Pre-study

Designing a Baltic Leadership Programme on Smart Specialisation

The Swedish Institute (SI) is a public agency that promotes interest and trust in Sweden around the world. SI seeks to establish cooperation and lasting relations with other countries through strategic communication and exchange in the fields of culture, education, science and business. SI works closely with Swedish embassies and consulates.

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Executive summary

This study aims to investigate the relevant challenges and needs experienced by S3 strategists and regional developers in the Region (BSR) as they design, implement and monitor Smart Specialisation Strategies. As such the study supports the development of a Baltic Leadership Programme (BLP) on Smart Specialisation targeting S3 strategists, planners and stakeholders.

The pre-study has been performed as part literary study focusing on available policy documents, global and macro-regional strategies as well as research analyses; the other part consists of a survey of the target group managed through a questionnaire and complemented via interviews.

From a training perspective, the given results point to the need for a deeper understanding of interregional- and transnational dimensions of smart specialisation. Moreover, respondents to the survey experience needs connected to the broader involvement of stakeholders. There is also a desire to develop competences within different S3 implementation areas, especially those connected to interregional value chains, the entrepreneurial development process and non-technological innovation.

The envisaged training programme should thus emphasise the three implementation areas of interregional value chains, entrepreneurial development and non-technological innovation, but also provide a special focus on aspects of leading and organising cooperation both in a local and international context. Closely connected to this, stakeholder involvement, multi-actor participation and governance emerge as key topics to include in the training.

Ultimately, proposed learning objectives for a BLP on Smart Specialisation includes:

- To develop participants' capabilities to apply an interregional systems perspective on their own regional Smart Specialisation Strategies as well as on the structure of stakeholders.
- To explore relevant networks, tools and methods for broader stakeholder involvement and if necessary to co-create new tools.
- To elaborate the capacity to facilitate and manage a diverse group of S3-stakeholders, both in a regional and interregional/ transnational setting.

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Introduction

Over the last few years smart specialisation has become a key instrument for place-based development in the European Union (EU). It now represents the most comprehensive policy experience on innovation-driven development in Europe. In the Baltic Sea Region, the EU Strategy for the Baltic Sea Region (EUSBSR) and more specifically the Policy Area of Innovation (PA INNO) highlights Smart Specialisation Strategies as one of three strategic policy instruments that are central to the work outlined in the PA INNO strategy guide. In particular, S3 are emphasised in their role of supporting regions in identifying the competitive edge of their industry while also connecting to research and innovation.

In line with this, the Swedish Institute (SI) together with collaboration partners have commissioned this pre-study on Smart Specialisation Strategies. The purpose has been to identify and analyse the needs and challenges of S3 stakeholders in the BSR as they design, implement and monitor specialisation strategies. The ultimate aim has been to develop a Baltic Leadership Programme on Smart Specialisation (i.e. BLP S3).

The pre-study has been comprised of the following main steps:

- Mapping of the relevant policy and funding context for smart specialisation.
- Survey of S3 stakeholders' needs including additional input and recommendations from follow-up interviews.
- Analysis of survey results and suggested content for BLP Modules based on stakeholder needs and challenges.

Guiding questions

The pre-study has been performed with the intent to answer the following guiding questions:

– What are the main challenges faced by regional developers and strategists throughout the BSR in their S3 work?

– What training needs can be determined as a base for developing a transnational leadership programme on S3?

The main outcome of the pre-study is a set of conclusions on up-to-date smart specialisation needs among stakeholders in the BSR, as well as a proposal for a training programme on S3 targeting regional strategists and planners.

Smart Specialisation Strategies – an introduction

The Smart Specialisation Strategies (S3) is a policy instrument positioned within the Europe 2020 strategy [1]. Through S3, the European Commission advises European regions to identify and emphasise those regional innovation priorities that could become competitive on a global scale. The Commission declares that '…smart specialisation has become a key instrument for place-based development. It now represents the most comprehensive policy experience on innovation-driven development being implemented in Europe and it is a cornerstone in the European Union endeavour to drive countries and regions out of the crisis and guarantee opportunities for each and all of its territories' [2].

Through its partnership and bottom-up approach, smart specialisation brings together local authorities, academia, business spheres and civil society, working for the implementation of long-term growth strategies supported by EU funds.

Definitions

In the context of this report, the following terms and definitions are used:

Research and Innovation Strategies for Smart Specialisation (RIS3)
The RIS3 is a policy instrument guiding stakeholders in developing integrated, place-baced economic transformation agendas.

Smart Specialisation Strategies (S3)
The same as above (RIS3).

Interregional Cooperation
Concerns the cooperation between regions, within as well as between countries.

Transnational Cooperation
Collaboration across national borders including stakeholders from different geo-graphical areas.

Interregional Value Chains (IVC)
A value chain is a model for the flow of production. In an interregional perspective this would entail production stages in different geographical areas, within as well as between countries, which interlink in a joint production process.

Entrepreneurial Discovery Process (EDP)
The Entrepreneurial Discovery Process is an approach used to foster the involvement of entrepreneurs in the design, governance and implementation of public policies, which results in a more tailored RIS3 for specific regions.

Non-Technological Innovation
Non-Technological Innovation concerns the organisational and marketing aspects of innovation that may or may not support technological innovation.

[1] European Commission (2010). Europe 2020. A European strategy for smart, sustainable and inclusive growth.
[2] European Commission (2016). Implementing Smart Specialisation Strategies: A Handbook. Page 9.

Strategic context

This section aims to place Smart Specialisation Strategies in the BSR into a strategic context, consisting of a first section focusing on economic development and innovation capacity as well as on thematic priorities, followed by a section looking at the policy frameworks guiding integration and development and offering concrete instruments for achieving these goals.

Innovation, integration and economic development in the BSR

Over the last 20 years, the BSR has developed from a divided region into 'a highly integrated, dynamic and growing collection of nations, considered by many as a frontrunner in several respects.' [3] The success of the region can be ascribed to strong efforts for deepening integration and connectivity both within the macro-region as well as in a European context. Despite these efforts, however, the BSR still functions as 'a collection of connected economies, rather than a single regional unit.' [4]

Although, the performance of the BSR economies is still quite strong, certain challenges need to be tackled in order to secure continued development. Firstly, many BSR countries are facing an ageing population, rendering demands on labour productivity growth. On a global scale, a rapidly increasing global competition in combination with more protectionist political developments poses serious challenges. In parallel, the high pace development of disruptive technologies (AI) may offer opportunities as well as challenges depending on the innovation and adaptability of each country.

Looking at the different BSR countries and how they score on the European Innovation Scoreboard further illustrates the division between those countries that are strong on innovation and those with a presently moderate innovation capacity.

Innovation leaders	Strong innovators	Moderate innovators
Sweden	Norway	Estonia
Denmark		Lithuania
Finland		Latvia
Germany		Poland

Table: European Innovation Scoreboard 2017. [5]

Ideally, smart specialisation areas are those areas in each country and region that hold the most potential for future innovation and competitiveness. Below is a short overview of each BSR country concerning innovation capacity, economic development and S3 priorities.

Denmark – an innovation leader

Denmark enjoys high living standards, but growth is slow as productivity lag behind. An improved balance between inclusiveness and work incentives is needed. [6]

Smart specialisation priority areas: [7]
1. Manufacturing & industry
2. Energy production & distribution
3. Sustainable innovation
4. Human health & social work activities
5. Agriculture, forestry & fishing

Estonia – a moderate innovator

Estonia has a strong business environment, high educational attainment, high labour market participation and an innovative ICT sector. The economy is gaining momentum, but further investments, especially green investments, are needed, as is increased innovation capacity and knowledge transfer between sectors. [8]

In Estonia smart specialisation priority areas are within: [9]
1. Manufacturing & industry
2. Key enabling technologies
3. Information & communication technologies
4. Construction
5. Human health & social work activities

Finland – an innovation leader

Finnish growth has resumed after a long period of slower economic performance. Future growth and well-being is dependent on higher employment rates and productivity gains. Outputs and exports are growing. [10]

Smart specialisation priority areas in Finland are within: [11]
1. Manufacturing & industry
2. Key enabling technologies
3. Sustainable innovation
4. Human health & social work activities
5. Information & communication technologies

[3] Skilling, David (2018:1), The Baltic Sea Region Economies: Progress and Priorities – a 20-year perspective (Baltic Development Forum)
[4] ibid:4
[5] http://ec.europa.eu/growth/industry/innovation/facts-figures/scoreboards_en (Access date 2018-06-11)
[6] OECD Economic Survey of Denmark 2016
[7] Smart Specialisation Factsheet – Strengthening Innovation in Denmark, 2017
[8] OECD Economic Survey of Estonia 2017
[9] Smart Specialisation Factsheet – Strengthening Innovation in Estonia, 2017
[10] OECD Economic Survey of Finland 2018
[11] Smart Specialisation Factsheet – Strengthening Innovation in Finland, 2017

Germany – an innovation leader

In Germany economic growth is robust, and well-being is high. Growth is driven by both a strong domestic demand as well as high exports. However, further productivity gains are held back by slow technology diffusion. [12]

The German smart specialisation priority areas are within: [13]
1. Manufacturing & industry
2. Key enabling technologies
3. Information & communication technologies
4. Sustainable innovation
5. Human health & social work activities

Latvia – a moderate innovator

The Latvian economy has grown robustly, but boosting growth further requires improved export performance. Latvia's exports rely heavily on low value added, natural resource intensive products, reflecting skills shortages and weak innovation. Furthermore, poverty is high, resulting from long-term unemployment and weak social safety nets. [14]

Smart specialisation priority areas: [15]
1. Information & communication technologies
2. Human health & social work activities
3. Key enabling technologies
4. Energy production & distribution
5. Manufacturing & industry

Lithuania – a moderate innovator

In Lithuania the productivity gap is large and well below the OECD average. Wage and income inequality is high, something which fuels emigration. Rapid ageing and emigration shrink the labour force. [16]

Smart specialisation priority are: [17]
1. Agriculture, forestry & fishing
2. Energy production & distribution
3. Human health & social work activities
4. Social innovation
5. Key enabling technologies

Norway – a strong innovator

The Norwegian economy performs well and the country is one of OECD's most inclusive concerning income equality, labour participation and gender equality. Sustaining Norway's inclusive society will require economic diversification away from oil-related activities; opportunities from globalisation and digitalisation should be seized. [18]

Poland – a moderate innovator

In Poland growth is strong and the labour market is booming, but there is a need to raise Poland's capacity for innovation in order to ensure continued conversion to higher living standards. Investments in higher education and research would strengthen innovation and technology absorption. [19]

The main smart specialisation priority areas in Poland are within: [20]
1. Manufacturing & industry
2. Sustainable innovation
3. Key enabling technologies
4. Information & communication technologies
5. Human health & social work activities

Sweden – an innovation leader

According to the OECD, the Swedish economy is growing strongly with unemployment going down. But the rise in income inequality needs to be contained and gender equality should be pushed further. [21]

The main smart specialisation priority areas in Sweden are within: [22]
1. Manufacturing & industry
2. Key enabling technologies
3. Information & communication technologies
4. Sustainable innovation
5. Energy production & distribution

[12] OECD Economic Survey of Germany 2018
[13] Smart Specialisation Factsheet – Strengthening Innovation in Germany, 2017
[14] OECD Economic Survey of Latvia 2017
[15] Smart Specialisation Factsheet – Strengthening Innovation in Latvia, 2017
[16] OECD Economic Survey of Lithuania 2018
[17] Smart Specialisation Factsheet – Strengthening Innovation in Lithuania, 2017
[18] OECD Economic Survey of Norway 2018
[19] OECD Economic Survey of Poland 2018
[20] Smart Specialisation Factsheet – Strengthening Innovation in Poland, 2017
[21] OECD Economic Survey of Sweden 2017
[22] Smart Specialisation Factsheet – Strengthening Innovation in Sweden, 2017

	DK	EE	FI	DE	LV	LI	NO	PL	SE
Manufacturing & industry	x	x	x	x	x			x	x
Energy production & distribution	x				x	x			x
Sustainable innovation	x		x	x				x	x
Human health & social work activities	x	x	x	x	x	x		x	
Agriculture, forestry & fishing	x					x			
Key enabling technologies		x	x	x	x	x		x	x
Information & communication technologies		x	x	x	x			x	x
Construction		x							
Social innovation						x			

Table: National S3 priorities, own compilation.

