Innovation in the Baltic Sea Region

A study for the Directorate-General for Regional Policy, European Commission

Presentation to the conference on
Smart Specialisation and Growth in the Baltic Sea Region
Malmö, Sweden, 5th April 2011

Alasdair Reid, director, Technopolis Group (Brussels and Tallinn)
Objectives of the study

- to provide an overview of existing national and regional innovation strategies of the Member States covered by the EUSBSR.
  - a mapping of national and regional innovation strategies reflected in the budget of EU Member States in the Baltic Sea Region;
  - match the results from the mapping with existing data on the contribution of the ERDF to national & regional innovation policies;
  - identify who is in charge of delivering innovation activities in the European Union Member States within the Baltic Sea Region;
  - identify elements of good practice and transnational cooperation in assessed strategies.
- Provide recommendations for future EU support for innovation in the context of the review of the EUSBSR.
Policy context

• Baltic Sea Strategy (2009):
  • 1\textsuperscript{st} ‘macro-region’ strategy
  • A key objective: "to exploit the full potential of the region in research and innovation”

• Europe 2020 & the Innovation Union (2010):
  • “EU and national/regional innovation policies should be closely aligned and mutually reinforcing”.

• Regional Policy contributing to smart growth in Europe 2020 (2010).
  • National and regional governments should develop smart specialisation strategies to maximise the impact of Cohesion Policy in combination with other Union policies.
  • Smart Specialisation concept seeks to involves businesses, research centres and universities working together to identify a region’s most promising areas of specialisation
Study process
Key findings

- Innovation performance and opportunities: common challenges, diverse strengths.
- Unbalanced efforts to focus and specialise innovation policies
- A macro-region with many talents but a lack of critical mass
- The Structural Funds: a major contributor to BSR innovation policies...
- ...but far from ‘levelling’ the playing field
- A history of transnational co-operation but with limited synergies with regional and national strategies.
- A strong rationale for increased co-ordination of innovation strategies and joint-programming in a number of fields!
Baltic Sea Region: a diversity of innovation performance

• Highly innovative ‘hotspots’:
  • **Nordic capital regions and regions with a high tech advanced business & research poles** (Gothenburg, Oulu, Turku, etc.).
  • **Business the driving force in innovation** (accounting for over 60% of R&D investment), while public interventions focus on new and emerging platforms.

• Medium-high innovators: Nordic second tier regions, Schleswig-Holstein and Mecklenburg-Vorpommern, Estonia.
  • **Investment driven by a mix of public and higher education sector but with average to above average business performance.**

• Low to medium-low innovators: Polish regions, Latvia & Lithuania.
  • **driven essentially by public (& higher education) investment**
Matched by a ‘diversity of policy’?

- These distinctive ‘innovation systems’ imply a need for different policy routes:
  - *Highly innovative regions are ‘punching on global stage’* – competing with other leading innovative city-regions across EU in advanced technologies;
  - ‘Second tier’ regions are seeking to consolidate business innovation strengths around a number of regional ‘clusters’ or innovation platforms;
  - The ‘catching up regions’ are still in an ‘investment phase’ of rebuilding a ‘competitive’ public/HE R&D with limited capacity for investing in R&D by the business sector.

- But in all three cases, need to focus and specialise to keep or build an innovation advantage!
Innovation Strategies– elements from regional analysis

- Most strategies build from traditionally strong sectors and attempt to ‘blend in’ or ‘foster emerging technologies/clusters.'
Specialising innovation Strategies – common themes?

• Main sectors targeted by regional strategies include:
  • \textit{ICT} (13 regions);
  • Agro-food (including forestry) (11)
  • Healthcare/wellness (10) and the related fields of
  • Biotech (8) and life sciences (7).
  • Cleantech’ (notably Denmark and Finland);
  • Energy (renewables)
  • Materials: ranging from nanotech, through plasma to smart textiles and more traditional materials.

• Larger business or clusters influence strongly regional ‘thematic’ specialisation focus:
  • Schleswig-Holstein (maritime), Danish regions (food, wind, maritime), Finland (IT, wellness), Sweden (packaging, etc.)
Specialising innovation Strategies – unbalanced efforts

- However, most interview respondents considered that their region/country was not yet developing a ‘smart specialisation’ strategy & some questioned ‘wisdom’ of doing so
- ‘At least half of Swedish regions have a good, even evidence based, understanding of their specialisation’
- Danish Growth Forums and Finnish OSKE-Competence clusters build on strong triple-helix partnerships
- Baltic States (EE, LV, LT) have specialisation focus ‘on paper’ in their national policies on technologies/sectors
  - but in practice progress slow in focusing investment.
- Polish regions least advanced despite ‘RIS’ since mid-2000s
  - Pomorskie has made progress in developing ‘strategic clusters’.
Specialisation is about process – who is driving innovation strategies - as much as ‘strategic choices’!

