

# MTC & HVM Catapult support for the Robotics sector

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Chief Automation Officer



# BACKGROUND

*mtc*

- ▶ Created in 2011
- ▶ Independent Research and Technology Organisation (RTO)
- ▶ To bridge the “valley of death” – the gap between academia and industry
- ▶ Prove innovative manufacturing concepts
- ▶ Manufacturing system solutions
- ▶ Apprenticeships & Future Skills

UNIVERSITY OF  
BIRMINGHAM

Loughborough  
University



The University of  
Nottingham



# HIGH VALUE MANUFACTURING CATAPULT

*mtc*



## NMIS

National Manufacturing  
Institute Scotland

## CPI

Centre for Process Innovation

## NAMRC

Nuclear Advanced Manufacturing  
Research Centre

## AMRC

Advanced Manufacturing  
Research Centre

## MTC

Manufacturing Technology Centre

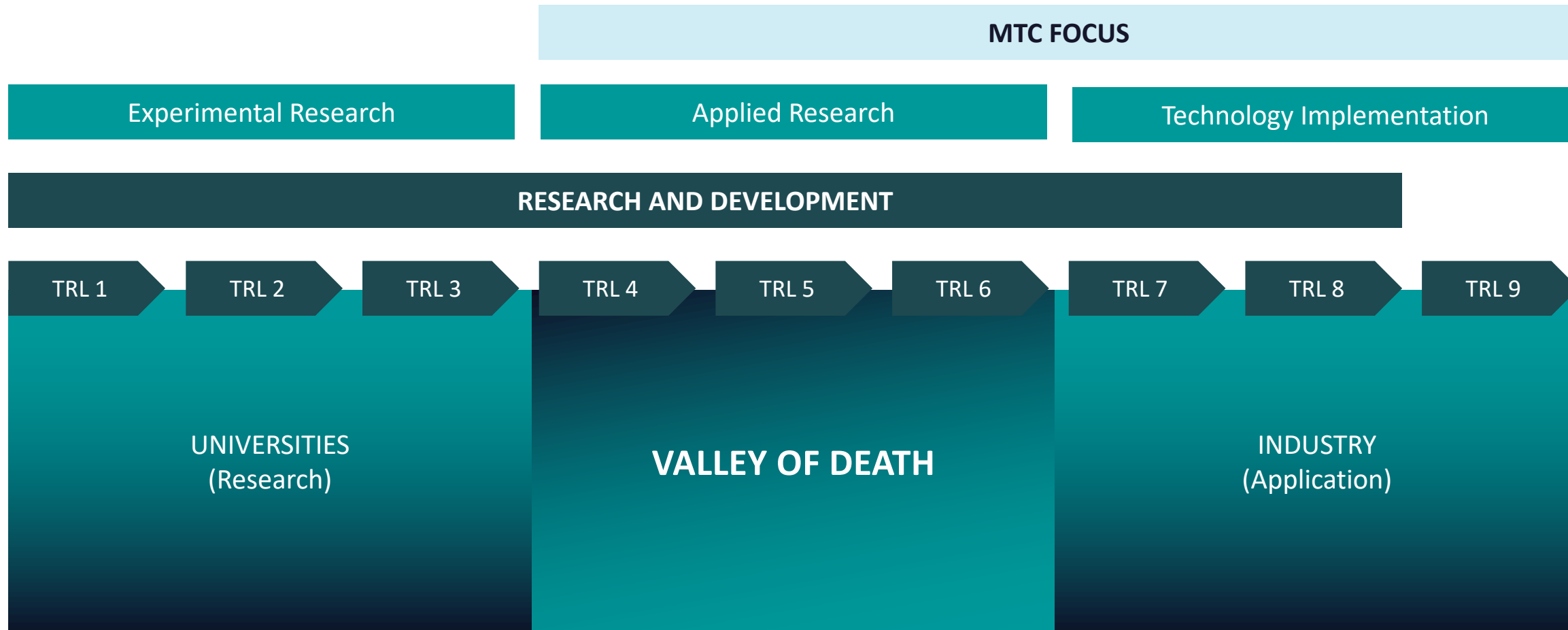
## WMG

Warwick Manufacturing Group

## NCC

The National Composites Centre





# HVM CATAPULT SERVICES

- Performance testing:
  - measuring capability and assessment against specifications
  - tests prior to actual environment testing
- Accelerated life testing
- Advice on safety and standards
- Simulation studies
- Industrialisation
  - Product design advice/consultancy
  - Manufacturability
- Access to membership and wider industry
  - Advice from target markets
  - Real world testing
- Development of training programmes & manuals



