Workshop Objectives

- The objectives are:
- to share knowledge across communities (oil & gas decom, marine science, salvage and offshore wind);
- to gather suggested solutions and gaps for further examination.
PROCESS

• Set the Context
  • O&G
  • ORE
  • Other users
• Explore the monitoring and inspection requirements versus the context
  • Short and long term
  • Geographical
  • Application
• Refine versus Megatrends
  • Hydrocarbon exploration declines
  • Carbon Capture increases
  • Renewables energy production increases
  • What happens if that changes? Test sensitivities
• Gap analysis and suggestions
  • What is existing best practice, and in use
  • What is needed compared to above – suggestions, innovations, future calls
  • How do we get there?
Context

• **O&G Installations**
  • 660 assets across the North Sea
    – not inc. sub-sea manifolds, wellhead structures, pipelines etc

• **Offshore Wind**
  • 1,500 active assets in 2017
  • 11,000 installations by 2050
    • Not Inc. cables, converter stations, other subsea structures
• Main problems / challenges
  – Commercial
    • Meeting legislative obligations
    • Stakeholder needs
    • Risk Management / safety
    • Human / cultural factors
    • Cost
  – Technical
    • Traceability and record management
    • Measuring Environmental impacts
    • Understanding the future needs
    • Defining Acceptable
    • Obtaining meaningful HALT
    • Modelling physical degradation mechanisms and validating
    • Gathering diffuse data
    • Data storage and transmission
3 Questions

• What are the most demanding and important monitoring and inspection challenges facing the Offshore industry, and their solutions?

• What solutions can be adapted from other industries to help us meet these demands, and what gaps are there?

• What routes to commercial adoption and exploitation exist and are needed to ensure that we meet the industry & stakeholder needs?
SUT MASTS
BACK UP
Offshore Wind Infrastructure

Fixed and floating structures
Cables, terminations, transitions
Sub-sea power conversion
Anchoring systems
Met-Masts
Decommissioned Structures

- Foundations – 2m below mudline
- Cables
  - If 1-2m trenched, will stay in place, and monitored
  - If surface, removed and recycled

- The first structures are being decommissioned
  - Management
  - Learning
  - Costs