

The UK Marine Geospatial Community's

Evidence Base & Recommendations



Foreword

Nearly every activity in the ocean is enabled by Marine Geospatial Data*.

As a leading Maritime Nation, the UK hosts a vast number of Marine Geospatial Stakeholders covering Government, Industry and Academia. This workstream represents the first time that the UK's Marine Geospatial sector has been brought together to collectively record the shared challenges and opportunities the UK faces.

This document summarises the methodology undertaken by UK Hydrographic Office (UKHO) & Department for Business, Energy and Industrial Strategy (BEIS) to collate an evidence base and series of strategic recommendations through a number of workshops in 2019.

The initial “discovery” workshops were run by UKHO & BEIS, based on Policy Lab methodology with the concluding “engagement and solutions” workshop run by independent facilitators Policy Lab.

This document was written by Policy Lab, with support from BEIS & UKHO.

*Source: [Future of the Sea](#), Foresight and GO Science, 2018.

Introduction

In collaboration with BEIS, the UKHO was directed by the Government's Geospatial Commission to co-ordinate the creation of a marine geospatial evidence base and a series of recommendations for consideration in the Commission's forthcoming National Geospatial Strategy. This document can also be used to inform other UK Marine Geospatial activities.

Given the number of stakeholders in the UK's Marine Geospatial Community, BEIS & UKHO hosted a series of workshops in order to maximise engagement.

This document outlines the methods used, sets out the evidence collated by the workshops and summarises the UK Marine Geospatial Community's recommendations.



Pack overview

1. Background
2. The process
3. Headlines of the future
4. Evidence review
5. Developing recommendations
 1. Collaboration
 2. Data standards
 3. Data accessibility
 4. Data collection
6. Closing remarks





1. Background

Context from work in Summer 2019

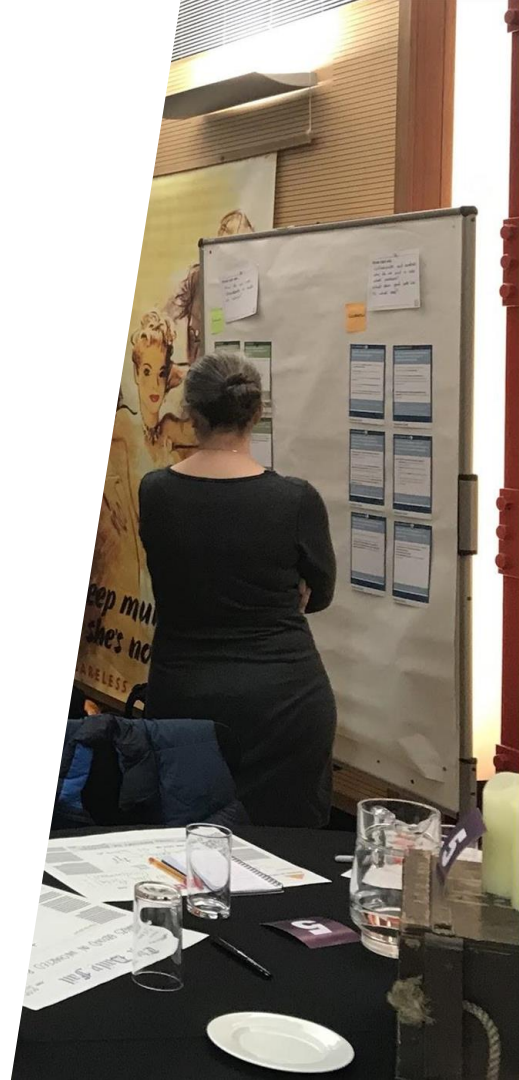
Background

To ensure cross-government collaboration, BEIS and UKHO established and co-chaired a Cross Government Marine Geospatial Steering Group.

The group's purpose was to:

- **provide oversight and approval** of the engagement process
- **act as a point of contact** for their respective public body stakeholders.

This group included officials from **BEIS, UKHO, MOD, DEFRA, DFT & Geospatial Commission.**



Discovery workshops

(Summer 2019)

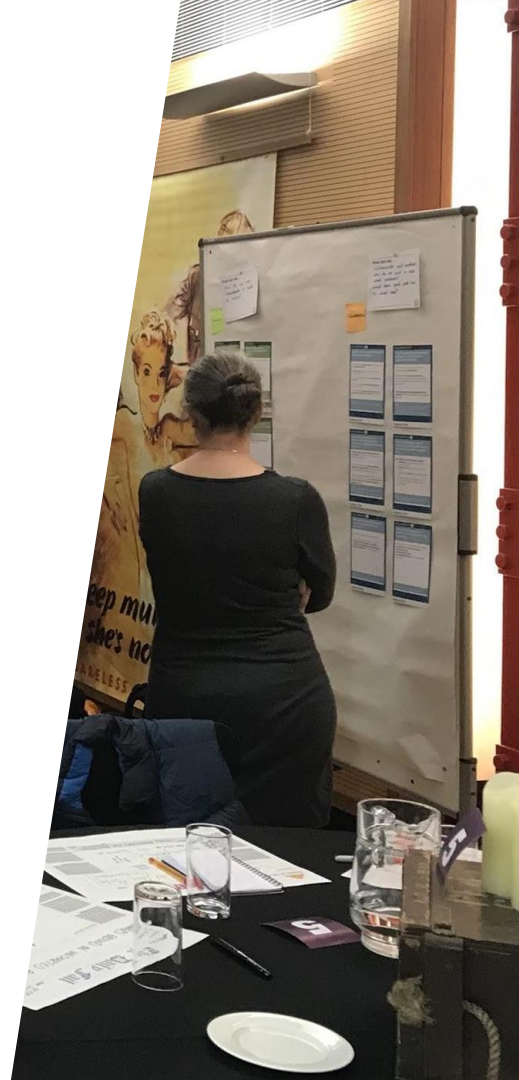
Phase one *Discovery Workshops*

- Government partners - 25 June 2019 (28 attendees)
- Industry and Academia - 24 Sep 2019 (37 attendees)

The Discovery Workshops focussed stakeholders on diagnosing marine geospatial:

- Opportunities
- Barriers
- Future users
- Best practice for comparison

The outputs from these sessions would drive the subsequent November Solutions Workshop.



