OSIRIS
Interreg Europe

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Action Plan for the Region of Ostrobothnia

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Open Social Innovation policies driven by co-creative Regional Innovation eco-systemS

Regional Council
of Ostrobothnia

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1. INTRODUCTION

The OSIRIS project aims at improving the design, delivery and implementation of Open and Social Innovation policies and Regional Action Plans. Open and social innovation are concepts that allude to the diversification of knowledge sources strongly suggested as beneficial in the innovation literature. Here, the inclusion of users and the general public is recommended in concepts such as the Quadruple Helix. By implementing open, social innovation in the regional innovation system, the region may identify the appropriate means and strategies needed to achieve an enhancement of the regional innovation system. The end goal is to accomplish a regional innovation system (RIS) better equipped to meet the rapidly changing challenges of the contemporary knowledge economy.

Open innovation and social innovation both highlight benefits of increased *cooperation* and *inclusion* of actors in innovation systems. In this action plan, the concept of *Open Innovation* (OI) refers to sharing data and know-how, making public data available and including users as well as society at large to develop and implement new ideas (products, services and models). The concept of *Social Innovation* (SI) is defined as a process and refers to participation processes and mobilization of actors, as well as social mechanisms of innovation.

Open innovation may highlight mechanisms of sharing data and knowledge, while the real process of development is described as a social innovation. Social innovation allows investigating the very fabric of the innovation system, enabling the identification of the key factors for realizing inclusion and cooperation. Based on this reasoning, the action plan departs from the notion that to enhance open innovation we also need a good understanding of the mechanisms of social innovation. (a further discussion on the concepts is found in section 2.1).

1.1 Policy Instrument: Priority axis and objectives

The policy instrument (PI) in focus of the action plan is "Sustainable growth and jobs 2014-2020 – The structural funds program of Finland". The governance structure allows the regions in Finland to select projects to be financed through the program. The Regional Council of Ostrobothnia is responsible for implementing the Structural Funds program in Ostrobothnia and for selecting projects. Furthermore, the Regional Council of Ostrobothnia has a key role in planning and monitoring the regional smart specialization strategy. The smart specialization strategy serves as a basis for European structural fund interventions in the region.

The Regional Council funds projects referring to priority axis two in the program **"Producing and using new information and knowledge"** within the framework of the European Regional Development Fund. The target groups for this priority axis are: SMEs, research and educational organizations, development organizations, and municipalities.

In line with priority axis two, this action plan aims to influence the following two objectives in the policy instrument:

1. **Developing centres of research, expertise and innovation on the basis of regional strengths and the regional smart specialization strategy.** The PI funds actions which enhance regional growth by improving research and development environments of applied research and by finding new ways of producing innovations (www.rakennerahastot.fi). Within this generic objective, the Region of Ostrobothnia focuses the PI on actions enhancing digitalization and the industrial internet of things such as artificial intelligence, 3D-modelling, simulation, design, automation, smart grids, cyber security, and Big Data (https://www.obotnia.fi/finansiering/eruf-programperioden-20142020/ansokningsomgang-22018/).

2. **Developing solutions based on renewable energy and energy efficiency.** In line with this objective, the PI focuses on actions enhancing low carbon economy within the following three themes: energy- and material efficiency, renewable energy and strategies for lowering CO2 emissions. Along with this objective, the Region of Ostrobothnia focuses the PI on supporting the development, commercialization and introduction of a) new technologies enabling low carbon products, services and production methods b) low carbon products, materials and production methods. The PI also supports the developments of innovations and technologies for energy efficient housing solutions.

1.2 Purpose and intended policy changes

The aim of the action plan is twofold. First, the aim is to improve the PI by supporting new projects which enhance the competiveness of SMEs, strengthen the regional innovation system and increase the use of open innovation in regional development. To reach this aim, the Regional Council of Ostrobothnia seeks to promote regional development projects engaging users of innovations and citizens in developing new products, services and processes which support the regional smart specialization strategy.

Second, the aim is to improve the PI by strengthening the participatory governance. More specifically, the aim is to create a new open innovation practice which:

a) *better involves citizens to influence policy making, in general, and the structural funds program and the smart specialization strategy of the region[1], in particular.*

b) *improves the capacity of project implementers to develop new products/services by applying a user-oriented approach and creating a better understanding of citizens' and/or end-users' needs and of value creation processes for users in technological developments*

c) *enhances the strategic planning capability of the Regional Council of Ostrobothnia in generating new projects and in identifying new priority areas and measures in the PI for the outline of the next program period.*

The abovementioned aims are interrelated. Accordingly, the results of implemented actions outlined in Table 1 will simultaneously support the actualization of both aims.

1.3 Expanding the current triple-helix approach

This section summarizes the policy context and some of the current opportunities and challenges which are in focus of the action plan.

Studies conducted 2014 and 2018 within the region's smart specialization strategy show that companies, the university sector and the public sector are rather well-connected in the innovation system in Ostrobothnia. However, there is a need to improve the multilevel governance of the innovation system and, in particular, to better involve users of innovations and citizens.

1.3.1 Stronger involvement of citizens in planning and monitoring the regional smart specialization strategy

[1] Regional smart specialization strategies serve as a basis for European structural fund interventions. In this sense, smart specialization serves as a means to deliver more targeted structural funds support (Foray & Goenaga, 2013) based on regional innovation strengths and business needs (Carayannis & Grigoroudis 2016, 32). As a result, regional strategies for smart specialization and, in particular, the design and implementation of the entrepreneurial discovery process (EDP) (Forte, Marinelli & Foray, 2016), lies at the core for reaching the intended modification of the policy instrument. That is, in order to modify the policy instrument there is a need to reformulate the entrepreneurial discovery process (EDP) by exploiting OSI methods and tools and applying a quadruple helix way of thinking.