In a coordinated overview it is obvious that certain priorities are common and shared within the BSR, while others are quite specific for a given country. Manufacturing and industries; human health and social work; key enabling technologies and ICT are common priorities, but also sustainable innovation and to a smaller degree energy production and distribution holds strong in a number of countries.

Innovation capacity on a regional level

The regional innovation scoreboard, classifying the Nomenclature of Territorial Units for Statistics (NUTS) 2 regions of the EU, gives perhaps a better picture of where innovation is leading and lacking. The map shows that only a few regions in the BSR, such as selected regions of Finland, Sweden and Denmark, qualifies for the category of being innovation leaders. Remaining regions in these aforementioned countries as well as the northernmost parts of Germany are considered to be strong innovators. Estonia, Latvia and Lithuania are considered one NUTS 2 region each and remains in the moderate category. Poland, consisting of several regions, varies between being moderate and modest innovators.

Policy frameworks

Policy may be seen as a driver for development. However, this requires both a process of alignment and localisation whereby local and regional needs and visions are articulated and connected with the existing architecture of policy and policy instruments. The previous section of this report, describing innovation capacity and development, clearly shows that part of the BSR success can be credited to policy-initiated integration and connectivity. Policy and cooperation have thus played an important part for the development of the BSR, up to date.

Smart specialisation is a policy instrument firmly placed within this structure. As such it may be used to unlock potential for more proactive strategic choices and measures, as well as to gain access to funding. The EU part of the policy structure is presently undergoing changes and updates as one budget cycle (2014–2020) is about to end and another start (2021–2027). This section, focusing on the policy framework, therefore briefly present relevant policies and policy instruments as well as possible future changes while also analysing the connection with regional S3 works in the BSR.

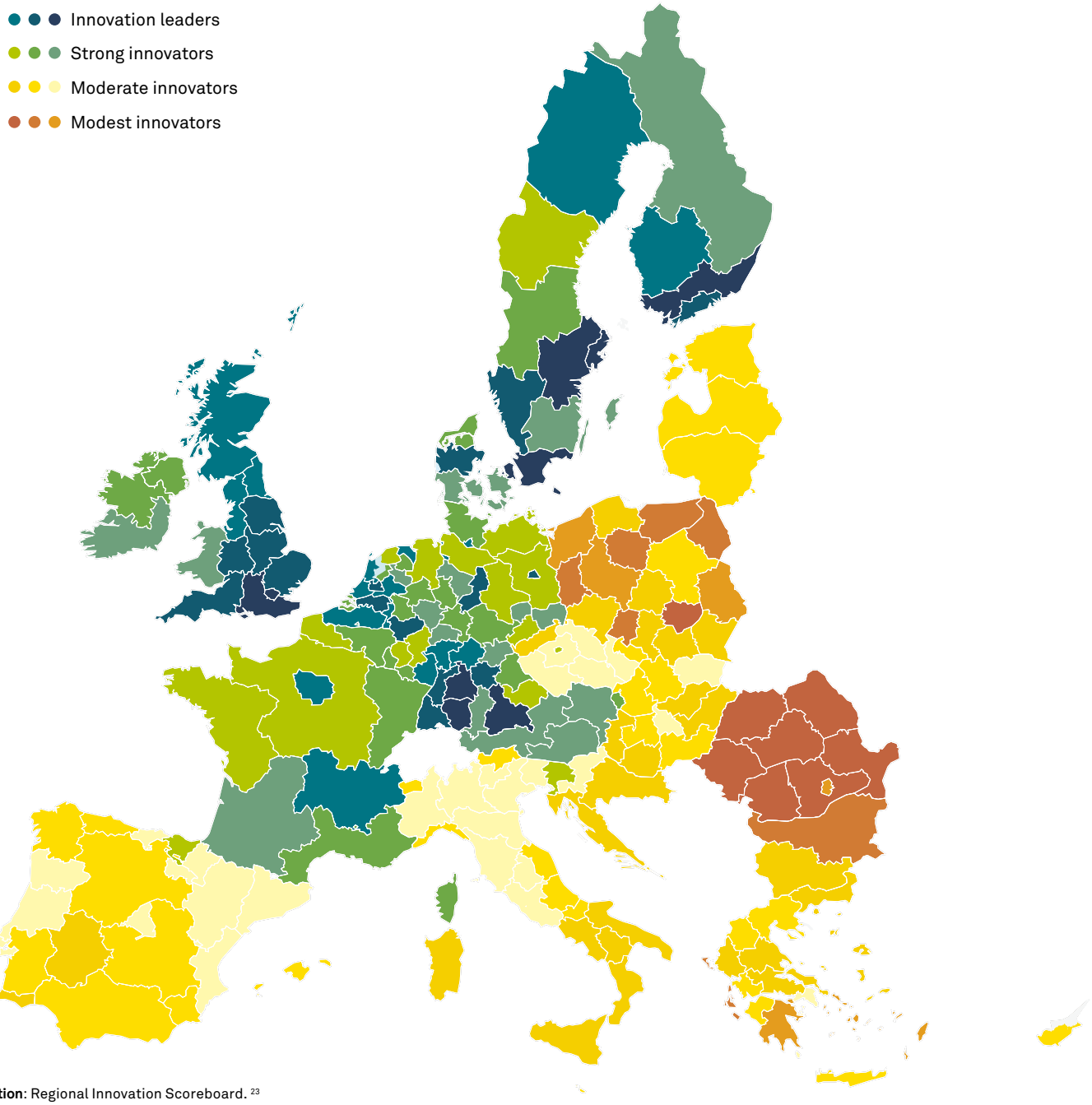


Illustration: Regional Innovation Scoreboard. [23]

[23] http://ec.europa.eu/growth/industry/innovation/facts-figures/regional_en (Access date 2018-06-11)

Illustration: Policy framework, own compilation.

As illustrated above, the transnational arena for economic growth and development in Europe is to a large extent governed or framed through a number of policies and strategies on macro-regional, EU and global level. Recently, the Sustainable Development Goals (SDGs) has entered the stage as a relevant and forceful agenda for global development. Other policies such as Europe 2020 and the Cohesion Policy have already played important roles in forming the funding ecology of the EU. Meanwhile, policy frameworks like the EUSBSR, through governance approaches, aims at steering the development towards certain goals and actions on a macro-regional level.

Some of these policy instruments and strategies are directly linked with one another, while others complement or functions in parallel. This raises questions on how different policies could and should be aligned in order not to work against one another. The SDGs for example, should perhaps be seen as a global strategy placed well above the EU, while the EUSBSR is a macro-regional strategy combining a geographical and thematic perspective and to a degree attempting to coordinate policy and funding instruments in the BSR. How all of these instruments relate to one another and, more importantly, what they say about increased growth, smart specialisation and innovation largely affects transnational cooperation in the region. It may very well also affect how challenges and needs are perceived and dealt with on the local level.

Europe 2020

The Europe 2020 strategy is the EU's agenda for growth and jobs for the decade between 2010–2020. It emphasises smart, sustainable and inclusive growth as a way to overcome the structural weaknesses in Europe's economy, improve its competitiveness and productivity and underpin a sustainable social market economy. The strategy aims at tackling three structural weaknesses of the EU.

The three main drivers of the strategy are: smart growth (fostering knowledge, innovation, education and digital society), sustainable growth (making EU production greener and more resource efficient while boosting competitiveness), and inclusive growth (enhancing labour market participation, skills acquisition and the fight against poverty). Smart Specialisation Strategies are policy instruments within Europe 2020 and its flagship the Innovation Union. The flagship shall refocus research and development (R&D) and innovation policy on major challenges and close the gap between science and market to turn inventions into products.

Cohesion Policy

The Cohesion Policy is the EU's main investment policy. It targets all regions and cities in the European Union in order to support job creation, business competitiveness, economic growth, sustainable development, and improve citizens' quality of life.

Investments through the Cohesion Policy helps deliver many other EU policy objectives. It complements EU policies such as those dealing with education, employment, energy, the environment, the single market, research and innovation. In particular, Cohesion Policy provides the necessary investment framework and strategy to meet the agreed growth goals as determined in the Europe 2020 strategy.

The EUSBSR/PA INNO

Within the EUSBSR, a Strategy Guide for the Policy Area Innovation (PA INNO) has been produced with the purpose to provide policymakers and innovation actors with guidance and inspiration. PA INNO is essentially about intelligently combining the regional strengths, competences, R&D, and players of the entire BSR. More specifically, it is the role of PA INNO to: enable shared learning, create and strengthen networks across the BSR, align resources and regulations, and facilitate the joining up of forces in common programmes and investments.

One key element for PA INNO is to pursue and utilise smart specialisation at the macro-regional level – linking the regional, national and transnational levels into a BSR ecosystem for smart specialisation. This is thus another level of policy implementation whereby regional S3 partnerships can find guidance and align to joint targets.

The Sustainable Development Goals

The SDGs entails 17 goals for sustainable development. From the perspective of smart specialisation, innovation and regional growth, a number of SDGs stand out as perhaps being more relevant, such as gender equality, energy, innovation, responsible production and consumption, etc. However, all of the SDGs are tackling global societal, environmental and economic challenges which in effect are highly relevant with regards to regional development also in the BSR.

A recent study analysing the performance on the SDGs in the BSR [24] proposed seven so-called 'Avenues for Action':

1. Work together and develop a common understanding of sustainable development in the BSR.
2. Increase the pace of implementation of environmental goals.
3. Address consumption through circularity and shifts to sustainable economies.
4. Learn from the best on climate change.
5. Use SDGs as a tool for avoiding spill over effects, also within the BSR.
6. Support the youth to become leaders for change.
7. Strengthen joint data improvement activities.

These proposed avenues signal a focus on the sustainable shift and circular aspects of the economy. In combination with policy on other levels it should be clear that these priorities are strongly emphasised also in the future. This means that it will be valuable to align to and connect with these visions and goals, not only in order to unlock funding, but more importantly, in order to develop solutions to mayor societal challenges. Future growth and development initiatives will benefit from addressing this and opens up new opportunities for cross-sectorial cooperation.

Cross-border & transnational cooperation in the BSR

Several of the policies mentioned in the previous section also govern a number of funding instruments that enables project cooperation. This so-called funding ecology connects overarching policy objectives with local and regional initiatives and partnerships. Within the field of regional development, research and innovation, there are several funding programmes available. Many of them emphasise specific priorities for cooperation around regional development, growth and innovation. Worthwhile mentioning are those funding programmes that are connected to Europe 2020 and the Cohesion Policy – namely the Horizon 2020 programme and programmes within the European Regional Development Fund such as Interreg.

- **Horizon 2020**
  The Horizon 2020 programme serves to implement the Innovation Union flagship of Europe 2020. The goal is to secure a globally competitive Europe producing world-class science and collaborative innovation while also tackling societal challenges. The programme covers all of Europe and a typical project needs a minimum of three partners from three countries.

[24] Baltic 2030: Bumps on the road – How the Baltic Sea States are performing on the SDGs.

