



SOUTH
MART

O STROBOTHNIA
UTSTANDING



Strategy for Smart Specialisation

CONTENTS

FOREWORD.....	4
1. SUMMARY: SMART AND OUTSTANDING SOUTH OSTROBOTHNIA.....	6
2. SOUTH OSTROBOTHNIA OF SMART SPECIALISATION.....	8
2.1 The basis of smart specialisation.....	9
2.2 The preparation process for the strategy.....	13
2.3 The structure and mode of operation for the strategy.....	14
3. SMART SPECIALISATION THEMATIC BUSINESS SECTORS.....	16
3.1 New solutions for sustainable food systems and the bioeconomy.....	17
3.2 Smart and energy efficient systems.....	23
3.3 The regeneration of service and experience production.....	29
4. SERVICE AND SKILL SETS.....	34
4.1 Start Up and Grow Up!.....	35
4.2 Go Global!.....	39
4.3 Innovate!.....	43
4.4 Get Talent!.....	49
5. SMART SPECIALISATION FOR SOUTH OSTROBOTHNIA AS A DEEPENINGPROCESS.....	54
5.1 Resourcing for smart specialisation.....	55
5.2 Strategy implementation.....	57

South Ostrobothnia – Smart & Outstanding
Strategy for Smart Specialisation

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FOREWORD



SUSTAINABLE FOOD SYSTEMS AND NEW SOLUTIONS FOR THE BIOECONOMY

South Ostrobothnia wants to be actively involved in solutions for the food sector and rising bioeconomy global challenges.



SMART AND ENERGY EFFICIENT SYSTEMS

South Ostrobothnia is committed to the regeneration of industry, construction and the service sector to be smarter and more resource efficient.



REGENERATION OF SERVICE AND EXPERIENCE PRODUCTION

South Ostrobothnia fully utilises possibilities in the growth in service and experience production.

The goal of smart specialisation is to promote the regeneration of business life and to answer future skill requirements in selected thematic business sectors.

Smart specialisation means the economic differentiation of areas so that they concentrate on their own strengths and growth sectors as well as promoting companies and innovative operations connected to these sectors. The question at hand is the development of our region's strengths in co-operation with other European regions and utilising international networks and financial instruments. The strategy for smart specialisation contributes to the building of development co-operation with other European actors.

The strategy for smart specialisation is tightly coupled with the combined regional plan and regional strategic programme of South Ostrobothnia and to other programme lines made in the province. The goal of smart specialisation is to promote the regeneration of business life and to answer future skill requirements in selected thematic business sectors. These thematic business sectors are, the creation of new sustainable and effective solutions for food systems and the bioeconomy, the development of smart and energy efficient systems and the regeneration of service and experience production.

The strategy for smart specialisation will encourage companies to be more international and expansive. The strategy also identifies ways in which services offered to business operations, research and training operations could be even stronger than at present in supporting business life specialisation. The South Ostrobothnian smart specialisation operation model is based on the learning benefits of the concentrated province, flexibility and above all the region's way of working, which is widely renown for being entrepreneurial and straightforward.

The strategy process has been condensed, with a broad range of participants. The Regional Council of South Ostrobothnia would like to express its thanks to all quarters that participated in the process and to the strategy compilation working party.

Kai Pöntinen

Regional Council
Chairman

Lasse Anttila

Regional Board
Chairman

Asko Peltola

Region Mayor

South Ostrobothnia is a smart and outstanding province with a versatile industrial structure and where strong sectors form an intertwined, dynamic entity. Furthermore, the strengths of South Ostrobothnia are, a distinctive operation and development culture and active regional, national and international networking.

The goal of smart specialisation is to promote the regeneration of business life and to answer future challenges in selected thematic business sectors in which South Ostrobothnia has indisputable strengths. There are recognisable focus sectors within these broad thematic business sectors, which are distinguished by narrow specialisation, particularly high skills and substantial growth potential. Through these strengths, actors in South Ostrobothnia create answers to national, European and global challenges. The thematic business sectors are the following:



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SMART AND ENERGY EFFICIENT SYSTEMS

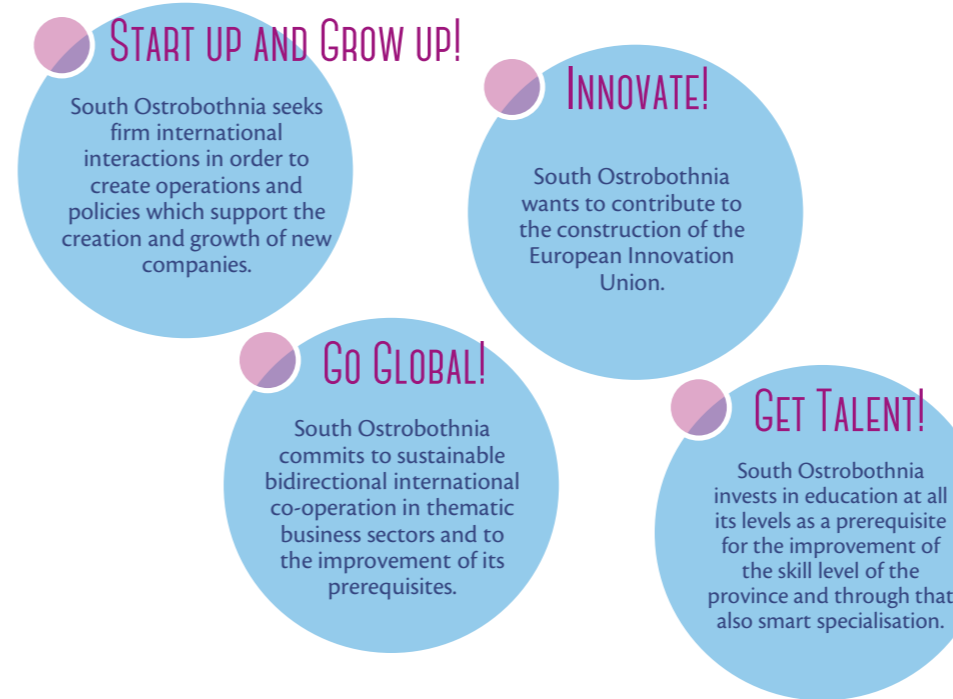
South Ostrobothnia is committed to the regeneration of industry, construction and the service sector to be smarter and more resource efficient.



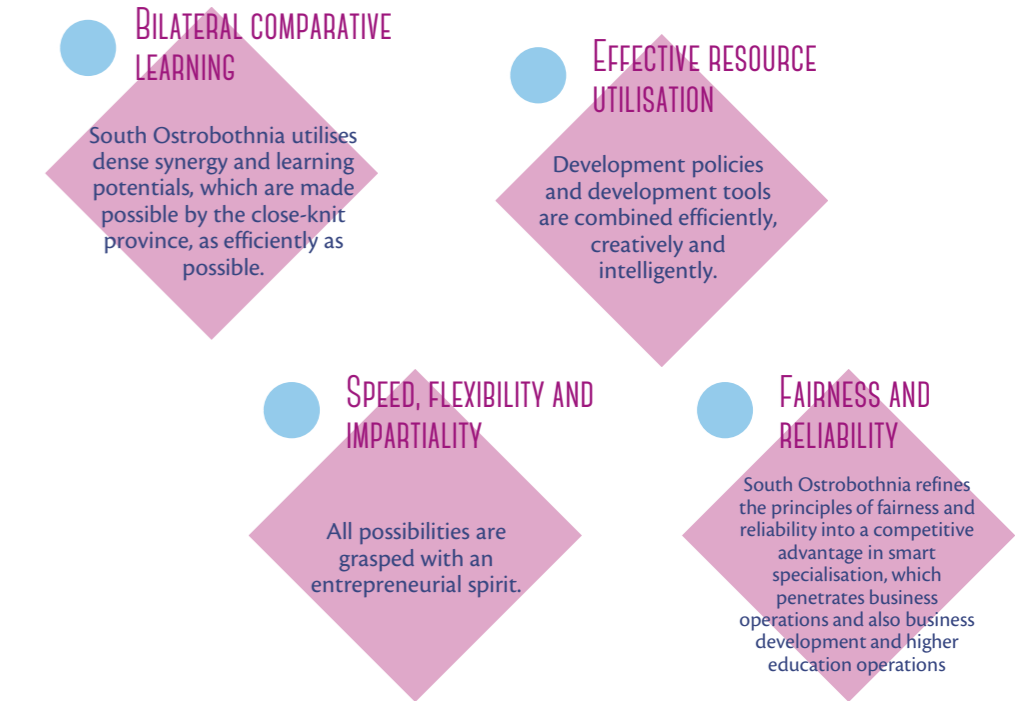
REGENERATION OF SERVICE AND EXPERIENCE PRODUCTION

South Ostrobothnia fully utilises possibilities in the growth in service and experience production.

The strategy for smart specialisation encourages companies and other actors to internationality and growth. The goal is to build a high level ecosystem in selected specialisation sectors, which especially supports the creation of new companies, growth and internationalisation. South Ostrobothnia is committed to developing its own trade and industry through interaction with existing service and skill entities, so that the region's business life, innovation activities and internationalisation would develop as a synergic entity. The following are the service and skill entities:



The achievement of the goals of the strategy requires operating principles and modes of operation, which promote competitiveness. The operating principles for the smart specialisation of South Ostrobothnia are:



1.

SUMMARY

2.

SOUTH OSTROBOTHNIA OF SMART SPECIALISATION



SURFACE AREA 13 444 km²
percentage of the total surface area of Finland 4,4 %

POPULATION 193 977
percentage of the total population of Finland 3,6 %

POPULATION DENSITY 14,43/km²
in the whole of Finland 17,9 /km²

FINANCIAL DEPENDENCY RATIO 1,4
in the whole of Finland 1,3

UNEMPLOYMENT RATE 7,6 %
in the whole of Finland 8,2 %

POST SECONDARY SCHOOL QUALIFICATION
has been completed by 65,8 % of the province's over 15 years olds
in the whole of Finland 68,5 %

GROSS DOMESTIC PRODUCT 28 234 €
in the whole of Finland 35 017 € per capita

8,2 COMPANIES per 100 residents
in the whole of Finland 5,9

R&D EXPENDITURE AS A SHARE OF GDP 0,8 %
in the whole of Finland 3,7 %

Statistics Finland and The Regional Strategic Programme of South Ostrobothnia 2014

2.1 Basis of Smart Specialisation

A good education system, a highly educated population, a secure society and institutional stability as well as a close proximity to clean nature does not distinguish one Finnish region from another. Many regional strengths are also present in the whole of Finnish society. However, there are differences between regions. Each region has their own industrial structure, local company structure and time shaped operations and development culture. Together these affect what smart specialisation possibilities are open to the region.

Traditionally regional specialisation and comparative advantages factors have been technological development or skills accumulated by the labour force. Alongside these, local institutional structures and operational modes have risen, in other words how a region's people and companies learn to use and apply new knowledge and technology, how they trust each other and disseminate information and the business culture of region. A portion of these competitive factors is visible in statistics, but a considerable portion is not included in statistics.

The statistics show that the number of businesses as proportion of population is high, but South Ostrobothnian companies are smaller than average and the turnover of the local company structure is slight. Furthermore, growing companies, as a proportion of the local company structure, is low, neither is the local company structure very international. Export as a proportion of production is under 10%, and there were 381 companies that exported in 2012. South Ostrobothnia contributes a bit over 1% of the total export of Finland, so under its proportion of population.¹ A goal has been set regionally that the export of South Ostrobothnia will double as a proportion of total Finnish export by 2020.

The sensitivity to change and resilience of Finnish provinces was studied in 2013². In the study the ability of regions to be flexible and recover in structural change situations was examined with the help of four resilience indicators, which were industrial structure, labour force, business life and innovation. In the light of the indicators, which describe industrial structure, South Ostrobothnia is shown to be a region which regional economy is not very sensitive to sudden structural change and which possibilities to recover from structural change are extremely good.

¹ Etelä-Pohjanmaan maakuntastrategia 2014; Tullihallitus 2014.

² Äkillisen rakennemuutoksen herkkyyssmittarit. Selvitys äkilliseen rakennemuutokseen varautumisesta pitkällä aikavälillä.

During the economic fluctuation, South Ostrobothnia's large number of SMEs has been a positive characteristic.

