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Improving Structural Funds for better delivery of R&D&i policies

Regional State of the Art Report

Lapland, Finland

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REGIONAL COUNCIL
OF LAPLAND

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1. Introduction

The State of the Art is the first activity to be performed by the IMPROVE project's partners within the Exchange of Experiences work package.The objective of the State of the Art report is toclarify the current situation in terms of management and implementation of Structural Funds, with a special focus on the policy instruments selected by each partner. Regional reports will help the partnership (and the regional stakeholders) to better work on the improvement of the selected policy instruments and guide the future activities thanks to the identification of the main challenges in each region.

2. Regional profile

The region of Lapland is situated in the very far north of Europe. Some 180,000 people populate an area of 92,662 km, which reflects a population density of roughly two inhabitants / km and area of 30,5% of Finland's land mass. Lapland is the northernmost region in Finland and the EU and it shares a border with Northern Ostrobothnia region, Russia, Sweden, Norway.

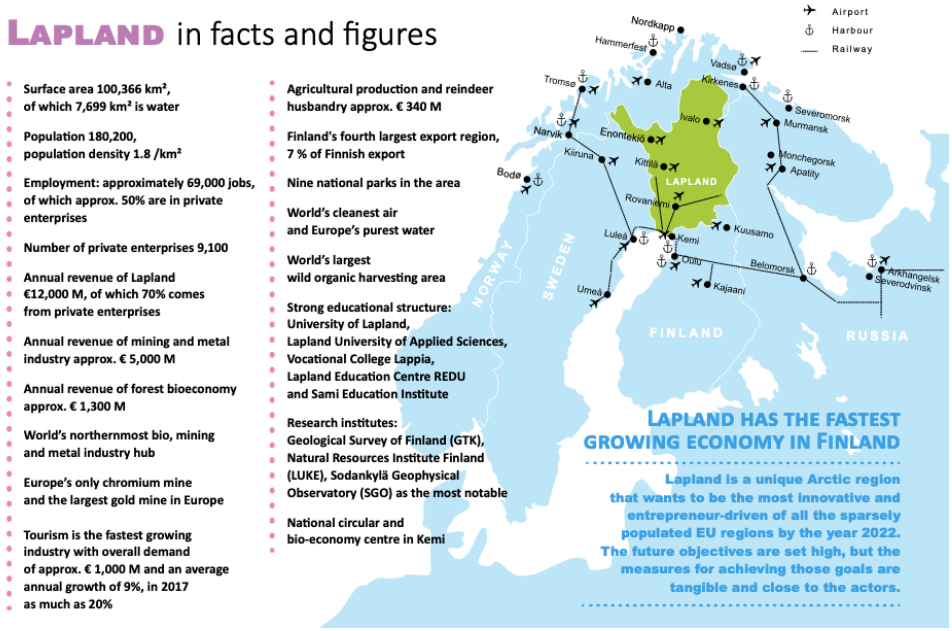

Image 1: Lapland, facts and figures

Lapland's arctic character is present throughout Lapland's identity and activities. Lapland is a small trade-exposed economy which has experienced significant shifts in its forestry, mining and processing sectors. GDP per capita in Lapland was 35 000 € in 2012, which is 82 % of the national average. The economic structure in Lapland in terms of economic specialisation is dominated by mining and quarrying and processing of raw materials followed by tourism / accommodation, forestry and logging and pulp and paper products. The mining industry and related industries are the most significant industries in the region accounting for almost half of the regional GDP and for almost the entire regional export. However, in terms of employment they are less labour-intensive, while the service sector ac- counts for most of the employment in companies. Public sector employment is important in Lapland, but this is also due to a number of military bases in the region.

Metals and forestry industries are the largest employers. The tourism sector is also an important source of income and jobs in the region. Mining industry is an increasingly important employer. The employment situation has considerably improved in recent years. While in 2014 the region featured an unemployment rate of more than 14 percent, the rate declined to 8.8 percent in 2016. At the end of 2019 the

unemployment rate was 11,1% (national average 9,8%). The regional labour market is underperforming but converging to the national average. In 2019 the regional employment rate (67,7%) has been lower than in Finland (70%). Due to demographic dynamics (fertility rate is lower than the mortality rate and there is net emigration), Lapland will need more labour from outside the region in the years ahead to meet the industry's demand for skilled workers.

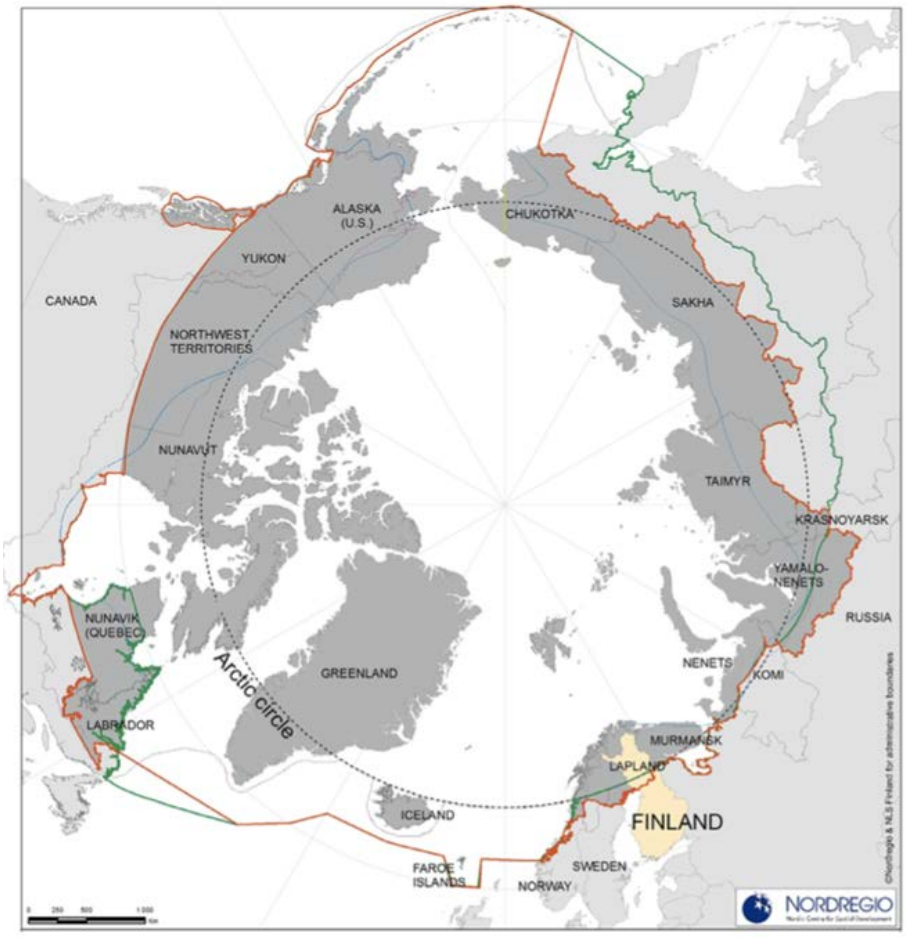

Image 2: The Arctic context

Although Lapland is the northernmost region in the EU, and one of the most peripheral ones, the international dimension has always been part of the everyday lives of its people. Lapland is the only Arctic region in Finland that is surrounded by three other Arctic countries.

