STONE MARINE PROPULSION LIMITED
Dock Road Birkenhead Merseyside CH41 1DT UK
T: +44 151 652 2372 - sales@smpropulsion.com - www.smpropulsion.com

Press Release

Date: 16 09 2025

World leading consortium launches Digitally Enabled Efficient Propeller project to conduct the feasibility of the world's first digitally enabled, additively manufactured propeller

The **Digitally Enabled Efficient Propeller (D.E.E.P)** project will pioneer a new generation of marine propellers produced using advanced additive manufacturing (AM) processes, integrated with digital twin technology. This innovation will transform propellers from passive hardware into smart, cyber-physical systems capable of monitoring their performance throughout their operational life.

The D.E.E.P concept has secured funding from **Innovate UK, part of UK Research and Innovation (UKRI)** through the Clean Maritime Demonstration Competition (CMDC6) to launch the Techno-Economic Feasibility Study of Manufacturing Digitally Enabled Efficient Propellers.

Crucially, the project will investigate the technology readiness of multiple AM processes for the highly regulated and complex maritime sector, benchmark their performance against conventional casting methods, and establish a clear pathway towards classification approval and type certification. This approach will ensure that the project not only delivers technical innovation but also creates a credible framework for industrial adoption and regulatory compliance.

Led by Enki Marine Ltd, the consortium brings together world-leading expertise: Stone Marine Propulsion (design and market validation), TWI (materials testing and manufacturing processes), DEEP Manufacturing Ltd (manufacturing processes and production scaling), Authentise (digital thread and AI-driven monitoring), ASTM International (standardisation and certification), and Newcastle University (hydrodynamic modelling and validation).

Milad Armin, Executive Director of Enki Marine, said:
"ENKI's core mission is to ensure that emerging technologies are not only cutting-edge, but also safe, purpose-driven, and seamlessly integrated into the maritime sector. We are proud to collaborate with a world-leading consortium on the D.E.E.P programme, which supports our mission and will pioneer a new generation of marine propellers manufactured through advanced additive manufacturing (AM) processes and enhanced with digital twin technology.

The D.E.E.P project will run from September 2025, with the first phase focusing on evaluating AM processes. Subsequent stages will validate the demonstrator on Newcastle University's research vessel, with the long-term aim of enabling type approval and scaling production for commercial adoption by the global fleet.