

The Innovative Application of Existing, Digitally Controlled, Flat Bed Weft Knitting to Fashion Knitwear for the Individual Body Shape of Women, Particularly Those Above UK Standard Sizes
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<http://www.knittofit.co.uk>

This practice-based doctoral research is set in the digitally-enabled knitted textile field, designing and making 3D shaped knitwear in the context of larger women's body shapes. The focus is on combining design and manufacturing technology to enhance the fit of knitted garments; an approach previously lacking in this major niche market. All the knitting for this research has been developed and programmed using a computerised Shima Seiki knitting system.

A small cohort of larger sized women were manually measured, and hand-made 'clones' built of their torsos, and two of the three case studies have also been 3D body scanned. Resulting data has been used for generating accurate 'electronic tape measure' readings and body slices to aid the design of the garments. The 'clones' and virtual images have informed understanding of the fitting requirements relating to individual features of each 3D body shape; for example uneven shoulder height and non-standard waist position. The resulting knitted garments are evaluated on the participant's bodies and the ensuing analysis in turn enables the re-working of the garment for an improved fit and feel.

Keywords:

knitwear, fashion, 3D body shape, customisation

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