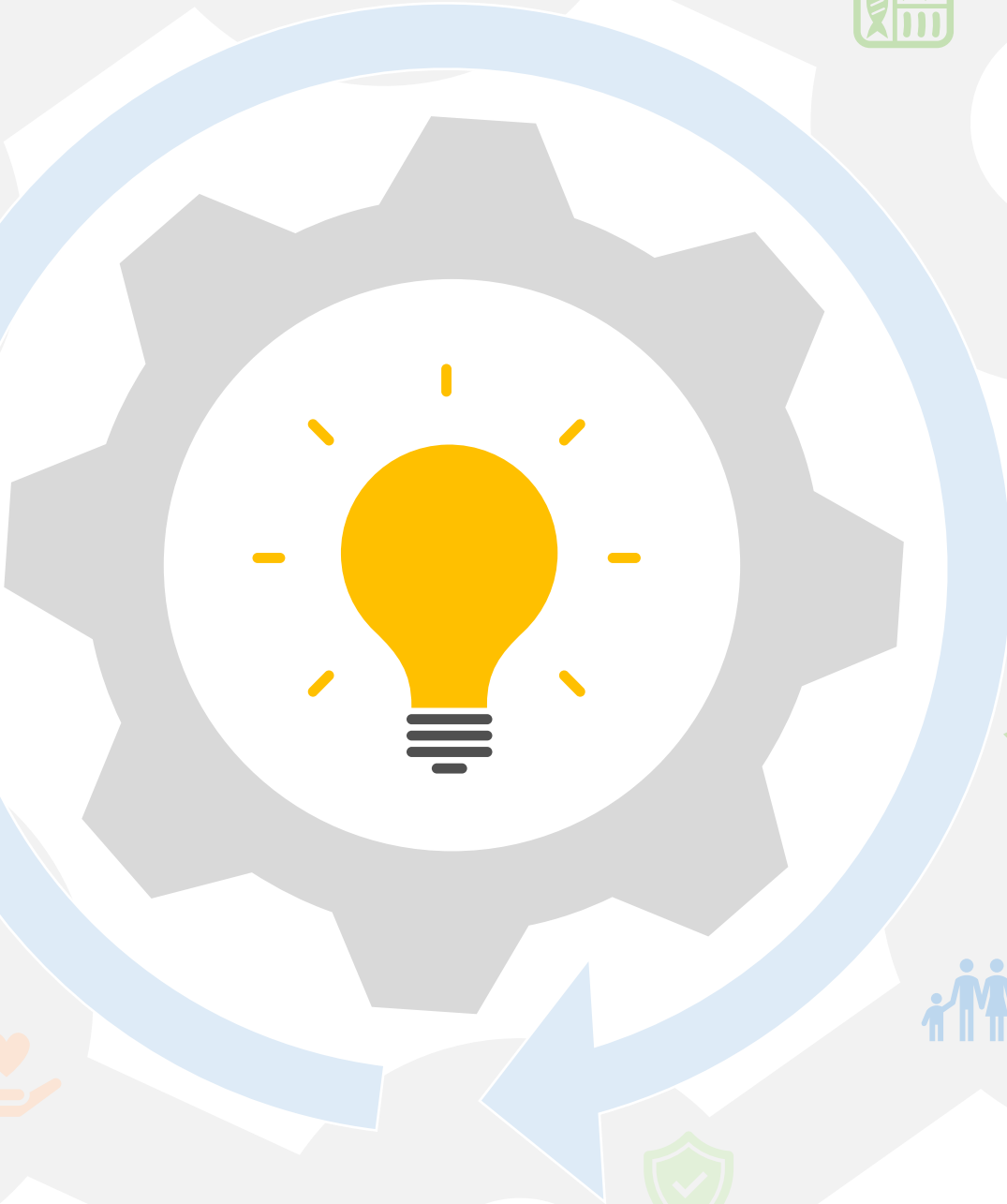
# Satakunta region’s Smart Specialisation Strategy for 2021–2027



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# SATAKUNTA REGION'S SMART SPECIALISATION STRATEGY FOR 2021–2027

Under the EU cohesion policy, national and regional authorities are developing research and innovation strategies for Smart Specialisation (S3) to make better use of European Structural Funds and to increase synergies between EU, national and regional policies, and public and private investments.

Smart specialisation is about identifying the unique characteristics, resources, and competitive advantages of each region, and bringing regional stakeholders together to support the future vision for the region. It also means strengthening regional innovation systems, maximising information flows, and spreading the benefits of innovation throughout the entire regional economy.

The Smart Specialisation Strategy for Sustainability (S4) also covers the development and promotion of sustainable solutions (quadruple and quintuple innovation helix). The starting point of the strategy is to promote economic growth, innovation, and inter-regional cooperation that supports the creation of new European value chains.

In accordance with the European Commission's proposal, the existence of a Smart Specialisation Strategy is an enabling condition for Member States to receive funding during the EU regional and structural policy programming period 2021–2027. Smart Specialisation Strategies are based on location-based implementation and management to help increase regional competitiveness. In Satakunta, the preparation of regional strategies for the development of regional innovation activities is guided by the Satakunta Regional Programme. Responding to change requires development that identifies the unique characteristics and strengths of the region. The preparation of Smart Specialisation Strategies is regulated by the law on regional development and the implementation of the European Union's regional and structural policy.

