Nonlinear Wave Structure Interaction and Device Modelling

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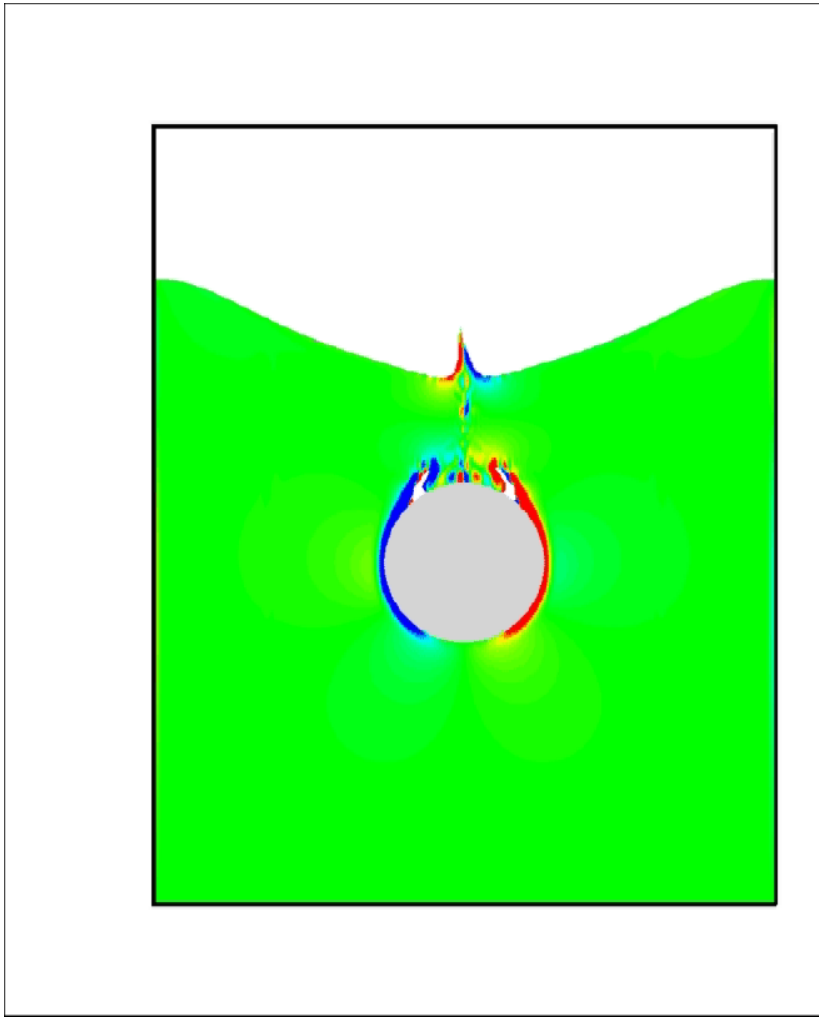
Coupled Dynamic Response of Wave Energy Converters and Mooring Systems

- Develop numerical models
- Survivability
- Need to predict loading due to violent events: breaking, slam, overtopping and splashing

