

PPE Conference 2017

The European Lead Market for Protective Textiles and Clothing

*Smart Wearable Systems, Sustainability & Digitisation:
Future Directions for PPE Innovation*

Brussels, 24 November 2017

Over 100 participants from 22 European countries covering the entire PPE value chain from fibre to end use came together in Brussels to explore the main trends that will shape the future of the PPE market in the coming years.



The three main themes covered in the event were sustainability, digitalization and smart wearables. These three domains see rapid technology developments which give the actors across the PPE value chain a vast array of opportunities to innovate products, processes, services and business models.

Sustainability

For sustainability, there is a wide-spread recognition that it is becoming a must, rather than a nice-to-have in consumer, industrial and public markets. Main elements are material circularity, efficiency of resource use, use of non-toxic materials and substances in productions and products ensuring health and well-being of users as well as the workers in manufacturing and professional service operations. Key issues for the PPE market in this domain include:

- Design and manufacturing of PPE for durability and low environmental impact during production, care and use;
- True circularity of materials used in PPE and where not possible at least sustainable end-of-life solutions for PPE products;
- Assurance of compliance of critical chemicals and materials used in PPE production and care with EU legislation such as REACH (chemicals), BPR (biocides)...



Digitalisation

Digitalisation also provides a wide field of innovation opportunity starting from the design and product development to the production environment (industry 4.0), the management of the supply chain all the way to the customer and end user.

Key issues for the PPE market in this domain include:

- Full digitalisation of the design and product development process for greater speed, less waste through unnecessary physical samples, more customisation and user involvements;
- Automation and digitalisation of production and logistics processes to increase productivity, quality, flexibility and decrease stocks, waste and time to market;
- Digitise products, supplier and customer data for more efficient information flow along the value chain, to enable smart processes and business models based on (big) data analysis and to provide more customised added value services to customers and end users.

Digital Textile MICROFACTORY - Benefits: Rapid Prototyping and Small Series Production



Virtual Product



Digital textile printing



Single-ply cutting

Connected and Smart PPE

Smart wearables can also revolutionise the PPE market in many ways, providing opportunities to combine a wide range of smart functions and services with the basic protective function of the product.

Key issues for the PPE market in this domain include:

- Effective integration of different competences from sectors as diverse as textiles, clothing, electronics, software and various services;
- Development of appropriate sets of standards and certification processes for smart PPE components and systems;
- Integrate smart functions into PPE in the most unobtrusive, comfortable and user-friendly way while meeting acceptable cost, quality and durability levels;
- Take care of appropriate end of life solutions for complex smart PPE products.



Smart Work Environment (example scenario)



The Impact of Regulation

As the PPE market is highly regulated in Europe, legislation such as the EU PPE directive, REACH (chemicals), Circular Economy (recycling) as well as the GDPR (data protection) determine to a large extent which kind of innovations can be brought to market in Europe. They can have an innovation enabling and protecting effect, by encouraging producers and service providers to meet very high performance standards and ensure that sub-standard and potentially dangerous products are as much as possible kept away from the market.

Legislation can on the other hand also stifle innovation or endanger achievements of past innovation efforts. One case in point is the implementation of the REACH regulation, which now poses the risk of banning chemicals which are crucial for meeting existing high standards for a range of protective

functions of textiles such as flame retardance or water and oil-repellence and for which no good substitutes are currently available. Also recycling targets likely to be set by the upcoming EU Circular Economy legislation, may be very hard to meet for products that are highly complex due to their challenging end use requirements and cannot be simply re-designed for easy recycling.

The Importance of Collaboration

To meet the complex challenges of innovation within the strict framework of EU regulation all actors of the PPE value chain need to maintain a good level of information exchange and collaboration. Industry federations such as Euratex, ETSA and ESF play a crucial role in making this collaboration happen at EU level and have worked hand-in-hand in recent years liaising between EU regulators and companies. The successful organisation of the 4th PPE Conference was an excellent example of this collaboration which will be maintained and intensified in the future.

Conference Organisers:



For more information and picture material contact:

Lutz Walter

European Technology Platform for the Future of Textiles and Clothing

Ph. +32 2 285 48 85

E-mail: lutz.walter@textile-platform.eu

www.textile-platform.eu