



Northern Connections report

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WP3: Regional Innovation Strategies and the structure of clusters

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Introduction

The Regional Innovation Strategy (RIS3) concerns national or regional research and innovation strategies for smart specialisation and is part of the EU Cohesion Policy (EC 2014) within the Europe 2020 strategy (EU 2017a) which aims to deliver smart, sustainable and inclusive growth. Within the Europe 2020 strategy¹, Smart Specialisation is part of one of the 7 key elements (Flagships) presented in 2010 by the European Commission (EU 2017b). With this Flagship² the EU aims to:

- make Europe a world-class science performer,
- remove obstacles to innovation which currently prevent ideas getting to market and
- revolutionise the way public and private sectors work together, notably through Innovation Partnerships between the European institutions, national and regional authorities and businesses (EU 2017c).

The RIS3 is a key element for developing regional policy forcing innovation. The RIS3 potential for regional development is (according to the EU Cohesion Policy) to (EC 2014: pp.4-5) e.g.:

- “Improve connections and cooperation with other regions, clusters and innovation players,
- Avoid overlaps and replication in development strategies,
- Promote knowledge spill over and technological diversification.”

This was the driver for establishing the Northern Connection Project, which focuses on creating innovation connections between enterprises and clusters in the energy sector based on RIS3 strategies.

The work package WP3 Knowledge aims to support knowledge transfer between the project partners, particularly between the two main groups, clusters on the one side and cities and regions on the other side.

The expected outputs of WP3 are:

- methods by which Regional Innovation Strategies (RIS3) and/or other strategies support internationalisation,
- needs for further support in internationalisation,
- recommendations for potential fields for cooperation in services and activities of cluster organizations, the different sub-sectors of renewable energies and in the different parts of the energy value chain in the cluster organisations.

To achieve these outputs two surveys have been conducted in the frame of WP3: Survey one focused on regional innovation strategies, knowledge transfer and internationalisation of clusters. The second survey has been conducted in Winter 2017/18 aims to find out how small and medium sized enterprises (SMEs) are involved in the clusters, how they are supported by cluster organizations and which of their activity themes or tools promise the best potential for transnational collaboration. Broadly considered, the approach is to provide a transnational bridge between private and public entities, to create incentives for transnational SME innovation partnerships and to work towards a critical mass of innovation activity.

¹ The innovation strategy takes steps inside on of the targets outlined by the European Union for the 2020 EU Strategy: 3% of the EU's GDP to be invested in R&D (EU 2017a).

² For more detailed information, see EC (2011: pp. 4-5) with the indication of priorities that are needed to achieve Innovation Union.

Northern Connection focuses on transnational potential for cluster and innovation cooperation. This is why the RIS3 is one key element of the analysis in the project.

This first WP3 report is based on the outcomes of the first survey additional desk research and following group discussions with project partners. The content of this report is focussing on the regional innovation strategies in the partner regions and cities and on the structure of the cluster partners in the project.

It needs to be mentioned that the Northern Connections partners differ in many ways from each other. Firstly they can be grouped in cluster organisations and cities / regions. But, secondly, these two groups are rather heterogeneous. The clusters differ in size, organisational form, membership and funding. These differences were further examined in the second survey and will be analysed in an upcoming WP3 report. Responsibilities and competences of cities and regions differ from country to country. Therefore the survey results are quite different between the partners. These differences also need to be taken into account when it comes to development of new strategies and measures.

Regional Innovation Strategies

The analysis of the first questionnaire focused the presence (or lack) of RIS3 strategies and innovation policies in the partners’ regions. It turned out that every partner (cluster and/or city/region) has at least one Smart Specialisation strategy. Four partners didn’t mention the RIS3 but by research they have although one. All clusters (without one) named additionally at least two political strategies, which are important for their work. Some partners remarked that their RIS3 are more a regional development strategy than an innovation support or that RIS3 supports mainly the big players and not innovation in general.

The named political strategies and RIS3 have a different focus on a spatial level and can be differentiated in a local, regional or national level. Most of the strategies cover one level (mainly the regional scale) but 6 of 16 partners named strategies with a focus on a regional and local level or local and national level (Scottish Enterprise). Just three partners named additionally national strategies and covered all three scales (Schleswig-Holstein, Aarhus Kommune and Business region Gothenburg – Johannesburg Science Park). In sum the most frequently named strategies focused the regional level (38), followed by national strategies (17 were named) and just 8 strategies covered the local level. In one RIS3 renewable energy is not mentioned as a relevant topic – the strategy is more a general development strategy (“International innovation strategy for Skane” named by Sustainable Business Hub).

Strategies/policies on smart specialisation may have a binding or non-binding character. The following table shows the binding or not binding status of the strategies, as reported by the partners.

Character	Named by number of clusters
binding	10
Not binding	4
Not mentioned	2
Sum up	16

Table 1 - Binding character of the policies/strategies named by the partners (HCU 2017).

The binding character of a strategy represents the willingness of the clusters/authorities to face the targets of RIS3. Among all the clusters interviewed, three have non-binding strategies/policies: this might be due to the fact that the strategies developed by some clusters are only at the regional level with a general focus on sustainability and climate. Most partners have mainly binding goals, which can be achieved with various degrees of freedom following imposed or self-determined paths: what is imperative is to achieve the goals, the 'how' is secondary. This approach allows more space for innovation.