Lapland consists of 21 municipalities and 6 sub-regions. The population of the main administrative and service centre of the region, Rovaniemi, is 61 838, which constitutes 34% of region's population. Other main residential centres are Tornio and Kemi. Lapland's population is sparse, declining and ageing. Population decline is led both by natural population changes and by migration trends. Most municipalities in the region have experienced population declines in recent years. Between 2005 and

2015, only Rovaniemi municipality and one other experienced a population increase. The population of the region is declining and ageing at a rate which is faster than the country average. Young people, particularly those with skills, are leaving, which is off-set somewhat by international migration.

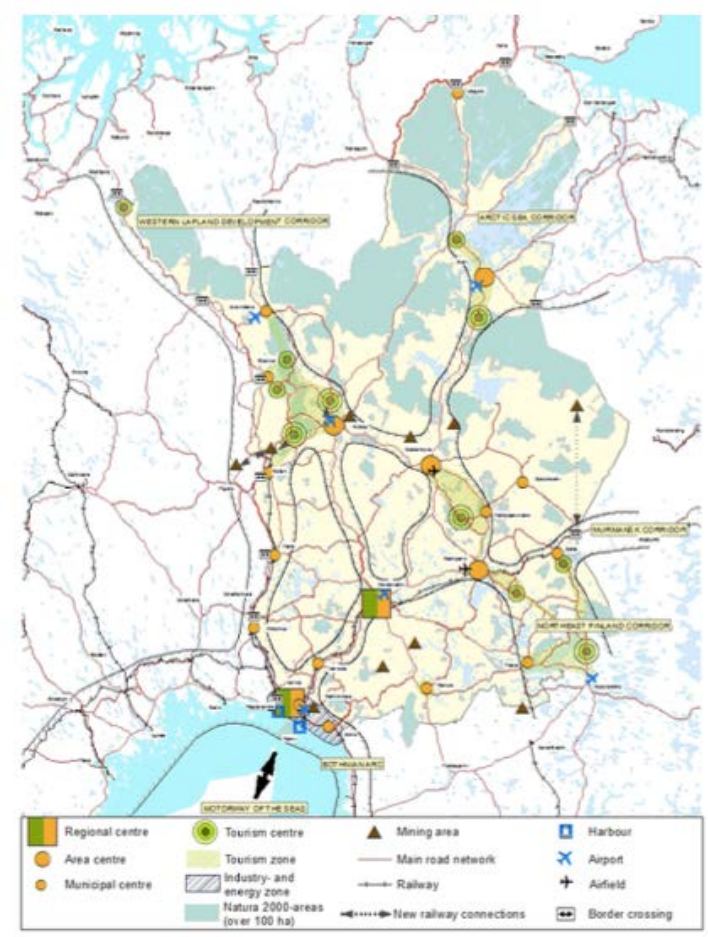

Image 3: Lapland's regional structure

Relative to other remote rural regions in the OECD countries, Lapland has a high level of prosperity and well-being. However, this position, to a considerable extent, reflects ongoing support from the Finnish national government that provides a high level of social services across all the national territory. This underlines the importance of possible changes in national and regional policy making for Lapland.

Compared to the national average, the quality of infrastructure is generally high but expensive to build and maintain due to the large land area, low population densities and Arctic climate. It takes close to 9-10 hours to travel from the coastal town of Tornio to Kirkenes, Norway. Lapland also has two border crossings into Russia, at Rajajooseppi and Salla. The journey by road from Rajajooseppi to Murmansk takes a little over 3 hours. Rovaniemi is in relatively close proximity to Luleå in Sweden (3 hours by road) and Oulu (2 and half hours). Lapland is a long way from the national capital. It takes 10 hours by road and 1 hour and 15 minutes to fly. Rovaniemi airport has five daily services to Helsinki, and seasonal

services to a range of destinations including Berlin, Amsterdam and Paris. There are also seasonal winter flights to the towns of Kittila (from Munich and Dusseldorf) and Ivalo (from Frankfurt). Kemi and its surrounding area is an important transport and logistics hub. The Port of Kemi provides year round services and is an export point for forestry and mining goods.

In terms of geographical patterns Kemi-Tornio in the South of Lapland and Rovaniemi are the economic centres of the region. Not only roughly two-third of the population settles in these areas, but also the majority of businesses are located there. While the economy of Rovaniemi is mainly structured by the presence of the regional administration, educational institutions and the service sector, the industrial centre of Lapland is located in Kemi-Tornio. In terms of employment in the manufacturing sector Kemi-Tornio is key, accounting for 73.6 % of the total employment in the region's manufacturing sector.

The regional economy depends to a large extent on a small number of large multinational corporations including Stora Enso, Metsa Group and Outokumpu steel plant plus a number of other mining companies. Most of the manufacturing and service SME are affiliated with these companies through supply chain networks.

The mining industry (iron ore, nickel, gold and platinum) has been the fastest growing sector in recent years. With a number of mining projects in the pipeline, there seems to be no end to this development in the near future. The total investment potential in the mines is estimated to EUR 9.1 billion, which will of course have positive effects on the development of mine-related businesses. Already now it can be stated that the mining industry and technology are changing the business community in Lapland. Investment projects both in Lapland and neighbouring regions have developed several centres for companies which sell services to projects and mines and are doing all kinds of maintenance.

Lapland's economy has historically been based on the extraction and use of natural resources. Forestry and pulp and paper production has traditionally been a key export industry for the region. Mining for gold, chrome, copper, lithium and phosphor is also important to the region's export base Lapland attracts increasing economic interest, due to both the region's location and natural resources, and significant investments in bioeconomy, mining and tourism.. In addition to the three operational mines in Lapland, seven new projects are also being planned, with the planned investments in them totaling over four billion euros. Almost all the mining companies operating in Lapland are currently foreign. The planned major investments in the bio-industry will, if realized, bring a significant increase in the current volume. Large forest industry projects are significant employers both in the investment and operational phases, and significant employment effects are generated throughout the value chain.

Agricultural production in the region has focused on milk and dairy products. These traditional industries have been exposed to international competition and have lifted productivity through mechanisation and increasing economies of scale. In recent decades, tourism has become more important to the Lapland's export base. The region has been able to leverage its comparative advantages associated with its

unique landscapes, culture and Arctic climate. Since 2000, the key shifts in the regional economy have been the rise of mining and the decline of manufacturing.

Tourism in Lapland has been growing steadily and significantly faster than the average international growth pace of the industry. The importance of tourism in the regional economy of Lapland is significant, as the share of tourism in GDP was 5.7 percent (Finland average 2.5 percent). The tourism sector consists of different industries, such as accommodation, restaurants and program services. Growth has been the fastest in the program service sector, where turnover grew by up to 20 percent in 2018. In 2019, Lapland's tourism gave employment for up to 8,000 people taking into account the seasonal workforce.

