

# XOCEAN

Ocean data, delivered.



OCEAN AND ENVIRONMENTAL  
TECHNOLOGIES AND SERVICES



European  
Investment  
Bank



# Agenda

# XOCEAN

## Agenda

1. About XOCEAN
2. Technology
3. Applications



## Traditional Method

- **Safety:** Large crew offshore
- **Emissions:** 24 tons [CO<sub>2</sub>/day]
- **Cost:** High Day Rates

## XOCEAN Solution: USV

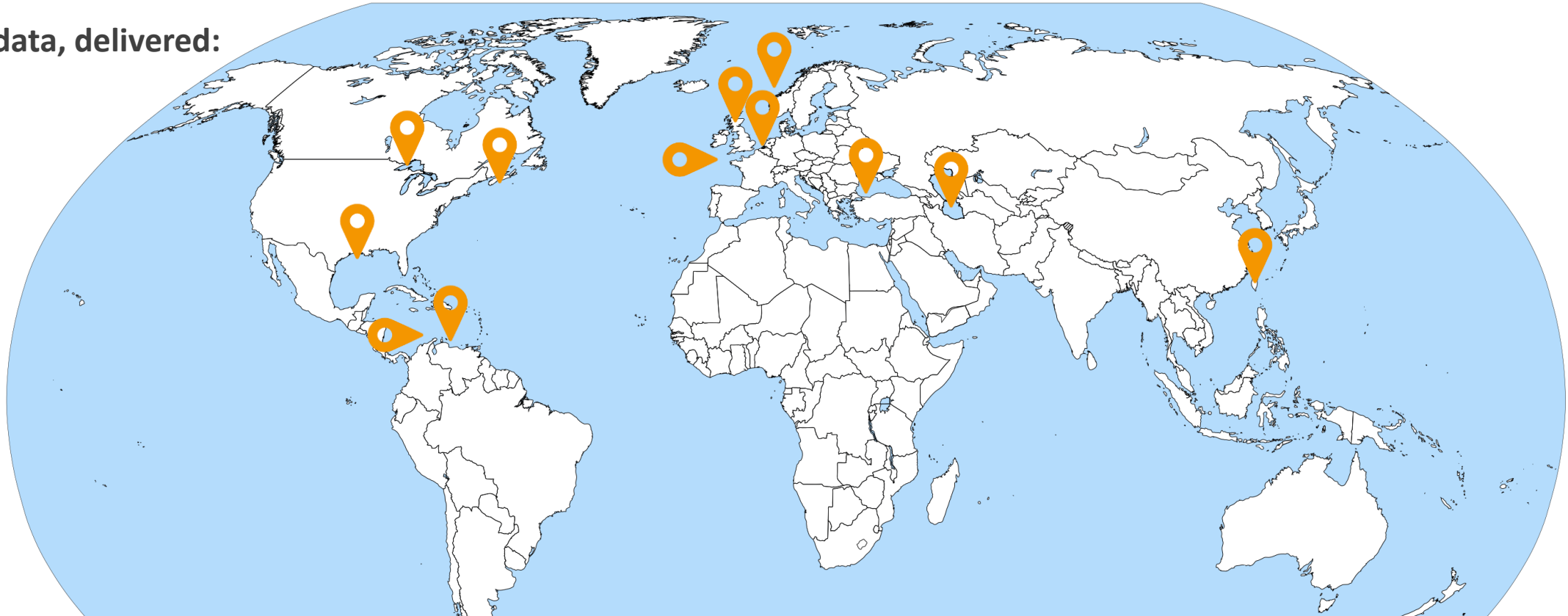
- **Safety:** No personnel offshore
- **Emissions:** 0.02 tons [CO<sub>2</sub>/day]
- **Cost:** Lower Cost, Fixed Price



# About XOCEAN

# XOCEAN

Ocean data, delivered:



DEEPOCEAN  
Orsted



REACH  
SUBSEA



sulmara  
SUBSEA



Seadrill



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# Technology

# XOCEAN

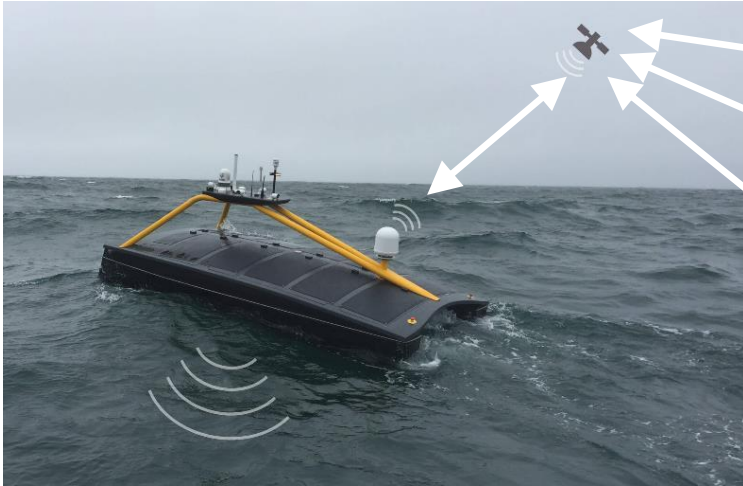
- Grant Funding provided by the EMFF has allowed us to rapidly scale and commercialise our technology.
- XOCEAN operates a fleet of 12 x Uncrewed Surface Vessels with an additional five vessels in production in 2021.



## Key Features

- **Sensors:** Power (up to 6.4kW) and payload capacity (up to 500 kg) for commercial grade sensors.
- **Control:** Full 'Over Horizon' satellite operations; real-time monitoring and control.
- **Efficient:** Slipway, crane or vessel launch (LARS); continuous 24/7 operations up to 22 days.





## XOCEAN CyberDeck

- USV Pilots and Online Surveyors monitor and control the vessels and survey system remotely in real-time 24/7.





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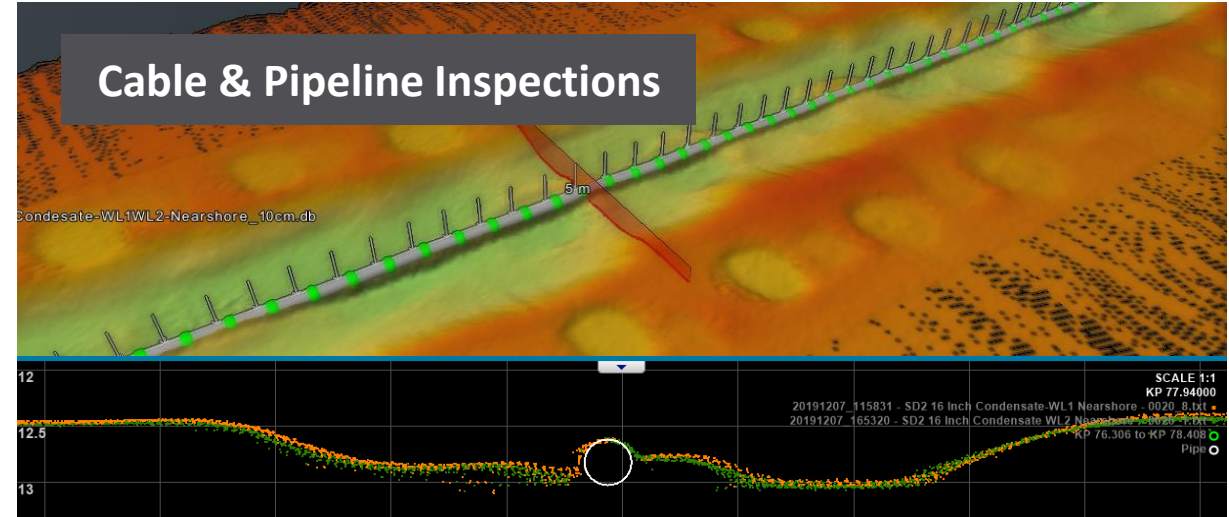
# Applications

# XOCEAN

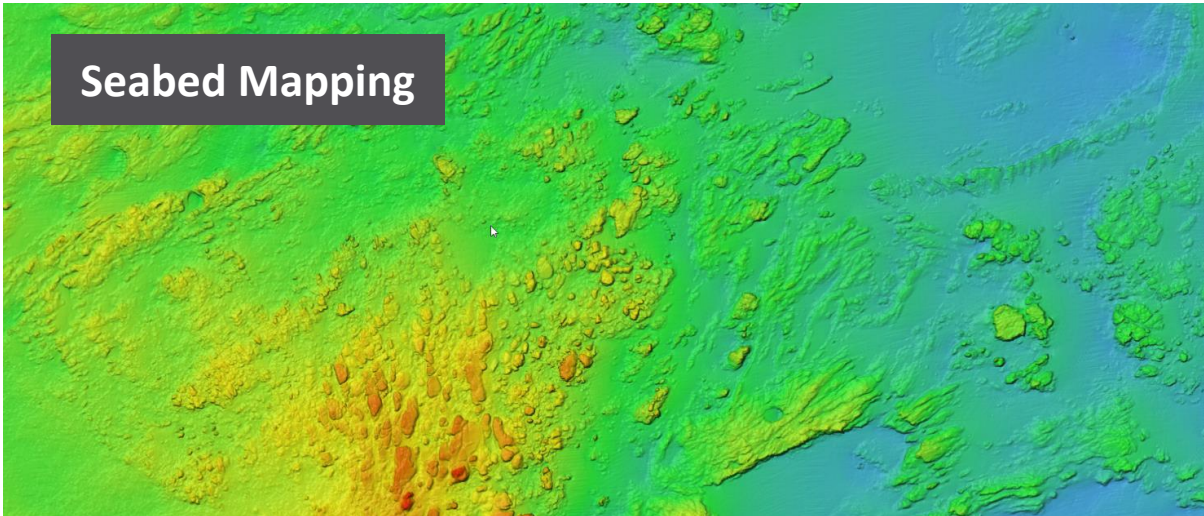
## Asset Inspections



## Cable & Pipeline Inspections



## Seabed Mapping



## Fisheries



# Case Studies

# XOCEAN

## Celtic Sea

- **Client:** Marine Institute
- **Location:** Celtic Sea (100nm Offshore)
- **Purpose:** Herring Fish Stock Survey
- **Sensors:** Simrad EK80 (38/200kHz)  
Kongsberg MRU5
- **Duration:** 180 Hours (7.5 Days)
- **Data:** 110 Gigabytes
- **Client App:** Live Map, Telemetry & Images via CyberDeck



# Environmental Advantages

XOCEAN

- Minimal carbon usage – approximately two gallons of diesel per day
- Quiet and slow platform which doesn't interfere with marine mammals
- All cameras are recorded 24/7 and can be used to identify species.



## Hydrographic Area Surveys

- Multiple projects completed across a range of sites in the UK and Canada.
- Example: 800km<sup>2</sup> for CHS in Lake Superior in Q4 2020 and 2021.
- 200m water depth in winter conditions with multiple USVs.



# UAV and USV Integration

## Coastal and Landfall Surveys

- Combined USV and UAV method:
  - USV surveys at high water
  - UAV surveys at low water

