SMARTpro

Smart Textiles and Wearables

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TAGS – Brussels – 10/06/2015

Smart textiles: towards full integration

Preserving textile characteristics

Ensure maximal comfort

Requirements for electronic components and circuits
- **Thickness**
- **Light weight**
- **flexibility**

Additional properties
- **Drape**
- **Elasticity**
- **Breathability**
- **Washability**

SMARTpro: from lab-demo to industrial manufacturing

Through cross-sectoral cooperation

textiles — UNIVERSITEIT GENT, HoGent, CENTEXBEL

electronics — imec, ReMI Reliability in Mechatronics and ICT (KU LEUVEN)

ICT — sirris (driving industry by technology), iMinds

for several application areas

- intervention
- sport and leisure
- technical
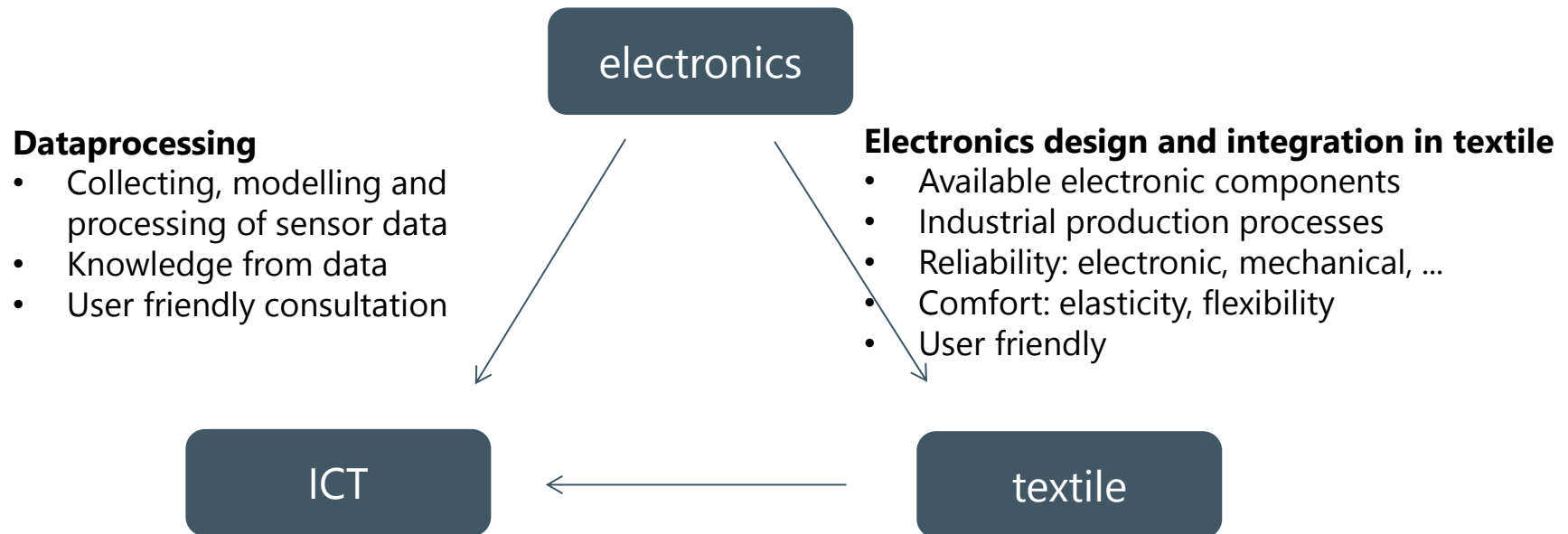- (home) care

CRETECS
expertisecentrum zorgtechnologie

By the industry

ABS Laundry Business Solutions
Balta Industries
Deslee Clama
Fabric Consulting (Caroline Biss)
Helioscreen
Niko Projects
Sioen Apparel
Yazzoom
2enjoy
Aerosleep
Bekintex
Elasta
Gociety
Henkel Electronic Materials
Page Electronica
Televic Group
Wollux
ActWithCare
Connect Group
Esri
Gysemans Clothing Group
IOS International
Quad Industries
TIO3 – TIC
ALLTHINGSTALK
Bainisha
Custom8
Europlasma
Haelvoet
Maastricht Instruments
Sioen Industries
VTEC
NRB

CENTEXBEL

SMARTpro — SMART TEXTILES AND WEARABLE INTELLIGENCE — iwt

SMARTpro: challenges, options, possibilities

electronics

Dataprocessing
- Collecting, modelling and processing of sensor data
- Knowledge from data
- User friendly consultation

Electronics design and integration in textile
- Available electronic components
- Industrial production processes
- Reliability: electronic, mechanical, ...
- Comfort: elasticity, flexibility
- User friendly

