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# ScanBalt BioRegion: A model case for Europe

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## Abstract

Europe takes part in a global competition for scientists, capital and knowledge – major factors of importance for societal growth. In the USA, regions such as Bay Area, Massachusetts and North Carolina, in particular, have developed to a critical mass far beyond the potentials of individual regions in Europe or other parts of the world. The foundation of the ScanBalt BioRegion as a pan-European life science/biotechnology collaboration has the perspective of closing this gap. The greater Nordic-Baltic region – including the Nordic countries, the Baltic countries, North Germany, Poland and the north-western part of Russia – constitutes a meta-region with a great pool of knowledge, capital and resources. In recognition of these potentials, the Nordic-Baltic region has marked itself as one of the world's most proactive in terms of building cross-sector and pan-regional networks and cooperation at local, regional and meta-regional levels.

As a consequence private companies, public institutions and governments are aiming to create an internationally competitive and prosperous meta-region comprising Denmark, Estonia, Finland, Iceland, Latvia, Lithuania, Norway, Poland, Sweden, north-western part of Russia and the northern part of Germany. Thereby the political visions, for years expressed by, for example, the Baltic Development Forum, are becoming a reality in the world of biotechnology and life sciences – the frontier of a knowledge-based society. The emerging meta-region is named the ScanBalt BioRegion.

## Terminology

**Macro-region** is an evolving social level between the nation and the international, global level. The European Union is a macro-region. **Micro-region** is one or several adjacent transnational or subnational region(s) that, within the framework of the macro-region, seeks a niche or expresses a common interest.<sup>1</sup> Macro- and micro-regionalisation can therefore be seen as two sides of the same process.

We define **meta-region** as a region of regions (between already-formed micro-regions) within the framework of the European Union macro-region.

**Meta-regionalism**, of which we believe ScanBalt is an example, is thus the process of connecting micro-regions into larger social entities, **meta-regions**.

## ABOUT THE REGION

The ScanBalt BioRegion encompasses 11 countries and 85 million people. There are

60 universities and more than 700 biotechnology-related companies. Examples of large pharmaceutical companies operating in the ScanBalt BioRegion include Astra Zeneca in Sweden and Novo Nordisk in Denmark, while a number of small and medium-sized companies are spread over the region in various countries, and in the candidate countries, such as Asper Biotech in Estonia and Bioton in Poland. Geography, history and communication are important elements in shaping a region. All ScanBalt BioRegion countries have a closely interlinked history and most of them were part of the well-known Hanseatic league from the end of the 11th century to the beginning of the 17th century.

Skagerak, Kattegat, the North Sea, the Baltic Sea, the Gulf of Botnia and the Gulf of Finland have been and continue to be important for transportation. Ferry lines connect Sweden and Norway with Denmark, Germany, Poland, the Baltic

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**Common history**

States and Finland. The Øresund Bridge and the Great Belt Bridge are important links to continental Europe. Flight connections between major cities in each country are well developed. In short, common history, geographical proximity and excellent transportation facilities are important pillars supporting the ScanBalt BioRegion.

**Geographical proximity**

**Excellent infrastructure**

Although all 11 countries and their regions have common historical traits, their cultures and political traditions are different. This diversity within a family of related countries is an important resource of synergy. With visionary and dynamic management of existing cultural, economic, social and legislative differences, ScanBalt can support sustainable growth and better understanding between the countries by creating collaboration between existing networks and institutions such as BioTurku, MedCoast Scandinavia, Estonian Genome Foundation, BioCon Valley, Gdansk University, Medicon Valley Academy, etc, thereby being a 'network of networks'.

**STRONG HISTORICAL BONDS IN THE REGION**

The concept of a network of networks in the Baltic Sea region is not a new one. It could be argued that the story of a meta-region began hundreds of years before, based on the close historical trade links. The Hanseatic league was established 1,300 years previously as an informal collaboration between trade cities gathered around the Baltic sea and extending its reach as far away as London, Bergen and Novgorod. Every year, representatives from the Hanseatic cities met and discussed matters of vital interest. There were, of course, significant differences in the needs and interests between the various cities; however, even though they were competitors, they could agree on important strategic goals of common interest. The Hanseatic league therefore played an important commercial and political role in the Baltic region for nearly

**The Hanseatic league**

**Strategic goals of common interest**

300 years, having its peak from 1370 to the beginning of the 17th century.