- Lead: Dr Qingping Zou



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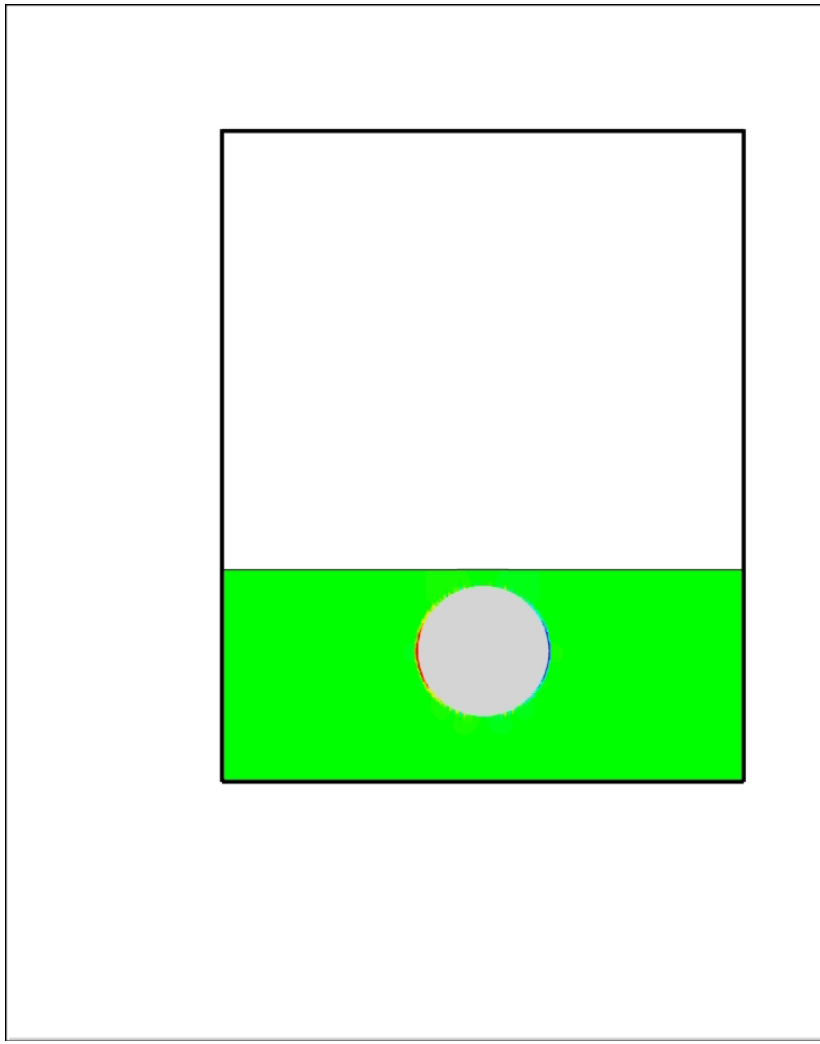