Also assigned business support portrays the industrial structure of the province³. The chief beneficiaries of support were those sectors which actively undertook development work. In South Ostrobothnia the metal industry has received the most company support. It has acquired more company support than on average in Finland. The second most was invested in foodstuff production, with saw, wood and furniture also clearly represented. South Ostrobothnia also has robust skills in machine and instrument production, which is shown in the amount of received company support.

The position of South Ostrobothnia's transportation geography and traffic system are a support to strong industrial sectors and to certain service sectors such as logistics and travel sectors. The provincial capital Seinäjoki is situated on an important rail junction and is also positioned between south and north Finland road transportation. Seinäjoki is also developing as Western Finland's important logistics service centre⁴. The province's accessibility is positively good.

The education level of the province has room to increase, which is also reflected in the wishes of the region's companies. However, the South Ostrobothnia labour force is valued and employees themselves value work. The education level is not the highest in the country, but a work welfare study tells about the labour force motivation level, which raises the South Ostrobothnia province to the top of satisfaction in their own work places⁵. The education level of the population of South Ostrobothnia is ascending continuously through the education of younger age groups.

Business indexes such as company size and the amount of start-ups depict the dynamism, flexibility and willingness to change of the province. Nationally SMEs have kept their employees better than large companies, and during the whole of the 21st century new jobs have been mainly created in the SME sector. During the economic fluctuation, South Ostrobothnia's large number of SMEs has been a positive characteristic, it is largely on these SMEs' merit that South Ostrobothnia is in the top three for the whole of Finland regarding business operations sensitivity to change.

³ Avoin tietoaaineisto, Tekes 2014; Tilastoja yritystuista 2011-2013, Etelä-Pohjanmaan Ely-keskus 2014.

⁴ http://www.epliiitto.fi/upload/files/NECL_II_hankeyhteenveto_NLC_Seinajoki.pdf; Etelä-Pohjanmaan maakuntastrategia 2014

⁵ Kaikkonen, R., Murto, J., Pentala, O., Koskela, T., Virtala, E., Härkänen, T., Koskenniemi, T., Ahonen, J., Vartiainen, E. & Koskinen, S. Alueellisen terveys- ja hyvinvointitutkimuksen perustulokset 2010-2014

The attraction of moving to Seinäjoki, the provincial capital, has been exceptionally great and is comparable to the largest growth centres in Finland.

The significance of SMEs is central in business life and from an employment perspective in the province, and South Ostrobothnia is generally characterised as an entrepreneurial province. Employee loyalty, activity and entrepreneurial spirit as well as the reciprocal co-operation activity of different quarters are strengths of the South Ostrobothnian business environment. The close interdependency of development actors and the low threshold for companies to approach business developers are a part of daily life. Evidence of this is that South Ostrobothnian towns and local authorities are often chosen as Finland's most entrepreneurial positive.

Company and employee satisfaction is also reflected in internal migration. The population of South Ostrobothnia has increased over recent years, even if the growth has not been even across the whole province. The attraction of moving to Seinäjoki, the provincial capital, has been exceptionally great and is comparable to the largest growth centres in Finland⁶.

Indexes that measure innovation, such as R&D personnel and the number of patent applications, point to the region's regeneration ability, although innovation is difficult to condense into a couple of variables. In the light of traditional innovation indicators, innovation in South Ostrobothnia is not visible: for example investment in research and development activities is at a comparative low level. However, according to statistics there has been a clear growth. In recent years volume growth has been one of the best in Finland, which tells that investments in research, development and innovation operations are starting to produce results.

The volume and quality of scientific research and development in South Ostrobothnia has been elevated by the distinctive operations model of the higher education network of South Ostrobothnia, (Epanet). Epanet's operations model has received positive acclaim both nationally and internationally⁷. Epanet has the goal of strengthening the functional research and development community with co-operation with university actors and regional business life. Research fields have emphasized growth centres and new and interdisciplinary openings, which is also of particular provincial relevance.

⁶ Aro, T. & Laiho, A. (2013). Viiden suuren kaupunkiseudun demografinen kilpailukyky. Muuttoliikkeen määrä ja rakenne suurilla kaupunkiseuduilla 2000-luvulla. http://www.vm.fi/vm/fi/04_julka sut_ja_asiakirjat/03_muut_asiakirjat/20131205Viiden/Kilpailukykyraportti_Aro.pdf

⁷ Kinnunen, J., Eskelinen, H., Lehto, E., Karjalainen-Jurvelin, R. (2004). Etelä-Pohjanmaan korkeakoulu verkosto Epanet - enemmän kuin yliopistokeskus. Arviointiryhmän raportti 2004. / Ilmavirta ym. 2013. Korkeakoulut yhteiskunnan kehittäjinä: Korkeakoulujen yhteiskunnallisen ja alueellisen vaikutavuuden arviointiryhmän loppuraportti. Korkeakoulujen arviointineuvosto, julkaisu 5:2013. HKI.

SUMMARY

South Ostrobothnia has specialised more smartly than can be interpreted from a first glance at the statistics. The business structure of the province is versatile, but not dispersed: Strong sectors form interwoven entities, which in this strategy are called thematic business sectors. As a whole these form the basis for the regeneration of South Ostrobothnia's business structures. The strengths of South Ostrobothnia are distinctive regional operational culture and internal networking. Furthermore, it has been managed to create notable national and international networks with a sense of purpose in the province. The foundations for the smart specialisation of South Ostrobothnia are condensed in a SWOT analysis (Picture 1.)



Picture 1. SWOT analysis for the smart specialisation of South Ostrobothnia

2.2 The preparation process for the strategy

The smart specialisation of South Ostrobothnia has been aligned with the help of a condensed process involving a broad range of participants. Tampere and Helsinki universities together with the Regional Council of South Ostrobothnia and the region's interested parties have been responsible for the composition of the strategy. During the preparation process the needs and visions of a broad team of actors have been taken into account through workshops, interviews and questionnaires.

A working party, consisting of representatives from business and educational, research and development organisations, has continuously worked on the strategy. Through participation of a broad based permanent working party, it has been strived to create genuine ownership for the strategy among the different actors of the province. It has been the task of these groups to identify and analyse the key factors and strengths of South Ostrobothnia, and with these identified strengths to outline supporting operational entities and activities. The activity of the working party has benefited from background material, which consists of among other things statistical material. From their basis, the strengths and growing sectors, including personnel, work places, turnover and productivity have been examined. Business sectors have also been examined in relation to business sector specialisation.

The strategy preparation work has given particular weighting to the viewpoint of business, which was acquired through an electronic questionnaire form and interviews. The questionnaire form was sent to companies operating in South Ostrobothnia that employ over 10 people. The questionnaire revealed viewpoints concerning entrepreneurial growth, investment, training, research and development operations and internationality. South Ostrobothnian companies, which were represented in the strategic process preliminary focus selections, were approached with theme interviews. Furthermore, interviews were conducted, where company managers from outside of the province were asked about their views concerning the strengths of possibilities for the thematic business sectors of South Ostrobothnia. Company views were widely utilised while forming the strategy's fundamental selections and proceeding entity.

The strategy for smart specialisation has been prepared with an entrepreneurial approach. This means that in identifying different skill sectors and their aligned operations, they have combined both the view of business concerning sectors with development potential and that are growth seeking, and the development possibilities identified by developing and training organisations. Companies and research and educational institutions have, together with development organisations, defined the strengths and specialisation sectors of South Ostrobothnia. It has been strived to assemble identified thematic business sectors creatively, and possibilities have also been mapped from outside of the traditional sectors.

At the same time as the preparation of the smart specialisation strategy, South Ostrobothnia has other strategic processes under consideration. Particularly the link to the combined Regional Plan and Regional Strategic Programme of South Ostrobothnia is strong, which shows that the identified selected focus points in the smart specialisation strategy are consistently in line with the Provincial Strategy. It is noteworthy that the selected focus points are widely recognised in the province, and that strategies of different actor and co-operation networks are along the same line. South Ostrobothnia has a strong collective desire for smart specialisation.

2.3 The Structure and Mode of Operation for the Strategy

In spite of positive developments it is essential South Ostrobothnia is able to continuously regenerate. A goal of the smart specialisation strategy is to promote the regeneration of business and to answer future challenges in the chosen thematic business sectors, which are of regional significance and also nationally distinctive. These focus points are:

1. **Sustainable food systems and the regeneration of the bioeconomy**
2. **Smart and energy efficient systems**
3. **The regeneration of service and experience production**

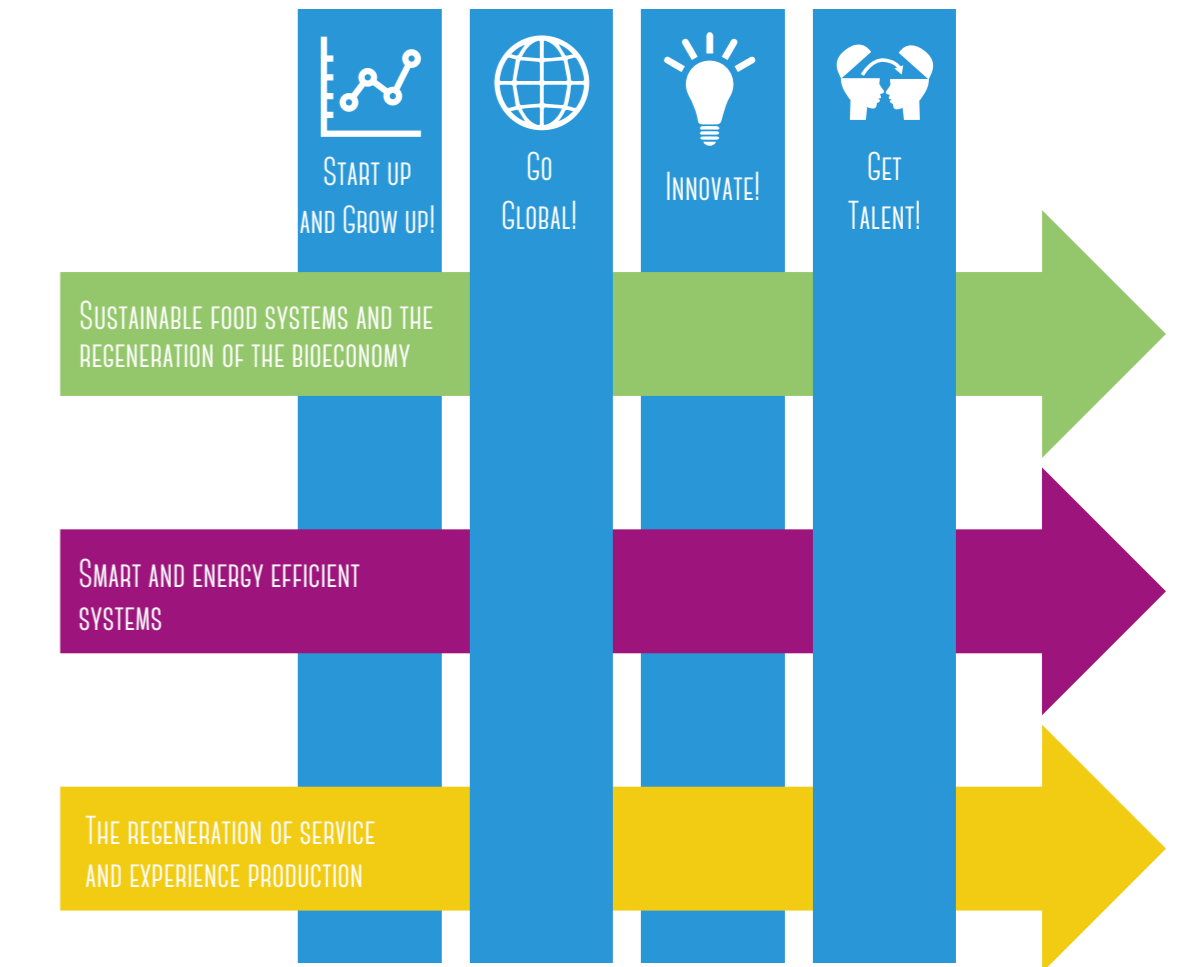
Within these broad thematic business sectors lie a number of focus sectors, whose distinguishing features are narrow specialisation, particularly high skills or significant growth possibilities. The focus areas reinforce and regenerate these broader thematic business sectors. Some of these focus areas already have current significant development operations for business services and skills, while some can still be accelerated separately.