Discovery workshop findings

Summer 2019

Distilling the outputs from the Discovery workshops 4 major themes emerged as top priorities for all sectors:

1. Collaboration
2. Data Standards
3. Data accessibility
4. Data collection

These 4 themes were the foundation for the November Solutions workshop.



Discovery workshop findings

(Summer 2019)

Using the “How can we..?” outputs from the Discovery workshop, each theme was found to have a common question the community wanted to address:

1. **Collaboration/ Co-ordination** – “How do we collaborate and co-ordinate, why do we, and to solve what problems? What does good look like? To what end?”
2. **Data Standards** - “How do we use standards to enable or prevent them from inhibiting?”
3. **Data Accessibility** – “How do we get the balance right that provides access but respects Intellectual Property Rights (IPR), national security and governance models?”
4. **Data Collection** – “How do we collect the data we need and 'live' the concept of “*collect once, use many times*”?”



Solutions Workshop objectives

November 2019

Phase Two: *Solutions Workshop.*

Stakeholders from Government, Industry & Academia - 12 Nov 2019
(66 participants)

Building on the findings, the specific objectives were:

- To seek broad agreement on the evidence gathered in the earlier stages of the work, and identify any gaps or omissions in the materials
- To develop and articulate high-level strategic recommendations to report to the Geospatial Commission
- To propose practical and more detailed actions to inform the strategic recommendations.





2. The solutions process

Solutions Workshop process

The Solutions Workshop began with an introduction to the policy context, and was structured around 3 core elements.

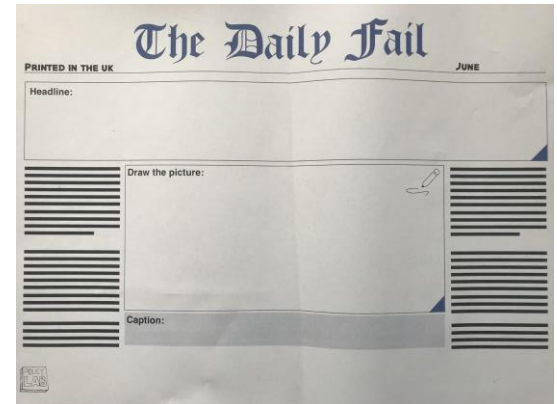
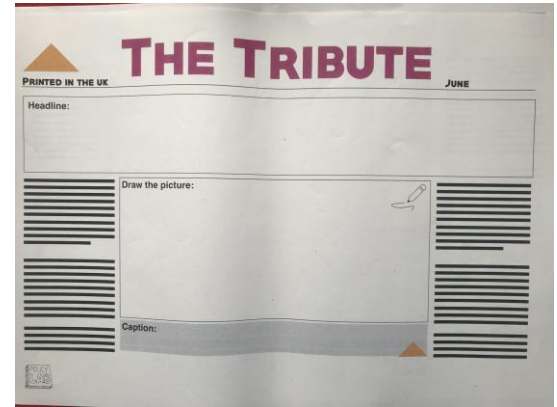
Introduction: Setting the policy context

UKHO gave a short introduction laying out the process up to this point and how this workshop would fit into the development of the National Geospatial Strategy and the UK's Marine Geospatial Community.

UKHO & BEIS then handed over to Policy Lab to facilitate the session.

1. Headlines of the future

Participants were asked to write imaginary headlines that would illustrate the success and failure of the work - essentially to identify the overall opportunities and risks.



Solutions Workshop process

2. Evidence Review

Delegates were asked to review the evidence for each of the four themes that was collated during the Discovery Workshop. This was presented on evidence cards which were grouped by theme and displayed around the room. Participants were asked to review these cards, adding in extra evidence and highlighting what was missing.

(These evidence cards can be found in the separate Annexes to this pack.)

DATA ACCESSIBILITY

Unlocking data sets offers potential for more effective outcomes in both the private and public sector.

Unlocking marine data for all UK agencies and providing a foundation which can be built on by private sector contribution through added-value is essential.

Source:
Geospatial Commission - Call for Evidence - Submitted Responses (IC Technologies)

Evidence Card

STANDARDS

Data cannot be compared or merged efficiently because different organisations are using different data platforms.

Metadata standards differ between DDSP and MDR, [so] the data and metadata quality can be variable.

The Environment Agency use the DEFRA data services (DDSP) platform but CEFAS has its own master data registry (MDR) which feeds up to MEDIN.

Source:
Evidence card from Marine Geospatial 'Diagnosis' Workshop

Evidence Card

DATA COLLECTION

Well co-ordinated data collection programmes would benefit all sectors.

A UK national seabed mapping programme could increase the current levels of investment and generate a range of benefits for both private and public sectors as has been the case in other countries.

For example, INFOMAR in Ireland has forecasted substantial returns on investment to date.

Source:
Eunomia: CEFAS UK National Seabed Mapping Programme Sighting Study, March 2016.
Geospatial Commission - Call for Evidence - Submitted Responses (Oceanwise Ltd)

Evidence Card

COLLABORATION

Tech and cultural changes are required to enable big data to drive innovation.

