





Forest based bioeconomy

**– the highest priority in
Värmland's Strategy for Smart
Specialisation**

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Manager of Research and Innovation







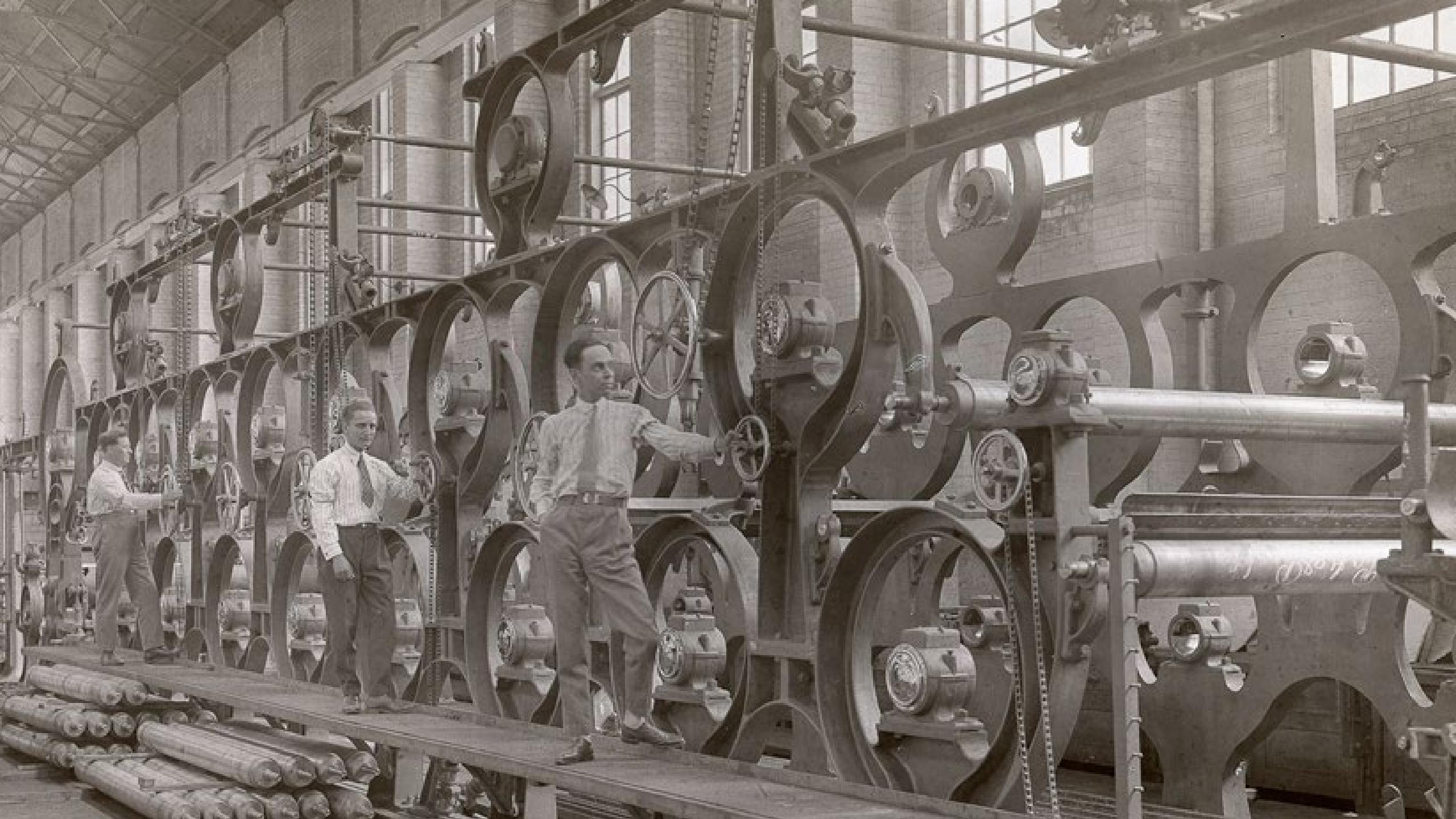
One million cubic meters

Värmland:

- Annual growth is 8 million cubic meters
- Annual harvesting is 6 million cubic meters
- Annually produced, 1.8 million tonnes of pulp and 1.6 million tonnes of paper

ACK, VÄRMELAND DU SKÖNA.