- Clusters (triple-helix partnerships) main driving force for specialisation in Sweden, Denmark and Finland and to some extent in German regions. Case study examples include:
  - *Skåne Food Innovation Network*
  - *Robotdalen (Central Sweden)*
  - *BioCon Valley in M-V (D)*

- Stronger (dominating) role for public-academic sector in Baltic States and Poland but with some efforts to increase business involvement:
  - *Lithuania – Integrated centres of science, studies and business ‘Valleys’*
  - *Pomorskie Strategic Clusters*
  - *Competence Centres in Estonia*
An ‘institutionally thick’ landscape for innovation!

- Study identified 490+ stakeholders/organisations (+/- 20 per region)
  - Broad balance of organisations from ‘triple-helix’ with strong influence of public-academic research sector
  - About 40% of organisations ‘involved’ in BSR co-operation.
A macro-regions with many actors and opportunities...

- Use of cluster organisations as ‘knowledge brokers’ and for focusing on innovation platforms as source of ‘innovation-led’ growth (Varmland, SE);
- Regional markets too small for most companies – cleantech and life science clusters need to expand across BSR (Skåne, SE);
- Expanding research ‘infrastructures’ (LT, EE, PL, M-V) – but focused on ‘institutional priorities’ rather than ‘strategic vision’;
- Science Parks as ‘property schemes’ not service providers (LT) – opportunity for BSR to improve service provision?
- BSR ‘triple-helix’ dimension important - in Cleantech, for example, municipalities key customers;
- Main role for government sector in driving and promoting strategies – need for stronger ‘business’ role?
Implementing innovation strategies – a division of labour between national and regional policies?

- Across 25 BSRs the study identified:
  - Over 300 national measures from the TrendChart-ERAWATCH database;
  - Around a 100 key regional measures from the Regional Innovation Monitor database.

- National measures focus mostly on:
  - research excellence & infrastructures in universities and public research centres (19%) and
  - linkages between the ‘research base’ and the business sector (16%).

- Focus of regional measures is complementary and includes:
  - Support to innovative start-ups
  - Innovation advisory services
  - Clusters
Implementing innovation Strategies: multi-level governance is important

- Thematic focus of national innovation measures
  - 40% ‘generic’:
    - ICT (8%); environment (including climate change) (7%); Health (6%) and biotechnology (6%)
  - Plus industrial production, energy, nanotech and agro-food
  - nationally funded R&D infrastructure/centres often seen as ‘nodes’ on which regions try to build competence (D, SE, Fin, etc.)

- In larger Member States (Germany, Poland to some extent Sweden), the interplay between national and regional innovation policies is a crucial element:
  - E.g. research centres of main German research institutes (Fraunhofer, Max Planck) are regionally located centres with national goals – integration with regional business?
How important are the Structural Funds compared to regional R&D investments?
Are the Structural Funds levelling the playing field?

- Significant share of RTDI funds in Estonia, Latvia, Lithuania and Polish regions
- A ‘ground-breaker’, ‘fundamental and necessary in early phase of new developments’. (Nordic countries)
- But even with volume of funding allocated to convergence regions, barely ‘closing the gap’

<table>
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<th>Region</th>
<th>GERD per capita (2007)</th>
<th>SF RTDI per capita annual average 2007-13</th>
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<td>Zachodniopomorskie</td>
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Contribution of ERDF? Elements from regional analysis

- Still to observe real impact of Structural Funds in Estonia, Latvia, Lithuania, Polish regions:
  - ‘implementation rather slow, we don’t see results yet’ (LV, LT),
  - ‘efforts concentrated on consumption of funds’ (PL)
- Lessons of ‘early programming’ in convergence regions (M-V, D), a first class infrastructure with ERDF support but still need to build up competitive R&D activities.
- In ‘medium-innovative regions’, ERDF re-focusing on ‘competitiveness’ (science-industry-markets) rather than ‘underdeveloped rural areas’ welcomed (e.g. S-H).
Transnational co-operation – one size fits all?