For big data to be a driver of innovation, the UK must ensure that it has the necessary:

- a) storage capacity
- b) analytical skills, and
- c) co-ordination between sectors and within Government.

Source:
Paragonix: Future of the Sea, Recommendation 19

Evidence Card

Example of evidence cards used

Solutions Workshop process

3. Developing strategic recommendations

Drawing on the evidence cards and other points raised, participants were asked to propose high-level strategic recommendations to address the 4 theme main questions.

These were then mapped to the styles of intervention in order to clearly structure the range of interventions required.

Style of Intervention - government

Collaborator Steward Customer **Provider** Funder Regulator Legislator

Provider

Government can design, provide and modify public services

What:



March 2018 - work in progress. Please provide feedback on this prototype.

Provider - Examples

EARLY STAGE	FRAMING	SCALING	DEVELOPING
Innovator Create test beds, sandboxes and trials in real world settings. New models of care: vanguard sites <i>"We are prototyping a new service provision model"</i>	Service redesign Establish legitimacy for more human-centred services, harnessing political will for change. New commissioning models <i>"We are integrating health and social care"</i>	Service provider Provide services directly or indirectly through funding and target setting. Issuing of licences, passports and permits <i>"We will issue most passport renewals in 3 weeks"</i>	Choice architect 'Nudging' behaviour so that the default is both attractive and easy. Using behavioural interventions <i>"We will remind people that nine out of 10 people in the UK pay their tax on time"</i>

March 2018 - work in progress. Please provide feedback on this prototype.

Solutions Workshop process

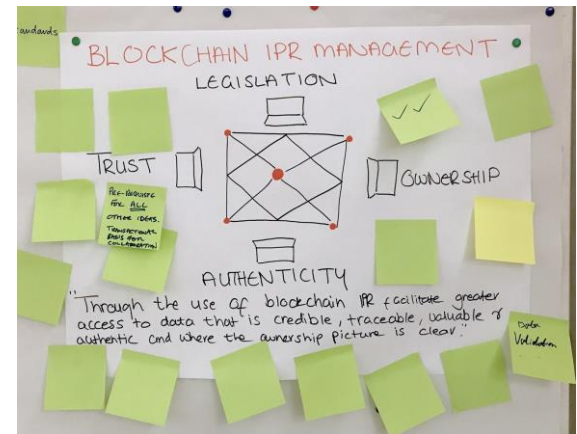
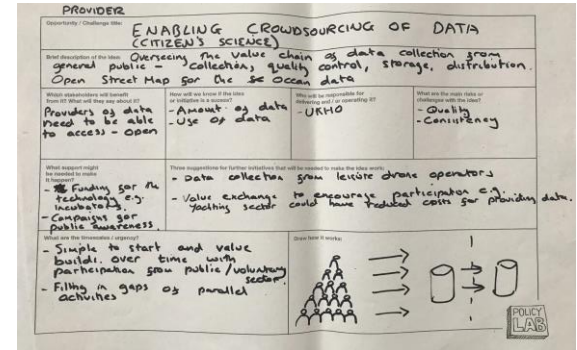
4. Developing specific interventions

Having created a wide range of possible strategic recommendations, participants worked in small teams to identify one practical proposal that would address the strategic aim. The “Policy on a Page” canvas identifies key points to address, such as resource, barriers, champions and timescales.

Teams summarised their work as a poster that colleagues could “vote” for with *Post-Its*.

Green post-its = I like it (because)

Pink/Yellow post-its = Not so keen. (and to succeed, it will need)





3. Future Headlines

Headlines of the future

To encourage participants to think big about the overall opportunities and risks

Participants were asked to write a newspaper headline in the future:

- In **The Daily Fail**, headlines captured the consequences failure
- In **The Tribute**, headlines summarised success

These headlines are set out on the following slides



Ideal outcome headlines

Data collection

- UK funds marine geospatial data collection
- UK waters fully charted in detail
- Demand for marine geospatial data soars as sea levels rise

Data accessibility

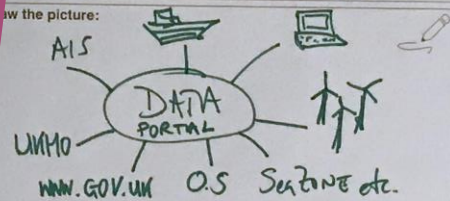
- UK leads the way - all marine data freed!
- Data: available in one portal
- Open marine data service saves 40 lives in first 12 months (at a small cost)
- Data sharing saves lives in offshore rescue, during worst storms ever using autonomous technology.

THE TRIBUTE

JUNE

AVAILABLE IN ONE PORTAL
(GOVERNMENT)

Draw the picture:



Caption:

SINGLE REPOSITORY FOR GEOSPATIAL INDUSTRY

THE TRIBUTE

JUNE

IT'S FINISHED!!

Draw the picture:



Caption:

Real map of whole UK EEZ completed!
Enabled by EO and autonomous vessels.
A annual updates 8com here on in!

