



REGIONAL
COUNCIL
OF SOUTH
KARELIA

SOUTH KARELIA INNOVATION STRATEGY 2022–2025

eKarjala Smart Specialisation

#rethinkers

*"eKarelia heart beating
for innovation"*

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INTRODUCTION

In regionally oriented innovation activities, partnerships and local added value are at core. The regional research, development, and innovation (RDI) focus areas are selected and implemented in interaction with business, the research and education sector, public administration and civil society. In Finland, regional councils are responsible for the preparation, monitoring and implementation coordination of smart specialization strategies.

Smart specialization (S3/ S4, Regional Innovation Strategy RIS) means specialization based on the strengths of the regions, with the aim of revitalizing the knowledge base and industries. It is hence a tool for place-based regional development. In terms of regional and structural policy, the mission of the strategy is to aid allocation of funding specifically to RDI activities that have regional relevance and impact. In terms of the Innovation and Skills in Finland 2021–2027 program, compliance with smart specialization is partly mandatory (ERDF SO 1.1) and in other respects also has a significant weight in the allocation of funding.

The Innovation Strategy of South Karelia 2022–2025 brings together the focus areas of smart specialization already designed for the regional program of South Karelia 2022–2025. This strategy document is a compilation of the contents of the regional R&D activities of the regional program. It is compiled for the needs of various stakeholders and EU cooperation. The full Regional Program of South Karelia 2022–2025 is available only in Finnish.

THE OUTLOOK OF THE REGIONAL INNOVATION ENVIRONMENT

Measured in terms of the scope of R&D activities, the key players in South Karelia's innovation environment are the large companies operating in the region and a few growth companies that have product development activities here. The most important public actors are the LUT University and LAB University of Applied Sciences, the City of Lappeenranta (including its publicly owned companies) and the South Karelia Social and Health District EKHVA. Development activities are also carried out by a wide range of different actors, such as educational institutions, municipalities, organizations, and companies of various sizes.

The development and utilization of energy and environmental expertise is a growth domain that needs to be further strengthened. The cooperation of the leading companies in the energy and environmental business and other actors related to the field is advanced by the business initiated Greenreality Network and its partnerships. International, listed companies attach themselves to the region's innovation ecosystem, especially through development cooperation and joint projects. Companies' own RDI activities are significant, but they do not recognize provincial boundaries. The application of new technologies also to the needs of industrial SMEs is a clear strength in the region, which must be further strengthened to strengthen international competitiveness.

South Karelia's strength is the multifaceted cooperation between research and business, which will be further developed. Universities cooperate with the business world also outside the region, and this contributes to human and technological capital also in South Karelia. In recent years, funding for applied research has been scarcely available, especially for verifying the functionality of technical solutions in the pre-commercial phase. This has made the path from research to business more difficult. Domestic innovation funding has focused on commercialization and internationalization, which has altered the cooperation between universities and the business world.

The amount of public RDI funding allocated to the region's companies depends most on the projects of large operators. The number of medium-sized and development-oriented companies is limited, which is a clear gap from the point of view of the region's RDI potential, growth, and employability. To strengthen innovation activities, it is necessary to promote the implementation of private RDI investments in the region. The structural challenge of regionally oriented innovation activities is that development resources are concentrated to a few actors. There is no need to intentionally withdraw resources, but innovation capacity should be strengthened overall so that more organisations are able to carry out active development alone and in cooperation with other R&D actors. Municipalities' develop-

ment services have been undergoing change, and their ability to assemble business-oriented development networks has thus partially weakened. The focus of competence-based entrepreneurship development has moved to the Skinärilä campus, to the Business Mill service operating in connection with LAB University of Applied Sciences.

