

# Developing measurement opportunities through knowledge exchange

EIMR – 2014

Ian Ashton, Lars Johanning - University of Exeter

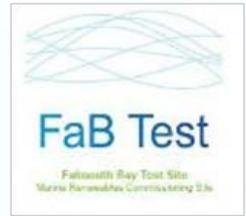
Richard Argall, Rachel Nicholls-Lee - Mojo Maritime



# University of Exeter

- Applied oceanographic measurements
- Waves and currents
- Ecological conditions
- Engineering assessments

**Support testing and proliferation of MRE in the region**

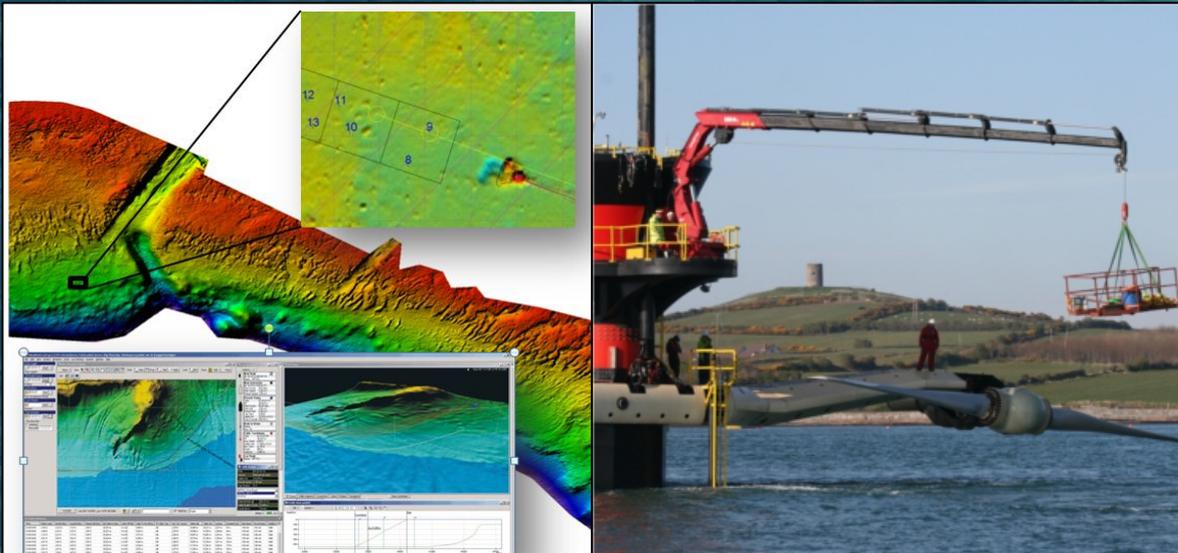


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# Mojo Maritime

- Project Management, Engineering and Consultancy services for MRE
- Collaborations with the University of Exeter support R&D
- Particular experience in areas of high tidal flow
- Innovative R&D in instrumentation for tidal flows



# Mojo Maritime Current buoy

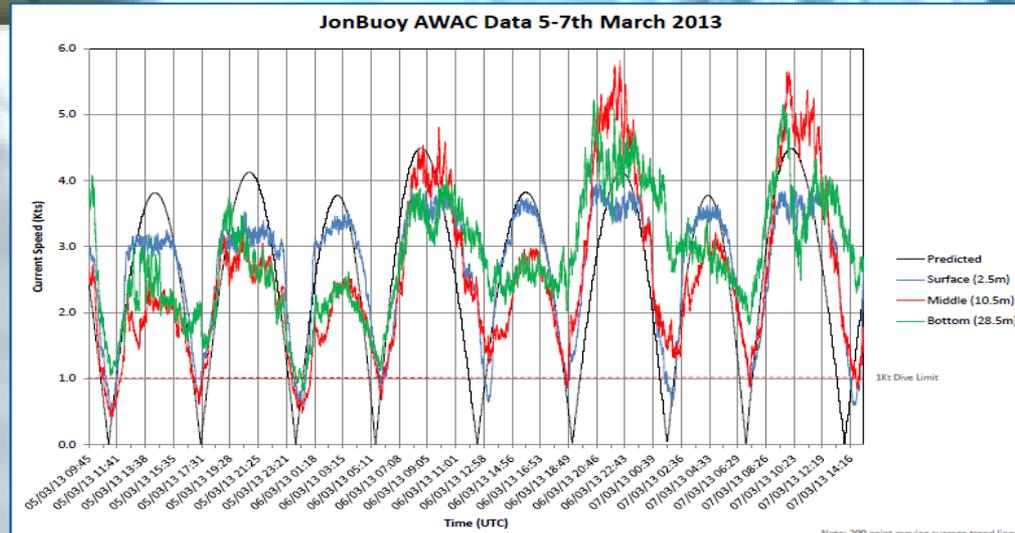


## Mojo current buoy

- Unique design prevents submersion
- Wi-fi provides real-time transmission of large data sets
- Linked to vessels to support marine operations