- Satakunta's share of Finland's R&D activities is small in relation to the population size.
- The region accounts for 3.9% of the country's total population and for 6–7% of exports, but the share of business R&D expenditure is only 1.7%.
- The share of the public sector is only 0.2% and that of the higher education sector is only 1%.
- Satakunta's share of the whole country's R&D expenditure is 1.4%.
- In Satakunta, R&D expenditure per capita is a small fraction of the national average, 429 EUR vs. 1,215 EUR.
- By sub-region, the expenditure per capita is 386 EUR in Pori, 626 EUR in Rauma, and only 16 EUR in North Satakunta.
- In terms of R&D expenditure, the Rauma region ranks 14th, the Pori region 22nd, and North Satakunta 65th among the 70 sub-regions of Finland.

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# SATAKUNTA REGION'S SMART SPECIALISATION STRATEGY FOR 2021–2027

The National Roadmap for Research, Development and Innovation provides a framework for the development of research and innovation activities in Finland, and Smart Specialisation Strategies are also guided by ecosystem agreements between the State and cities. The aim is to increase cooperation and communication between national and regional innovation programmes (e.g. regional councils, the Ministry of Education and Culture, ELY centres, and Business Finland). Regional strategies for Smart Specialisation, for their part, contribute to the national target of increasing Finland's expenditure-to-GDP ratio for RDI investments to 4%. In addition, the strategies should be in line with climate objectives and the "do no significant harm" principle.

The Ministry of Economic Affairs and Employment is responsible for coordinating RDI and Smart Specialisation activities at a national level. Smart Specialisation Strategies are regularly addressed in inter-administrative discussions on regional development as part of the implementation of the EU's regional and structural policy.

In Finland, the preparation, implementation, and evaluation of Smart Specialisation Strategies are coordinated by regional councils in their respective regions.

Smart Specialisation Strategies assess

1) the challenges of research, development and innovation (RDI) (e.g. the challenges of transforming research and know-how into innovation, and challenges related to the utilisation of digitalisation and different actors),
2) sectors facing challenges due to technological transition, globalisation, and the transition to a low-carbon economy,
3) opportunities for cooperation between R&D institutions and companies, and
4) the promotion of low-carbon solutions, gender equality, and digitalisation.

Potential sources of growth are examined in line with Smart Specialisation objectives, and industries are revived taking into account the EU Regulation, which states that these measures should not cause significant harm to environmental objectives (DNSH, "do no significant harm" principle).

Regional councils must ensure that Smart Specialisation Strategies are prepared, implemented, and monitored in accordance with stakeholder collaboration principles (Entrepreneurial Discovery Process, EDP).

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# KNOWLEDGE AND INNOVATION CLUSTERS IN SATAKUNTA

The preparation of Satakunta's Smart Specialisation Strategy has included identifying knowledge and innovation clusters that can help support the region's growth and economic activities in accordance with the climate and sustainable growth objectives and create new technologies and businesses of international interest. The aim is to strengthen and reform the region's growth industries and innovation clusters, while taking into account climate and sustainability objectives.

Sustainable growth will strengthen the region's potential for research, development and innovation, and support the region's international, national, and intra-regional accessibility and vitality. The key is to promote energy-efficient transport, the development of intelligent, low-carbon, low-emission transport, mobility and logistics solutions that enable seamless connections between goods, information and people, the development of seamless transport chains, and the development of low-emission energy sources for transport. The aim is to promote the availability of digital services and telecommunications connections that support location-independent business and telework. Mobility as a Service (MaaS) and Corridor as a Service (CaaS) provide a new service-driven approach to transport. Improving energy efficiency in land use, housing, transport, education, and public infrastructure is also key to sustainable growth.

With regard to the development of knowledge and innovation clusters, it is important to identify strategic partnerships at regional, national and international levels. In terms of developing regional capabilities and Smart Specialisation Strategies, both intra-regional cooperation and inter-regional networking should be strengthened. This requires an approach that takes into account place-based development, and the region's unique resources, potential, and strengths, but also the weaknesses and bottlenecks that should be addressed in the region's development policy.

The aim of Satakunta's regional innovation system approach, which is based on partnership and foresight, is to promote industry-driven RDI activities and the profiling and cooperation of educational and research institutions. The competence of secondary education providers and their cooperation with companies also play an important role. The key competences outlined in the City of Pori's ecosystem agreement are linked to the priorities of Satakunta's Smart Specialisation Strategy: technology metals and circular economy, automation and robotics, and welfare technology. The ecosystem agreements focusing on the development of innovation ecosystems will be implemented using the sustainable urban development resources of the EU programming period 2021–2027.

