



# S34Growth

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S34Growth addresses regional policy instruments facilitating industrial innovation-related interregional collaboration which can help the renewal of Europe's industry and boost competitiveness.

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## Regional Action Plan: Tampere Region



## **S34Growth - Enhancing policies through interregional cooperation: New industrial value chains for growth**

### **Regional Action Plan focusing on the improvement of the addressed policy instrument**

#### **Part I – General information**

Project: S34Growth  
Partner organisation: Council of Tampere Region  
Other partner organisations involved (if relevant): LP The Baltic Institute of Finland  
Country: Finland  
NUTS2 region: Western Finland  
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#### **Part II – Policy context**

The Action Plan aims to impact:

- X Investment for Growth and Jobs programme
- European Territorial Cooperation programme
- Other regional development policy instrument

Name of the policy instrument addressed:

Finland's structural funds program, Priority axis 2: Producing and using the latest knowledge and skills (ERDF) Specific objective 4.1: Developing research, competence and innovation clusters that draw from regional strengths

## **Part III – Details of the actions envisaged**

### **ACTION 1: ERDF funding used for parallel projects between regions**

#### **1. The background**

To improve our policy instrument in the S34Growth project we were exploring the possibility of interregional cooperation models that could be integrated into the SF financed projects. Article 70 was added to the Common Provisions Regulation to allow cross-border funding. However, in the Finnish case the use of article 70 is not possible in practice due to many reasons. The financing available for the Tampere Region through Finland's structural funds program (Priority axis 2: Producing and using the latest knowledge and skills) is fairly limited, 12,9 M€ for seven years. In addition to financing we provide other kind of assistance (co-creation and discussion platforms, situational picture of innovation, foresight activities) to support policy making.

Digitization of industry is one of the four thematic sectors in RIS3. We are obliged to think carefully how we as a region relate to great long term development processes like Industry 4.0 activities. How we join the big streams and use systemic thinking in our industrial policy implementation? What could be the role of our financing in the big picture? Due to the limited amount of ERDF funding we need to explore all ways of cooperation and partnerships, multibased funding and synergy of projects in order to implement our regional RIS3 and to meet the targets.

The most promising actions from the point of view of Tampere region are the following:

Sub-action 1) Simple interregional ERDF collaboration concept for digital transformation of industry

Sub-action 2) International Innovation Partnerships

Background for the sub-action 1: The need for simple interregional ERDF collaboration was recognised and discussed several times in the OSDD meetings. In the first OSDD in Skåne (25-26 Oct 2016) Tillväxtverket which is responsible for ERDF and Interreg in Sweden pronounced that they could be ready to support piloting the idea of coordinated calls. One possible area was Cleantech. We identified the potential organisation in both region - Sustainable Business Hub in Skåne and Eco3 in Tampere. However, after the first discussions there was no continuation. We were looking for other possibilities in the next OSDDs but the idea of organizing coordinated calls in the same time in two different regions did not concretize. Our feeling was that geographical proximity could support this activity. We have well established relationships with Swedish regions in the field of circular economy based on cooperation in the BSR Interreg. Also Baltic Institute of Finland we work with has for a long time been a very active stakeholder in the BSR strategy development as well as in the interregional cooperation in the Baltic Sea Region. The solution in our case comes from the ongoing process with EUBSR MA network in which the need was studied

and solution developed. This will add interregional aspect to the regional development tool box to the beneficiaries of ERDF funding.

Background for sub-action 2: In the OSDD in Basque Country (17-18 May 2017) the innovation infrastructure and R&D expertise and their interregional utilisation was discussed. Basques proposed attractive partnership opportunities in industrial innovation, cluster facilitation, and collaboration, internationalisation, export and investment promotion. There would be many cooperation possibilities but how to get stakeholders and companies in the Tampere region attracted to something so far and different area as Basque Country? We discussed about interregional voucher schemes as a tool for SMEs to get connected to the networks of Industry 4.0 assets and for owners of infrastructure to define and coordinate different offers of the assets.