BillerudKorsnäs: 7 miljarder
investering ny kartongmaskin



Valmet: Advantage™ NTT®

newcell

**Paris, Milan, New York,
Kristinehamn**

Our recycling technology transforms high cellulosic waste into pure, natural dissolving pulp, re:newcell pulp. It's an efficient process that reuses chemicals, and it's up and running in our first plant in Kristinehamn, Sweden.



NY FABRIK I SUNNE – MED FOKUS PÅ TRÅG

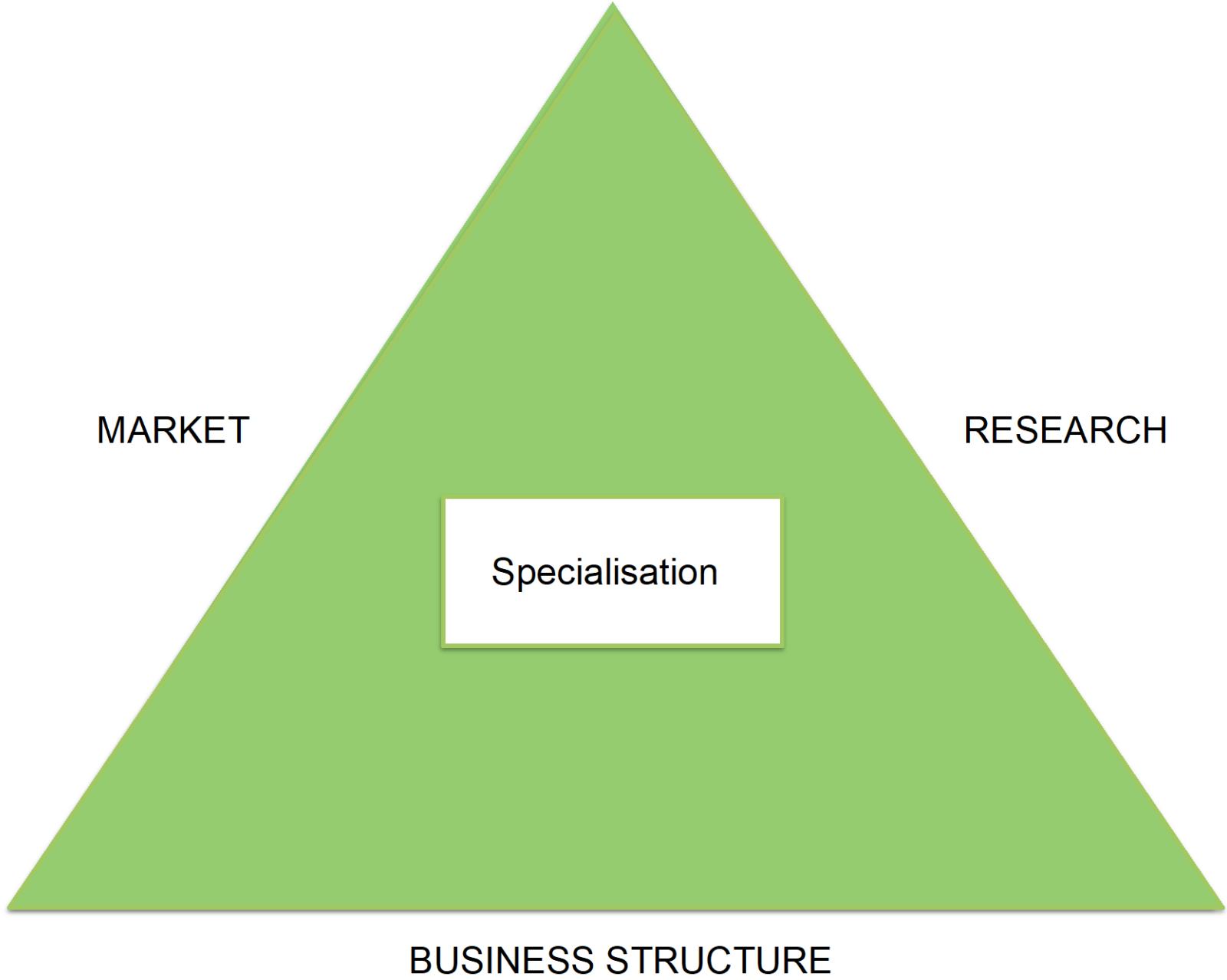


Rottneroskoncernen satsar på ny fabrik i Sunne

Råvaran är gammal men produkterna nya i en ny fabrik.