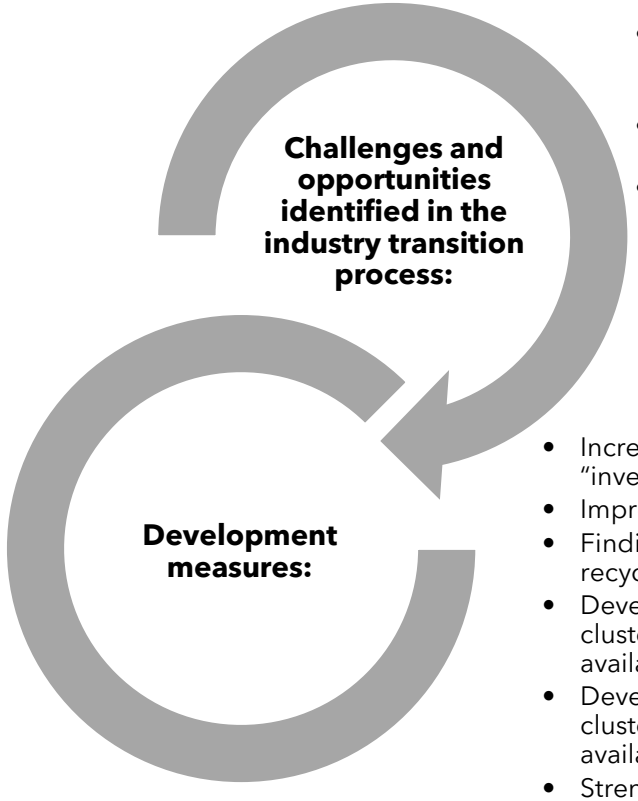
KNOWLEDGE AND INNOVATION CLUSTERS IN SATAKUNTA

# Technology metal, mineral, and battery cluster

**The Satakunta region has an internationally significant ecosystem for the production and further processing of technology metals, which will further expand with the increased demand for metals created by electrification related to digitalisation and green growth. Due to its strong position in the metal processing industry, the Satakunta region is an important part of Finland's minerals cluster.**

**Having an automated, digital and intelligent production and logistics system is a prerequisite for competitive metal production. In order to accelerate growth, deeper cooperation is needed to capture the full potential of digitisation and to identify the growth opportunities created by electrification. For example, battery solutions and e-mobility systems are potential drivers of growth for Satakunta. In addition, the factories in the battery supply chain need automation and robotics expertise.**

**New battery factories are being built across Europe, which will also create opportunities for Satakunta's automation cluster.**




- An automated, digital and intelligent production and logistics system is a prerequisite for competitive metal production.
- Factories in the battery supply chain need automation and robotics expertise.
- In order to accelerate growth, deeper cooperation is needed to capture the full potential of digitalisation, to identify the growth opportunities provided by electrification, and to improve the industry's growth potential in a sustainable way, taking into account the goals of green transition and the opportunities provided by digitalisation.

- Increasing metal recycling through research, piloting, and "invest-in" activities.
- Improving metallurgical expertise.
- Finding automation experts for the metal processing and recycling industry.
- Developing training based on the needs of companies in the cluster and ensuring that necessary expertise and resources are available to the cluster.
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- Strengthening expertise, education, entrepreneurship, and national and international cooperation within the cluster.

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# Automation and robotics cluster



**The Satakunta region has a strong cluster specialised in automation and robotics: The Robocoast network includes companies in the fields of robotics, automation, IoT, and artificial intelligence, as well as research, education and development organisations. The importance of technological know-how, especially in software development, is emphasised in the field of robotics and automation. Strengthening Satakunta's welfare, health technology and robotics expertise will enable the development of social innovations and new solutions for the promotion of health and wellbeing, the treatment of diseases, and rehabilitation. It will also help create new business, advanced services, and social innovations.**

**The Gamecoast cluster, which operates alongside the Robocoast network, focuses on promoting and identifying the opportunities of gamification, creative industries, artificial intelligence, augmented reality, and virtual reality, which enable the development of new educational and product development innovations. Promoting the opportunities offered by gamification in the region can support, for example, occupational safety and game-based continuous learning in educational contexts. Gamification enables the development of new business and co-development models for product development.**

**Challenges and opportunities identified in the industry transition process:**

- In the future, the challenge for most industries will be a transition in which the opportunities of artificial intelligence will play a key role and the importance of strengthening competences will increase.

**Development measures:**

- Creating an operating environment in which structures, know-how and development environments support the strengthening of synergies between the business sector, the public sector, and the robotics cluster. The aim is to promote the growth potential of the automation and robotics cluster and innovation companies.
- Building international business and product development networks and a robotics development community that works closely together. Promoting cooperation between different actors, including companies, funders, development organisations, and universities.
- Promoting research and know-how related to robotics and artificial intelligence in the region's universities.
- Developing training based on the needs of companies in the cluster and ensuring that necessary expertise and resources are available to the cluster.
- Strengthening expertise, education, entrepreneurship, and national and international cooperation in the field of automation and robotics.
- Promoting the growth potential of innovative companies and enhancing the capabilities to respond to the future transition faced by most industries, where artificial intelligence will play a key role.

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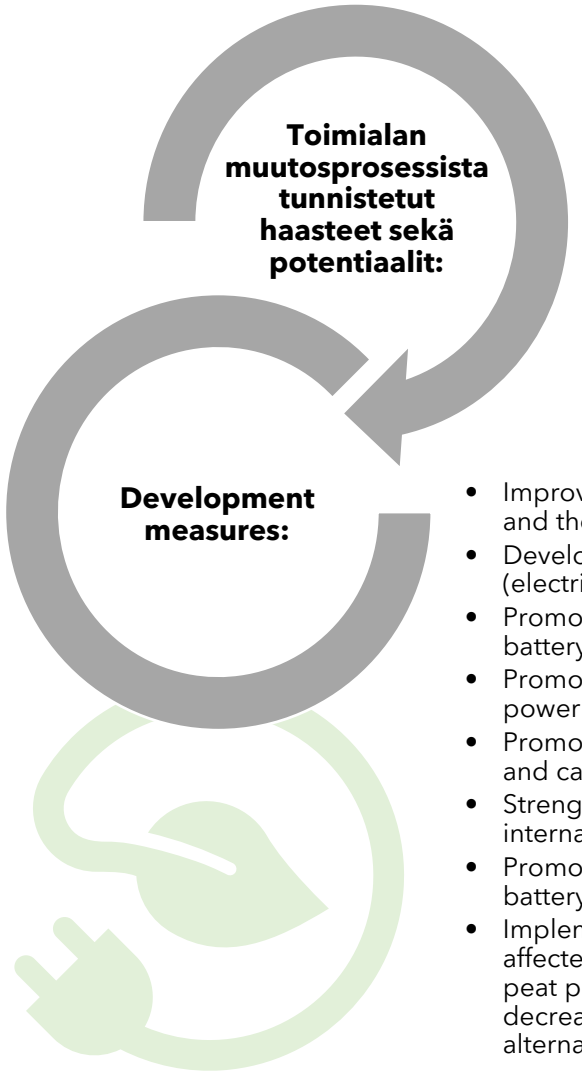
KNOWLEDGE AND INNOVATION CLUSTERS IN SATAKUNTA