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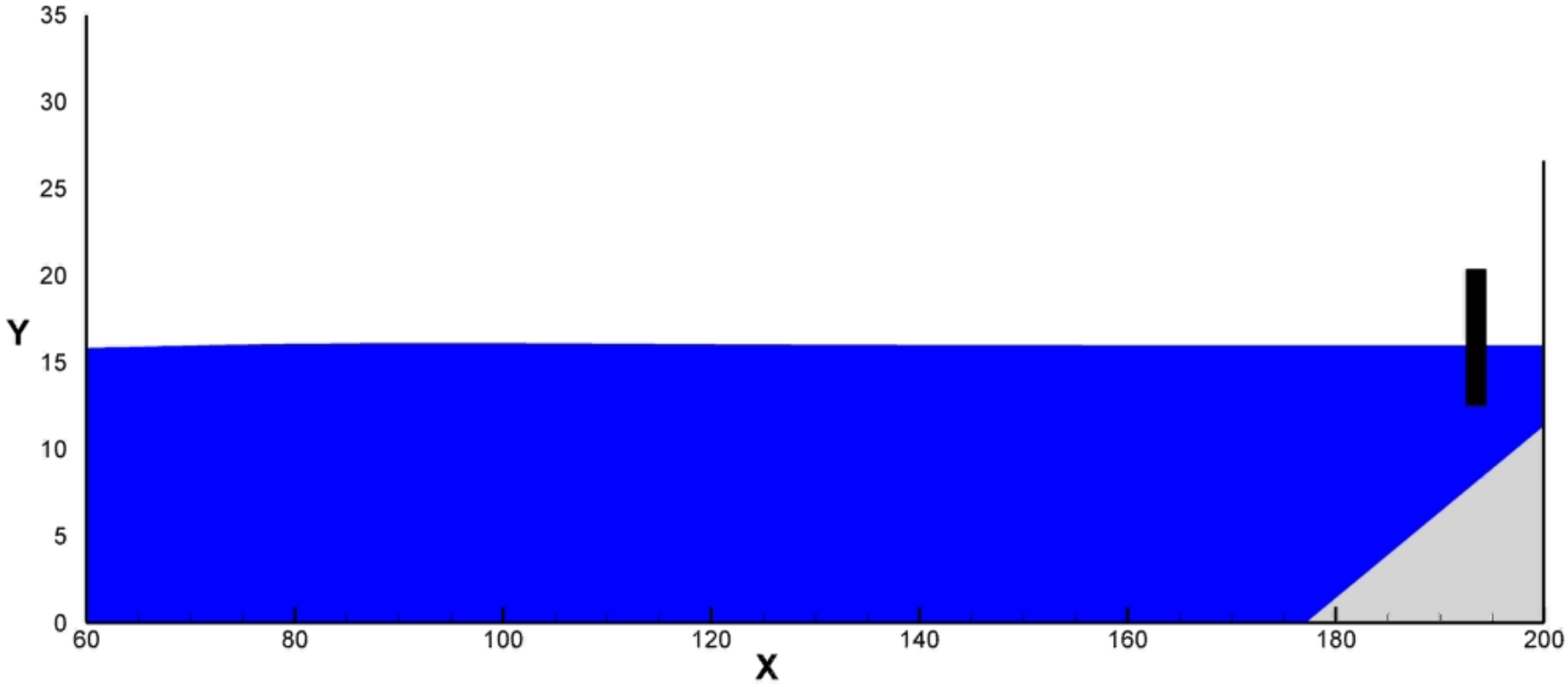
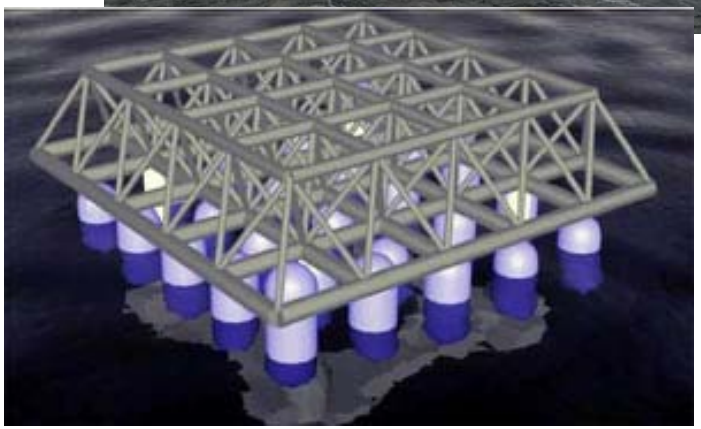


EPSRC: Extreme Wave Loading On Offshore Wave Energy Devices Using CFD

PRIMaRE

- Academic partners: Plymouth, Oxford, Manchester, MMU, Bath
- Industrial partners: Pelamis WP, Atkins, Adapco and Ansys
- CFD analysis of Pelamis and Manchester Bobber

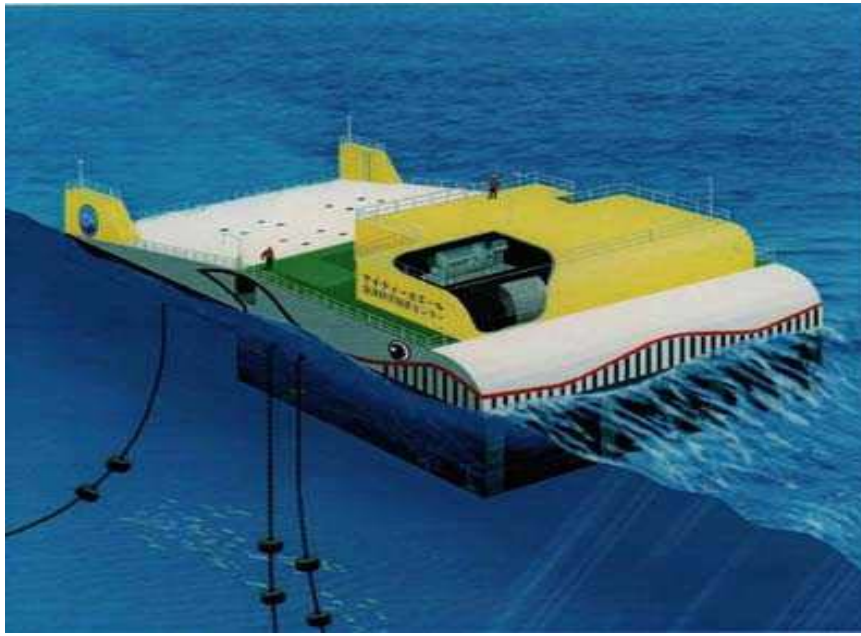


GWR with Embley Energy: Survivability and Tuning of SPERBOY™

- Numerical code development and modelling
- Physical tank testing
- Investigation of behaviour in storm conditions
- Investigation of active tuning techniques

