

SAXION RESEARCH GROUP

SMART FUNCTIONAL MATERIALS



STRATEGY

Solving problems and strengthen innovation

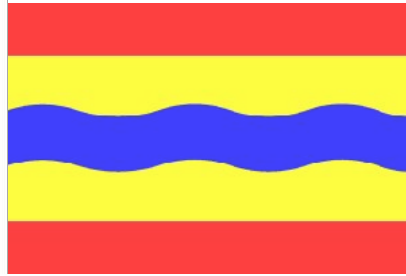
Applied research - growing importance

Embedded in Living Technology - societal issues

Collaboration between teachers, students, researchers,
and industry



Regional



National

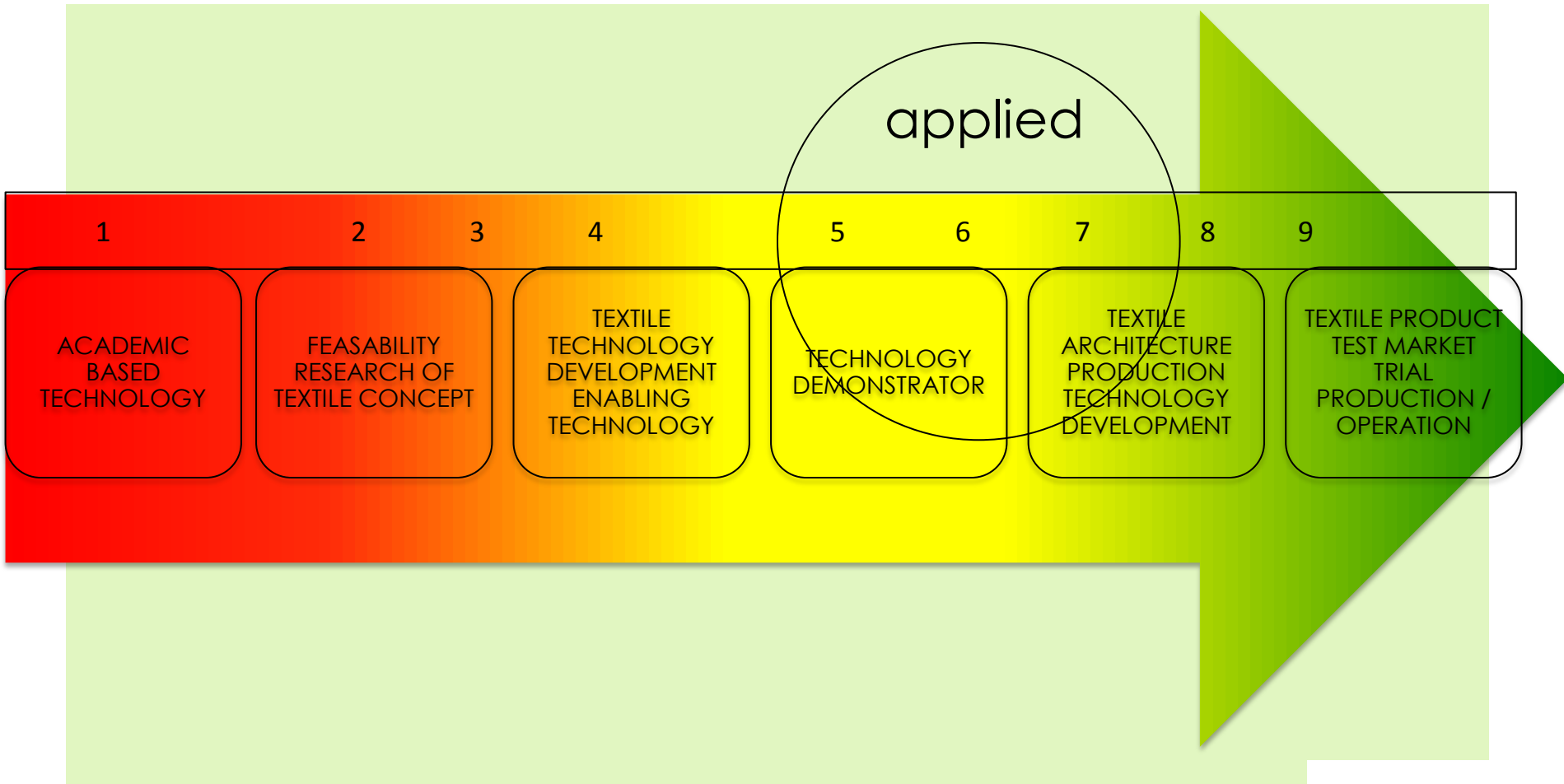


European

Dominant position in NL
Strong position in EU

Expertise
Facilities / resources
Industrial and knowledge networks

TECHNOLOGY READINESS LEVEL



3 RESEARCH DOMAINS

Sustainable Textiles

Responsive Smart Textiles

Surface Modification