The societal challenges addressed by Horizon 2020 include health and demographic change; sustainable agriculture, maritime research and bioeconomy; energy efficiency; climate action, etc.

- **Interreg – a collection of programmes**
  Presently, Interreg is made up of several different types of programmes addressing different geographical levels. Interreg Europe covers all of Europe, while transnational programmes such as the Baltic Sea Region Programme covers the BSR macro-region, and cross-border programmes such as Central Baltic and South Baltic covers parts of the BSR. Common priorities within the different programmes are: research and innovation; SME competitiveness; environmental issues and low carbon economy.

  There is a risk that Interreg in the new budget cycle will only consist of transnational programmes.

- **ERDF**
  The ERDF provides support for the development and structural adjustment of regional economies, economic change, enhanced competitiveness as well as territorial cooperation throughout the EU. The fund supports project under the 11 thematic objectives of the Cohesion Policy and highlights especially research, technological development and innovation alongside ICT, SME competitiveness and low carbon economy.

Connecting policy and policy instruments to local and regional strategies

Smart specialisation will probably be heavily emphasised in the future Cohesion Policy. [25]

There is also a proposal to establish a new interregional innovation investment component that is S3 related. This could mean extra funding and other forms of support for regions and countries with well-developed Smart Specialisation Strategies, with connections to relevant societal challenges. Furthermore, it has been proposed to connect as much as 75% of funding to the implementation of the EUSBSR. [26]

In parallel, the SDGs are increasingly playing a bigger role for stakeholders on all societal levels. They will surely have an impact on the design of EU policy and policy instruments for the upcoming budget cycle.

It seems that S3 will be an important and vital part of the future EU budget cycle. Likewise, the societal challenges addressed by the SDGs as well as by funding programmes such as Horizon 2020, are real challenges in need to be tackled through a mix of measures, both through research and through new innovative technology, systems and structures. This makes for a nice synthesis whereby S3 could be the proactive link for connecting policy with stakeholders, as they mobilise to achieve sustainable solutions and development.

At this point it is important to prepare for the coming budget cycle, both by identifying and selecting local and regional needs and specialisation priorities, but also by exploring those very linkages to overarching policies, policy instruments and funding sources. Part of this preparation could also be to influence the development of both policy and funding programmes so that they are better aligned with local, regional and national needs and priorities.

[25] Alison Hunter, "Designing and orchestrating a BSR-wide smart specialisation strategy eco system", seminar at the EUSBSR Annual Forum in Tallinn, June 4 2018.
[26] Nick Brooke, "CPMR Informal briefing on post 2020 EU budget and Cohesion Policy legislative package", a side event to the EUSBSR Annual Forum in Tallinn, June 5 2018.

Methodology

When designing the survey, previous studies outlining typical challenges faced by regions when designing and implementing research and innovation strategies for smart specialisation (RIS3) were used as a basis for formulating theoretically informed survey questions. As a background to the survey design, a selection of challenges and how they relate to context specific challenges of Baltic state regions will be briefly presented below. This is followed by results from the survey in the form of graphs and diagrams with comments and explanations in the next section.

The process of selecting priorities vary substantially between regions and reflect challenges associated with making decisions based on the data available to policymakers. In order to move away from traditional sector- and cluster-logics of previous innovation policy approaches, regions need highly developed governance capabilities and broader data collection processes, targeting the identification of 'opportunities' rather than 'strengths' when selecting RIS3 priorities. Questions related to prioritisation challenges are an important part of the survey and cover factors both leading to a 'too wide' and a 'too narrow' selection of priorities, with a focus on the challenges Baltic state regions might face in terms of collecting data as well as developing governance capabilities.

When it comes to implementation, previous studies have demonstrated how regions may face a range of different challenges, from difficulties in terms of connecting concrete policy instruments to the RIS3 strategy, to lack of funding and fragmentation issues. Survey questions were therefore designed to capture the challenges that Baltic state regions face in terms of implementing RIS3.

Another group of challenges are related to monitoring and evaluation. Regional policymakers will often need to develop new indicators and metrics for assessing the impact of RIS3. The evaluation should, in the best case scenario, inform the re-design or re-orientation of existing policies, but in reality, this is difficult, and political lock-ins and sunk costs prevent change to occur. In some best-practice examples highlighted in previous studies [27], regional actors interacted with peer regions in their evaluation activities. Thus, the survey includes questions related to both monitoring and evaluation, and how regional actors interact with actors in other regions when evaluating RIS3 practices.

Designing and implementing S3 should be an inclusive bottom-up process involving a variety of stakeholders [28]. The success of this inclusive process varies between regions. This has informed questions related to stakeholder involvement in general, and to specific factors such as incentive systems, 'mindsets' among local stakeholders, governance systems, and absorptive capabilities among local firms. The involvement of non-policy actors is an important feature of S3, and previous studies have highlighted difficulties associated with stakeholder inclusion [29, 30]. Regional development agencies are often inexperienced when it comes to involving others than the 'usual suspects' in policy design [31]. RIS3 should be developed using a bottom-up approach and this is often proven difficult, which is why we have included questions related to the involvement of stakeholders in the design and implementation process.

The need for a more outward looking perspective of innovation policy has been articulated in the context of RIS3, highlighting the need to emphasise the external connectedness of regional economies in terms of trans-regional and cross-border interactions [32]. These can take different forms, ranging from supporting interregional collaborations involving actors from different domains, to aligning innovation policies to consider the region's position in interregional value chains. Nevertheless, given the complexity of international knowledge flows and channels, it is hard for policymakers to know what channels to promote, let alone what is needed in terms of knowledge to develop new industrial specialisations locally. This has informed questions related to various aspects of international linkages, which have been included in the survey.

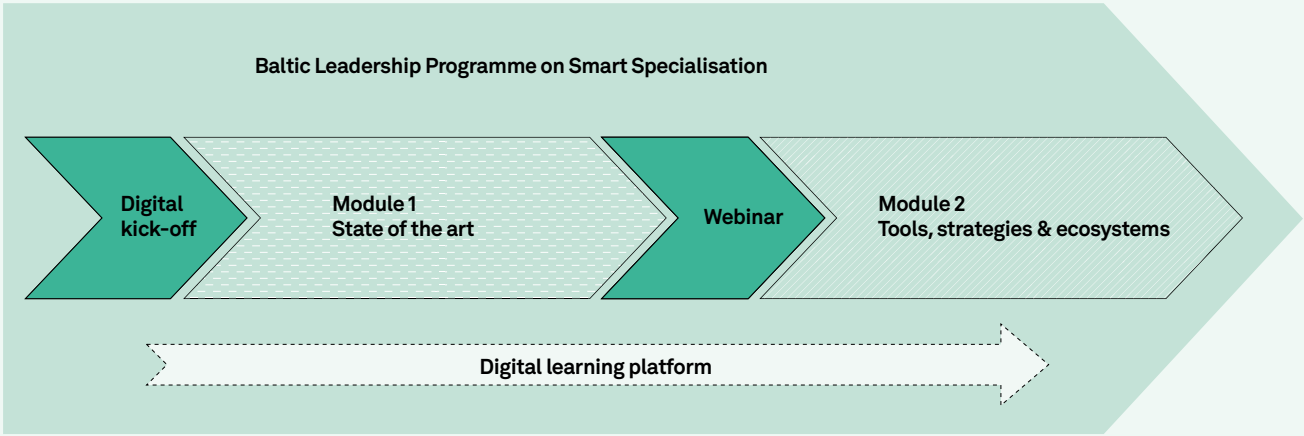
Finally, there has been a strong focus on research intensive 'science/technology innovation' in regional innovation policies. Recently, more attention is given to other modes of innovation, such as 'non-technological innovation' and 'social innovation'. However, this is not always reflected in regional Smart Specialisation Strategies and there is a risk that potential opportunities are neglected as a result. Consequently, we have included questions related to non-technological and social innovation in the survey.

[27] Trippl M, Miörner J and Zukauskaite E. (2015) Smart Specialisation for Regional Innovation. Regional report: Scania (Sweden). Lund: CIRCLE.
[28] Boschma R. (2013) Constructing Regional Advantage and Smart Specialization: Comparison of Two European Policy Concepts. Utrecht University, Section of Economic Geography.
[29] McCann P and Ortega-Argilés R. (2013) Smart Specialization, Regional Growth and Applications to European Union Cohesion Policy. Regional Studies: 1-12.
[30] McCann P and Ortega-Argilés R. (2016) Smart specialisation, entrepreneurship and SMEs: issues and challenges for a results-oriented EU regional policy. *Small Business Economics* 46: 537-552.
[31] Moodysson J, Trippl M and Zukauskaite E. (2016) Policy learning and smart specialization: balancing policy change and continuity for new regional industrial paths. *Science and Public Policy* 44: 382-391.
[32] Miörner J, Zukauskaite E, Trippl M, et al. (2017) Creating institutional preconditions for knowledge flows in cross-border regions. *Environment and Planning C: Politics and Space* 0:2399654417704664.

Thus, the survey has been designed to provide insights into how six groups of challenges, highlighted by previous studies, are perceived by the respondents. To summarise, these are challenges related to:

- Selecting RIS3 priorities: data collection and analysis, identifying industrial strengths and possibilities, selecting domains.
- Implementing RIS3: developing and connecting policy instruments, lack of funding, fragmentation.
- Monitoring and evaluation: developing metrics and indicators, learning from other regions.
- Stakeholder involvement: including non-policy stakeholders, bottom-up approach.
- External connectedness of RIS3: interregional collaborations and value chains, international linkages.
- Alternative modes of innovation: non-technological innovation, social innovation.

Structure of the training programme



Results and analysis

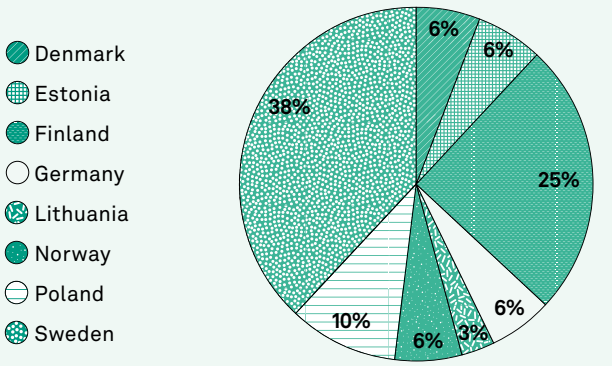
The main purpose of the survey on smart specialisation was to identify challenges faced by practitioners when designing and implementing S3, and also to identify needs for further competence development in the field. The survey was conducted from May 31st–June 20th, 2018. Approximately 150 persons around the BSR were invited to participate; in the end a total of 32 respondents filled out the questionnaire. A large portion of the respondents represented Swedish regions (38%), but also Finnish regions responded more than other countries (25%). The only BSR country lacking was Latvia with no respondents. The survey was complemented with 7 interviews performed between June 26–August 14, 2018. Interviewees primarily represented regionally based stakeholders from all but two BSR countries. The interviews were aimed at deepening and nuancing the survey results with regards to the training needs.

When looking at the educational background of respondents more than half have acquired a Master's degree, while a quarter of the respondents have a PhD.

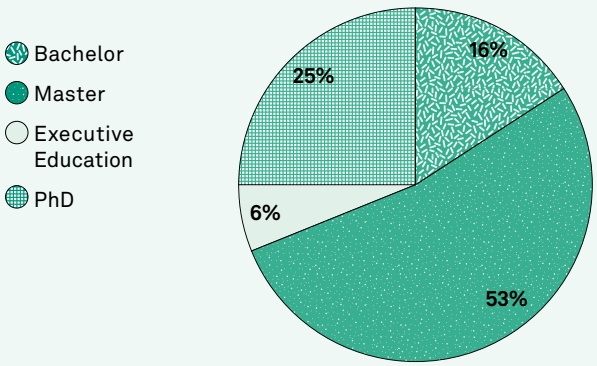
A larger portion of the respondents belonged to a regional authority in the form of a regional county council, county administrative board or regional development agency. A few respondents belonged to a regional business network or other form of regional business stakeholder. Moreover, one respondent represented a research centre while two represented national authorities.

