

INNOVATION IN MANUFACTURE

Shortlisted: Loop Technology

FibreFORM - a conformal pick and place effector used to layup ply for composite preform manufacturing.

FibreFORM is a conformal pick and place end effector used to layup ply for composite preform manufacturing.

Patented and unique in the market, the product addresses the aerospace industry's need to produce large-scale, high-quality composite components in a cost-effective manner and at a rate capable of satisfying single aisle production volumes.

It is comprised of an array of individually controlled, fixed-pitch grippers positioned along a series of splines. This allows FibreFORM to pick up a ply; manipulate it to precisely match a complex double curvature 3D surface; place the ply into a mould tool with high accuracy; and repeat the process to build a preform stack.

This technology revolutionises the way preforms can be manufactured. By handling large pieces of multi-axial ply, it reduces the total number of pieces required; a wing which requires over 100,000 pieces would only require 100s – minimising manufacturing time and the factory footprint required thereby improving sustainability. FibreFORM offers a substantial step change to material deposition rates and is highly tolerant of the user's material type, characteristics and geometry, handling shapes with cut outs and irregular sections with ease. Its modular design enables it to be scaled and optimised for a given deposition activity.



Website: [www.looptechnology.com](http://www.looptechnology.com)

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