

Projects in the Academy for Smart Specialisation

The Academy for Smart Specialisation invests in the six identified areas of specialisation in Värmland's Research and Innovation Strategy for Smart Specialisation - VRIS3, <https://www.kau.se/files/2017-12/Strategy%20Smart%20Specialisation%202015-2020.pdf>

These are:

- Forest-based bioeconomy
- Digitalisation of welfare services
- Advanced manufacturing and complex systems
- Nature, culture and place-based digitalised experiences
- System solutions with photovoltaics
- Value-creating services.

A separate investment is also made in Gender Studies, in partnership with the Centre for Gender Studies. In addition to establishing projects and their budgets in the different specialisations, project funding is also allocated for coordination, marketing and further developing the Academy partnerships. An overview of the different projects that have so far been established as part of the Academy for Smart Specialisation is presented below, under the associated specialisations.

Forest-based bioeconomy

Forests as resources and opportunities in regional development

The project aims to contribute to the strengthening of regional innovation systems in Värmland, in relation to the transition to a forest-based sustainable bioeconomy. The project explores what it means for a region to transit towards a bio-economy, and the processes through which regional actors build and implement such transition. The project is carried out with the case study of three European regions where strategies of smart specialisation and regional innovation systems are set in place to promote a forest-based bioeconomy.

Involved research group: The Centre for Regional Studies (CRS)

Project manager: Margareta Dahlström, Professor of Human Geography

Website: <https://www.kau.se/en/crs/research/projects/transition-sustainable-forest-based-bioeconomy>

The Research Environment for a Circular Forest-Based Bioeconomy (FoSBE)

The project aims to contribute research-based knowledge, in order to prepare the public and private sectors in Värmland for future needs for new biomaterial and renewable bioenergy.

Involved research groups: Processes and Products for a circular BioEconomy (Pro2Be), Service Research Center (CTF)

Project managers: Karin Granström, Associate professor in Environmental and Energy Systems; Mikael Johnson, Senior Lecturer in Business Administration, CTF

Website: <https://www.kau.se/en/pro2be/projects/fosbe>

Digitalisation of welfare services

Graduate School for Digitalisation in Education (FUNDIG)

The aim is to contribute to research on the digitalisation of education, as well as to developing the knowledge and skills of primary and pre-primary schoolteachers in Värmland.

Involved research groups: Centre for Social Science Education (CSD),
Centre for Language and Literature in Education (CSL),
Science, Mathematics and Engineering Education Research (SMEER),
Research on Subject-Specific Education (ROSE)

Project manager: Jorryt van Bommel, Assistant professor in mathematics education

DigitalWell Research

This project aims to strengthen research, technological development and innovation in small and medium-sized businesses in the area of digital welfare services. The project will increase the capacity of businesses to develop new services through systematic user inclusion, meeting the needs of the public sector in a secure manner.

Involved research groups: Computer Science (CS), Service Research Center (CTF), Nursing Science

Project managers: Stefan Alfredsson, PhD in Computer Science; Erik Wästlund, Associate professor in psychology, CTF; Mona Persenius, Associate professor in Nursing Science

Website: <https://www.kau.se/en/cs/research/projects/other-projects/digitalwell-research>

Demand-Responsive Transport to ensure accessibility, availability and reliability of rural public transport (RESPONSE)

The project will contribute to the development of call-controlled public transport through analyses of user's experiences of traveling. Focus is on the interaction between drivers and travellers (with different forms of disabilities) as well as how these actors handle the conditions and problems in the journey.

Involved research group: Service Research Center (CTF)

Project manager: Per Echeverri, Associate professor in Business Administration

Website: <https://www.kau.se/en/ctf/research/ctf-research/research-projects/projects/response>

Advanced manufacturing and complex systems

Karlstad Lean Factory

Karlstad Lean Factory is a newly established development and meeting environment for industry at Karlstad University. The aim is to optimise processes and production in the manufacturing industry and to establish innovation capacity in an organisation.

Involved research group: Characterizing and Modeling of Materials (CMM)

Project manager: Leo de Vin, Professor in Manufacturing Engineering

Regional additive manufacturing laboratory at Karlstad University (AT-LAB)

The aim of the project is to install a laboratory for Additive Manufacturing at Karlstad University and to use it as a place where academia and regional companies can meet, thus creating opportunities for knowledge transfer and environments where big, small and medium-sized companies can develop knowledge, products and services in conjunction with the university in the form of workshops, seminars and pilot projects.

Involved research group: Characterizing and Modeling of Materials (CMM)

Project manager: Pavel Krakhmalev, Professor of Materials Science

Website: <https://www.kau.se/en/lab/about-project>

Nature, culture and place-based digitalised experiences

Digitalisation and the Tourism Industry

The project will initiate a development and innovation process, partnering companies in the tourist industry with IT companies to increase their competitiveness. The project also aims to increase local knowledge and to lay the groundwork for further promoting place-related experiences through digital solutions.

Involved research groups: The Centre for Regional Studies (CRS) and Geomedia

Project manager: Lotta Braunerhielm, Senior Lecturer in Human Geography

Website: <https://www.kau.se/en/geomedia/projects/take-step-towards-interactive-place-based-experiences>

Music Ecosystems Inner Scandinavia (MECO)

The project aims to work through a cross-border collaboration between research, education and the industry for a sustainable, innovative and inclusive music life in Värmland and Hedmark. Within the project researchers from various disciplines and universities collaborate to study regional music life, or 'Ecosystem'. One of the goals is to understand the conditions for different user groups to create and utilize the music experiences in the digitalized music landscape.

Involved research groups: Geomedia and Service Research Center (CTF)

Project manager: Karin Fast, Senior Lecturer (PhD) in Media and Communication Studies

Website: <https://www.m-eco.no/>

Systems solutions with photovoltaics

Solar Värmland

The aim of the project is to cooperate with regional industries to create new products and services in the area of solar cell-generated electricity and strengthen cooperation between regional companies and international groups. The project contributes to regional competitiveness and increases the use of solar electricity, which means reduced carbon emission.

Involved research group: Characterizing and Modeling of Materials (CMM)

Project manager: Markus Rinio, Professor of Physics

Website: <https://www.kau.se/en/physics/research/material-physics/silicon-solar-cell-research>

Gender Studies

Gender Academy for SME

The project aims to prepare and develop Värmland and its enterprises by developing and applying knowledge about gender, organisational change processes, gender-mainstreaming and norm-conscious innovation to increase innovation capacity and research and development activity as well as the growth of small and medium-sized enterprises (SME). Overall, the project involves developing and applying research about gender, innovation and sustainable development in a way that benefits both the academy and business.

Involved research group: Centre for Gender Studies (CGF)
Project manager: Ulf Mellström, Professor of Gender Studies.

Value-creating services

This specialisation is included in the DigitalWell and FoSBE projects.

Coordinating and marketing the partnership

VRIS 3 Academy Platform

This project has been created to turn the Academy for Smart Specialisation into a platform for cooperation and joint action, for example by providing meeting places promoting regional sustainable development, by taking advantage of the collected expertise of Karlstad University, and by enabling the Academy for Smart Specialisation to become a national and international actor in these areas.

Project owner: Grants and Innovation Office
Project manager: Håkan Spjuth, Director of External Relations