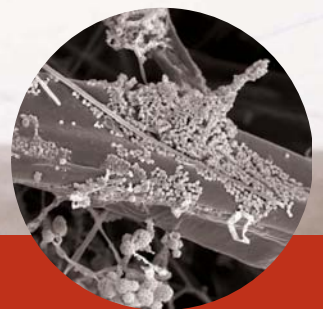
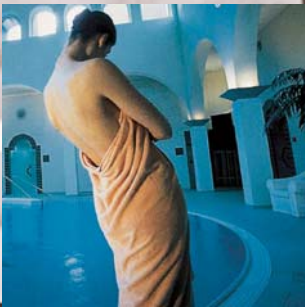


C E N  
T E X  
B E L

# healthtech



textiles for hygiene, health & wellness

## textiles for hygiene, health and wellness

The 21<sup>st</sup> century will be the era of functionalised "intelligent" textiles that will protect and nurse us, and enhance our wellness.

Textiles are no longer 'lifeless' materials but are becoming increasingly (inter)active and multifunctional. Thanks to their omnipresence, suppleness, strength and their affinity to finishing in combination with the wide variety of (possible) raw materials from which they are made, textiles offer an excellent substrate in and on which health and hygiene inducing products can be added.

Technical textiles, and more in particular, bioactive textiles, "cosmetotextiles" and "health clothes", belong to a growing market in which technological innovations, research, and the synergy between different industrial sectors are crucial.

## applications

Antibacterial, anti-UV, anti-perspiration, hypoallergenic, mosquito-repellent, anti-mite, therapeutic, catalytically degrading... textiles have discovered new markets in

- ◆ cosmetics, care products, and controlled drug release through functionalised textiles
- ◆ hygiene, disinfection and sterilisation
- ◆ sports and leisure wear
- ◆ bedding and hypoallergenic textiles
- ◆ wound dressing and medical textiles (scaffolds, stents...)
- ◆ enhanced comfort: textiles protecting against or textiles reducing noise, radiation and vibration



tights



underwear



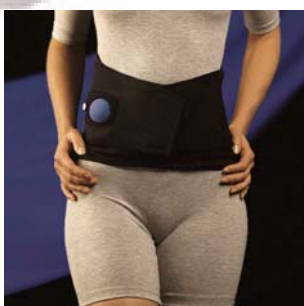
mattress



socks inhibiting the growth of odour causing bacteria

## services

- ◆ technology watch and patent search
- ◆ technological consultancy aimed at product, process and/or service development and optimisation
- ◆ assessment and validation of care, laundry, and decontamination processes
- ◆ risk analysis of biocontamination RABC (EN 14065)
- ◆ pilot-scale production runs of specialised fibres, fabrics, finishes, coatings... to enhance hygiene, health and wellness
- ◆ certification: Öko-Tex and CertiPUR for textiles and polyurethane foams without harmful substances and GuT for healthy and environment-friendly carpets
- ◆ seminars and customised in-company training sessions



bandage for back support



cotton buds



make-up removal pad



aloe vera

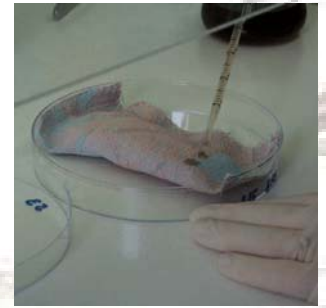
## research & development

Recent technological developments, such as nanotechnology, white biotechnology, plasma technology, micro-encapsulation, electrochemistry and microelectronics, generate new possibilities to innovate textile products to promote the consumers' health, wellness and comfort.

Moreover, the development of various 3D-structures of woven and knitted fabrics, and of nonwovens makes it possible to add improved comfort-related properties to textiles.

CENTEXBEL carries out research on:

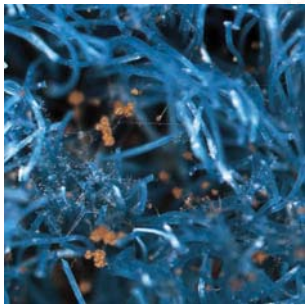
- ◇ deodorant or anti-odorous textiles
- ◇ antibacterial, antifungal and anti-mite textile finishes
- ◇ total hygiene of textile products
- ◇ biomaterials : biodegradable and biocompatible polymers (chitine, chitosan, PLA...)
- ◇ washing processes without sterilisation
- ◇ hygiene assessment of carpet cleaning processes
- ◇ biosensors and embedded monitoring systems
- ◇ cytotoxicity of textiles in contact with the skin
- ◇ catalytic degradation of pollutants
- ◇ encapsulation: processes and applications
- ◇ functionalisation of textiles to improve hygiene, health and wellness
- ◇ burning behaviour and flame retardant properties