- Support for funding applications
- Access to wider automation supply chain
- Promotion & exposure



# THE GO TO PLACE FOR AUTOMATION & ROBOTICS



## THE MTC IS HERE TO HELP

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**CATAPULT**  
High Value Manufacturing



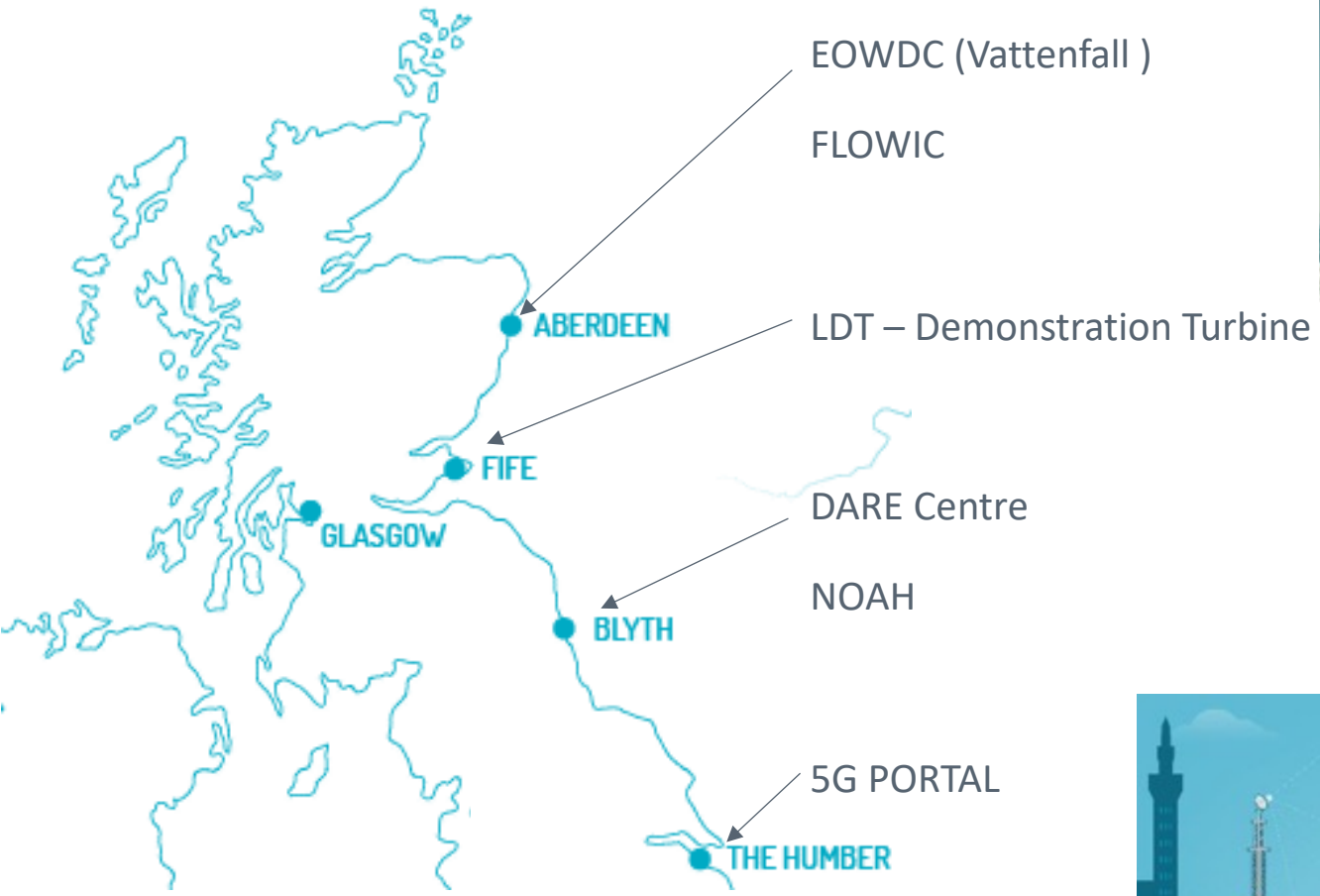
**CATAPULT**  
Offshore Renewable Energy

