Identifying Sustainable Production Methods for Scalable Sample Size Smart Garment Prototyping

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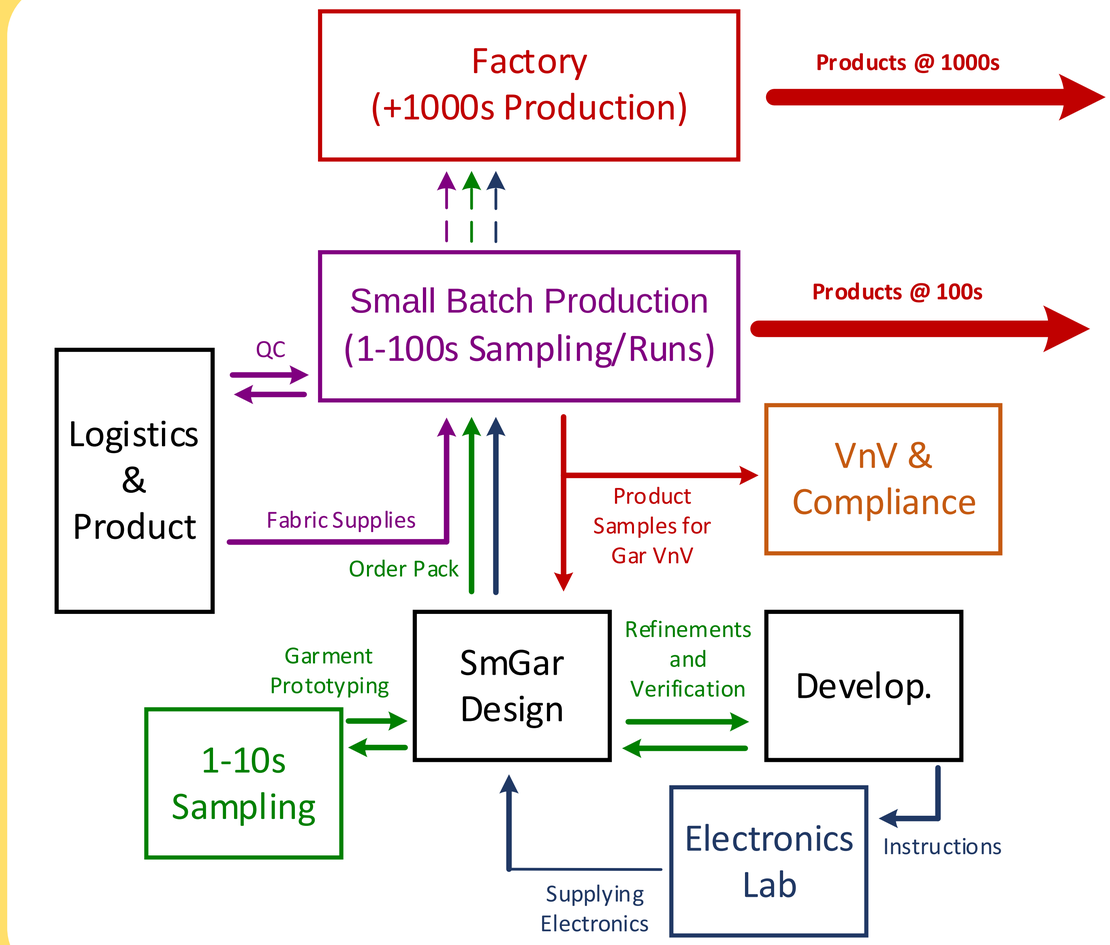
Many challenges exist in the prototype-to-production workflow for smart garments and e-textile products.

1. Smart Garment systems are primarily at research level (custom one-off designs, manual creation methods).
2. Gap between proof-of-concept prototype and >1000 unit production; no local, readily accessible, medium-quantity production capability.
3. Integration of traditional clothing and electronic manufacturing techniques.
4. Impending sustainability regulations for Textiles and Electronics Industries.



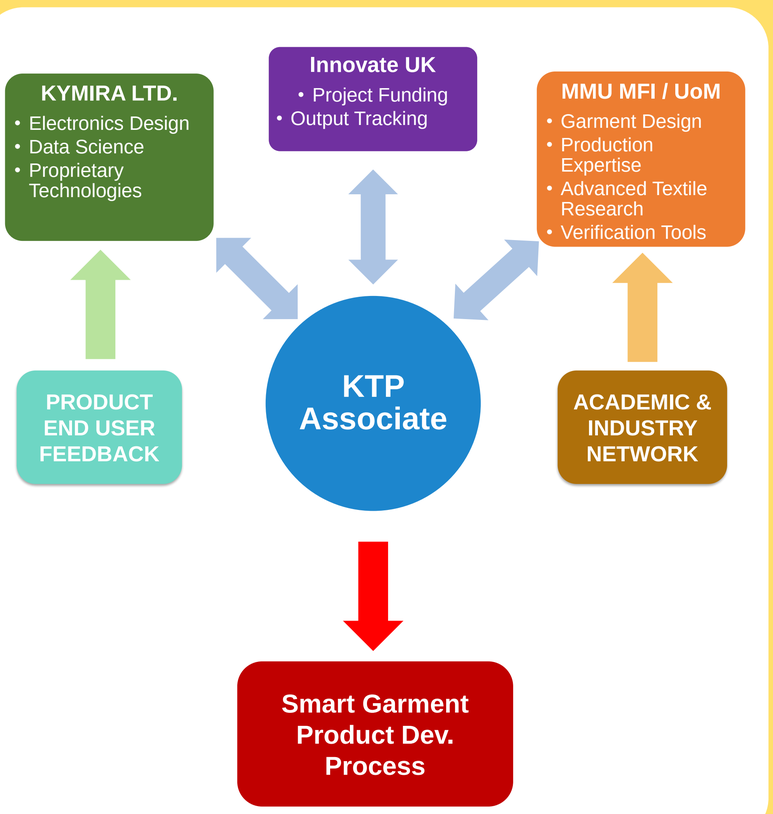
Path to Full-Scale Production

- **Expediting** development of process workflows to create **production-ready designs**.
- Provide clear design **considerations**, equipment, and expertise to produce smart garments **meeting textile and electronics** industry **sustainability standards**.
- Work with regulators to form **e-textile specific sustainability legislation**.
- Localising the production for UK companies to **reduce iteration lead-times and carbon footprint**.

Desired Outputs of Project

1. Describe and implement a **framework for smart garment prototyping development** methods.
2. **Specify the equipment capabilities and staffing for** a local **smart garment sampling** in the UK.
3. Identify **e-textile specific considerations** based on WRAP 2030 and EPR regulations.
4. Provide **best practices for prototype smart garment design** with large-scale production as an end goal.
5. **Expedite** Kymira's **prototype to production.**

KTP Collaboration Structure



- **KTP Associate** transfers knowledge between **Industry and Academic partners** to enhance innovation in e-Textiles.
- **Innovate UK funds** the work for up to **2 years** of collaboration, and requires Industrial and Academic outputs.
- This KTP is multidisciplinary: **both UoM and MMU are involved**, for cross-collaboration of expertise.

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