



INNOVATION IN COMPOSITE DESIGN AWARD SHORTLISTED: Carbon ThreeSixty Limited

Carbon ThreeSixty, the advanced composite structures specialist, has developed a revolutionary all-composite helicopter wheel.

The carbon fibre composite wheel is to replace the aluminium wheels currently used on flying structures including helicopters, eVTOL, Advanced Air Mobility (AAM).

Aluminium has been the material of choice for existing rotary wing structures, but there are issues with throughlife fatigue and mass whilst being used in relatively harsh environments. The use of advanced composites mean that fatigue life and corrosion resistance can be much improved when optimally designed. It offers weight savings of around 20-30% over forged aluminium, which represents 1,000 gallons of fuel saved and 12 Tonnes of CO₂ over its lifetime as well as improved NVH (noise, vibration and harshness) performance.

The project used cutting edge proprietary composite manufacturing technologies such as tailored fibre placement (TFP), braiding and out of autoclave processes to ensure repeatability and scalability.

Website: www.carbonthreesixty.com



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