# RAS Capabilities

**Ben George**

**19 Feb 2024**

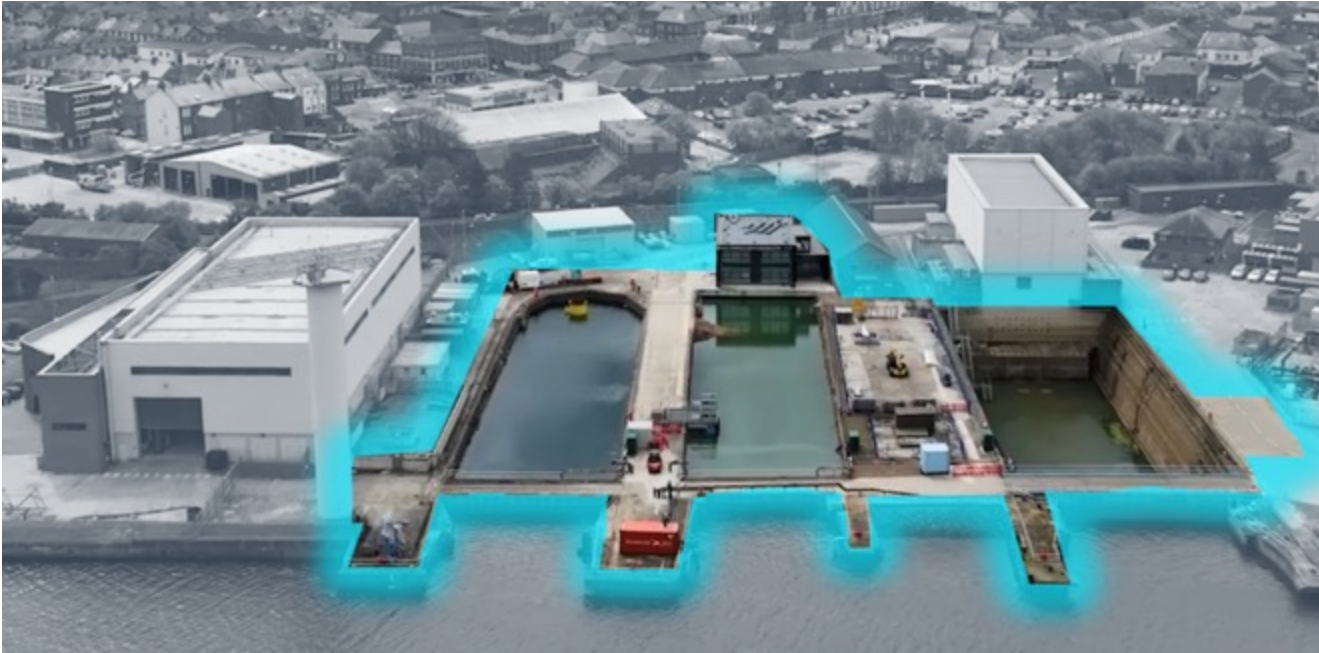
# THE CATAPULT TEST CENTRES – A NATIONAL CAPABILITY



Full TRL support from concept to commercialisation



# DARE – DIGITAL, AUTONOMOUS & ROBOTIC ENGINEERING

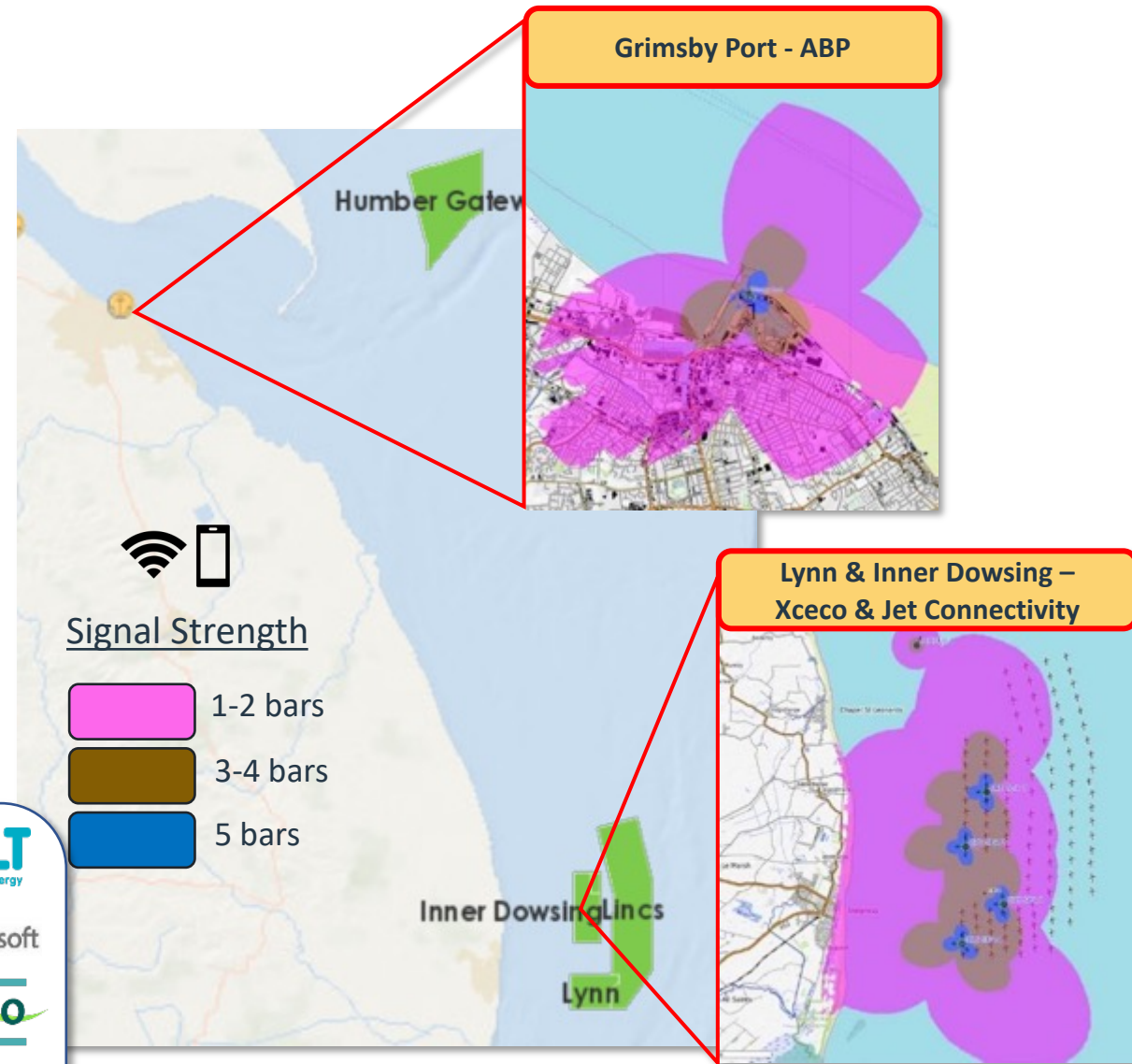


- Command and control rooms
- Live asset monitoring systems
- Indoor assembly stations and storage
- Mechanical and electrical workshop

- Dry and wet dock
- Simulation seabed
- Blade sections
- Drone flying zone

# 5G PORTAL

- Private 5G network deployed across:
  - Operational wind farm
  - Operations and Maintenance port
  - In-field solar-powered research buoy
- Lab space
  - 5G onboarding lab
  - Operational data payload transfer
  - Data analysis and simulation/ modelling



Led by: **CATAPULT**  
Offshore Renewable Energy

Working with: **Microsoft**

**CATAPULT** **xceco**  
Satellite Applications

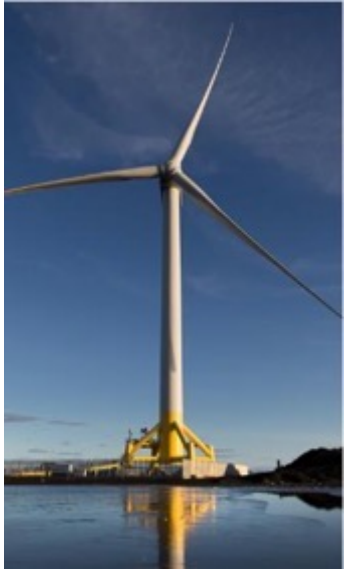
**JET CONNECTIVITY** **ABP**  
Driving Maritime ASSOCIATED BRITISH PORTS