With the University of Lapland and the Lapland University of Applied Sciences, two higher education institutions exist that are well connected to public and industry stakeholders. With around 4,000 graduate students at the University of Lapland and around 5,000 students at the Lapland University of Applied Science, both institutions are small, but host a number of faculties that are relevant for the region's economy. Both universities have strategies that address the developmental needs of the region; e. g. in terms of responsible tourism (University of Lapland) or smart use of natural resources and the development of businesses and entrepreneurship (Lapland University of Applied Sciences). Vocational training is serviced by a number of different institutions including the Vocational College Lappia, Lapland Vocational College, Lapland Tourism College, the Vocational College of Eastern Lap- land and the Sámi Education Institute.

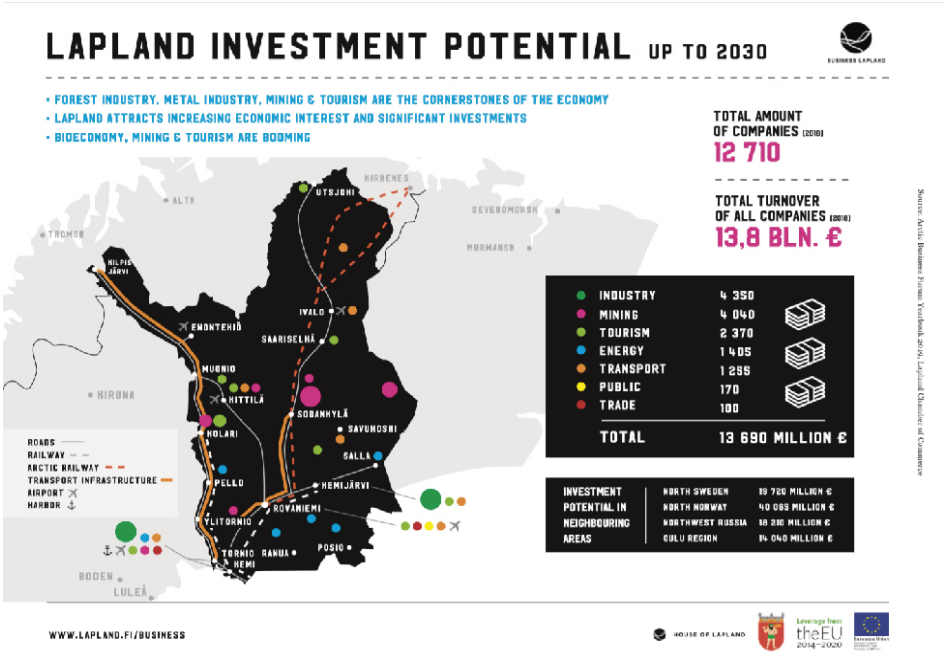

Image 4. Lapland investment potential

Lapland is trade-exposed economy and Lapland accounts for 7% of Finland's total exports. In terms of export per capita, Lapland is third among Finland's regions. 29 % of the enterprises have export or business abroad. However, the economic fabric consists mostly of micro and small enterprises. 94% of Lapland's enterprises are micro enterprises with less than 10 staff.

High-tech sectors in Lapland are particularly underdeveloped. The share of employment in high-tech knowledge intensive services was 2.4% in 2013, which was about one-quarter of the national average. These findings are not surprising given the small and peripheral nature of the economy, and emphasise the importance of developing linkages with specialised business and research services from outside of the region.

Innovation activity and enterprise creation is fairly low. RDI expenditure was 316 € per capita (2016). The number of new enterprises as well as patent density are significantly lower than the national average. In 2013, the number of new enterprises was 80% of the level in 2005, which is lower than than the national average and the worst trend among the northern sparsely populated regions in Finland. Entrepreneurs make up 12% of total employment, which compares similarly to the national average of 11%. Patent intensity was significantly below the national average of and other northern sparsely populated regions. This is not surprising given the peripheral nature of Lapland's economy.

Expertise in Lapland rests on the network of higher education institutions, vocational institutes and sector research institutes

- University of Lapland. Fields of education and research include pedagogy, tourism and business, law, social sciences and the Arctic.
- Lapland University of Applied Sciences. The northernmost higher professional education institution in the European Union specialised in Arctic cooperation, expertise in northern borders, promoting the intelligent use of natural resources, management of distances, and security expertise
- The Arctic Centre of the University of Lapland specialises in multi-disciplinary Arctic research into global change, sustainable development, environmental and minority rights, and Arctic informationstructures.
- Two vocational colleges
- Sami Educational Institute
- The Geological Survey of Finland is a leading European expert in the assessment, research and sustainable use of mineral resources.
- Natural Resources Institute Finland (LUKE). Researchers and specialists working in Luke provide new solutions towards the sustainable development of the Finnish bioeconomy and the promotion of new biobased businesses.
- Lapland Meteorological Centre in Sodankylä is a versatile, highly sophisticated observation and research platform for projects, which are conducted by its own staff and visiting researchers.

- Sodankylä Geophysical Observatory is a national institute that operates under the University of Oulu. The purpose of the observatory is to carry out running geophysical measurements for the needs of research and practice.
- Arctic Smartness Clusters: Arctic Industry and Circular Economy, Arctic Smart Rural Community, Artic Development Environments, Arctic Design, Arctic Safety

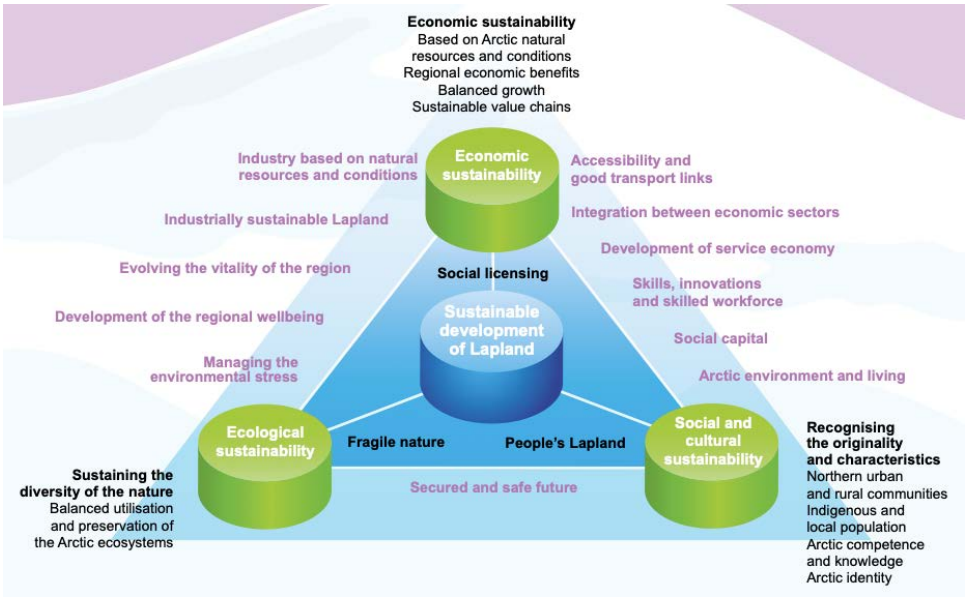

Image 5. Sustainable regional development in Lapland

Economic transformation in East and North Finland

A recent OECD study has recognised the contribution of the wider region of East and North Finland (ENF) to the economic growth of Finland and the EU, thanks to its raw materials, commodities and related manufacturing for export (e.g. minerals, chemicals and paper products), services and significant environmental assets.

