European clusters for the benefit of their SME members. Beneficiaries of this action include cluster organisations and SMEs involved in technology-based clusters. Innovation Express targets short-term support actions of a maximum of one year, with the aim of strengthening innovation capacity in technology clusters and SMEs.

Finally, the BSR InnoNet project has produced an exhaustive list of cluster programmes and initiatives developed in all BSR countries⁴⁸, and on this basis, it has established a joint conceptual framework for cluster policy formation in this region. To test these concepts in practice, a number of pilot cooperation projects were launched in different fields. The work undertaken by this project and the results achieved will certainly contribute and accelerate the implementation of the EU strategy for this particular region, which will be proposed to the European Council for adoption by the end of 2009.

More detailed information about the activities carried out by these 4 INNO-Net cluster projects and the results achieved are provided in the PRO INNO Europe web site⁴⁹.

Perspectives on the Future

Transnational cooperation at policy level offers new possibilities for policymakers to remove barriers and to create a more favourable eco-system in order to further facilitate cluster cooperation at business level. Transnational cooperation at policy level also facilitates the development of joint cluster initiatives, especially in the case of trans-border regions, which will help avoid fragmentation of efforts and waste of resources, and help having a greater impact in the end. This will accelerate the development of more dynamic macro-regions in the EU, such as the BSR geographical area. Such dynamic areas will be the hot innovation spots of tomorrow, hosting world-class clusters in different traditional and emerging sectors (such the creative industries) and in new services.

The European Cluster Alliance will be instrumental in supporting such transnational policy cooperation efforts over the next years. The Alliance will work closely with the European Cluster Policy Group (ECPG) of experts which was recently set up by the Commission to draw policy recommendations on how to further support the development of more world-class clusters in Europe. The Alliance, composed of policy representatives from the Member States, will further elaborate these policy recommendations and examine how they can be better implemented at different levels.

As an example, the members of the Alliance will look on how to foster international cluster cooperation as a way to improve the innovation capability and competitiveness of clusters in Europe. To this end, the Alliance will develop policy incentives encouraging clusters to develop international activities in order to attract the best qualified talent, find the best technologies available worldwide and to develop strategic partnerships with other clusters located outside Europe for strengthening their position in the global market.

The EU-BSR strategy offers an excellent opportunity and a promising policy framework to work together in close association with the European Cluster Alliance to develop, test and validate practical instruments to foster innovation in Europe. World-class clusters will certainly contribute to create more and better jobs in Europe, and drive innovation and prosperity in Europe over the next years.

⁴⁸ <http://www.proinno-europe.eu/index.cfm?fuseaction=page.display&topicID=65&parentID=55#>

⁴⁹ <http://www.proinno-europe.eu/ECA>

3.2 Results and lessons of the BSR InnoNet

By the BSR InnoNet Management Committee⁵⁰

The main objectives of the BSR InnoNet project are to establish a joint conceptual framework for cluster policy formation; to establish operational activities across national borders in the Baltic Sea Region; and to establish joint innovation programmes focused on cluster development among partner countries in the Region. As this publication has highlighted, this has been achieved through the activities of the project's three working groups: the analysts, the practitioners, and the policymakers. Together with the two established task forces, the working groups have contributed with concrete activities and lessons on how to achieve these objectives.

Even though we are still waiting for the final results from project activities (in the fall of 2009), the Management Committee can already present a summary of principles that have been key to developing a joint conceptual framework on cluster policy formation in the BSR, as well as an overview of challenges to managing these transnational activities. On this basis, we would like to draw a number of recommendations for future transnational analytical, programme design and policy activities in the Baltic Sea Region. Although these recommendations are based on the experience of the BSR InnoNet project, they may also be applied in other transnational contexts.

