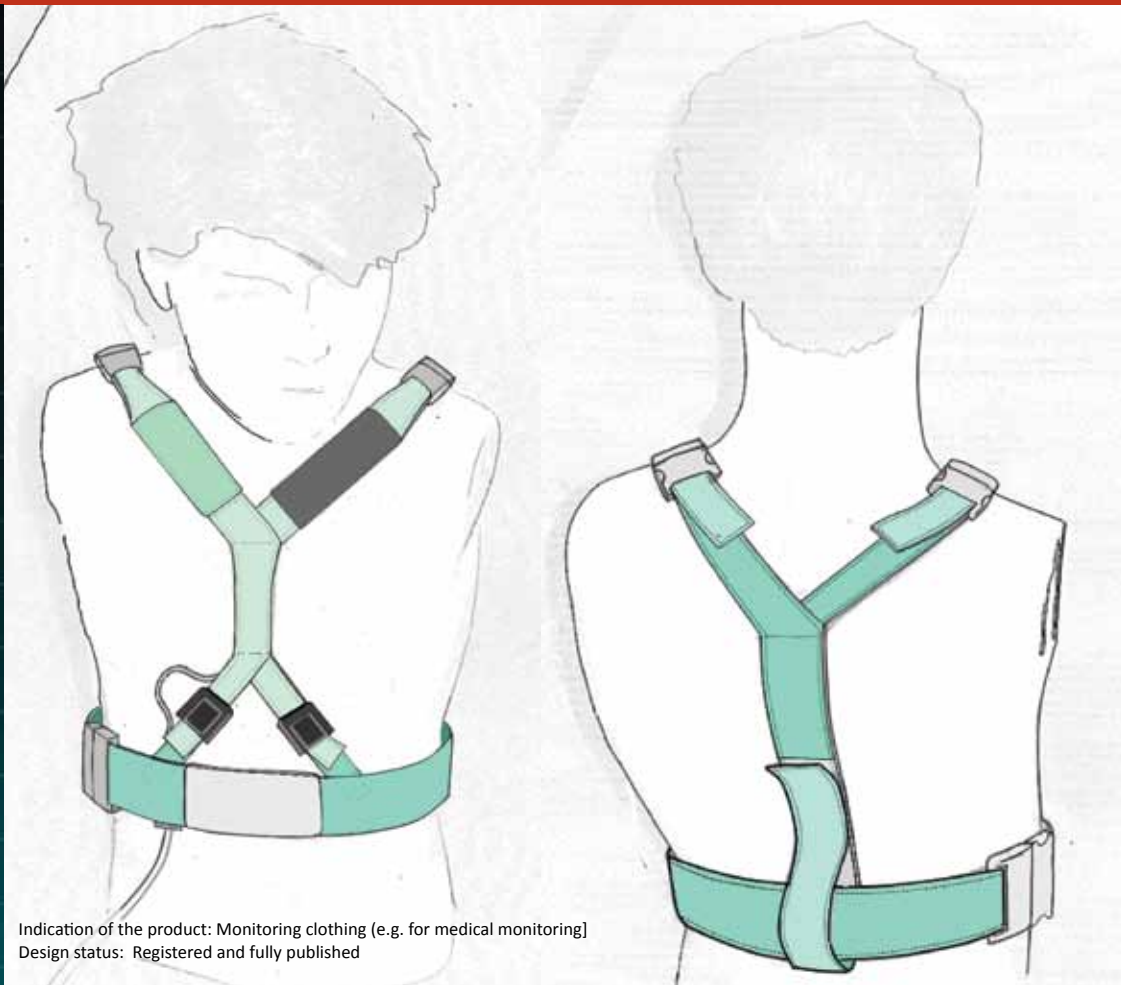
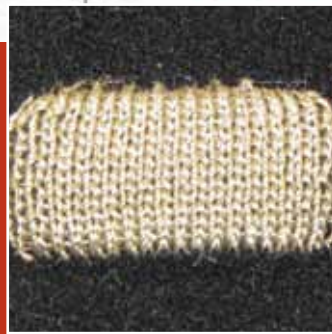


