

MAXBLADE

MAXIMISING TIDAL ENERGY GENERATION THROUGH BLADE SCALING & ADVANCED DIGITAL ENGINEERING

ABOUT MAXBLADE

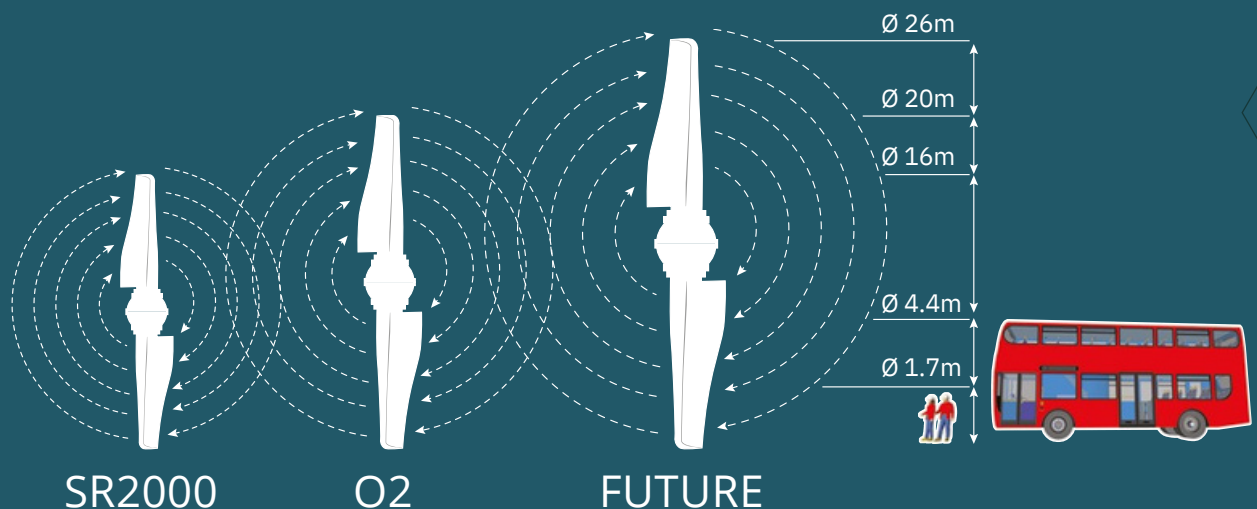
MAXBlade is a highly ambitious project which aims to deliver the essential blade and rotor innovations needed to increase rotor diameter to 26m. This blade increase will increase the area the blade can sweep by 70% - hugely improving tidal energy efficiencies, and reducing Levelised Cost of Electricity (LCoE) by 20%.

OPTIMISING TIDAL TECHNOLOGY

Optimisation is key to enable the tidal sector to make significant contributions towards Europe's energy systems, energy security and industrial development by 2030, and beyond to 2050.

The innovative Scottish technology developer, Orbital Marine Power is leading a pan-European consortium, to accelerate the commercial deployment of floating tidal energy.

The MAXBlade project consortium is funded by the European Union's Horizon Europe Framework Programme and the UK Government through UKRI



OBJECTIVES

- ✓ Deliver reliable, cost optimised and customisable 26m tidal turbine rotors to maximise project yield
- ✓ Develop and implement advanced tidal blade structural condition monitoring to increase turbine availability
- ✓ Deliver reliable control inputs and optimal blade/controller designs to maximise array level power performance
- ✓ Enable circularity in tidal turbine blades including recyclable thermoplastic manufacturing
- ✓ Secure European leadership of tidal turbine composite blade manufacturing with competitive 320 tidal blade per annum capacity by 2030
- ✓ Advance integrated digital maintenance management of tidal arrays



ROADMAP TO COST REDUCTION AND VOLUME MANUFACTURING

MAXBlade is a parallel, sister project to FORWARD-2030. It will run approximately 18 months behind FORWARD-2030 and be supported from operational data from FORWARD-2030 and the O2 tidal turbine. It will comprise performance testing the innovations on at least 2 units c. 5 MW total installed capacity for a 24 month period.

Innovations in MAXBlade, and the system wide innovations of FORWARD-2030, will be combined in a core product which will:

- Achieve aggressive cost reduction targets in line with the SET-Plan targets on ocean energy;
- Support the financing of a number of targeted pilot tidal arrays;
- Support further cost reductions through volume manufacture.

CONTACT US

Please get in touch if you have any questions about the MAXBlade project.

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