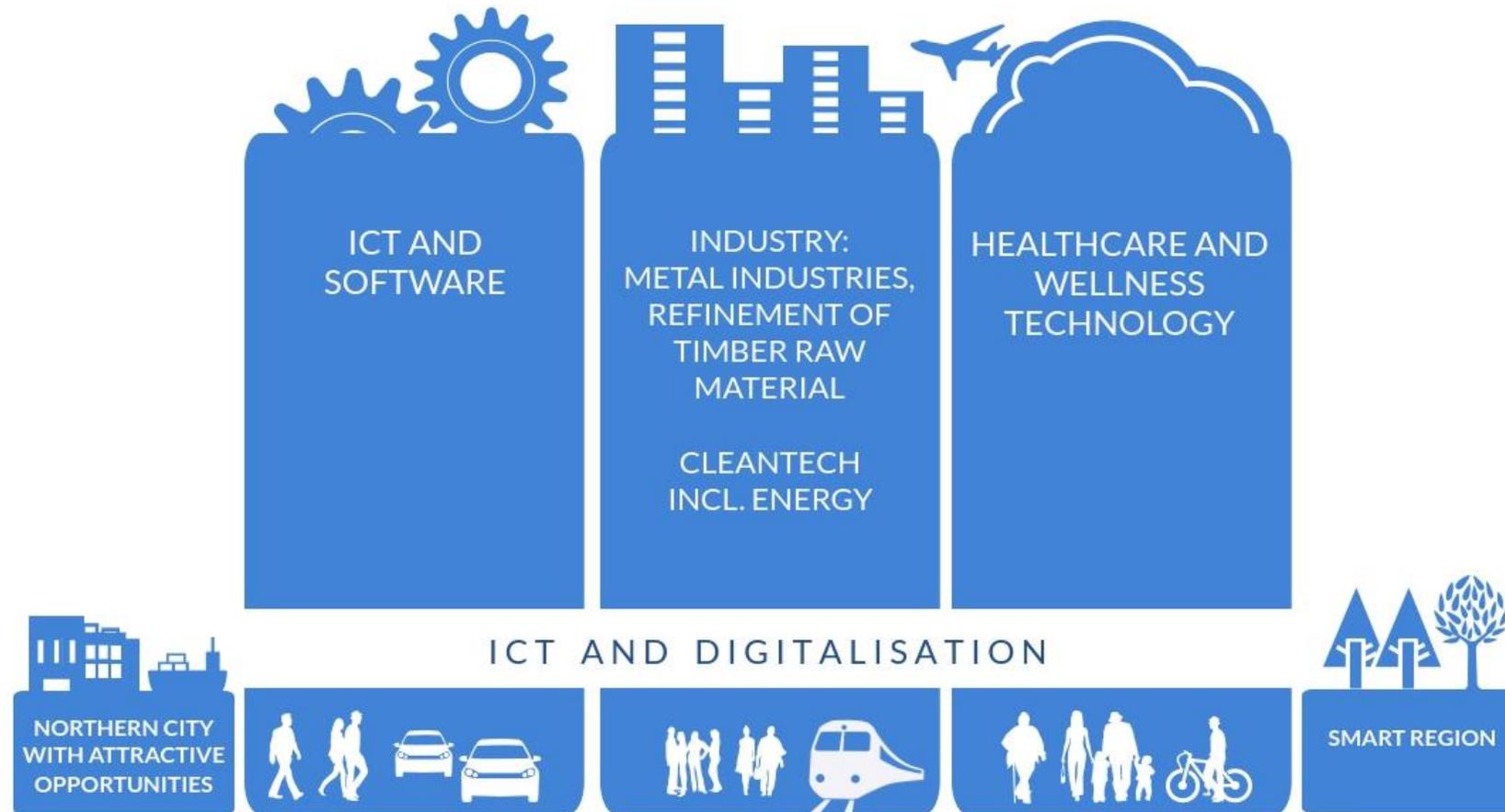


SMART SPECIALISATION OF THE OULU REGION



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What is Smart Specialisation?

In smart specialisation strategies, the regions analyse their own strengths and competitive advantages.

Smart specialisation highlights the aspects in which the Oulu region stands out among other regions.

Smart specialisation is based on existing international level know-how in the region, the number of enterprises, the strengths of research and innovation and their exploitation in business development and employment.

Smart specialisation in the Oulu Region is strongly linked to the Oulu Innovation Alliance.

Smart Specialisation is part of the EU's innovation policy. Strategies for smart specialisation guide the allocation of European structural and investment funding.