Industries utilising and processing the natural resources in the ENF provide the foundation for economic development. The regional ecosystems have traditionally been a mix of large, medium, and small-scale actors. Industrial activities among them have catalysed a number of innovative start-ups, in close interaction with regional RDI actors. The creation of growth-oriented companies has, however, largely concentrated in large university towns. This has left the mostly rural region at the mercy of a ruthless population decline.

It is challenging to maintain the preconditions for sustainable development under Northern conditions of harsh climate and fragile nature. Therefore, introducing the principles of circular economy and resource

efficiency to all industrial sectors and enterprises of all sizes is crucial for the sustainable economic development.

The aim is to merge ENF region industrial ecosystem to provide a diverse breeding ground for new emerging industries, supporting the management of industrial symbiosis, new energy solutions, renewable low-carbon materials and clean-tech solutions to all industrial sectors. The tourism industry is increasing its importance in the regional economy.

Regional S3 strategies are geared towards sustainable capitalisation of the natural assets of each region, increasing regional ”added value” and making most efficient use of the skill set of its population. The aim is to strengthen regional industry's ability to continuously adapt and innovate by facilitating investment in new technologies and embracing changes brought on by increased digitalisation and the transition to a low-carbon energy and circular economy. The key challenge is training and upgrading the, partly outdated, skills of the available workforce.

The ENF regions recognise that due to their remoteness and thus higher production costs, the key policy question is ‘how to add value around the unique, immobile assets’. Smart specialisation is therefore seen particularly suitable. Broad-based innovation has a long history in the region thanks to a limited number of easily accessible key players and low hierarchy. The region fosters an open, inclusive and participative method to achieve a higher integration of regional RDI assets.

Finland’s northern sparsely populated regions faced significant challenges in the period 1995-2012 following the industrial transition caused mostly by the fluctuation of global markets and prices of key commodities. Examples include the declined demand for pulp/paper and the subsequent closure of production facilities and cancelled investments in the mining sector due to market shocks. According to the policy recommendations of the OECD (2017), a place-based approach to regional development will be crucial to supporting growth and industrial transition and investing in key enabling factors (innovation, skills and infrastructure).

In sum, Lapland is a small trade-exposed economy which has experienced significant shifts in its forestry, mining and processing sectors. The forestry sector has continued to restructure with less requirement for labour as technologies improve. Mining has been boosted by higher commodity prices over the past decade, whilst manufacturing and processing have been affected by countervailing forces and declining competitiveness. These forces have created a number of different growth dynamics within the region. Mining growth has led to increased investment and associated services within the region, and recent declines as commodity prices have eased. Firms have been able to respond to these shifts by shedding labour but this has led to lower employment growth. These shifts, combined with recent declines in commodity prices, present risks for the region. The absolute advantages of the region lie in its mineral and forestry resources, strategic location close to the Arctic, lakes, mountainous landscapes and wilderness areas, and its Arctic climate and Sami culture.

However, the region does have some strengths and areas for future growth potential. This includes developing new ways to use its forestry resources, future mining developments and tourism. Taking advantage of these natural resources in different ways will require improving performance in a number of areas but in particular in relation to innovation and entrepreneurship, and the provision of broadband.

In a recent report by European Cluster Observatory, transport infrastructure, availability of interdisciplinary skills and innovative SMEs collaboration with other have been identified as potential areas for improving the regional innovation and entrepreneurial ecosystem in Lapland. Collaborative technology development, technology transfer and R&D were not seen yet to feature high on the strategic agenda which is not surprising given the specific characteristics of the local industry, the existence of just two universities and the situation of the regional innovation ecosystem as described in the previous chapters. The report recommends that given the small size of the regional economy and the small number of stakeholders in industry and the research sector that are actually capable of implementing these actions, the Regional Council should prioritize smart specialisation actions.

The priorities of Lapland's Arctic Spesialisation Programme are refining of Artic natural resources, utilising Arctic natural conditions and pursuing cross-cutting development enabling Arctic growth.

Image 6: The backbone of Lapland's economy and new emerging industries

Arctic smartness and the role of clusters to support the entrepreneurial growth and knowledge building

The Lapland – an Arctic and international highflyer -strategy prioritises smart specialisation actions that support international growth. The implementation of the strategy requires strong expertise of the entire region, as well as innovation activities and a regional ecosystem, which together create a foundation for sustainable growth and international business.

In addition to long distances, the shrinking and aging population presents challenges for the development of Lapland's economic structure. 96 % of enterprises in Lapland are microenterprises, the majority of which are not necessarily looking for growth for their business. However, a new business culture is simultaneously developing in Lapland, creating a foundation for a new kind of high-growth entrepreneurship. The development of industrial service enterprises and the increase of tourism have affected the development of other industrial fields and created a positive impact on the regional economy of Lapland.

In Lapland, the future business investments will be based on the sustainable utilisation of natural resources and conditions, and on increasing the value added. A strong SME sector is emerging in Lapland alongside the industrial sector, and it supports the large-scale industry by building sustainable local solutions in circular economy and providing industrial services. The large-scale industry forms the backbone of Lapland's and Finland's economy, which is then levelled out by the development of the SME sector.

The economic development of Lapland is built on supporting the regional actors' capacity to develop international business. In addition, the initial idea is to create a positive environment for innovations and support commercialisation. Lappish enterprises and research, education and development organisations have unexploited Arctic ideas that can be commercialised, but need special support for this purpose.

Lapland has a versatile education and research network that can provide laboratories and testing and development environments. There are also private testing environments for cold conditions. Lapland must continue to invest in the use of Arctic expertise and innovation environments. By utilising the potential of knowledge platforms, it is possible to create a Lappish operating model in which educational institutions, research institutes, and other actors are integrated in a new way into the development of the regional industry. By creating knowledge platform networks and introducing the international TRL practices as part of the co-operation, we can generate good business models.

The Arctic Smartness clusters represent a new way of cooperating across organisational boundaries and developing new regional value chains. The core of cluster activities is to create growth and innovation opportunities for SMEs in Lapland. The clusters functioning in Lapland have established a

foothold in regional development work and discovered their own networks in international arenas as well.

In 2016, the five clusters of Lapland received the Bronze Label of the European Secretariat for Cluster Analysis (www.cluster-analysis.org). In 2017, the Rural cluster and the Industry and Circular economy cluster secured the Silver Label. The clusters are being developed further in order to meet the needs of SMEs and cluster organisations. Already now, the cluster is seen as a model in the field of rural development against global challenges.

Arctic Industry and Circular Economy

The Arctic Industry and Circular Economy cluster aims to develop its leading position in exploiting and commercialising Arctic natural resources and conditions while maintaining a balance of sustainable development. A mix of industrial expertise and commitment to sustainable development are at the core of refining natural resources in the Lapland region. We are reaching the vision by promoting regional clusters and ecosystems of emerging industries that focus on refining natural resources throughout the value chains.