SUSTAINABLE TEXTILES

FROM WORKWEAR TO WORKWEAR- SaXcell®

RECURF UP - recycle urban textile waste into composites

GOING CIRCULAR GOING CELLULOSE – improved textile
quality

WORKWEAR TO WORKWEAR: SaXcell®



Recycling of cotton waste
into SaXcell

www.SaXcell.nl



RECURF-UP



GOING CIRCULAR GOING CELLULOSE

Textiles

Circular economy

Local production

Sustainable

Design



RESPONSIVE SMART TEXTILES

OOG II - optical fibres in defensive clothing

TEXENERGIE - energy harvesting in textiles

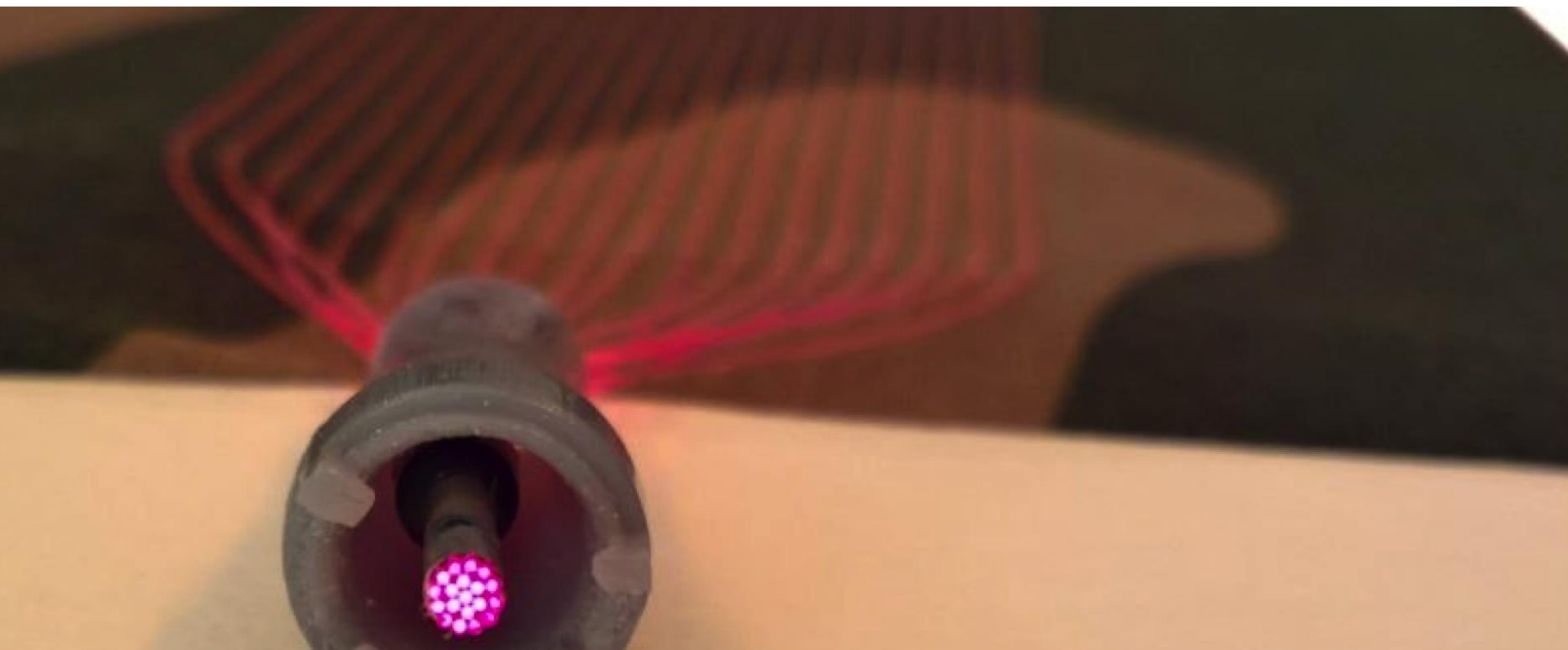
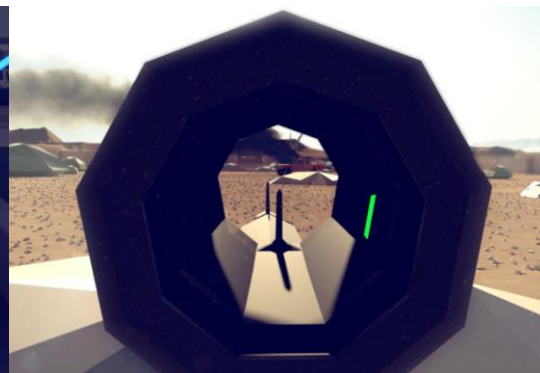
XOSOFT – exoskeleton

