A photograph of an offshore wind farm. Several large, three-bladed wind turbines are visible against a cloudy sky. In the foreground, a yellow and black service vessel is moving across the water, leaving a white wake. The overall scene is industrial and maritime.

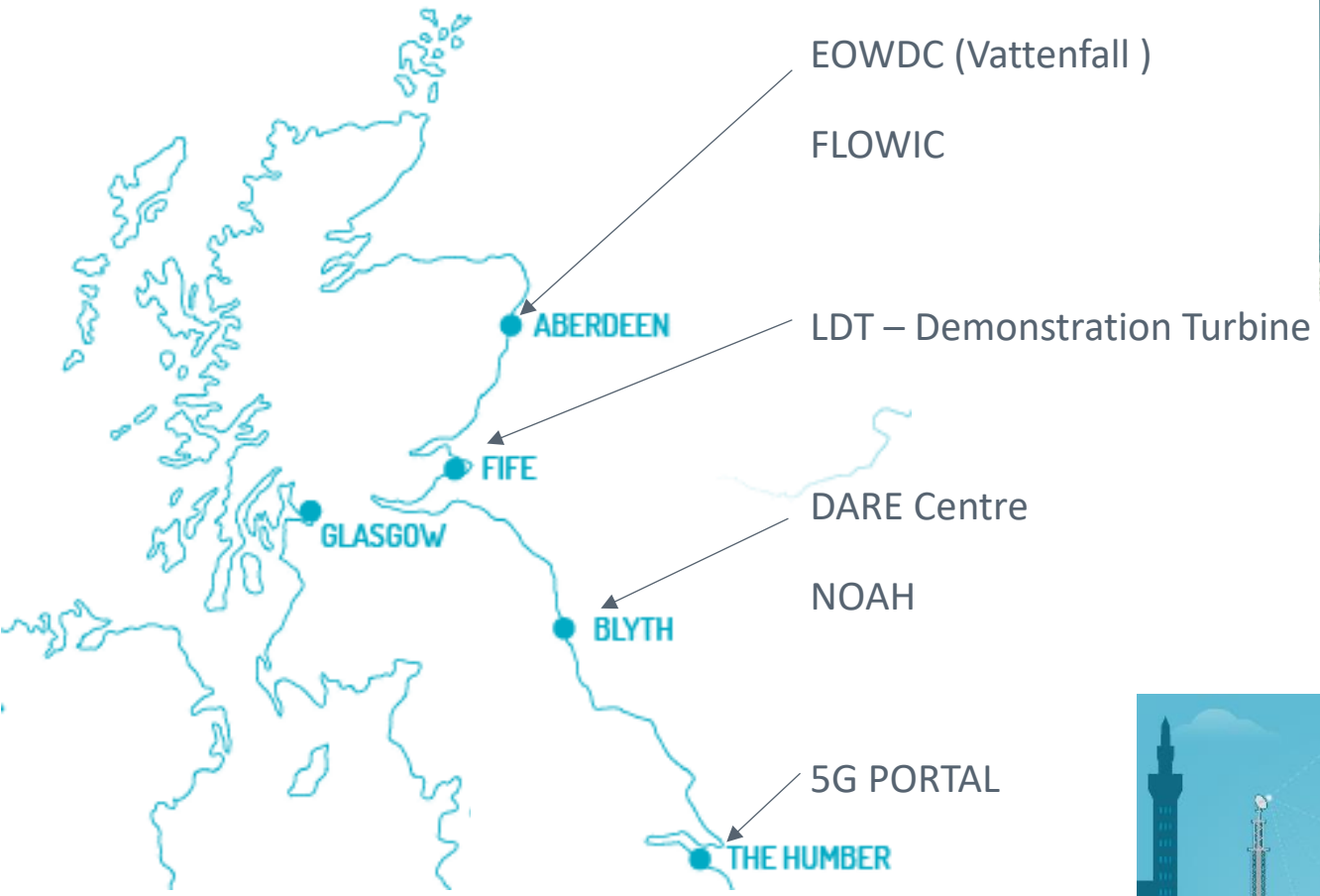
CATAPULT
Offshore Renewable Energy

RAS Capabilities

Ben George

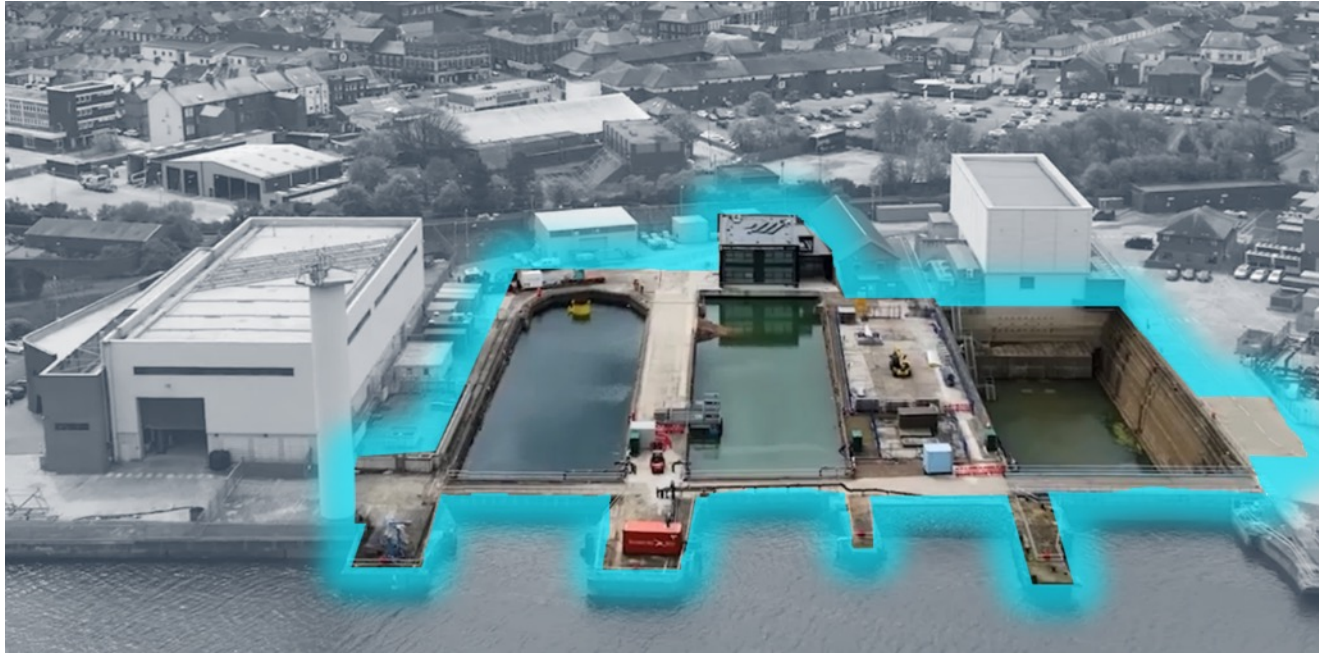
19 Feb 2024

THE CATAPULT TEST CENTRES – A NATIONAL CAPABILITY



Full TRL support from concept to commercialisation