Different aspects of the strategies in the partners regions and cities

As mentioned before, the project partners differ from each other and thus the strategies that were mentioned by the partners in the survey show a great level of variety. The strategies diverge with regard to their spatial scope and their thematic topics. Some partner regions and cities have several strategies: some are focusing on certain branches, while others show overlaps with other development and / or political strategies.

In the following section, some selected examples illustrate the different characters of the strategies. The examples were chosen because they could inspire other cities and regions.

Who is in charge of the decision on the clusters' objectives? Generally the objectives are adopted by a regional board that is comprised of cluster members and political representatives. None of the partner regions decide objectives in a purely top down process. For example, in Schleswig-Holstein (Germany) the objectives of the renewable energy cluster EEK.SH are identical to the objectives in RIS Schleswig-Holstein. Another example is the cluster Stichting (Foundation) Energy Valley in the Northern Netherlands. The objectives of the cluster are set in the so called Northern Innovation Agenda. This agenda itself is a consequence of the RIS3 strategy. It specifies objectives and quantifies targets.

Which linkages exist between the objectives of the clusters and the regional innovation strategies? In many cases a combination of development or growth strategies and regional innovation strategies can be observed. One example is the regional development strategy "Västra Götaland 2020". The Swedish region incorporates its environmental goals and approaches in this strategy. It corresponds with the European 2020 targets, but the regional objectives are even more ambitious.

Which linkages do exist between the regional innovation strategies and other strategies on regional and urban level? In some regions several innovation strategies exist parallel to each other, for example Energy Valley has several strategies with various focal points. The City of Aalborg has a Business Strategy for the Municipality that is complementary to the Strategy for regional growth and development by the Region of North Jutland.

Structure of the cluster organizations

The knowledge-based economy is founded on cooperation between universities (knowledge institutions), industry and government: the so-called triple helix. The triple helix is defined as the base for innovation, stressing the importance of knowledge as a driver for change in innovation fields (Etzkowitz 2003; 2008). The relative importance of industry-university cooperation, which must be aligned with administration aims

to achieve common goals, is increasing (Etzkowitz & Leydesdorff 1995; 2000). Regarding this need, the RIS3 smart specialisation approach is intended to support interaction in the triple helix, not with regards to scientific excellence, but rather to the adoption and “diffusion of knowledge and innovation” (EC 2014: p.7).

The aim of the analysis was to determine which clusters have partners, which are active in the triple helix, and how these partners interact. The analysis shows that the clusters include different types of actors as a response to the challenges posed by globalisation, which demands more and more innovative solutions. Therefore, how willing the clusters are to broaden their horizons with the inclusion of actors from alternate knowledge spheres is an indication of their ability to deal with globalisation.

Among the 16 clusters, the majority (seven clusters) have members that represent all the three helixes (enterprises, public sector and research institutions). In two clusters only enterprises are involved and three clusters cover enterprises and the public sector. The helix structure was not mentioned at all by 4 clusters.

Knowledge institutions and knowledge transfer institutions are special parts of the knowledge economy and important institutions in the triple helix formation. Both types of body work with knowledge, but in a slightly different way. Knowledge institutions are focused on knowledge production, classic examples being universities and research institutes. Knowledge-transfer institutions have the goal of sharing knowledge with others; they for example support the cooperation between universities and firms as well as helping to provide added value through the transfer of knowledge. Due to their primary importance in the field of RIS3 and innovation systems, we also investigated the presence of knowledge institutions and knowledge-transfer institutions among the clusters’ partners.

One important outcome of the survey was that some countries have separate institutions for knowledge production and knowledge transfer. In Germany for example a variety of knowledge transfer institutions exists that function as a link between universities / research institutes and firms. However in other countries like Norway the knowledge transfer is organised within knowledge institutions like universities. With regard to the aim of supporting cross-border knowledge and innovation exchange, it became clear that it is important to understand the structure of the clusters and the organisation of the triple helix in the different partner countries.

Internationalization of clusters as part of regional strategies and policies for renewable energies

In the majority of the partner cities and regions the strategies on renewable energies do not specifically address the topic of internationalisation. Most of the clusters had a predominantly regional perspective in the first phase of their work. Their emphasis was on strengthening business networks within their region. This has gradually changed, also under the influence of the globalization. Cluster development today is more about strengthening internationalization as well as research and innovation than it was in the starting phase of cluster in the past.

The outcome of the survey has been discussed with the project partners, focusing on the aspects of internationalisation of clusters and the partial lack of internationalisation in some clusters and some of the strategies. The partners agreed to further focus on the following points:

- The regional innovation strategies should focus more on internationalisation in the future. As new strategies will be developed in the next years, there is a chance to integrate a stronger focus on internationalisation.

- Cluster organisations should be obliged - and be supported by their cities and regions - to internationalise and be open for European cooperation. Throughout the project, ideas for policies and measures should be developed.
- The support of clusters should be organised, if possible, within existing structures, avoiding the creation of new funds or cross-ministerial funds. The existing funding structures already allow more support for internationalisation, but they are not fully used yet.
- Good examples of internationalisation practices were and will continue to be collected among the Northern Connections cluster partners. These shall serve as an orientation for other cluster partners.

Outlook

As described in the introduction this report covers only a part of the work within the work package WP3. The outcomes that are briefly described in this public report are presented in a more detailed way in project-internal documents for the work packages 4 and 5. With regard to the results of the second survey another public report is going to be published.

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