From a governance perspective, the Region of Ostrobothnia has designed a development tool which has since 2012 recurrently been used for smart specialization planning and monitoring. In line with the tool, regional authorities are engaged in a structured dialogue with triple-helix actors (companies, university sector, public sector including development organizations) to: map technological needs, discover gaps in the cooperation and establish a common view on relevant development actions. Through this development tool, the region is strongly committed to identifying key horizontal priorities that support export intensive domains in the region. Whereas the triple helix approach can be seen as a systematic way of pursuing research and technology driven innovations, quadruple helix represents demand- or user-oriented innovations (Arnkil, Järvensivu, Koski, Piirainen, 2010, 17). In this way, a quadruple helix approach allows for a larger variety of innovations (Foray, Goddard, Goenaga Beldarrain, Landabaso, McCann, Morgan, Nauwelaers, Ortega-Argilés, 2012, 37).

In other words, there is a need for the public sector to use a bottom up approach and to create new working processes that more strongly involve citizens and the local community. Similarly, there is a need to find new ways regarding how open innovation could be used as an engagement tool in the region's key sectors. Therefore, the region would benefit from developing an open innovation practice, which more strongly includes community stakeholders in the structured dialogue and in the regional innovation strategy for smart specialization. To develop such a practice, two generic actions arise. First, there is a need for collaborative co-creation where civil society is directly engaged in smart specialization workshops with other stakeholders or that citizens organizations take part in RIS3 implementation projects. Second, the first action demands the emergence of a general realization among concerned actors about the necessity and mutual benefits of taking part in a broader co-creation process where different kinds of perspectives and knowledge co-act and coalesce. This in turn demands steps being taken towards building trust between actors previously not engaged in joint actions.

1.3.2 Strengthening the regional innovation system

In this action plan, the field of smart energy will be used as a context and case for creating a new open innovation practice which aims to strengthen the participatory governance. Energy technology is a prioritized domain in the smart specialization strategy to enhance the region's innovation potential and growth. In the region of Ostrobothnia, industrial and manufacturing constitutes an important sector forming nearly 40 percent of the regional GDP. Within the industrial and manufacturing sector, a key branch is renewable energy technology, including bio energy and wind power. The region's cluster of energy technology companies is the largest energy cluster in the Nordic countries (EnergyVaasa website[2]). The cluster consists of 140 companies with a combined turnover of 4.4 billion euros (EnergyVaasa website).

Today, the production of technology, electronics and machinery devices for environmentally friendly energy production is a central growth engine in the region. Companies in the energy clusters are highly export oriented. On average, 80 percent of the energy cluster's services and products (e.g. diesel engines, power plants, electric motors, frequency converters, applications for wind power) are exported (Energy Vaasa website).

A number of large international companies are located in the region's energy cluster (e.g. ABB, Wärtsilä, Danfoss, The Switch). However, most companies fall into the category of small- and medium-sized companies (SMEs). Overall, the sector is shaped by large enterprises supported by clustered supply chains of often-dependent SMEs (AMCER report 2013, 95).

Large companies within the energy sector possess a central role in the region's innovation system by accounting for a great part of the research and innovation actions. Overall, the regional innovation system is business-driven and companies innovate with other companies and with their

[2] EnergyVaasa, website, available at: http://energyvaasa.vaasanseutu.fi/

customers, compared to relying on science-based innovations (AMCER report, 2013, 93). However, there is limited insights on how open, social innovation could be used as an engagement tool in the field of smart energy.

Consequently, in line with the objectives of the policy instrument in terms of 1) developing centres of research, expertise and innovation on the basis of regional strengths and 2) developing solutions based on renewable energy and energy efficiency, this action plan will focus strengthening open, social innovation within the field of smart energy. In this way, the action plan will create a strong showcase on the value and importance of open social innovation in regional development. The next section describes how open social innovation is defined and realized in the action plan.

2. BACKGROUND AND METHODOLOGY FOR DESIGNING THE ACTION PLAN

2.1 Defining open, social innovation and its value in regional development

Open innovation (OI, Chesbrough 2003) was introduced as a concept for counteracting the silo mentality of competing research labs and companies. OI assumes that cooperative competition, or coopetition, is beneficial for all engaged parties. OI involves sharing data and know-how, and lately, the benefit of including users as well as society at large has also been considered. The concept also includes public organizations making public data available for the benefit of the development of innovations.

Academic literature presents two distinct dimensions of the concept of *social innovation* (SI): 1) a process dimension, including participation processes and mobilization of actors, as well as social mechanisms of innovation; 2) an outcome dimension, implying specific social innovations such as new governance structures (Neumeier 2017). This action plan focuses on the process dimension of social innovation, since it is such a process that is expected to refine the regional innovation system. In defining SI as a process, the act of participation and collective action in itself is viewed as producing new and intensified networks, in turn producing social capital, which in the long run will lead to tangible outcomes. Neumeier therefore see SI as "asset building" for the future.

Thus, OI and SI both highlight the benefits of increased *cooperation* and *inclusion* of actors in innovation systems. OI may highlight mechanisms of sharing data and knowledge, while the real process of development is described as a social innovation. Social innovation allows investigating the very fabric of the innovation system, enabling the identification of the key factors for realizing inclusion and cooperation. Consequently, we need a good understanding of the mechanisms of SI.

A vital aspect of SI is the initiation of a new process. As Neumeier (2017) points out, the "room to maneuver" for social innovation networks may be influenced externally, but local activity and engagement is difficult to influence from the outside. Processes initiated bottom-up by local key actors (so-called *connectors*) with the ability to spark engagement and bridge social gaps are often successful. Initiating SI processes externally is consequently more challenging, but nevertheless, if SI is interpreted as an asset building process, it may be a significant tool for encouraging new collaborations and strengthening regional and local innovation networks. The first step is the most difficult to take; essentially this consists of building trust between new partners. Another important aspect here is actors' ability to estimate potential results (Rogers (1983). Butkeviciene (2009) advocate a *down-up* strategy for external actors to develop social innovation, rather than a top-down one, implying that for instance government actors may facilitate local institutional capacity in order to mobilize internal resources.

