



PRoACT

Polyamide Additive ReManuFactory of
Circular Textiles

 smart
advanced manufacturing



ORGANISATION PROFILE

RUBYMOON (Circular Swimwear Brand) and BM LONGWORTH (Engineering) are UK based SME's who have jointly developed a clean tech, **low carbon solution** separating stretch textiles to recover polyamide (Nylon) for re-use. This is Unique as **no chemicals** are used.



PROPOSAL INTRODUCTION

Vision: To create a **Circular ReManufactory Unit** using polyamide/nylon from textiles. The future of clothing and textiles is circular and we are creating it now!

Motivation:

- 38% of textiles are blended and currently unrecyclable, growing %!
- EU Circular Textiles legislation creating a brand new industry through Extended Producer Responsibility **billion € opportunity** for wealth creation.
- Environmental motivation: low carbon and no chemicals

Content:

- Inputs: Create the mechanical identification and disassembly system that provides textile inputs
- Outputs: Create opportunities for new products and services from waste streams

PROPOSAL INTRODUCTION

Expected outcome:

A Pilot Semi-Automated Circular ReManuFactory Unit ready for replication

- **High-value personalised products** e.g. footwear, sunglasses, goggles.
- Valuable **R-polyamide granulate & textiles** (For which there is a global shortage)

Impacts: Creating the future of **mass-customizable products**, now

- **Economic opportunity** for stretch textiles to be recovered, **globally!**
- **Localised re-shoring** of new products and textiles
- **Net zero, carbon credits, EPR-charge free** win, win!

PARTNERS

Current Consortium:

BM Longworth
RUBYMOON

Partner search inputs

- **Robotics** for disassembly /person/machine collaboration
- **AI** for textile identification
- **AI** programming based on input material criteria

Partner search outputs (PA6, PA66 & TPU)

- **Additive Manufacturers**/ 3d printing of personalized products e.g. sunglasses, footwear, swim related accessories, automotive
- **Injection Moulding** manufacturing
- **Textile Manufacturers**

The future of clothing and textiles is circular and we are creating it now!

GET IN TOUCH

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