Composites UK Trade Association

CYGNET texkimp 50+ all about the fibre since 1974

INNOVATION IN COMPOSITE MANUFACTURE

WINNER: Cygnet Texkimp & McLaren Automotive

ART (Automated Rapid Tape) is a pioneering high-rate fibre-deposition technology developed by Cygnet Texkimp in partnership with McLaren Automotive. Originally conceived by McLaren, ART enables the automated, high-speed manufacture of complex carbon-fibre composite components, transforming production from thousands to tens of thousands of parts per year. Using a static deposition head over a moving bed, ART lays dry fibre tape at up to 2.5 m/s with extreme precision, significantly reducing waste and eliminating the need for manual hand-layup.

Developed to meet the growing industry need for scalable, cost-effective composite production, ART delivers ultra-lightweight, high-performance parts for McLaren's next-generation supercars and will feature in the company's upcoming Ultimate Series vehicle. The innovation supports sustainability, with up to 95% of fibre feedstock used in each part, and dry-tape processing overcoming pre-impregnated material challenges such as waste and limited shelf life.

ART's automated, digitally controlled system ensures traceability, repeatability, and "human-out-of-the-loop" manufacturing confidence. By allowing precise tailoring of fibre orientation, it enables engineers to fine-tune stiffness and load paths for optimal performance, opening new frontiers in structural and aerodynamic design.

Through an exclusive licence agreement, Cygnet Texkimp is commercialising ART across multiple sectors - including aerospace, defence and wind energy - unlocking new possibilities for sustainable, high-rate composites production. The technology's potential will be demonstrated through a scaled machine at Cygnet Texkimp's Innovation Centre in Cheshire, positioning ART as a cornerstone in the next generation of advanced composite manufacturing.

Learn more at: www.cygnet-texkimp.com