In the social innovation literature, the diversification of SI networks is seen as vital for their innovativeness. Access to external sources of knowledge is also of importance, especially in lagging regions and regions lacking certain competences. In the general innovation systems literature, there is similarly a consensus about the need of diversified sources of knowledge. Recent literature

stresses the importance of combinatorial knowledge bases for innovation for finding new regional industrial growth paths and for adapting mature ones to changes in technologies and markets (Manniche 2012; Strambach and Klement 2012). The need of combinatorial knowledge is also manifested in the Triple and Quadruple Helix literature, where also symbolic knowledge (cultural production, media, advertising, branding etc.) gain importance, as well as feedback from suppliers and users. The success of the iPhone is an illustrative example, where content and knowledge of youth and "hipster" culture was decisive, rather than technological excellence. What we are witnessing is a *culturification* of products and services, where these are developed by identifying demands and trends in e.g. local, youth, urban or rural culture.

2.2 Methods for designing the action plan

During the OSIRIS project, the content of the action plan has been developed by using the following procedures:

- Local co-creation events with project stakeholders
- Personal interviews and focus group discussion with company leaders in the region's energy cluster. Both large companies and SMEs participated in the study.
- Learning between the OSIRIS partners through the exchange of good practices, study visits and co-creation events

2.3 Local co-creation events with project stakeholders

This section presents insights and results from two local co-creation events organized during the OSIRIS project.

2.3.1 Co-creative workshop: Open, social innovation and smart energy

In the beginning October 2016, the Regional Council of Ostrobothnia organized the first partner meeting in the OSIRIS project. During this meeting, a co-creative workshop was held. The workshop focused on merits and challenges of open and social innovation in developing smart energy solutions and anchoring them in society. The purpose of the workshop was to find new ideas and suggestions on methods and processes for how to more actively involve citizens in the field of smart energy solutions.

The local participants consisted of project developers, such as, development organizations, actors from the higher education sector and the public sectors, as well as, stakeholders working with ERDF projects in the Western Finland region.

The results of the workshop have been categorized into four themes of ideas on how citizens and the local community could be more actively involved in the field of smart energy in the Region of Ostrobothnia[3].

Education: The region needs actions engaging students and children in the field of smart energy, for example by making every student an "energy ambassador". Two more specific actions were pointed out: 1) increase students' knowledge and understanding on energy matters, sustainability and how to reduce energy consumption. Such actions could target pre-schools, schools and universities. 2) Engage children by introducing a debate about energy in schools.

[3] The workshop is also described and analyzed in S3 Policy Briefs Series No. 24/2018 (pp. 17-20). The publication is available at:
http://publications.jrc.ec.europa.eu/repository/bitstream/JRC111371/jrc111371_smart_specialisation_and_social_innovation_finaldraft.pdf

Information and communication: A second point for action was to more frequently use storytelling as a method for raising awareness of sustainable energy. Through story-telling people are engaged and it is possible for companies and universities to make sustainable solutions more visible and part of the citizens' everyday lives. Also, the use of good showcases and competitions related to energy matters were put forth as potentially valuable methods to give information to citizens. In a similar way, the role of gamification, test and experiments was underlined.

Methods for engagement: Development projects engaging citizens by the use of Hackatons, idea workshops, prototyping, and experience labs for smart energy environments. This idea underlined that the region should create a process which would give a constant flow of ideas and concepts at the same time as citizens are gradually more and more included into the field of smart energy.

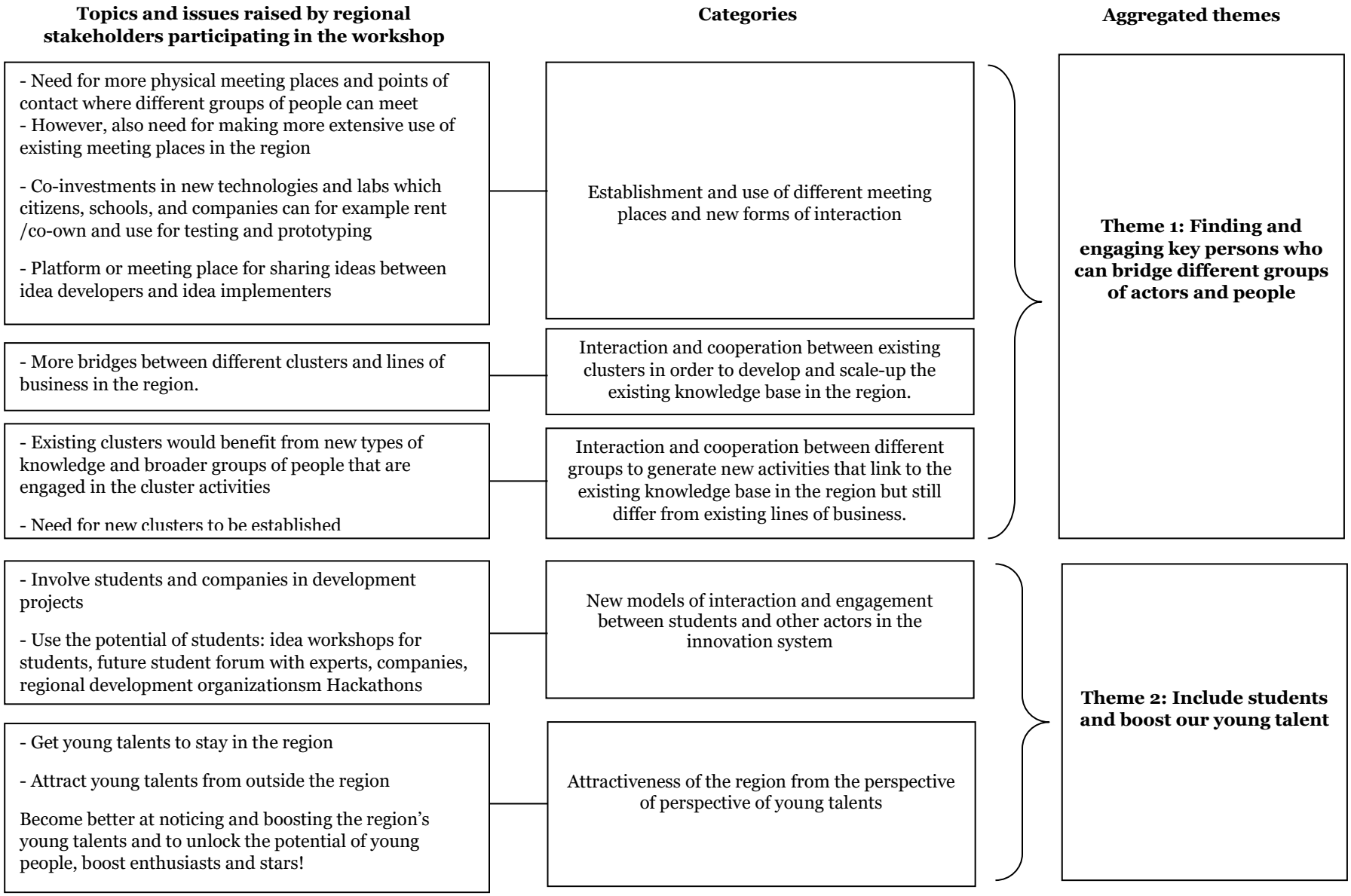
Cooperation between companies: The fourth idea approached social innovation from a firm perspective. This idea particular emphasized the need for more cooperation between companies in the energy sector by open data solutions and cooperation on research.

