



22 Jun META supports SELKIE tool testing to advance marine energy development

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The team behind Wales' national marine energy test facility, META, has recently welcomed its first deployment in their pre-consented test sites in Milford Haven. This first deployment of a new open-source tool, to measure high quality turbulence data, supports the industry need for META as an easily accessible testing hub for research and innovation.

The tool has been developed by Swansea University under the SELKIE project; an EU Ireland-Wales Programme project developing a streamlined commercialisation pathway for the Marine Renewable Energy (MRE) Industry. This project led by a consortium of 6 partner organisations brings together academia and industry through the development of open-source, multi-use tools and models to reduce MRE costs as well as developing a cross-border innovation network to increase and diversify MRE businesses in Wales and Ireland.

The tool, a C-ADCP (converging acoustic doppler current profiler) tool captures high resolution 3D flow velocity allowing the measurement of turbulence at peak flow conditions and provides much higher quality data than a traditional (diverging) ADCP. This data will be beneficial in growing our scientific understanding and characterisation of the fluid dynamics of tidal stream sites. The tool has been designed to be easy to deploy and recover through the use of a deployment raft and self-recovery acoustic release system and so greatly reduces the traditional deployment costs of expensive vessel hire.

A quarter-scale model of this tool has been deployed at one of META's Phase 1 Quayside sites, Criterion Jetty, to test the deployment and retrieval methodology as well as some sensor testing. META's quayside sites provide an unparalleled easy access and low risk area for testing marine energy equipment.

The full-scale unit will be deployed at META's Phase 2 open-water tidal test site, Warrior Way, in the Autumn for full operational testing of the sensors.

Minister for Climate Change, Julie James said:

"This new innovative tool designed by EU Ireland-Wales Selkie Project, will increase understanding of the effect of tidal streams, assisting in the development of ocean energy devices by Welsh and Irish businesses across the Irish Sea.

"The €100m EU Ireland-Wales Cooperation programme provides an excellent platform for Welsh and Irish institutions, businesses and communities to learn from each other, share best practice and forge long lasting partnerships, and tackling some of the major challenges of our age it will pave the way for opportunities such as the potential to generate clean energy through working together.

"Our continued relationship with Ireland is even more important now the UK has left the EU and collaborative projects, such as Selkie, are a vital part of our ambitions within the Ireland Wales Shared Statement and Joint Action Plan."

"This also marks a key milestone for META, supporting the deployment of this tool and helping to establish Wales as a centre of excellence for marine energy development."

Saul Young, Operations Manager at META said:

"We are delighted to be able to facilitate the Swansea University and Selkie c-ADCP test at META. The 1/4 scale device has now completed testing at a META quayside site, including testing of its novel deployment retrieval methodology. Later this year a full-scale device will be deployed and tested at Warrior Way – a deeper site with greater resource. This really highlights the 'stepping stone' option we can offer with the variety of sites at META. This as the first deployment is a notable milestone for META as a fully operational test centre."

Professor Ian Masters, Swansea University said:

"Within the cross border SELKIE project, we are developing a number of c tools that require testing in a real sea environment. We have developed a

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working partnership with META as they offer testing sites that are accessible, enabling us to get real sea experience in order to progress the development of tools that can bring key learning to the marine energy industry and furthermore can be applied to commercial tidal sites in Wales & Ireland, and across the globe.

We have previously used META to develop our tidal surface current measuring drone and have now successfully tested the novel deployment & retrieval methodology of our C-ADCP device. We are following industry best practice with a structured innovation development pathway, working at scale and testing subsystems, reducing risk as we progress. We look forward to coming back in the Autumn to test the full-scale unit.”

SELKIE will be officially launching detail on this tool at the PRIMaRE online conference 2021 in a workshop with META on 29th June:
<https://primare.events/pc/pc8>

TAGS: marine energy, Selkie tool, tidal energy