Many partner regions use vouchers schemes. The piloting of Tampere Innovation Voucher was just going on. The piloting was financed by our regional OP (together with the city of Tampere). In the pilot project Tampere Innovation Voucher was directed to companies in the ERDF program area (Mainland-Finland, targeted region in Finland), filling the S3 and other requirements. The beneficiaries had freedom to choose the service provider from the digital platform without any pre-selection by authorities, which is a motivating factor. At the same time service providers, also from other countries, could productize their services and the digitalized voucher platform offers them a market-based channel to attract new customers. The related grant was paid directly to the service providers against invoice. In some cases in our pilot, the service provider had been outside Finland. There was no question about the implementation of Article 70 because the project did not develop products of service providers but offers a channel for marketing them.

The discussion about using vouchers for interregional cooperation continued in the OSDD South Holland (30 Jan-1 Feb 2018). The ultimate outcome was that a kind of broker system would be needed but not easy to implement. In the last OSDD in Catalonia (20-21 March 2019) we had bilateral negotiations with Basque Country and Lombardy to more concretize the ideas of interregional cooperation. Both regions have much stronger shoulders in financing and resourcing than the Tampere Region. However, the concept was still missing a concrete work plan. Action plans of the partners are now further developed, but we are still missing the initiative. The realisation of APs depends on partners interests to join.

In the beginning of the year 2019 Scotland expressed the readiness to share the Manufacturing 4.0 service model with interested S34Growth partner regions. The discussions with other OSDD partners had encouraged them to explore formalising Interregional Innovation Partnerships (IIP) around shared interests and interregional opportunities. This was a very interesting and concrete offer starting by now. To answer to this concrete proposal which will be realised during this year (Phase 2) we together with Baltic Institute of Finland have roles in collecting the regional stakeholders and supporting them with the all possible financial and other tools in our hands.

Scottish Enterprise and Tampere are working to reach a common MoU, agreement of methods and topic areas to share learnings on how to support interregional cooperation.

As shared learning opportunities we already identified Industry 4.0 services and the use of innovation infrastructure across borders. The low hanging fruits were listed. With other partner regions we are not yet as far with the concrete actions as with Scotland even though the discussions with other S34Growth partners continue.

## 2. Action

### Sub-action 1) Simple interregional ERDF collaboration concept for digital transformation of industry

This action is based on Tampere region's experiences from the EUSBSR (EU Strategy for the Baltic Sea Region) Network of European Regional Development Funds Managing Authorities (MA Network). MA Network was established in 2016 to develop proposals on transnational collaboration to help regions implement smart specialisation strategies. Tampere region has been involved in the preparation of MA Network pilots on digital transformation and promoted MA Network cooperation concepts and ideas in connection with S34Growth.

The concept is based on a simple process: an ERDF collaboration proposal (e.g. consisting of a series of matchmaking events for companies) related to industrial digital transformation is presented from Tampere region to S34Growth partner regions or other potential partner regions - or vice versa, from other regions to Tampere. Then, a workshop (online or live) with innovation actors and S3 planners/experts is organized for all interested regions, in which the idea is further elaborated. In this action, Tampere region also promotes the implementation of a project collaboration proposal on regional ecosystem for digital transformation already initiated in connection with MA Network.

Interregional ERDF collaboration proposals are build up with activities that are carried out in sequence, and not really interdependent on each other. If one or more partners pull out from the project, then the project still remains valid and can deliver beneficial results to the participating actors in different regions. Each project collaboration proposal is starting off with the project idea holder/coordinator being responsible for the first activity. This means that the project can start as soon as approval of the activity and possible budget allocation has been made by the decision making body for their structural fund programme. Other partner activities can be carried out once they are approved by their structural fund decision making body. This kind of simple ERDF collaboration actions can be also implemented and funded in connection with and within the flexibility rules of on-going ERDF projects. All activities for each partner region are carried out in only their region.

The planned action will enhance the capacity of SF beneficiaries to exploit interregional cooperation possibilities and add the interregional aspect to our regional development toolbox. This will lead to innovations getting to bigger markets faster, with better European partners and networks.

## Sub-action 2) International Innovation Partnerships

Scottish Enterprise will share the Manufacturing 4.0 Service model with interested S34Growth partner regions. The initial discussion with Tampere has taken place in March 2019. Tampere hosted a partner delegation from Scotland in order to explore and commence the formation of an International Innovation Partnership (IIP). Shared learning opportunities were identified and *low hanging fruits* type of collaborations were listed.