**boldyn** **Acelleran**  
NETWORKS



Image credit: Jet Connectivity

# OFFSHORE ASSETS



## LDT – Demonstration Turbine

- Instrumented, active working demonstration turbine
- Nearshore structure
- Vessel / land access



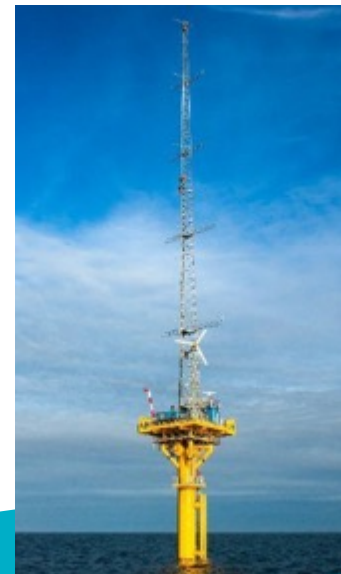
## EOWDC – Aberdeen Bay

- Collaboration Agreement
- Vattenfall, Aberdeen region, EU
- 11 Vestas V164-8.0 MW Turbines
- Suction-bucket jackets
- Distance from shore ~3km



## Lynn & Inner Dowsing – Grimsby

- Collaboration Agreement
- XceCo, GLID
- 54 SGRE 3.6 MW Turbines
- Monopile foundations
- Operated from Grimsby



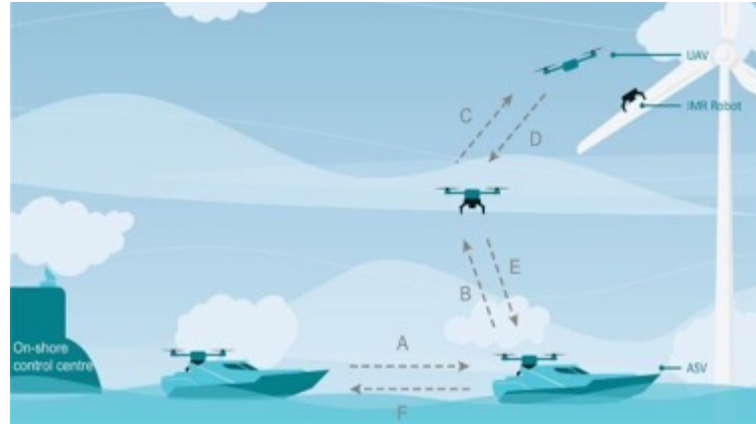
## NOAH – Offshore demonstration asset

- Instrumented met mast
- Inspection to foundation structure
- 40 metres depth

# FUTURE

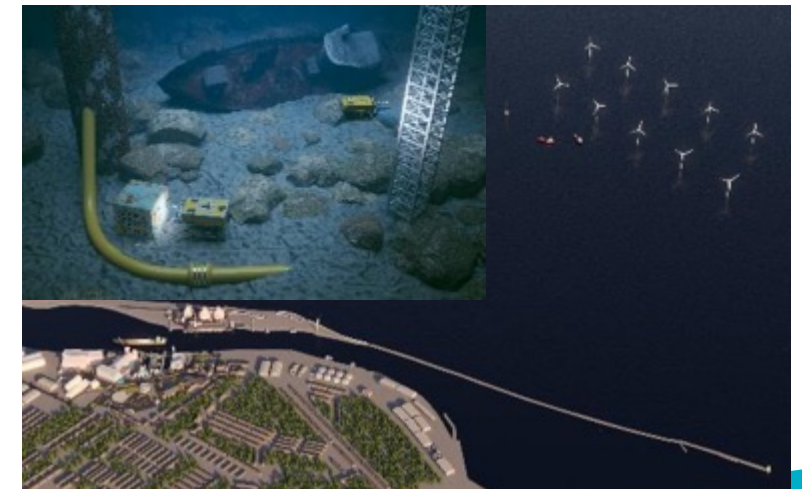
## Simulation & Digital Twin Environments

- **STUDS**
  - RTI for RAS development and nested systems
- **DOME**
  - Common, high fidelity digital twin hosting environment



## Offshore Demonstration Area

- 1 km<sup>2</sup> Ongoing Development
- South of the Blyth NOAH met mast
- Inshore of the existing EDF windfarm
- Will provide representative conditions for testing technology in an offshore environment.



# CONTACT US

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Visit us: [ore.catapult.org.uk](http://ore.catapult.org.uk)

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