

# A SOFT MANIKIN SYSTEM FOR EVALUATING DYNAMIC BREAST MOVEMENT AND PRESSURE SENSATION FOR BRA DESIGN OPTIMISATION

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To date, the characterization of bra support and contact pressure mainly relies on human wearer trials where reproducible testing is difficult to achieve and experienced technicians are always required. Through a scientific analysis of the bio-mechanical interface between the human body and the bra, a novel soft manikin system is developed for the evaluation of bras – taking into account the level of breast support, displacement and wearing comfort during dynamic body movements and physical activities. Through this innovation, the most beneficial bra design features for different end-uses can be objectively identified.

## NOVEL FEATURES

- \* Scientific evaluation of breast tissue simulant and vertical breast displacements at various bra conditions by using a simple setup of motion capturing system
- \* Custom-designed bra pressure sensation evaluation system by using low-cost force sensors that are form-fitted on the soft skin surface for improved precision