C E N
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smarttech

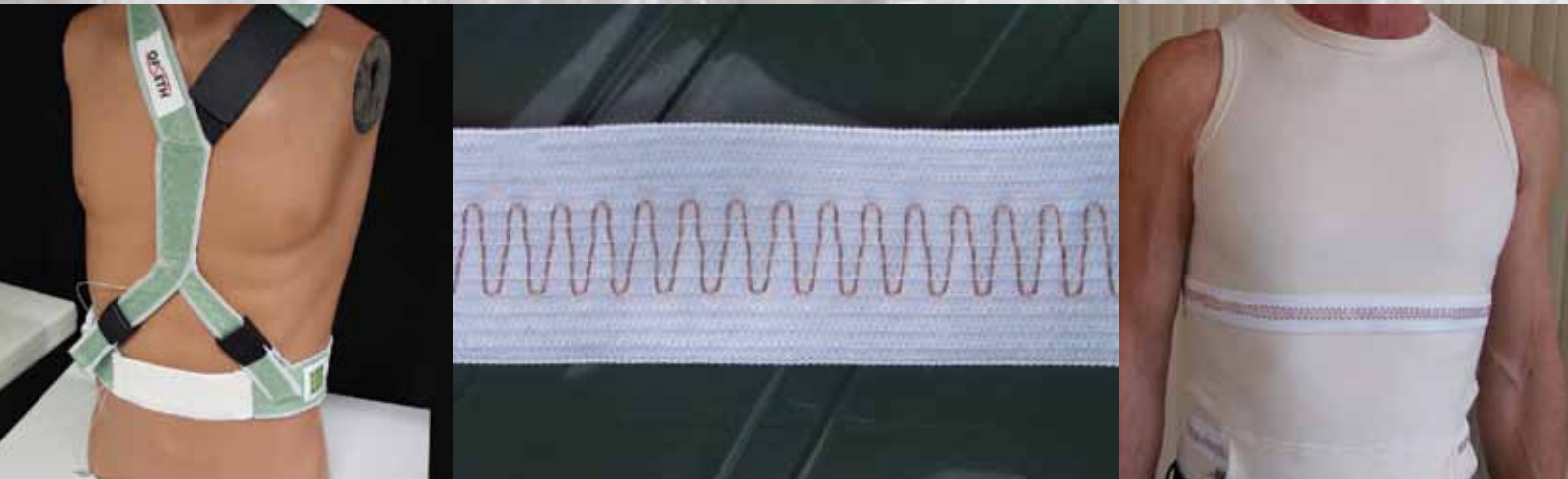


Indication of the product: Monitoring clothing (e.g. for medical monitoring)
Design status: Registered and fully published



TEXTRONICS & SMART TEXTILES

Socio-economic trends, changing markets and technological breakthroughs in both micro-electronics and textiles, provide a sound basis for the development and production of intelligent textiles. Smart textiles and clothing meet actual needs of different users related to health, protection, communication, comfort, and security. At the same time, smart textiles offer new and economically interesting opportunities to innovation-driven textile entrepreneurs.



textile integrated sensors for remote health monitoring (Ofseth - European research project)

application fields

protective clothing and military applications

- incorporation of global positioning systems and wireless communication
- stress monitoring (heartrate, respiration, transpiration, ...)
- comfort measurement
- risk assessment (biological, chemical, electromagnetic hazards) and hazard warning
- impact and ballistic protection by shear thickening materials

medical textiles

- clothing for patients : remote monitoring of the patient's health
- intelligent mattresses against bedsores (decubitus)
- controlled release of pharmaceuticals
- biosensors in surgical gowns and drapes

clothing : sports & leisure wear

- monitoring physical performances and endurance
- increased visibility
- active cooling and heating (either electrically or by means of phase change materials PCM)
- adaptive breathability through shape memory membranes
- communication with coach

home and automotive applications

- smart carpets for occupant detection
- luminescent mural textiles
- indication of emergency exits
- intelligent seats
- self-regulating sunblinds thanks to shape memory alloys
- photocatalytic degradation of pollutants (in-car and in-door air quality)



optic fibres integrated in knitted fabric

carpet with textile occupant detection underlay movement is represented by on & off switching luminescent yarns

laminated flexible & washable electronics (SWEET)

research & development



smart sweater with built-in battery recharge & textile keyboard connected to PC for read-out