IIPs aim to bring forward a programme consisting of the following:

- Increased cooperation amongst partners in each region (trade shows, conferences, events, etc.)
- Co-investments in shared R&D / Open Innovation activities benefitting companies in each region
- Strengthen international networks and cooperation beyond S34Growth

Once IIP formalised we will explore our possibilities to support the activities by all our financial (ERDF and other) tools.

### **3. Players involved**

- Council of Tampere Region (MA / Intermediate body)
- The Baltic Institute of Finland
- Business Tampere (Business Development Agency of the city region of Tampere)
- Other stakeholders in the region like universities, innovation infrastructure owners, public procurers, MaaS operators, etc.
- Event organisers
- Private companies, SMEs
- Regional and national level funding organisations

### **4. Timeframe**

Both sub-actions 2019 onwards.

In the sub-action 2 the first visit of the Scottish Enterprise to Tampere in March 2019. Next negotiations between Scottish Enterprise and Tampere will take place in June 2019. Planned visits to events like Manufacturing Performance Days and others during 2019.

### **5. Costs**

Own work and own cost of the participating organisations.

TBC once interregional cooperation in both sub-actions will be defined.

### **6. Funding sources**

Not known yet. In sub-action 2 initial discussions in Tampere funded from S34Growth budget. Future activities likely to be funded through ERDF or other funding available.

## **7. Programme management related implications**

Not known yet.

## **8. Expected impact and results of the policy improvement**

In phase 2 monitoring will be focused on the number of projects with interregional partners based on the findings of the project. (our self-defined performance indicator in S34Growth)

### **ACTION 2: Sector specific funding calls for the application and exploitation of AI (artificial intelligence)**

#### **1. The background**

The impact of the long economic recession can still be felt in the competitiveness of Tampere region. Industrial exports remained roughly the same year-on-year. The export intensity of Tampere region is at the national average and has slightly decreased in the past five years. Also the change in the investment level, number of employed experts and export intensity have stayed under 1 % in one direction or the other. Industrial companies in the region need to increase their international value chains. The companies must have better skills to overcome different trade barriers (distance, language, culture, data) in order to regain their competitiveness. The ERDF OP needs innovative ways to support industrial companies to have access into Interregional cooperation, networks and ecosystems.

The region's main goal in smart specialization is a more efficient utilization of the region's versatile knowledge base in creating new businesses and improving employment. This is supported by investments made by the region. RIS3 sectors like digital manufacturing, circular economy, smart city solutions and well-being and health services and systems include multidisciplinary challenges but also plenty of innovation potential. Smart specialization in Tampere region does not only involve the development of certain top sectors, but it is increasingly also a way of creating new understanding, new ways of working together and proactive, resilient models for development.

During the exchange of experience in the OSDDs with S34Growth partners, we got inspired by the clear and systematic focus on using AI in diverse sectors of industry. In Norte region (17-19 Jan 2017) we saw interesting examples during the site visits and multiple presentations in CEiA and in INL. In the OSDD South Holland (30 Jan-1 Feb 2018) digitalization was one major theme. Digitalized universe changes everything, also

the ways of international cooperation. The risks are incorporated in solutions. Regions are in actor's side and we now have to tackle this theme. Experiences of partner regions were inspiring but compared to the financial sources available we are still far away. The most wise and fast way to act in the framework of the current program and with a limited amount of financing left in this period was to use ERDF-funding was to give the possibility to all interested sectors to propose their plans to support AI development and thus increase the capabilities of regional actors to the interregional co-operation and networking. The AI-calls organized in Tampere region have been influenced by the S34Growth partner regions.

During phase 2 monitoring of these financed projects will be included in the study we plan to make. This will be a short but comprehensive study also about the international capabilities and qualities of our Industry 4.0 type innovation infrastructure.

## **2. Action**

At the end of 2018 and in the beginning of 2019, the Council of Tampere Region launched two specialized ERDF funding calls for AI in such RIS3 sectors in which the AI has not yet been utilized in business on a large scale. The target of this action is to focus the funding for creation of new cooperation and innovation structures targeted to permanent use. The starting point in the projects should be to promote the cooperation between universities, research institutions, business and public sector actors, and this should be taken into consideration when planning the AI projects. The call should boost the application and exploitation of AI. The content of the financed projects could be the development of knowledge platforms and user interfaces which accelerate the utilization of AI, teaching AI, development of AI application together with SMEs, as well as the creation of new AI concepts for products, services or businesses.