Key Principles of the Joint Conceptual Framework in the BSR InnoNet

Countries in BSR – as elsewhere – have different industrial structures, different policy frameworks and traditions. Accordingly, they have different priorities in activities. Each country has their own rationale for joining the BSR InnoNet transnational framework, which must be respected and integrated in the joint setting. Cultural and institutional differences matter and must be respected and addressed. This is a time-consuming endeavour, but it is important that future transnational programmes take these principles into account during the design and implementation of activities.

Principle #1: Fact-base strategies for action

Given the different points of departure, it is challenging to develop a transnational policy strategy that can serve as the guide for joint action over the long-term. A joint understanding is a necessary platform for joint actions and initiatives. In the case of the BSR InnoNet, it was extremely important to start with the facts. Two inputs were key:

- The mapping of current activities and identified needs for joint action⁵¹
- Data and other factual input on areas of specialization in the Baltic Sea Region⁵²

The report mapping the cluster policies and programmes in the BSR also summarized the areas where joint action was needed. This formed a joint understanding of strategic priorities for action and initial indications on how to work with transnational cluster collaboration. This report has been a crucial baseline for the later operative work of, among others, the two task forces executing pilot transnational activities in the BSR.

In addition, the statistical data from the analysts' working group and the input on strongholds from the policymakers' working group provided other factual baselines from which to define targets for transnational activities.

The collection of facts as a baseline also supports the processes of monitoring and evaluation. The need for follow-up measures which can help illustrate that objectives have been met seems to be even more important in a transnational context.

⁵⁰ Comprised of Andreas Graversen (WP4 lead, FORA); Jens-Erik Lund (Coordinator, Nordic Innovation Centre); Pouline Terpager (WP6 lead, Nordic Council of Ministers); Hélène Vogelmann (WP3 lead, VINNOVA); Emily Wise (WP6, Nordic Council of Ministers); and Markus Zackrisson (Administration, Nordic Innovation Centre)

⁵¹ See *Mapping of Cluster Policies and Programmes in the Baltic Sea Region*, Parts One and Two (June 2007)

⁵² See chapters 2.1 and 2.3 for further details



Principle #2: Facilitate the process and learn together

Successful facilitation of transnational activities in the BSR demands a humble and flexible attitude, a lot of trust-building activities, and is recommended to be a cornerstone for future cluster and innovation programmes. Focus has been on creating an environment that was attractive to join because of obvious benefits. This means that partners do not necessarily contribute and participate exactly the same way, but rather according to needs and resources and on an equal footing.

A key to successful facilitation is to execute from a neutral platform not attached to individual project partners' interests. Even though one can argue that the facilitator's position this way is weaker than coming from a "strong" partner, the perceived credibility of facilitation increases. No patented method exists to suit all transnational cluster collaborations, but it is clearly shown during the project that when individual partners try to dominate, the level of collective trust starts to crumble.

Principle #3: Design activities that meet demands

Transnational cooperation is also built on the design of activities that address a balance between short-term operational objectives and longer-term policy objectives, between national priorities and international strategies, and between multiple stakeholder agendas. It is also crucial that transnational activities are driven by demand.

We are convinced that transnational links between clusters adds value in the long term. But attention should also be put on the short term "quick wins". This is as well targeted at addressing partners/countries' different perspectives and timelines. Early in the project, the identification of "quick wins" was in focus and offered many contributions to project activities in general as well as on the bilateral level.

The methodology of starting pilot programmes on capacity building and linking cluster initiatives can be seen as "low hanging fruits" in a design process. The main objectives of pilot programmes are to test assumptions and modules that later can feed back into a policy discussion and give information on impacts on policy instruments, initiatives and programmes as well as provide peer to peer learn-

ing between the countries national or regional cluster strategies. Ultimately, it is about dual dimensions of firstly operational levels and policy levels and their interaction... and secondly the two sides of the coin regarding national priorities and international strategies.