Characteristics of respondents to the survey

Respondents per country



Level of education



Number of respondents

Research centre	1
National authority	2
Regional business network/stakeholder	3
Regional authority	26
TOTAL	**32**

Designing RIS3 and selecting priorities

The results presented below relate to the process of designing Smart Specialisation Strategies.

Results from the survey indicate that when designing and selecting priorities for regional strategies qualitative data collected through interviews, surveys and workshops constituted an important element. There is a small negative correlation between the answers related to the use of qualitative data and to whether or not the identification of priorities could have been better if more data would have been available. In other words, respondents that said that they found qualitative data to be important tended to agree less with the statement that more data would have been useful. This could be seen as an indication of the importance of qualitative data in guiding the selection process, and thus point at the need for knowledge and training related to the use of this type of data. Moreover, it was indicated that even more and better data during the design phase would have improved the selection of priorities. Few respondents, however, found S3 methods and techniques to be difficult and challenging to learn and use.

Results also indicate that the selection of priorities during the design phase neither focused too much on existing strengths, nor were too much focused on narrow industrial niches. In other words, respondents seem to be well oriented when it comes to the trade-offs needed to be navigated when it comes to prioritising domains. However, to a certain degree respondents had experienced con-

Designing S3

Views on data collection, methods and techniques

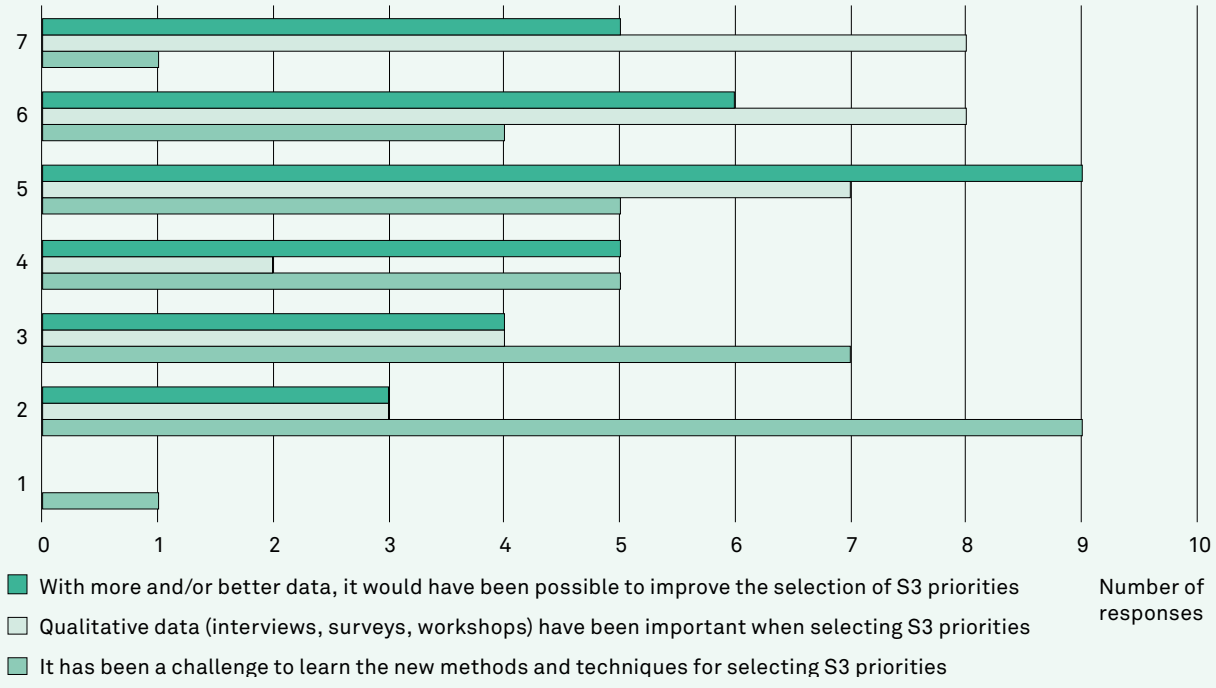


Table: The vertical axis signifies the degree of agreement, 1 is low and 7 is high.
The horizontal axis indicates the number of respondents.

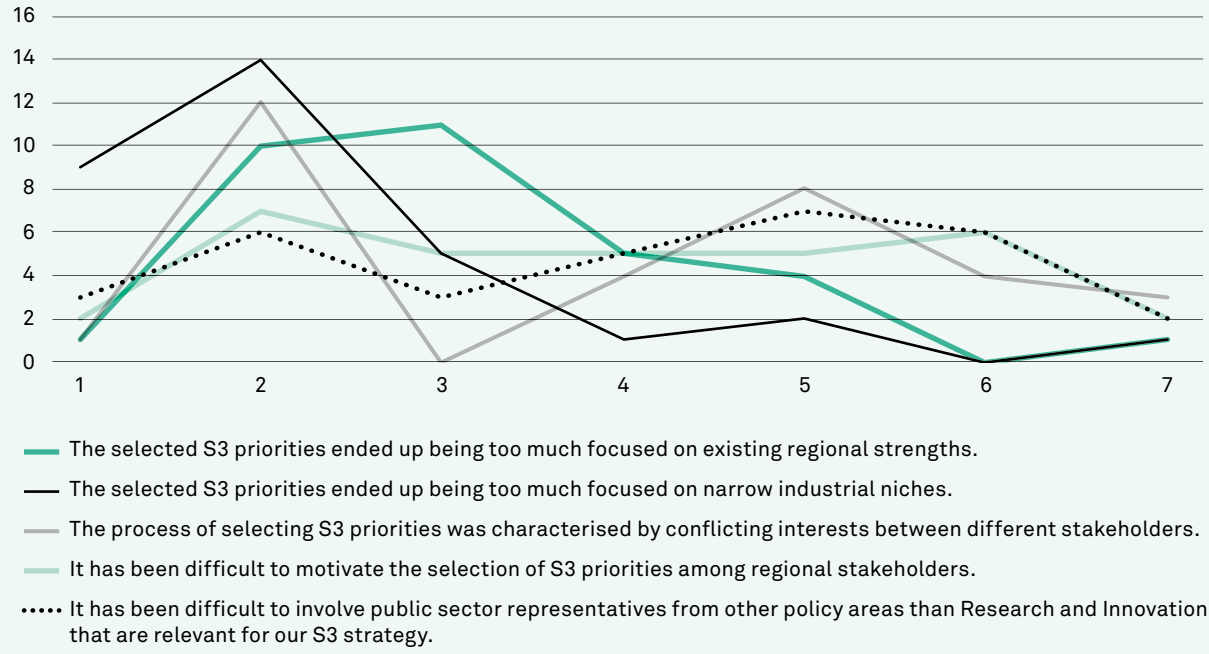
flicting interests between stakeholders when selecting priorities. More clearly, involving and motivating different stakeholders in the design process, seems to have been a challenge in many regions. This points at the need for knowledge and experience related to working with stakeholders and taking their interests into account without losing objectivity and efficiency in the process.

Most challenging areas

When responding to the question of which areas that were the most challenging when designing S3, most respondents found that different forms of stakeholder involvement was the most challenging (see table below). Also designing proper monitoring and evaluation mechanisms was emphasised as challenging.

Among the knowledge needs highlighted by the respondents, tools for data collection and analysis seems to be of lower interest, but the variance is high (some regions need it very much, others do not experience any need). In addition, the need for knowledge related to the entrepreneurial discovery process is quite high.

Challenges when designing S3



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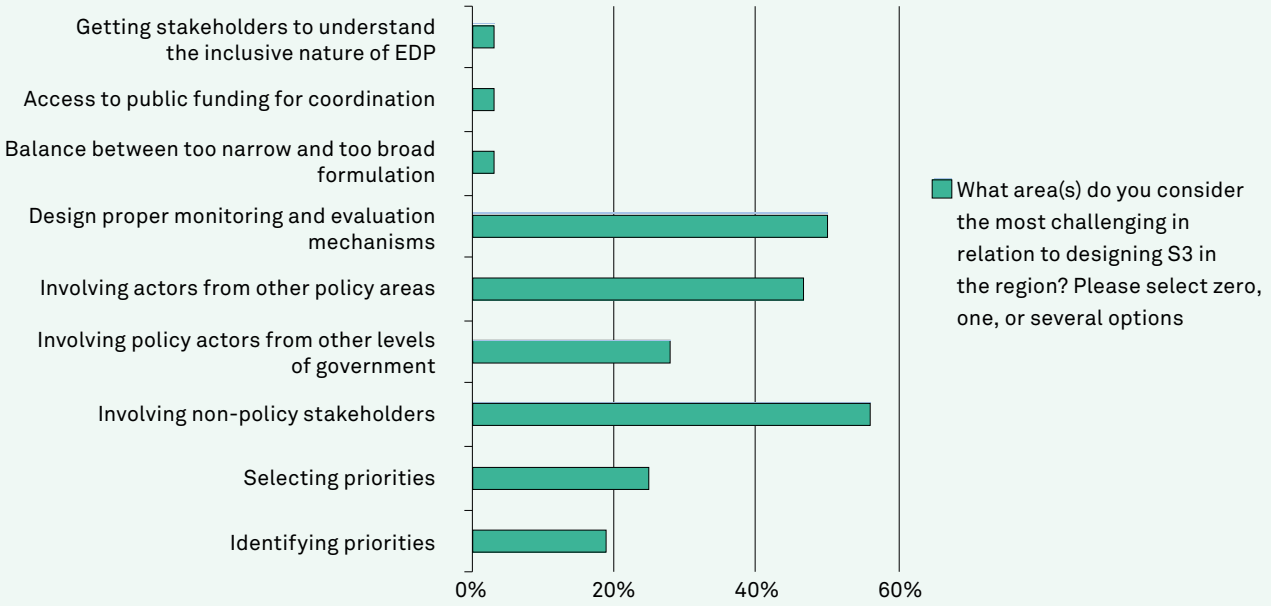
The vertical axis indicates the number of respondents.

Most challenging areas in relation to designing S3 in the region?