COOLING GARMENT – Firefighters clothing

BOUWTEX – Textiles in buildings/constructions

SHELTERSUIT – Urban Safety Kit

OOG II

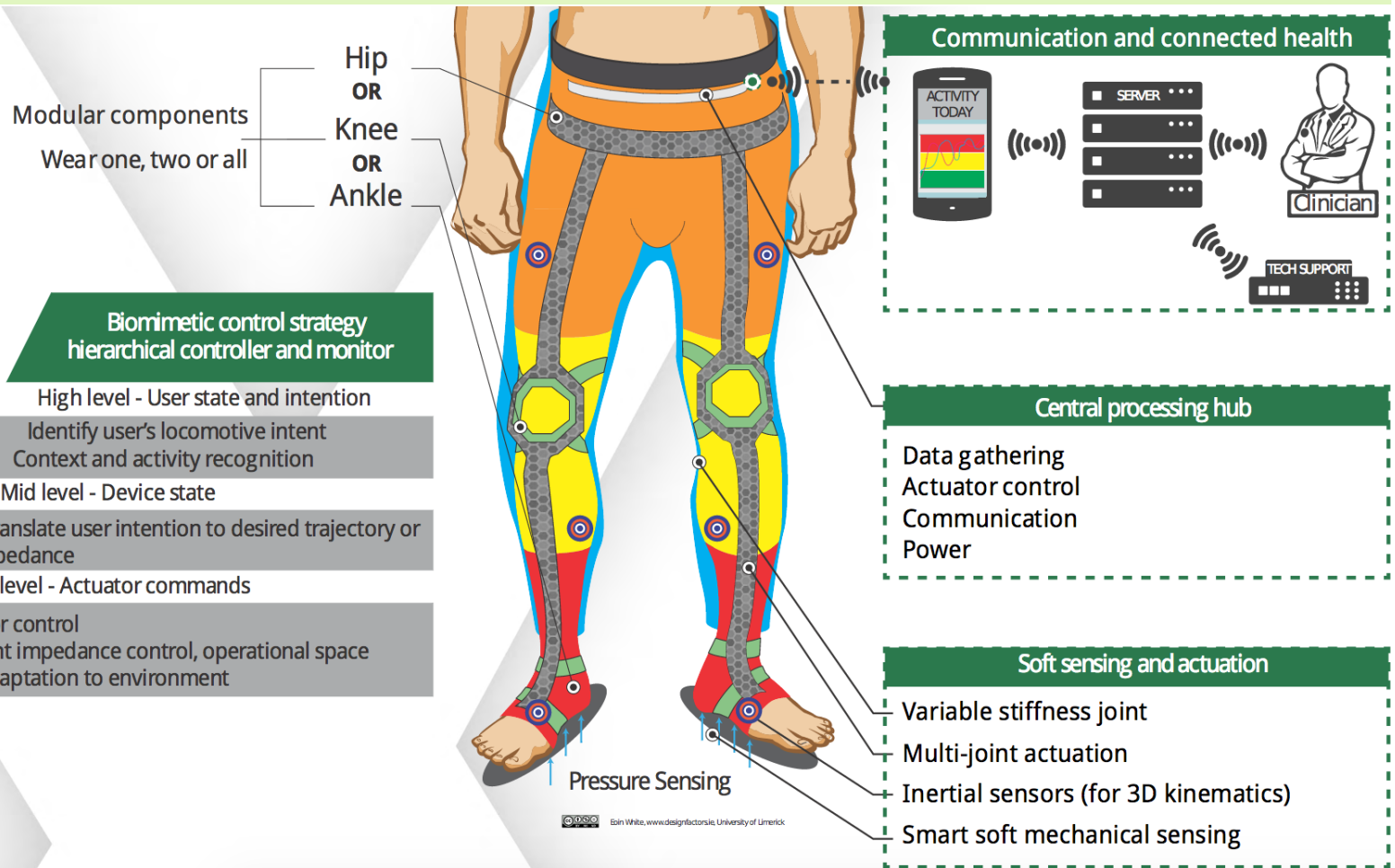


TEXENERGIE



Solar energy harvesting and
storage in textiles

XOSOFT



COOLING GARMENT



BOUWTEX



Textiles in buildings/constructions

SHELTERSUIT



Waterproof and
windproof jacket

transformable
into
sleeping back

Including an
Urban Safety Kit

SURFACE MODIFICATION

Finishing – Inkjet printing – 3D printing

CLEANING DOORMAT

OUTDOOR FABRICS – Comfort functionality

CLEANING DOORMAT



OUTDOOR FABRICS



