

Baltic Science Network.

Connecting Through Science

Baltic Sea Region needs
more powerful researcher
mobility

Mari Leino on behalf of
BSN WP4

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Project in brief

Baltic Science Network (BSN) serves as a forum for higher education, science and research cooperation in the Baltic Sea Region (BSR).

BSN is a policy network gathering relevant transnational, national and regional policy actors from the BSR countries. The Network is a springboard for targeted multilateral activities in the frame of research and innovation excellence, mobility of scientists and expanded participation. These joint activities are modelled with an overall aim to ensure that the BSR remains a hub of cutting-edge scientific solutions with the capacity to exploit the region's full innovation and scientific potential. The activities are modelled as examples of best practice which form basis of the policy recommendations drafted by the Network.

The platform is tailored to provide advice on how to enhance a macro-regional dimension in higher education, science and research cooperation. Recommendations jointly formulated by the Network members address the European, national and regional policy-making levels.

BSN is a flagship of the EU Strategy for the Baltic Sea Region under the Policy Area Education, Research and Employability, as well as one of two cornerstones of the Science, Research and Innovation Agenda of the Council of the Baltic Sea States.

Disclaimer: This working paper is based on input from stakeholders and BSN partners and does not necessarily reflect the views of all participating Member States and organisations.

Baltic Sea Region needs more powerful researcher mobility

Baltic Science Network proposes three new mobility tools to increase researcher mobility in the Baltic Sea Region

Introduction

Baltic Science Network (BSN) is a multi-stakeholder network consisting of ministries, financiers and universities in the Baltic Sea Region (BSR). During the last three years, BSN has studied obstacles in research in the BSR, and is now aiming to provide solutions how research and academic mobility in the BSR can be brought to a new level. This paper provides suggestions how to resolve challenges in **researcher mobility in the Baltic Sea Region**.

Researcher mobility is crucial for circulation of skills and ideas. It improves e.g. quality and impact of research, exploitation of research results and career opportunities for researchers. BSN attaches a particular concern on low and unbalanced researcher mobility in the BSR. Therefore, BSN proposes three new mobility tools to increase the mobility in the region: Summer schools for large research infrastructures, Research internships and Short-term PhD visits.

Key messages from this paper

- There are many challenges hindering the mobility of young researchers in the BSR
- The mobility flows in the BSR are not balanced
- The existing mobility tools do not resolve the challenges
- Universities in the BSR call for short term mobility options for Master and PhD students
- BSN has prepared three proposals for mobility tools to be established in the BSR
- BSN has applied for Interreg Extension Stage to pilot the Research Internships initiative in *BSN Powerhouse* project
- If granted, *BSN Powerhouse* project can establish the administration for the Research Internships – grants are collected from stakeholders in the BSR

Challenges in mobility in the Baltic Sea Region

BSN Study *Challenges to researchers' mobility in the Baltic Sea Region*¹ revealed that a number of obstacles for researchers to be mobile in the BSR exist. The challenges include:

- BSR in general is not seen as a priority region for research mobility by the researchers, as well as by the research policy implementing bodies;
- absence of the national level measures for attracting talents to the country through the research mobility schemes;
- low level of initiatives at research institution level to attract researchers from other countries;
- absence of the national support programs for outgoing visits;
- technological differences in research instrumentation and infrastructure amongst institutions in BSR countries creates asymmetric mobility patterns in the region.

- Baltic Sea Region has lost popularity as a mobility region
- Need for national support programmes for outgoing and incoming visits
- Need for a BSR-wide mobility programme