The BSR InnoNet project is constructed to engage different stakeholders with sometimes quite different views. Analyst's, policymaker's, practitioner's and cluster initiative's baselines, strategic agendas and objectives do not always match. This usually holds true on a regional and national level, but quickly becomes a staggering task when multiplied by ten countries. Respect and time has to be allocated to cater to this open innovation system approach – and ensure that multiple stakeholders are engaged.

To have successful cluster cooperation it has – maybe not surprisingly – proved vital to identify participants by interest. Transnational cooperation should be driven by the desire and readiness of the individual stakeholders to participate in such a context. Since there is a lack of knowledge of potential relevant partners, clever match-making mechanisms should be developed. This is particularly relevant for the development of inter-sectoral initiatives.

The Challenges of Multi-Dimensional Management

Challenge #1: Coordinating activities in an open, inclusive and constructive manner

In the current (nation-state oriented) context, there are usually clear modes of taking decisions and coordinating activities. There is much more limited experience with these matters in a transnational context.

For transnational cooperation to be constructive, it is necessary for all stakeholders to be more open and inclusive. In the context of the BSR InnoNet, regular national consultations and working group meetings made it possible to openly consider different needs, priorities, perspectives and methods of implementation. The BSR InnoNet project also encouraged that different countries and organizations take on leadership roles of the various activities in order to ensure an inclusive setting.

This ‘open method of coordination’ requires a large dose of humility, strong skills in networking and diplomacy, and the ability to solve complex puzzles. Coordination is not simply about finding the ‘win-win’, but about ensuring a ‘win’ all around.

Challenge #2: Continuously evolving management structures

Another challenge to managing transnational cooperation is the need to continuously develop and adjust management structures. In a transnational context – with 10 countries and hundreds of stakeholders involved – everything is in a constant state of flux. The BSR InnoNet managed this challenge through active networking throughout the project, clear yet flexible areas of responsibility, and constant communication.

Project members networked often – in different constellations. Regular working group or task force meetings gathered certain people, while capacity building or transnational cluster pilot activities gathered other people. Through this constantly-enlarging network (affectionately-termed the ‘BSR InnoNet family’), new ideas surfaced and were addressed. This active networking was able to highlight the negative things as well. Often, feedback on areas for improvement was provided during informal settings rather than during planned meetings or other events.

This open networking also led to flexible implementation structures. Although there were clear roles defined at the start of the project, areas of responsibility evolved in a flexible manner over time. The project followed the agreed ‘red thread’ while at the same time was open to explore and experiment. If a new need or idea for joint activity surfaced, these were usually addressed in a very entrepreneurial fashion. One example of this was the academic course on Science, Technology and Innovation Policy for civil servants. The idea was raised over lunch during a national consultation in December. The concept for the course was drafted and anchored within a month, and launched by

March. The course was implemented in June and August, and by the one-year mark, 20 civil servants in seven different countries had completed a 15-credit academic course on STI policy. There are many other examples of quick ‘idea-to-implementation’ in the BSR InnoNet – exhibiting the benefit of flexible implementation structures.

A third – and extremely important aspect – was communication. Through almost daily contact and regular meetings – often called on short notice – the management committee played the role of “SWAT⁵³ team” for the project. Other methods of communication, including a common web platform, innovation journalism, and participation in study trips and conferences have supported internal communication and external branding. Communication within the various transnational cluster pilots has also been an integrated part of cluster activities and should be supported in future transnational activities.

Challenge #3: Levering different financial resources

A third challenge to managing transnational cooperation is securing adequate financing. As described previously, the BSR InnoNet project has identified and implemented a number of transnational activities that have been outside of the scope of the project’s budget.⁵⁴ These activities (including capacity building modules, transnational cluster pilot activities, conferences, workshops and reports related to the European Cluster Alliance themes, etc.) have been financed through national contributions (both cash and in-kind), as well as applications to international funds (e.g. the Nordic Council of Ministers’ mobility programme and the BSR InterReg programme). By leveraging these additional financial resources, the project was able to match the initial project financing – in effect DOUBLING the project’s total budget.