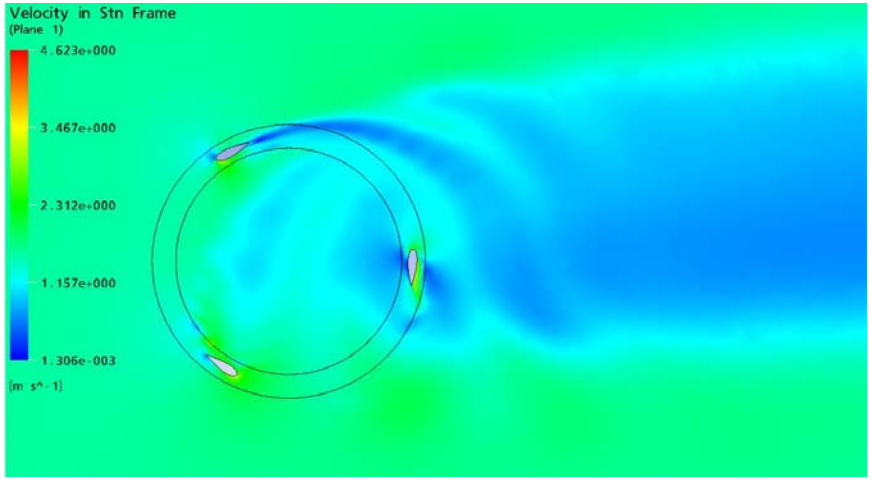
EPSRC Industrial CASE with Arup Ltd: Wave energy converter & mooring/tether dynamics modelling

- Development of numerical models
- Comparison with traditional methods



Evaluation of the Cormarent Tidal Stream Energy Device to include concept validation and CFD optimisation

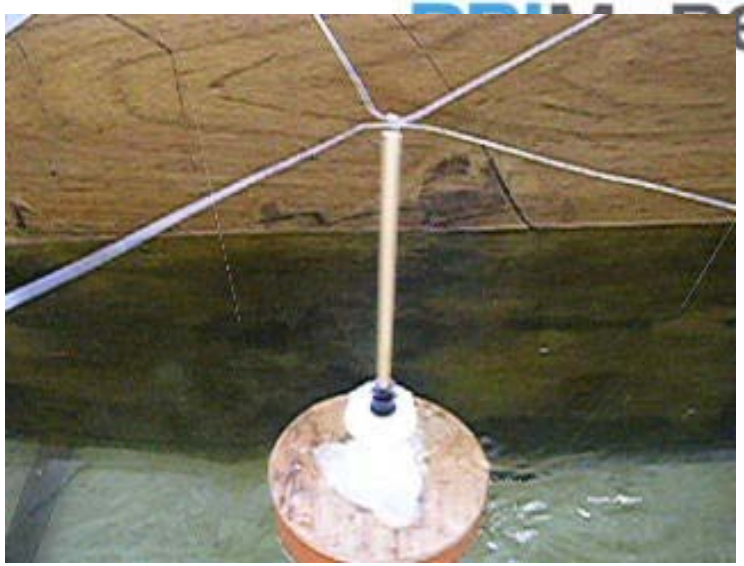
- Physical Model tests
- CFD analysis for performance prediction and load estimation