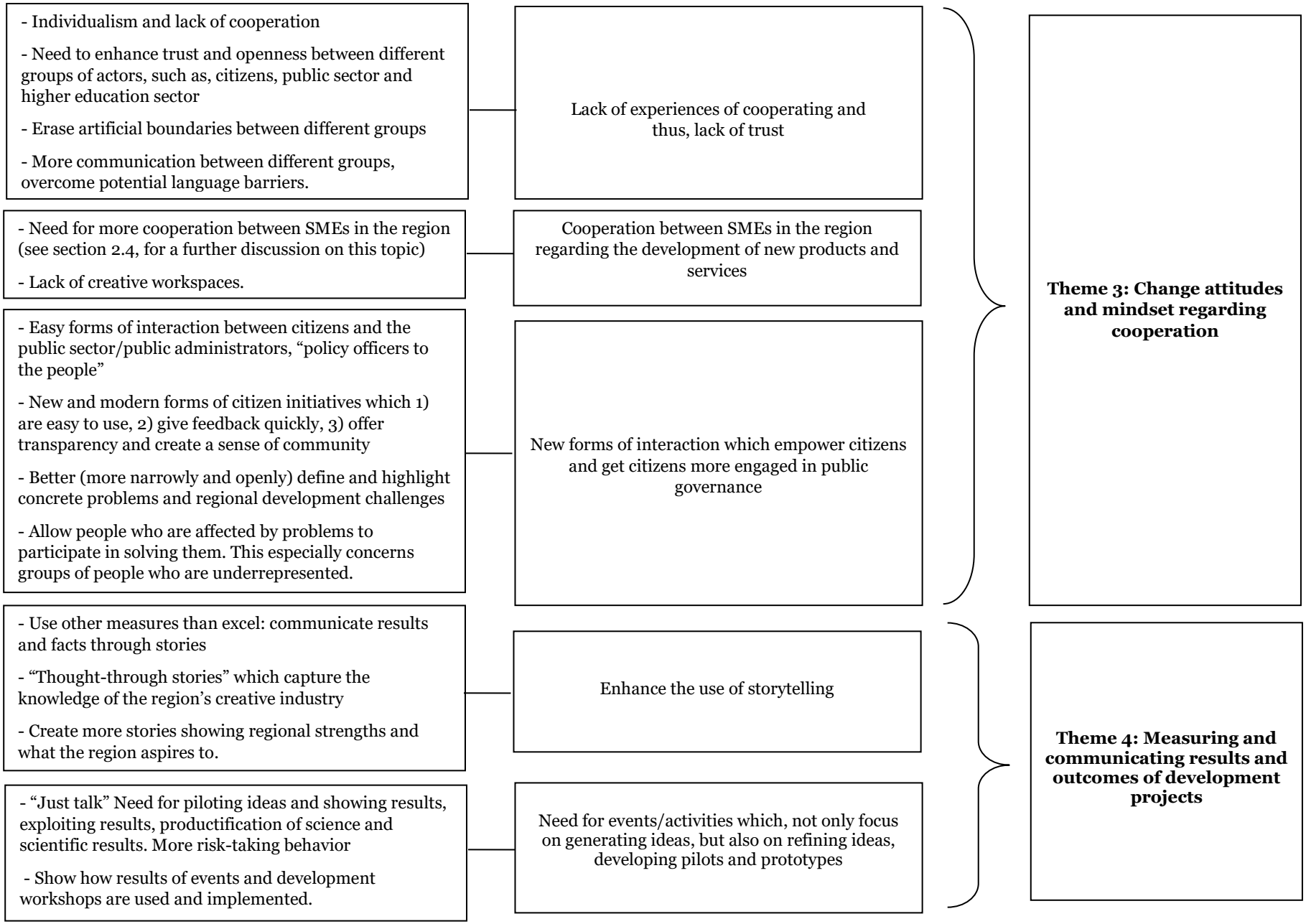
2.3.2 Co-creative workshop: Citizens and Innovation – A new era of regional development

In March 2018, the Regional Council of Ostrobothnia organized another stakeholder meeting focusing on co-creation and citizens' involvement in regional development. The meeting succeeded in attracting all listed stakeholders in the OSIRIS project and included students, development organizations, firms, and actors from the public and higher education sector. 60 persons participated in the open lecture and 32 persons participated in the workshop.

The results of the workshop have been categorized into four themes which are important to take into consideration in order to enhance the use of OSI in regional development in Ostrobothnia. Figure 1 contains in-depth details on the topics and identified needs which underlie the aggregated themes.