The first decisions of the first call were made in March 2019. In the first financed project, The Tampere University Foundation will create a regional AI Hub in Tampere to support the cluster of intelligent working machines. The target will be to support companies by new AI knowledge and piloting selected cases emerging from the companies. Regional AI Hub Tampere will be a part of a national AI network which is under construction. ERDF and national funding for the regional project was 110 953 €.

## **.3. Players involved**

The action involved people from the Council of Tampere Region only.

## **4. Timeframe**

The first specialized ERDF call was designed in summer 2018 with evaluation criteria. The first call for AI was opened in September and closed in Oct 5<sup>th</sup> 2018. The first decision on the first project was made in March 2019. The second call was launched on Jan 16<sup>th</sup>



2019 and it is still open. The evaluation and decision making process will start March 4<sup>th</sup> 2019.

## **5. Costs**

No additional costs for designing the call. Amount of funds affected by this improvement is 2.6 M€. The amount of ERDF funding available for the first call is about 500 000 € for the first call, and 2.1 million € ERDF funding is available for the second call.

## **6. Funding sources**

No additional costs needed. The amount of funds affected by this improvement is 2.6 M€.

## **7. Programme management related implications**

The next AI call will be opened in the autumn 2019.

## **8. Expected impact and results of the policy improvement**

During the S34Growth Phase 2, we will monitor the results of the action implementation. Monitoring will focus on qualitative results of the development of the AI utilized in RIS3 sectors in the Tampere region, such as a positive mind set of innovation development.

## **ACTION 3 Organizing field labs to support industrial transformation**

### **1.The background**

According to several surveys, Finland belongs to the forefront in digitalization on many fields. On the other hand, the attitude towards future is very technology-oriented. At the moment, there are no clear national or regional programs for the charting of industry digitalization or to build concrete actions. This is challenging especially for SMEs. It is not easy for them to build international networks and to be a part of the global development. Discussion on the common future has only taken place on rare occasions. As we know, digitalisation is not just technological disruption or an ICT project, but it also creates large societal changes. It will change work, business models and influence the everyday life.

Finnish industry, specially manufacturing industry, does not have a common understanding of the development direction. Large international companies are able to follow global development, but for SMEs, it is still challenging to understand the development possibilities in digitalization or to make decisions on the road to future.

To facilitate the change and the learning process, many European countries have started to build sectoral oriented co-development environments. These are called Field lab (NL), Testbed (DE, SE), Pilot Factory (AU). Here, Field Lab is used in a broad meaning for all of the above. In this kind of ecosystems, there are companies, educational and research institutions using them as a common innovation, education and demonstration environment. Physical and digital platforms are being offered to all the users, so that they can experience, test and develop their own digital future.

Regionally, these platforms will be built according to strategically selected development areas and sectors. Platforms will be connected regionally, nationally and internationally to facilitate common learning and to build thematic coverage. Important is that these are built according to common standards to facilitate exchange of knowledge and data. This also means connecting processes between labs to facilitate learning of value chains.

In the context of Industry 4.0, field labs are helping the SMEs in getting to know the technologies for their own development path, solutions for their own branch of industry, and touch to educational resources for their personnel training. After all, the enterprises must build their own path to digital future. Help can be provided, but the decisions have to be made and the work has to be done in the enterprises.

Stakeholders' participation in S34Growth OSDDs (Skåne, Porto, Scotland, Basque Country and Lombardy) and stakeholder meetings have been very fruitful. The stakeholders (dean, director of industrial engineering, etc.) from the new Tampere University community and industrial experts from Dimecc (hightech ecosystem) and Business Tampere participated and saw how partner regions had built paths towards Industry 4.0, creation of DIHs and to the interregional networking. This was even more important for the university community because the merge of our three universities was under construction. Updated pilot facilities, smart pilot experiments also in South-Holland with excellent presentations on Roadmap to the next economy and RIS3 v.2.0, and open access pilot infra experiences carried out in Flanders as well as innovation skills development discussion in Flanders were vital for fast progress in the Tampere region right now.