The smart specialisation strategy encourages companies to grow and to become more international. The smart specialisation of South Ostrobothnia also necessitates that business services and skill entities develop from their current state. For their part the strategy expresses the will of South Ostrobothnia's strategy, which also has an international dimension. In connection with these, strategy operational entities are presented, which take services and skill entities to a new level.

Picture 2 presents an operation matrix that describes the previously mentioned basic dimensions of the strategy, i.e. the content based choices and the identified service and skill entities.

These dimensions bisect each other, so that business life, innovation operations and internationalisation of the region develop into a synergic entity.

The strategic document has been organised according to these dimensions. Possible sources of research and development funding are identified in the last main section of the strategy, with which the smart specialisation of South Ostrobothnia can be accelerated, and it also covers the principles for the implementation and follow-up of the strategy.



PICTURE 2. Operation matrix for smart specialisation

3.

SMART SPECIALISATION THEMATIC BUSINESS SECTORS

KUVA: HEINRIK RO

3.1 New solutions for sustainable food systems and the bioeconomy

Global and European challenges

The bioeconomy is predicted to be the world economy's next big wave. Growing needs and dwindling fossil fuels necessitate solutions for food systems and the bioeconomy, which use resources wisely and are based on renewable natural resources. These challenges are genuinely international, which is why a sustainable bioeconomy theme is heavily present in the OECD and U.N. alignments as in the Europe 2020 strategy.

One of the cornerstones for the future of Finland has been recognised as competitiveness and the production of sustainable bioeconomy solutions to worldwide problems⁸. South Ostrobothnia has a nationally significant role in answering these challenges, particularly concerning food systems. It is especially important that Finnish and South Ostrobothnian companies and developers obtain a good foothold in international networks that promote the development of the bioeconomy. For example, the European ERIAFF network (*European Regions for Innovation in Agriculture, Food and Forestry*) is an important co-operation arena between regions, through which South Ostrobothnia is a part of the European response to the bioeconomy and food solutions' development.

Description of current strengths

South Ostrobothnia is the most specialised Finnish region in primary production and food-stuff refining, regardless of how it is observed, from the number of workplaces, personnel and turnover perspectives. Relatively speaking, in Finland, the highest employment in agriculture and the food industry is in South Ostrobothnia, with 16% of turnover for the whole country's food industry located in the region.⁹ Agriculture and food industry employment and economic influences are at their greatest in South Ostrobothnia when the figures are a proportion of the employment level and economy size of a region. The effect of agriculture on the regional economy is almost €400 million and the food industry is over €1.3 billion, which is 25% of the total GDP of the region.¹⁰

⁸ Suomen biotalousstrategia 2014.

⁹ Green Creative Garden. Ruokajärjestelmien kestävät ja tehokkaat ratkaisut. Seinäjoen kaupunkiseudun aiehakemus Innovatiiviset kaupungit -ohjelmaan. 2013. www.greencreativegarden.fi; Suomen maatalous ja maaseutuelinkeinot 2012

¹⁰ Viitaharju, L., Määttä, S., Hakala, O. & Törmä, H. (2014). Työtä ja hyvinvointia! Lähiruoan aluetaloudelliset vaikutukset Suomen maakunnissa. Helsingin yliopisto. Ruralia-instituutti. Raportteja 118.

Sustainable and efficient solutions for food systems are focussed on food production and consumer systems and their management.

Primary production and foodstuff refining form the supporting foundation for sectors closely connected to food systems and the bioeconomy. For example, machine and instrument production associated with the foodstuff industry is significant from the perspective of turnover and labour productivity. In terms of turnover, 12% of foodstuff machine production is in South Ostrobothnia while furthermore, the agriculture technology companies in the region form 14% of the country's total.¹¹

Sustainable and efficient solutions for food systems are focussed on food production and consumer systems and their management. Solution elements concern primary production, agriculture and production technology, foodstuff refining, logistics and environmental solutions, trade and marketing as well as consumption and use experience. The food system sector as a whole is formed by different sectors, companies operating on the borders of these sectors and by different research and development organisations. There is a sizeable food system skill cluster in South Ostrobothnia, which has in its number top companies from different system segments. The combined turnover of these companies is approximately €3.2 billion, and their share of the GDP of the region is 62.7%.¹²

During the last ten years in South Ostrobothnia over €100 million has been invested in the development of the innovation environment and actor networking. Of this sum a considerable part has focussed on research, development and innovation operations for food systems and the bioeconomy. Numerous regional, national and international projects concerning the food sector and food systems have been implemented in the province, and the region has also put itself forward to lead networks associated with the sector, such as *Food Safety Management Finland* and *Agrotechnology from Finland*. At the beginning of 2014 there were about 50 projects on going concerning the sector and as many are being prepared. For example, in Seinäjoki and the surrounding municipalities there are numerous pending investment and development projects in order to reinforce development platforms connected to food systems, such as expanding a pilot factory for food refining expansion, and the construction of Food Province House, a consumer research restaurant and a food logistics centre.

11 Green Creative Garden. Ruokajärjestelmien kestävät ja tehokkaat ratkaisut. Seinäjoen kaupunkiseudun aiehakemus Innovatiiviset kaupungit -ohjelmaan. 2013. www.greencreativegarden.fi

12 Emt.

Robust primary production, food system skills, versatile investments, already existing development platforms and extremely broad user networks and national and international networking all create a strong base for operations. The development of food systems and the foodstuff sector are directed and co-ordinated by the *Green Creative Garden (GCG)* programme¹³ and a Food Province operational model (*Creating Food for Life*)¹⁴. The GCG programme is a part of a wider national bioeconomy development programme, where three cities and their surrounding areas have the common goal to represent business operations for the Finnish bioeconomy. In the programme, Seinäjoki and its surrounding municipalities, have the particular role of business operations development for the field bioeconomy and food systems.

The focus of research and development for the area is the smart use of raw materials, sustainable and efficient food system processes and user experience, perception and welfare as a part of food systems. The smart use of raw materials is associated with the development of special products and the utilisation of raw material components as a source in non-food applications. Food production bi-products such as field biomass and manure can, for their part, be utilised as energy sources.¹⁵

South Ostrobothnia is especially profiling field bioeconomy alongside the traditional forest bioeconomy. Biomass and waste can be manufactured into high added value products such as fuel. When biomass stores raw materials, nutrients and energy then at the same time adverse effects on the environment are reduced. The bioeconomy's sustainable and technological operation models are also clean technology or cleantech. Through the bioeconomy's decentralised and resource efficient solutions it is also possible to improve the energy and nutrient self-sufficiency of the region.

The business operations potential of skills and technology applications associated with sustainable and efficient food systems and the bioeconomy processes grow in relation to planning, control system engineering, gauging and the applications and services associated with them. Food safety offers possibilities to, amongst others, the producers and developers of machines, production plant design and information and packing technology. For example numerous solutions for product source tracing have been developed in the region.¹⁶ In the

13 Emt.

14 <http://www.ruokaprovinssi.fi/en/index.html>

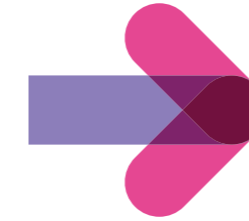
15 Green Creative Garden. Ruokajärjestelmien kestävät ja tehokkaat ratkaisut. Seinäjoen kaupunkiseudun aiehakemus Innovatiiviset kaupungit -ohjelmaan. 2013. www.greencreativegarden.fi

16 Emt.

province there are the kinds of skills, which can participate in easing the global food crisis in developing countries such as in African countries. For example, Seinäjoki University of Applied Sciences has been involved in the Healthy Africa (Terve Afrikka) project, which is financed by the Finnish Ministry for Foreign Affairs, one theme of which has been school food and nutrition development in Uganda and Kenya. Furthermore, Finland on an EU level and also globally is a forerunner in matters of animal welfare.

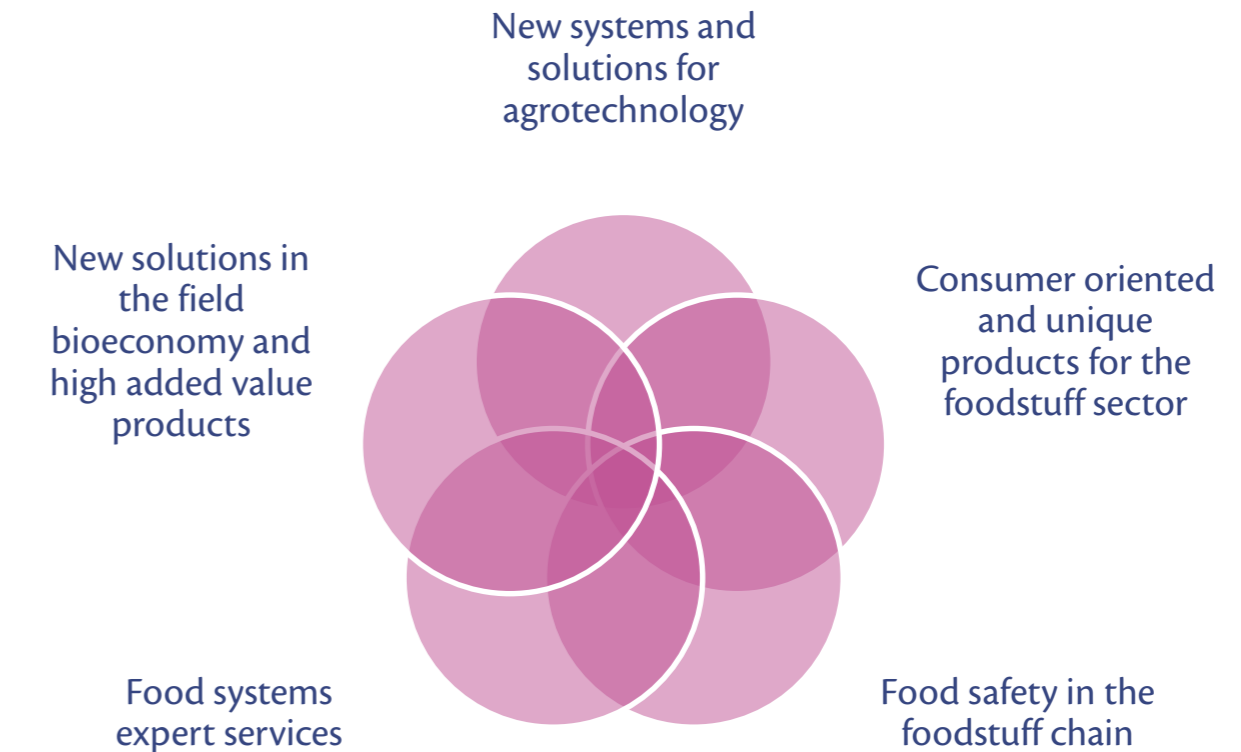
In the Epanet research network research includes the use of raw materials and food system processes alongside food consumption from different aspects. Use experience especially affects product and service characteristics and impression and welfare effects. Associated with this is the stronger than before branding of consumer products and their concerning cultural importance. The strive to develop sustainable and efficient solutions also demands multidisciplinary understanding of those social conditions in which companies, societies and consumers make choices that promote sustainability, and understanding of how these choices can be affected. User participation in product development and a comprehensive understanding of customer needs in the bioeconomy value network are prerequisites for future successful business operations.

South Ostrobothnia's specialisation in sustainable and efficient food systems and the new solutions for the bioeconomy is based on companies and clusters that are already partly internationalised or have strong internationalisation potential. They are challenged by international growth and new market sector recognition, as well as answering to increasing globalisation and stiffening competition. Strongly associated with this is reciprocal networking of companies and developers in the international foodstuff sector and food system themed projects. Secondly, specialisation is based on operations, around which skill and innovation constructions have purposefully been created. The creation of new business operations is promoted with the so-called quadruple helix (users, businesses, researchers and public sector actors) based high level projects, which are constructed upon development platforms and user networks. The role as a food province requires taking care of primary production, food industry competitiveness and profitability as well as adequate self-sufficiency protection for raw materials and high skill levels.