 Region
Värmland



Smart specialisation is a modern innovation and research strategy based on two main components.

1. An honest evaluation of the region's strengths and weaknesses.
2. A process that is conducted in close cooperation with regional stakeholders.





Smart specialisation

“... a dynamic strategic process where regions
... identify their long term competitive
advantages based on local strengths, and
define those actions that can lead them to
maintain and/or create their competitive
position”

Source: Innovation Union Competitiveness
Report, 2011



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Värmland's Research and Innovation Strategy for

Smart Specialisation 2015–2020

Smart ways to organise and develop existing regional assets in order to create value for users and society.

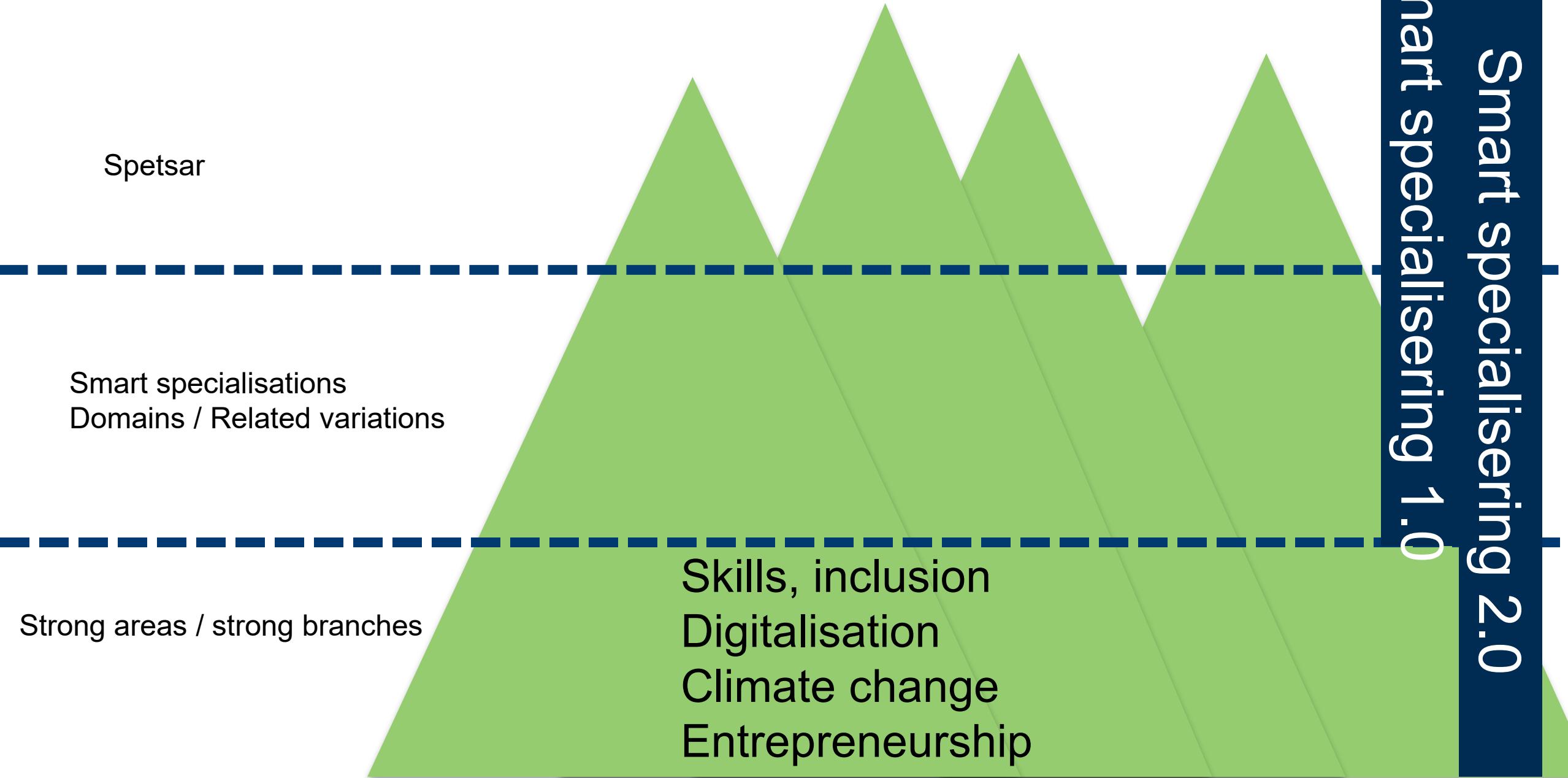
Specializations are both about what we are good at, and what we're good for.