## Mark II

- Wave measurement capability
- Possibility of sediment and acoustic noise
- Proven design offers potential for monitoring MRE sites



# Research data support

- Flowbec - NERC
- TSB
- ERI (UHI) and Meygen

Development opportunity for  
Current buoy



# Ongoing Collaboration



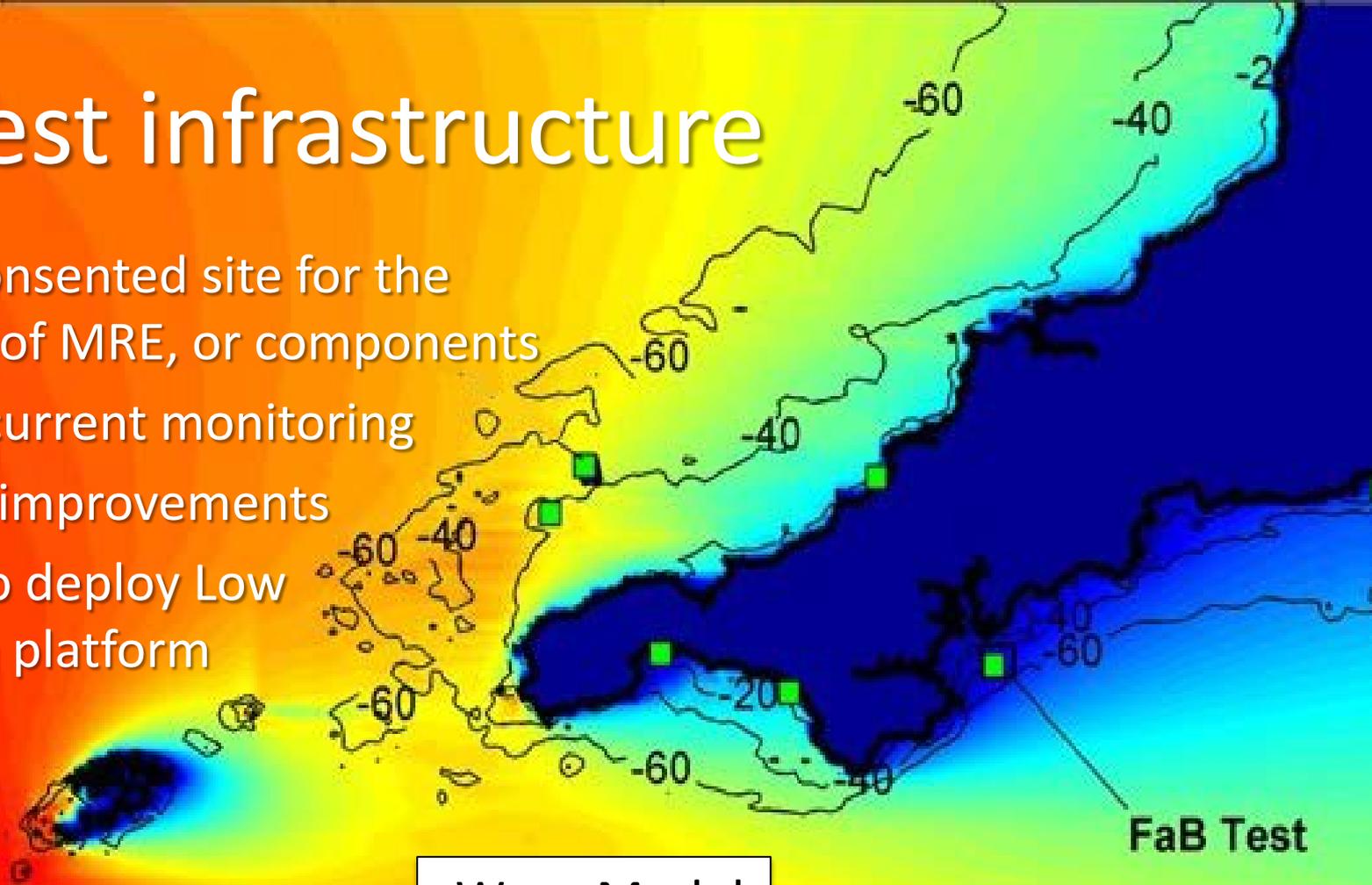
- Developing a low motion platform for Lidar wind monitoring
- Funding secured for trial deployment at FaBTest
- FaBTest site with significant recent investment through RGF
- Supporting test programs with measurement and analysis