Comfort functionality of outdoor fabrics

RESEARCH PLAYGROUND

3D PRINTING OF TEXTILES



3D printing



Embedding of electric
conductive yarns by 3D printing

RESEARCH PLAYGROUND

Integration of electronics in textiles



Textiles in buildings and constructions

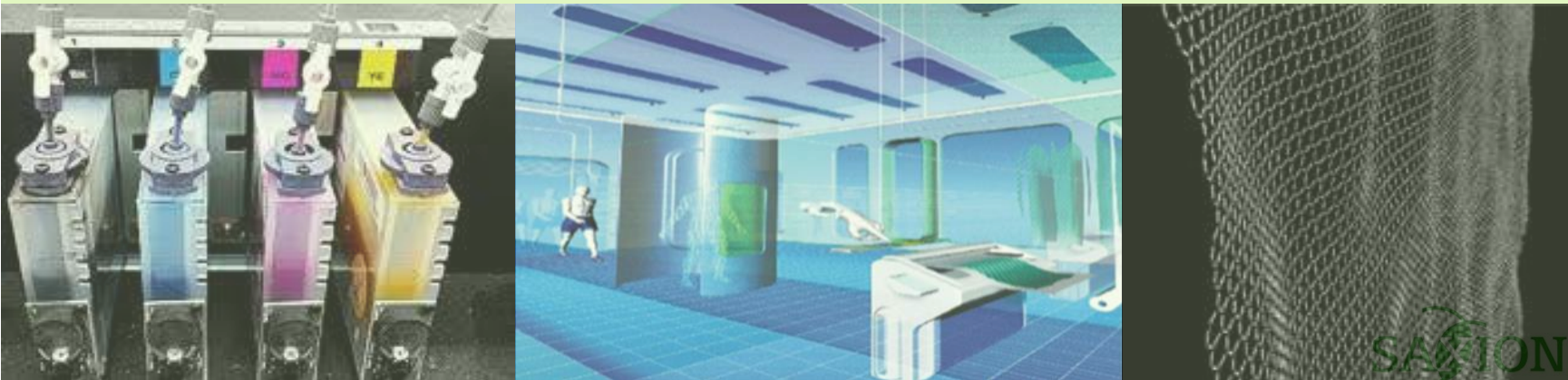


RESEARCH PLAYGROUND

New materials and combinations of materials, composites



Automation or robotising and water free processes



NETWORK

ETP - European Technology Platform for the future of textiles

NETFAS - Network of European Textile and Fashion universities of applied sciences