SUSTAINABLE FOOD SYSTEMS AND THE REGENERATION OF THE BIOECONOMY

POTENTIAL FOCUS SECTORS



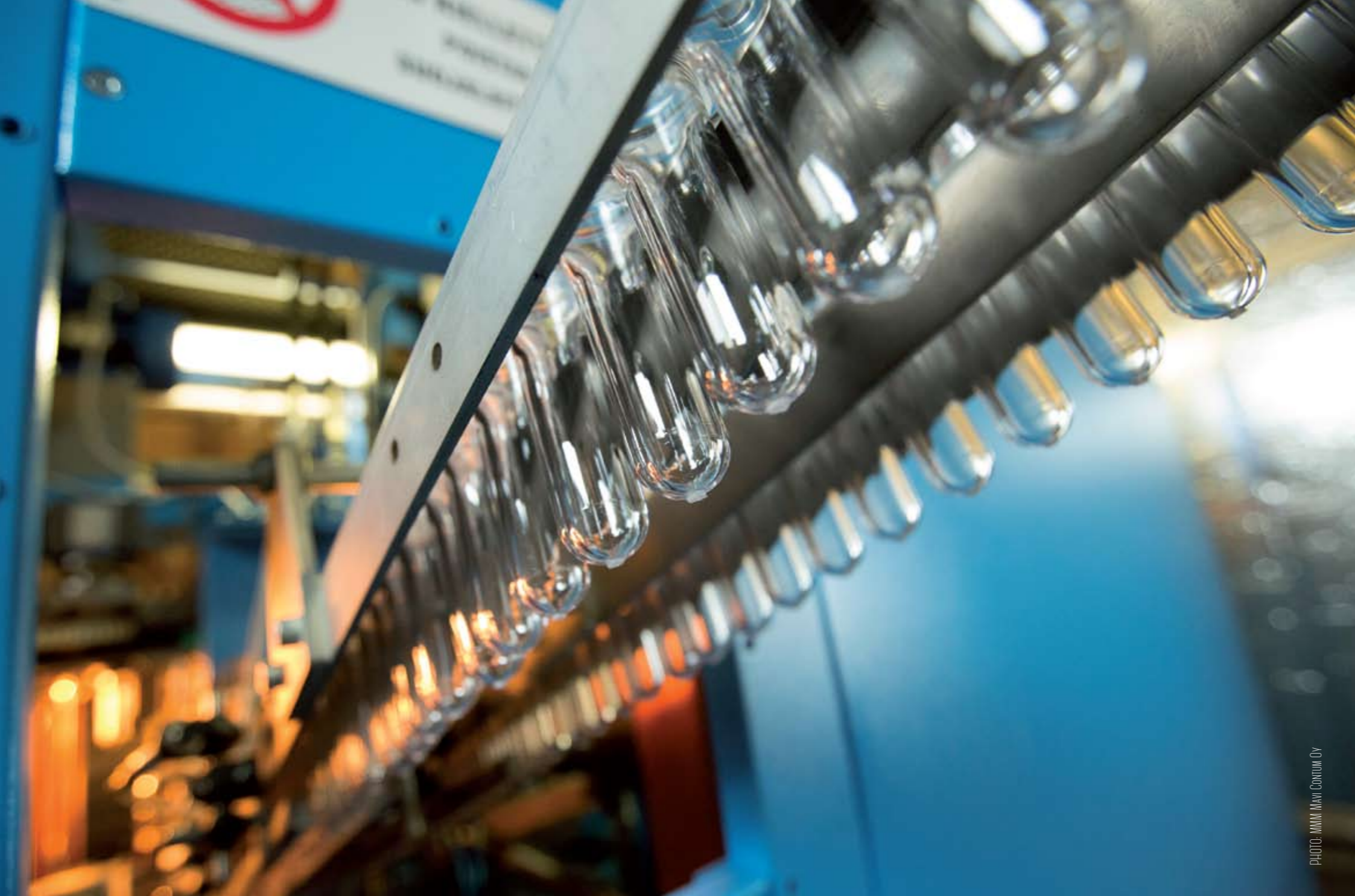


PHOTO: MMM MARI CONTUM OY

3.2 Smart and energy efficient systems

Global and European challenges

Worldwide resource and energy challenges must be met by making more efficient and regenerating, industrial and service production systems and processes. One of the flagship initiatives of the Europe 2020 strategy is *A Resource-Efficient Europe*, which amongst other things supports the transfer to a low carbon economy, renewal of transportation and logistics and the development of energy efficiency.

Correspondingly *Digital Agenda for Europe* accelerates the formation of a digital infrastructure and single market. Resource efficiency and digitalisation are challenges in which industry worldwide must be able to answer. A central industrial change trend is the so-called Internet of Things, where machines and instruments are developed to be even smarter and are connected together through a network. This brings changes to industrial production and work processes, and will significantly affect the daily life of people.

From many perspectives the Finnish industrial structure is changing. South Ostrobothnia has avoided big industrial structural changes, because of its versatility and large SME company base. However, the described industrial operational challenges also affect South Ostrobothnia: the companies of the province must be able to regenerate by revising their own products, services and processes to be still smarter, more digitalised and resource efficient.

Description of current strengths

Companies connected to the smart and energy efficient systems thematic business sector are diversified and include many different business sectors. Smart solutions as processes benefit machine and instrument manufacture in South Ostrobothnia, as they also benefit construction and health technology. Smart solutions are incorporated into different automation and control systems such as the control mechanisms for smart machines. At the interfaces between sectors knowledge intensive services will become even more important. For example, in smart and energy efficient systems software production is embedded in machine and instrument production.

The technology industry has traditionally been a strong sector in South Ostrobothnia. The sector being the largest receiver of development and innovation support is proof of the ac-

Machine and instrument production has risen to be a strong skills concentration. It is extremely important concerning turnover, and the trend of the sector is growing.

tivity of the sector. Investments in production methods and production data systems have brought new dimensions to the production processes. An example of this is the co-operation between Seinäjoki University of Applied Sciences and Tampere University of Technology in the development of machine industry competitiveness.

Machine and instrument production has risen to be a strong skills concentration. It is extremely important concerning turnover, and the trend of the sector is growing. One important skills sector within the larger sector is agrotechnology, which is connected to the province's strong food system skills. The *Agro Living Lab* operational environment has succeeded, in a unique way, in bringing the expert knowledge of rural companies to the production process of agricultural and forestry machinery. Renewable sources of energy, energy efficiency and especially heating technology also form a cluster, with the skilled people gathered together at the Thermopolis Energy Agency in Lapua. Furthermore, many metal machine tools, lifting and conveying apparatus and hydraulic instruments are made in the province.

Smartness is increasing in all systems, for example agricultural machinery is even more self-controlling. This has been noticed in development work, and South Ostrobothnia has also acquired Epanet professors and research groups from both the virtual technology sector (Tampere University of Technology) and the embedded systems sector (University of Vaasa). The research, development and innovation services of Seinäjoki University of Applied Sciences undertakes significant co-operation with companies in production and product development. The Machine Technology Centre (Koneteknologiakeskus SeAMK) project amongst other things seeks solutions for production automation, advances machine and instrument innovation with the production of prototypes and supports development work through material testing.

With the help of digitalisation companies obtain more agility in their operations. *Digital Factory* of Seinäjoki University of Applied Sciences is one answer to the still growing digitalisation requirements of industry. In *Digital Factory* the management of the whole product lifecycle occurs with digital tools. Efficiency is brought in the design stage through, the virtual simulation methods of production and 3D scanning, modelling and printing of the products. Advanced industrial automation and robotics are required in production. Product Data Management (PDM), Product Lifecycle Management (PLM) and Enterprise Resource Planning (ERP) are often prerequisites of company growth and quality assurance. Especially in micro companies and SMEs it is important to elevate the skill level in these knowledge skill areas. The new *Agile Industry (Ketterä teollisuus)* programme represents the implementation of these tools in the companies of the region and their networks.

South Ostrobothnia has been a forerunner in the development of digital infrastructure. Some parts of the province have taken into use an open fibre network model, which has been well received. Through

a co-operative model or local authority owned initiative it has been possible to acquire fast optical fibre connections to remote, low populated rural areas, where larger actors have not been interested to invest. Realised open fibre networks have also awoken plenty of international interest. South Ostrobothnia is also involved in the pan European ENGAGE project, which seeks solutions to assist the construction of data communication networks in rural areas. The development of data communication connection coverage and their options are key points from a development perspective of the province. South Ostrobothnia would also have the right kind of conditions for data centre type services. A cool climate, computer skills and a stable society also make the area attractive from an international point of view.

Energy efficiency is a strategic goal, which cuts across all production sectors, affecting both products and production processes. Energy efficiency as a strategic focus area arises in the province's construction industry. Construction products and the building construction industry are significant sectors concerning turnover in South Ostrobothnia. Even more smart technology is being used in buildings, which for its part increases energy efficiency. For example, Seinäjoki University of Applied Sciences brings to the construction sector its own skills as test services for different construction sectors in the measurement of the strength and energy efficiency of buildings. Concerning the focus of development, there is an Epanet professor located in Seinäjoki from the Tampere University of Technology, who leads a metal construction research centre, where the research leads to the development of new material solutions, amongst other things. The research is international and strongly company orientated.

In addition to metal construction there are also many wood construction and wooden product sector skills in South Ostrobothnia, which can be refined into new export products and services. The Finnish forestry strategic programme promotes construction from wooden materials and has already accomplished considerable growth, for example in the construction of wooden blocks of flats. An Epanet professor of architecture promotes the development of skills in the province concerning the construction of wooden blocks of flats, together with other actors from further education.

There are also substantial health technology skills in the province. The South Ostrobothnia Health Technology Development Centre (EPTEK) has amongst other things developed, together with local authorities, companies and Seinäjoki University of Applied Sciences, technological solutions associated with support for living at home. These technologies help in the solution to the pressure of caring for an aging population. Another strong area has been developing video and teleconferencing connections, which amongst other things has enabled the training of specialist doctors in South Ostrobothnia. Remote connections can also improve the quality and availability of health care services in more distant communities. The ICT for Health and PrimCareIT projects are international EU Interreg IV B programme part-financed flagship projects, in the latter of which the South Ostrobothnia Health Care District is the lead partner. The project

especially improves the attractiveness of organisation of primary health care for residents of remote areas by utilising ICT in healthcare personnel consultations, networking and skill development. Furthermore the combination of fibre networks and health technology open new application possibilities.

Transport, logistics and their connected industries can be outlined from statistics as strong sectors. Questions of energy efficiency also concern these sectors. Being situated centrally in the traffic infrastructure, offers on a Finnish scale, good possibilities for a logistics centre, the development of which has been taken to be one of the top themes of the province. As it expands, the formation of NLC-Seinäjoki (*Nordic Logistic City*) will become one of Finland's most important logistics centres, which is also part of an international logistical corridor (*Midnordic Green Transport Corridor*). The Helsinki-Seinäjoki-Oulu mainline is logistically very important, and it is part of the international Bothnian Corridor transport network. The development of the track as part of the European core network is a benefit to South Ostrobothnia, Finland and also the whole of Northern Europe.

An Epanet professor of logistics and a connected research group have a central role in the development of the logistics centre. Optimisation and the application of new smart technology can considerably intensify the operational system of logistics. In South Ostrobothnia there is specialist knowledge particularly in the foodstuff logistics sub-sector.

Sustainable methods of generating energy are an energy efficiency goal of the province. South Ostrobothnia has clear potential in renewable energy and bio-energy chains, and investments have been made in bio-energy research and development. There is also rapid growth in wind power production. In the higher education strategy, a goal has been set to strengthen both energy research supporting the skills priority sectors and development work with Vaasa Energy Institute.

Smartness and energy efficiency can also be seen at an urban structure level. Seinäjoki has started to develop the train station and track area as part of the town centre plan, consistent with sustainable development principles, in the *Smart Station* project. In the regional town pilot programme, Kauhajoki and Kurikka strive to create a new kind of growth, according to sustainable development principles, outside of the provincial centre.

In South Ostrobothnia the companies that make smart and energy efficient products are the most export orientated. However, the possibilities for export still need to be developed. From a growth and internationalisation perspective, specialisation to even narrower skill sectors and combining service operations to products is even more important. When specialising to narrow sectors, finding skilled partners becomes even more challenging. Of the regional actors Seinäjoki University of Applied Sciences and its research, development and innovation services are held to be significant from a production and product development perspective. Also co-operation with university research groups give development resources. Also business development companies have co-ordinated numerous technology sector development projects.