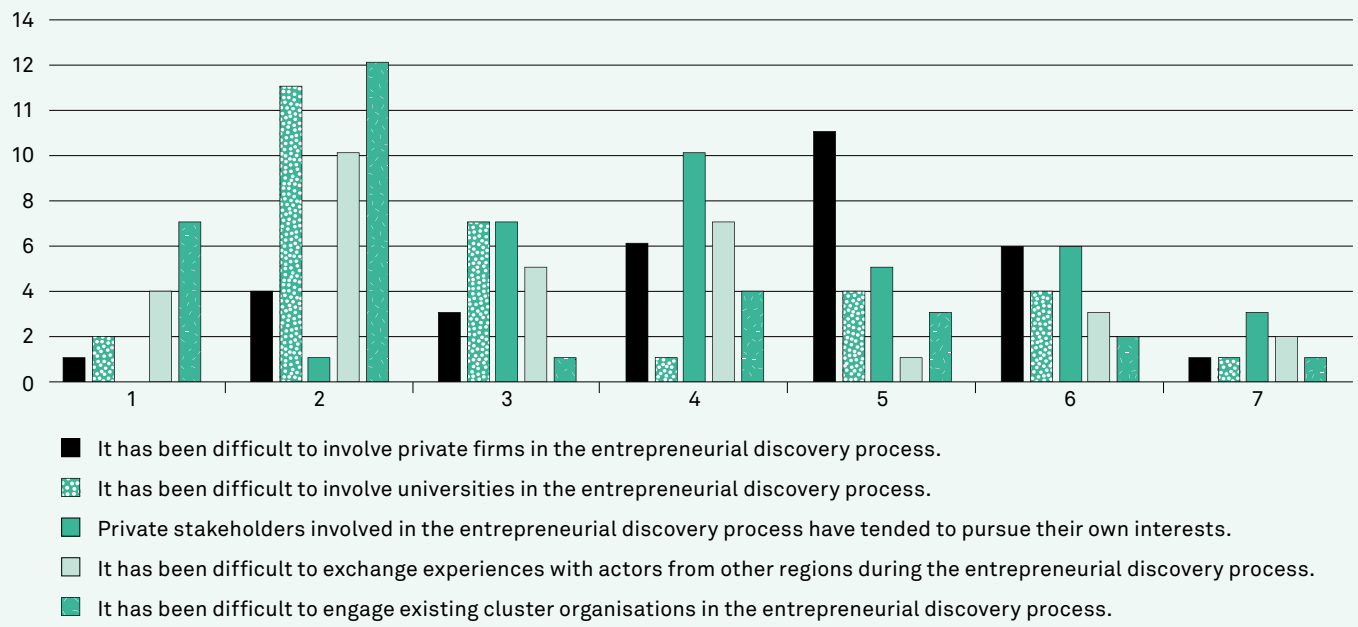


Furthermore, results indicate that regions find it difficult to involve private actors in the design of S3. Among the 'most challenging areas' in relation to designing S3, a clear majority have included 'the inclusion of non-policy stakeholders' and a majority of respondents answered that it has been a challenge to 'maintain stakeholder commitment throughout the process'. In addition, respondents have answered that it has often been the case that private stakeholders have pursued their individual interests when involved in the entrepreneurial discovery process. Even though the score is not very high, the variance is very low, indicating that there is an agreement among respondents that this as a problem.

Respondents that answered that it was hard to involve private firms in the entrepreneurial discovery process (EDP) also, on average, answered that they tended to pursue their own interests. When looking at the patterns of answers in relation to the role of various types of actors, it is apparent that most respondents have some experience when it comes to EDP, including large firms, fewer with small- and medium-sized enterprises (SMEs), and only a small number with individuals. The answers should be seen in this light – as it is more likely that large firms 'interfere' in policy processes than SMEs or individuals.

The same pattern does, however, not hold true when it comes to involving existing cluster organisations. Other quasi-public or non-policy public actors have been harder to include in some regions (other public sector representatives than from research and innovation policy area, and universities). Above all, results indicate that regions find it challenging to involve actors from other policy areas and/or different levels of government.

Entrepreneurial discovery and stakeholder involvement



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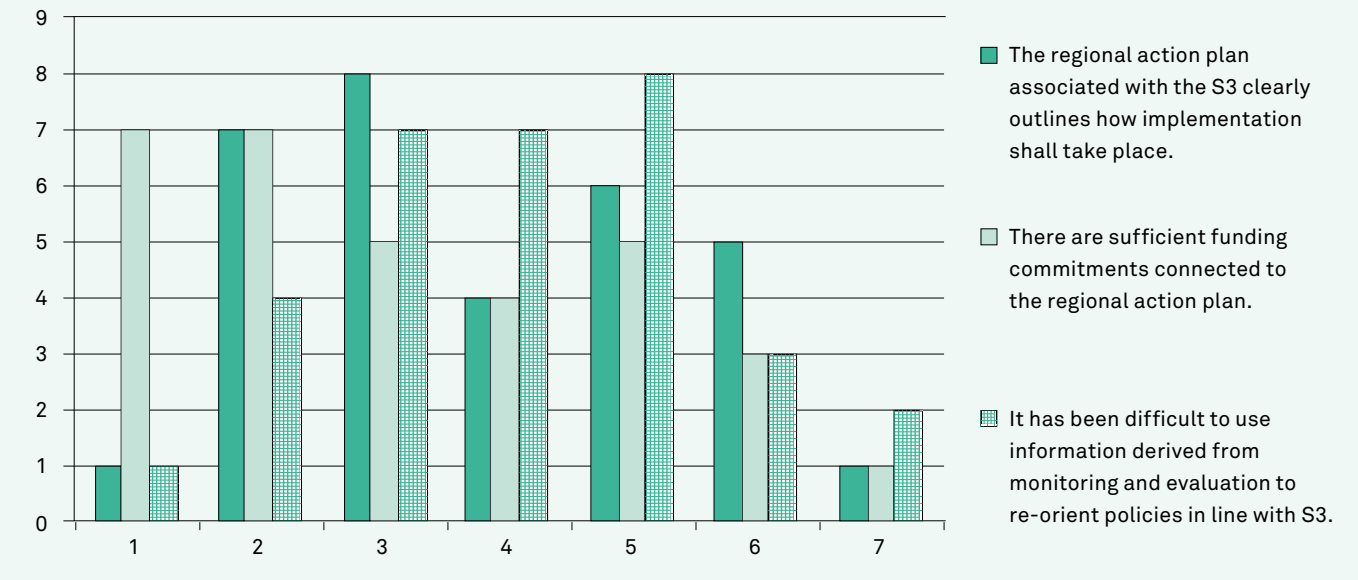
Implementing, monitoring and evaluating S3

Implementing, monitoring and funding



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It appears that monitoring and evaluation remains a challenge when collecting information to re-orient policies in line with S3. Similarly, funding commitments appear to be a problem for many regions in the implementation of the regional action plan. Furthermore, there is a variation in how implementation-oriented the regional action plans are, although a majority of the respondents do not find their action plan to be implementation-oriented.

Whilst respondents on average believe that there is a well-formulated action plan connected to RIS3, outlining implementation, they do not think to the same extent that there are sufficient funding commitments connected to the action plan. This is supported by the answers to what area they found most challenging in terms of implementation; many regions mention 'fragmented policy mix' and 'lack of funding'.

It could be the case that the problems with implementing RIS3 lies beyond RIS3 itself – as strategies must cut across different policy domains. However, it could also be that regions actually face some challenges when designing new policy instrument directly linked to RIS3. When asked to describe what policy instruments has been used to implement RIS3, the answers reflect a knowledge gap in terms of developing tools for implementation. In addition, results indicate that regions need knowledge about developing tools for implementing RIS3.

Furthermore, answers indicate that whilst regions do indeed evaluate and monitor the progress with implementing RIS3, they find it hard to use the data derived from monitoring efforts.

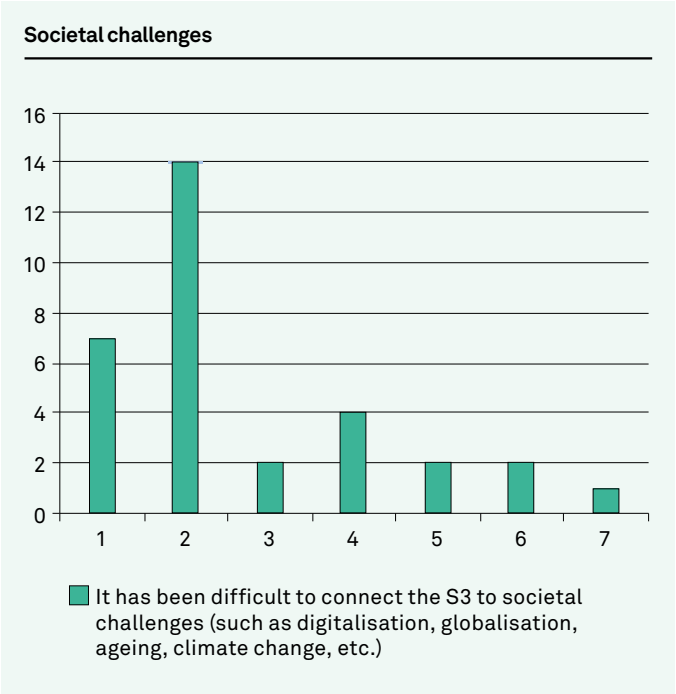


Table: The horizontal axis signifies the degree of agreement, 1 is low and 7 is high. The vertical axis indicates the number of respondents.

This is supported by the answers provided when respondents could select the most important challenges in relation to implementing RIS3.

Few respondents have found it difficult to connect their S3 to societal challenges. This may be in line with some of the individual comments where ICT, digitalisation, bio-economy and circular economy, etc. were emphasised as important themes of S3s in the regions.

International and interregional collaboration

Below are survey results from questions on interregional and international collaboration.

The survey questions covered a range of different types of international and interregional collaboration. Whilst regions do not seem to have had big problems when it comes to collaborating with actors from other regions in the context of designing RIS3, results indicate that it has been more difficult to identify topics around which collaboration could take place. This is supported by a large number of answers saying that one of the most challenging areas in relation to interregional collaboration has been to 'identify platforms for collaboration' and 'finding areas for collaboration'. In addition, 'motivating actors to pursue interregional collaboration' has been highlighted by several respondents. Furthermore, answers indicate that it has been harder to collaborate with non-regional partners in the context of implementing S3 than in the context of designing it.

Interregional and international collaboration

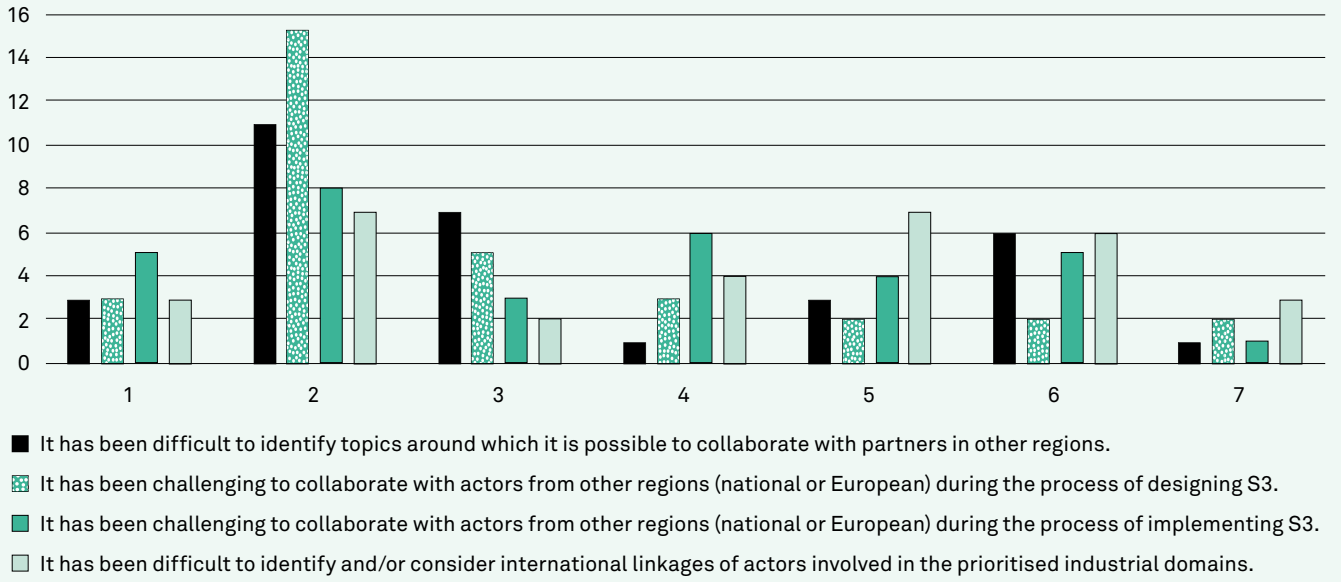


Table: The horizontal axis signifies the degree of agreement, 1 is low and 7 is high. The vertical axis indicates the number of respondents.

