

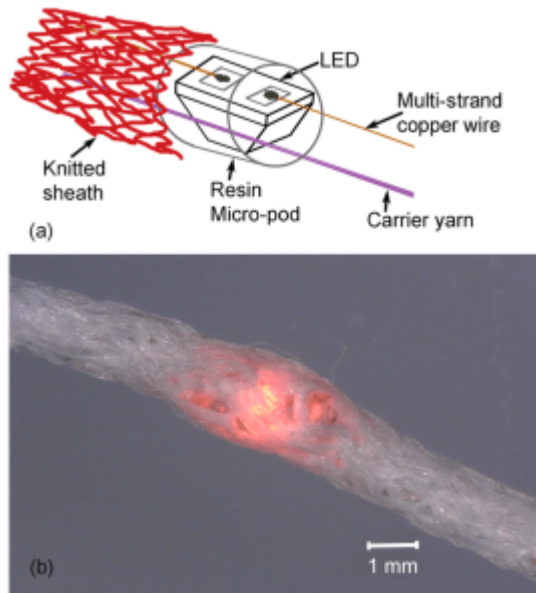
We help to make electronic textile yarns (E-yarns)

The latest issue of the journal [*Fibres*](#) features an article from the [*Advanced Textiles Research Group at Nottingham Trent University*](#) entitled [*A Novel Method for Embedding Semiconductor Dies within Textile Yarn to Create Electronic Textiles*](#). The group have been working on Electronic yarns (E-yarns) – yarns which contain electronics fully incorporated into the yarn's structure prior to textile or garment production. They consist of a conductive core made from a flexible, multi-strand copper wire onto which semiconductor dies or MEMS (microelectromechanical systems) are soldered. The device and solder joints are then encapsulated within a resin micro-pod, which is subsequently surrounded by a textile sheath, which also covers the copper wires.

We have been pleased to be involved with these developments, with the provision of the [*Dymax UV curing encapsulant*](#) for the micro-pod, [*Dymax UV curing lamp*](#), and [*preeflow precision dispensing equipment*](#).

The work has validated the idea of automation of this assembly process, producing E-yarn for prototype electronic textiles. E-yarn, as well as having electronic functionality, can be processed in knitting and weaving machines. Get ready for smart clothes!

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(a) A schematic showing the E-yarn (electronic yarn) structure, with an LED (light-emitting diode) protected by a micro pod and surrounded by a knitted sheath. (b) A completed E-yarn containing an LED (illuminated) shown at 30x magnification

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Last updated: February 2019

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