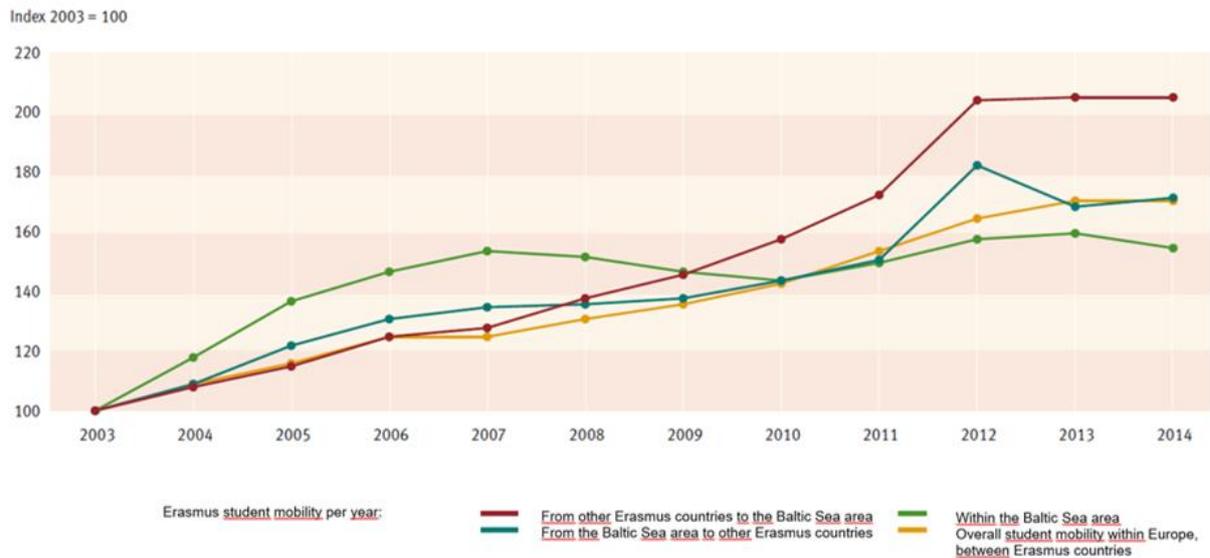
Mobility flows are not even in the Baltic Sea Region

The German Academic Exchange Service (DAAD) had special focus on the BSR in their 2017 report *Wissenschaft weltoffen*². This report confirms the challenge identified by BSN: Baltic Sea Region is not seen as a priority region for mobility.

Wissenschaft weltoffen (2017) report points out that *student exchanges between the Baltic Sea area and the other Erasmus countries or the rest of Europe since 2003 have intensified more strongly than those within the Baltic Sea area itself.[...] For students from Baltic Sea countries, the Baltic Sea area as a host region has thus lost popularity when compared with other possible European destinations since 2003* (DAAD 2017, 141).

¹ Gintaras Valinčius, Tadas Juknevičius (2017), Challenges to Researchers' Mobility in the Baltic Sea Region (WP 4.1)

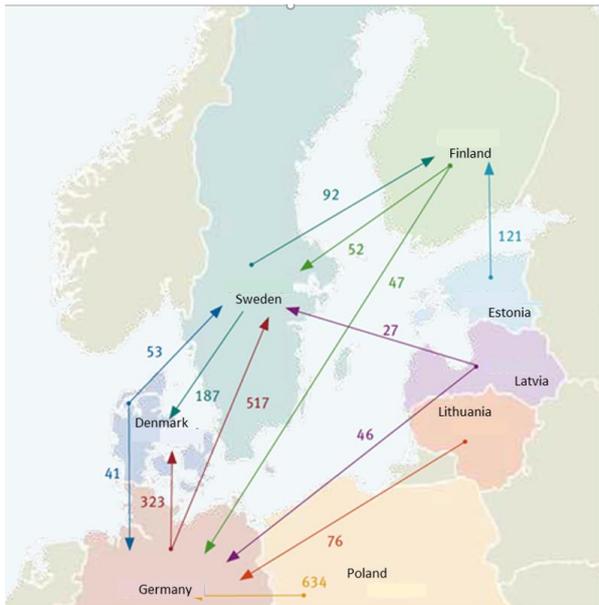
² DAAD, DZHW (2017): *Wissenschaft weltoffen*. Bielefeld. W. Bertelsmann Verlag, p.141.



Development of student mobility in the Baltic Sea area since 2003

The report shows that there are considerable differences between countries. [...] **Germany** dominates student and researcher exchange in the Baltic Sea area both as a country of origin and as a host country. [...] The eastern states of **Russia, Poland, Estonia, Latvia and Lithuania** see a preponderance of outgoing mobility into the Baltic Sea area, while incoming mobility from the other Baltic Sea states is significantly less prominent. The situation in the three Nordic countries **Denmark, Sweden and Finland** is virtually the opposite: here, incoming mobility, both from the eastern states and from Germany, is more prevalent, while outgoing mobility to other Baltic Sea states is relatively low. These different mobility profiles of the Baltic Sea states present a further major challenge for the future of academic exchange within the Baltic Sea area [...](p.133).

