



Commercialisation of mould actuation systems for offshore wind blades

BUSINESS PROFILE

- Founded in 2015, DFS has established itself as a trusted partner in advanced composite tooling.
- DFS offer design, engineering, CNC machining, manufacturing, testing, tooling installation and aftersales support within the onshore wind market.
- Their customer base includes the world's leading wind turbine OEM's as well as the largest independent blade manufacturers.

SUPPORT RECEIVED



DFS Composites is a UK-based global tooling solutions and composite part manufacturing company for aerospace, wind energy, and a wide range of industrial applications.

Founded in 2015 by former Vestas specialist tooling and process engineer, Feras Yosef, the Southampton-headquartered company has carved out a niche in supplying advanced blade mould tooling and turning systems to manufacturers across the world. The company delivers innovative technology and tooling solutions for composite projects across multiple sectors, supported by expertise in design, engineering, CNC machining, manufacturing and tooling services.

A closer look at mould actuation systems for offshore blades

DFS currently design, manufacture, install and maintain mould actuation systems for onshore wind blades. These blades are much smaller and lighter than their offshore counterparts. As the function of a mould actuation system is to bring together the two halves of the wind blade mould through lifting, rotating and lowering operations, the length and weight of the mould are of paramount importance.

Through experimental development, finite element analysis (FEA) and innovative design solutions, DFS sought to build on their existing designs and industry experience to develop a mould actuation system capable of serving the larger offshore wind blade mould designs.

Solutions for the offshore wind industry



DFS technologies are applicable to both onshore and offshore wind turbine blades

DFS provides in-house electro-mechanical design services, project management, testing, tooling installation, tooling service, NDT scanning, Blade Rotation and after-sales support.

End-to-end tooling solutions, engineering, CNC machining and composite manufacturing for offshore wind.

Impact of the support

Supported the creation of 22 new jobs in offshore wind, strengthening local employment and industry capability.

Drove major business growth, with offshore wind turnover increasing from £150k to £3m, plus an additional £1.5m in export sales.

Enabled significant innovation, with DFS developing 15 new pieces of offshore wind intellectual property where previously they had none.



Before

Prior to engaging with OWGP, DFS Composites had established itself as a trusted provider of mould actuation systems for onshore wind blade manufacturing. Building on this expertise, DFS aimed to expand into the offshore wind market by developing an industrial facility and commercialising an offshore version of their existing mould actuation systems for very-large blades.

OWGP identified DFS as a promising applicant for its Development Funding programme, recognising that the company's proposed solutions would drive significant growth in Advanced Turbine Technology. The funding would enable DFS to accelerate product development, prototype and verify new tooling solutions in-house, and position the company to meet the increasing demand for UK-based offshore wind blade manufacturing.

During

Following its successful application, DFS transformed an existing industrial unit into a state-of-the-art offshore wind product development facility. The project converted onshore technologies into new intellectual property and installed a CNC machine for rapid prototyping and real-world testing, improving TRLs and de-risking new tooling solutions.

The project was managed using PRINCE2 processes, with defined work packages, risk registers, and budget tracking. Technical quality was assured through FMEA, benchmarking, engineering analysis, and simulation tools, while risks such as staff training were mitigated through targeted recruitment and structured training programs. Resource allocation was carefully planned to match skills with project activities, ensuring efficient delivery across all work streams.

After

The project enabled the commercialisation of mould actuation systems for offshore blades. It supported the creation of 22 new jobs, drove offshore wind turnover from £150k to £3m, plus a further £1.5m in exports, and lead to the creation of 15 new pieces of offshore wind IP.

Since then, DFS has been successful in securing further funding through OWGP's Manufacturing Facility Support Programme (MFSP) to support the development and expansion of U.K.-based manufacturing facilities for offshore wind components.

DFS has continued to expand their global footprint with the recent acquisition of one of the largest and most established wind blade tooling manufacturing facilities in Ciudad Juárez, Mexico, enhancing their ability to service the North American market. With factories across the UK, India, China and now Mexico, DFS is strategically positioned to service major global customers.



The matched funding from OWGP represents a significant step forward in our ability to deliver high-impact solutions to both UK and international offshore wind partners.

Our ambition goes beyond delivering solutions, we aim to work collaboratively and as equals with our partners across the sector. This support strengthens our offering and brings us closer to realising that ambition.



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