



Sources	Dowty Propellers		Date	July 2021		
Potential scale of impact		Certainty of outcome		Impact horizon		
★★★★★		★★★★★		H1	H2	H3

[Dowty Propellers](#), a global leader in composite propeller systems, has announced the successful completion of its largest ever propeller R&D programme.

Dowty Propellers collaborated with three UK innovation centres on the DigiProp project. The National Composites Centre ([NCC](#)), The Manufacturing Technology Centre ([MTC](#)) and The University of Sheffield’s Advanced Manufacturing Research Centre ([AMRC](#)); all members of the [Aerospace Technology Institute](#).

The partners offered subject matter expertise on both established and emerging technologies, allowing Dowty Propellers to unlock some of the best next generation capabilities and innovations that the UK has to offer.

Some of the many areas explored with partners during the project include:

- The introduction of a digital twin during the development of Dowty Propellers’ new factory which not only optimised the factory’s footprint but also identified process bottlenecks. The outputs deliver reduced manufacturing time and energy consumption, improved first time yield performance, and accelerated time to market for customers.
- Composites and manufacturing expertise transferred the complex technology of triaxial braiding into industrial reality, leveraging the directional properties of advanced thermoplastic composites to deliver performance and strength, while maximising the benefits of lightweight properties to enable an overall blade weight reduction. Thermoplastic composites can also be recycled by being melted down and formed into another product, therefore reducing waste and reusing tooling, supporting our drive to a carbon neutral future.
- Evolving testing methods to better represent the operating environment has been a focus area in the Digital Propulsion programme.

Dowty Propellers is now beginning to use the next generation technologies realised in DigiProp for evolving aircraft applications and to target next generation platforms.

