DAHER & LIST WILL DEVELOP A WELDING TECHNOLOGY FOR THE ASSEMBLY OF AIRCRAFT SUBSTRUCTURES PRODUCED WITH THERMOPLASTIC COMPOSITES

News / Manufacturer

Daher has established a large partnership with the Luxembourg Institute of Science and Technology (LIST) to mature and optimize a welding technology that enables the assembly of primary aircraft substructures produced with thermoplastic composites. Signed at this month's JEC World trade show in Paris, the three-year bilateral agreement will focus on an infrared welding technology suitable for thick parts with large dimensions, to be used in high volume manufacturing and providing high reproducibility as well as excellent quality.

"Bringing together the new welding technology with automated assembly of aircraft substructures is an enabler that will open the full potential of thermoplastic composites for aviation," explained Cedric Eloy, the Deputy Chief Technology Officer at Daher.

Thermoplastic composites are increasingly used in the aerospace industry because of their lightweight properties, strength and resistance, and the capability to be welded. In addition to enhancing aviation sustainability by lowering an aircraft's weight for reduced fuel consumption, thermoplastic composites also require less energy to produce and they can be recycled.

Applying this technology will expand the welding solutions for thermoplastic composites offered by Daher and KVE Composites – a Dutch company specializing in the design, manufacture and assembly of high-performance thermoplastic composites. KVE Composites was acquired by Daher in 2019, and it currently has a qualified induction welding solution for aerospace applications.

The newly signed partnership will benefit from the expertise of Daher as a designer and manufacturer of aircraft aerostructures, as well as LIST's know-how in material science and process development.

"This project further demonstrates the applicability of our research-based technologies and our capacity to solve forefront research challenges that will increase the utilization of high-performance composites in the aeronautics market," said Damien Lenoble, the Director of Materials Research and Technology at LIST. "We are pleased to bring LIST's capabilities together with Daher as a recognized aircraft manufacturer, jointly contributing to lower-weight, sustainable aerostructures of the future without compromising safety standards."

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