ICT and software

Spearheads:

Globally successful products

Interesting services

Efficient production

Digital ITE province

Characteristics

- The foundation: Oulu's internationally unique know-how in telecommunications and hardware technology
- The Nokia cluster; Oulu-based and internationally established companies that have survived the transition phase
- The rise of the Fintech sector (banking and finance) as an important sector together with welfare technology and IoT
- Concentration of education and research

Possibilities

- 5G
- Transition and growth sectors are strong: fintech and IoT
- Health care and ICT synergy

Employment effect:

Companies: 450 (+5%)

Personnel: 13000 (+5 %)

Net sales: 3007 M€

Anchor companies:



Interesting SMEs:

- Haltian, 9Solutions, Receiptless Software, Offcode, Taviq,

Research breakthroughs / supportive ecosystem:

- 5G and other telecommunications (companies, OU, Technical Research Centre VTT)
- IoT (VTT, OU, SMEs)
- Printed electronics (Technical Research Centre VTT, Oulu University of Applied Sciences, OU),
- Machine vision (OU)
- OIA ICT and digitalization
- HILLA

Metal industries

Spearheads:

Special steel expertise

Comprehensive services

ICT competence and cost-efficient automation solutions for small series

Characteristics

- Strong specialized steel expertise based on steel factories in the region and cutting-edge research
- Profiling of the University of Oulu as a steel university
- Trends support growth → The importance of raw material efficiency and environmentally friendly growth increases whereby stronger materials and lighter structural solutions are used more efficiently
- RDI infrastructure in the metal industry is up-to-date and efficient

Possibilities

- Steel and planning expertise when utilizing new materials and making lighter structures
- Effective utilization of 3D metal printing
- Cost-effective use of flexible ICT in automation solutions for small series

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Employment effect: (2015 TOL2008 24, 25, 28-30 and 33)

Companies: 600 (+5 %)

Personnel: 8100 (+10 %)

Net sales: 1574 M€ (+10 %)

Anchor companies:



Interesting SMEs:



Research breakthroughs / supportive ecosystem:

- Special steel (SSAB, Outokumpu, OU)
- Light steel constructions (companies, OU, Oulu University of Applied Sciences)
- Future production technologies (companies, OU)

Cleantech incl. energy

Spearheads

Materials, products and services based on circular economy

Resource efficiency and environmental responsibility of industry

Decentralised and smart bio-based energy

Characteristics

- Enabled by big industry, anchor companies, five research organisations
- Many start-up companies bring growth potential
- Competence in resource efficiency in industry: especially water, resource-efficient construction and measurement technology
- Spearheads contribute to growing international markets

Possibilities

- ICT competence is better combined with cleantech solutions
- Research and business cooperation of printed electronics is commercialized and internationalized
- Promising research results are commercialized; research especially on circular economy and water purification

Employment effect:

Companies: 160

Personnel: > 2 200

Net sales: 900 M €

Anchor companies:



Interesting SMEs:



Research breakthroughs / supportive ecosystem:

- Usage of industrial side streams
- Water purification methods and materials
- Bioenergy production, consumption and emission control (University of Oulu)
- Solar cells and intelligent LED lighting (Technical Research Centre VTT)
- Energy Efficiency of Buildings (Oulu University of Applied Sciences)
- Water protection methods (Syke)
- Industrial side streams as soil improvers, nutritional circular economy (Luke)

Refinement of timber raw material

Spearheads:

Wood Products Industry

Chemical Forest Industry Pulp and paper industry

Wood chemistry and processing of side streams

Characteristics

- Oulu Region is the leading province in the timber and logging industry. A significant part of the production is exported.
- Wood construction is mainly based on local expertise, raw material, further processing, industrial manufacturing, logistics and on-site assembly work.
- Strong pulp and paper industry - coated fine paper production is important globally

Possibilities

- There is potential connected to increasing wood constructions in public buildings, in the construction of halls and bridges as well as in demand-driven concept construction.
- High-grade and value-added products should be placed around existing forest industry; utilization of industrial side streams - enterprise symbioses, which also offer profitable business opportunities to the SME sector and niche market
- Value raising potential of forest biomass
- Combining ICT skills with resource-efficient raw material production and utilization (e.g. harvesting, logistics), streamlining production processes and improving product quality
- Co-development and renewal of the industry as part of other industries and services business (e.g. tourism and ecosystem services)
- Piloting and commercializing promising research results

Employment effect:

Forest industry (Wood products and pulp and paper industry)

Companies: 224

Personnel: 3720

Net sales: 1 475 M€

Major companies:



Interesting SMEs:



Research breakthroughs / supportive ecosystem:

- Appr. ten educational and research organizations in the province
- Research and development of wood construction
- Research on biomaterials and chemicals

Healthcare and wellness technology

Spearheads:

Digital health

Unique testing environments

Strong research and innovations

Characteristics

- Healthcare and wellness technology in strong growth
- Productive innovation ecosystem and innovation platforms (OuluHealth)
- Unique testing environment (e.g. OuluHealth Labs) enable the use of new innovations
- Co-operation between research and business is open and enriches business life

Possibilities

- Linking ICT skills to health sector
- Digital testing environment as a facilitator for social and health experiments
- The ecosystem model speeds up the introduction of new technologies (5G, IOT, AI, Bigdata) that enable digitalization

Employment effect:

Companies: 540

Personnel: 4604

Net sales: 665 M€

Anchor companies:



Interesting SMEs:



Research breakthroughs / supportive ecosystem:

- Digital health
- Knowledge-based, human-centered health and well-being solutions
- Medical applications and artificial intelligence (AI)
- eHealth impact study
- OuluHealth innovation ecosystem