ICT

textile

Objectives end users
- **Sport, care, intervention**: localisation, physiological parameters, temperature, activity monitoring
- **Technical:** pressure, temperatur, mechanical parameters
- Meet specifications
- Certification

Development of 4 generic demonstrators

Selection based on

- common technological challenges
- end user requirements
- available and state-of-the-art

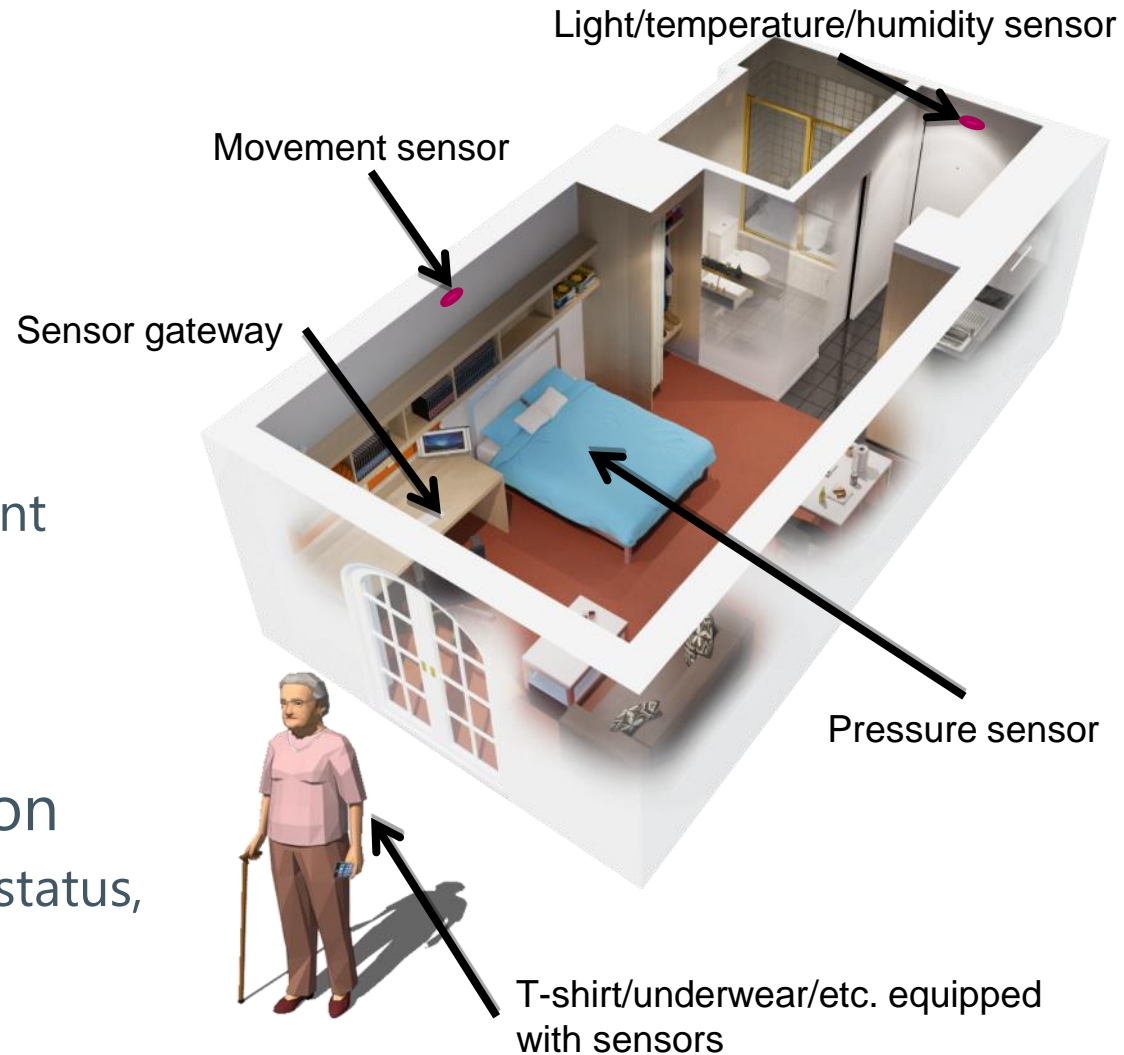with relevant applications in home/care, sports, intervention & technical areas
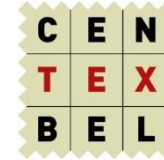
Home/Care

- **Wandering**
  - recognise where the patient is located and whether he or she is supposed to be there
- **Fall detection**
  - recognise a fall incident
- **Activity monitoring**
  - recognizing normal movement patterns
- **Physiological condition**
  - Monitoring of health status, trends and evolution

Light/temperature/humidity sensor

Movement sensor

Sensor gateway

Pressure sensor

T-shirt/underwear/etc. equipped with sensors

Thank you!

www.smart-pro.eu

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