Eksote (since 2023 EKHVA) has significant RDI activities and strong networks in the national ecosystems of the field. They have acted as a unifying force for the development entities of the regional social and health sector. The area's higher education institutions have long-term worked as development partners. Social and health sector development is closely tied to core operations to produce added value, which improves the effectiveness of operations. Practice orientation has been realized especially in the intelligent services thematic. The increase in tourism of Saimaa Lake region and the potential of culture- and art-based business that became visible due to the "Saimaa phenomenon" (Saimaa Ilmiö), as well as the expanded creative competence due to the applied sciences university development leading to the formation of LAB University of Applied Sciences, provide a good basis for strengthening the experience economy. The innovation activities of the creative economy and culture are also promoted in network cooperation on a multidisciplinary and interregional mode, based on shared strategies.

During the EU programming period until August 2021, EU research funding from the Horizon 2020 program has been registered in South Karelia, according to the organization's domicile, about 22 million euros, which is a share of about 1.5% of its current total yield for the whole of Finland. Mainly LUT University and growth companies in the energy and environmental sector have participated in the projects. The aim is to increase the yield of competitive R&D funding in the region. During the regional program period, the aim is to strengthen the region's operators' ability to take advantage of the opportunities offered by EU programs on a wider scale than at present. Regional funding can be used to support the development of expertise and networks to a level that enables participation in more demanding international project consortia.

STRATEGIC PRIORITIES OF SMART SPECIALISATION IN SOUTH KARELIA 2022–2025

The future of South Karelia is based on the utilization of strengths. By renewing and diversifying business life, the unfavourable demographic trend can be changed, and job opportunities increased. The regional program and the priorities for smart specialization are based on four areas of sustainable development: social, economic, environmental, and cultural sustainability. The goal of the program is to comprehensively support and promote the region's sustainable development and the path towards a carbon-neutral region (HINKU region).

The strategic priorities of smart specialization are attached to the thematic choices of each regional program theme, supporting R&D development actions related to it. The cross-cutting themes are four dynamics of change. They are accessibility, digipower, experimental culture, and internationality.

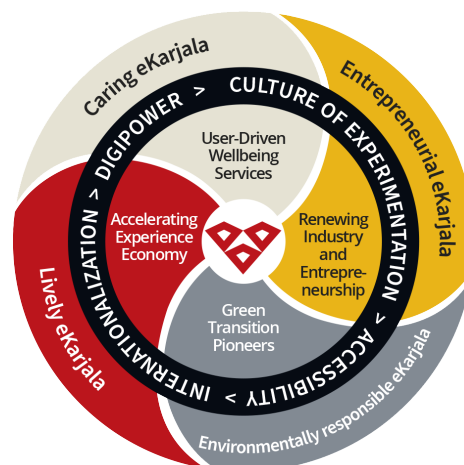


FIGURE 1. South Karelia's smart specialization priorities and their connection to the regional program's main themes

Accessibility is especially related to new innovations in services and logistics, which enable more efficient processes and expand the customer base or improve accessibility. Another perspective is the reduction of traffic emissions to achieve the carbon emission (HINKU) goals.

Digipower's strong driver is digitalisation and software expertise, which is used creatively from services and experience production to the manufacturing industry and from international transport to the energy sector. The goal is that companies' digital capabilities grow regardless of industry and the region's public sector utilizes the possibilities of digitalization, for example in urban planning, organizing traffic and providing services. In the data economy, value is also created by utilizing digital information in a novel way. Resources can be saved through virtual planning and testing, as well as through effective control of various material flows. Digitalization also plays a significant role in security.

Culture of experimentation is at the centre of innovation activities through experiment environments, demonstrations, and piloting. We aim for long-term competence networks, experimental platforms and the implementation of development trials closely related to the core operations of individual organizations. In South Karelia, there is significant potential for industrial demonstrations and pilots, which will open new international business opportunities for industry based on knowhow. At the same time, the role of culture of experimentation is significant in renewing services and operating models, concerning both the private and public sector.