DARE – DIGITAL, AUTONOMOUS & ROBOTIC ENGINEERING

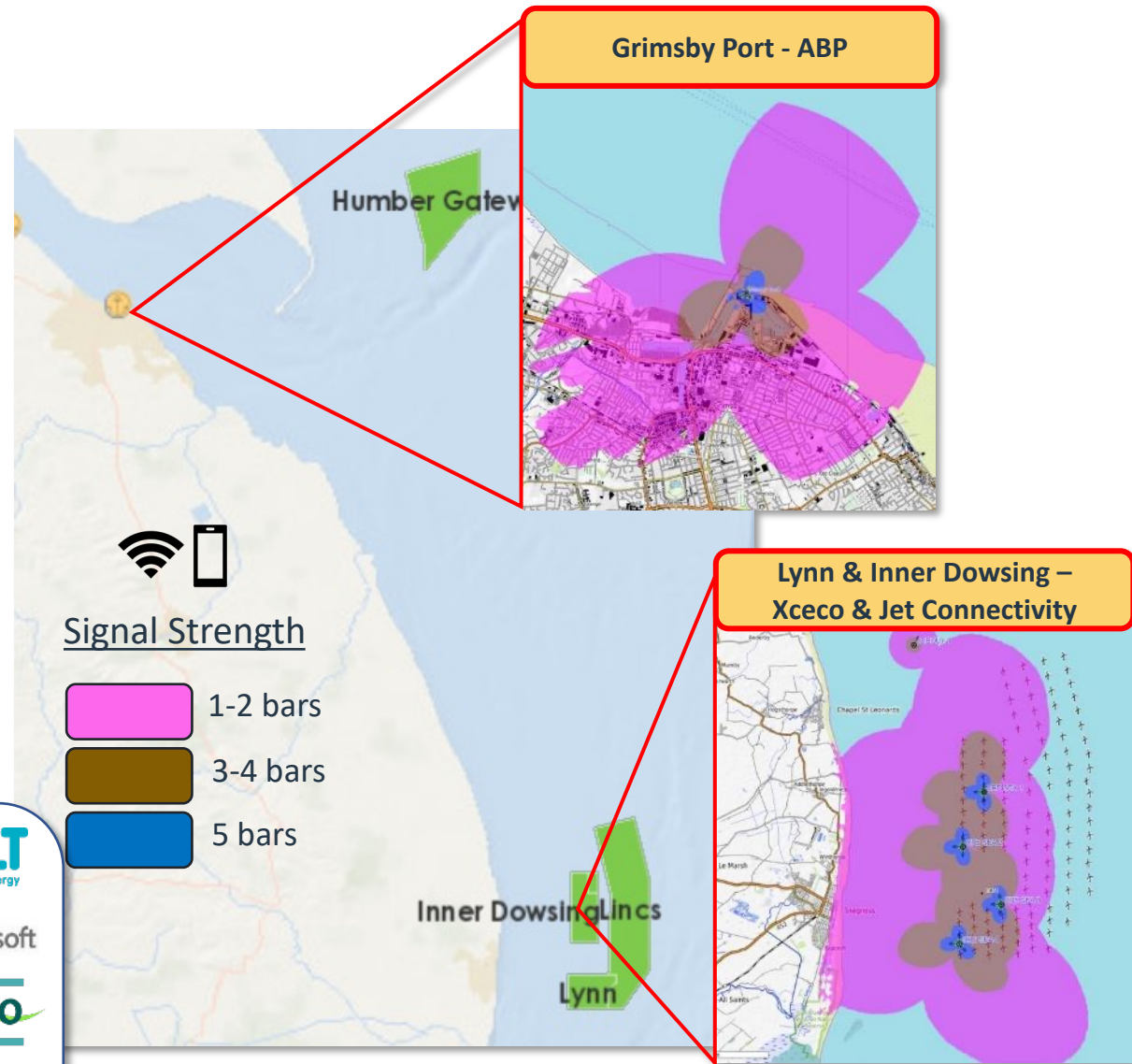


- Command and control rooms
- Live asset monitoring systems
- Indoor assembly stations and storage
- Mechanical and electrical workshop

- 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**
Developing Markets 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



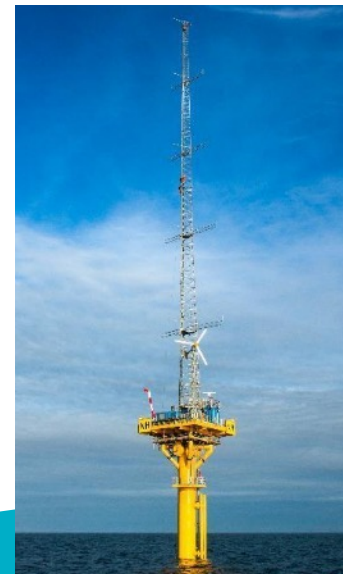
EOWDC – Aberdeen Bay

- 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



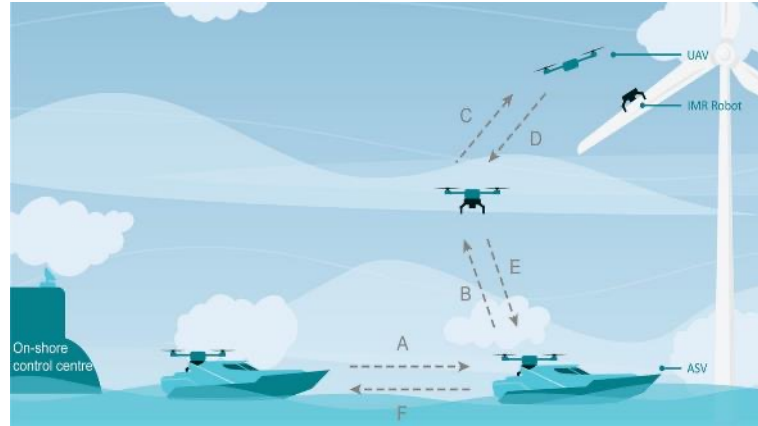