Arctic Smart Rural Communities

the base for our business is nature. The mission of Arctic Smart Rural Community is to avoid capital outflow from rural Lapland and create new innovative enterprises based on circular economy. The cleanest corner of Europe offers a surplus of raw-materials to a wide-range of smart resource-intensive businesses. Our goal is to transfer the added value of local natural resources for the benefit of the communities.

Arctic Development Environments

The Arctic Development Environments cluster is serving as a supporting network to all clusters by e.g. enabling technologies to all industries and especially SMEs. The tool for measuring the performance and effectiveness of innovations is the Technology Readiness Level (TRL). TRL is used as a meter to indicate the level of a cluster's readiness to produce development services to the market.

Arctic Design

Smart regional specialisation creates world class design. The main purpose of the Arctic Design Cluster is to make local businesses, products and services nationally and internationally competitive by utilising smart specialisation. The heart of the cluster is the Arctic Design Centre of Expertise created by the Faculty of Art and Design of the University of Lapland.

Arctic Safety

Safety through regional and interregional cooperation. The aim of the Arctic safety cluster is to strengthen interregional networks and safety business opportunities. The cluster brings together companies, authorities, research and educational organisations, NGOs, regions and towns.

Arctic Sustainable Tourism Ecosystem - newcomer

To create a unique innovation business ecosystem for tourism in Lapland, and based on the smart specialisation program in Lapland, the project will make visible the Arctic tourism business ecosystem in Lapland, develop network co-operation and the division of tasks between the actors, and raise awareness of the Arctic tourism know-how of Lapland. Profiling as an Arctic tourism business ecosystem is a catalyst for cooperation between the tourism industry and research, education and development organisations.

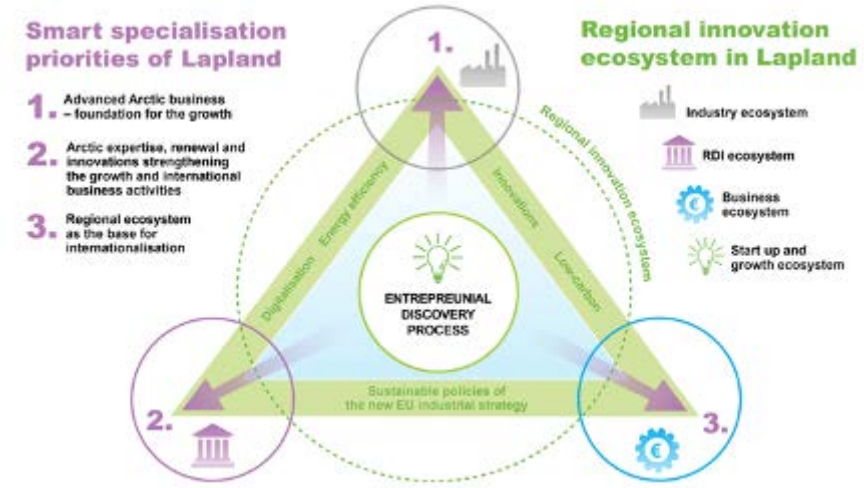

Image 7. Smart specialisation framework

3. The policy instrument

3.1. Overall description of the policy instrument

Programme and its financing allocation

"Sustainable growth and jobs 2014 - 2020 - Finland's structural funds programme" has five priority axes and 13 specific objectives. The priority axes (in ERDF) and their goals are:

1. Competiveness of SMEs (ERDF)
- Generating new business
- Improving transport and logistic connections that are important to SMEs (only in Eastern and Northern Finland)
- Promoting growth and internationalisation of enterprises
- Promoting energy efficiency in SMEs

2. Producing and using the latest information and knowledge (ERDF)
- Development of the centres of research, expertise and innovation on the basis of regional strengths
- Strengthening innovation in enterprises
- Developing solutions based on renewable energy and energy-efficient solutions

The European Union contributes EUR 1.3 billion to the funding of the programme. With equal amount of national public co-funding, the total volume of the programme is EUR 2.6 billion. The state accounts for 75 per cent and municipalities and other parties for 25 per cent of the public funding.

Financing for technical assistance is about EUR 39 million and funding allocated for national activities (10% of the ERDF contribution and 25% of the ESF contribution) is about EUR 171 million. The remaining part of financing is funding under regional decision-making.

Of this EU contribution coming under regional decision-making (about EUR 1.089 billion), two thirds are ERDF funding (EUR 716 million) and about one third is ESF funding (EUR 373 million).

East and North Finland account for 70.9 per cent and Southern and Western Finland for 29.1 per cent of the regional funding.

Lapland's ESIF allocation declined to 2014-2020 MFF, while the permanent challenges remain. Simultaneously, ESIF technical assistance declined even more sharply due to national decisions, leading to personnel cuts at the level of ESIF intermediate bodies, reducing the resources for project development support. Furthermore, strict national interpretation of ie. the de minimis and no profit rules

leave organisations with limited possibilities to carry out tangible, ERDF funded actions with a genuine connection to the product development of the SME's.

Administrative structure

Ministry of Economic Affairs and Employment of Finland acts as a Managing Authority, selected regional state organisations (Centres of Economy, Transport and the Environment) and Regional Councils act as intermediate bodies.

Aims of the Instrument (ERDF)

Under the priority axes **Competitiveness of SMEs**, the aims are:

Generating new business

- The actions taken in accordance with the specific objective will primarily generate new, knowledge-intensive enterprises and business activities by supporting the start-up of new enterprises and the development of new business and the productisation and commercialisation of the ideas, products and services presented by SMEs.

Improving transport and logistic connections that are important to SMEs (only in Eastern and Northern Finland)

- The actions taken in accordance with the specific objective will improve the competitiveness and operational prerequisites of enterprises, availability of services and logistic efficiency by means of sustainable transport systems, services and logistic cooperation. Links with TEN networks and transport hubs, such as airports, ports, industrial and logistics areas and tourist sites will be improved. There will be smart traffic solutions improving the efficiency of the transport sector and solutions promoting the coordination of different modes of transport.

Promoting growth and internationalisation of enterprises

- The actions taken in accordance with the specific objective will lead to an increase in the number of growth-oriented SMEs. New SMEs start exports or enterprises that are already internationally oriented will start exports in new business areas.

Promoting energy efficiency in SMEs

- As a result of the actions taken in accordance with the specific objective, the energy and material efficiency of the operations, products and services of SMEs will improve through the introduction of new solutions improving energy efficiency, while at the same time enterprises will be able to save energy in their operating processes. Greenhouse gas emissions will be reduced.

Funding may be granted for the start-up of new enterprises and the development of new business improving business expertise and internationalisation skills; investments and development projects in SMEs that promote growth, internationalisation and competitiveness; the development of business

clusters, business networks and other forms of business co-operation; transport and logistic connections as well as smart transport solutions that support SMEs. At least 25 per cent of the actions will be directed at the launching and development of low-carbon business.

