

SUSTAINABILITY: CIRCULARITY**FINALIST: Uplift360**

Supported by an Innovate UK Smart Grant, Uplift360 has taken its chemical recycling technology from laboratory concept to pilot scale, developing the capability to produce 5 tonnes per annum of premium-quality recycled carbon fibre. In just 18 months, the team has progressed the technology from TRL 3 to TRL 6, while scaling the process from 0.1L to 100L – a 1,000-fold increase.

Uplift360's room-temperature, atmospheric-pressure solvolysis process consistently recovers fibres at more than 99% purity, while retaining over 95% of tensile modulus and strength. The technology has been demonstrated across carbon, glass and UHMWPE fibres and five resin categories, including demanding waste streams from a Typhoon fighter jet, helicopter rotor blade, wind turbine blade, bicycle wheel and aerospace production waste. The process has also been validated with more than nine companies.

The achievement addresses a key challenge for the composites industry: too much high-value carbon fibre waste is still disposed of or recovered into lower-value applications. Uplift360 provides a route to recover high-quality fibres suitable for reuse and remanufacture, helping waste holders reduce disposal while giving manufacturers access to a recycled reinforcement without significant performance penalties.

Commercialisation is already under way. Uplift360 is bringing forward a second pilot facility in Bristol, planned to provide 20 tonnes per annum of capacity from Q1 2027. That marks the step from proving the chemistry to supplying fibre in the volumes manufacturers need to qualify real components. Over the course of the project, the process cost per kilogram of recovered fibre fell by an order of magnitude, strengthening the commercial case for its use.

The project involved approximately 1,250 staff days, a significant technical commitment to moving the technology towards industrial deployment. It provides a credible pathway to higher-value recycling, reduced reliance on virgin carbon fibre and more resilient, circular composites supply chains.

Learn more at: www.uplift360.tech

