

SMART GARMENT TECHNOLOGY FOR CBRNE PROTECTIVE CLOTHING

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CBRN (Chemical, Biological, Radiological, Nuclear) protective clothing in current use was mostly conceived and designed to deal with the military cold war scenario and in civilian environments, to cope primarily with toxic industrial hazards.

Today the threat has changed. Asymmetric, 4th generation warfare brings a much more unpredictable threat, with terrorist organisations and insurgent forces using unconventional and improvised weapons in both military and civilian environments.

CBRN protection is also changing in response to the emerging threat, including in some cases, the requirement for protection from explosives (CBRN-E). New textile and garment technologies are being developed to offer new protection and improved wearer comfort levels to meet the new threat scenarios.

The session will explain why and how nanotechnology is the driver behind many CBRNE textile innovations and will cover several related protective and comfort enhancing technologies including phase change materials (PCMs), shear thickening fluids, ultra-hydrophobic treatments, nano-fibre membranes, shape memory polymers, next generation adsorbents and self-detoxifying fabrics.