- Unbalanced mobility flows
- Sweden is the most popular host country, Poland—the less selected



Important mobility flows of internationally mobile doctoral candidates by countries of origin, 2014/2015³

The analysis of major flows of internationally mobile doctoral candidates reveals that **Sweden** is the most popular host country in the Baltic Sea area for internationally mobile doctoral candidates from Denmark, Germany and Finland. Vice versa, **Poland** is one of the less selected as a host country by doctoral candidates from other Baltic Sea countries.

It is obvious that the mobility flow of academics and students is not equally spread within the Baltic Sea area⁴. The gap between EU13, EU15 and the non-EU countries together with the restricted access or eligibility to apply for EU-funds or programmes could be seen as one if not the major reason for it.

Existing mobility tools do not match the need

Mapping of existing mobility tools⁵ in BSN study *Researcher mobility tools for the Baltic Sea Region*⁶ identified 87 tools supporting researcher mobility in the BSR. The problem is that only a few of these tools are designed with a direct focus on the BSR, and most of the tools are rather small-scale, with the exception of BONUS-EEIG. There exists best practices in overcoming the key challenges identified BSN, but none of the tools addresses all mobility challenges in the BSR as identified by the BSN.

- 87 mobility tools identified
- No correspondency between tools and mobility challenges

³ DAAD, DZHW *“Wissenschaft weltoffen”*, (W. Bertelsmann Verlag, Bielefeld 2017): p.151

⁴ A marked East-West disparity between the Baltic Sea states is currently apparent, which can almost certainly be explained by the Eastern countries’ need to catch up in the wake of their acceptance within the Erasmus programme (cf. Wissenscsg).

⁵ Researcher mobility tools were in this study defined as set practices, agreements or funding instruments that facilitate researcher mobility with focus on or including the Baltic Sea Region.

⁶ Susanna Sepponen, Solveig Roschier, Marika Bröckl, Jenni Mikkola and Mari Hjelt (2018), *Researcher Mobility Tools for the Baltic Sea Region* (WP 4.2)

Lessons to be learned

During the CBSS workshop (Oct. 2017)⁷ DAAD presented lessons to be learnt for the future based on the *Wissenschaft weltoffen* report. The lessons for the future include the following suggestions:

- Academic mobility and cooperation within the Baltic Sea area is not a sure-fire success. It requires targeted incentives and extensive institutional support.
- The available evidence points to an especially negative development with regards to students' degree mobility within the BSR.
- Academic mobility and cooperation within the BSR is heavily imbalanced. This clear East-West divide should especially be targeted by future support programs.
- A focus on junior researchers in future mobility programs seems to be advisable. Here, a lack of suitable mobility programs can be observed – compared to the higher number of programs aimed at students and senior researchers.
- Incentives and support for a sustainable promotion of academic mobility and cooperation should be focused on the common interests of the Baltic Sea partners (i.e. protecting the Baltic Sea ecosystem, exploring their shared culture and history).

The mobility needs of the universities in the Baltic Sea Region

Baltic University Programme (BUP) (represented in BSN by Åbo Akademi University) studied the wishes and needs of its more than 200 member institutions concerning mobility and research cooperation⁸. The study revealed that the universities have numerous opportunities for academic mobility around the world, but that it is relevant to promote the BSR as the region for mobility, especially if the intention is to change the trend “from brain drain” to “brain circulation”.

Mobility, organised as separate, short-term mobility programmes for teachers and young researchers were proposed in the surveys to be included in e.g. the BUP network. Further, it was underlined that support for doctoral students' short term visits (pilot studies), conferences, summer and winter schools are useful instruments to support mobility. These activities are popular among the potential participants, and would give value added to the training. BUP recommends **to focus on MSc and PhD level mobility tools**, as this could help the students to establish contacts early in their careers.

⁷ <http://www.cbss.org/discussing-future-eurofaculty-programme-potsdam-germany/>

⁸ Paula Lindroos and Sinikka Suomalainen (2019): Baltic Science Network Learning Experiences (WP 6.2)

The three mobility tools proposed by BSN

Based on the gathered information, in total six mobility tools were created by BSN, of which three were selected for more thorough development. Each of these tools share **the same guiding principles: excellence, transparency and continuity**. All of the tools are designed to be flexible so they can be adjusted based on the financing available.

The mobility tools are targeted at young researchers, as implementation of the tools could help them establish their networks in the BSR, which could lay basis for research cooperation in the BSR in the future. As an example of outcomes, international co-publications tend to be cited more than publications produced in national cooperation⁹.