Again, working together to develop new measurement technology, and incorporating into best practice for MRE



# FaBTest infrastructure

- Fully consented site for the testing of MRE, or components
- Wave/current monitoring
- Survey improvements
- Mojo to deploy Low Motion platform



Wave Model

Mooring loads



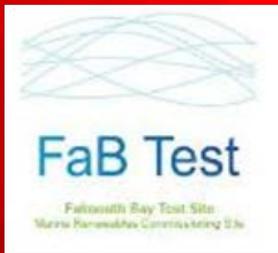
Wave Buoys



ADCP's

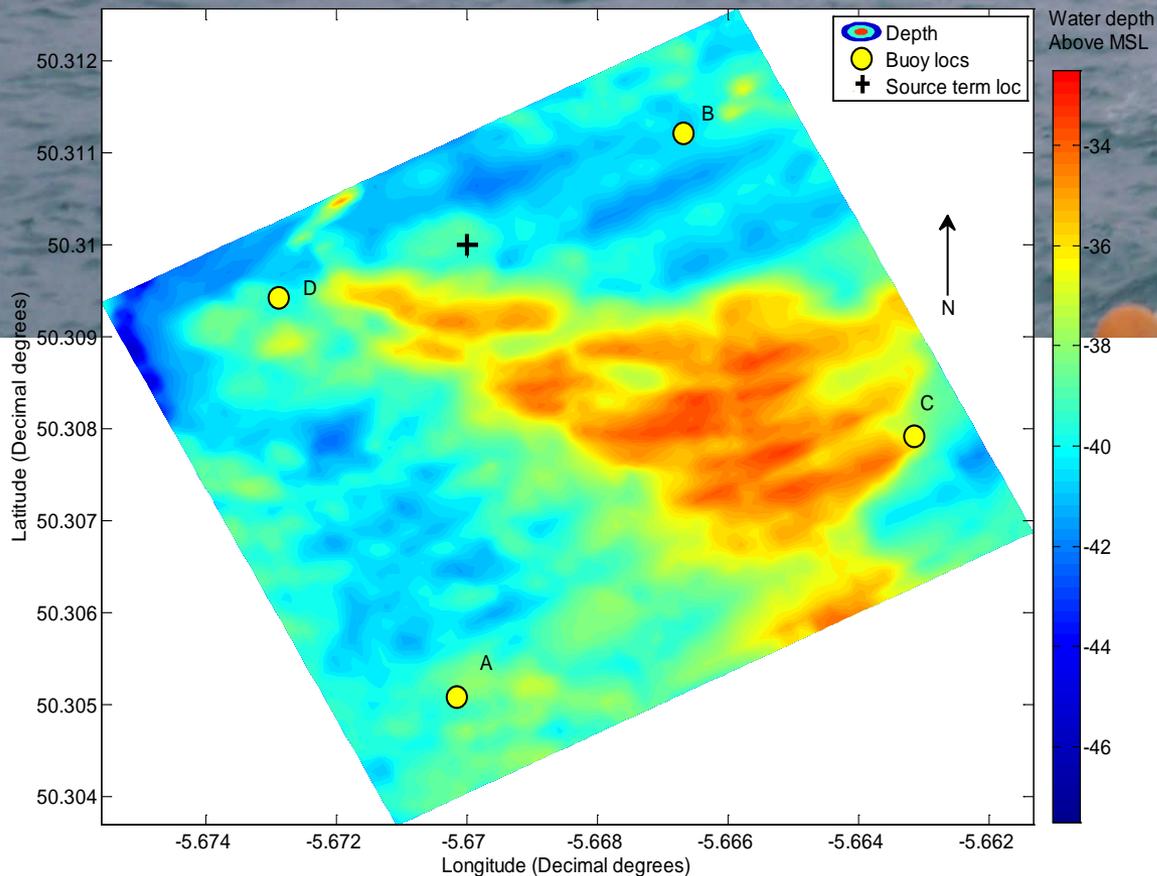


Wind?



