# Production of the first garment using textile waste derived cellulose

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## Summary

A strategy for the management of waste textiles in the UK is essential. Every year, 1 million tonnes of textiles are discarded, with over 80% ending up landfilled or incinerated. The University of York has demonstrated a process to convert waste textiles into bacterial cellulose. Nanollose Ltd has patented expertise on converting this type of cellulose into textile fibres. The project explored the use of textile derived bacterial cellulose for textile applications.


## Aims

- To produce bacterial cellulose from dyed fabric blends of polyester and cotton at kilogram scale
- To characterise the bacterial cellulose
- To trial the cellulose for dissolution and regeneration into textile fibres using a lyocell process

## Outcomes

- Dyed polycotton fabric was successfully used to produce bacterial cellulose
- The cellulose was characterised for dissolution parameters and ion content
- The data obtained informed further improvement on reducing intrinsic viscosity and economic feasibility studies

*"The BBNet BIV has enabled us to conduct scale-up studies and obtain data to inform economic feasibility studies that will shape our research strategy moving forward"*
Neil Bruce
University of York

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