In terms of **internationalization**, the key goals of smart specialization are a better inclusion of the region's talent potential to development activities and the promotion of international networks and cooperation related to regional priorities. Future possibilities include the location of various R&D activities in the region and their functioning as elements that attract international experts. In the region, there is a special investment in the development of the Asian competence center, where the focus is the building of higher education and research cooperation with Chinese operators, and international experts settling in the region as new drivers for growth.

Caring eKarjala – User-Driven Wellbeing Services

In terms of the innovation environment, the goals of smart specialization are focused especially on the multidisciplinary joint development of services that promote the well-being of the residents of the region. Various community and social innovations can generate new business. Opportunities for international cooperation are identified in areas with similar challenges or complementary expertise. South Karelia's network of health and social data operators has accumulated know-how and information that is also of international interest during the regional multidisciplinary activities.

Development goals

- Digitality and software know-how as well as creative know-how are utilised to provide intelligent and customer-oriented well-being services. Let's harness service design to develop user orientation.
- Maintain rethinking in the production of public health services and the use of resources regarding social service chains and services produced at home.
- When building a wellbeing service area (hyvinvointialue, HVA), the opportunities to increase interaction and the participation of residents are utilized when service production is developed, and residents' well-being and health are promoted.
- Public actors cooperate with residents, companies, associations, and civil society partners, for example, in producing new types of service production and forms of housing.
- New operating models and multidisciplinary RDI cooperation is promoted related to participation, safety, and employment. Employment and innovativeness are enhanced.



Entrepreneurial eKarjala - renewing industry and entrepreneurship

Smart specialization requires constant dialogue with regional actors. Mapping the needs of companies, responding to them and the principle of experimental development are the central goals of smart specialization. While expanding the know-how and innovation ability of current actors, the aim is also to support the identification of new types of business opportunities. With the partnerships of actors, new entrepreneurship can be created from the expertise of the regional higher education institutions and new business for existing companies, as well as developed public service production. Blurring the boundaries between industries supports the emergence of techno-economic and social innovations. Startups, renewal of companies, and the utilization of new knowledge in companies are needed to diversify the economic structure and to increase the number of growing and internationalizing companies.

In South Karelia, a strategic goal is to support the renewal of industry and thematic, broader development entities across regional borders. Companies of different sizes and their partners implement new initiatives in the field of bio and circular economy and implement industrial digitalization. Attention is paid to the development of competence-based entrepreneurship in companies operating in South Karelia and in new spinoff and startup companies. Acting as key partners here are e.g., Business Mill service and Green Campus Open innovation services.

The cross-cutting aspect of the development of the innovation environment at the core of Entrepreneurial eKarjala is the development of goal-oriented cooperation between research and educational organizations and business, which aims at the growth of private R&D activities that renew industries and entrepreneurship. The overarching goal of internationalization is the utilization of the expertise of international companies and students in regional development.

Development goals

- Strengthening the regional service package that promotes the renewal of business life, knowledge-based entrepreneurship, and the growth of companies.
- Supporting growth-oriented networking of educational institutions and SMEs in the region for promoting innovation and foresight skills.
- Aiming for growth-oriented startup companies to be attached to the innovation ecosystem of South Karelia and to international value networks. We support the development of technology commercialization expertise. The return of the region's innovation activity to companies is strengthened by enhancing the service offering on the path from idea to innovation.
- Investing in regionally relevant smart, sustainable, and resource-efficient industrial activities. Emphasis is placed on new industrial production methods and processes as well as circular and bioeconomy industrial-scale solutions with potential for scalable business.
- Boldly utilizing the potential of industrial ICT (e.g., data collection and utilization, digital twins, machine learning, Internet of Things, cyber security) in business and in the renewal of industries.
- Combining of technological and commercial know-how as well as foresight skills to sustainably identify and grow new business areas.
- Strengthening of digital competence, digital accessibility as well as interregional cooperation through the regional digital competence centre and EDIH activities.