Respondents would find it useful to develop interregional platforms around certain topics, but the answers do not point at any particular topic to be more important than others. The answers are diverse, but if combining the findings with answers to other questions, good suggestions would be discussions around a certain prioritised area, and around best-practice examples of how challenges have been dealt with by other regions.

How important is cooperation in the Baltic Sea Region for the success of your S3?

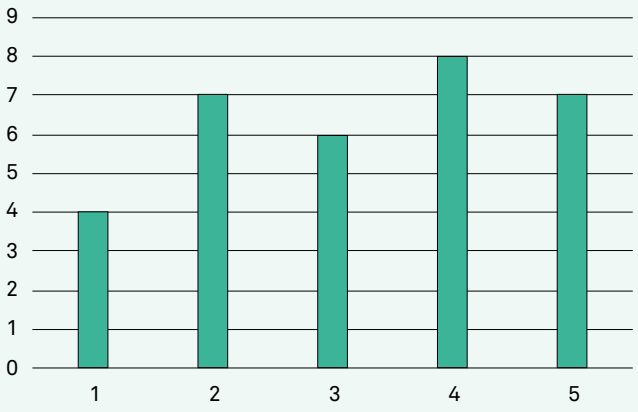


Table: The horizontal axis signifies the degree of agreement, 1 is low and 7 is high. The vertical axis indicates the number of respondents.

Almost half of the respondents (15) marked very important or quite important on the questions of how important BSR cooperation is for the success of their S3. If the middle option, fairly important, is included then about a third of the respondents do view BSR collaboration as important. The remaining third on the other hand do not see any or very little value in BSR cooperation.

When it comes to international linkages within the prioritised domains (that is, not in terms of policy collaboration but to consider the interconnectedness of the industry), results indicate that regions find it challenging. This is also highlighted in the perceived knowledge needs of the regions, scoring high on 'knowledge related to interregional value chains'.

Analysing the training needs

Results from the survey indicate that specific aspects of designing and implementing RIS3 would be especially valuable to include in a training programme. The complimentary interviews supported this claim. In this section, we have therefore identified three cross-sectional topics around which a training programme could be organised.

First, the results point at the need for a deeper understanding of the interregional and international dimension of RIS3, particularly in terms of understanding interregional value chains (IVC). Second, answers provided in the survey highlighted the need for more knowledge about various forms of non-technological innovation (NTI), which was a theme further elaborated through the in-depth interviews in the second step. Third, results indicate that regions need more experience when it comes to organising and facilitating the entrepreneurial discovery process in RIS3.

The following analysis targets these topics in order to further extract and elaborate on the needs identified through the survey and interviews.

Interregional value chains/ outward looking dimension of S3

Smart specialisation goes beyond the inward-looking view prevailing in older innovation policy approaches and promotes the inclusion of a non-regional perspective. However, given the predominantly regional focus in existing policy discourses, it is often challenging for policymakers to take this into account.

The survey results support this view. Responses indicate that policy actors find it difficult to identify and/or consider international linkages of actors involved in the prioritised industrial domains. It is one of the areas included in the survey that the respondents find most challenging. Furthermore, the need for knowledge/tools/strategies related to interregional value chains is highlighted. When given the opportunity to provide comments in relation to the latter, respondents indicate that they lack this dimension in their current work, and that they would benefit from being presented with best practice examples. Furthermore, the answers to the more open questions indicate that respondents are aware of the importance of the interregional dimension, but that they lack the tools to develop instruments that target the fostering of linkages between, for example, regional clusters and industries in other regions. Results from the interviews indicate that IVC is of strong interest to stakeholders. Not only is there a knowledge gap though, but also a lack of real competence on how to make IVC operational in the implementation process.

At the same time, however, the results support that interregional collaboration is perceived as challenging in general, and not only in relation to industry-level linkages. This is not surprising, and there is even a risk that respondents might conflate the two dimensions, given the answers in the survey. Nevertheless, actors seem aware of the need to adopt an outward looking dimension in RIS3, but results are showing clear signs of that this is not always a straightforward task. The results indicate that regions are struggling more with finding ways of collaborating with actors from other regions (national or European) during the process of implementing than designing RIS3. The same holds true for exchanging experiences with actors from other regions during the entrepreneurial discovery process, which is also perceived as less of a challenge than collaborating with non-regional actors during implementation. A possible explanation for this might be that the focus on interregional collaboration in the process of designing S3 has been emphasised strongly by the European Commission, whilst the focus on ongoing collaborations in the implementation phase is less developed. Another possible explanation might be that regions are struggling more with implementing S3 in general (which is supported by the findings), being reflected also in terms of challenges related to engaging in interregional collaborations.

Regions perceive some challenges related to identifying topics around which it is possible to collaborate with partners in other regions, and this is further supported by answers to the questions of which challenges are most important in relation to interregional collaboration in the context of RIS3. Many respondents state that 'finding areas for collaboration' are among their most important challenges. Furthermore, a majority state that it is challenging to develop platforms for collaboration. The results indicate that regions would find it useful to gain knowledge about how to build platforms for interregional collaboration around certain topics. The topics highlighted by respondents in their answers, however, range from specific industries and prioritised domains (such as health tech and sustainable tourism), to platforms for policy learning and development. It is worth mentioning that some respondents state that they think that such platforms are already available to them, for example through Vanguard and Interreg initiatives. Finally, results support the idea that regions would benefit from participating in a Pan-Baltic network of S3 regions, but at the same time the average answer in terms of the perceived importance of cooperation in the BSR is lower.
In summary, identified training needs would be to:

a. Transcend the inward-looking regional perspective on value chains and connecting the regional structure to a interregional, European and global system.
b. Explore and develop new knowledge, tools and strategies for IVC.
c. Increase the capacity to develop platforms for collaboration.

Non-technological innovation

Traditionally, there has been a strong focus on research intensive 'science/technology innovation' in regional innovation policies. More recently, more attention is given to other modes of innovation, such as 'doing, using, interacting', 'social innovation' and other forms of non-technological modes of innovation. This is, however, not always reflected in Smart Specialisation Strategies and there is a risk that regional growth potential is neglected as a result. Furthermore, in regions having included a focus on, for example, social innovation in their agendas, there is often ambiguity regarding definitions and how to support and foster it.

On average, regions in our survey did not find it particularly challenging to consider other types than technological innovation in the S3. However, the variance among respondents is high, indicating that some regions find it very challenging, whilst other do not consider it challenging at all. This likely reflects the different experiences of working with non-technological innovation in the regions, largely based on their existing industrial structures and previous challenges related to economic restructuring and transformation. It can also be due to differences in the influence from the national level in different national contexts. For example, the national level in Scandinavian countries have been quite active in promoting the non-technological dimension of innovation in national policies as well as discourse. This hypothesis can be somewhat supported if we look only at the non-Scandinavian respondents, giving a considerably higher average. Interestingly, regions do not find it challenging to connect the S3 to societal challenges, which we would expect to be related to also non-technological innovation.

Nevertheless, respondents in our survey highlight the need for knowledge related to non-technological innovation. This is supported by needs communicated in several of the interviews, where just finding a common definition of what non-technological innovation is, was highlighted by several as being very important. We can only speculate when it comes to the underlying reasons behind this paradox (regional actors not finding it challenging but still asking for more knowledge). One qualified guess would be that actors acknowledge the future need for engaging more in non-technological innovation but have not yet come far enough to encounter any substantial challenges or obstacles. Other hints can be found in the comments provided by the respondents in relation to the question about the need for knowledge, wherein respondents highlight the need for more systematic knowledge and practical tools for how to include a focus on non-technological knowledge in their RIS3, and to move beyond the introduction of new instruments and best practice examples currently provided. This provide further support to the idea that regions are generally aware of the need for taking into account non-technological innovation but have not yet started to make it an integral part of their policy mixes. In summary, identified training needs would be to:

a. Gain more knowledge on NTI.

b. Develop strategies for integrating NTI into the policy-mix.

Entrepreneurial discovery process

The entrepreneurial discovery process (EDP) belongs to one of the most novel and interesting, but also most contested, features of S3. It refers to a bottom-up process including a wide range of stakeholders belonging to different domains, targeting the exploration and discovery of potential new activities. In other words, EDP should be at the core of the processes of selecting prioritised domains and designing the S3 in regions. In general, respondents in our survey highlighted the need for knowledge related to the entrepreneurial discovery process.

Previous studies have shown that in in most regions, policymakers engage in various forms of assessment procedures to arrive at a list of selected priorities. Studies have also indicated that policymakers in general have a quite good overview of the regional economic strengths and weaknesses, the regional industrial and economic structure, and the main knowledge links (both local and non-local). This overview is often built upon periodic analyses of quantitative data collected by national statistical agencies and, in most cases, put together by regional development authorities or consultancy firms to target the development of Smart Specialisation Strategies.

Our survey results indicate that qualitative data (interviews, data collected through participation in workshops and meetings, and by other means) have been very important when selecting S3 priorities. We observe that respondents who said that they found qualitative data to be important tended to agree less with the statement that more data would have been useful. This could be seen as an indication of the importance of qualitative data in guiding the selection process. Furthermore, on average the answers are not supportive of the claim that regions would need more knowledge related to tools for data collection and analysis. Nevertheless, answers do indeed indicate that with more or better data, the selection of prioritised domains could have been improved, leaving us with an ambivalent conclusion in relation to data collection and analysis.

However, the process of selecting priorities vary substantially between regions and reflects challenges associated with making decisions based on the data available to policymakers. One way of tackling these challenges is to ensure that a broad selection of stakeholders is involved the EDP, but the bottom-up approach dictated by RIS3 is often proven difficult to facilitate when designing actual policy.

Our survey results indicate that regions find it difficult to involve private actors in the design of S3, and respondents answer that it has often been the case that private stakeholders are pursuing their individual interests when involved in the EDP. The variance among responses is very low, indicating that there is an agreement among respondents highlighting this as a challenge. Furthermore, we can observe that respondents that answered that it was hard to involve private actors in the EDP also, on average, found that they tended to pursue their own interests. A clear majority of respondents have included 'the inclusion of non-policy stakeholders' as a particularly challenging area in relation to the design of S3, highlighting the importance of this as a focus area for education efforts. A majority of respondents also emphasise the fact that it has been challenging to maintain stakeholder commitment throughout the process.

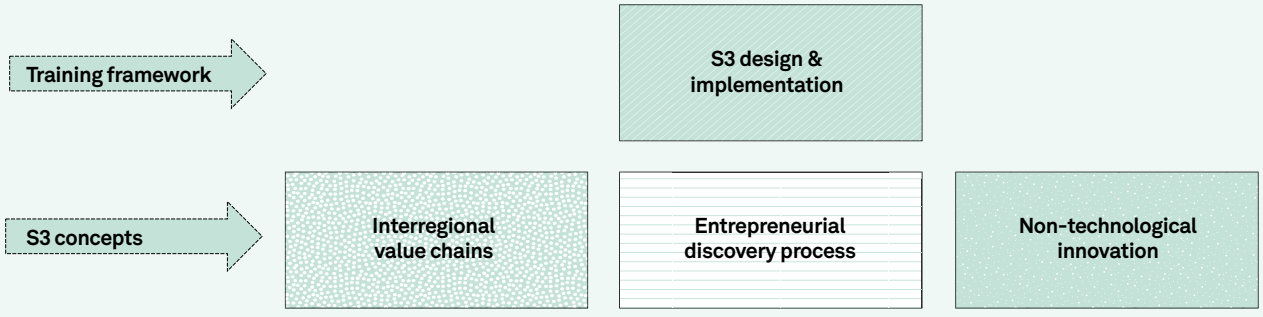
However, when going into details regarding the answers related to the role of various actors in the design and implementation of S3, it is apparent that most respondents have some experience when it comes to working with large firms, but fewer with SMEs, and only a small number with individuals. The answers presented above must be seen in this light, as it is more likely that large firms 'interfere' in or 'hijack' policy processes. This result also points to the importance of an increased engagement also with smaller firms and individuals in the EDP. The interviews gave a complimentary picture to this as the main emphasis was put on a need for strong communication skills in order to properly and successfully involve and retain various stakeholders into the EDP.