VÄRMLAND

Smart specialising 1.0

Smart specialising 2.0



Spetsar

Smart specialisations
Domains / Related variations

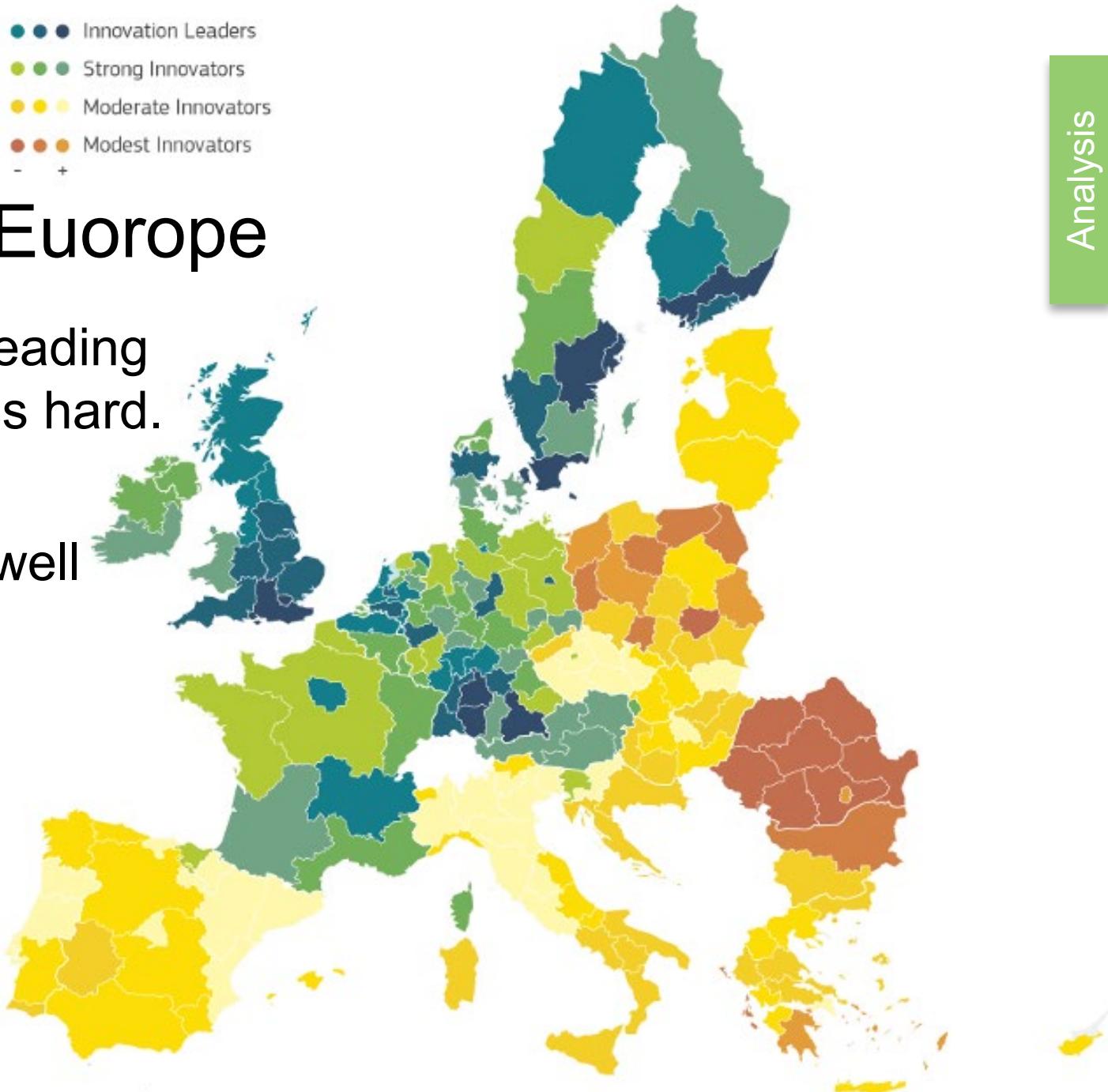
Strong areas / strong branches

Skills, inclusion
Digitalisation
Climate change
Entrepreneurship

Värmland – a strong innovator in Europe

