



Case Study

Kieran Budgell



EPSRC & NERC Industrial CDT
for Offshore Renewable Energy

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CATAPULT

Offshore Renewable Energy

A core aim of IDCORE is to aid progress for the whole offshore renewables sector, tackling pervasive issues for companies and organisations across the industry. They share this aim with Kieran's project sponsor, the Offshore Renewable Energy (ORE) Catapult. Kieran is playing an important role in this regard, providing a key node in the network of actors driving development in the sector.

Networks and exchange

Kieran's work with IDCORE and the ORE Catapult demonstrates the power of effective industry networks and knowledge exchange in the offshore renewables sector. He believes that his work has greatly benefitted from the good will accumulated by the ORE Catapult, allowing him to draw on the expertise of specialists from multiple companies. Thanks to the ORE Catapult's position as an enabler for the whole sector, he believes these stakeholders had a real desire to see him succeed.

Simultaneously, according to Kieran's industrial supervisor, Jason Buchan (Project Engineer), the ORE Catapult benefits by accessing IDCORE's extensive academic network and expertise. Kieran believes this access has become fundamental to the way the ORE Catapult operates, with many employees at the Catapult being IDCORE alumni themselves. The knowledge exchange this affords allows the Catapult to stay abreast of fundamental research taking place across academia, as well as developments amongst other IDCORE project sponsors.

Kieran describes how such a networking approach is built into the IDCORE model from the beginning of its cohort-based teaching. The entire cohort are mutually supportive, helping each other to answer questions and building their understanding. Due to the healthy mix of expertise and backgrounds within the group, Kieran feels his communication and collaboration skills were enhanced, preparing him for working with others in the industry. The relationships he's built within his cohort are continuing to help him now, allowing him to maintain his awareness of developments across the sector.

Through his work with ORE Catapult, he's also been able to expand his professional network. By being involved in commercial work delivered by the ORE Catapult, he's been able to build relationships with external stakeholders, something he hopes will be useful in his future. In this way, he will be taking the legacy of IDCORE forwards into whichever role he enters.

It was the industry links that really appealed about IDCORE, and to have the challenge of putting my own project together while maintaining that industry focus. I'd have the option to go into academia or industry depending on what I enjoyed the most.

Kieran Budgell

Feb 26



Project details

Kieran wanted the opportunity to shape his own project rather than working on something predefined. This is what drew him towards the ORE Catapult as a project sponsor, feeling they gave him scope to take the project in several different directions. This self-directed model of research has been a learning curve for him, but he feels he's starting to make good progress.

He is designing and testing a novel anchor system for floating offshore wind turbines. The majority of his work is dealing with geotechnical engineering, understanding how the seabed around the anchor will act under the different forces it will experience. A better understanding of seabed geotechnics will be essential to reducing costs for the floating wind sector, according to Jason. The hope for Kieran's project is that, in the long-term, it will help to reduce the levelised cost of energy for the technology, a core aim for the ORE Catapult. This area of research is especially important for the UK offshore sector given the heterogeneous nature of its seabed soils.

Jason feels that Kieran's work is helping ORE Catapult advance their understanding in the area of offshore geotechnics. While the project is focused on floating wind, he believes it will also be relevant to other offshore renewable sectors, with the potential to reduce costs across multiple technologies. Both Kieran and Jason are looking forward to physically testing the units Kieran has been developing. They are keen to see how well the results of this testing match up to their numerical modelling.

IDCORE delivers focused research on areas prioritised by those working in the industry, ensuring it is targeted and impactful. Much of this work is shared in the public domain and contributes to the wider knowledge base.

*Jason Buchan,
Project Engineer - Floating Wind Systems*



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