Today's version of the Hanseatic league goes as far as Iceland and St Petersburg. Many of the partners in ScanBalt are already collaborating and organised in geographically more restricted micro-regional networks such as The Medicon Valley Academy, BioCon Valley, BioTurku, or in organisations such as the Estonian Genome Foundation, Norwegian Bioindustry Forum, Tartu University and the Latvian Genome Project. We see the biotechnology/life sciences network ScanBalt as a tool for meta-regionalism by bonding together the various micro-regions.

The official story of ScanBalt began when leaders from public institutions, private companies and EU officials from what is now defined as the ScanBalt BioRegion sat around the table during the 1st Baltic Biotech Forum in Teterow, Germany, 2001. They agreed upon the creation of a mission for the region, a mission that should be backed up with economic resources as quickly as possible.

**SCANBALT'S MISSION**

ScanBalt's mission, adopted in January 2003, is to promote the development of the ScanBalt BioRegion as a globally competitive meta-bioregion by forming a network of networks and promoting public dialogue on the opportunities and dilemmas of biotechnology and related disciplines. During the next three years, ScanBalt will focus on three priority areas in order to fulfill the mission.

**ScanBalt organisation**

The ScanBalt Secretariat will, through a qualified organisation and the continuous development of the web portal, serve as a one-stop entry to biotechnology/life sciences in the ScanBalt BioRegion.

**ScanBalt promotion and network**

ScanBalt will help promote the visibility of the ScanBalt BioRegion in the

worldwide biotechnology and life science communities. It will expand and strengthen the network in the ScanBalt BioRegion.

### **ScanBalt project platform**

ScanBalt will facilitate the establishment of at least two independent ScanBalt projects each year. It will improve educational mobility and innovation within the ScanBalt BioRegion and will focus on economic barriers for borderless cooperation.

## **SCANBALT – A MODEL FOR ORGANISING EUROPEAN BIOTECHNOLOGY IN A COMPETITIVE WAY**

The attention that ScanBalt has drawn in its short lifetime has been huge, both from up-and-coming biotechnology nations, such as Poland, Estonia, Latvia, Lithuania and Russia, and from the more established (in terms of the commercial perspectives of biotechnology) nations, such as Germany, Sweden, Finland, Norway, Denmark and Iceland. The central idea – to establish a ‘network of networks’ between the already established micro-regional networks on order to facilitate and coordinate the work of these initiatives and promote internal collaboration, cooperation and development on a trans-national level – goes along with most of the regional, national and European political strategies. In fact, EU officials argue for a regionalisation process that connects the EU’s now more than 200 micro-regions to fewer than 10 meta-regions.

ScanBalt can be seen as a pan-European model region to enhance European competitiveness in life sciences, biotechnology and health. It is the objective of a ScanBalt application within the 6th Framework Programme to provide an extensive and structured mapping of the ScanBalt BioRegion, providing a status and overview with respect to actors, competencies,

framework conditions and other relevant factors on a globally comparable basis. This analysis should provide the basis for developing a model of joint regional strategies and recommendations about how to strengthen the competitiveness of a pan-European region and to contribute, with the results of an in-depth analysis, to recommendations for the optimisation and restructuring of the European research area.

All partners are, however, aware that in pursuing these goals the Nordic-Baltic region faces several crucial challenges, including the following:

- Strengthening the integration among key actors from the scientific, healthcare and business community within the meta-region and developing their capabilities and competencies – not least among EU candidate countries – to benefit fully from the integration.
- Identifying, mapping and assessing the resources and competencies of the region in the biotechnology and life science area and increasing mutual awareness and visibility of activities and conditions, strengths and weaknesses among the key actors.
- Developing joint objectives and strategies to ensure maximum exploitation of the competencies and resources among all actors and institutions in the field.