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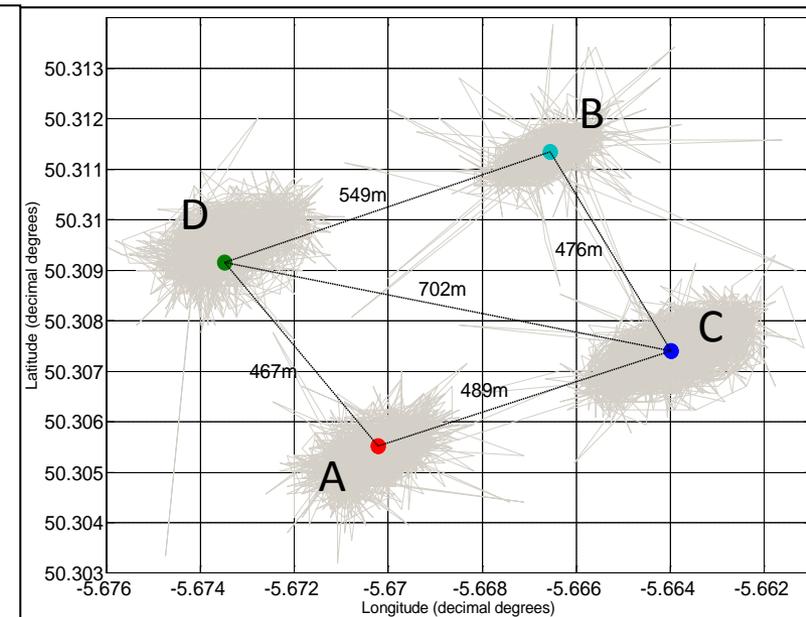
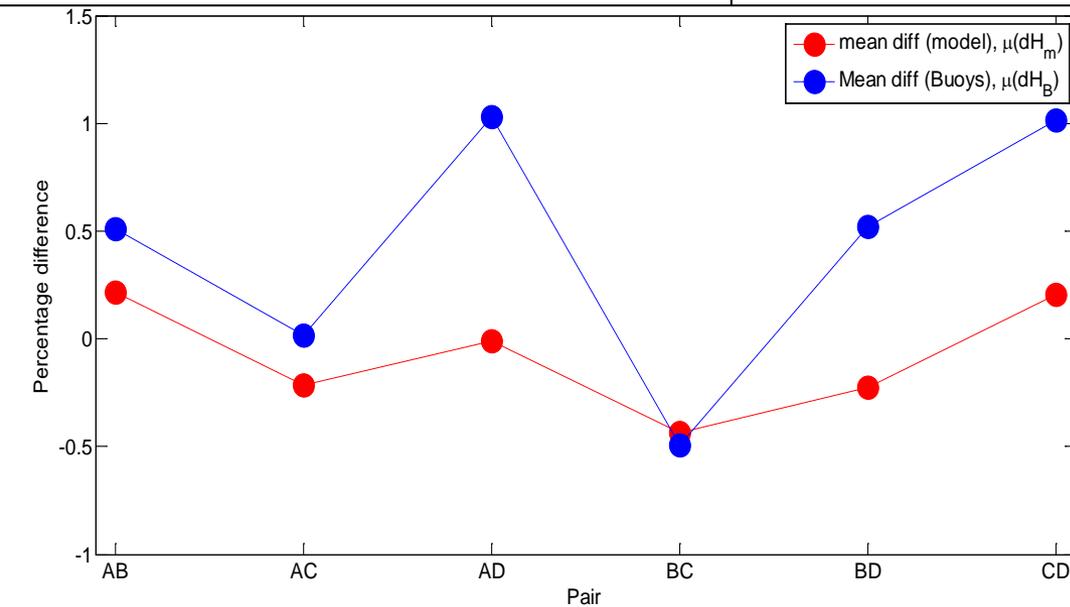
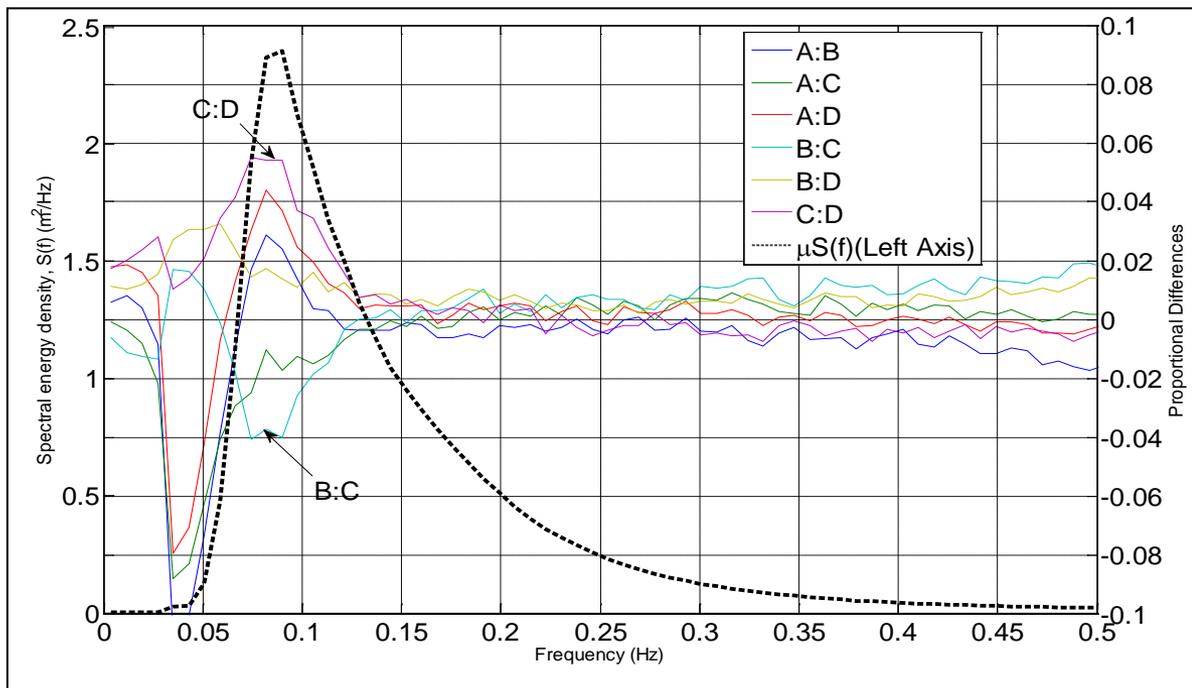
# Very High resolution modelling