The mobility tools proposed by BSN are:

Summer Schools for Large Research Infrastructures

In this tool, large research infrastructures could arrange a summer school with BSR in mind. This tool is expected to widen the user pool of the large-scale research infrastructures and give opportunities to use research infrastructure to those who do not have these infrastructures in their country.

Research Internships

Research internships offer doctoral students the possibility to host master/bachelor students for their research projects for an internship period. Working jointly on a research project of mutual interest will foster personal ties between different nationalities as well as the interest in research and in scientific cooperation. Additionally, the PhD students gain valuable people management skills. There are no comparable EU programs available.

Short-term PhD visits

Short-term PhD visits are in our proposal 1–3 months. The program will help to achieve the research objectives of the individual PhD students. It will strengthen their organisational skills, their confidence and their interest in international cooperation, which is a good starting point for future cooperation with the BSR.

3 mobility tools proposed

- Summer Schools for Large Research Infrastructures
- Research Internships
- Short-term PhD visits

⁹ E.g. Muhonen, Reetta; Leino, Yrjö and Puuska, Hanna-Mari (2012) International co-publishing in Finland. Available at: <http://urn.fi/URN:ISBN:978-952-263-133-6>

The mobility tools have been designed by the BSN Work Package 4, and they have been approved by BSN partners as potentially relevant to interested stakeholders in the BSR macro-region. The BSN Expert Groups in Photon and Neutron Science, Life Sciences and Welfare State were also consulted to evaluate and adjust the tools. The mobility tools are presented in more detail in BSN working paper *Mobility Funding Instruments*¹⁰.

Scientific excellence in the Baltic Sea Region

The BSR has many fields of research where excellence can be found. BSN has identified in its study *Scientific Excellence: Joint Potentials in the Baltic Sea Region – an explorative study*¹¹ five key areas. These mutual expert areas have high scientific quality, existing cooperation networks within the BSR. Out of the five areas, BSN aims to implement the mobility tools in three fields: Life Sciences, Welfare Society and Photon/Neutron Science. In addition, the field marine research and maritime technology could benefit from the mobility tools as an additional measure beside BONUS–EEIG. The BSN publication *Research and Innovation Excellence in the Baltic Sea Region*¹² highlights some of the research highlights in the BSR

Connecting mobility and science – next steps

BSN strongly believes that the implementation of these three mobility tools would help resolve challenges in mobility in the BSR. The first step is that BSN is currently applying for Extension Stage funding from Interreg Baltic Sea Region. If granted, this financing will help BSN to set up the administration for piloting the Research Internships mobility tool. The administration includes preparations for the mobility tool, setting up a website and matching the Master and PhD students together. Stakeholders, e.g. universities and financiers, are invited to participate in the pilot by investing funds to be distributed as grants to the students.

Opportunities of implementing the mobility tools

Implementation of the proposed mobility tools would bring many opportunities to individuals, institutions and research in the BSR.

¹⁰ Tomas Andersson (SE), Mari Leino (FI), Riitta Mustonen (FI), Christian Schäfer (DE), Nina Akrami–Flores (DE), Izabela Raszcyk (PL), Angelika Kedzierska–Szczepaniak (PL) (2019): *Mobility Funding Instruments* (WP4.3)

¹¹ Kazimierz Musiał, Tom Schumacher (2018), *Scientific Excellence: Joint Potentials in the Baltic Sea Region – an Explorative Study* (WP 3.2)

¹² Asta Juškienė, Paulė Gumbelevičiūtė, Tadas Juknevičius (2018): *Research and Innovation Excellence in the Baltic Sea Region* (WP6.1)

Baltic Sea Region is a macro-regional area where closeness offers opportunities which are not understood clearly. Implementing the mobility tools will help prevent brain drain in the BSR and support capacity building in areas where it is needed.

By means of the mobility tools, universities, research institutions and research infrastructures will get additional opportunities to increase their capacity and expertise and to explore cooperation with strategic partners in the BSR. Implementation of the mobility tools will bring universities, research institutions and research infrastructures opportunities for future recruitment for research and education positions.

Researchers would get possibilities to enlarge their own networks and to find new partners for their research, and possibilities to identify new research questions. Participating in the mobility would build the researchers' own capacity and expertise and it could enlarge the researcher's own recruitment markets.

Science and research would benefit from the implementation of the mobility tools as this could help promote the research fields, increase discussion and spark new ideas. Research papers produced in international cooperation have proven to reach higher citations and thus higher impact. Mobility in the BSR would promote excellence in research in the BSR.

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