In order to be able to pursue ambitious goals for transnational activities, it is necessary that the management can continually identify and secure financing from a number of sources.

53 Special Weapons And Tactics

54 The BSR InnoNet project budget is 2,4 million Euros (from DG Enterprise and Industry, PRO INNO Europe programme).



3.2.3 Seizing Opportunities – recommendations for a future transnational cluster and innovation programme in the Baltic Sea Region⁵⁵

At the end of the project, results will be documented in a greenbook⁵⁶ that will be presented to the European Commission. However, already now there is clear evidence to suggest that activities of the working groups and task forces are vital elements in learning about the different dimensions of cluster and innovation programme activities. The incremental strategy seems to have worked well. Practical insights gained are of quite another nature than what could have been found via desktop studies.

Despite the barriers and challenges associated with transnational cluster cooperation, there are clear motivations and opportunities which should be seized. To act on opportunities, a framework for a transnational cluster and innovation programme in the BSR should address the promotion of services in open innovative environments and elaborate on user-driven methodologies.

The Management Committee would like to recommend a number of guiding principles which could be the starting point of a future programme:

- Common grounds and future needs must be addressed on equal terms. The characteristics of facilitation/governance principles (described above) are crucial for success.
- Transnational programmes and activities must acknowledge the role of SME networks, cluster initiatives, innovation systems, incremental knowledge development and capacity support activities.
- Modes of selection (mix of bottom-up and top-down approaches) must be carefully designed and tested.

- Modes of co-financing in the national programmes differ. Financing mechanisms must be established that meet the requirements of transnational cluster developments. With the aim of transnational collaboration, the balance between financial instruments based on common pot models and distributed (national) pots is sensitive. If activities are financed solely via distributed financial models, the true nature of the transnational setting will be challenged.
- A stringent and flexible approach must be applied to allocate funding.
- Criteria and objectives must reflect regions'/countries' varying needs.
- Future collaborations must harness demand-driven cooperation. This applies to levels of collaboration, since the ultimate targets of successful transnational collaboration are companies and innovation system actors.

Existing barriers must be addressed by operative frameworks supporting transnational linkages between various clusters, cluster initiatives and innovation networks, and policies defining geographical scopes of future transnational cluster and innovation programmes in BSR. From a programme design perspective, it is important to choose criteria that promote renewal via innovation, with a strong focus on international competitiveness.

⁵⁵ These challenges have been identified by all working groups i.e. policymakers, analysts and practitioners of the BSR project

⁵⁶ The Greenbook will be co-produced by BSR InnoNet, the InterReg project of the Baltic Sea Region Programme and the Swedish team leading the design of the Flagship Programme on transnational SME networks, clusters and innovation environments, proposed within the EU's BSR Strategy and Action plan.

3.3 Footprints into the Future

By Sven-Gunnar Edlund (VINNOVA)

The vision of prosperity in the BSR macro region

To fulfil the prosperity objective of the EU strategy for the Baltic Sea Region (BSR), actions are suggested to create a transnational programme with interacting clusters, innovative milieus and emphasizing SME's. The transnational programme should be well-anchored in the BSR countries and relevant Ministries. The objective is to create prosperity, economic growth and new jobs in the BSR through enhanced cluster and innovation cooperation.

The long-term vision is to establish the Baltic Sea Region (BSR) as a functioning macro region with an internationally competitive position in a number of strategically-prioritized areas. The BSR will be globally-recognized for its multi-disciplinary research and education, attractive business conditions, open and internationally-collaborative innovation environments, and high quality of life.

The Baltic Sea region⁵⁷ is one of the most competitive regions in the world today. The region has been characterized by a very dynamic growth since 2004 and shows strengths in education, technology, innovation capacity and business sophistication. Recently the region has been facing economic challenges due to the global economic crisis. The countries in the region have different sets of competitive advantages and positions with respect to handling the economic crisis⁵⁸. Cooperation between the countries economical, social and environmental issues (among others) is strategically important.