SMART AND ENERGY EFFICIENT SYSTEMS

POTENTIAL FOCUS SECTORS

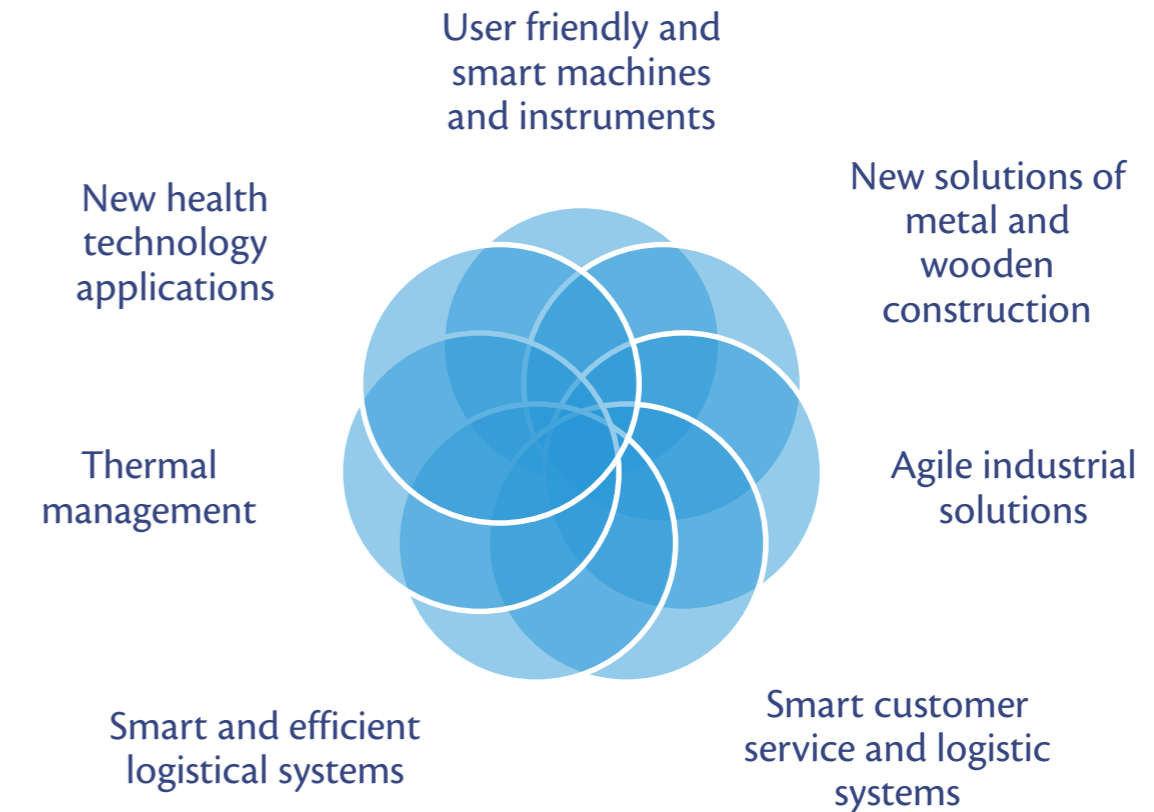




PHOTO: LAURA SYVÄJÄ

3.3 The regeneration of service and experience production

Global and European challenges

The regeneration of the service sector is a challenge affecting the whole of Europe. The efficiency of manufacturing for its part transfers the financial focus towards service domination. Furthermore, particularly in European welfare states, the need for public sector service regeneration is great. Also, creative sectors and experience production have become a central part in the modern service economy.

The Europe 2020 strategy emphasises strengthening the service sector in the internal market. The full implementation of the service directive should accelerate the service trade considerably. A prerequisite for this is that SMEs have genuine access to offer their services to the European market. In a European context creative sectors and experience production has a growing role. The volume of the Creative Europe Programme in the EU's programming period 2014-2020 is greater than in previous culture and media programmes. The main goal of the programme is to support European culture and language diversity, fostering European cultural legacy and reinforcing the competitiveness of the culture and creative sectors in the digitalisation and globalisation of the operational environment.

South Ostrobothnia's service and experience production has growth possibilities. The region's enhanced training and skill level, as well as the advancement of digitalisation, offer new tools for service production and expand service and experience production to a worldwide market. At the same time it must be noted that the boundaries between primary production, refining and services have partly disappeared. This means that at the interface between sectors, the importance of knowledge and experience intensive services becomes even more significant. For example, from the perspective of South Ostrobothnia, experience service entities have been consciously built into central food system themes. Also, an even greater share of services will either become totally digital, or be intensified significantly through digitalisation.¹⁷ Simultaneously different sectors of culture cut across other service production. The question is not only about new service production methods, but also about service design.

¹⁷ Pajarinen, M., Rouvinen, P- & Ylä-Anttila, P. (2012). *Uutta arvoa palveluista*. Helsinki: Taloustieto Oy (ETLA B256).

South Ostrobothnia has been the first region in Finland involved with the European eHealth for Regions network operations, and the international co-operation of the network is continuing and widening.

Description of current strengths

In Finland the largest private service sectors are retail, social and health services and transportation.¹⁸ The basic structure of South Ostrobothnia's service sector does not remarkably differ from that of the whole country, albeit the degree of specialisation growth is detectable in both separate sectors and within sectors in individual companies. Seinäjoki is Finland's sixth largest retail centre, and in the province there is located Finland's second largest department store by sales, with a significant national travel destination having developed around the shopping centre. Also, the overall tourism sector has seen growth, and the amount of money created by tourism areas has increased by 162% during the last ten years.¹⁹ An example of growth is one of Finland's largest amusement parks, which has been developed in the region during the 21st century, and has twice been chosen as Finland's best leisure destination. Besides its top destinations, the province has international tourism potential in themed areas, one example of which is the numerous designs of world famous architect Alvar Aalto.

Despite growth, South Ostrobothnia is still quite unknown, especially amongst foreign travellers. Their share of travellers to the region has been on average four percent. A goal has been set in the travel strategy of South Ostrobothnia, that in 2020 international overnight stays would be approximately eight percent of the total of overnight stays. To achieve this, the service level and visibility of destinations will be raised, and the co-operation as well as the services on offer between the region's most significant travel centres will be developed.²⁰

South Ostrobothnia differs in service and experience production nationally and internationally, through offering an effective infrastructure, excellent accessibility and interesting urban, rural and natural alternatives. Experience services are built in connection with existing concentrations, particularly in wellbeing and event tourism themes.

Besides travel, one of the fastest globally growing sectors is the welfare sector, for example there is a worldwide demand for health technology applications and electronic health services. South Ostrobothnia has been the first region in Finland involved with the European *eHealth for Regions* network operations, and the international co-operation of the network is continuing and widening.

18 Emt. s. 51

19 Etelä-Pohjanmaan matkailustrategia 2013-2017.

20 Etelä-Pohjanmaan matkailustrategia 2013-2017.

Regenerating experience production is founded on the province's versatile available culture and characteristic cultural heritage, which are embodied in many ways in the cultural scenery, structural environment and in the actions of people.

Welfare sector service production includes public, private and tertiary sector produced services. Co-operation models between the different sectors in service production and welfare sector service companies can create new innovations. Even though, in the light of statistics, South Ostrobothnia cannot be held to have an especially strong social and health private service sector, the province offers excellent experimental platforms for co-operation models between the sectors, or for example, social and health sector leadership skill training exports. There are strong specialist skills associated with, amongst other things, the development of services for care of the elderly, the development of occupational health and work welfare and the utilisation of technology in social and health services.

An example of specialisation in service production can be found in the top sports and exercise skill concentration located in the province, which for numerous top Finnish and foreign sportspeople and teams acts as a training and test centre and also as a testing and development centre for the exercise and welfare sectors. Furthermore, the concentration offers research and product development services for exercise and welfare technology products. The concentration is a good example of national and international networks, and of new possibilities of combining exercise and experience services to produce welfare.

Regenerating experience production is founded on the province's versatile available culture and characteristic cultural heritage, which are embodied in many ways in the cultural scenery, structural environment and in the actions of people. Plains covered with fields and Ostrobothnian peasant houses are to this day one of the most visible expressions of this cultural heritage. The rural cultural tradition also reflects people's mentality and outsiders understanding of the region: self-supporting and entrepreneurial spirit are matters strongly associated with South Ostrobothnia. A balance to these can be found in working together and the spirit of helping each other out. It is an interesting paradox that during its history South Ostrobothnia has received quite many international influences, but in the light of many key figures the region is the least international Finnish region.

According to statistics, between 2007 and 2011, the turnover of cultural and entertainment operations as well as sports operations, pleasure and recreational services grew substantially faster than in the rest of the country. The core of the experience industry is formed from the activity and entrepreneurship that has evolved around music and events, which also includes event production skills, training and cultural music research. In South Ostrobothnia over the past decades large musical events have developed, two of which have been in the top ten highest attended Finnish festivals year after year. The contemporary music cluster and the

region's contemporary musical events are significant in terms of turnover and in affecting the regional economy, and have personalised the province.²¹ Numerous national and even international pop culture and musical phenomena have also risen from South Ostrobothnia.²²

In South Ostrobothnia smart specialisation in service and experience production is based on three elements. Firstly the specialisation is based on the kind of matters, which make the region more significant than can be interpreted from statistics, such as a strong regional identity and the characteristic cultural history of the region. Secondly the specialisation is based on the kind of sectors around which skill and innovation structures have been formed. For example, the higher education sector of South Ostrobothnia has supported, in numerous ways, the service and experience production thematic business sector, among others by projects financed by the EU Culture programme. Also in the latest higher education community strategy, the chosen focus sectors are welfare and creative individuals and communities, which include supporting service and experience production through training, research and innovation methods.²³ Thirdly, is the matter of even narrower service and experience production specialisation in different sectors. For example in tourism, individual destinations are already currently nationally top destinations.

21 http://www.helsinki.fi/ruralia/uutiset/Rytmimusiikki_ppesitys_25022013.pdf

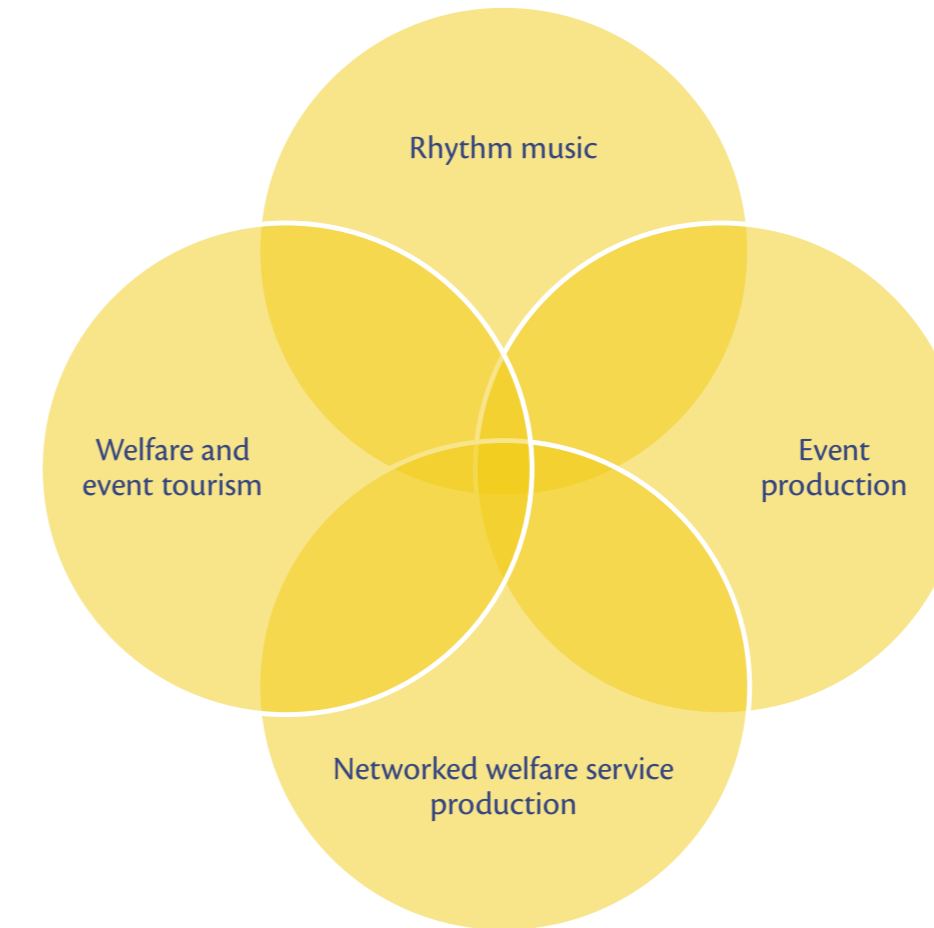
22 http://www.helsinki.fi/ruralia/uutiset/Rytmimusiikki_ppesitys_25022013.pdf

23 Vuorovaikutuksesta vaikuttavuutta. Etelä-Pohjanmaan korkeakoulustrategia 2020.



THE REGENERATION OF SERVICE AND EXPERIENCE PRODUCTION

POTENTIAL FOCUS SECTORS

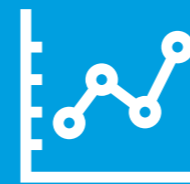


4.