Finally, whilst it does not seem to have been a major challenge to involve existing cluster organisations in the EDP, the involvement of other quasi-public or non-policy public actors have been harder for some regions. For example, answers indicate that respondents have found it challenging to involve public sector representatives from other policy areas than research and innovation. In summary, identified training needs would be to:

a. Deepen knowledge on the EDP and how it functions.

b. Explore and develop tools and methods for inclusion of non-policy stakeholders (especially including private firms).

Framework and cornerstones for the training



Framing a training programme

The BLP on Smart Specialisation will be a training that integrates leadership and organisation with the topic of smart specialisation. This combination of two strands underlines the importance to interrogate both the training aspects of leadership and organisation alongside also exploring how smart specialisation should be framed in the programme. Moreover, the programme intends to make an imprint on the organisations involved. In other words, there is a clear ambition for impacting the organisational capacity to lead and organise smart specialisation processes. Meanwhile, general research studies on leadership trainings imply that such trainings in their traditional form have little if any impact on long-term behaviour or organisational development. [33]

This section of the pre-study will therefore explore the concepts of leadership and organisation and how they relate to the different aspects and needs of Smart Specialisation Strategies and processes. This will in particular be connected to the ambition of achieving organisational learning as an extended outcome of the training. These parameters in turn lay the ground for a tailored pedagogical approach and programme structure guided by specified learning objectives.

Dimensions of leadership and organisational learning

Our point of departure is that leadership is a competence that can be developed (thus not inherent), originating from the principle that leadership in practice is a set of tools for designing accurate responses and actions when approaching different situations and contexts. A leadership toolbox generally consist of knowledge, capacities, capabilities, experiences, etc., needed to successfully handle social processes in a given situation and/or organisation. [34] When segmented, leadership could be divided into three sub-categories:

a. The act of leading oneself.

b. The act of leading others.

c. The act of leading an organisation/process.

Leadership training should be viewed as a long-term process, where several internal and external parameters interact in order to create success (or failure) in the sense of learning and changed behaviour.

Focusing on the dimension of organisational learning and expected impacts of a training programme. A common practice is to divide training effects into four levels:

4. **Reactions** – whether participants have a positive or negative response to the training they are undergoing or recently completed.
5. **Learning** – focusing on the difference in knowledge, capabilities, attitudes or values achieved by the training.
6. **Behaviour** – relating to if/how participants are able to apply the new knowledge in their work place.
7. **Results** – focusing on if the training has had an impact on the productivity, quality or resources of the participating organisation.

Evaluations indicate that trainings usually render good scores on positive reactions and individual learning, while impacts leading to behavioural change and results in the work place are less prevalent. [35]

This would be ascribed to the fact that training programmes usually only involve one person from a given organisation, rather than several persons. Learning thus becomes individual, focusing on one ambassador, but not giving that one ambassador the tools to implement real change once back in his or her organisational context. The trainings usually also focus on generic tools and methods for leadership which are not easily translated into an organisation by a participant, but would actually need a professional trainer facilitating that translation. Evaluations of training programmes also tend to focus on the reactions (positive or negative) of individual participants and the training group as a whole, but not on the impact and changed behaviour a training may result in. In other words, the reaction to a certain lecturer or training experience is measured rather than how that lecture or experience changed behaviour on the long-term or even prepared the individual for the next step of the programme, thus contributing to deepened sense of learning.

In conclusion, leadership should focus on dimensions of personal development (leading oneself) as well as group dynamics and leading organisations/processes. As such leadership is a processual practice that constantly deals with several changing parameters. To achieve organisational learning and impacts on long-term behaviour, either more participants from the same

[33] Peter Nilsson (2016). Ledarskapsutveckling, i Ellström et al (red), Mot ett förändrat ledarskap (2016). Lund: Studentlitteratur
[34] ibid.
[35] ibid.

organisations should be involved in the training, or a structure for supporting the individual participant when returning to his/her organisation is needed.

The leadership dimension in smart specialisation

Leadership as it relates to smart specialisation involves cooperation in a complex system of stakeholders, needs and priorities. Since there is no clear-cut path for an S3 leader when designing, implementing and monitoring a strategy, there is a need to apply a pro-active and innovative approach as new methods and tools need to be discovered and developed accordingly. Leading a diverse group of both internal and external stakeholders requires strong facilitation and process management skills. Likewise, a systems perspective is vital, as cooperation commonly extends to include different societal levels and also interregional and transnational dimensions. An S3 leader thus needs the knowledge, skills and capacity to navigate a group of stakeholders through largely unchartered territory, with the ability to facilitate problem-solving along the way.

Mapping of existing trainings on smart specialisation

A mapping of existing trainings on smart specialisation concludes that there are few trainings offered. In reality the only trainings identified are massive online courses offered by Committee of Regions and the Smart Specialisation Platform as well as the BAK S3 association. These courses offer an introduction and overview to S3 concepts and methods supporting the design and application of Smart Specialisation Strategies.

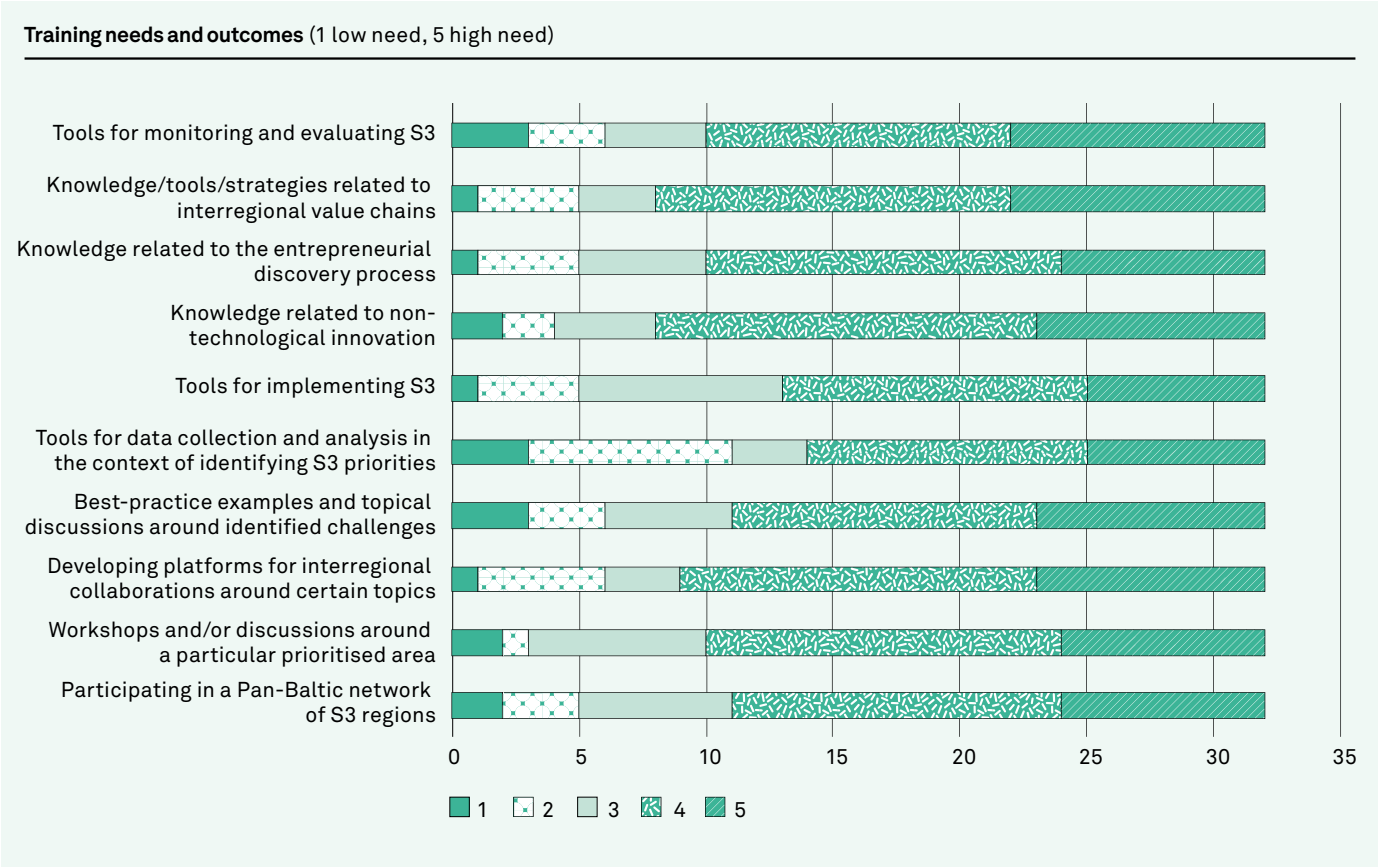


Figure: The table shows the grading (1–5) made by the 32 respondents on their perceived need for different types of training measures and training outcomes.

Empirical input on the format of the programme

As part of the survey, respondents were asked to answer specific questions on a preferred format as well as to grade the relevance of different training measures and outputs.

For all of the questions posed, a majority of the respondents indicated a high or strong need (grading by 4 or 5). The least favoured would be 'tools for data collection and analysis in the context of identifying S3 priorities' as well as 'Tools for implementing S3', even though these lower ratings are only indicative and relate to only 3–4 individual respondents. A majority of respondents, even for these less favoured, have still graded a high need. When calculating an average grade for each question, all but one question renders a value between 3.6–3.8. Only previously mentioned 'Tools for data collection and analysis in the context of identifying S3 priorities' received the lower average of 3.3. The results thus indicate a slight leaning towards discussions around prioritised areas, needs in connection to non-technological innovation and interregional value chains and developing platforms for interregional collaboration around certain topics. It should be emphasised though that other needs follow closely behind.

Identified training needs

The survey results lean towards emphasising needs that are topical within the process of implementing the S3. More specifically this entails a focus on interregional value chains and entrepreneurial discovery, and to some extent the topic of non-technological innovation could also be included. A strong need for stakeholder involvement is also articulated. This could be seen as a natural part of the entrepreneurial discovery process, but it also relates to a horizontal approach cutting across the entire concept of S3 as it covers joint design, implementation, governance, etc. To some extent certain issue areas such as bioeconomy and circular economy are also mentioned by respondents as being of interest.

Specified training needs within the different topics:

1. Interregional value chains (IVC)
   a) Transcending the inward-looking regional perspective on value chains and connecting the regional structure to an interregional, European and global system.
   b) Explore and develop new knowledge, tools and strategies for IVC.
   c) Increased capacity to develop platforms for collaboration.
2. Non-technological innovation
   a) Gain more knowledge on non-technological innovation.
   b) Develop strategies for integrating non-technological innovation into the policy-mix.
3. Entrepreneurial discovery process (EDP)
   a) Deepened knowledge on the EDP and how it functions.
   b) Explore and develop tools and methods for inclusion of non-policy stakeholders (especially including private firms).

Programme format and cornerstones

The programme is proposed to consist of 2 main modules, each lasting for three days, combined with two digital webinars.

Cornerstones:

- Interregional value chains.
- Non-technological innovation.
- Entrepreneurial discovery.