Figure 1. Important themes to consider when seeking to strengthen OSI in regional development work




- Individualism and lack of cooperation
- Need to enhance trust and openness between different groups of actors, such as, citizens, public sector and higher education sector
- Erase artificial boundaries between different groups
- More communication between different groups, overcome potential language barriers.
Lack of experiences of cooperating and thus, lack of trust
- Need for more cooperation between SMEs in the region (see section 2.4, for a further discussion on this topic)
- Lack of creative workspaces.
Cooperation between SMEs in the region regarding the development of new products and services
- Easy forms of interaction between citizens and the public sector/public administrators, "policy officers to the people"
- New and modern forms of citizen initiatives which 1) are easy to use, 2) give feedback quickly, 3) offer transparency and create a sense of community
- Better (more narrowly and openly) define and highlight concrete problems and regional development challenges
- Allow people who are affected by problems to participate in solving them. This especially concerns groups of people who are underrepresented.
New forms of interaction which empower citizens and get citizens more engaged in public governance
Theme 3: Change attitudes and mindset regarding cooperation
- Use other measures than excel: communicate results and facts through stories
- "Thought-through stories" which capture the knowledge of the region's creative industry
- Create more stories showing regional strengths and what the region aspires to.
Enhance the use of storytelling
- "Just talk" Need for piloting ideas and showing results, exploiting results, productification of science and scientific results. More risk-taking behavior
- Show how results of events and development workshops are used and implemented.
Need for events/activities which, not only focus on generating ideas, but also on refining ideas, developing pilots and prototypes
Theme 4: Measuring and communicating results and outcomes of development projects

Theme 1: Finding and engaging key persons who can bridge different groups of actors and people

The first theme underlines that there is a need to further develop and scale-up the existing knowledge base in the region and thus strengthen existing clusters. Stakeholders point out that that existing clusters could benefit from more variety, new types of knowledge and broader groups of people that are engaged in the cluster activities. In view of digitalization and the increased need for cross-disciplinary cooperation project, this matter is also of high importance. As a result, more bridges between different clusters and lines of business should be developed.

All in all, in order to enhance the use of meeting places, strengthen existing clusters and find new activities, a key action is to find and engage key persons who can bridge and get together different groups of actors and people.

Theme 2: Include students and boost the region's young talent

The second theme underlines the need for new models of interaction and engagement between students and other actors in the innovation system. There is currently limited use of students in different innovation processes. As a result, it is important to find actions including students and boosting the region's young talent. Simultaneously, the use of OSI can be enhanced in regional development work.

Theme 3: Change attitudes and mindset regarding cooperation

Theme 3 builds on three generic notions. There is a need for enhanced trust, more cooperation and new forms of interaction which empower citizens and get citizens more engaged in public governance. Hence, the results highlight that activities which enhance the use of OSI in regional development, require a change in culture and attitudes at both an individual and organizational level.

Theme 4: Measuring and communicating results and outcomes of development projects

The fourth theme "Measuring and communicating results and outcomes of development projects" is constitutes by two outlined needs. First, there is an outlined need to enhance the use of storytelling. Second, stakeholders call for events/activities which, not only focus on generating ideas, but also on refining ideas, developing pilots and prototypes.

The final step of the workshop process focused on analyzing how we take advantage of new ideas generated. This step resulted in concrete ideas on actions currently needed: an open idea bank with a voting function[4], different forms of meeting places, hackathons, more use of risk-capital and business PTs (mentors).

2.4 Company interviews

In interviews with company representatives, digitalization, automation and Industry 4.0 are mentioned as central trends for the near future. These are expected to reshape the industry and will entail a demanding restructuring for many companies. To aid in this, the companies request more collaboration within the Triple Helix. For instance, company representatives point out that subcontractors and small- and medium-sized companies will have difficulties to adapt, and in order to develop the regional ecosystem, knowledge must be exchanged and developed jointly.

[4] Stakeholders raised the ideas of an idea bank on Facebook which is facilitated by regional development companies. When a proposed idea receives 100 likes, the city or municipality is obliged to examine and respond to the idea. The idea bank should contain a "Best-idea of the month reward" and give publicity and attention to the person behind the submitted ideas. Students could be involved in a Hackathon to a system/application for the idea bank.

Respondents see a major transformation of the energy market "within five years", with a powerful decentralization of energy production. This calls for new kinds of energy solutions more adapted to the need of the end costumer. More specifically, it is foreseen that the amount of small-scale energy producing solutions will expand. More and more people will be "prosumers", that is, both producers and consumers of energy. In addition, users of energy are expected to take a more active role. This occurs in combination with a more environmentally conscious generation of people who are more aware about their energy consumption. Digitalization, IoT and the use of Big Data are also expected to change the energy industry both in terms of competition and new business opportunities. Digitalization increases the need to understand how value can be created in new ways for the end customer and user. One of the respondents stated:

> *"In the energy business it is not only about technology, but also about keeping existing customers and finding new revenues from the customers."*

One respondent explains that decentralization will demand more diversified knowledge, of smart electricity grids, of customer behavior and even of specialties such as meteorology. The products themselves are increasingly just one part of a larger concept: "You sell solutions now … not products". Many respondents similarly point out the need of developing integrated, comprehensive solutions for customers. Developing new concepts, business models and attractive brands is described by some respondents as even more important than developing new technical solutions. Here, the need of more collaboration between companies is also mentioned, since complete solutions demand many types of competences. This development also brings new competition in the form of new kinds of companies, since new types of competences are necessary. Consequently, respondents see a need of a diverse set of knowledge and a better understanding of the milieu where products are used. Accordingly, several respondents also call for closer relationship to and better knowledge of the end customer.

In summary, the interviews indicate that the energy sector very much is subject to the general development of products and services, where content and image receive an increasingly important position. This stresses the role of symbolic knowledge in the innovation equation. The energy sector therefore needs expansion of the Triple Helix to the Quadruple Helix, in order to involve, among other factors, knowledge of local circumstances and user experiences. Respondents ask for interdisciplinary development projects, and that government organizations act as middle men for the impending transformation of the industry

2.5 Conclusions

The experiences of company representatives, as well as suggestions collected in the local co-creation events all point to the need of increased cooperation and new kinds of knowledge. This is in line with the aim of the PI and this action plan to increase collaborative co-creation by fostering trust and cooperation. Companies ask for more diversified knowledge, more insight into customer behavior and the context of products, as well as an enhanced ability to construct concepts and brands. Suggestions for how these aims may be attained is found in the co-creation events, where storytelling, gamification, digital platforms, hackathons and the establishment of living labs are described as activities increasing cooperation and the public awareness and interest in the energy cluster. Companies and regional actors want new blood in the innovation process: users, students and immigrants are mentioned as examples. Open data systems, piloting of ideas and supporting technology enthusiasts and talents are other suggestions. These are all in line with the factors scholars often point out as vital to social innovation processes (see Figure 1). First, the organizational structure is a key factor: there is a need of facilitation and support. Second, the so-called connectors between society sectors are vital to find: persons and/or organizations with connections in two or more sectors that may constitute bridges for building trust and social capital, in the end broadening the innovation network.