Being a region in one of the world leading innovation nations the competition is hard.

“The region’s innovation system is well developed but the outputs are comparatively weak.”



"Very strong" in the paper, pulp and packaging and tissue.

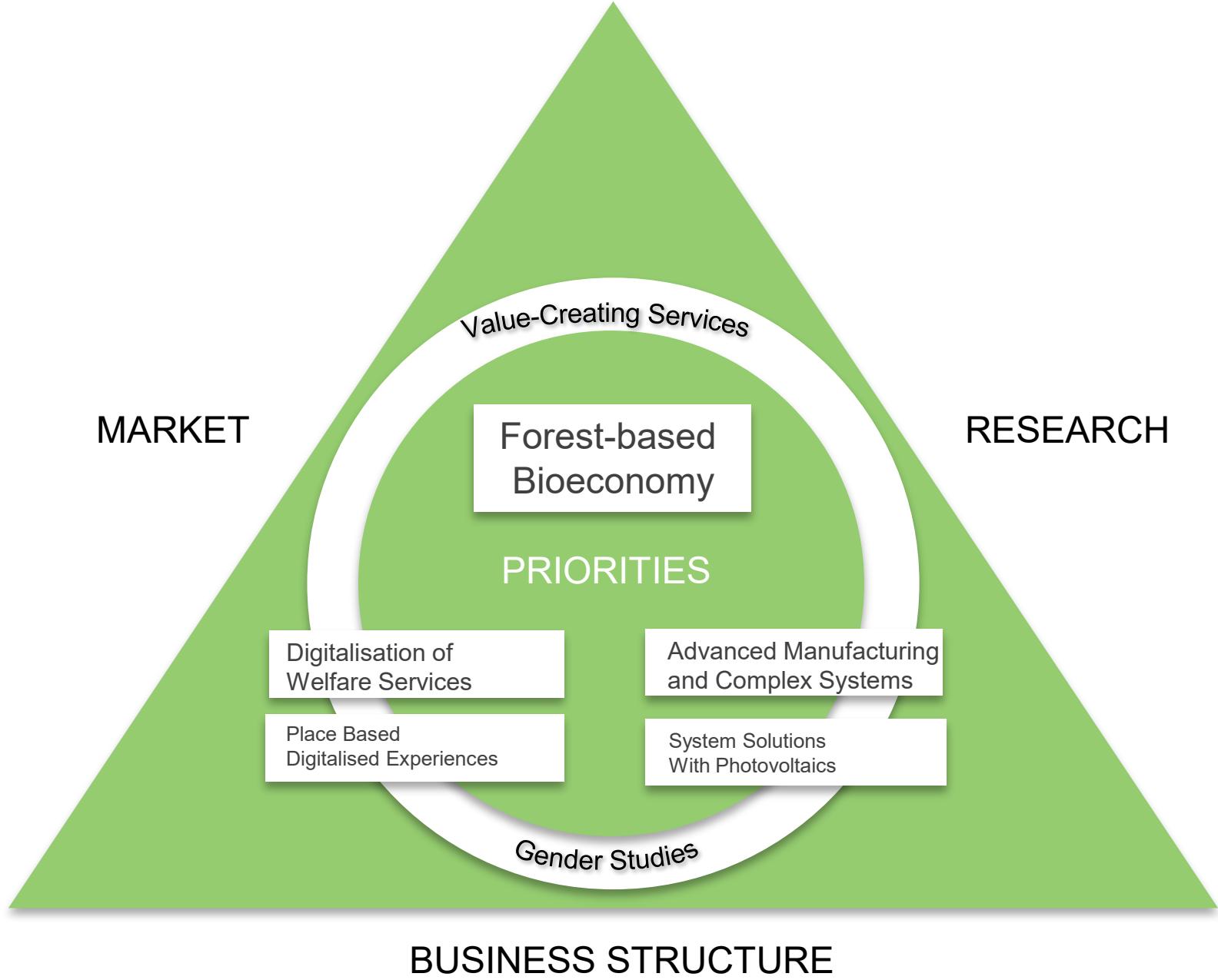
- Have no equivalent elsewhere in Europe.