- Flowbec
- Resolving intra-site variability
- Validation against measurements

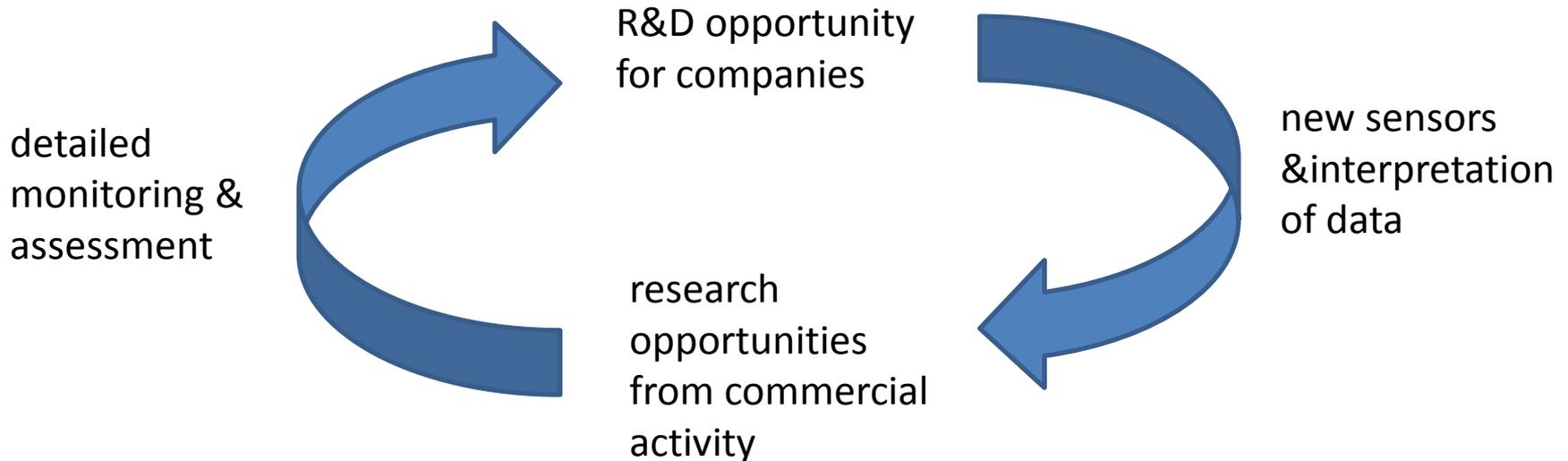


- Significant variability within 500m
- Model improves accuracy over one single buoy
- Highly dependent on inputs
- Wind/Survey/Tide



# Summary

- Mojo Maritime offer innovative, practical solutions to challenges of measurement in MRE sites
- Interactions with UofE help use ingenuity of company in research, and feedback to support product development for global marketplace



# Thank you for listening

Thanks to NERC for the Internship opportunity

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