applying fungi on mattress ticking



antifungal efficacy on mattress ticking



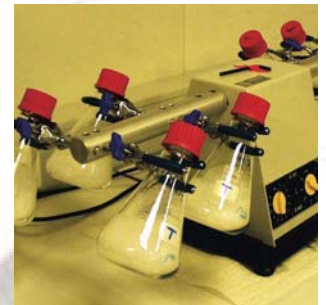
fungus on carpet



fungus on fibre



dust mite



antibacterial 'shake flask' test

## testing & measuring

- ◇ qualitative and quantitative antibacterial and antifungal assessment according to international and European standards
- ◇ barrier properties to micro-organisms, particles, and chemicals
- ◇ personal protective equipment against infective agents (EN 14126)
- ◇ nonwoven compresses for medical use (EN 1644 1/2)
- ◇ cytotoxicity
- ◇ endotoxins
- ◇ degradation (soil burial test...)
- ◇ physical, chemical, microbiological and burning behaviour tests on flexible materials



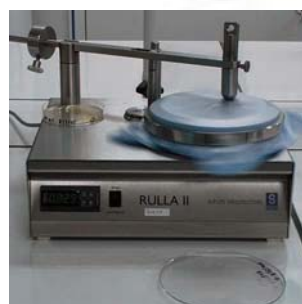
washing process



laboratory working conditions



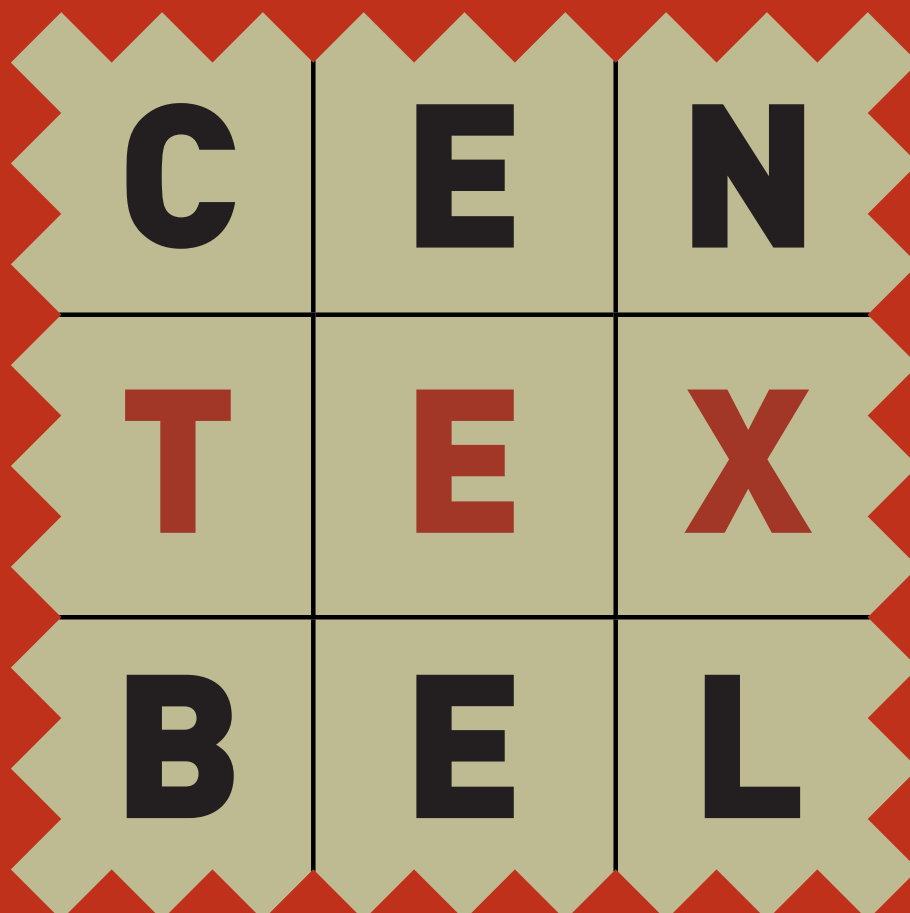
electronic microscopy



barrier test against bacteria



assessment of microbiological cleanliness



your partner in healthy textiles

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