- Diversity of ‘innovation systems’ so need for tailored approach that builds up national/regional specialisation focus while maximising potential for synergies (cost-effectiveness) of investments
- BSR co-operation is a multi-tier / multi-speed process:
  - **EUSBSR + BSP / Interreg, etc. – top down strategies added to bottom-up project bidding in framework of territorial co-operation**
  - **Innovation Union / European Research Area - push for joint programming (ERANETs) and co-ordination of infrastructure investments (ESFRI)**
  - **Nordic vs rest! Nordic Council and institutions (Nordforsk, NICe, etc.) and coordinated programme based approach versus ad-hoc, ‘weak institutions’ framework in rest of BSR.**
Transnational co-operation

- Baltic Sea Programme:
  - Projects target diverse range of sectors (fostering innovation sub-theme). Energy, ICT and environment (3 projects each), creative industries, biotechnology (2 projects).
  - the BSHR HealthPort and StarDust projects are both partly financed by the BSP.

- INTERREG IVC
  - focus of projects on government and social relations, creative industries and ICT
  - Strong participation by Sweden (37% of participants) and Finland (30%), lower from the three Baltic countries.
Transnational co-operation

• ERANETS:
  • *All Baltic Sea countries involved but Germany (in 35% of all projects) leads by far followed by Finland, Sweden, Denmark and Poland*
  • *BSR participations focuses on nanotechnologies as well as on societal challenges (climate change and enviroment issues); but also more traditional sector such food, agriculture and fisheries.*

• Regions for Knowledge:
  • *Strongest participation from Denmark and Sweden*
  • *BSR participation in ICT and information society; socioeconomic science and humanities; and environment fields*

• Europe Innova & Inno-NETS (CIP):
  • *INNO-NETs: 13 projects involve 30 BSR organisations.*
  • *Europe-Innova, 29 with over 60 partners organisations involved.*
  • *most active organisations from Finland, Denmark Sweden*
  • *ICT and information society and environment sector.*
Analysis of BSR participation in FP6

- 255 projects with BSR participants involved 524 times
  - only one project entirely composed of BSR partners
  - 43% of the projects contained a single BSR partner, 21% two and only three projects had eight or more BSR partners

- Clear preferences for two priority areas:
  - Sustainable development and ICT each with about 19%,
  - followed by life science with 13%

- Considering ‘Sustainable development’ case:
  - Sweden had highest participation, followed by Denmark and Finland
  - at regional level, South Finland followed by West Sweden had highest number of participations
  - few Polish partners - less developed research infrastructure and weak integration in international research networks.
BSR co-operation as an element of regional strategies

• In most cases, the current co-operation is limited to specific projects (funded via EU or Nordic co-operation programmes):
  • During interviews StarDust, Scanbalt, STRING, CLEANSHIP, etc. were most commonly cited as most strategic initiatives.
• Very few examples of regions specifically integrating an ‘external synergies’ analysis into their regional strategic planning process.
• Regions which reported links between their own strategies and Baltic Sea co-operation included Pomorskie, Mecklenburg-Vorpommern, Schleswig-Holstein, Skåne.
• Other regions tended to report more bilateral/cross-border co-operation (e.g. Helsinki-Tallinn, Medicon Valley and other Öresund co-operation platforms).
Five main recommendations

• Further develop macro-region clusters and ‘competence centres’
  • *But need to take more account of relative levels of development of clusters and focus on specialised niche in ‘less innovative regions.*
  • *Potential for linking competence centres in various Member States*
• A Baltic Sea vehicle for young innovative enterprises:
  • *Majority of regional and national seed and early-stage funds sub-critical even in Nordic countries*
• An open access to Baltic Sea research infrastructure
  • *Need for much greater strategic focusing of investments and search for complementarities across ‘borders’*
• Joint programmes rather than project based funding – BSR research & innovation programmes in limited number of ‘common interest’ fields
• Mobility of innovators and expertise : mobility programmes and BSR innovation voucher to draw on macro-region expertise
A one-stop-shop for information on regional innovation performance and policies – www.rim-europa.eu
Thank you

Alasdair Reid:

alasdair.reid@technopolis-group.com

technopolis |group| has offices in Amsterdam, Ankara, Brighton, Brussels, Frankfurt/Main, Paris, Stockholm, Tallinn and Vienna