NOAH – Offshore demonstration asset

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

FUTURE

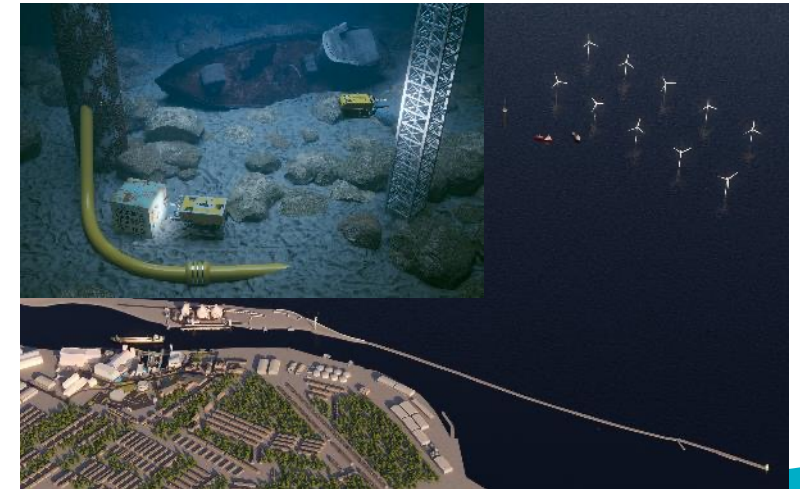
Simulation & Digital Twin Environments

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



Offshore Demonstration Area

- 1 km² 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.



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Engage with us:



GLASGOW

BLYTH

LEVENMOUTH

GRIMSBY

ABERDEEN

CHINA

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PEMBROKESHIRE

CORNWALL