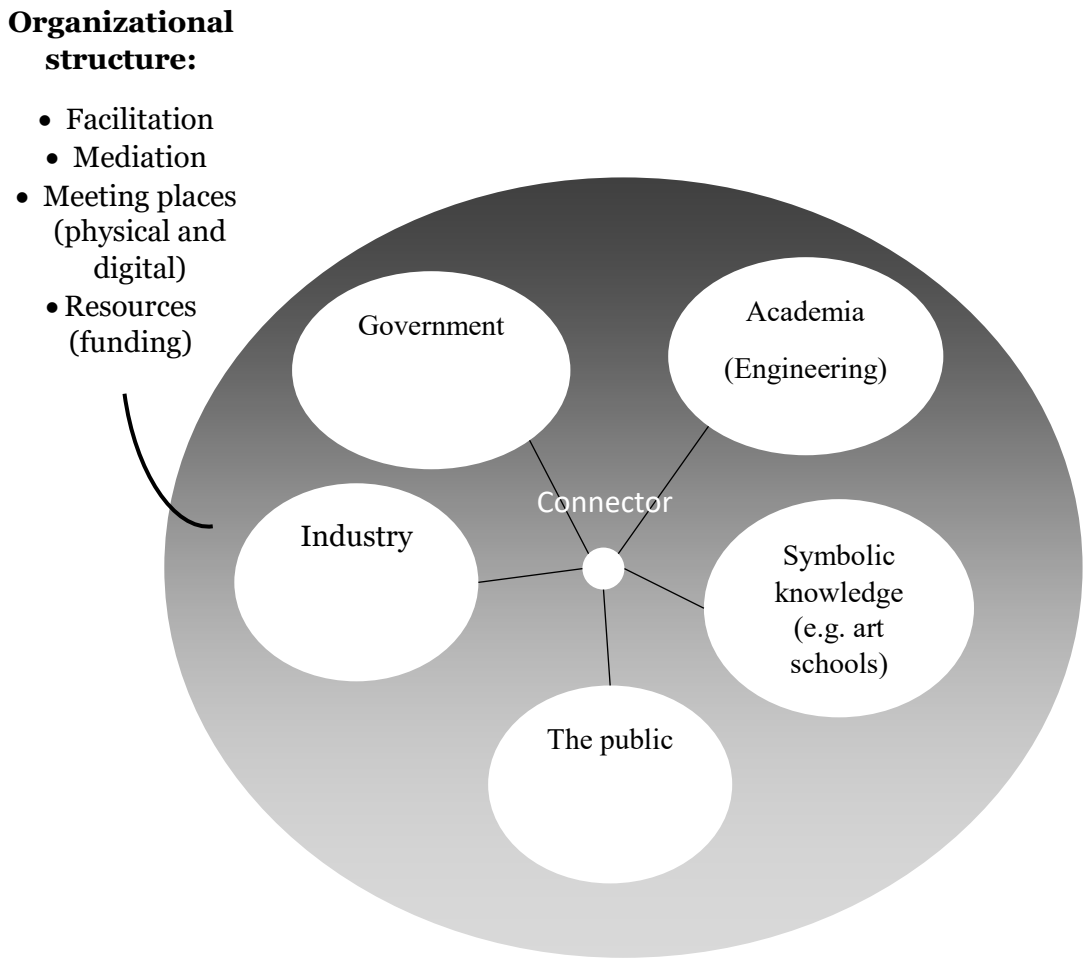


Figure 1. Key factors in a social innovation system.

Consequently, there is a need of analyzing the structure of cooperation and potential bottlenecks in the Regional Innovation System in order to find potential new participants and sources of knowledge. This could initially be done by analyzing gaps in expectations and experiences of cooperation between different actors in this RIS. The first step in such a process is of course crucial, and therefore, company needs should be the point of departure. However, the interviews indicate that few companies are able to specify what kinds of knowledge is actually needed. Suggestions of energy production being decentralized and the increasing importance of concepts, brands and storytelling does point to symbolic knowledge producers and the public as new sources of knowledge. The public constituting end users is a new actor in a sector traditionally dominated by large scale production, which implies that special attention should be focused on finding cooperation models suitable for both companies and users. Therefore, the actions outlined in this plan (see Table 1) focuses on testing different tools and methods aiming at reaching end users and symbolic knowledge producers. The actions are hoped to constitute the first step in broadening the innovation system in Ostrobothnia, building trust and social capital between actors not previously engaged. This will constitute social innovation on the process side, at the same time as it may contribute to products and services in the form of decentralized energy solutions with clear direct social benefits.

2.6 Learning between the OSIRIS partners through the exchange of good practices and study visits

During the OSIRIS project, the partners have engaged in a learning process by exchanging good practices on OSI. Given the aim of the action plan, the Good Practice presented by Region

Västerbotten, the Innovation Loop (IL) Methodology, contains important elements which could meet the identified need to expand the current triple-helix approach.

The Innovation Loop (http://innovationloop.eu) consists of a one year long cyclical and structured co-creation process. Its mission is to allow co-generation of innovative ideas and prototyping these into innovative solutions (products, services, processes). During the year, different co-creation workshops engage multi-stakeholders, following the Quadruple-helix approach. Regional public and private stakeholders co-identify challenges and needs for regional development that will be then taken as the base for co-generating solutions and ways to implement them in other different workshops. The identification of these challenges and the co-generation of solutions are inspired by external talks from experts. The process consists of four more phases:

- Information meetings with exchange of ideas and information as the main focus.
- Idea workshops –co-creating problem formulations and possible directions for solutions in teams
- Prototyping workshops- where the focus is on co-creating prototypes for the most promising solution. Participants follow up on the ideas and seek to co-defining solutions by identifying what actors and technology should be involved.
- Implementation Workshops –further development and implementation of prototypes, and pilots to used services/processes/smart objects. Focus on the financial resources needed and how to secure support from the private sector.

