

Confident Data-Driven Decisions

How can we make them?

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Contents

Context

What is it?

Enabling
Data-Driven
Decisions

Importance

Challenges

FAIR

Case Studies

Under Water Noise

Aerial Imagery

Tidal Consenting

Impact

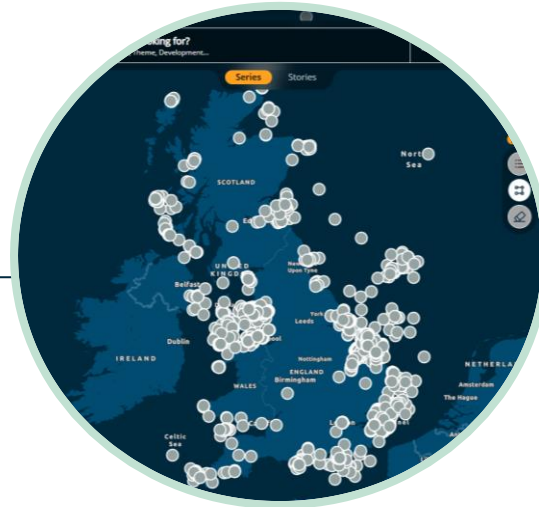
Desired & Realised

Marine Data Exchange



What is it?

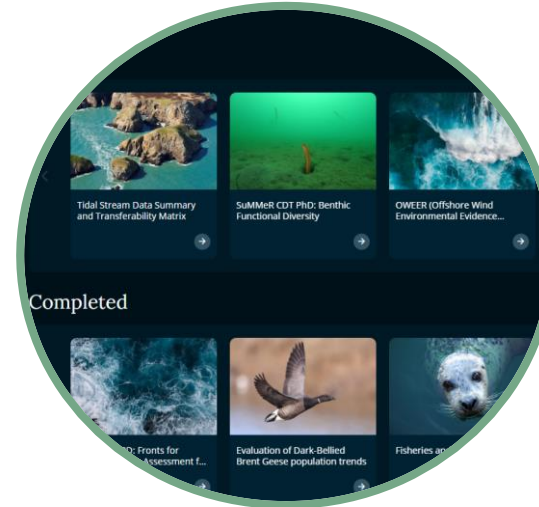
The Marine Data Exchange (MDE) is The Crown Estate's marine data and evidence repository. It hosts a wide range of survey data from offshore industry in partnership with Crown Estate Scotland, the outputs of research funded by The Crown Estate and the Offshore Wind Evidence and Change programme (OWEC), and signposts to a range of internal and external tools and data viewers.



Data

The MDE hosts and makes freely available environmental and technical survey data collected throughout the lifetime of UK offshore industry projects, and industry related programmes.

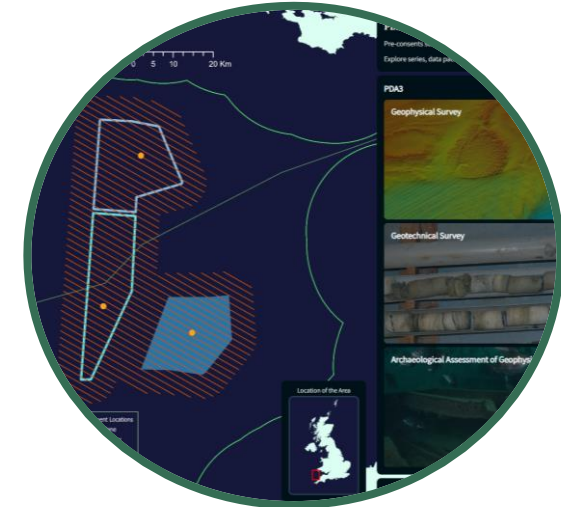
We safeguard survey data and ensure that it is available to give offshore projects in UK a head start, whilst enabling the public sector and academia to accelerate clean energy deployment and nature recovery.



Evidence and Research

The publication of evidence and research outputs funded by The Crown Estate on the MDE ensures they can be used to help close evidence gaps, inform policy, and enable swifter decision making.

This helps accelerate and derisk the consenting of offshore projects whilst enabling nature recovery.



Tools and Innovation

The MDE is home for a range of innovative tools and data visualisations, including providing the data management support for TCE's own survey programmes, innovative use of Large Language Models to explore monitoring data, and data viewers for the complex outputs for projects.

These tools help maximise the impact of data and evidence, improving our understanding of our impact on the marine environment.