Under the priority axes **Producing and using the latest information and knowledge**, the aims are:

Development of the centres of research, expertise and innovation on the basis of regional strengths

- The actions taken in accordance with the specific objective will result in new centres of innovation based on regional strengths and smart specialisation. In accordance with smart specialisation of regions, R&D investments will grow and the innovation base will expand. Growth is possible because the research and development environments of applied research will be improved and new ways of producing innovations will be found. Smaller research units will develop into centres of excellence and the ability of higher education institutions and research organisations to conduct top-class research will improve. Strengthening of the science and technology base will also help to create new green and creative business and prerequisites for the renewal of industrial value chains, which is essential for the creation of new jobs in regions.

Strengthening innovation in enterprises

- The actions taken in accordance with the specific objective will help to increase R&D investments in SMEs and generate new business. SMEs will develop, place on the market or introduce new or improved products, production methods, technologies or services.

Developing solutions based on renewable energy and energy efficiency

- As a result of the actions, there will be an increase in RDI connected with renewable energy, energy efficiency and material efficiency, which will allow an increase in the proportion of renewable energy sources in energy production and the development of business based on renewable energy solutions and energy and material-efficient solutions and strengthen the competitiveness of the enterprises. The actions will help to promote the competitiveness and efficiency of the energy purchasing, production and distribution chain as a whole. In particular, there will be opportunities for new energy services, business operations in rural areas and decentralised energy production solutions. The measures will lead to a reduction in greenhouse gas emissions.

Funding may be granted for research, development and innovation activities in infrastructure improvements that promote regional economies; the development of centres of research, expertise and innovation, RDI environments and development platforms; the promotion of international RDI co-operation among universities, higher education institutions, research institutions, vocational institutions, general government actors and enterprises; SME product, service and production method development, piloting, commercialisation and adoption of new technologies; the development of applied research

supporting the national economy as well as the development of operating, service and commercialisation processes.

At least 25 per cent of the activities will be directed at the development of low-carbon solutions.

3.2. Design of the policy instrument

Linkages between strategies and the policy instrument

The Policy instrument in question is Finland's national EU structural Funds –programme for 2014-2020. Hierarchy of the EU/ national/ regional programmes and strategies is multidimensional. On one hand, financing from national Structural Funds programme is used for implementation of regional programmes and strategies but on the other hand, regional RIS3 is a condition for the use of that financing.

In Finland, the regional RIS3 strategies were mainly prepared to be ready just before the Structural Funds programme for 2014-2020 was opened. Regional RIS3's fulfilled the pre-condition for the use of ERDF, Finland does not have a national RIS3 strategy. Regional RIS3 strategies and Regional development programmes are prepared either as one document or separate documents that fulfil each other. In addition, in Lapland, the strategy of Lapland higher education is prepared to support these strategies.

As the policy instrument is a national level document, decisions on its main content and thematic orientation is done on national level. The main decisions on the content, structure and financing allocations are taken by the Government, therefore the political aspect is strong. After having decisions on main features, more detailed design of the policy instrument is involving also regions. Regions are involved mainly by the Regional Councils, which are politically led organisations. In the Finnish legislation, Regional Councils carry the responsibility for regional development. Regional Board and Regional Council consist of political representatives nominated by the municipalities. Due to political leadership in Regional Council, political commitment is obvious as the design of the policy instrument is handled in Regional Board in different stages; when launching, in the middle and finally, when the document is ready.

Design of the policy instrument, as such, does not guarantee that it brings the desired change in the target group. Allocation of financing from Finland Structural Funds programme is divided to regional use according to different criteria. Financing that is allocated to the region is further allocated to the stakeholders via Call for Proposals. In the evaluation criteria of the Call all regions use their own regional strategies and priorities. Thus, as the success of regional implementation measures the success on regional level, success of implementation in all regions measures the results of the whole programme.

Financing used for implementation of Lapland RIS3 mostly comes from ERDF and supporting national financing. Also, during recent years, financing from other EU programmes has also been used, which has been one of the strategical goals of the RIS3. National financing from the state is only a minor part in regional development. Municipalities and other stakeholders also use their own resources for development projects.

The Joint Operational Program is created on national level, priorities and requirements are valid for the entire country. The programme is managed by a national ministry and implementation practises are similar to all regions in Finland despite of big differences in regional challenges. Therefore, it cannot directly be said that the whole instrument, as such, responds to the regional target group needs. Nevertheless, as the financing of the policy instrument is allocated to the regions, the regions can evaluate the needs of their target groups and prioritise such actions that are mostly needed in the region

ERDF financing is mainly distributed by regional intermediate bodies, which supports implementation of regional RIS3's. The second instrument, ESF, is not so closely linked to RIS3, part of its use is decided on regional level and part is decided on national level. Closer links btw ERDF and ESF should be developed via linking also ESF to RIS3.

The East and North Finland planning area is, in its entirety, considered one of the EU's northern sparsely populated regions. The geographical challenges specifically related to the area and development possibilities are taken into account in the regional plan for East and North Finland. The regional plan for East and North Finland supplements the national Sustainable Growth and Employment structural fund programme. Region-specific governance models should be improved; micro-sized companies and organisations in vast region with sparse population need different kind of support than the companies and big universities in capital region.

The major region of Northern Finland has faced great challenges during the programme period. The most significant of these is the expansion of globalisation, climate change, energy prices and changes in energy policy, as well as aging of the population structure and population decline in broad areas. Northern sparsely populated areas have significant development potential, e.g. in the form of sustainable utilisation of natural resources, in the utilisation of arctic technology and expertise throughout Europe and as an enabler of new global accessibility and transport options. Financing from structural funds is used to deal with these challenges.

3.3. Policy mix ingredients

The institutional structure of regional development in Finland requires cooperation and coordination between the state and municipalities. Regional Councils are joint regional authorities and their members are the municipalities in the corresponding geographical regions. The councils operate according to the principles of local self-government and they articulate common regional needs and long term development goals and conditions for sustainable development. Regional Council acts as a regional development authority in its region and is responsible for the regional development strategy and overall regional development in cooperation with State authorities.

ELY centres function as the country's regional state administrative authorities and they promote regional development by managing the central government's implementation and development tasks. In Lapland, the Regional Council and ELY centre are the main intermediary bodies responsible for the allocation and use of structural funds. Third organisation is Business Finland that offers funding for research and product development, services for business development and internationalisation, and programs and networks. In ERDF funding Business Finland's focus is on public research and research institutions.

The Regional Council is responsible for the elaboration of a Regional Program and co-ordination of the programming process. The Regional Program is a document which defines the main priorities for regional development. Different stakeholders carry out projects which aim at achieving the defined goals. The Regional Program is a guideline for all authorities dealing with regional development funding.

The policy mix of ERDF in Lapland includes direct and indirect forms of support. The roles and tools available for the Regional Council, ELY centre and Business Finland are different and in some cases they may overlap.The Council funds projects that are public by their nature and eligibility criteria: applicants are public organisations with an aim to work for the benefit of the SMEs within the context of the programme's priorities. The results of these projects must be available and disseminated to all actors. While SMEs are regularly involved in projects, these do not include grants for businesses, and the aim is to provide indirect support for companies, eg. build capabilities, networks and clusters, develop better services or support investments in innovation and learning environments.