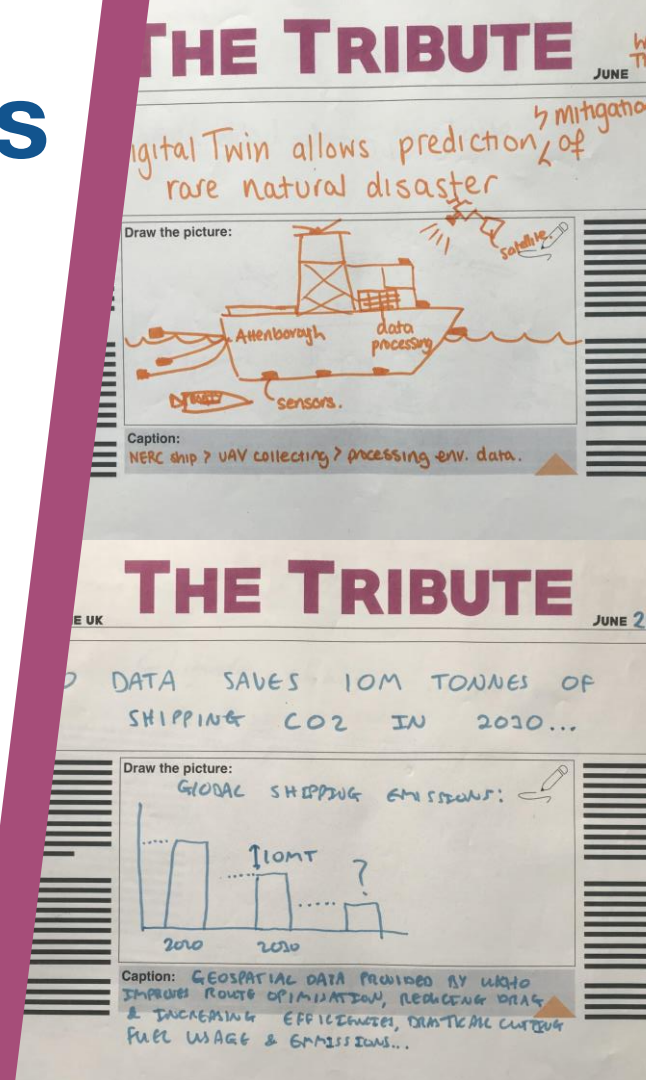
Ideal outcome headlines

Collaboration/co-ordination

- Blue economy soars in UK due to data collaboration across government, academia and industry!
- UK blue economy boom, fuelled by safety led intelligent geospatial planning collaboration
- Industry data collaboration success
- New geospatial community vastly improves port communication and data sharing

Standards

- Ocean now mapped to modern standards



Ideal outcome headlines

Climate change and sustainability

- Fight against climate change led by open data revolution!
- UK leads in delivering sustainable growth in the burgeoning marine economy
- UKHO data saves 10m tonnes of shipping CO2 in 2030
- Climate change in reverse

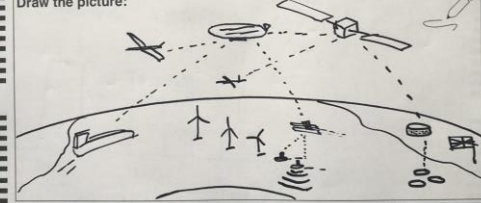
Energy

- UK now number 1 offshore energy provider and has highest number of marine protected zones through effective collaboration of marine geospatial data

THE TRIBUTE

named global autonomy powerhouse

Draw the picture:



Caption: UK years ahead of G7 on marine autonomy new report finds.

THE TRIBUTE

IN THE UK

DEMAND FOR MARINE GEOSPATIAL SOARS AS SEA LEVELS RISE

Draw the picture:



Caption:

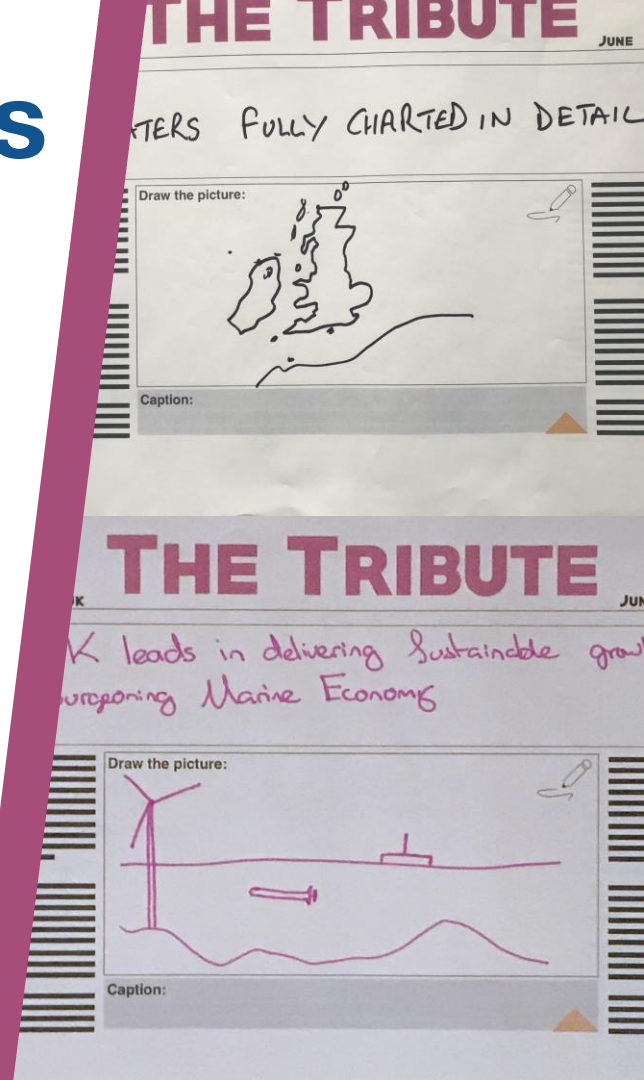
Ideal outcome headlines

Autonomy

- UK number 1 destination for autonomous shipping!
- It's all automated now!
- UK named global autonomy powerhouse
- UK expertise in marine geospatial data in demand as autonomous ships reach developing ports

Other

- UK government makes geospatial data a public asset
- UK marine data management best in the world
- Data for growth



Headlines to avoid

Duplicated effort

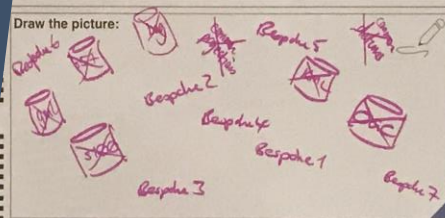
- Different government bodies map same area multiple times - public money wasted
- The same work has been repeated by 4 different government departments using the same input data
- Double data does for minister
- Government resurveys same bay three times in one month!
- Government wastes millions surveying the same site multiple times
- Multiple major survey contractors all descend on the same spot... Acoustic chaos!