Lead: Dr Ming Dai

Student Projects

Pelamis



Powerbuoy™

Buldra

SOWFIA Streamlining of Ocean Wave Farms Impact Assessment

- Proposal submitted to Intelligent Energy in Europe IEE, June 2009

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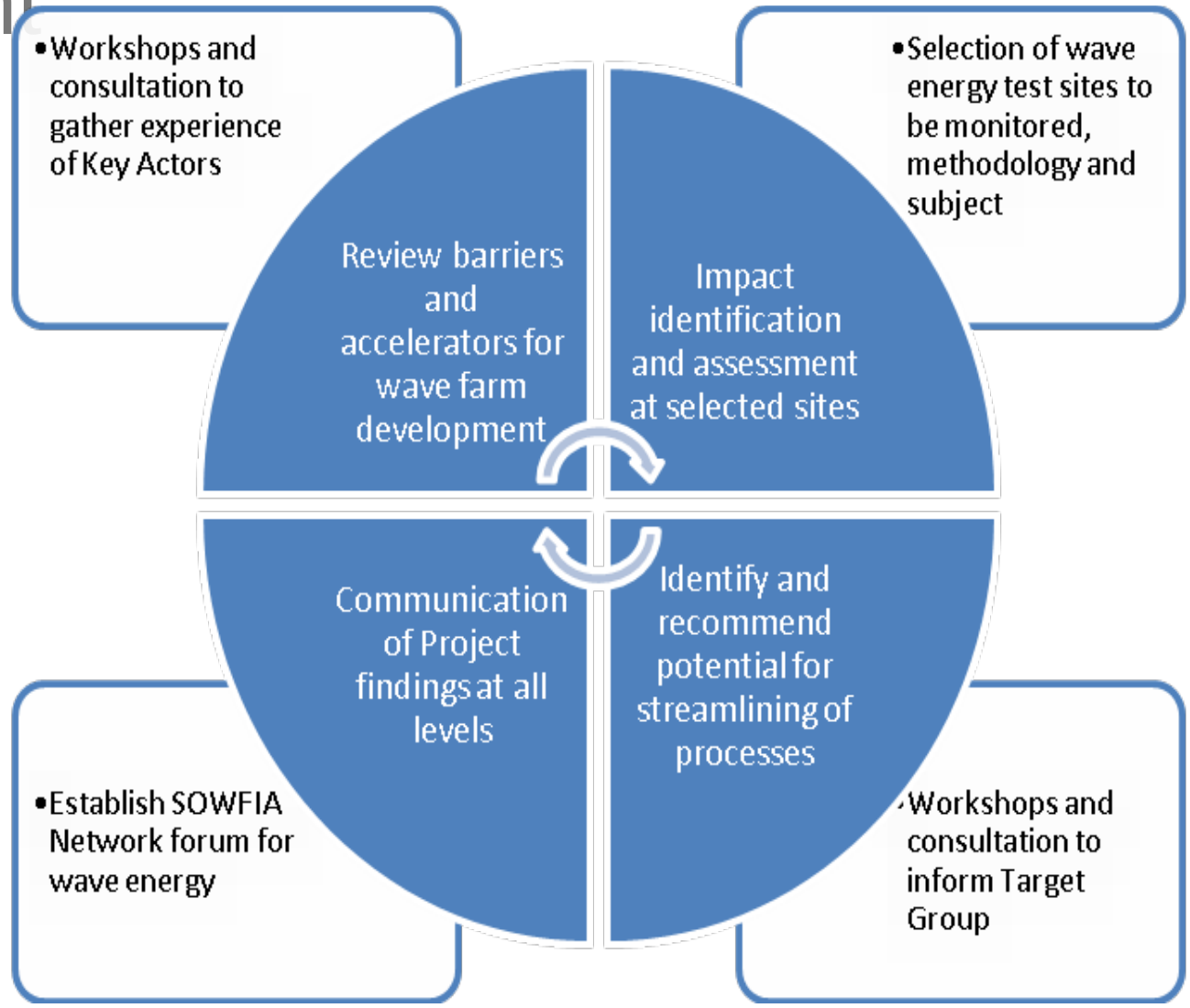

ACRE – Accelerator Consortium for Renewable Energy

- PRIMaRE, UoP, UoE, UoBr, UoBa, UWE, PML, RegenSW, GWR
- Run as a managed programme by GWR