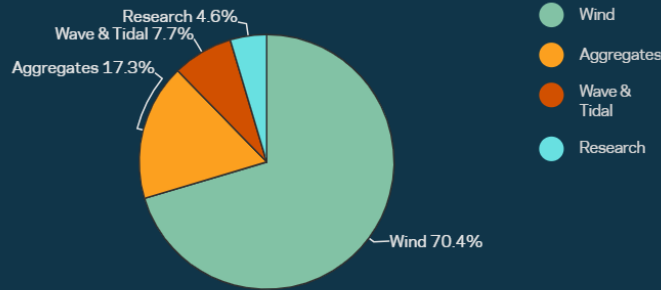
Marine Data Exchange

A world-leading collection of offshore marine industry data

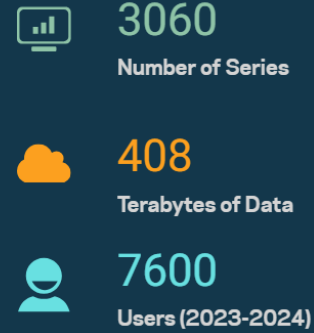
By making the wealth of data collected by offshore industries freely available through the [Marine Data Exchange](#), we give offshore projects in the UK a valuable head start, helping those involved to make informed, evidence-based decisions.

Data Holding by Industry

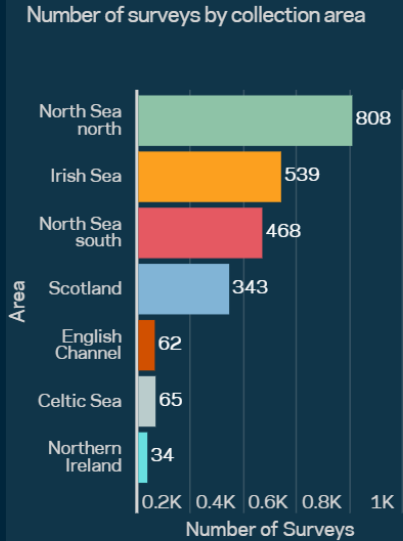
Percentage composition of MDE survey holding by industry (Jan 2025)



MDE in Numbers

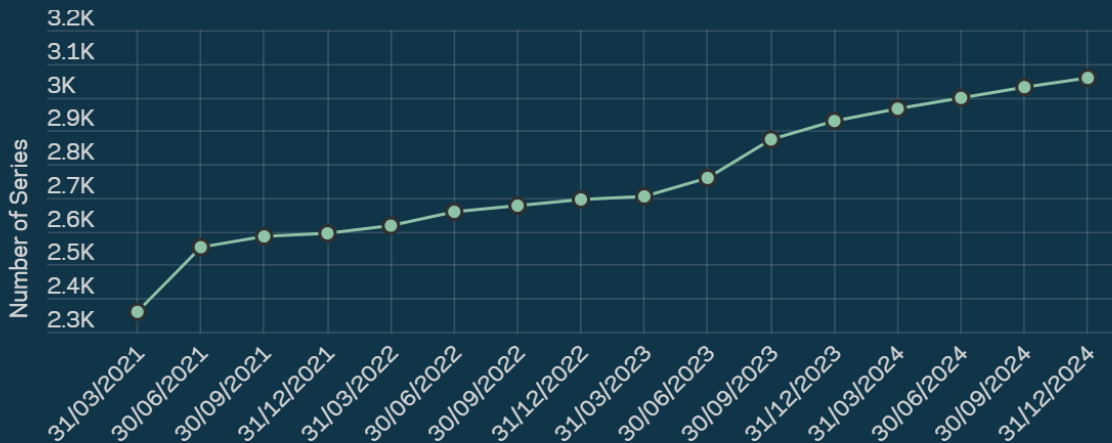


Surveys by Area



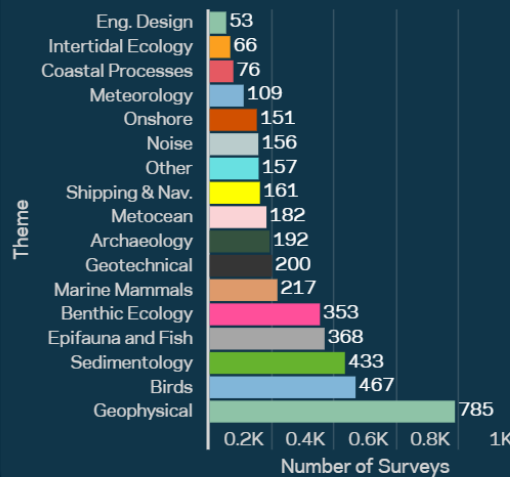
Growth of data holding over time

Number of Series added to the MDE over time, including non-public datasets. The graph begins in May 2021 at over 2000 Series, as this is when the MDE moved to the new site, or "new-look" MDE. See the [MDE History](#) for more details.