The Daily Fail

JUNE

STANDARDS, WHAT STANDARDS

Draw the picture:



Caption: ~~Staff~~ Inability to agree shared standards & no single vision of the future

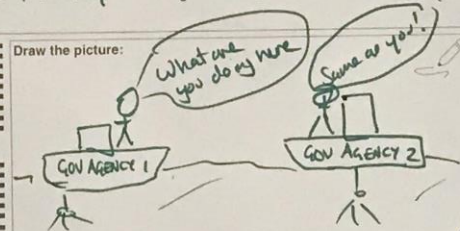
The Daily Fail

THE UK

JUN

WASTING TAXPAYERS MONEY - S

Draw the picture:



Caption:

Headlines to avoid

Data collection

- International disgrace - only 70% marine areas surveyed!
- Charting plummets to chasmic intensity...
- 3 tankers ground on uncharted rock

Data accessibility

- Lost at server
- No more free data
- Data trapped in well
- Warship lost in sea of numbers
- UK marine data still not accessible/shared

Collaboration/co-ordination

- Government opens 205th seabed mapping agency

The Daily Fail

JUNE

CAUSES WORLD TO END !!!

Draw the picture:

X Y DATA GOES ZZZZZZZ



GPS Blockout Causes MASS PANIC

Caption: IN OTHER NEWS!

UK holds referendum on rejoining the EU

The Daily Fail

JUNE

data uncovered in bunker... with no metadata

Draw the picture:



Caption: An amazing discovery as new data discovered underneath bunker. There is now a race on to unearth the data owner in order to educate on the importance of metadata entry.

Headlines to avoid

Climate change/sustainability

- UK on course to miss 2050 net zero target due to lack of co-ordination in marine sector
- Emissions targets not met -climate crisis - more flooding expected
- Industry profits versus green success

Autonomy

- Autonomous Vessel Disaster

Standards

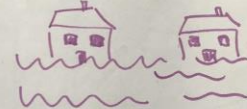
- Standards, what standards?
- Data uncovered in bunker... with no metadata!

The Daily Fail

JUNE

Emissions Targets not met - Climate Crisis
Shipping Contributes 2% - More flooding expected

Draw the picture:



Caption:

The Daily Fail

THE UK

JUNE

AUTONOMOUS VESSEL DISASTER.

Draw the picture:



Caption:

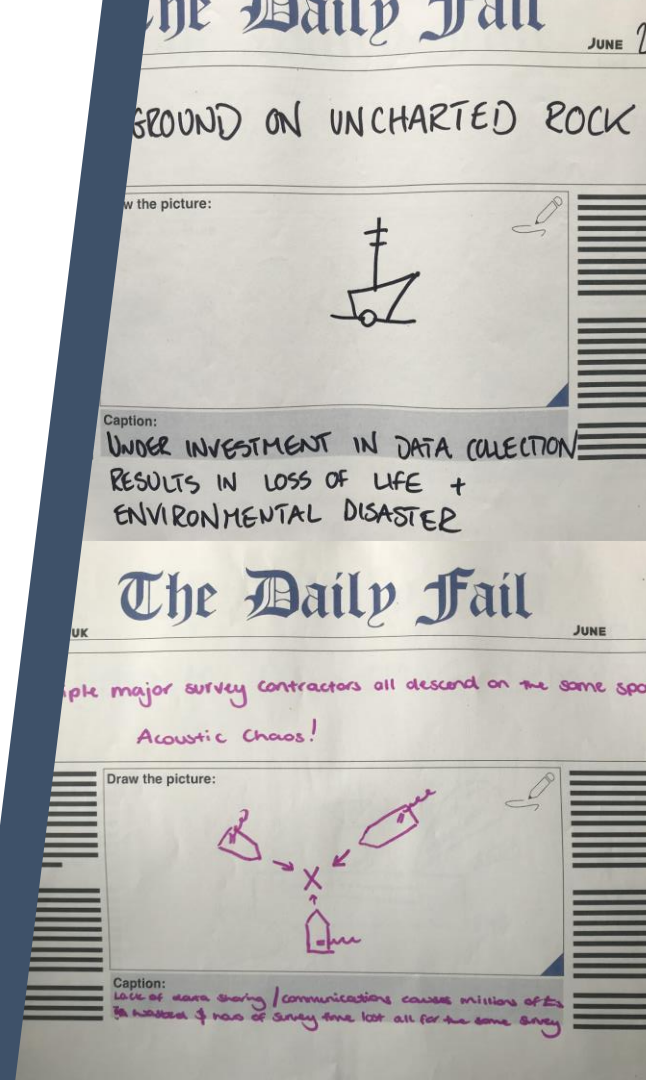
Headlines to avoid

Economic opportunity

- UK loses out on \$bn seabed mapping opportunity
- UK ports missing out on global trade
- Wasting taxpayers money

Other

- Bunker meeting bombs!
- GPS failure causes world to end!!!