SERVICE AND SKILL SETS



INTO Seinäjoki Oy



Start up and Grow up!

4.1 Start Up and Grow Up!

South Ostrobothnia's strategic desired state

Dynamic economic growth is a prerequisite in order to get the whole of Europe to a strong growth track. This also strongly affects Finland and South Ostrobothnia. From both economic dynamics and an employment perspective, the importance of growing companies is especially essential, with new jobs have mostly been created in the SME sector. For this reason it is natural that EU cohesion and innovation policies highlight the importance of entrepreneurship and growing companies. SMEs have an important role in the Horizon 2020 programme, which is also an opportunity for South Ostrobothnian companies.

It is possible to promote new entrepreneurial development through EU financial instruments and project work. Moreover, new knowledge intensive companies and growing companies can be created in many different sectors, as they are not just an exclusive right of traditional companies from the technology sector. A particular challenge of South Ostrobothnia is to be able to create new companies, which aim for profitable growth, in the thematic business sectors and in their narrower focus sectors. The province also wants to be in close international interaction in creating the kind of operational and policy models, which support new company creation and growth. However in many company backgrounds there are entrepreneurial spirited people. Care must be taken that the province's entrepreneurial spirit is reinforced and internationalised further.

According to the companies representing the thematic business sectors, growth is primarily a question of attitude. An encouraging and joy from success atmosphere reinforces companies' desire for growth and inspires even more skilled people to establish companies.

Description of the current situation

In South Ostrobothnia, public economic development and business services are offered by regional, local and national actors. At the core of the operations are different advice and support services, which help the development of companies and support growth, and also advice new business start-ups. Special services are on offer especially to support product and business operational development.



Start up and Grow up!

Regional and local organisations offering business services include the new development company INTO Seinäjoki Oy created through the union of Seinäjoki Region Business Service Centre (SEEK) and Frami Oy, SEK (Suupohja Economic Activity Joint Municipality Authority), Järvi-Pohjanmaa Business Services Oy and Alavus Development Oy. It is worth noting that besides the local authorities, Järvi-Pohjanmaa Business Services Oy ownership also includes 22 of the region's most important companies, which demonstrates their commitment to the development of the region. A number of local authorities have their own, economic development officers or personnel responsible for economic development, who develop both starting and existing companies.

Local and regional economic development and development organisations also offer innovation and internationalisation services. For example Frami Oy has offered its services primarily to knowledge intensive companies and to companies actively seeking to develop their operations. Services for companies include tailored training, business operations development services and product testing and innovation services. Furthermore, Frami Oy has co-ordinated a national innovation network for approximately ten years already. A goal of the national network has been to support network areas, located around Finland, in developing their own innovation environments.

National business and economic development services have two central distribution channels. South Ostrobothnian Enterprise Agency ry has already offered for a long time free and confidential advice to starting companies, as part of a broad national new business centre network. In addition to new business centre operations, South Ostrobothnia Centre for Economic Development, Transport and the Environment (ELY-centre) offers one-on-one expert and information services to the companies of the region. Different company supports, such as company development supports for investments and preparation funding for SMEs for R&D operations, are also channelled through ELY-centre. Furthermore, ELY-Centre experts offer expert and advice services associated with support. Through South Ostrobothnia ELY-Centre the region's companies also have access to the Finnish Funding Agency for Technology and Innovation's (TEKES) services and funding possibilities.

Many local and regional economic development and development organisations have particular skills towards certain business sectors. They are often nationally or even internationally established in these skill sectors' development organisations. In these development organisations Foodwest Oy can be mentioned, whose owners are both public organisations and foodstuff sector companies. The core skill sectors of Foodwest Oy are foodstuff sector product development (including user and market research) and quality assurance processes. To the same extent INTO Seinäjoki has considerable skills, for example in the development of agrotechnology and creative sector companies. Logistia Technology Center, in Kauhajoki, has on its behalf concentrated on development operations for the material handling sector.



Start up and Grow up!



STRATEGIC OPERATIONAL ENTITIES

The Economic development and business services on offer in South Ostrobothnia are comprehensive, but in places thin. From the smart specialisation strategy's perspective, the following strategic development goals have been set for the province's economic development and business services:

Permanent start-up services for information intensive companies: South Ostrobothnia has comprehensive services for start-ups, but in order to have a versatile industrial structure and regeneration there is still cause to strengthen services, particularly for information intensive start-ups (e.g. Knowledge Intensive Business Services companies)

Permanent services on offer for growing companies: Private and public sector services geared towards the region's growing companies are assembled in an easy to identify and utilise range of services. The goal is the creation and availability of permanent high level services. A part of these services will also be a preparation programme for growing companies that are in an intensive development phase.

The expansion of commodified innovation services: In the province there are good experiences of commodified innovation services, because through their help small companies also have the possibility to utilise expertise from outside the company. A goal is the expansion of commodified services available at different stages of the innovation process.

The development of training for international business operations and growing businesses: The South Ostrobothnian higher education community support, with their own tools, the development of international business operations and the skills of growing companies. For example, the University of Vaasa and Seinäjoki University of Applied Sciences have associated basic and advanced training programmes with these themes. However, it is possible to strengthen and versify the training, so that it meets the skill requirements of internationalising and growth seeking South Ostrobothnia companies even better than it currently does.

ETELÄ-POHJANMAAN
KAUPPAKAMARI

 **Yrittäjät**
ETELÄ-POHJANMAA

 **FINPRO**

FINLAND
team


INVEST IN FINLAND

VIEXPO



Go Global!

4.2 Go Global!

South Ostrobothnia's strategic desired state

European integration and the development of the internal market mean that more and more companies operate everywhere in Europe rather than just in their own domestic market. Even though the development of the internal market supports economic growth, Finnish and European companies must seek growing markets such as China, India and other developing economies.

From the perspective of the regional smart specialization, the international connections are essential. When built more actively than previously, they produce added value. Although the company base of the province is not especially export orientated, it is a matter of course that there is an international operational environment for most companies: Companies have their own export operations or significant raw materials, intermediate product or service import such as subcontracting. In addition to this direct internationalisation of the operational environment of companies, there is increasing internationalisation in competition situations or for example in recruitment.

Company representatives operating in economic development themed sectors see that big companies largely take care of their own international challenges. However, small companies do not have their own sufficient resources for internationalisation, in other words they need skilled and expert support. Internationalisation potential is more clearly seen in industrial sectors than in service sectors.

An international perspective must be an in-built factor in economic development processes. It is essential that the region's internationalisation is bidirectional: there must be support for both the region's actors going international and for international actors to invest and operate in South Ostrobothnia. The strategic desired state of the province is that economic development themed areas have a long-term commitment to bidirectional international co-operation and improvement of its prerequisites.

Description of the current situation

Many local and regional economic development and development organisations offer their own services to support the internationalisation of companies, but more specialised internationalisation services have been produced by project funding. Typical of these kinds of services are target market



Go Global!

research, training associated with internationalisation, seminars and joint exhibition visits and other ways of making international contacts. For example, INTO Seinäjoki Oy has produced these kinds of internationalisation services. To the same extent the Internationalisation Centre INKA, in Suupohja, serves companies, which have a workforce with a foreign background, and companies which are planning to recruit labour from abroad.

Alongside local and regional economic development and development organisations there are many other actors promoting the internationalisation of South Ostrobothnian companies. For example companies' own interest groups and coalitions, such as the South Ostrobothnia Chamber of Commerce, the Regional Organization of Enterprises in South Ostrobothnia and the Export Guild (Vientikilta) offer and channel services associated with company internationalisation, and shape the business soil to an international direction. Also, the co-operative based Viexpo, operating from Ostrobothnia, offer small and medium sized companies internationalisation services to both individual and groups of companies.

National operator Finpro is especially central in offering company internationalisation services. It is an association established by Finnish companies and different quarters of economic development, which has a long history of promoting exporting and which has built a significant international skills network. There is also an extremely wide range of services for companies at different stages of internationalisation.

Nationally created Team Finland operational model sews together, in a new way, Finland's economic foreign relations, company internationalisation, the attraction of international investment and general work concerning the portrayal of Finland. Connected to the operational model of Team Finland is the Ministry of Employment and the Economy, the Ministry of Foreign Affairs of Finland, the Ministry of Education and Culture and through their guidance public sector funding organisations and foreign agencies, amongst which are Finnish foreign missions, the offices of Finpro and Tekes and culture and science institutes. From these quarters over 70 local teams are formed, which create a wide coverage of international contact surface in different parts of the world. One of Finland's 15 regional teams operates in South Ostrobothnia, Team South Ostrobothnia, which forms the region's counterpart for the international network.

In South Ostrobothnia, in addition to internationalisation from Finland to the world, diversifying economic development through international investments must be kept in mind. The previously mentioned national organisations also operate as representatives of investments directed to Finland, and particularly the Invest in Finland organisation has focussed on bringing foreign companies to Finland.



Go Global!

South Ostrobothnia's regional and local economic development and development organisations and other people responsible for economic development, work to advance that investments in South Ostrobothnia from companies from outside the province would be easier and fruitful. Besides actual investment services, the development of the general operational environment, as well as communications and marketing, are essential measures to improve the competitiveness of the region. In addition to attracting companies and investments, regions increasingly compete for people: one of the most crucial measurements of attractiveness is the overall living environment, which is also linked to economic attractiveness factors. Seinäjoki and its surrounding municipalities have been the most extensive in attracting national and international investments. In attracting these investments, traditional pulling forces, such as logistical location, premises and commercial potential have been stressed.

STRATEGIC OPERATIONAL ENTITIES



Increasing the level of internationalisation services orientated to companies: The promotion of the internationalisation of South Ostrobothnia's economic activity, is reinforced by strengthening the internationalisation services of the region and by making internationalisation and especially export operations central content in contacting companies. Services associated with company internationalisation are assembled in one group of services. The development of its most essential services is taken care of through co-operation with different actors. Special care is taken that there is also sector skills on offer for the internationalisation of companies in thematic business sectors.



Connections to national export promoting and internationalisation services: It is not worth producing all internationalisation services oneself, but for only certain services there is cause to rely on services from outside of the region. For example, Viexpo and the export skills of Ostrobothnian companies can also be utilised in South Ostrobothnia. South Ostrobothnia must be able to connect considerably stronger than currently to the network and operational model of Team Finland.



Reinforcement of the regional Invest In operations: Attraction of investment from outside of the region must be strengthened further. Both the broad thematic business sectors and in special cases the narrow focus sectors must be made more visible in the marketing and sales of the region. Also in attracting international investments there is reason to connect more strongly to national networks, and take care that the region's thematic business sectors are present in the right target groups.



SEINÄJOEN AMMATTIKORKEAKOULU
SEINÄJOKI UNIVERSITY OF APPLIED SCIENCES



HELSINGIN YLIOPISTO



SEINÄJOEN YLIOPISTOKESKUS
University Consortium of Seinäjoki

TAMPEREEN YLIOPISTO | HELSINGIN YLIOPISTO | SIBELIUS-AKATEMIA | VAASAN YLIOPISTO | TAMPEREEN TEKNILLINEN YLIOPISTO



TAMPEREEN TEKNILLINEN YLIOPISTO



Turun yliopisto
University of Turku



TAMPEREEN
YLIOPISTO



ETELÄ-POHJANMAAN
KORKEAKOULUYHDISTYS



Vaasan yliopisto
UNIVERSITY OF VAASA



Innovate!