Steel and engineering. Promising related to environmental technology.

Solar power has great potential for development. Must find a niche to tackle international competition.

IT has an interesting cutting edge related to health and service innovation.





	FOREST-BASED BIOECONOMY	DIGITALISATION OF WELFARE SERVICES	ADVANCED MANUFACTURING AND COMPLEX SYSTEMS	PLACE BASED DIGITALISED EXPERINCES	SYSTEMS SOLUTIONS WITH PHOTOVOLTAICS
CRITICAL MASS	4 000 anställda i pappers- och massabranschen.	2 000 anställda inom IT	> 10 000 anställda inom stål- och verkstadsindustrin	3 000 anställda inom besöksnäringen.	Okänta antal anställda. Ca 50 företag är medlemmar i GEC
INNOVATIVENESS	Åtta forskargrupper på Kau. Ett institut Två större privata forskningscentra. Fossilfri barriär.	Tre forskargrupper, varav en excellent miljö på Kau. Två institut.	En stark forskargrupp. En centrumbildning. En universitetsfilial. Minst ett större privat forskningscenter.	Forskare på Kau, framförallt inom en institution (Geomedia)	Två forskargrupper, en excellent och en stark.
REGIONAL ORGANISATION	Värmlandskluster	Värmlandskluster	Värmlandskluster	Klusterorganisation men ej ett Värmlandskluster	Klusterorganisation men ej ett Värmlandskluster
INTERNATIONA-LISATION	Företag agerar på världsmarkanden. Visst internationellt samarbete för klusterorganisationen	Från svenska marknaden för så väl klustret som företagen.	Företag agerar på världsmarkanden. Visst internationellt samarbete för klusterorganisationen	Företag agerar på närmarkanden i Nordeuropa. Samarbete med Norge för klusterorganisationen	Norgesamarbete. Export till Afrika.
MEETS SOCIETAL CHALLENGES	Bioeconomy, food security, forestry, clean and efficient energy, resource efficiency.	Health, demographic change and wellbeing Inclusive Secure societies - protecting freedom and security of Europe and its citizens.	Secure, clean and efficient energy, but oil...	Utvecklar turism med tanke på fler av samhällsutmaningarna.	Secure, clean and efficient energy; Tillväxt i antal företag.
ENTREPRENEURIAL DYNAMIC	Vinnväxt - entreprenöriell upptäckande process.	Tillväxt i antal företag. Söker affärsmöjligheter via tematiska satsningar och norgemarknaden.	Sökande efter nya konstellationer för nya väerdeerbjudanden mha kompetenskartläggningar.	Hög tillväxt i antal företag.	Stort antal innovationsprojekt. Nya företag i ung bransch.
GENDER	Mansdominareta. Har jobbat med jämställdhet.	Vård och omsorg har många anställda kvinnor Compare jobbar med jämställdhet.	Mansdominareta. Har jobbat med jämställdhet.	Många turismföretag attraktiva för kvinnor.	Mansdominerat. Ungt har inte hunnit jobba med jämställdhet.

Vision Forest based Bioeconomy

With a more than 150-year-long history within paper manufacturing, we conceive creative meetings between tradition and renewal and show the way using bio-based innovations originating from the forest to foster a fossil-free and sustainable society.