Against this background, elements of the IL could be used in order to develop and test a new open innovation practice in Ostrobothnia. This practice could allow the Regional Council of Ostrobothnia to in a more structured way develop ideas into new/improved products, services and processes by using co-creation. The IL could also be used an example to establish a recurrent co-creation process which connects citizen groups and the local community to the strategic and operational working processes of the Regional Council of Ostrobothnia.

2.6.1 Customization of the Innovation Loop Methodology

During phase 1 in the OSIRIS project two local co-creative workshops using elements of the IL methodology have been organised in the Region of Ostrobothnia.

The workshops have provided a valuable basis for testing and reviewing parts of the innovation loop methodology together with local stakeholders. Moreover, the workshops have shown and initiated a discussion on the importance of having a systematic and continuous innovation process in the region which goes beyond an idea generating phase and which brings citizens, companies, universities and public actors closer together in the innovation system. Finally, the workshops have given insights to how the IL methodology needs to be customized in order to meet the regional needs. The customization needs to be addressed from three viewpoints.

First, it needs to be taken into consideration that the aim is to create a recurrent process which connects citizens to formulating and implementing the smart specialization strategy and thus also the structural funds program. This means that the process needs to focus on generating and developing ideas which relate to themes which are outlined in the smart specialization strategy. These themes and horizontal priorities are set based on a recurrent triple-helix dialogue (see section 1.2.1). Hence, in contrast with the IL, the process needs to be more focused from the beginning by identifying concrete questions/problems before phase 1 starts with co-generation of first ideas for solutions. Hereafter, the process can open up for a broader engagement.

Second, to ensure the durability of the open innovation practice, the process needs to be designed so that it is financially manageable by the Regional Council of Ostrobothnia. This customization is possible as the IL has a modular structure which makes its adoption inside the Region quite flexible in terms of human resources and costs. The process can embrace all phases or just focus on one phase. It can engage many stakeholders or also smaller teams into one, two or three cycles of the IL. As such the budget to sustain it can be very flexible and a basic rollout of the IL can be afforded with a small budget and essentially with the staff effort from Region Ostrobothnia.

Third, the customization requires that the workshops and co-creation are monitored and evaluated from a participatory viewpoint. To customize the methodology there is a need to improve how information is produced, visualised and exchanged during the co-creation process and how any new information and knowledge is thus co-created, stored and reused throughout the whole IL cycle. In addition, there is a need for employing storytelling techniques for engagement and inclusion of different stakeholders in the process, including the general public. The open innovation practice would benefit from having video material explaining the innovation process and how it gives the opportunity for citizens to work with and develop concrete solutions and ideas in a relatively short period of time.

3. ACTIONS

In order to develop a new open innovation practice, the action plan consists of three interrelated set of actions. Action 1 focuses on analyzing prerequisites for developing an open innovation practice in the region of Ostrobothnia. Action 2 focuses on finding tools and mechanisms of engagement for developing the open innovation practice. The third and final set of actions relates to anchoring the new innovation practice on different levels, that is, among citizens and other stakeholders to create engagement but also at a strategic level guaranteeing the uptake of the results and learning. Table 1 contains a further description of the activities constituting each set of actions.

Table 1. Actions towards developing a new open innovation practice in the Region of Ostrobothnia

Actions	**Actors involved/Potential actors to involve**	**Timeline** **Semester 1: 1.10.2018-31.3.2019** **Semester 2: 1.4.2018-30.9.2019** **Semester 3: 1.10.2019-31.3.2020.**	**Estimated costs**	**How can the action improve the PI in the Region of Ostrobothnia**	**Intended outcomes/Key performance indicators**
Action 1: Background analysis of prerequisites for an open innovation practice					
Action 1.1. Mapping of current initiatives and mobilization of key connectors Map on-going initiatives and platforms in the region approaching digitalization and digital transformation from different perspectives. Analyze how actors, activities and resources of the different initiatives could be linked around the topic of OSI. Analyze if and how the open innovation practice can link to the initiatives and if the initiatives can be used as supporting elements. Organize 1-2 joint meetings for inspiration, knowledge exchange, idea generation and networking. The meetings target connectors and focus on the themes of digitalization, advanced manufacturing, renewable energy solutions.	Digital Economy research platform InnoLab research platform VEBIC research platform Wasa Innovation Center (AI forum) Welfare Technology cluster focusing on robotics and AR IoT – learning environment Digitalization Academy (new cooperation model connecting companies and university students) Wärtsilä Smart Technology Hub (built in 2020)	Semester 1, but also on-going activity during all three semesters	The action is carried out by the Regional Council of Ostrobothnia Staff costs: 4 weeks of man-hours provided by the Regional Council of Ostrobothnia. Meeting costs: 1500 €	Generate new projects Enhance the strategic planning capability of the Regional Council in selecting and introducing priority areas and measures in the PI for the outline of the next program period.	Short report on how the on-going initiatives can act as connectors and, thus support the new innovation practice 3 on-going initiatives committing to take actively part in the development and testing of the new open innovation practice Establishment of new forms of interaction between different sectors and between different fields of research and innovation, business and education

