



Topic of the Speech:

The Circular Economy for Textiles: Closing The Loop

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Professor David James Tyler has a background in industrial physics and operations management before joining Higher Education. He is Professor of Fashion Technologies at Manchester Metropolitan University. Research interests when the UK had significant manufacturing were startup management and the simulation of clothing production: funded research considered both flow lines and team-based systems. The interest in teamworking was then applied to product development and its relation to operational practices.

Rethinking the product development process was the theme of a 1998-9 project involving fibre, fabric and garment producers, retailers and a dyeing company. This developed numerous ideas for incorporating sustainability goals into the design and product development process. From 2000-2004, he managed the North West Advanced Apparel Systems Centre, a European-funded initiative to support clothing and textile companies in NW England. This brought him into contact with a wide range of companies representing all activities in the supply chain, with over 50 company projects. More recently, his expertise in the product development process has influenced research into functional garments, including wearable technologies and sustainable supply chains.

He has led University involvement in the Horizon 2020 EU-funded project: Resyntex, which was concerned with 'end-of-life' clothing/textiles and the circular economy. The project looked comprehensively at the textile supply chain, leading to the disposal of textiles in landfill and incineration, and also at the chemical processing needed to transform the different fibres used in textile products into valuable feedstocks. Specific contributions to that project included business modelling, consumer purchasing behavior, and consumer approaches to the disposal of unwanted products.

David is based in the Manchester Fashion Institute (MFI), which is one of the largest providers of fashion education in the UK. Our provision spans fashion design, technology, communication, business and theory. Recognised globally for education and research, MFI staff and students are driving innovation, challenging convention, and changing the fashion landscape for the better. As a diverse community of students, academics, researchers and technicians, MFI thrives on collaboration. Long established industry and educational partnerships are integral to our success. An extensive network of industry partners has been providing us with placements, graduate roles and knowledge exchange for over 25 years. We strive to embed internationalisation in all of our activity from student mobility to strategic collaborative projects and articulation agreements. And our researchers work across disciplines from science to craft, business to sociology, and history to digital.

Our position as a Fashion Institute with a global vision is underpinned by our roots and heritage in Manchester. We embrace the Mancunian spirit of warmth and belonging and value an environment where diversity and equality flourish. We are conscious of the impact of our industry on the environment and society and take pride in developing the next generation of responsible fashion leaders, researchers and practitioners.

The Circular Economy for Textiles: closing the loop

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ABSTRACT (NO MORE THAN 500 WORDS:)

The past two decades have witnessed massive conceptual leaps towards producer responsibility and the Circular Economy (CE). The goal is not to minimise waste and environmental impacts, but to turn wastes into resources. Materials are recycled rather than buried or incinerated.

Numerous pre-competitive projects have been funded by governments to further the CE goal. Most of these have addressed specific sub-sectors of the textile supply chain, but one has considered the issues comprehensively. This is the Resyntex project, a Horizon 2020 initiative funded by the EU, with 20 partners. Manchester Metropolitan University has been an integral part of the team during its 4-year duration. This lecture provides an overview of the project and its achievements. Textile wastes throughout the EU have been analysed; different approaches to collection identified; automated sorting by fibre type has been developed; chemical processing routes for the major fibre types have been determined; further chemical processing to produce feedstocks for the next cycle of industrial activity have been explored. Alongside this has been work on consumer behaviour and on CE business models. Notably, a pilot plant capable of processing 100 tonnes of waste textiles per year has been constructed, and is operating, in Slovenia.

We are now at the stage of having technology solutions to the challenges of implementing CE, although it is recognised that further technology-related work is advantageous. However, there are still major cultural barriers that need to be addressed. These affect retailing (the messages accompanying the products), the supply chain (which needs to be more open to industrial symbiosis), the consumers (who make choices about what to purchase and what to dispose), political leaders (who need to address regulation to support industrial change), and designers (whose decisions are crucial if CE is to become a reality). Technologically, we can close the loop, but culturally, we have still a long way to go!