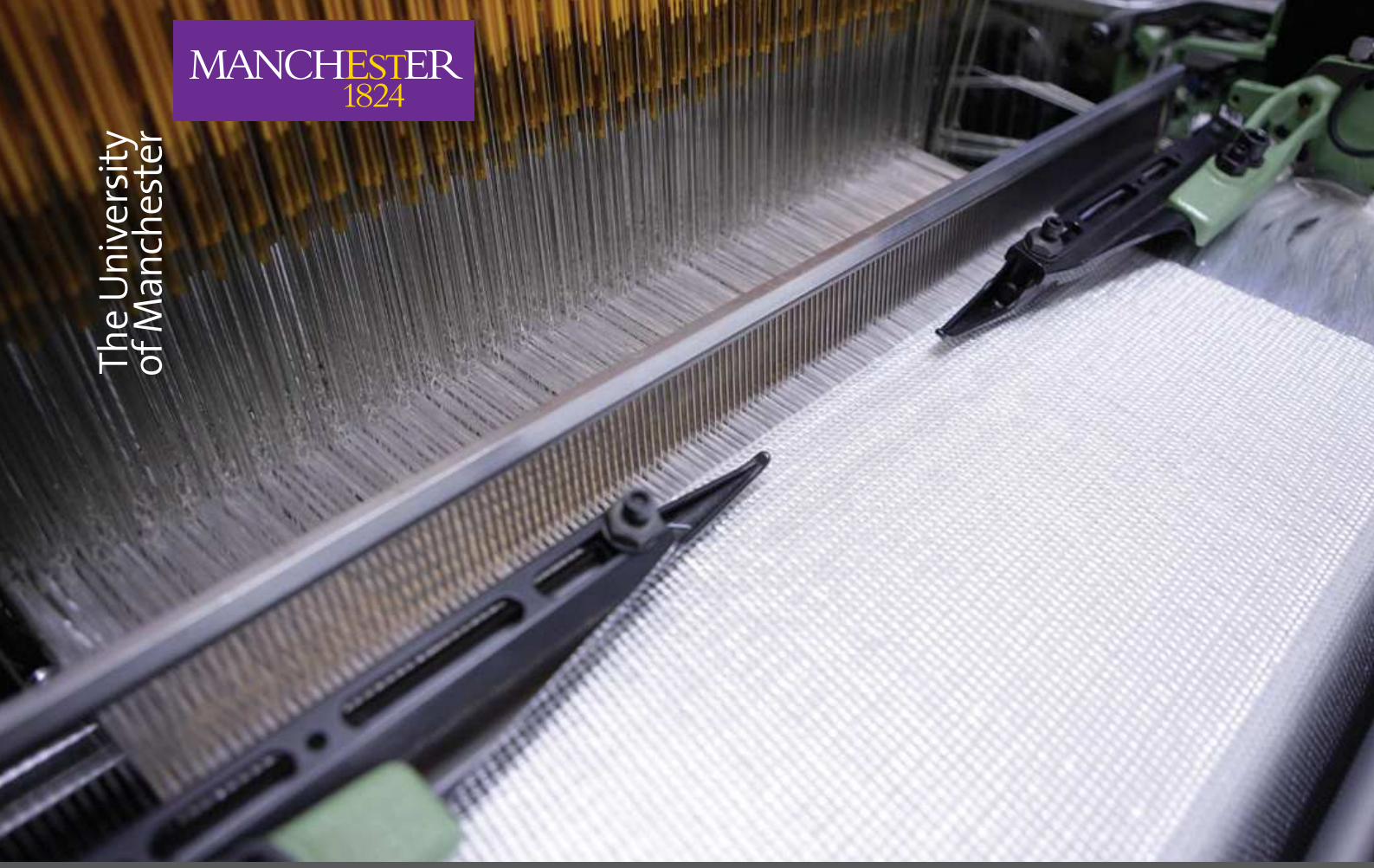


Textiles

NCCEF is a world-leading research centre for near-net textile preforming. We have a conventional Dornier weaving machine equipped with a staubli electronic Jacquard system for weaving 3D preforms and a 9-axis machine for laying down complex barrels.

Dr. Prasad Potluri and his composite group have developed a range of purpose built preforming machines by combining robotics and textile technology.

Within the capabilities below, NCCEF can produce any complex preform with any fibre orientations.

Capabilities

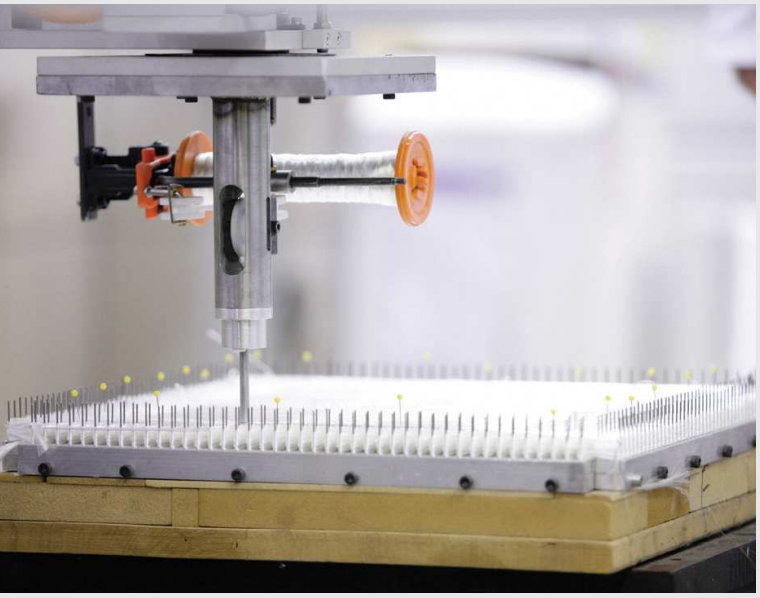
- 3D weaving
- CNC controlled braiding
- Robotic dry fibre placement
- Multineedle stitching and tufting
- Robotic complex winding
- 9-axis
- Carbon fibre weaving
- Glass fibre weaving

Weaving

- Range of weaving machines for 2D and 3D fabrics
- Capabilities to produce near net shape textile structures such as taper, 'H', 'I' and pie
- Design flexibility with Jacquard shedding for 3D structures

Braiding

- Mandrel overbraiding with triaxial yarns for complex shapes
- CNC controlled braiding process and take-up



Robotic fibre placement

- The system offers design freedom as tow can be placed in any orientation (0 °, + 45 ° and 90°) with variable thickness and material
- Stitching and tufting for through thickness reinforcements
- New system developed for fibre winding on complex shape mandrels

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NCCEF