ELY centre has a policy mix of its own that includes support and grants for SMEs directly (development and investment projects). This is a major priority in ELY centre financing in Lapland. Project funding is also made available for the development of business environments in general. This is similar to the Councils support for municipal actors such as development agencies, and requires coordination. ELY centre also provides ERDF funding for research centres in the field of environment and natural resources.

Business Finland's (BF) aim is to strengthen and diversify the provision of funding for early-stage companies in Finland. The Ministry of Economic Affairs and Employment is responsible for controlling

Business Finland and preparing legislation that concern its activities and funding. BF offers funding for research, product development, and many kinds of business development needs, especially for small and medium-sized companies. In the context of the policy instrument and ERDF specifially BF offers research funding via public research centres and organisations. For different reasons, Business Finland hasn't been an active intermediary organisation for several years in ERDF funding. We will therefore focus on the policies of RC and ELY centre.

3.4. Map of the policy mix

Map of the offer of support services showing the coverage of the entire life cycle of an enterprise (value chain):

Table 2: Map of the Policy mix

Objective	**Dedicated tools**	**Practice references**
Increasing the number of enterprises engaged in R&D activities	-Enterprise/university networks -Grants for R&D activities -Feasibility studies to access grants -Research intensive clusters -Grants for development agencies and networks	-Clusters, e.g. Arctic Industry and Circular Economy and Arctic Smart Rural Communities -"TEQU" model, Lapland University of Applied Sciences -Arctic Business Concept network
Increasing the number of enterprises engaged in transnational R&D activities	-Advice and support for feasibility studies to participate in transnational consortia	-Arctic Smartness clusters
Commercialisation of R&D results through spin-offs/ start-ups	-Proof of concept -Seed capital -Incubator -Prototyping -Fab labs -Living labs -Accelerator	-"SINCO" service design environment & "ARCTA" design services for SMEs / University of Lapland -"TEQU" technical & commercial & design services /

		Lapland University of Applied Sciences
Supporting service innovation	-Living labs -Grants	-Santasport / sports and RDI -Arctic Development Environments -"ENVI", virtual environment for health care service development
Improving the quality of R&D+I infrastructure	-Grants	-Arctic Development Environments
IMPROVE – Supporting the introduction of new innovative products/ services to the market	-Coaching/mentoring -Market replication -Pre-commercial procurement	-e.g. business services of Vocational College REDU and University of Applied Sciences
Supporting social innovation	-Incubator -User-driven innovation	-"VIRTU", virtual platform for social and health services
Improving product/ service/process quality	-Coaching/mentoring -Living labs -Design	-ARCTA -TEQU -Arctic Development Environments
Increasing export turnover	-Coaching/mentoring -Soft landing	-Business Development Agencies and Regional Tourism Organisations
Access to external funding sources	-Investment readiness -Public financial engineering scheme	-"Arctic Investment Platform" initiative, Regional Council of Lapland -Invest in operations
Hiring qualified staff	-Vocational training schemes -Student and PhD placement	-European Social Fund and national funding
Improving resource efficiency	-Coaching/mentoring -Grants	-e.g. direct grants for SMEs / ELY Centre
Access to high value-added support services	-Clusters	-Arctic Industry and Circular Economy Cluster
Enhancing growth	-Coaching/mentoring -Financial engineering	-Grants for SME investments / ELY Centre
Enhancing innovation management	-Mentoring / coaching -Vouchers	-Grants for SME business development / ELY Centre

Increasing the number of SMEs engaged in cooperation	-Clusters -Meet the buyer -Matchmaking	-"Arctic Smart Growth" project -Arctic Business Concept -Regional Tourism Organisations

3.5. Implementation methods

There are two calls per year for ERDF (together with ESF) projects. The calls are designed and coordinated by the Regional Council jointly with ELY centre and in coordination with other regions of East and North Finland. The calls may have specific aims and themes that are defined by the Regional Management Committee(s). These can be related to specific goals of the policy instrument, or they can be strategic themes, such as smart specialisation, attractiveness of the region, or as was the case with the latest call, COVID-19. Regional criteria for project evaluation and funding may be applied.

The calls are publicized in local papers, the web sites of intermediate organisations, and on a national online service structuralfunds.fi. Information is shared via many networks and specific info days are occasionally organised. When closed, the call's results and list of project proposals are shared for authorities, the Secreteriat and the Board of the Regional Council.

All project applications, project evaluation, decision making and financial procedures are managed within a EURA2014 system, a structural fund information service that is browser-based. The system is maintained by the Ministry of Employment and the Economy. Users can also search for information on ERDF and ESF projects.

Project evaluation, negotiations, proposals for funding or rejecting, and supervision of accepted project's implementation are managed by intermediary organisations' experts individually. On the basis of the officials' analysis, projects are reviewed in a joint working group, and approved by the Secretariat of RMC, and RMC when project's EU funding exceeds 400.000 euros or it is viewed to be especially important for regional development. Part of the projects are inter-regional and go through a similar process in each region. The final approval and decision is made by each intermediary organisation.

The selection of projects is guided by the criteria set out in the policy instrument. These include common requirements for all project, including questions about meeting the programme's description of goals and actions that may be supported, the applicant's financial status, the expected impact of the project etc. Each project also goes through a priority based evaluation that is based on the policy mix of the chosen priority. Each section of criteria is rated from 1 to 5. The minimum score for approval is 50% of the maximum points. Projects are usually rejected either for not meeting the compulsory criteria required from all projects or for scoring too low on evaluation. Some of the most common causes for rejection are that the proposed project does not fit the programme's actions, the plan is not designed properly, or

the linkage to SMEs is insufficient. All projects require funding from applicants and beneficiaries (usually 20% of overall costs).

3.6. Budget

ERDF budget	2018	2019	2020
Priority 1	7,6	13,2	6,6
Priority 2	7,1	13,9	7,0
Total	15,5	27,1	13,6
ELY centre	*8,7*	*18,7*	*9,3*
Regional Council	*5,9*	*8,5*	*4,2*
Business Finland	*0,8*		

ERDF Annual Budget:

- share of ELY Centre's grants for SMEs: appr. 50% of total ERDF funding

ERDF projects (direct funding for SMEs excluded)

- 231 projects (20.5.2020)
- Average funding per project: 250.000 €
- Maximum funding: 80-90% of total costs

ERDF grants for SMEs

- 454 projects (20.5.2020)
- Average funding per project 143.000 €
- 80% of funding for micro or small enterprises

3.7. Governance

In the Finnish system, each region has a Regional Management Committee (RMC) that coordinates regional development actions in its area. The main task of the RMC is to coordinate Structural Funds policy and national regional development funding. The RMC approves the regional implementation plan, which defines development policies and the annual allocation of EU and central government funding to the funding authorities. The committee is composed of key actors in the region. It brings together a wide range of stakeholders that play a central role in developing the region: one third of the members

represent regional government (the municipal sector), one third central government authorities that fund the programmes, and the remaining third key lobbying groups. The RMC is appointed by the Regional Council.

The Committee has appointed a Secretariat that manages the implementation and coordination of structural funds on a monthly basis. Is consists of officials and experts of the intermediary bodies as well as representatives of other regional agencies and different sectors of ELY centre such as transportation and agriculture.