Centexbel is actively engaged in the development and prototyping of innovative smart textiles as well as in research in the field of new materials and processes to create intelligent textile products:

- textile-embedded sensors and solar cells
- textile pressure sensors (keyboards)
- communication functionalities
- intelligent textile products (carpets, clothing, ...)
- light emitting textiles
- conductive polymer-based coatings & finishes
- stimuli-sensitive materials :
 - phase change materials and shape memory alloys/polymers
 - hydrogels
 - thermochromic, photochromic, electrochromic materials
 - dilatant (shear thickening/ impact hardening), self healing, piezoelectric ... materials

Because Centexbel is closely following up all evolutions in this area, the above list will never be exhaustive...

services & testing facilities

CENTEXBEL supports your company in its development of new quality products and in its search of useful information by providing:

- certification of smart protective clothing
- semi-industrial application platforms for product development and trial runs
- fully equipped testing laboratories for product assessment and trouble-shooting
- (in-company) training sessions, seminars and workshops
- technology watch
- patent search
- dissemination of information through newsletters and website



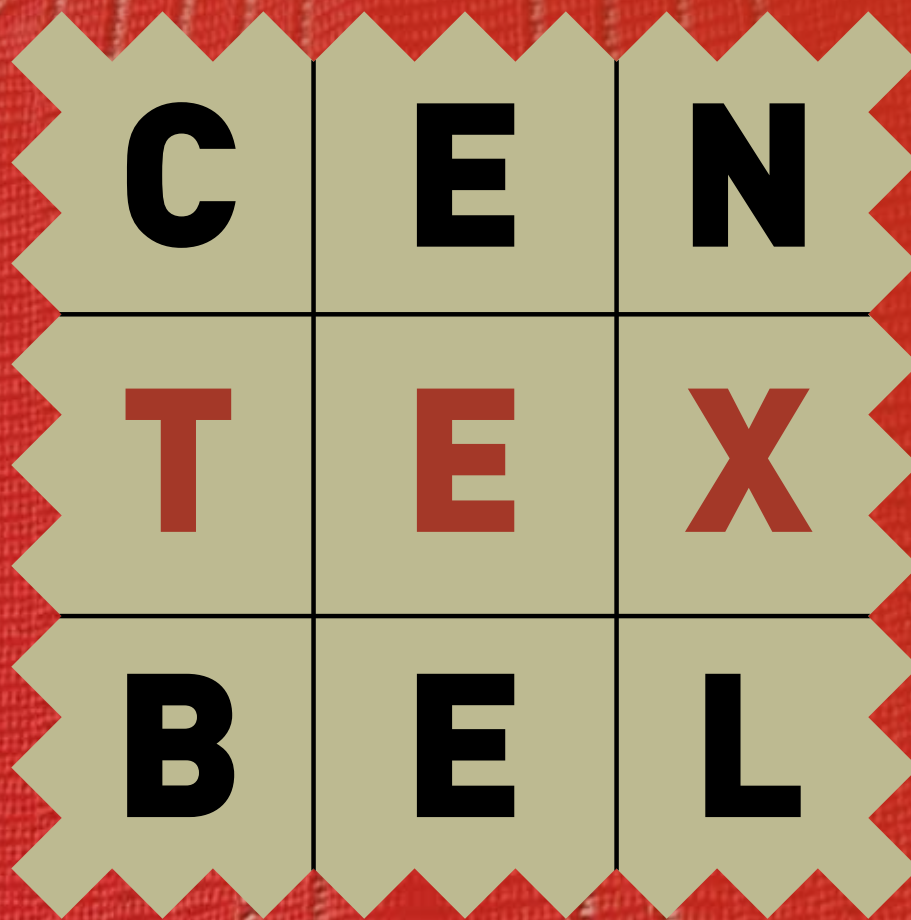
textile-embedded solar cells



knitted e-textile



textile pressure sensor



YOUR PARTNER IN SMART TEXTILES

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