As a consequence, the need for a joint, membership-based core organisation with clear strategic objectives was agreed upon unanimously by the ScanBalt steering committee. Proposals for a future organisational model for ScanBalt are presently being prepared, with the aim that ScanBalt should be an independent body in 2004. All discussed models take into account that it is essential for the sustainability of the organisation to leave the real ownership to ScanBalt in the hands of the regional partners.

**Network of networks between already established micro-regional networks to facilitate and coordinate**

**Building a communication platform on biotech and life sciences**

## **COMMUNICATION BINDING SCANBALT TOGETHER**

As a mainly virtual cluster, communication plays an important role in binding ScanBalt together. The partners in ScanBalt need a forum, where they can tell their ScanBalt partners what is going on in their region or in their organisation. That can be, for example, conferences, seminars, network activities in general, search for research, development and/or business partners or activities and initiatives from the ScanBalt organisation itself. Therefore *ScanBalt News* is mailed once a month to all partners and interested parties. *ScanBalt News* is mainly based on input directly from partners and actors in the ScanBalt BioRegion, thereby reflecting the activities in the network.

Another platform for communication between the ScanBalt partners and between ScanBalt and decision makers is the ScanBalt Forum. This is a two-day conference, which in 2003 took place in Gdansk, Poland, 8th–9th May. It is an active forum of networking, combining aspects from a high-level scientific conference with advantages of a more workshop-like event. One main goal of the Forum is to create new platforms of cooperation between science and industry which could lead eventually to new application consortia, combining the resources of ScanBalt, the Nordic Industrial Fund, the EU and other bodies. The ScanBalt Forum also serves to create a club-like atmosphere between the ScanBalt Partners – at the end of the day, much is about personal contacts. In 2004 the ScanBalt Forum will take place in Turku, Finland, on 25th–27th August.

## **NORDIC INDUSTRIAL FUND SUPPORTS SCANBALT**

**Nordic Industrial Fund is a key promoter and partner of ScanBalt**

In 2002 the Nordic Industrial Fund (NI) decided to support the initial project, the primary aim of which was to start building a close network of contacts and cooperation to generate synergies and ensure the best possible exploitation of

common resources. An important part of the work was an initial mapping of interested parties, who could join in a common understanding of the purpose of ScanBalt. During 2002, round table discussions led to an agreement which resulted in the mission described above. Another tangible result was an application for €714,000 in further support from the NI, corresponding to 50 per cent of a total budget for three years on €1,428,000.

Early in 2003 the NI decided to fund ScanBalt with €714,000, which will be spent on four projects: (1) ScanBalt organisation; (2) Biotech, one click away; (3) educational mobility; (4) economic barriers for borderless cooperation.

## **ScanBalt organisation**

The ScanBalt organisation will consolidate and build the ScanBalt network organisation as a regional/national-based decentralised structure and in addition expand the ScanBalt network of networks to be a key factor in the ScanBalt BioRegion. The organisation and steering committee will mediate in the creation of new projects and networks that fulfil the mission and respect the values of ScanBalt. These projects will have independent funding and steering committees. As a network of networks, ScanBalt will rely on local bionetworks when consolidating the structure. ScanBalt as an organisation should be turned into a self-financed and independent acting body for life science and biotechnology collaboration in the ScanBalt BioRegion.

## **Biotech, one click away**

This will establish [www.scanbalt.org](http://www.scanbalt.org) as the portal to life sciences/biotechnology in the Nordic-Baltic area. The website will be a natural tool in people's work, when finding information on, for example, conferences, courses, partnerships and competencies in the ScanBalt BioRegion. It will develop into a dynamic, virtual cluster, where relations between actors are developed continuously based on regional web editors.

### **Educational mobility**

This will improve 'brain circulation' in the ScanBalt BioRegion. Mobility among researchers and students must be improved in order to diffuse knowledge and solve the structural aspects of recruitment bottlenecks. A relevant part of the analysis of educational systems in each country and existing exchange possibilities is the first step. An important aspect is the avoidance of brain drain, necessary for the development of trust and respect between countries.

