

# **HEALTH PROTECTIVE TEXTILES: BRIDGING THE DISPOSABLE/REUSABLE DIVIDE**

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## OBJECTIVES

- to determine and create the most effective, multi-functional (biocidal and water-repellent) materials for medical applications;
- to quantitatively assess the economic and environmental impact and risk reduction of using the new multi-functional textiles in the healthcare industry;
- to determine the social and psychological factors affecting the acceptance of the new technology by healthcare workers; and
- to educate healthcare workers, the public, and students about the consequences of using disposable and reusable materials, and about the potential benefits of employing new materials and technologies.

## PROGRESS

- Has developed several biocidal technologies for medical use textiles
- Established connections with healthcare facilities, laundry provider associations, and medical device suppliers
- Conducted surveys with healthcare workers on use of disposable and reusable textiles and antibacterial fabrics
- Conducted a separate surveys with hospital administrators on acceptance of both disposable and reusable textiles
- Studied government regulations, international standards, political and economic contexts

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## PLANNED ACTIVITIES

- To continue development of novel materials for better protection for healthcare workers
- To complete a study on medical textiles waste disposal technologies and waste reduction processes
- To complete life cycle assessment of both biocidal reusable and disposable fabrics
- Marketing and economic analysis of reusable and disposable textiles
- Market study of reusable and disposable textiles in developing and developed countries
- To work with manufacturers and laundry providers on reduction of medical wastes and waste water

## IMPACTS

- Improved protection to healthcare workers and patients
- Improved healthcare quality and reduced cost and solid waste from healthcare service
- Promotion of new materials that are environmentally friendly, biologically protective and multi-functional
- Environmentally friendly laundry services for both woven and nonwoven materials
- Environmentally friendly user pattern of medical textiles
- Use of environmentally sustainable materials