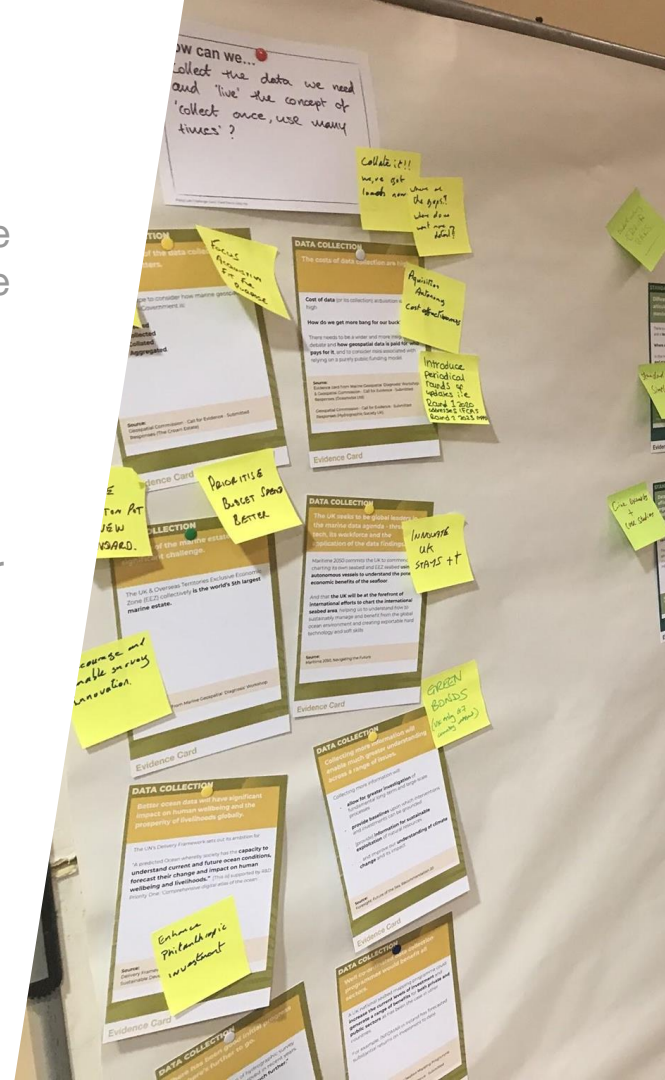
4. Evidence Review

A group of people, including men and women in business attire, are gathered around a dark table in a meeting room. They are focused on reviewing documents and evidence laid out on the table. The documents include several yellow sticky notes and larger sheets of paper. There are also coffee cups, glasses of water, and a large white candle on the table. The background shows other people standing and talking, suggesting a busy conference or workshop environment. The entire image has a blue tint.

Evidence review

Participants were asked to review the evidence for each of the four themes with consideration of the primary challenge questions:

1. **Data Collection** – “How do we collect the data we need and 'live' the concept of *collect once, use many times*”
2. **Data Standards** - “How do we use standards to enable or prevent them from inhibiting?”
 1. **Data Accessibility** – “How do we get the balance right that provides access but respects IPR, national security and governance models”
 2. **Collaboration/ Co-ordination** – “How do we collaborate and co-ordinate, why do we, and to solve what problems? What does good look like? To what end?”

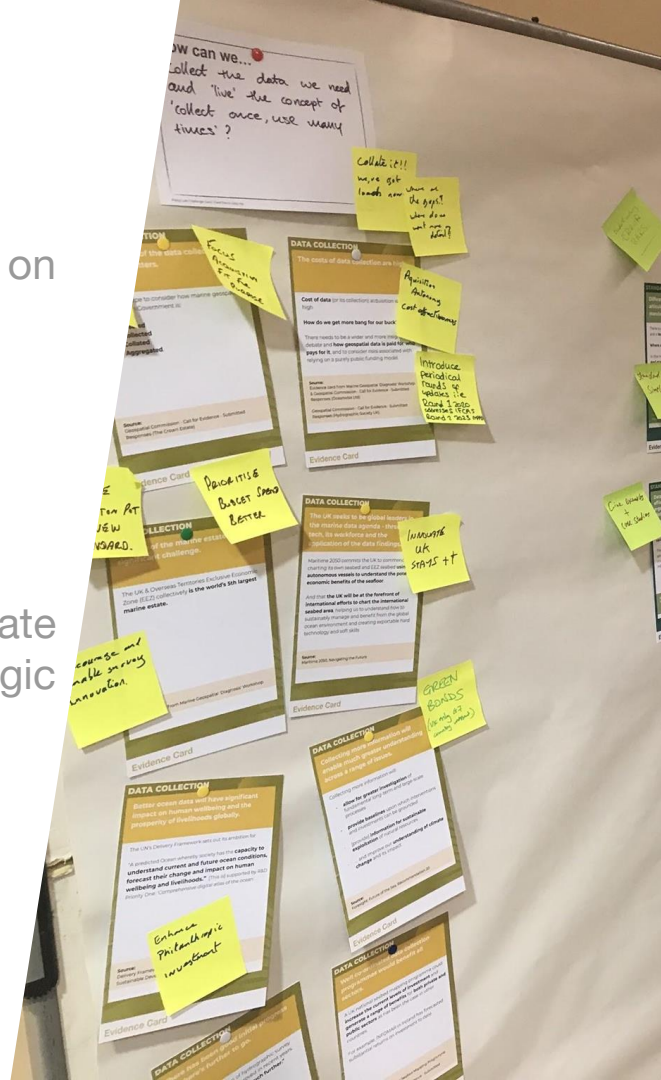


Evidence review

Post-It notes were used to comment on the evidence cards on the following questions:

- What is surprising or interesting?
- What is missing?
- What pieces of evidence constitute a need for action?