Horizontal strands:

- Leading and organising cooperation (building platforms for cooperation).
- Stakeholder involvement, multi-actor participation & governance.

Output:

- Playbook/workbook on S3 tools and insights.

Pedagogical approach

The pedagogical approach of BLP S3 has the ambition to combine a focus on individual development with organisational learning. The training will be user generated in the sense that it is the needs and challenges of participants and their organisations that are in focus. Through joint exploration and co-creation processes, the vocalised needs and challenges will be analysed and addressed with the intent to identify and/or develop tools and methods for practical use. Furthermore, the programme will introduce a flipped classroom educational style whereby certain assignments will be introduced for completion before as well as in between modules. Also the joint production of a programme report (workbook of tools and insights) is part of this educational style. A reading list of relevant and up-to-date articles and documents will be distributed before the programme starts in order for participants to prepare for seminars and discussions.

Proposal for learning objectives and outcomes

Main learning objectives of the programme:

- Participants' capabilities to apply an interregional systems perspective on their own regional Smart Specialisation Strategies as well as structure of stakeholders, has been developed.
- Relevant networks, tools and methods for broader stakeholder involvement have been explored and if necessary new tools have been co-created.
- The capacity to facilitate and manage a diverse group of S3-stakeholders, both in a regional and interregional/transnational setting has been elaborated.

Proposal for programme structure

The programme is proposed to consist of two main modules, each lasting for three days, combined with two digital webinars, one in the format of a joint kick-off implemented prior to module 1. The second webinar implemented between module 1 and 2 serves as a check-in between modules and for practical group work on pre-selected challenges/ cases. Participation in the modules and digital events is mandatory.

Digital kick-off in early October 2018 (1.5 hours)
The purpose of this kick-off will be to introduce the group to the programme, the learning objectives and expectations as well as to handle technical questions and issues. The booklet with portraits should be presented and there should also be an introductory 'training' in the digital channels that will be used during the entire implementation of the programme, such as Zoom, Slack and Boardthing. One main output of the entire prgramme will be a Workbook/Playbook on S3 techniques (see below). This should be clearly presented during the kick-off, as well as a possible 'reading list' for participants.

- Introducing the team of participants (phase 1).
- Presenting the purpose and programme logic.
- Testing digital tools.
- Presenting reading list and homework.

Module 1 in Malmö, 29–31 October 2018 (3 days)
Module 1 constitutes the first physical meeting of the programme. At this point the group of participants should be thoroughly challenged and connected as a team. Meanwhile, a state of the art concerning topics such as IVC, NTI and EDP should be covered. In smaller groups, participants should start working on their chosen topic/case, the results of which should play into the drafting of a Workbook/Playbook by the end of the final module. In parallel, leadership training, especially with a focus on interregional/transnational cooperation will be carried out. It is important to jointly develop a point of departure and identify the end-goal for participants.

- Connecting the team.
- Orienting towards purpose.
- Identifying a joint point of departure.
- Structuring the challenges – identifying, analysing and selecting group case work.
- Knowledge input on different aspects of S3 implementation (IVC, NTI, EDP).
- Systems perspective and leadership.

Digital webinar during mid-November 2018 (4 hours)
This will be an interactive session consisting of full group discussions and exchanges as well as small break-out group discussions. The purpose should be to work on the homework – a challenge/ tool development project – initially chosen during Module 1 and worked on by smaller groups of maximum 4 people.

- Check-in and joint reflection on group work (via boardthing).
- Knowledge input (lecture).
- Break-out groups on challenge/case work.
- Big group co-creation process.

Module 2 in Gdansk, 3–5 December 2018 (3 days)
This will be the last meeting of the programme. During this module additional lectures/seminars and talks on topics of S3 will be organised. In parallel, all groups are expected to engage the larger group in the results of their case work. This means, that in part the third module will be user generated.

- Presenting results from group work (up to 8 groups).
- Leadership training.
- Post 2020 – funding ecology, policy changes, etc.

Deliverable/output from the programme: A workbook consisting of models, tools and insights collected and developed by course participants based on their needs and challenges.

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Annex I – Questionnaire

Introduction to the survey

The Swedish Institute and its cooperation partners ask for your kind contribution. We address you in the capacity of working with Smart Specialisation Strategies around the Baltic Sea Region. This survey aims at gathering information on the needs and challenges that the regions face in the field of smart specialisation – in order to develop training modules that best address these needs and challenges.

EU Strategy for the Baltic Sea Region (EUSBSR) Policy Area of Innovation (PA INNO) highlights Smart Specialisation Strategies as one of three strategic policy instruments that are central to the work outlined in the Strategy Guide – particularly in their role supporting regions in identifying the competitive edge of their industry while also connecting to research and innovation.

One of Swedish Institute' assignment is to foster the implementation of the EUSBSR.

To achieve this, the Swedish Institute – in collaboration with PA INNO, the Swedish Agency for Economic and Regional Growth and the CPMR Baltic Sea Commission – plan to develop and implement a series of training modules (a Baltic Leadership Programme) targeting regional development organisations in the Baltic Sea Region (Including: Denmark, Finland, Estonia, Latvia, Lithuania, Norway, Poland, Sweden, as well as the German states of Brandenburg, Mecklenburg-Vorpommern, Schleswig-Holstein and Hamburg). We have received your contact information from one of these partners.

BLP Smart Specialisation training modules aim at addressing needs and challenges of the organisations working with Smart Specialisation Strategies, offering the opportunity to share knowledge, tools and experiences with each other.

The survey is comprised of three sections (background information, assessment of needs and challenges on smart specialisation, input on approaches to capacity building), and takes approximately 10–15 minutes to complete.

Integrity and personal data

Your answers to the survey will be gathered by our consultant Norek & Sköld AB and immediately be made anonymous. Thereafter your personal data with regard to the survey will be erased. The anonymised data will be used for a report, that we will be happy to send to you upon request. Please contact Mr Gabor Schneider (gabor.schneider@si.se).

Please visit the web site of the Swedish Institute for more information on when, how and why we process personal data. Do you have any questions regarding our processing of personal data, please contact us at si@si.se.

Background information

- Please indicate your position and organisational belonging
- In which country do you reside?
- Regional affiliation
- What is your highest accomplished level of education?
- In which academic discipline did you achieve your degree?
- What is your work life background? Please include all relevant experience.

Challenges associated with Smart Specialisation

Based on your experience, please indicate to what extent you agree with the following statements related to the process of designing and implementing Smart Specialisation Strategies (S3) in your region. Rate the statements on a scale from 1 (no extent/strongly disagree) to 7 (great extent/strongly agree).

- The methods/techniques for identifying and selecting S3 priorities are substantially different from previous approaches used when developing our regional innovation strategy
- Qualitative data (interviews, surveys, workshops) have been important when selecting S3 priorities
- With more and/or better data, it would have been possible to improve the selection of S3 priorities
- The selected S3 priorities ended up being too much focused on existing regional strengths
- The selected S3 priorities ended up being too much focused on narrow industrial niches
- The process of selecting S3 priorities was characterised by conflicting interests between different stakeholders
- It has been difficult to motivate the selection of S3 priorities among regional stakeholders
- It has been difficult to involve private firms in the entrepreneurial discovery process
- It has been difficult to involve universities in the entrepreneurial discovery process

- Private stakeholders involved in the entrepreneurial discovery process have tended to pursue their own interests
- It has been difficult to exchange experiences with actors from other regions during the entrepreneurial discovery process
- It has been difficult to engage existing cluster organisations in the entrepreneurial discovery process
- The regional action plan associated with the S3 clearly outlines how implementation shall take place
- There are insufficient funding commitments connected to the regional action plan
- It has been difficult to use information derived from monitoring and evaluation to re-orient policies in line with S3
- It has been difficult to identify topics around which it is possible to collaborate with partners in other regions
- It has been challenging to collaborate more with actors from other regions (national or European) during the process of designing S3
- It has been challenging collaborate more with actors from other regions (national or European) during the process of implementing S3
- It has been difficult to identify and/or consider international linkages of actors involved in the prioritised industrial domains
- It has been difficult to consider other types of innovation than technological innovation in the S3 (i.e. to consider a broad view of innovation including social- and practice-based innovation)
- It has been difficult to connect the S3 to societal challenges (such as digitalisation, globalisation, ageing, climate change, etc.)

What area(s) do you consider the most challenging in relation to designing S3 in the region? Please select zero, one, or several options.

CH-(Identifying priorities; Selecting priorities; Involving non-policy stakeholders; Involving policy actors at other levels of government; Other (please specify))

TX-(Other)

What area(s) do you consider the most challenging in relation to implementing S3 in the region? Please select zero, one, or several options.

CH-(Connecting existing policy instruments to the S3 action plan; Developing new policy instruments/interventions; Lack of funding connected to S3; Fragmented policy mix (contradicting relationship with other policy areas); Monitoring and evaluation of S3; Other (please specify))

TX-(Other)

What area(s) do you consider the most challenging in relation to interregional collaboration in the context of S3? Please select zero, one, or several options.

CH-(Identifying collaboration partners; Developing platforms for collaboration; Finding areas for collaboration; Motivating actors to pursue interregional collaboration; Funding; Other (please specify))

TX-(Other)

How important is cooperation in the Baltic Sea Region for the success of your S3? (1 not important at all, 7 essential)

Open questions

Please list the priorities in your S3

Please describe with a few words how different levels of government are/have been involved in designing and implementing S3 in your region
TX-(Local/municipal/city administration)
TX-(Regional)
TX-(National)

Please describe with a few words how different types of non-policy stakeholders have been involved in S3 in your region
Large firms; Small- and medium-sized firms; Consultancy firms; Cluster organisations; Universities and research institutes; Selected individuals; industry and employer's associations, e.g. Chambers of Commerce; Labour unions; Other, please specify

Please describe with a few words how you are collaborating with actors in other regions in the context of S3, please also specify if your cooperation partners come from the same country as you or from another country.

Please describe with a few words what type of funding that is connected to S3

Please describe with a few words what type of policy instruments that have been used in the implementation of S3

Questions related to the structure of the education programme

Please indicate the need for knowledge and tools related to each topic or element listed below. Rate the items between 1 (no need) and 5 (strong need). If applicable, please add a comment in the box to the right.

- Participating in a Pan-Baltic network of S3 regions? – Why valuable?
- Workshops and/or discussions around a particular prioritised area – Which one?
- Developing platforms for interregional collaborations around certain topics – Which ones?
- Best-practice examples and topical discussions around identified challenges – Which ones?
- Tools for data collection and analysis in the context of identifying S3 priorities
- Tools for implementing S3 (e.g. developing new, or aligning existing, policy instruments)
- Knowledge related to non-technological innovation
- Knowledge related to the entrepreneurial discovery process
- Knowledge/tools/strategies related to interregional value chains
- Tools for monitoring and evaluating S3

Are there other topics for which you would need new knowledge and tools?

How would your region benefit from participating in a transnational (Pan-Baltic) training programme?

Would it be beneficial to involve more than one representative from your region in such a training programme?

Would it be more worthwhile in a training programme to work in depth in a smaller narrower group than broader in a wider audience? Who would you be interested in working with (regions and/or stakeholders)?

Annex II – Interview questions

Informal and open interviews were centred around the following core questions:

1. What training needs have you come across for yourself, your organisation and/or regional/national network of stakeholders with regards to S3?
2. Do you have any reflections on the type of leadership and organisational skills needed for successful S3-design and implementation?
3. What are your reflections on regional (national) needs with regards to:
   - Interregional Value Chains
   - the Entrepreneurial Discovery Process
   - Non-technological innovation
4. Could you elaborate on the experiences of your organisation from transnational cooperation and needs/challenges within this field, especially with regards to smart specialisation?