



Innovation Theme I

Smart, high-performance materials

- Research Priority **1.1** High-performance fibres and textile materials for technical applications
- Research Priority **1.2** Novel 1, 2 or 3-dimensional fibre based structures for technical applications
- Research Priority **1.3** Multifunctional textile surfaces and related processing technologies
- Research Priority **1.4** E-textiles for smart structures, functional interiors or smart wearable systems



Innovation Theme II

Advanced digitised manufacturing, value chains and business models

- Research Priority **2.1** New manufacturing technologies for efficient realisation of complex textile and composite structures
- Research Priority **2.2** Digitisation and flexibilisation of production processes and factories
- Research Priority **2.3** Virtual modelling and design of fibre- and textile-based materials and products
- Research Priority **2.4** Digitisation of the full textile-fashion value chain
- Research Priority **2.5** New digitally-enabled business models

Towards a 4th Industrial Revolution of Textiles and Clothing

A Strategic Innovation and Research Agenda for the European Textile and Clothing Industry

4 KEY INNOVATION THEMES WILL SHAPE THE TEXTILE AND CLOTHING INDUSTRY OF THE FUTURE:

October 2016

The **key** innovation trends identified ten years ago - (1) move from commodities to specialties, (2) use of textile materials in more technical end markets and (3) move from mass production to customisation and added value services – have largely played out as predicted and have led to an average higher added value creation and a better competitiveness of the industry in Europe. The sector was able to stabilise its manufacturing base and employment in Europe, has increased its research, innovation, education and training efforts, has shown steadily growing exports and more recently registered some noticeable production re-shoring trends.



Innovation Theme III

Circular Economy and Resource Efficiency

- Research Priority **3.1** Novel flexible process technologies to save water, energy and chemicals
- Research Priority **3.2** High-tech textile recycling for circular economy concepts
- Research Priority **3.3** Sustainable substitutes for hazardous or restricted textile processing chemicals or bio-chemistry based textile processing
- Research Priority **3.4** Bio-refinery concepts using European biomass or waste for textile fibres



Innovation Theme IV

High-value added solutions for attractive growth markets

- Research Priority **4.1** Functional and smart textile solutions for health, sports and personal protection
- Research Priority **4.2** Textile solutions to resource and protect a growing global population
- Research Priority **4.3** Textile solutions for safe, energy-efficient buildings and smart interiors
- Research Priority **4.4** Textile solutions for light-weight, clean and safe transport systems
- Research Priority **4.5** Personalised fashion and functional wear products