# Energy cluster

**The Satakunta region has a diverse energy production cluster that produces electricity more than three times the region's needs, which accounts for 26% of Finland's total energy production. Satakunta is the largest electricity producer in Finland. The region produces electricity for the needs of society from nuclear and renewable energy sources. The possibility of decentralised energy production is also seen as a strength in Satakunta's energy production.**

**Diverse energy supply and know-how provide a strong competitive advantage for the region's energy-intensive industry. In addition to basic energy production, Satakunta invests in anticipating the energy transition and the versatile use of renewable energy sources. Energy transition is accelerated by supporting the use of CO2 emissions as a raw material (Power to X technologies) and the wider deployment of hydrogen solutions in the region, and by promoting RDI activities related to energy storage and sustainable battery technology.**

**The use of peat in energy production has declined rapidly and has led to a decline in peat production. In Satakunta, it is important to ensure that appropriate support mechanisms are in place so that the economic, social, and environmental challenges caused by this transition can be addressed in a timely manner and according the needs of industry. The pillars of the Just Transition Mechanism (JTM) must be used extensively to mitigate the adverse effects of transition in accordance with Satakunta's territorial just transition plan..**




- Restoration and re-use of former peat production areas, the challenge of reforming and strengthening the regional economy, including the creation of new business opportunities and jobs.
- Investment in research and innovation, including the development of new high technology and innovation solutions and the promotion of their transfer.
- Opportunity to increase the use of bioenergy (e.g. forest bioenergy), recycled fuels, and biogas.
- New energy technologies will help create new innovations and business opportunities for, for example, the wind power, solar energy, gas and methane, hydropower, and nuclear power sectors.

- Improving energy systems, electrification, and digitalisation expertise, and the availability of expertise in the region.
- Developing low-carbon motoring infrastructure and systems in the region (electricity/biogas/hydrogen).
- Promoting renewable energy investments as an ''invest in'' factor in the battery cluster.
- Promoting the development of future electricity, hydrogen, and hybrid power sources.
- Promoting research and development related to the hydrogen economy and carbon capture, as well as local demo projects.
- Strengthening expertise, education, entrepreneurship, and national and international cooperation in the field of energy production.
- Promoting renewable energy investments as an ''invest in'' factor in the battery cluster.
- Implementing measures to diversify the regional economy in areas affected by declining peat production, and measures to restore or re-use peat production areas (e.g. recreation, new crops, forestation). With the decreasing use of peat in energy production, it is necessary to find alternative energy raw materials and business opportunities.

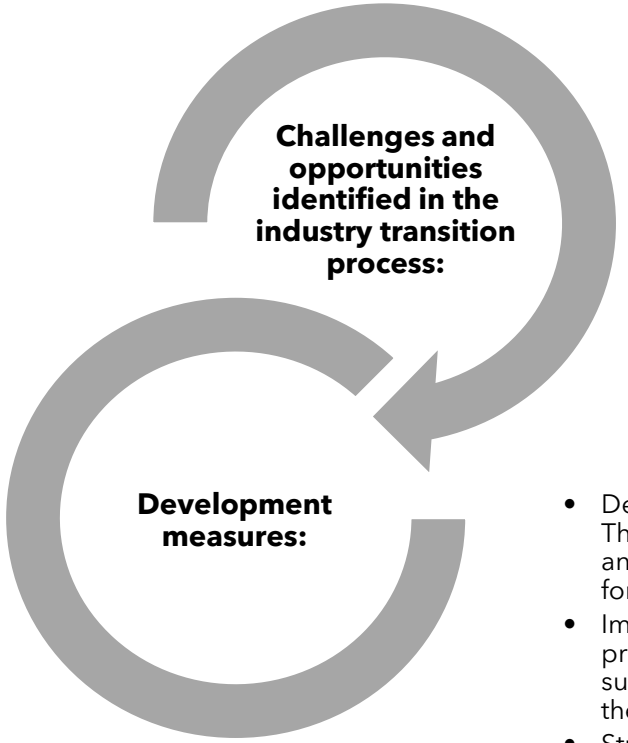
KNOWLEDGE AND INNOVATION CLUSTERS IN SATAKUNTA

# Food industry cluster

**The strength of Satakunta's food production lies in its versatility. Satakunta is home to several leading national food production companies, and the region has a long tradition of contract-based production, which ensures the economic, environmental, and ethical sustainability of production.**

**Satakunta's food production also plays a key role in ensuring Finland's security of supply. The ongoing COVID-19 pandemic has demonstrated the importance of domestic food production. There is good demand for Satakunta's responsibly produced, safe, and healthy food on the global market.**

**The popularity of responsibly and locally produced food and access to international markets increase the demand for, and added value of, food produced in Satakunta.**




- In Satakunta, the need for qualified labour in the food sector will increase in the near future, and at the same time food imports will decrease. This will increase the self-sufficiency of food production and security of supply in Finland.
- The profitability of primary production will decline despite improved productivity.
- The development of the food industry cluster will also increase Satakunta's vitality and create the conditions necessary for developing education and training based on the needs of the industry.