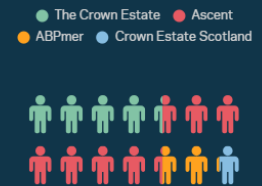
Data Holding by Theme

Number of Series (Surveys) by Theme



The MDE Team

From marine biologists and geospatial specialists, to software engineers and web designers, learn more about the [MDE Team](#).



Data-Driven Decisions in the Marine Environment

What are they and why are they important?

Data-driven decision-making involves leveraging data sources such as pre-consent surveys, post-construction monitoring and environmental impact data to empower decision makers. By reprocessing, analysing, and interpreting data, organisations can make better decisions that more closely align with strategic and environmental goals and objectives while reducing cost, effort, time, and risk associated with survey campaigns.

Source: IBM x MDE

- ❖ Offshore Consenting (wind, wave, tidal)
- ❖ Feasibility Studies
- ❖ Environmental Designations
- ❖ Spatial Planning
- ❖ De-risking Projects

- ✓ *Collection of ground-breaking datasets*
- ✓ *Re-use of industry data*
- ✓ *Funding evidence projects*
- ✓ *Confidence in existing data*

Challenges

Allowing industry data to make more informed decisions

MDE Challenges

- Multidisciplinary Data Repository
- Legacy Hangovers
 - Poor Quality Metadata*
 - Missing Deliverables*
 - Data Gaps*

Industry Challenges

- Transferability & Confidence
- Gaps in data guidelines & DAC's
- Lack of stakeholder coherence
 - Contractors*
 - Developers*
 - Consultants*
 - Industry*
 - SNCB's*

Feeding Data into Decision Making

FAIR

MEDIN is an enabling mechanism, enabling us to enforce enhanced data reporting requirements and therefore FAIR'ness

Findable

- Portal signposts our data alongside DAC's
- Metadata enforces controlled vocabulary

Accessible

- Alongside DAC's promoting long-term sharing and security
- Supported ingestion of data into DAC's

Interoperable

- Semantic consistency (vocabularies - INSPIRE)
- Opportunity for single integrated data products

Reusable

- Enforced reporting of lineage, provenance, and spatial information increases ability to re-process/re-use data with confidence
- Developers now more likely to retain raw survey data deliverables.



Feeding Data into Decision Making

- ✓ *Collection of ground-breaking datasets*
- ✓ *Re-use of industry data*
- ✓ *Funding evidence projects*
- ✓ *Confidence in existing data*

Subsea Soundscape *OWEC*

- Robust MM Evidence Base
 - Strategic regional approach to environmental characterisation
 - High-quality survey data
- ! **Subsequent work with developers & regulators to support utilisation**

Aerial Imagery *Data without Guidelines*

- ~100 Aerial Imagery Surveys
 - Enabling reuse in lieu of DAC or guideline
 - POSEIDON DAS - World's first dataset of its kind
- ! **POSEIDON modelling – feed into spatial planning & future leasing**

Tidal Data Transferability *Utilising pre-existing data*

- Synthesis of tidal data identifying factors that influence transferability
 - Enables structured re-use of industry-specific data with **confidence**
 - Developer & Regulator led
- ! **Utilised by NRW & MET**
- ✓ Streamline monitoring req.
 - ✓ Enables more informed decisions
 - ✓ Reduce consenting times

Goal

What Data-Driven Decisions do we want to make?

- Continue utilising our role as a non-DAC repository to enhance the FAIR'ness of data (inc. UWN, DAS, industry-specific)
- Promote research & innovation
 - Academics: Bangor, Portsmouth, Hannover
 - Start-Up: SeaScape, Beam, Aquallite, Seabed
 - Commercial: Atkins, HRWallingford, Shearwater
 - SNCB: Natural England, NatureScot

Offshore Wind

- ❖ Monitoring Requirements & HRA
- ❖ Consenting
- ❖ Future leasing activity
- ❖ Co-location

Environment

- ❖ Strategic Compensation
- ❖ Nature Recovery
- ❖ Biodiversity Assessments
- ❖ Environmental Designation



Interested in providing feedback or steering development?
Email me

Any Questions?

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Feeding Data into Decision Making

Subsea Soundscape
OWEC

Aerial Imagery
Data without Guidelines

Tidal Data Transferability
Utilising pre-existing data