### **Economic barriers for borderless cooperation**

This will make the existing support system for cooperation within biotechnology more visible and propose – and if possible establish – new specialised supporting structures.

### **FIRST 'FRUITS' OF SCANBALT**

There are positive signs that the collaboration born in 2001 is healthy. The number of networks utilising the ScanBalt umbrella is increasing, and the information flow between the partners is growing stronger, resulting in new projects and initiatives. Furthermore ScanBalt can be seen more and more as a brand name – for the region and its resources and their quality, which should support the region's potential to attract the necessary financial and human capital in the long term. In particular, the capacity of ScanBalt to attract human capital and turn the ScanBalt BioRegion from being a net provider of human capital to other global regions into an attractive place to work and stay is regarded as an important parameter for success.

### **THE ESTABLISHMENT AND DEVELOPMENT OF THE ORGANISATION**

ScanBalt has been established with a steering committee, a chairmanship and a secretariat. The steering committee is responsible for taking decisions and the

strategic development of ScanBalt. The steering committee has representatives both from the individual networks and from the countries, so that all parties in ScanBalt can have the necessary influence on the organisation and its development.

### **Chairmanship**

- Chairman Bo Samuelsson, former Vice-chancellor of Göteborg University, Vice-chair MedCoast Scandinavia.
- Vice-chair Wolfgang Blank, Managing director BioCon Valley, Rostock.
- Vice-chair Børge Diderichsen, Vice-president Novo Nordisk, Copenhagen.
- Vice-chair Anna Podhajska, President, Faculty of Biotechnology, University of Gdansk.

### **Other members of the steering committee**

- Göran Bondjers, Professor, Sahlgren's Academy, Göteborg University, Sweden.
- Peter Brodelius, Dean, University of Kalmar, Sweden.
- Bent Christensen, Managing Director Medicon Valley Academy, Denmark.
- Werner Christie, Director, Norwegian Biotechnology Advisory Board, Norway.
- Hanna Halme, Project Manager, BioTurku, Finland.
- Lene Bjerre Herdel, Head Of Department, Frederiksborg County, Denmark.
- Hilde W. Horge, Counsellor, Hedmark Innovation Centre, Norway.

#### **Chairmanship and steering committee**



**Mapping of actors, competencies, framework foundations and other relevant factors is a prerequisite for building up the ScanBalt BioRegion and important for establishing an identity**

- Gunnar Hörnsten, Project Manager, SIK, Sweden.
- Mogens Hörder, Chairman of the Board, bioTEAM south, Denmark.
- Arvydas Janulaitis, Head, National Institute of Biotechnology, Lithuania.
- Iordanis Arzimanoglou, CEO, Biomedico Forum, Denmark.
- Ole Marvik, Chairman, Norwegian Bio Industry Forum, Norway.
- Peter Nilsson-Ehle, Dean, Lunds University, Sweden.
- Kaare Norum, Chairman, MedCoast Scandinavia, Norway.
- Ole Petter Ottersen, Professor, Oslo University, Norway.
- Janus Pikani, Chairman, Estonian Genome Foundation, Estonia.
- Valdis Pirags, Medical Director, Latvian Genome project, Latvia.
- Pirkko Suhonen, Bioforum, Finland
- Egon Toft, Chairman, HealthnTech, Denmark.
- Vadim Vasilyev, Professor, Institute of Experimental Medicine, University of St Petersburg, Russia.

The daily management of ScanBalt is handled by the chairmanship in cooperation with the secretariat, currently in Copenhagen.

### **ScanBalt as a virtual cluster**

The first version of the ScanBalt website<sup>2</sup> has been developed, providing information about the organisation, members, activities, news and projects. The website is under continuous development and version 2 is expected to be ready in January 2004. An important

feature of this new version is the regional involvement, thereby following the path of decentralisation, which will be a common characteristic of nearly everything going on in ScanBalt. The web development is the responsibility of a working group headed by research counselor, Jørgen Dirach, Novo Nordisk A/S.