- Developing the vitality of the region's food industry cluster. The popularity of responsibly and locally produced food and access to international markets increase the demand for, and added value of, food produced in Satakunta.
- Improving know-how in primary production and processing companies, investing in increasing security of supply and the added value of products, and promoting the consumption of local food in the Satakunta region.
- Strengthening the role of primary production in the food chain.
- Focusing public procurement on locally produced food to improve the competitiveness of the food chain. The image of Satakunta's food industry will be strengthened nationally and internationally.
- Targeting development activities in e.g. innovative and sustainable production methods and technologies, nutrient recycling, utilisation of side streams, water protection, the supply of skilled labour, efficient logistics solutions, and consumer-oriented product development.
- Strengthening expertise, education, entrepreneurship, and national and international cooperation in the food industry

KNOWLEDGE AND INNOVATION CLUSTERS IN SATAKUNTA

# Bioeconomy and circular economy

**The Satakunta region provides a competitive operating environment for the growth of the bioeconomy. The main natural biological capital resources in Satakunta include the biomass (i.e. organic material) found in forests, soil, fields, water bodies, and the sea.**

**Satakunta region's industrial symbiosis creates opportunities for energy-efficient, material-efficient, and low-carbon circular economy practices.**

**Robotics, automation, and data analytics are examples of technologies that enable the creation of new business models.**



**Challenges and opportunities identified in the industry transition process:**

- Promoting the circular economy is extremely important for the technology metal cluster in terms of ensuring the availability, sustainability, and acceptability of critical raw materials. Satakunta has an established infrastructure and ecosystem for new metal recycling investments.
- Research, piloting, and "invest-in" activities are needed to promote growth.
- The responsible and innovative use of natural resources can strengthen the regional and local economy, and create new business opportunities and jobs.
- To promote the circular economy, logistics and mobility solutions need to be developed, e.g. using digitalisation, and new operating methods and technologies need to be introduced.
- Utilisation of primary production side streams can help produce bio-based energy, and new products and innovations.
- Utilisation and further processing of natural products found in the forest and the development of related business potential.

**Development measures:**

- The aim is to promote multidisciplinary entrepreneurship, to create new jobs and ecosystems, and to develop highly processed value-adding bio-based products and services through research and development and bold experimentation.
- Cross-sectoral cooperation between educational institutions, R&D organisations and companies, and the utilisation and development of know-how, are essential for the development of new bio-based business opportunities and solutions.
- Strengthening expertise, education, entrepreneurship, and national and international cooperation in the field of bioeconomy and circular economy.

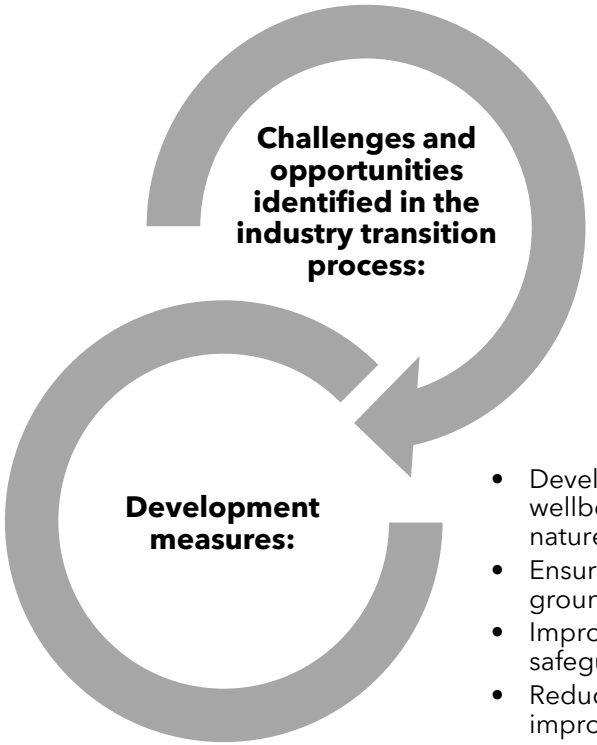
KNOWLEDGE AND INNOVATION CLUSTERS IN SATAKUNTA

# Blue economy

**In the Satakunta region, the strengths of the blue economy are related to water-related RDI activities, the maritime industry, the maritime cluster, development of water know-how, groundwater, water protection, fisheries, recreation, wellbeing services, and water tourism in all waterways.**

**Maritime spatial planning supports long-term development of the marine region and promotes blue growth and the protection of the environment and nature by reconciling the needs and objectives related to these activities at a local level.**

**Water-related research and innovation, water protection, and cooperation will be further strengthened with the help of both national and international networks.**




- Promoting the implementation of maritime spatial planning objectives.
- Strengthening expertise related to the maritime cluster and Satakunta-based marine technology as a basis for blue growth.
- Promoting the adoption and piloting of new technologies, digitalisation, and robotics in the maritime cluster.
- Strengthening regional, national and international collaboration between development institutions, educational and research organisations, and private sector RDI activities.

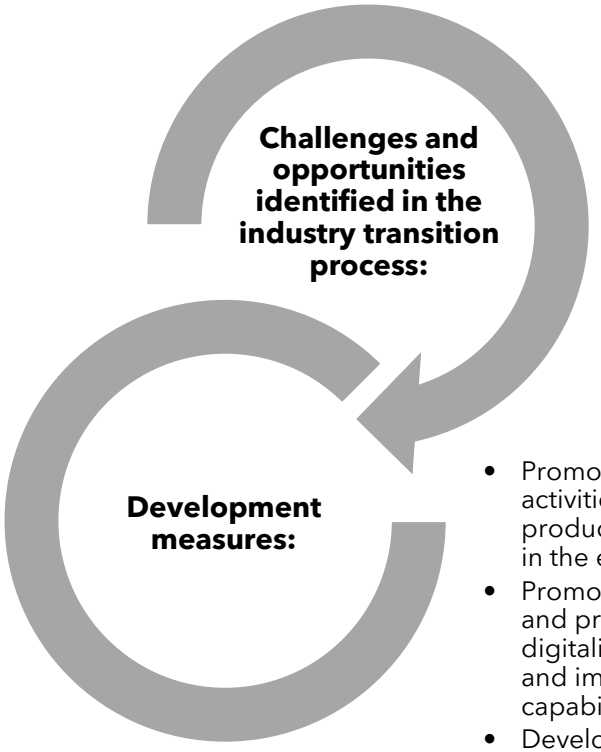
- Developing business (e.g. tourism, recreation, and wellbeing services) based on the sustainable use of nature and waterways.
- Ensuring the sustainable management and use of groundwater reserves.
- Improving the conditions of the fishing sector to safeguard the supply of Finnish fish.
- Reducing diffuse pollution in run-off areas, and improving the water quality of inland and marine waters.
- Strengthening expertise, education, entrepreneurship, and national and international cooperation to support blue growth.

# Experience economy

**The Satakunta region offers attractive and responsibly produced tourism services and high-quality cultural services, and hosts internationally renowned events, which are important for the region's economy.**

**The cultural environment is used to increase the region's attractiveness and the wellbeing of its residents. Investing in the experience economy has a positive effect on society overall, creating experiences for and promoting the wellbeing of local residents, and providing various leisure opportunities. The development of tourism services strengthens the image and brand of Satakunta and contributes to attracting international experts to the region.**

**The strengths of the Satakunta region lie in its diverse marine, nature and cultural environments, culture and art, cultural heritage, national parks, the Geopark, and UNESCO World Heritage Sites.**




- Investing in know-how and product development is a prerequisite for the development of tourism services and the events industry.

- Promoting the creative economy e.g. by supporting the activities of creative industry networks, promoting creative products and services, and making use of digital solutions in the events industry, among other things.
- Promoting the responsible and sustainable development and production, accessibility, safety, quality, and digitalisation of tourism and cultural services and events, and improving know-how and internationalisation capabilities in the field.
- Developing competitive, high-quality services and products that meet the needs of year-round domestic and international demand, as well as strengthening the tourism and events industry clusters, cooperation, and cross-sectoral expertise.
- Strengthening expertise and research and innovation activities in the fields of tourism, culture, arts, sports, and wellbeing to promote the vitality and growth of the region.

KNOWLEDGE AND INNOVATION CLUSTERS IN SATAKUNTA

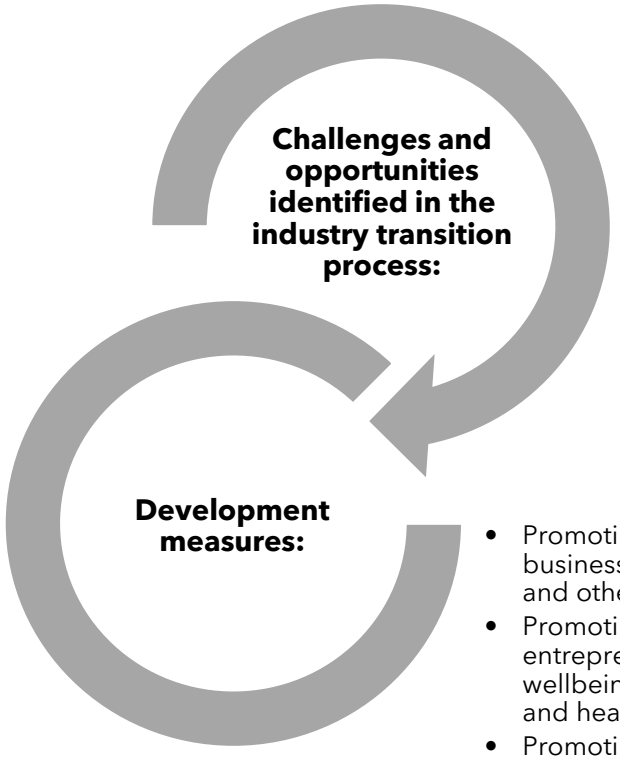
# Welfare economy

**The welfare technology know-how of the Satakunta region can be used to develop solutions that improve the quality of life and wellbeing of residents, and ensure that each individual is able to cope with everyday life in accordance with their own goals, and live a meaningful life.**

**Similarly, health technologies may offer solutions for social and health care service providers for the prevention and treatment of diseases, and health maintenance.**

**At the same time, these technologies help create new business, advanced services, and social innovations.**






- Promoting close cooperation between secondary schools and universities to strengthen and make full use of welfare technology know-how.
- Recognising the importance of nature and culture and the opportunities for promoting wellbeing and inclusion.
- Identifying the role and importance of the third sector as a resource for promoting wellbeing and inclusion.
- Developing cooperation between public actors, the third sector, and SMEs in the field of welfare and culture.

- Promoting cross-sectoral cooperation between municipalities, the business sector, research and educational institutions, organisations, and other actors to develop the wellbeing economy.
- Promoting innovations, productisation, know-how, and entrepreneurship related to welfare and health technologies, wellbeing services and tourism, services for the elderly, and social and health care services.
- Promoting the active engagement of businesses and third and fourth sector actors. Developing structures and tools to promote cross-sectoral cooperation.
- Promoting measures that support wellbeing and health, and reduce the need for different services.
- Promoting an active lifestyle and community that improve health and wellbeing, and maintaining high-quality cultural and leisure services and structures.
- Developing solutions to tackling inequality, and promoting inclusion and integration.

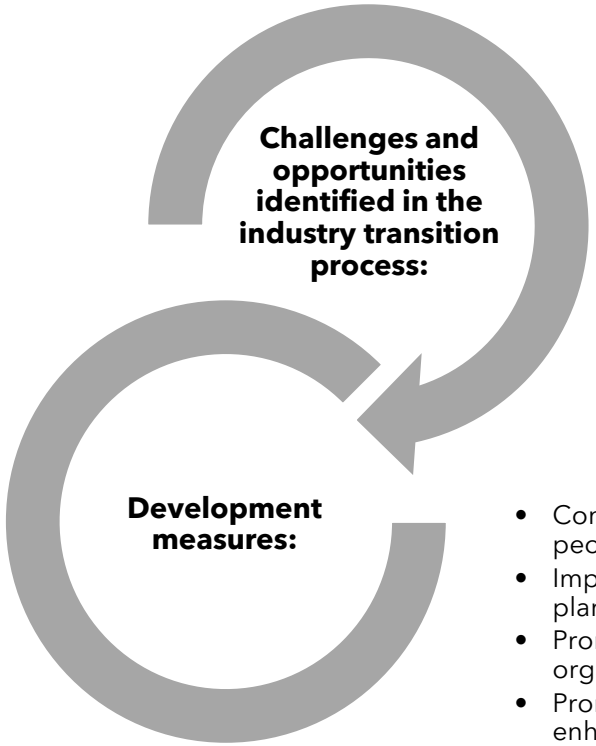
KNOWLEDGE AND INNOVATION CLUSTERS IN SATAKUNTA

# Safety and security of supply

**Safety and security of supply are important themes in this export-driven region. Safety issues related to Satakunta's industry, energy production, food production, and land and sea transport are also key to national security of supply. Cyber and information security is an important part of overall security in various organisations, and this dimension is highlighted in a region that specialises in automation and robotics. Increasing regional cooperation is key to maintaining security and anticipating security risks, especially now that climate change and the resulting adverse weather conditions, as well as unforeseen pandemics, will increase concrete security risks in people's everyday lives.**

**The core dimensions of security include, for example, the safety of citizens, industrial security, and environmental safety and cleanliness. Safety also involves anticipating and ensuring preparedness to deal with environmental accidents and damage. Response planning for both marine and land-based environmental damage, and the continuous development of inter-authority cooperation, contribute to the region's overall safety.**

**The transport system must provide safe and efficient connections for residents and businesses throughout the region.**




- The operational practices of inter-authority cooperation related to the region's safety culture are effective, and increase safety in people's everyday lives.
- The Emergency Services Training Centre of Western Finland provides a comprehensive setting for testing rescue and safety management skills.
- The quality and safety of road connections, as road transport plays a major role in the region.

- Consolidating regional cooperation to maintain safety in people's everyday lives.
- Improving risk management skills and promoting security planning, piloting, and training.
- Promoting the prevention of safety risks to residents, organisations, and communities through safety planning.
- Promoting a culture of safety and preparedness by enhancing cooperation between the business sector, the authorities, and the region.
- Strengthening regional, national and international collaboration between development institutions, educational and research organisations, and private sector RDI activities.

# STAKEHOLDER COLLABORATION AND PARTNERSHIPS

In smart specialisation, stakeholder collaboration is promoted through the Entrepreneurial Discovery Process (EDP). The involvement of the business sector, the public sector, research and education organisations, and civil society in the preparation and implementation of smart specialisation themes and operating models is ensured throughout the preparation, implementation, and evaluation of the strategy.

The strategies identify opportunities and measures for trans-regional, national and international cooperation between research and innovation actors and companies in selected themes or focus areas, and measures to engage regional stakeholders (including SMEs, education and research organisations) in the creation of international value chains.

Strengthening smart specialisation requires an approach that takes into account place-based development, the region's unique resources and strengths, but also the weaknesses and development bottlenecks that should be addressed in the region's development policy. With regard to the development of research, knowledge and innovation clusters, it is important to identify strategic partnerships at regional, national and international levels. In learning areas, the region's resources can be used to the fullest and linked to the identified value-adding strategic partnerships. In Satakunta, regional development and innovation activities involve continuous development and renewal, the monitoring of social phenomena, and proactive and cross-administrative response activities. Promoting a culture of experimentation is key.

The aim of Satakunta's regional innovation system, which is based on partnership and foresight, is to promote industry-driven RDI activities and the profiling and cooperation of educational and research institutions. The competence of secondary education providers and their cooperation with companies also play an important role. The key competences outlined in the City of Pori's ecosystem agreement are linked to the priorities of Satakunta's Smart Specialisation Strategy: technology metals and circular economy, automation and robotics, and welfare technology. The ecosystem agreements focusing on the development of innovation ecosystems will be implemented using the sustainable urban development resources of the EU programming period 2021–2027.

In order to strengthen regional capacities and smart specialisation, intra-regional cooperation and inter-regional networking will be promoted using the EDP approach (quadruple, quintuple innovation helix). Satakunta's operating model includes the constant search for new partnerships, the regular evaluation of focus areas, and the development of cooperation with international partners. Promoting intra-regional cooperation and inter-regional and international networking is key to strengthening regional capacities, know-how, and smart specialisation.

# MEASURES AND MONITORING

The aim of the Smart Specialisation Strategy is to guide the allocation and synergies of the Structural Fund funding in an effective way. The Regional Management Committee plays an important role in guiding and monitoring the implementation of the strategy. The strategy is monitored and evaluated as part of the implementation of the Satakunta Regional Programme and Structural Fund programmes by the secretariat of the Regional Management Committee and the regional development authorities.

The monitoring and evaluation tools used to assess the realisation of the Smart Specialisation Strategy objectives are linked to the monitoring indicators of the Satakunta Regional Programme. The success and effectiveness of the implementation of the Smart Specialisation Strategy is measured by monitoring the development of RDI and economic activities, and the effectiveness of project activities. The Regional Council of Satakunta's statistical information services and regional foresight activities serve as a platform for monitoring smart specialisation priorities.

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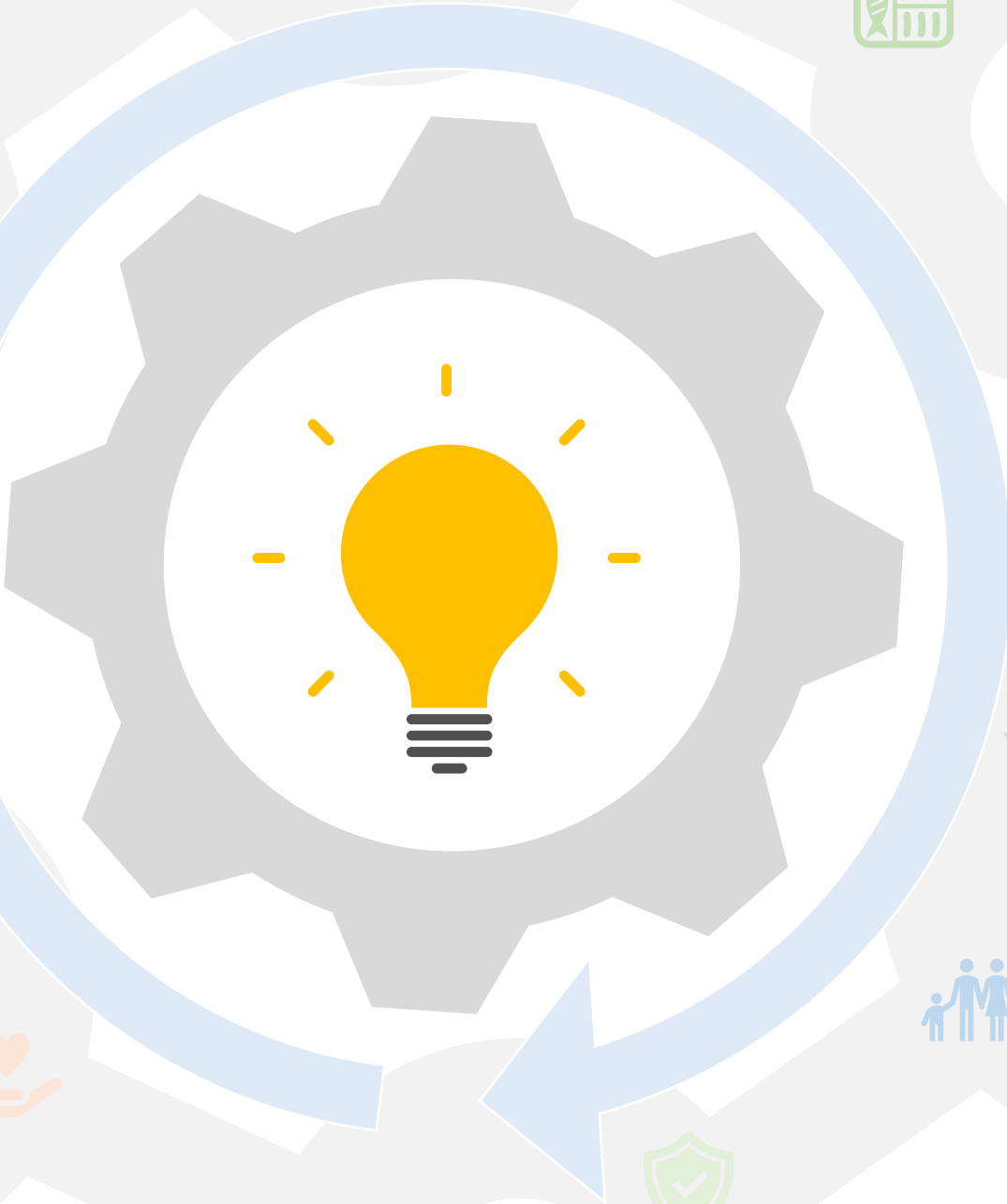

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