

PRESS RELEASE

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LIST INNOVATION RECOGNIZED ON THE GLOBAL STAGE

Collaborative project wins JEC Composites Innovation Award 2026, “Oscars” of the composites world.

The Luxembourg Institute of Science and Technology (LIST) has been honoured with a top distinction at the JEC Composites Innovation Awards 2026, the most prestigious international accolade in the field of composite materials. The award was presented in Paris on 12 January 2026 during the JEC World Premiere ceremony, widely regarded as the “Oscars” of the composites industry.

At the heart of the award-winning project, the Highly Loaded Thermoplastic Wing Rib demonstrator, lies a LIST-patented technology. The project was initiated by Daher, an industry leader in composite manufacturing for aerospace and aeronautics, in close collaboration with partners including Victrex, CETIM and AniForm.

LIST’s patented technology at the heart of a breakthrough for future aircraft structures

Within the project, the Structural Composites Unit at LIST played a key technological role by developing and applying its patented infrared welding process, which enables the rapid and lightweight assembly of thick carbon-fibre-reinforced thermoplastic (CFRTP) components. This welding solution makes it possible to assemble two elementary parts into a T-shaped wing rib without mechanical fasteners. This contributes to weight reduction, cost efficiency and recyclability.

The wing rib demonstrator addresses several strategic challenges faced by the aerospace sector, including high-rate production requirements, structural performance, and the reduction of environmental impact. Manufactured from CFRTP and reaching thicknesses of up to 12 mm, the component demonstrates how advanced materials and innovative processes can replace conventional aluminium solutions.

According to project results, the solution delivers a 22% weight reduction compared with aluminium, alongside 15% lower assembly costs and 25% shorter production cycles compared with bolted assemblies. Over the lifetime of a single-aisle aircraft, the innovation is estimated to reduce CO₂ emissions by 12.5 tonnes per wing rib, while also enabling recyclability – a key advantage of thermoplastic composites over traditional thermoset materials.

Launched in 2021, the project combined advanced simulation, manufacturing and assembly techniques to demonstrate the feasibility of thermoplastic composite wing ribs for future commercial aircraft programmes.

Putting Luxembourg on the world map of composite excellence

The JEC Innovation Award comes at a time when Luxembourg has been strategically investing in and strengthening its advanced materials ecosystem as a key pillar of national industrial competitiveness. A major milestone in this effort was the launch of the National Composite Initiative in 2016 and the creation of a Structural Composite Manufacturing infrastructure. This initiative, backed by the Luxembourg government through the Ministry of the Economy and supported by Luxinnovation, the national innovation agency, aims to expand local expertise, foster collaborative research with companies, and enhance Luxembourg’s capabilities in high-value manufacturing, positioning the country as a recognized centre of excellence in composites technology.

Since 2020, LIST also leads the Sustainable Composite Materials and Manufacturing Innovation Centre (SCMM), backed by the Ministry of the Economy, industry partners, and Luxinnovation to accelerate sustainable and lightweight materials innovation for future mobility sectors, including aerospace, rail and urban air transport. Together, these strategic initiatives seek to deepen cooperation between research institutions and industry, enhance competitiveness, and drive high-impact innovation across Europe.

Being recognized with a JEC Innovation Award — selected from a competitive global pool of roughly 154 submissions, with only 33 finalists chosen across all categories — not only highlights LIST’s technical and industrial impact, but also places Luxembourg firmly on the global composites innovation map. This prestigious

international accolade reinforces that Luxembourg's strategic investments in research, industrial partnerships, and advanced material technologies are producing globally competitive outcomes.

Established in 1998, the JEC Composites Innovation Awards celebrate outstanding collaborative projects that demonstrate the industrial and societal potential of composite materials. Often described as the industry's leading benchmark for innovation, the awards recognize excellence in research translation, partnership strength and real-world impact across sectors including aerospace, automotive, energy, and more.

Levent Kirkayak, Head of the Structural Composite Unit at LIST, said: "This award is a strong recognition of the Structural Composite Unit's ability to translate advanced research into industrially relevant solutions. It reflects the excellence of our teams and, above all, the strength of our collaboration with industry partners. By combining deep materials expertise with innovative manufacturing technologies, such as infrared welding, we demonstrate how close cooperation with industry can accelerate the development of lighter, more sustainable composite structures for the next generation of aircraft."

Jurgen Joossens, Deputy CEO at LIST stated: "Congratulations to the outstanding teams at LIST and Daher for winning the prestigious JEC Composites Innovation Award 2026. At LIST, we are driven by ambition and tackle transformative, must-have projects that create inspiring value for our partners. Our interdisciplinary approach, combined with a strong focus on sustainability, ensures that innovation is both impactful and responsible. The close collaboration between LIST's cutting-edge research capabilities and Daher's industrial expertise exemplifies the best of both worlds—bridging scientific excellence with real-world application."

About LIST

The Luxembourg Institute of Science and Technology (LIST) is a research and technology organization (RTO) under the supervision of the Ministry of Research and Higher Education, and its mission is to develop competitive and market-oriented prototypes of products and services for public and private stakeholders.

With more than 800 employees, nearly 80% of whom are researchers or innovators from all over the world, LIST is active in the fields of information technology, materials, space resources and the environment, and works across the entire innovation chain, from basic and applied research to technology incubation and transfer.

By transforming scientific knowledge into intelligent technologies, data and tools, LIST:

- helps European citizens make informed choices
- helps public authorities make decisions
- encourages companies to develop

For more information about the Luxembourg Institute of Science and Technology, please visit: <https://www.list.lu/>

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