The global innovation landscape is changing. Developing countries are becoming increasingly important sources and drivers of innovation (demanding and supplying new innovative solutions). The most dynamic markets are

outside Europe and the US, and trend-setting demand in consumer products are increasingly generated outside the US and Europe. This creates new demands for innovation policies, particularly when it comes to internationalization. Countries in the BSR need to cooperate in order to create stronger innovative milieus. Innovations have been shown as a central area for creating growth and competitiveness. The Lisbon strategy (updated in 2005) states that the EU should be the world's most dynamic and knowledge-based economy. The capacity for renewal both in product and service development is very important to achieve these goals. For the BSR region to be competitive in the global competition, new ways of working and linking people, companies, research organizations and innovative milieus together will be needed.

There are a number of motives and rationales for strengthening transnational linkages in the Baltic Sea Region. These include:

- *Future challenges demand solutions by more than one country*

There are a multitude of areas where the BSR-countries can cooperate in order to develop new solutions. Two examples of future challenges lie within energy and environment.

- *Increased knowledge spillovers to companies, and to national and regional innovations systems*

Knowledge spillovers are important prerequisites for innovation.

- *SMEs can gain from increased linkages to other companies, to research institutions and to skilled labour force within the whole BSR*

Innovation is often a process in which several partners are included. A larger network facilitates new contacts. SMEs can also gain access to a larger

⁵⁷ The Baltic countries (Estonia, Latvia and Lithuania), the Nordic countries (Denmark, Finland, Iceland, Norway, Sweden), northern Germany, northern Poland and most of Russia Northwestern Federal District

⁵⁸ State of the region report 2008, Baltic Development Forum



market potential and possibilities for commercialization of R&D.

- *For research institutions, a larger critical mass of R&D – and new projects – can be created*

Research institutions will gain from cooperating with other institutions in the region and will also come in contact with companies outside the national boarder.

- *For societal partners, cooperation between the countries can lead to joint action in order to solve future challenges for society*

Concrete action will also promote political action and cooperation between the member states.

- *Increased linkages between the BSR countries and its companies, research institutions and societal partners make the region more attractive to partners outside the region and to investments*

The Process

The EU Commission has decided to develop a strategy for the macro region BSR. This is the first time that the EU develops a strategy for a number of member states, and it is expected to be a model for other macro regions in the EU. The work is coordinated by the EU Commission/DG Regional, which has set up a process and a timetable to develop the strategy. The BSR strategy will be decided on at a summit during the Swedish presidency during the autumn 2009.

The Swedish government – after consultations with other member states in the BSR region – has initiated processes to identify concrete and important actions to be included in the new BSR strategy. In the long term, the actions are meant to create a competitive macro region in the global economy.

The suggested actions⁵⁹ will focus on innovation and increased competitiveness in various business sectors in the BSR. The objective is to create prosperity, economic growth and new jobs in the region through enhanced cluster and innovation cooperation transnationally. Small and medium sized enterprises (SME's), along with competitive clusters and innovation milieus, will be an important part of the suggested measures. The actions are proposed to be launched in January 2010.

Strategic Actions

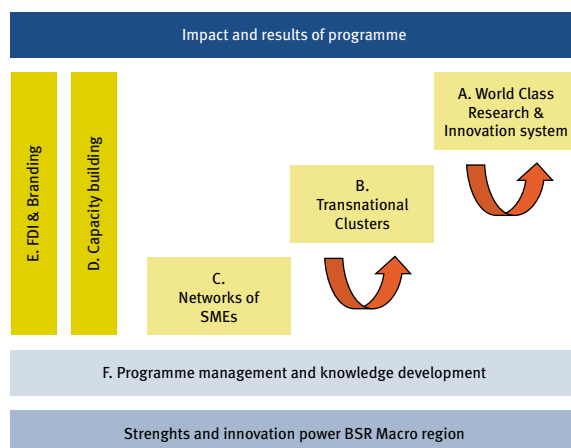
The suggested actions will include a full-scale transnational programme supporting innovation systems, clusters and SME networks in the BSR. The program is based on the following assumptions:

- The Baltic Sea Macro Region will be globally competitive and benefit from creating a joint innovation system based on clusters and SME networks, and including exchange of knowledge, participation in joint R&D projects, human capital mobility, uniformity of education, lifestyle, etc.
- The transnational collaboration can be based on already existing national models
- There is a commercial interest for cooperation expressed by the participating clusters and innovation milieus

The precondition for participation is a commercial interest in transnational collaboration in the Baltic Sea Region. The overall recommendation is that the project should have a combination of “bottom-up” and “top down” approaches and should be built on the new and unidentified market demands, commercial interests and cooperation expressed by the national clusters and innovation milieus. The overall ambition is to create new commercial value in the BSR region.

The programme is suggested to contain the following modules (illustrated in Figure 1, and described in more detail in the text below):

- A. World Class Research & Innovation Systems collaborations
- B. Transnational Cluster collaborations
- C. Innovative SMEs and networks
- D. Capacity building
- E. Foreign direct investments (FDI) and branding of the BSR Macro Region
- F. Programme management and knowledge development

Figure 1 Suggested programme modules

A. World Class Research & Innovation Systems collaborations

This part of the programme is suggested to support the collaboration of strong innovation-milieus in the Baltic Sea region. The participants from each country should be triple helix based. The aim of the innovation systems collaboration is to fully exploit the possibilities of the participation of business, academia and society in each country. An important component in innovation systems is SMEs and their links to universities, industries and other intermediaries. There will be a strong focus on joint R & D projects and on commercialisation of R&D. Linking different national strong research and innovation milieus will create a larger critical mass of research and development resources in order to solve important future challenges for the BSR region.

B. Transnational Cluster collaborations

This part of the programme is suggested to support the collaboration of strong clusters in the Baltic Sea region. Clusters include both large companies and SMEs, their partners in the value chain, institutes, universities, capital providers and different kinds of intermediaries. The aim is to create commercial value and links between the clusters in the BSR region. This will be done through cluster initiatives exploring and testing new forms of transnational collaboration. Experience from the BSR InnoNet will be an important input.

C. Innovative SMEs and networks

This part of the program aims at strengthening the SMEs in their ambitions to improve business activities across the region and/or improve cooperation within R&D. It is crucial to strengthen the capacity and growth of SMEs – and their networking – in the region. Support to SME networking is seen to strengthen innovation activities and knowledge exchange. Example of actions are initiating mutual bridging projects that will involve SMEs from different countries, acting towards common goals, as well as initiating projects that promote risk capital for SMEs.

D. Capacity building

This part of the program has the aim of building capacity and of developing and spreading knowledge on important themes for the development of all the different parts of the programme. This could include knowledge on how to facilitate and manage national and transnational links between innovations systems, clusters and networks. Some of the activities will be on issues such as commercialisation, cluster facilitation, internationalisation, R&D strategies and communication.

E. FDI branding of the BSR Macro Region

An important part of being a world class region within different sectors is also that the competitive strengths are well-known. Today, there are national agencies working with the branding of national strengths and clusters. This part of the project suggests cooperation in the field of marketing the strengths and the cooperation of the BSR-region as a whole.

F. Programme management and knowledge development

The governance of the programme is very important, as this is a tool to strengthen the links between countries as well as promote the strategy in the desired direction. The programme is very complex, and therefore the administration and cooperation between different nations has to be very sufficient. Programme management will be responsible for coordinating, steering and evaluating actions. This part of the programme will also initiate different research and learning projects within areas of importance for the development of the region. Issues that will be addressed will be of common interest for the countries and innovation milieus around the region, and will involve cooperating research institutions. An important aspect will also be the



spreading of knowledge to policymakers and practitioners around the region.

