Second Laureate Innovation

Project Title: An automated 3D weaving machine

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Abstract:

This machine was built for the first time in the country. It can produce 3D (C – C) Composite artifacts with speed, accuracy and necessary quality. In 3D composites, required characteristics in all directions can be predicted and achieved by appropriate design and with proper selection of the raw material the C–C composites can have appreciable change in its characteristics.

The process steps and work dimensions can be programmed into the PLC and sensors and actuators, regulate and adjust positions and ratios. After weaving the carbon – fiber into axial and circumferential paths, the resultant pre-form is impregnated, baked and carbonized into final figure for use.