In terms of project evaluation and approval process, all ERDF and ESF projects must be approved by the Secretariat. The approval of RMC is required for the largest projects with 400.000 € or more of EU funding.

In order to facilitate better cooperation and more efficient working methods the Secterariat has set up a working group. It consists of officials who are responsible for the evaluation of applications, financial negotiations and the proposals for approval or rejection. The scope of development funding includes the ERDF and ESF, International programmes, the Agricultural fund and national funding. The main characteristic of the group is that it is preliminary and informal in the sense that it is designed to support the officials in their work. The nature of the group is exclusive and does not include other stakeholders than the intermediary bodies and authorities. This ensures that all discussions and evaluations are confidential. The group is chaired by the Regional Council and it has a meeting on a monthly basis.

All applications must be presented for the group for joint discussion in order to coordinate different funds and programmes and to create cooperation with ongoing projects, as well as to prevent overlapping projects and actions. The group is invaluable in this work, since the number of projects exceeds the Secretariat's or the RMC’s capability to manage them effectively. The group is forum for described by a sense of mutual trust and tacit knowledge. Suggestions and recommendations given in the group are seen very important and useful for project management as a whole.

3.8. Monitoring, assessment, evaluation

The policy instrument is monitored mainly by using the EURA2014 system’s data. Outcomes of the policy instrument are gathered from projects and their reports. Ministry of Economic Affairs and Employment designs and conduct monitoring on both national and regional level as the Managing Authority.

Quantitative measurable outcomes of the policy instrument included are:

- number of entrepreneurs/enterprises supported
- number of start-ups created,

- number of jobs created,
- number of cooperation initiated between firms and researchers,
- number of new products/services/processes /solutions introduced into the markets,
- number of innovations absorbed,
- number of research projects funded,
- number of new equipment funded,
- number of enterprises having received non- financial support,
- number of firms participating in clusters, joint international actions/events and networks,
- centres & universities with regional firms,
- increased turnover, jobs or export by supported firms

Qualitative outcomes of the policy instrument include the finding and sharing of good practices and projects. The Managing Authority evaluates the policy instrument, and the latest report was published in 2019. The intermediary bodies evaluate and describe the implementation of the instrument on a yearly basis with focus on good practices, outcomes and changes and trends in the operating environment. In Lapland, we've seen a significant change from quite passive participation from beneficiaries to growing activity in recent years (in both public and private organisations).

Target groups are currently not systematically included in the monitoring and evaluation. They are required to analyse the projects outcomes and experiences on project level. On programme and regional level, the stakeholders are involved in the yearly reporting via the RMC. They also participate in other forums for cooperation, but not directly in issues concerning the structural funds programme.

Data and feedback from beneficiaries were collected in regard to previous structural funds programmes by the Regional Council, but the cutting of technical assistance has meant that these inquiries have not been made in 2014-2020. However, the stakeholders are actively involved in preparations and design for the 2021+ programming period. There is a lack of resources available for monitoring and evaluation. Good practices and cost efficient models from other regions and partners are needed to counter this trend. The weakness of monitoring and assessment has made it difficult to show and highlight the qualitative outcomes and impacts of the policy instrument. This in turn affects the ability to reach full attention of beneficiaries and the potential of project funding in regional development.

4. SWOT analysis of the policy mix

Strengths	Weaknesses
• Wide range of possible actions • Potential for strategic projects and synergies across funds • Wide range of potential beneficiaries • Cooperation and commitment of intermediary organisations / funding authorities / and stakeholders	• Ability to meet the policy instrument's goals due to programme's limitations, legislation and practices • Strategic guidelines (e.g. Regional Plan, RIS3) for funding operations: from strategy to implementation or coordination within institutional structures/levels • Administrative burden of large scale, multi-actor and/or inter-regional projects • Lack of systematic monitoring and evaluation of outcomes (programme specific issues, lack of resources and good practices) • Limited number of beneficiaries
Opportunities	**Threats**
• Multi-fund approach and synergies between funds, both national and international • Collaboration and sharing of resources in East and North Finland region as a whole in smart specialisation, funding processes and pilots • Investment in management of structural funds and dialogues with stakeholders and industries • European networking and funding opportunities • Changes in the content, practices and legislative framework in the policy mix and structural funds programme 2021+	• Changes in global and regional economy and negative impacts on the policy instrument and the possibilities to use structural funds • Covid-19 aftermath and consequences • Diminishing EU and national funds and cutbacks of resources in 2021+ • Changes in EU and national policies that undermine regional development

5. Main conclusions and areas of improvement

The main conclusions of the report and subjects for improvement in IMPROVE are preliminary and to be confirmed with the Regional Stakeholders Group. Due to covid-19, it should be pointed out that the regional profile is not up to date and more or less provides a view based on the situation in the end of 2019.

- The structural funds programme has been highly successful in bringing together government from different levels, research and educational institutions and private parties. The ERDF and ESF provide strong incentives for municipalities and cities, as well as business organisations, companies and educational institutes to engage in regional development. To bring stakeholders into the work even better, the RMC and Secretariat could take a more active position in setting the goals, coordinating strategies, defining the policy mix and allocation of resources. In IMPROVE, Lapland can learn from other region's models and experiences. These processes and the management of the policy instrument remain an important goal for the project.
- Strategy level and operational level interaction can be strengthened. The ways in which the Regional Plan "Lapland Agreement", Smart Specialisation Strategy (Arctic Smartness) and the structural funds programme (ERDF and ESF) guide the actions taken in the region can be developed. While the Regional Plan is broad by its nature, in RIS3 the region makes choices and should focus on core competences. These can have a more direct role regionally in the design and smart use of structural funds through regionally set criteria for projects. The purpose would be to incorporate regional choices into the policy mix and decision making. In Lapland, regional criteria for projects hasn't yet been designed.
- In terms of goals and actions, it may be the case that strategic processes and documents do not take the all limitations of structural fund programme and legislation into account. This tends to create friction and bottlenecks. Administration's emphasis has traditionally been not on synergies, but more on preventing overlapping policies, tools and funding. Multi-fund approach is possible, but examples of systematic use of both ERDF and ESF, or those between national and international projects, are rare. This may be a result of the programmes' limitations, the roles and positions taken by state and regional authorities, the lack of resources and personnel or the need for functioning methods for coordination. IMPROVE can contribute to the process of improving coordination and "division of labour" by identifying bottlenecks and possible solutions.
- In a multi-fund environment it is important to combine the use of financial instruments, grants, etc. However, the practice has showed that state aid rules and de minimis -principle should be evaluated to ensure synergies between funds. At the moment, state aid rules or their interpretation hamper the development of projects and tend to minimise the participation of industries and SMEs. Currently there is no consensus about the way to proceed, and it is a question for new and upcoming national legislation and regional cooperation.

- Monitoring and evaluation is hindered by lack of resources and methods. The data and indicators provided by the policy instrument are mostly geared towards specific outcomes in SMEs and are not optimally suited for the evaluation of broader projects including other beneficiaries. Stakeholders and target groups are not systematically involved in the monitoring and evaluation of the policy instrument. If these assessments are to be strengthened, it would fit well with the drafting of the Annual Plan, which sets the goals and guidelines and regional ERDF budget.