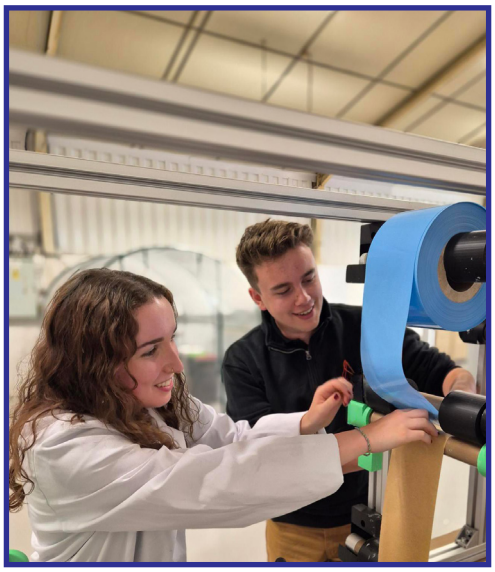
Composites UK Trade Association

HTMS COMPOSITES

INNOVATION IN COMPOSITE MATERIALS

FINALIST: HTMS Composites



HTMS Composites has developed a new class of materials known as Inorganic Matrix Composites (IMCs), offering high-temperature performance from 300°C to 1,400°C at a cost closer to conventional polymer composites. The novel inorganic matrix chemistry is compatible with carbon, glass, basalt and alumina fibres, enabling up to 90% lower cost per square metre than traditional Ceramic Matrix Composites (CMCs).

IMCs also offer significantly shorter cure times and lower processing temperatures, reducing energy use and production costs.
The technology addresses a key industry challenge: making high-temperature composite materials affordable for applications beyond aerospace and defence. In automotive, IMCs are being developed for battery enclosures, shims and thermal barriers, helping contain thermal runaway and prevent heat transfer. Their non-combustibility, low density and compatibility with established manufacturing processes can deliver significant weight and component-count reductions while improving vehicle safety.

The innovation was developed by HTMS's PhD-qualified founders, drawing on extensive experience at Rolls-Royce and with major aerospace and defence organisations. Development combined advanced materials research with industry-led validation, evolving from consultancy and R&D into a scalable prepreg manufacturing route.

HTMS Composites estimates a £12 billion Serviceable Addressable Market by 2030 across the UK, EU and US, spanning defence, aerospace, automotive and aviation. Longer term, IMCs could enable applications wherever existing materials face limitations in cost, weight, thermal performance or manufacturability, establishing a new high-temperature composite material class.

Learn more at: www.htms.tech