Action 1.2 Mapping of projects and key connectors Map and follow on-going projects funded through the PI which focus on open, social innovation. Engage these initiatives in the implementation of the action plan and in reaching the output indicator[5]	Project actors and implementers of ERDF funded projects	Semester 1, but also on-going activity during all three semesters	The action is realized by the Regional Council of Ostrobothnia Staff costs: 1 week of man-hours, provided by the Regional Council of Ostrobothnia.	Strengthen the participatory governance of the PI by learning from the projects and absorbing the results.	4-5 projects using open, social innovation as a method will be analyzed and followed to get inputs for learning. 4 new products and services which have been developed through regional development projects and through co-creation between citizens, researchers, companies and town representatives.
Action 1.3 Identification of challenges and needs from a company perspective Map, together with a number of companies, the regional value chain within the field of renewable energy solutions. Identify key factors of change in the value chain in view of digitalization. This mapping will lead to the identification of a number of challenges and needs that would benefit from using open, social innovation as a methodology.	3-5 companies	Semester 1	The action is carried out by the Regional Council of Ostrobothnia Staff costs: 2 weeks of man-hours, provided by the Regional Council of Ostrobothnia.	By identifying topics which benefit from applying a user-oriented innovation approach the action can: 1) generate new projects which enhance the competitiveness of SMEs, strengthen the regional innovation system and increase the use of open innovation. 2) strengthen the participatory governance of the PI	3 challenges for open collaborative governance
Action 1.4. Conduction of in-depth company interviews in other key sectors in the region The interviews will be done within the framework of the regional S3 process.	approximately 20 companies	semester 1-3	The action is carried out by the Regional Council of Ostrobothnia Staff costs: approximately 15 weeks of man-hours,	Generate new projects which enhance the competitiveness of SMEs, strengthen the regional innovation system and increase the use of open	Report on results from interviews and outline of important development actions to strengthen the regional

[5] The output indicator is to develop and pilot 10 products and services addressing everyday challenges. The intension is that these products and services will be developed and piloted through regional development projects and through co-creation between citizens, researchers, companies and town representatives.

The interviews will: 1) map technological needs 2) discover gaps in the cooperation in the innovation system and 3) discover areas and problems which would benefit from using open social innovation as a method			provided by the Regional Council of Ostrobothnia.	innovation.	innovation system
Action 2 Solutions-focused process: finding tools and methods for developing the open innovation practice					
Action 2.1 Organization of a Hackathon Engage students to co-organize a hackathon on three pre-defined societal challenges.	Vaasa Entreprenurship Society and Vaasa Hacklab and students from all universities in Vaasa.	Semester 1 or 2	Costs for the event: 2500 euros (including key-note speaker, facilitator, rent for facilities, coffee and food) Staff-costs: 2 weeks of man-hours, Regional Council of Ostrobothnia.	The action can generate new projects which enhance the competitiveness of SMEs, strengthen the regional innovation system and increase the use of open innovation as a method. The action can strengthen the participatory governance by enhanced knowledge on OSI as a method	3 solutions which can be implement or further developed through regional development projects
Action 2.2 Pilot the Innovation Loop methodology through three interrelated workshops Organize a one-day co-generation workshop where participants assess needs regarding e.g. smart energy, renewable energy, exploiting open data and open software and identify ideas to handle these needs. Organize a one-day "society-solutions focused workshop" to transform ideas into marketable innovative products, services and processes benefiting the society in the energy sector. Organize a one-day "solutions-based implementation workshop" to blueprint solutions, assess their economic sustainability and engage	The public sector (Regional Council, development organizations, the city of Vaasa), universities (research platforms, academic personnel, students), citizens, large companies and SMEs in the region's energy cluster. Other beneficiaries will include stakeholders of Region Västerbotten and Abo Akademi interested in the empowerment of the good practice resulting from its customization in Finland as a methodology and a user-driven set of	Semester 1-3.	Cost for organizing the events: 12 000 €. (including key-note speakers, rent for facilities, coffee and food) Staff-costs: 4 weeks of man-hours, Regional Council of Ostrobothnia.	The action can generate new projects which enhance the competitiveness of SMEs, strengthen the regional innovation system and increase the use of open innovation as a method. The action can strengthen the participatory governance by testing a new open and social innovation practice which focuses on involving citizens and developing new products/services by applying a user-oriented approach. The action can enhance the	Number of new ideas generated and further developed: 5-7 Number of people with enhanced capability in applying the IL methodology: 10, Number of people involved in the three workshops: 40.

stakeholders to finance their implementation.	methods, physical as well as digital, for co-creation.			strategic planning capability of the Regional Council of Ostrobothnia in creating new projects by applying the IL methodology and in selecting and introducing priority areas and new measures in the PI for the outline of the next program period.	
Action 2.3 Analysis and evaluation of the different tools and methods tested	Regional Council of Ostrobothnia	Semester 2-3	The action is carried out by the Regional Council of Ostrobothnia Staff costs: 1 week of man-hours, provided by the Regional Council of Ostrobothnia.	Strengthen the participatory governance of the PI Strengthen participatory governance	Short report summarizing key learning points
3. Anchoring of a new open innovation practice					
3.1. Analyze and pilot how storytelling can be used as an engagement mechanism in the process.	Regional Council of Ostrobothnia	Semester 1-3	The action is carried out by the Regional Council of Ostrobothnia External expertise for producing the video material: 6000 euro Staff costs: 2 weeks of man-hours, provided by the Regional Council of Ostrobothnia.	Strengthen the participatory governance of the PI	1 short video supporting the innovation process by illustrating key steps of the process and by informing different actors what they can get out of participating.
3.2 Establish a broader communication Develop communication material on the regional smart specialization strategy and priorities in the policy instrument which targets citizens and civil society. The purpose of this action is to convey	Regional Council of Ostrobothnia	Semester 2 and 3	Costs for developing communication material targeting citizens (Partly provided as external service, estimated costs 4000€) 2 weeks of man-hours	Strengthen the participatory governance of the PI	Communication material targeting citizens and explaining the scope and purpose of the strategy.

a stronger vision of the strategy and of the priorities in the PI. The purpose is also to obtain a more open and transparent information of the RIS3 process. The action meets the need to increase communication outside the close regional network towards citizens and civil society to explain the purpose of the strategy work and their role in it.					
3.3. Uptake and refinement of results and generated ideas in the innovation process Identify and design mechanisms so that results and learning from the innovation process is included in e.g. policy documents, development measures and regional strategies. Engage e.g. companies, the city of Vaasa, the Regional council of Ostrobothnia, Local Action group. These actors can in different ways provide resources or be responsible for monitoring and absorbing results, ideas and prototypes developed by the participants.	Regional Council of Ostrobothnia Local action group City of Vaasa Companies	Semester 2 and 3	The action is carried out by the Regional Council of Ostrobothnia Staff costs: 1 week of man-hours, provided by the Regional Council of Ostrobothnia.	Strengthen the participatory governance of the PI	Report on key mechanisms and outcomes of the innovation process (action 2.2)

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