Environmentally responsible eKarjala – green transition pioneers

In order to improve the innovation environment, smart specialization focuses especially on utilizing the investments of the public sector and other operators as an experimental environment and development platform for technological solutions with commercial potential (demonstration platforms for companies, innovative public procurement and

¹ EDIH – European Digital Innovation Hub <https://digital-strategy.ec.europa.eu/en/activities/edih>

R&D infrastructure acting as experimental environments) and on strengthening the concentration of expertise in electrification. Innovation actors' capabilities to apply for international funding are strengthened, so that EU funding can be used to promote the creation of business from RDI activities and to lower the threshold for private investments.

Development goals

- Green electrification's R&D activity generate new business in the region and strengthen the industry's international networking. In particular, the ecosystem agreement of the Lappeenranta-Imatra city region serves as a reference framework, which key development targets are:
 - o Energy-efficient electrical drives
 - o Carbon-neutral synthetic fuel production methods (P2X)
 - o Smart and consumption-flexible electricity networks and real estate
 - o Building the SMR small reactor ecosystem
 - o Strengthening national and international cooperation (cross-cutting)
 - o Promoting the regional green electrification ecosystem (cross-cutting)
- Support for technology development related to the hydrogen economy, RDI investments and experimental activities, which support the commercialization of know-how and new solutions in the field and the establishment of industrial investments in the region. The goal for South Karelia is to be recognized as a centre of expertise for the development of the hydrogen economy.
- Regional, interregional, and international R&D cooperation is carried out to promote a carbon-neutral South Karelia. Operations are focused especially on solutions that produce rapid emission reductions within e.g. construction, use of buildings / real estate, and development of the transport system.
- Developing green pioneering startup entrepreneurship and incubator activities.
- Investing in SMEs' competence related to environmental issues and sustainable business, as well as offering sustainable solutions to the market.
- Taking advantage of the region's opportunities to act as a pilot platform for potential innovations related to adaptation to climate change.

Lively eKarjala - accelerating experience economy

Within the framework of smart specialization, effort is taken to develop the SMEs in the tourism and cultural sectors of the region and to diversify the service offering of the experience economy. This is done by supporting networks and know-how and the innovation activities of companies. The perspective of developing the innovation environment is the scaling and diversification of the service business with the help of R&D activities. Internationally, the goal is to connect actors to European experience economy development networks, aiming for a wider utilization of EU funding and international recognitions in the region (e.g., Culture Europe). The people attracted to the area by the Asian competence centre and other forms of international cooperation are committed to promoting the experience economy and diversifying the cultural expertise of the area's residents. In South Karelia, the aim is also to utilize the cooperation opportunities of civic development in EU programs.

Development goals

- Utilizing the cultural heritage and environment as a development platform for nationally and internationally attractive experience products. Peer learning and enabling of co-development environments.
- Improving the operating conditions of art and culture, interregional cooperation, and internationalization, so that our region's vitality, persistence, and attractiveness, as well as well-being grow and our opportunities for impactful funding calls improve significantly.

- South Karelia becomes a laboratory of experimentation for carbon-neutral (or even carbon-negative) art with the cooperation of universities, artists, and municipalities.
- Tourism offer is expanded and deepened based on regional strengths. Digitality and knowledge-based management is applied in the development of the tourism industry.
- The skills of operators in a sustainable and growth-oriented experience economy are improved and the attachment of complementary skills to the region are supported.
- Comprehensive sustainable development of Saimaa's water transport (e.g., promoting the introduction of smooth travel chains, clean motive power solutions and digital support services for water transport)

STAKEHOLDER COOPERATION AND IMPLEMENTATION

Strategy preparation and process

Stakeholders have participated extensively and closely in the preparation of the smart specialisation strategy as well as in its implementation and monitoring. The effective operation of the innovation strategy is the responsibility of the R&D operators in the region. The innovation strategy directs the allocation of EU cohesion policy instruments such as the European Regional Development Fund (ERDF) and the European Social Fund Plus (ESF+). The strategy also forms the basis for industrial renewal according to the territorial just transition plan for distribution of Just Transition Funds (JTF). During the program period, the aim is to support the creation of broader development entities, which may also include activities supported by other national or international development funding.