### **Educational mobility in the ScanBalt BioRegion**

The work on educational mobility is headed by Prof. Vadim Vasilyev, Institute of Experimental Medicine, University of St Petersburg, who is chairman of the work group. The project intends to publish a ScanBalt Guide to Mobility, which will contain the results from a mapping of funding possibilities for educational mobility in the ScanBalt BioRegion. Another important goal is the formulation of an Educational Mobility Strategy with vision and well-defined actions and expected results. The work group has initially been focusing on two main areas: stem cell research and agro-biotechnology. In November 2003, leading stem cell researchers from all the ScanBalt countries met to discuss and form a common framework of cooperation. Training and mobility of researchers will be highly important in order to develop cooperation, transfer knowledge and exploit synergies. If such measures are initiated, the ScanBalt region may become one of the world's leading areas in stem cell research.

### **Mapping of the ScanBalt BioRegion**

If you know yourself, you also know what you are capable of – this holds true also for ScanBalt. Therefore mapping activities are seen as a prerequisite for building up the ScanBalt BioRegion, while the mapping process itself can help to establish a common understanding and identity in the region. The overall aim of mapping is to provide an extensive and structured mapping of the ScanBalt BioRegion, providing a status and

overview with respect to actors, competencies, framework conditions and other relevant factors on a globally comparable basis. ScanBalt has obtained substantial funding from the EU for these activities, which will start early in 2004.

### Projects using the ScanBalt umbrella

A pilot project entitled 'IP Knowledge Center within the ScanBalt BioRegion' is almost finished. The pilot project, which was funded by the Nordic Industrial Fund, analysed the market for the establishment of larger network of knowledge and education in the field of intellectual property (IP) management. Knowledge of IP management is among the core competencies of managers and researchers in the biotechnology industry. The pilot project provided a clearer picture of supply and demand in this field within the ScanBalt BioRegion. An analytical task force (Project Team) was established, headed by Bo Heiden and associates, Center for Intellectual Property at Chalmers University of Technology and Göteborg University in Göteborg, Sweden. The project team prepared a report<sup>3</sup> that gave important policy recommendations for the establishment of an IP Knowledge Center within the ScanBalt BioRegion. In the pilot project, 19 private and public partners were involved. More permanent funding for the realisation of the recommendations from the pilot project is currently being established.

Other important focus areas, which in the near future will operate in close connection with ScanBalt, are marine

biotechnology, nanotechnology, biomaterials, biologically active compounds from plants, tissue engineering, molecular diagnostics, genome analysis, stem cells and bio-banks.

### Impact and potential

A clear sign of ScanBalt's increased visibility are the numerous invitations to present and speak at different occasions, eg Bio 2003 in Washington, USA, and Biovision 2003 in Lyon, France. At Biovision 2003, the chairman of ScanBalt, Bo Samuelsson, gave a lecture on a given title 'How to create critical mass, ScanBalt the success story' during a special session 'BiotEC, The European Union and Biotechnology, focusing on the EU Support for Research, Innovation and Financing'.

High-level political contacts, increased attention in the media but, first of all, the steadily increasing numbers of partners in ScanBalt are all indications of that ScanBalt is making its mark in the European and international world of biotechnology. The coming years will show if the ScanBalt model is the way to a competitive European biotechnology sector.

For further information please contact the ScanBalt Secretariat, Gammel Kongevej 1, 4, 1610 Copenhagen V, Denmark.

### References

1. Hettne, B. (1997), 'Den europeiska paradoxen', Nerenius & Santérus Förlag.
2. URL: <http://www.scanbalt.org>
3. Available from the ScanBalt secretariat.

#### Current ScanBalt projects:

- ScanBalt IP Knowledge Center
- Marine biotechnology
- Stem cell network
- AgBiotech network
- Nanotechnology
- Biobanks
- Bioethics
- University Hospital network
- ScanBalt Campus
- ScanBalt Competence Region