4.3 Innovate!

South Ostrobothnia's strategic desired state

Innovation Union is one of the Europe 2020 flagship initiatives, and it strives to improve the prerequisites, as well as economic and societal impact, of research and innovation operations. The flagship initiative contains a broad congregation of different measures. In addition to content selections, a central aspiration is connected to the development and strengthening of different research and innovation activities related to EU tools. Additionally skilled partnerships are promoted, and connections between training, the business world and research and innovation operations are strengthened regionally, nationally and internationally.

For its part South Ostrobothnia wants to be in the construction of the European innovation union. The structure and processes of the province's research, development and innovation activities (RDI operations) reveal the unique characteristics of the region, and strive for a strong economy and societal effectiveness. The infrastructure of South Ostrobothnia's RDI operations has been built and strengthened in a manner to improve the region's internal regeneration ability, which can also be seen as internationally exceptional. In the development of effective research, development and innovation models and processes, South Ostrobothnian higher education institutions want to be in the international forefront. From this perspective they want to actively create international co-operation relations, which enable continuous development.

Many companies operating in thematic business sectors have multifaceted co-operation also internationally with different universities and research institutions. Sometimes the RDI operations of companies are even more international than their primary business activities. Representatives of companies hold the region's own RDI structures to be very important. A particular advantage of co-operation undertaken with the higher educational institutions of the region is the low discussion communication threshold, which enables flexible and need-orientated activities.

Description of the current situation

The central elements of the infrastructure of South Ostrobothnia's RDI operations are Seinäjoki University of Applied Sciences, the University Consortium of Seinäjoki, University Association of South Ostrobothnia and their jointly formed co-operation structure the University



Innovate!

Consortium of South Ostrobothnia. The University Consortium of South Ostrobothnia is the forum for research, development and business operations for South Ostrobothnia's higher education institutions. Co-operation particularly concentrates on joint research, training and development projects, which have the goal, in addition to high-level research, of producing useful information and skills to companies and other organisations.

Central proficiency areas of the higher education community of South Ostrobothnia are identified, with the different parties being committed to further developing their own operations. There are three common interdisciplinary proficiency areas: sustainable food solutions, smart and energy efficient systems and healthy and creative individuals and communities. Knowledge intensive entrepreneurship and producing new business concepts and service innovations are promoted in all proficiency areas. Many proficiency strengths are combined at the intersections and seams of the proficiency areas and they are often dynamic, new, creative theme areas. The focus structure has been shaped based on both the skills of the higher education community and on the needs of the region's interest groups. Additionally, the focus tools reflect specific themes, where actors in the South Ostrobothnian higher education community construct systematic and international co-operation structures, both in education and research operations.

The RDI operations of Seinäjoki University of Applied Sciences are consistent with the nature of a University of Applied Sciences Institution in conducting research that can be applied to and serves the region. For the same reasons the RDI activities of the University of Applied Sciences are strongly connected to teaching, among other things through different integration platforms and through undertaking thesis work co-operation with the companies of the region. Furthermore, from a regional perspective the RDI operations of Seinäjoki University of Applied Sciences emphasise international co-operation. In addition to European co-operation other important co-operation areas have been Japan, Vietnam and Mexico. Content-wise the focus of the RDI operations of Seinäjoki University of Applied Sciences have been congruent with the focus areas of the University Consortium.

The University Consortium of Seinäjoki is another supporting leg of the South Ostrobothnian higher education community, which comprises of the operations in South Ostrobothnia of five member universities. Included are, Tampere, Helsinki and Vaasa universities, Tampere University of Technology and University of the Arts: Sibelius Academy. The University Consortium conducts strong co-operation, besides with the parent universities, but also with other actors in higher education. Besides the universities belonging to the University Consortium, the foodstuff development group of the University of Turku is also a central part of the South Ostrobothnian higher education community.



Innovate!

Research and development work are at the centre of the operations of the University Consortium of Seinäjoki. The volume and quality of scientific research in South Ostrobothnia has been raised by the unique system work of South Ostrobothnia university network (Epanet). Besides strengthening the functional research and development community in South Ostrobothnia, Epanet also has the goal of intensifying and expanding research work. Broad based, but focussed research and development work is undertaken under the leadership of research directors and managers. Having operated for over 10 years already, the Epanet network has a central role in the organisation and implementation of the active research groups of the province. The goals of the research projects, which are planned as five year periods, are interdisciplinary and are finding new approaches. The research work is becoming more international the whole time, both in financing and with co-operation partners, with co-operation partners coming from Europe, Asia and from the U.S.A.

The third supporting leg of the South Ostrobothnian higher education community is the University Association of South Ostrobothnia (EPKY), which has the goal of promoting higher education policy co-operation and higher educational development work in the province. The University Association produces university level training services in its summer university, and strengthens research by planning Epanet network research projects, obtaining funding for them and by following and supporting their implementation.

International networks especially noticeably affect the development and form of the region's research, development and innovation operations. All the previously mentioned actors have their own international networks, where they plan and implement projects and undertake other co-operation. Besides the networks of these organisations, more structural networks are especially significant platforms of international co-operation. In addition to the previously mentioned ERI-AFF network, the ERRIN Network (*European Regions Research and Innovation Network*) is also very important to South Ostrobothnia, a member of which is the West Finland European Office. ERRIN consists of 70 European regions and their European offices. ERRIN promotes information exchange, strengthens the capacity of regions to participate in European projects and improves the research and innovation capacity of regions. In addition to the previously mentioned the ENoLL network (*The European Network of Living Labs*) is a significant European network from the perspective of innovation orientated operations, in which South Ostrobothnia actors are present in the AgroLivingLab and Suupohja Living Lab. An important international education development network, in which Seinäjoki University of Applied Sciences is present, is the EAIE (*European Association of International Education*).



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STRATEGIC OPERATIONAL ENTITIES



Research groups and the competition for national financing: The thematic business sectors of South Ostrobothnia have a number of research groups, which undertake high-level research activities. The thematic business sectors, and particularly their narrower focus sectors inside them, are irregular phenomenon sectors, which are affected by national and international environment changes. The higher education community must take care that, also in these rising focus areas, high-level research, development and innovation activities are undertaken, which can be financed from competed for national research funding sources. In the same manner, care must be taken to have effective company co-operation in the focus sectors.



International research financing and co-operation networks: It must be attended to that South Ostrobothnia's thematic business sectors and stronger focus sectors are capable of acquiring national funding along with international research funding. This necessitates strategic co-operation relations and networks, so there is reason to support their sustained construction. In addition to the groundwork of international projects, reciprocal regional co-operation between the higher education community and other international actors is required.



Productivity, profitability and ability to regenerate with the support of RDI operations: A prerequisite of the competitiveness of the broad thematic business sectors and the narrower focus sectors are, good productivity, profitability and continuity of operations. The achievement of these goals can be supported through the close research, development and innovation operations of higher education actors and companies. The question concerns actions, which improve the internal and external processes of a company and which contribute to the regeneration of companies.



New products, services and markets through the support of RDI: Even more often, customers in competitive markets are interested in novelties. For this reason, there must be operational modes in the region that enable transforming research into new products and services. It is also essential to support the finding of new market needs and segments. For example, with the help of information concerning customer and user needs, new demand can be created.



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New companies through the support of RDI: The education community of South Ostrobothnia is strongly committed to co-operation with the business life of the region. However, it must take a larger responsibility than previously in the creation of new business operations. Traditional methods are, for example, companies founded by researchers and students, but new means must be found to achieve the goal, such as consumer co-operatives. The higher education community must build close contacts to economic development and development organisations, which offer services to start-up companies, in order to reach this goal.

Kuortaneen Urheiluopisto

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4.4 Get Talent!

South Ostrobothnia's strategic desired state

The skills of people are at the core of all development, and education is a principal way of increasing this human capital. To a great extent, the future of Europe will be decided on how well it is able to attract, grow and mobilise skill resources. In the future skills will become increasingly international, which means, for example, language and culture skills. It also means inquisitiveness and the ability to predict the future and a desire to try to do things differently. The education system must be able to construct these kinds of competences for students.

These perspectives motivate a modernisation strategy for European higher education and the Youth on the Move flagship initiative of the Europe 2020 strategy, which strives to improve the international attraction and quality of European higher educational institutions, as well as promoting young people's access to the labour market. These central matters are examples of; the promotion of student international mobility, the constant coordination of education content and the requirements of business life and the strengthening of entrepreneurial attitudes.

A particular strength of South Ostrobothnia is a skilled and committed professional labour force. The companies of the province are mainly satisfied with the availability of skilled labour. Especially in non-managerial work it is easy to recruit, but in certain expert tasks it is harder to find skilled people. All sectors see the most significant development requirement as the construction of multidisciplinary study modules and through it an improvement in education corresponding to working life.

Despite the education level of South Ostrobothnia being below the national average, it has been raised during the last 15 years with the education of younger age classes. The strategic desired state of South Ostrobothnia is that education at all its levels is improved, in order to improve the skill level of the province and improve the prerequisites of smart specialisation. This necessitates the adoption of lifelong learning principles. An international operational environment requires international skills, which are created only in diversified educational interaction together with foreign partners. South Ostrobothnian education organisations also want to strengthen further multifaceted international partnerships and through them create shared educational added value.



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Description of the current situation

There is an extremely versatile vocational training field in South Ostrobothnia. Vocational Education Centre SEDU has in total eight premises in different parts of the province, and approximately 4,200 students. Vocational Education Centre SEDU strongly invests in its educational operations and in both internationalisation and entrepreneurship. SEDU defines its role as developing the students' international and entrepreneurial capabilities by offering training and learning environments that promote those skills. Furthermore, it invests in the international capacity of its personnel and in different forms of becoming international within your own country. The proof of the internationalism of SEDU can be seen in approximately 300 students annually going abroad on study modules and correspondingly approximately 150 foreign students are in SEDU as exchange students.

Besides Vocational Education Centre SEDU, Suupohja Vocational Institute and Järvisetu Vocational Institute are vocational training organisations, which have many premises. Three education institutions belong to Suupohja Vocational Institute (vocational school, business school and agricultural school) and an adult education department, with a total of 700 students. There are four premises in Järvisetu Vocational Institute (JAMI), with a total of approximately 570 students. There are approximately 140 foreign students studying for qualifications, of which the majority have a Russian background. In addition to the previously mentioned, vocational training is offered in certain specialised fields, amongst others, at Kuortane Sport Resort, TEAK – International Centre for Vocational Adult Training and the Finnish Institute for Enterprise Management. The organisers of the region's vocational training undertake multidisciplinary co-operation among themselves in the collective Opinlakeus network framework, which also contains the region's high schools.

Seinäjoki University of Applied Sciences is South Ostrobothnia's largest higher education organisation. There are approximately 4,500 student, a quarter of which are adult students. Internationality is widely present in university of applied science studies, and plenty of different forms of international activity have been developed, from foreign language study modules to working on international projects or undertaking thesis work abroad. In addition to the possibility of international studies and work placements abroad, Seinäjoki University of Applied Sciences also offers its students study programmes in English. Approximately 500 students annually participate in different length study periods abroad. Correspondingly, approximately 200 students from abroad, studying for qualifications, and approximately 270 foreign exchange students are studying at Seinäjoki University of Applied Sciences. There is long-term project work with its strategic partners. Because of student and personnel mobility and other international co-operation processes, an especially comprehensive co-operation network has been constructed, which consists of 200 co-operation higher education schools in Europe, Asia, North and



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South America, Russia, Australia and Africa. Seinäjoki University of Applied Sciences has three joint offices with its foreign strategic partner higher education schools, in Japan, Argentina and China.

Along with internationality, entrepreneurship is a principal priority area in studies. In the same way as to reach the goal of internationality, also a number of operational forms have been developed to support entrepreneurship, in which students from different sectors can choose the most suitable for themselves. On offer, for example, are different entrepreneurial ways to perform studies and entrepreneurial study modules that cross subject boundaries. Furthermore, for example in so called Business Garage (Yritystalli) and Protomo Seinäjoki, students have the possibility to develop their business idea and skills as well as bounce their ideas off experts.