The importance of the smart specialization strategy included in the regional program in the EU's regional and structural policy has become even stronger as we enter the new program period. National and international cooperation is also carried out in connection with the process.

Strategy aligned project activities and finance

The key financial instruments for regionally oriented development are the various regional and structural policy funds. In this program period, there are three funds: the European Regional Development Fund (ERDF), the European Social Fund plus (ESR+) and the Just Transition Fund (JTF), the latter of which supports mitigating the regional economic and social losses caused by reducing the use of energy peat in Finland, e.g., by enabling new employment opportunities and support for entrepreneurship. A new funding source in the region is also funding for sustainable urban development (SUD). The cities of Lappeenranta and Imatra have concluded a regional ecosystem agreement for green electrification with the Finnish government, which is implemented with sustainable urban development ERDF funding and other regional and structural policy funding. This ecosystem agreement also functions in the region as a platform for promoting innovation and broad-based R&D cooperation in connection with the growing field of green electrification.

In accordance with the regional development legislation, the regional cooperation group (MYR), which consists of the region's key stakeholders, confirms the regional emphasis of calls for regional and structural policy funding, approves a plan for the allocation of funding and processes applications for larger projects, giving their opinion to the funding authority. The regional cooperation group also monitors the implementation of the regional program and the smart specialization included in it and reports to it about the funding allocated to the region from different funding sources. Topical sections can also operate under the regional cooperation group.

The regional program describes in more detail various funding opportunities and their role in implementing the development goals of South Karelia. Innovation strategy aligned project activities can also be promoted with funding from the rural program and national regional development funding and various innovation and development funding.

Monitoring and evaluation of the strategy

Continuous evaluation of the smart specialization strategy is done especially in the Regional Council of South Karelia and in the secretariat of the regional cooperation group (MYRS), which prepares subjects for the regional cooperation group. Metrics have been set to monitor the implementation of the strategy, for which goals are also set when the implementation begins. The strategy will be subject to an external, independent evaluation at the end of the regional program period in 2024–2025.

PRIORITY	INDICATORS
Userdriven welfare Services	Companies participating in joint development activities. New service solutions developed in multistakeholder projects.
Renewing Industry and Entrepreneurship	The number of companies that participated in RDI projects financed with structural funds. Product or process innovations carried out by SMEs. In the regional innovation ecosystem, new business-driven thematic networks are created according to the model of the Greenreality Network.
Green Transition Pioneers	Horizon and Business Finland funding for South Karelia. Innovations, products, and services developed by networks and innovation ecosystems.
Accelerating experience economy	The number of actors who participated in projects funded by the Culture Europe program or other international programs. Development platforms, such as the experimental laboratory for carbon-neutral art, that are used by actors.

Indication for Monitoring Smart Specialization

Regional, National and International Cooperation

The implementation involves cooperation with key R&D players in the region and existing networks related to the selected priorities. The implementation is reported annually to stakeholders, and coordination is promoted among strategic project initiatives, aiming for more effective entities.

National and international work is also carried out in connection with the process. The key forum for national cooperation is the smart specialization peer network, where information is shared, and good practices are exchanged. Attention will be paid to the identification of international cooperation needs and networks right from the start of the season in 2022-2023.

Regional and interregional cooperation will be developed in accordance with the strategy in a way that promotes regionally oriented development of South Karelia's business life and makes it possible to identify new opportunities that generate vitality and seize them.



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The Regional Council of South Karelia is a joint municipal authority of nine member municipalities. The council operates as the authority for regional development and regional planning. It also has a task to look after regional interests and to promote economic development and cultural well-being in South Karelia.

Cover picture: City of Lappeenranta

Pictures: p. 6 City of Lappeenranta (top), LUT University / Teemy Leinonen (middle),
City of Imatra/ Heny Helsten imatra.kuvat.fi (bottom)

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