This annotated evidence base was used to stimulate discussion about what the possible solutions and strategic recommendations could be.





5. Developing recommendations

Developing recommendations

1. Development of strategic recommendations

Participants were asked to develop strategic recommendations that address the issues highlighted by the evidence review.

These were then mapped to government '[styles of intervention](#)' to highlight the range of possible options government can use to address the challenges.

- *Collaborator*
- *Steward*
- *Customer*
- *Provider*
- *Funder*
- *Regulator*
- *Legislator*



Developing recommendations

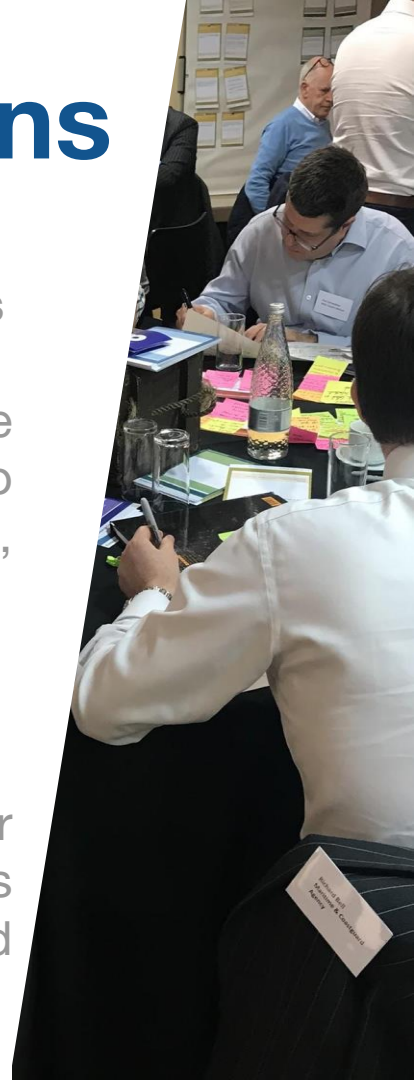
2. Deeper insight into proposed Strategic Recommendations (using Policy Canvas)

Working in pairs or small teams, participants selected one strategic intervention and mapped out a practical proposal to address it. Policy canvases were used to identify the purpose, probable resource, challenges and champions.

(All canvases are in Annex A).

3. Posters to summarise intervention

Each team then developed their policy canvas into a poster which would capture the big ideas of the proposal. Participants then had the opportunity to review all posters and add comments.



Developing recommendations

The following slides contain a summary of strategic recommendations, policy canvas challenges and ideas and policy posters for each of the four themes:

1. **Collaboration**
2. **Data Standards**
3. **Data accessibility**
4. **Data collection**

Each strategic recommendation has been mapped against the style of government intervention.





Theme 1: Collaboration

How do we collaborate and co-ordinate, why do we, and to solve what problems? What does good look like? To what end?

5.1: Strategic recommendations

Collaborator

1. Virtual and physical 'spaces' for collaboration, involving government, industry and academia
2. Openness across government about ongoing projects and strategic alignment
3. Global co-operation and engagement
4. Sharing of skills and IT resources across similar sectors
5. Exploration of public and private partnerships to enable innovation
6. Agreement on what the key datasets are

Steward

7. Co-ordinated thought leadership to convey critical messages
8. Promote the concept that open data benefits all
9. Marine geospatial community events
10. Create space for philanthropic funds
11. Top-down leadership from central government to force agencies to collaborate



5.1: Strategic recommendations

Customer

12. Government commission for the emergence of autonomous navigation and data collection
13. Development of cross government programmes

Funder

14. Use Innovate UK competitions to stimulate collaboration and partnerships
15. Investment in helping industry to use and innovate with all this marine geo data

Regulator

16. Facilities exist but they are fragmented and need to be brought together regionally and nationally



5.1: Policy solution canvases

- A. Challenge:** Centralised marine data management entity
Idea: *An entity to take control/ ownership of a holistic view of UK marine geospatial data.*
- B. Challenge:** Collaboration and data collection
Idea: *National mapping programme, co-ordinating activity across government, agencies, academia and industry.*
- C. Challenge:** Enabling crowdsourcing of data (citizens science)
Idea: *Overseeing the value chain of data collection from general public - collections, quality control, storage, distribution. Open street map for ocean data.*
- D. Challenge:** Encouraging pooling and sharing of data
Idea: *Explore levers and incentives to encourage pools and sharing of data.*

(See annex for full canvases)

5.1: Policy solution canvases

- E** **Challenge:** How to facilitate the sharing of different formatted data
Idea: *For UK government to commission a data formatting tool which will absorb data of different formats and harmonise them into a single internationally recognised format.*
- F** **Challenge:** Marine geospatial community
Idea: *Lets keep this forum going!*
- G** **Challenge:** Building a real-time marine data portal
Idea: *Integrating 'traditional' and new marine data sets into an open source data portal*
- H** **Challenge:** Sharing of information
Idea: *Centralised catalogues and dissemination portal/service of current data holdings which allows exploitation by non-expert users*

(See annex for full canvases)

5.1: Policy Posters

SINGLE NATIONAL GEOSPATIAL DATA COLLECTION CENTRE + single data asset

Progresses to characterize economic potential of UK's marine assets (not fishing)

Data owned by UKRA - Agri-tech licenses & to exploit

UKRA - progress & innovation methods to conduct surveys & monitor economic potential to big data

INNOVATION

STEM

EDUCATION

INSURANCE INDUSTRY

PHILANTHROPY

GREEN BONDS

STREAMLINED ACQUISITION via AUTONOMOUS METHODS AI & SENSOR, UNUSUAL

+40% by 2040

REGISTRATION (Students etc. etc.)