**We bring the forest
into the future**



PAPER PROVINCE



Testbeds in Värmland
... mirrored in research
environments at
Karlstad University

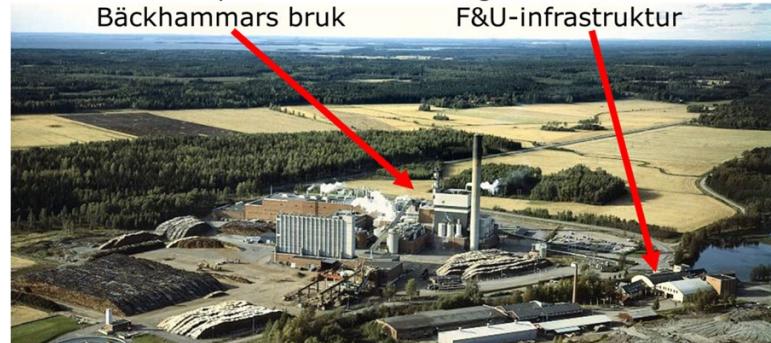


The
LignoCity
Testbed

PART OF
**RI.
SE**

Nordic Paper
Bäckhammars bruk

LignoBoost AB
F&U-infrastruktur





Glava Energy Center



EXPERIO
LAB



Karlstad
AT Lab
Lean Lab



Complementing testbeds

ALFRED NOBEL
SCIENCE PARK

3D-printing metalliska material



Rolls-Royce

Hydrodynamik

DigitalWell

Digitalisering av välfärdstjänster



Sting

BIOECONOMY

EST. 2018

Vision

Be the Global Leading Hotspot for Developing
Business and Startups within Bioeconomy





For Region Värmland it's important that Karlstad University is internationally strong, with excellent research and with a strong sense of the place.





The Academy for Smart Specialisation





Management
& Com



Innovation
& Dev



Strategies
& Analysis



Networking
& Business



Market
growth



bioeconomyregion.com



PROSJEKTPARTNERE: Aspervall Instrument | Bäckebrons Sågverk | CS Produktion | Den norske emballasjeforening | Gausdal Bruvoll SA | i4plastics | Innovasjonssenter | Campus Ås AS | Karlstads Energi | Kjeller Innovasjon AS | Magnor Næringshage AS | Moelven Edanesågen | Moelven Notnäs | Norges Skogeierforbund | Nyqvist Skog OREEC | Pan Innovasjon AS | Projektengagemang | PROPIA | Treklyngen AS | Termowood AS | Trebruk AS | Tretorget AS | Timmer Logistik Väst | Vitenparken Campus Ås | VVDS Öbergs

FORSKNINGSPARTNERE: NMBU | NTNU Gjøvik | NIFU | NIBIO | SINTEF | Karlstads universitet | Østfoldforskning AS

**Drives learning
and policy impact
through**

The national
Regional forum for
politicians and civil
servants

RND-network
with regions, national
authorities and the
national government

ERRIN's working group
Bioeconomy

EU Bioeconomy Panel
via Paper Province

The regions
National Network for
Bioeconomy

Nordic Council of
Ministers
Regional Development
Program

The Region Värmland Bioeconomy Team

Managing
Director

Director of
Communication

Project
Co-ordinator
BSR Stars S3

Manager of
Bioeconomy

Manager of
Business
development

Manager of
Education and
Training

Gender
Developer

Regional
Commissioners

Manager of
Research and
Innovation

Project
Manager
TBR

Project
Manager
Värmland EU
Office

Communication
Officers

Analyst

Directors of
the Regional
Growth
Department

Project
Co-ordinator
TBR

Head of
Region
Värmland
European
Office

Manager of
International
Relations

Project Officers

**In the lead of regional
development processes**

Värmland RIS3

Smart specialisation in
Northern Middle Sweden

Academy for
Smart
Specialisation

The Vinnväxt Initiative Paper Province 2.0

Business Värmland

The Bioeconomy
Region - Interreg

The Vanguard Initiative
- Paper Province

Monitoring of
RIS3

Sting Bioeconomy