In addition to the direct project results the S34Growth project and the Vanguard Initiative have both contributed to the fact that robotics, which will enable agile production, will be developed in Tampere region over the next years in the framework of two important H2020 projects. The TRINITY project coordinated by the Tampere University and the DIH<sup>2</sup> project coordinated by VTT help SMEs in robotization by providing them with new technical and standardized solutions, tailored training and access to Europe-wide competence networks. The projects enable digitization of SMEs by means of cost-efficient robotics solutions for short production runs. Both projects last four years and offer R&D funding for application trials of individual companies. A total of EUR 16 million of funding will be channeled through projects based on open application

During the Phase 2 we plan to make a kind of study or survey on Industry 4.0 environments / innovation infrastructures including mapping and gap analysis of the interregional capabilities of the infrastructure in the Tampere region. Comparative information from other partner regions will be used if possible. Other partner regions have also planned some surveys. The only way to be connected to international networks and ecosystems is to start the work on regional level with service development for the SMEs like field labs, and then connect them to the national level and international level networks.

## **2. Action**

During the S34Growth project many regional stakeholder discussions took place with the owners of RDI infrastructure in the region. Inventories of these infrastructures were done. Through these discussions and after TAMK (Tampere University of Applied Sciences) has found the new role as a part of the novel Tampere University which started its activities on 1 Jan 2019 TAMK decided to start the work for creating field lab in manufacturing. As this also rose national interest, TAMK got funding from the Ministry of Education and Culture (OKM) to organise the field lab to support industrial transformation. The Council of Tampere Region has been an active discussion partner in this process. In this lab, Tampere University and VTT (Technical Research Centre of Finland Ltd) would also have some significant possibilities through the SMACC (Smart Machines and Manufacturing Competence Centre) cooperation.

The OKM funding in action 3 covers the investments and the deployment of new equipment, creation of the process related to the basic Industry 4.0 model, piloting with some companies, co-creation events and search for international connections as well as skills development as part of the TAMK's (part of new Tampere university) educational programs. During the ongoing OKM funded project there is still a need to find funding for possible development projects in a pilot company in order to make possible a real Industry 4.0 knowledge leap. The Council of Tampere Region wants to support the process by all available means, also by using our OP when it is possible.

In the S34Growth Phase 2, we will monitor the result of the action implementation. Funding for further development of field labs and their services will be needed in the future. We are looking for possibilities to get funding or other assistance. A study including mapping and a gap analysis of all Industry 4.0 environments in Tampere region will be done.

## **3. Players involved**

- Tampere University of Applied Sciences as a part of the TU (Tampere University)
- TU and VTT through SMACC network
- other potential field lab infra operators like educational institutions and companies

- Direct cooperation with the technology provider companies (ABB, Beckhof, Siemens, etc.) would make part of the infrastructure available
- Finnish Technology Industries Association, cluster organisations

#### **4. Timeframe**

- As field labs are a continuous learning and co-creation process it is assumed that their lifetime is long, maybe 10–15 years.
- The planning of the TAMK case started in the spring 2018.
- The application for funding to OKM was done in summer 2018. Decision was made in the autumn 2018.
- Some public procurement processes are going on. Installation and skills development will take place in summer 2019.
- New financing will be needed for service design process.

#### **5. Costs**

- 594 000 € (100% funding from Ministry of Education and Culture)
- the rest not known yet.

#### **6. Funding sources**

- The funding got from the Ministry of Education and Culture (OKM) is part of the 5 M€ special funding reserved to profiling RDI activities of the universities of applied science in the whole country.
- Funding for further development of field labs and their service design will be needed – eventually structural funds.

#### **7. Programme management related implications**

- Leadership of the projects should be by the organizations who have the ownership of the operation.
- Projects should be organized already in the beginning so that open innovation practices are implemented.

#### **8. Expected impact and results of the policy improvement**

- For the University, improved understanding of industrial business problems. Good facility for implementing latest knowledge in practical ways in almost real life environment.
- For industry, improved access to resources to enter the systems of future. Safe environment to test technologies outside production.
- For start-ups, a clear interface to resources.

- For the region, innovation activity growth and growth of capabilities in industry. These both reflect to a competitive position.

## Signature

Date:

28.5.2019

Signature:



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Stamp of the organisation:



