

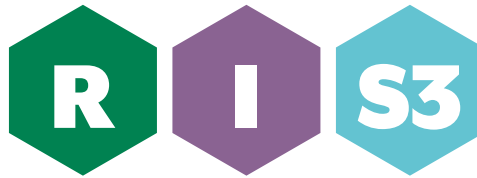


**RESEARCH AND INNOVATION STRATEGY
FOR SMART SPECIALISATION
2018-2021**

THE SMART SPECIALISATION STRATEGY OF SOUTH SAVO



SOUTH SAVO
REGIONAL COUNCIL



RESEARCH AND INNOVATION STRATEGY FOR SMART SPECIALISATION

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PREFACE

Smart specialisation refers to identifying region's own strengths and making them the region's competitive advantage. The core of smart specialisation is in the top priorities of the region's innovation activities and the open-minded combining of these areas of expertise. The update of the Smart Specialisation Strategy of South Savo is drawn up as part of the updating process of the 2018 – 2021 regional programme. The companies' needs and wishes regarding research and development activities in South Savo have been at the centre of the process.

The top priority areas of South Savo's regional strategy are FOREST – WATER – FOOD. These top priority areas are also the region's top innovation priorities. This smart specialisation strategy defines the main fo-cuses of the innovation activities of South Savo's top priority areas and their directions of development in the coming years. The strategy also outlines the key guidelines for innovation activities on which the funding from EU's Structural Funds is focused on in South Savo region. The main focuses of smart specialisation are the region's strong specific areas of expertise, with which the region wants to profile itself both nationally and internationally.

The goal of the development of RDI (research, development, innovation) activities is to create nationally and internationally significant centres of excellence, which can offer solutions that can be commercialised quickly in the following Smart Specialisation areas:

FOREST – New forest biomass products and production processes

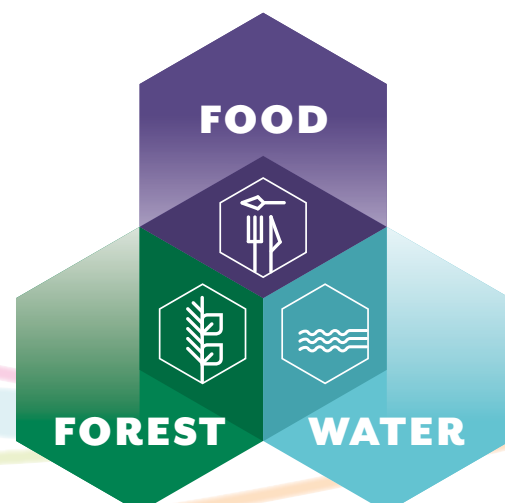
WATER – Clean water technologies and concepts

FOOD – Purity and safety of the food chain

The common denominator for all the top priority areas is digitality. In above priority areas digitality refers to making production and service processes more efficient. Digitalized processes produce

more manageable information that enables new kinds of services, processes and business built on top of information can be produced with digital processes easier than before. Digitality especially modernises service business activi-ties and means that the possibilities of the Internet can be adopted into wider use. This brings real-time global markets and competitive opportunities close to the region's actors. These must be seized so that in-novative business activities can be developed.

Service innovations supporting service business, with which the actors' joint user-oriented service processes are created, are centrally related to all three priority areas. These top priority selections form the core of South Savo's bioeconomy. Green and blue bioeconomies have also been boosted at the national level.



NEW FOREST BIOMASS PRODUCTS AND PRODUCTION PROCESSES

South Savo's local strengths are abundant forest resources, well-growing forests and unused raw material potential. In fact, South Savo is Finland's most significant region when it comes to timber production and utilisation of timber resources. The goal is to further increase the use of forest energy resources and raise the utilization of renewable energy, as well as to raise the degree of processing. In this specialisation theme, the goal is to obtain a higher processing value from forest biomass by growing fast-growing trees for different usage requirements and developing new high value-added products from forest biomass.

In this focus theme of Smart Specialisation, South Savo's strengths include long traditions in utilising silviculture and forest biomass, materials technology know-how and its application to new bio-based raw materials, strong expertise in equipment and machinery for fibre line products, as well as logistics know-how and industrial cooperation in fibre and process expertise. In a global competition, South Savo has special opportunities on the Russian market due to its geographical proximity.

MEASURES:

Improving the efficiency of the forestry value chain

- the processing, production and commercialisation of high-quality forest reproductive material
- the study and commercial utilisation of various components of wood
- the full utilisation of the entire wood value chain, while considering the promotion of low carbon economy
- development and commercialisation of the new materials of timber building

Products and production processes with a high degree of processing

- separating and processing wood components as new high value-added products
- new fibre product and processes
- promoting the introduction of biofuels that support low carbon and decentralised energy production



CLEAN WATER TECHNOLOGIES AND CONCEPTS

The quantity of fresh water is only three per cent of all the water in the world. Currently, 25% of the fresh water used goes to the needs of industry, which are predicted to continue to grow. The market related to the processing of water and wastewater is growing strongly, and the industry's value network becomes more diverse alongside this. These global growth prospects in the water sector are the base for South Savo's development goals. Treatment expertise of process water can be applied to, for example, mine water both domestically and abroad – the need for water treatment increases as the demand for more minerals grows at the same time as the environmental regulations are tightened.

Changes in living environment and land use and in people's attitudes, as well as tightening environmental legislation increase the need for material and waste recycling solutions and business activities related to them. The need for measurement and monitoring systems related to environmental safety also grows alongside increased awareness and requirements of transparency.

Globally, the cleantech market is rapidly growing. South Savo already has strong industrial and urban wastewater treatment expertise, RDI activities in the environmental sector and significant projects that support them, as well as companies in the environmental sector. South Savo is already one of the national leaders in the field, and the goal of the local actors in the near future is to expand into international business.

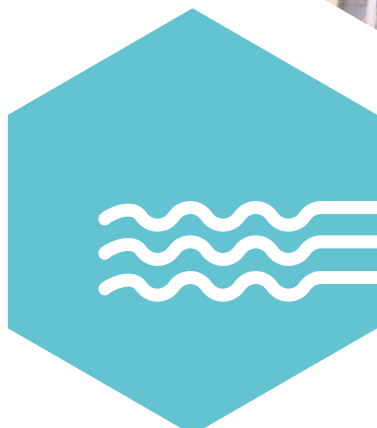
MEASURES:

Sustainable water management in industry and communities

- commercialisation of new innovative water treatment and processing methods
- separation, recovery and re-utilisation of value components, contaminants and nutrients

Smart comprehensive solutions for a clean environment

- new commercial applications for the environment and process monitoring
- wide-ranging promotion of material efficiency and recycling
- development and commercialisation of environmental analytics



FOOD – PURITY AND SAFETY OF THE FOOD CHAIN

South Savo's position in our country's food production is undisputed. The region has significant special know-how related to the food and foodstuffs cluster. Creating innovative cooperation models in the whole food chain is important to increase their profitability and efficiency. Therefore, we need innovative logistics and distribution solutions and network business models. Smart food safety solutions cover new kinds of solutions that promote food safety and the traceability of foodstuffs, as well as the identification of the origin of raw materials, whether they are programmes, applications, services, operating models, packages or communications solutions. The goal is to create new business with food safety innovations.

The key intent is not only to increase the field's ability to reform but also raise the innovativeness of the development activities to the next, internationally competitive level. This requires, for example, the development of new product, service and production innovations in the food chain. The theme's international top priority and commercial potential is, for example, in food tourism and food safety innovations. Strong local organic production, for example, creates a basis, on which smart comprehensive solutions can be built, especially on the interfaces of food tourism, marketing innovations linked to it, as well as digital services that increase food safety and remote diagnostics. South Savo's smart specialisation in local organic food means supporting operating models and applications that are created at sector boundaries and based on the problem-solving of customers.

MEASURES:

Organic product and production innovations

- developing and commercialising local organic product and production innovations
- developing solutions that emphasise purity, high quality and a sustainable production method
- new logistics and distribution solutions and network-like business models

Smart food safety solutions

- developing smart and ecological packages in the entire production chain
- Improving the traceability of the origin of the food production, refining and logistics processes
- developing service innovations that improve food safety





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