The educational activities of the University Consortium of Seinäjoki are especially orientated towards the adult community. The emphasis is on studies with a goal of achieving a qualification, which is possible through the candidate channels of open universities and through masters' programmes being undertaken in Seinäjoki. Tampere, Vaasa and Helsinki universities arrange open university studies in Seinäjoki. Masters' studies are offered by the University of the Arts: Helsinki, Tampere University of Technology, the University of Tampere and the University of Vaasa. In addition to acceptance through candidate channels and Master's programmes, the University Consortium of Seinäjoki arranges supplementary education (e.g. eMBA), both as company ordered development training and education aimed at the open market. In addition to the University Consortium of Seinäjoki, The University Consortium of South Ostrobothnia and a few other non-formal adult education organisations offer open university education.

One "user interface" of the education and development activities of South Ostrobothnia is the Provincial University of South Ostrobothnia, which operations are based on co-operation between Universities of Applied Science, Universities, non-formal adult education organisations and upper secondary education organisations. The provincial university does not have its own teachers or fixed buildings, rather it takes training to where it is needed at the time. This significantly assists, for example, the education of adults who are working. The model has also gained international attention.

In one sense skills are fastened to individuals, but in another sense work organisations must take care of their intellectual capital and of its renewal. It is possible to increase skills through training, but attention must also be paid to how skills are developed through work procedure. Raising the skill level of South Ostrobothnia, cannot be seen as only the responsibility of the education organisations of the region, but individuals and companies also have to carry the responsibility. A general goal can also be set that education organisations search actively together with different work organisations for the kinds of co-operation forms and forums, through which the skill level and internationality of the region can be raised.



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STRATEGIC OPERATIONAL ENTITIES



International and interactive education programmes in business sectors: In South Ostrobothnia the educational structures have already long been developed to meet the thematic business sector needs of the area. A goal will be set that international and business life orientated qualification programmes and supplementary training entities are developed in the thematic business sectors and their focus sectors. This goal supports the recruitment of foreign students and teachers and affects both upper secondary vocational schools and higher education schools.



Internationality, skill versatility and digital education: In the future even more occupations will demand international skills and the ability to adapt to changing work tasks. This affects many service sectors, but also the preliminary manufacturing tasks of industry. The message of business life is that both upper secondary vocational education and higher education must strengthen the development of the international capacity and the skill versatility of their students. This can require the creation of new education programmes or the reconstruction of existing education programmes. Skill versatility is also associated with different forms of digital skills, the importance of which must be noticed in education practices, content and learning environments.



National and international education networks: Besides strengthening the region's own education on offer, connections must be created outside of the region. Close interaction with economic development and the wider business life is expressly connected with the specialisation of South Ostrobothnia. This interaction also requires interaction concepts and tools, with which the yields of national and international education networks can be brought to the province. In practice this means, for example, possibilities for field courses, thesis co-operation work and practice possibilities. The goal is to connect to education networks from outside the region by interaction concepts, which make the practices of the cooperation effective and attractive.



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Regional, national and international expert exchange: An expert exchange promotes skill development and creates the conditions for deepening co-operation. Tools, such as work cycles that enable co-operation, research hotel operations and international scholarship schemes, are required for expert exchanges. These offer researchers in other parts of Finland and abroad, the possibility to join the province's research community. Expert exchanges can also happen between educational institutions and business life. A goal will be set to strengthen operational models associated with expert exchanges in both vocational and higher education organisations.



Recruiting and skill development in companies: The skill development of the region is not only supply-orientated work, which affects different levels of education organisations. It is also essential that the recruitment skills and processes of the region's companies and skill development practices are improved. A goal will be set that a comprehensive research and development programme is started in South Ostrobothnia, which takes notice of the recruitment and skill development processes of international and growth seeking companies.



PHOTO: MASEDORHAISTO, POIJANMANN KOUTTA

5.

SMART SPECIALISATION FOR SOUTH OSTROBOTHNIA AS DEEPENING PROCESS

5.1 Resourcing for smart specialisation

Sizeable investments have been made in the important thematic business sectors in South Ostrobothnia, such as the development of food systems. Regional development investments to the thematic business sectors and their narrower focus areas are continuing. However, at the same time the importance of national and international financing channels is growing. In South Ostrobothnia, EU structural financing resources have decreased substantially when compared to previous amounts, but they remain a significant resource along with EU rural funds financing forms. Competition for EU cross-borders programmes (including Interreg Europe, Interreg Baltic Sea and Botnia Atlantica) and the resources of other programmes is tough and success in international financing applications demands hard work and high quality. South Ostrobothnian actors are able to offer high level skills to different international consortiums. The own activity of the actors of the region and strong international partners enable efficient international financing applications. The following are some of the most important financing possibilities from thematic business sectors' and the development of companies' perspectives.

Food systems and the bio-economy development can utilise the EU Framework for Research and Innovation Programme Horizon 2020. One of its emphases is on the challenges of the bio-economy. Themes are, amongst others, foodstuff safety and sustainable agricultural themes, which excellently suit the profile of the province. In South Ostrobothnia, food systems and the bio-economy have been appointed resources through the *Seinäjoki Green Creative Garden* operations. It is part of the national bio-economy INKA programme, through which it is possible to obtain financing, for example, in the development work of companies of the food and the bio-economy sector. Also, The EU European Agricultural Fund for Rural Development (EAFRD) and Structural Funds are suitable as financing instruments for the development of food systems and the bio-economy.

Smartness and energy efficiency are themes that cut across many EU international programmes, so a number of financing possibilities are found for the development of this focus area. The financing possibilities for traffic and logistic energy efficiency are in EU cross-border programmes, such as in the sustainable transport themes of the Baltic Sea Region Programme and the Botnia Atlantic programme. Energy efficiency promoting financing possibilities are also found under environmental protection and resource efficiency as well as low carbon themes of the Baltic Sea programme and the Interreg Europe programme. The Connect-

ing Europe tool finances projects, which construct missing connections in Europe's energy, transport and digital core network. Thus, cleaner transport forms, ultrafast broadband connections and the use of renewable energy are promoted. The Horizon 2020 programme also finances the development of safe, clean and efficient energy and the creation of smart and environmentally friendly transport. Financing possibilities also for the development of materials and the development of production and processes are found in the programme. Besides the previously mentioned, smartness and energy efficiency can be promoted through regional and national financing instruments.

Service and experience production development applicable international financing possibilities can be found from many sources. Health, population changes and welfare are financing targets in the Horizon 2020 programme. The *Health for Growth* programme is an EU health sector operation programme, which consolidates connections between economic growth and population health. A goal of the programme is to promote innovative and sustainable health care systems as well as the accessibility of medical expertise and information across borders. Tekes also participates in the financing of social and health service innovation. An applicable instrument for experience production is the EU Creative Europe programme, which supports the European operations and co-operation of the audiovisual sector, culture sector and creative sectors. From its culture sub-programme, finance is available for, amongst others, the construction of European networks and forums, and form the media sub programmes for the financing of cinemas and festivals.

Characteristically financing concerning **service and skill entities** is available through regional and national sources. In addition, for example the European Regional Development Fund (ERDF) resources support the creation of new business operations, company growth, internationalisation, the production of new information and skills and utilisation. The European Social Fund (ESF) resources develop education and business life, for example in connecting educational institutions to closer co-operation with companies. The EU European Agricultural Fund for Rural Development's (EAFRD) funds promote entrepreneurship in the countryside. Programmes suitable for business development are also found from Tekes' range. Financing to support establishing companies, growth, internationalisation and innovation is also available in EU cross-borders programmes: Interreg Europe, Interreg Baltic Sea, Botnia Atlantica. They support the competitiveness of SMEs by promoting cross border co-operation. Additionally, all these have the goal of strengthening research, technical development and innovation, by, for example, financing innovation infrastructure. The EU COSME programme (*Programme for the Competitiveness of Enterprises and SMEs*) supports the competitiveness of SMEs. Through financial institutions COSME allocates capital and loan funding and supports access to in-

ternational markets, information distribution and training operations. The EU Horizon 2020 programme has created a simple financing instrument for SMEs for the different stages of innovation.

The horizon 2020 programme additionally funds top-level science: Finance can be found for up and coming and developing technologies, the mobility of researchers and the construction of research infrastructure. A goal of the EU Erasmus+ programme is to improve skills and employability as well as renewing education and youth work. Through the programme, finance is available for student and teacher studies and practices abroad, for educational institutions co-operation as well as for establishing skill cooperatives to support innovation and entrepreneurship.

5.2 Strategy implementation

The principles of strategy implementation

At the core of the smart specialisation strategy are substance choices. A goal is to construct for thematic business sectors a high level, business operations ecosystem, which supports the growth and internationalisation of companies. The central actors in the ecosystem are the companies of each of the thematic business sectors and the interaction with the service and skill structures of the previously described business life organisations. The features of an effective ecosystem are an open atmosphere, local, national and international interaction and the ability make new products out of ideas. In addition to content-based specialisation, competitiveness promoting operational models are required. For this reason the strategy sets ambitious goals concerning service and skill structures.

Based on the strategy process and both content specialisation and the goals of operational policy, the following are outlined as operating principles of the smart specialisation of South Ostrobothnia: 1) bilateral comparative learning, 2) speed, flexibility and impartiality, 3) effective resource utilisation and 4) fairness and reliability.

Bilateral comparative learning: It is important to utilise the province's synergy and learning potential provided by the density of the province and the learning experiences of different sectors. For example, in the food systems and bio-economy theme, the strong foundation for operations is created by vigorous primary production, skills associated with food systems, versatile investments, development platforms and user networks, as well as national and interna-

tional networking. The operational model connected to developing the business operational environment in question can also be adapted in the other strong sectors of the province. Bilateral comparative learning also occurs with those kinds of European regions, which can be recognised as similar for their economic structure and with the same direction for their smart specialisation goals.

Speed, flexibility and impartiality: South Ostrobothnia demonstrates speed, flexibility and impartiality in smart specialisation. This means that besides long-term specialisation, opening possibilities are seized with an entrepreneurial approach. There is a cause for development organisations to emphasise flexibility in their operations, in other words strive to get matters to operate despite obstacles. This is also connected to the idea of impartiality: the solutions to problems are sought from outside of customary practices. An essential part of an entrepreneurship-positive atmosphere is the acceptance of failures and to learn from them. The province's reasonably good change awareness can be further improved by promoting a flexible and impartial development environment.

Effective resource utilisation: South Ostrobothnia must effectively and wisely use the available development resources in regards to smart specialisation. As cost efficient and effective measures as possible must be found. These principles have been followed, for example, in the construction of South Ostrobothnia's university activities. Prerequisites of effectiveness are, that there are not high fences between operations, and it is strived to operate together in a goal directed manner. The utilisation of resources efficiently and effectively necessitates creative and smart combinations of development policies and tools.

Fairness and Reliability: the construction and maintenance of confidential relationships is at the core of the region's development and the success of its companies. In South Ostrobothnia promises are kept. This is not always self-evident, for example in complex and challenging international relations. South Ostrobothnia refines the principles of fairness and reliability into a competitive advantage in smart specialisation, which penetrates business operations such as business development and higher education operations.

Monitoring the Strategy

The monitoring of the realisation of the smart specialisation strategy of South Ostrobothnia will be combined with the monitoring of the Regional Plan and Regional Strategic Programme and evaluation of its implementation. A range of quantitative and qualitative indicators are used in the monitoring. Quantitative indicators of the realisation of smart innovation are, for

example, growth in the number of growing companies, export as a proportion of production and R&D expenses development. Correspondingly utilised qualitative indicators include the following: the construction of food system entities and their associated operational environment, internationality of training in thematic business sectors, the development of the attraction of the province and the strengthening of images concerning South Ostrobothnia.

Primarily it is the responsibility of the Regional Council of South Ostrobothnia to monitor the combined Regional Plan and Regional Strategic Programme and thus also smart specialisation. Permanent work groups are also connected to the monitoring work, which have been preparing the strategy: *the Growth Entrepreneurship Forum, the Higher Education Community Led forum and Team South Ostrobothnia*. With the help of participative methods in the monitoring work, the strategy is reflected by the views, of the actors implementing it, concerning predicted changes in the operational environment. For prediction production, the regional prediction group is closely connected to the entity. In this way it is ensured that the monitoring of smart specialisation becomes a dynamic process, which directs, if required, new directions for, or speeds up, implementation.



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