The rationale behind the suggested actions is that on a national and regional level, there is strong evidence both from theoretical and practical studies that well-functioning clusters and competitive research and innovation milieus have positive effects on knowledge spillovers, cooperation and competitiveness, renewal, innovation and investments – which lead to economic growth and new jobs. In such clusters and innovative milieus, industries are co-located, and business, research, innovation and important competencies interact in ways which can out-perform less focused, less clustered and less internationally-connected environments. There is also evidence that SMEs strongly benefit from networking with other SMEs and that innovation takes place at many different levels e.g. within firms and between firms, in networks and within regions. Promotion and support of different kinds of cooperative relations between firms and other actors is therefore very important. In light of the financial crisis, there is a general lack of capital for SMEs – particularly those in the early stages of development. Addressing issues such as inward investment and risk capital in the BSR is therefore important as well.

The Blueprint of a Flagship Cluster and Innovation Programme

The suggested measures are a direct result of the combined national experience in different countries that have run national competence centres and programs on regional innovation systems, SME networks and clusters. Germany, Norway, Finland and Sweden, have an extensive experience in promoting these type of activities.

The suggested actions are, as well, based on the transnational collaboration experience gained from the ongoing Baltic Sea Region InnoNet project, which started in 2006 and will end in September 2009. The BSR InnoNet has developed a range of results and will deliver more when the project ends. Some of these results can be used directly as content in the design of the flagship programme.^{60 61 62}

Experience from successful innovation programs in other countries has been and will be studied. This is to further

establish a sound and thorough analytical foundation and to examine the adequate framework and objectives of a “flagship” programme. Examples of programmes are: Canada’s “Networks of Centres of Excellence programme”, Germany’s “Kompetensnetze Deutschland”, Australian programme on “Networks of Centres of Excellence” as well as the examples of SME and innovation-oriented programmes, i.e. SME programmes in the USA and the portfolio of cluster and innovation system programs in Japan and Korea. It is also important to build on the extensive knowledge bank of DG Enterprise⁶³ as well as the future national innovation policy and strategy work of the BSR countries⁶⁴.

Footprints into the Future – starts with taking steps together

It is important that all countries in the BSR participate in creating the programme, and that all countries’ experiences and knowledge in the area of clusters, innovation systems and SME networks are taken into account. Lessons learned from national and transnational programs are an important base for creating the future programme.

An informal strategic forum has been created in April 2009. This forum consists of national partners (agencies/ministries) from the different countries in the BSR and is lead by VINNOVA. The forum will finalise the actions, arrange and coordinate funding and initiate the programme. The development of the program will be done jointly by the countries during 2009. Working groups for the different sub actions will start their work in May 2009.

The financing structure of the future programme is complex. There are innovative ideas on how to solve these obstacles. The EU Commission – DG Regio has appointed a special task force to facilitate the financing structure of the different flagship projects in the BSR strategy. They will work closely with other DGs and with the different nations.

The EU Strategy for the Baltic Sea macro region is a new and innovative tool for development. The flagship project on transnational cooperation in research & innovation, cluster and SME networks has come a long way, and there is a strong commitment from the BSR countries to develop a programme that will contribute to future growth of the region.

60 Results, learnings, recommendations from the pilot programmes with regard to developing future similar transnational activities described in this publication (Part Two)

61 Programmes with regard to developing future similar transnational activities

62 Draft programme proposal presented in November 2008

63 The European Cluster Memorandum, Commission staff working document SEC (2008) 2637, and Challenges and opportunities for a European strategy in support of innovation in services: Creating new markets and jobs through innovation, draft of 24.032009

64 With Finland, Germany, Norway and Poland front-runners of innovating policy on clusters and innovation policies, strategies and operational programmes