H2020 - projects and new initiatives

MODINT - industrial innovation roadmap projects

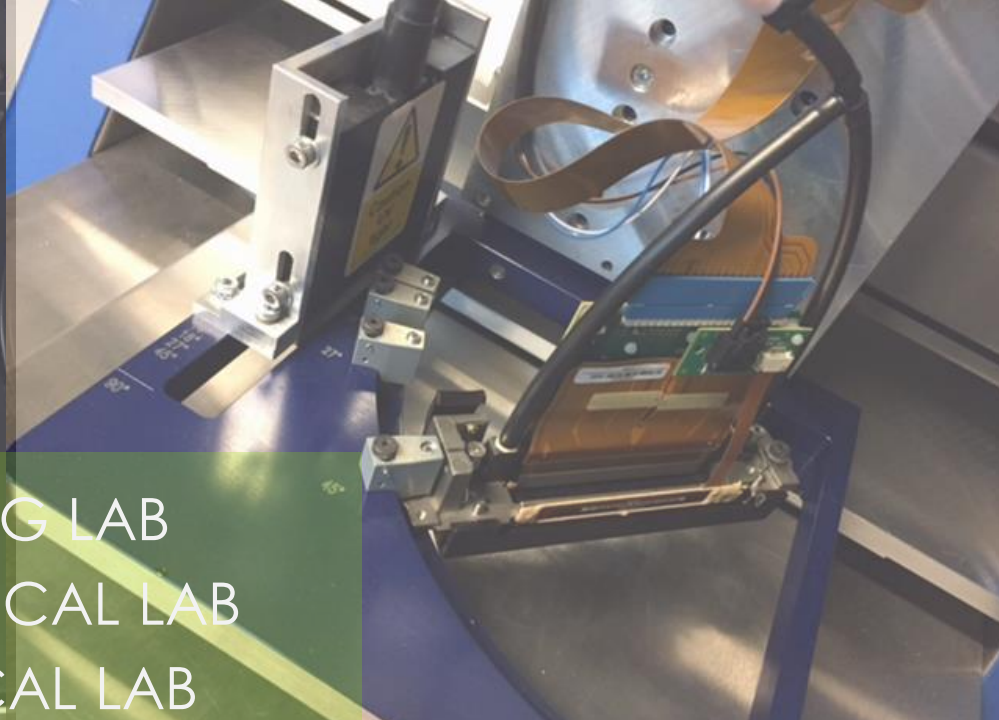
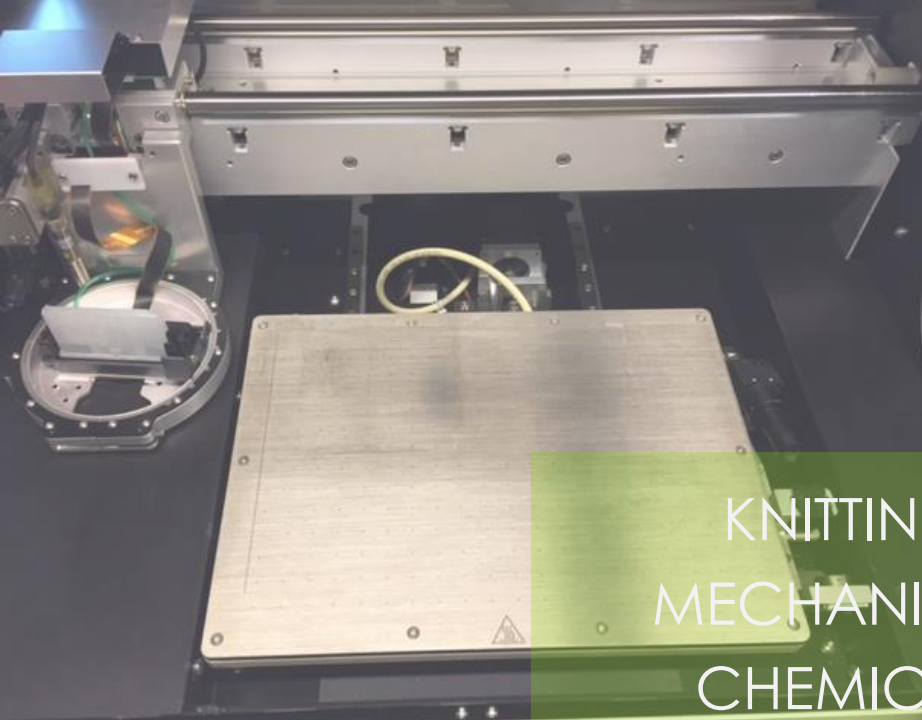
Smarttex

TexPlus

IFFTI- International Foundation of Fashion Technology Institutes

NL NEXT FASHION & TEXTILES

OICAM – Open Innovation Center Advanced Materials



KNITTING LAB
MECHANICAL LAB
CHEMICAL LAB
CONFECTION LAB
DIGITAL LAB
PRODUCTION LAB



LINK BETWEEN FTT, ITD & SFM

All researchers are teaching

Key-role in the Master

Teachers technical domain invited to group meetings

In 2017 50 students involved in research projects

3 LT projects in 2017 this year we aim for 6 (36 students)

Shared lab resources: all equipment is available for research, students and “others”

IoT or Internet of Everything

Production systems and users get connected over the value chain

Change is continuous

Digitising: internet of everything

Flexible production systems

Digital control of unit operations

VISION

Students operate in a world where:

Collaboration, Co-creation and multi-disciplinary are
the standard.

LT and the ever increasing role of (invisible?) technology
at the core of possible developments.

Regional: TFF, BILATERAL

National: SIA RAAK, KIEM, BILATERAL

European: H2020, INTERREG

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FOLLOW OUR RESERACH



www.saxion.nl/designentechnologie