DICTIONARISATION (Cleaning/label/standard)

COLLECTION (Data input)

PROCESSING (Data analysis, calculation)

POSTAL CUSTOMERS

NATIONAL MAPPING PROGRAMME

Supporting activity needs Gov, Academia & Industry!

MAPPED

TOTAL STAKEHOLDERS: ENGAGEMENT / BUY-IN FROM INDUSTRY

ONE LEAD BODY

LET'S KEEP THIS FORUM GOING!

COLLECTION + DATA COLLECTION

Organizing for UK Seabed Mapping Community

Mapping for the Ocean

Policy, Planning

Construction

Collection

Delivery

Centralized Catalogue

ORBITMETRY

TIDE

FERROUS

WEATHER

TRAFFIC

WHO OWNS THE MAPPING DATA? REMAINS A KEY QUESTION

gov.uk

ac.uk

co.uk

LET'S KEEP THIS FORUM GOING!

A group of people in a meeting room are gathered around a large mural and whiteboards. The mural depicts several men in suits, and the whiteboards are covered with sticky notes and documents. The room has wood-paneled walls and modern lighting.

Theme 2: Standards

How do we use standards to enable or prevent them from inhibiting?

5.2: Strategic recommendations

Collaborator

1. Work with existing standards organisations to benefit from their knowledge and to prevent conflicting recommendations
2. Collaborate on this both nationally and globally
3. Cross government agreement on what the standards should be
4. S100 standard to be simplified by working with IHO

Steward

5. Ensure that metadata standards are easy to understand
6. Promote the value of metadata and standards
7. Adoption of existing standards rather than adding to what already exists



5.2: Strategic recommendations

Customer

8. Incentivise conformity to data standards

Funder

9. Investment in skills and knowledge regarding standards
10. Tax credits for data supplied to standards

Provider

11. Provide an international and UK agreed standard for data that harmonises sharing and use
12. Work to improve on MEDIN rather than create competing infrastructure
13. Provide Web Mapping Service (WMS) feed for big-data users



5.2: Strategic recommendations

Regulator

14. Alignment to international standards to allow re-use of data
15. Application of multilayer security and IPR management
16. Simplification of existing standards
17. Use semantic web standards to enable cross portal discovery, access, federation etc.
18. Agree 'tiered' standards that enable interoperability whilst not inhibiting data collection or management through excessive cost
19. Ensure data is supplied with accurate metadata

Legislator

20. Adopt a single standard that can be used for all levels of data. This standard can be updated as required
21. Creation of mandatory standards for metadata
22. Avoid creation of new standards as this adds to the confusion. Instead, work with existing standards



5.2: Policy solution canvases

- A Challenge:** Adoption of a globally standardised model for marine geospatial data. IHO+S100+OGC. Implementation and engagement regionally and globally.
- Idea:** *Implementation of IHO/IMO global standards within a national framework. Implementation of a national set of persistent unique identifiers for all features as a matter of policy.*
- B Challenge:** Managing IPR in a digital world
- Idea:** *Usage of blockchain to mark ownership and authenticity throughout the life cycle*

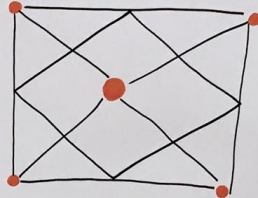
5.2: Policy posters

standards

BLOCKCHAIN IPR MANAGEMENT LEGISLATION

TRUST

Pre-require for ALL other IPRs. Transactional basis for collaboration

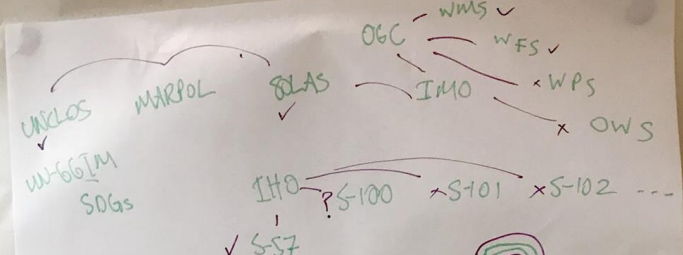


OWNERSHIP

AUTHENTICITY

"Through the use of blockchain IPR facilitate greater access to data that is credible, traceable, valuable & authentic and where the ownership picture is clear."

Data Validation

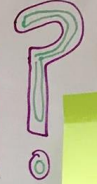


"CSV" (Intelligently)

INSPIRE is not a good standard for reuse

INSPIRE

MORE USER-FRIENDLY = MORE UPTAKE + LESS CONFUSION.



Make use of Existing Standards

MEDIN Standard = UK Metadata Standard for marine data

Who determines 'Good'?

Adopt Good Standards!

Have several Elements of Standard to prevent it becoming too P to collaborate

Build on MEDIN standards



Theme 3: Data accessibility

How do we get the balance right that provides access but respects IPR, national security and governance models?

5.3: Strategic recommendations

Collaborator

1. Co-ordination with other nations to provide access to more data and cut costs
2. Leverage skill, facilities and culture of private sector in exchange for open data

Steward

4. Guidance on what can and can't be shared because of national security
5. Leadership in unifying standards
6. Develop awareness of data held, and who owns it, if not freely available
7. Nominate data custodians for different types of data



5.3: Strategic recommendations

Customer

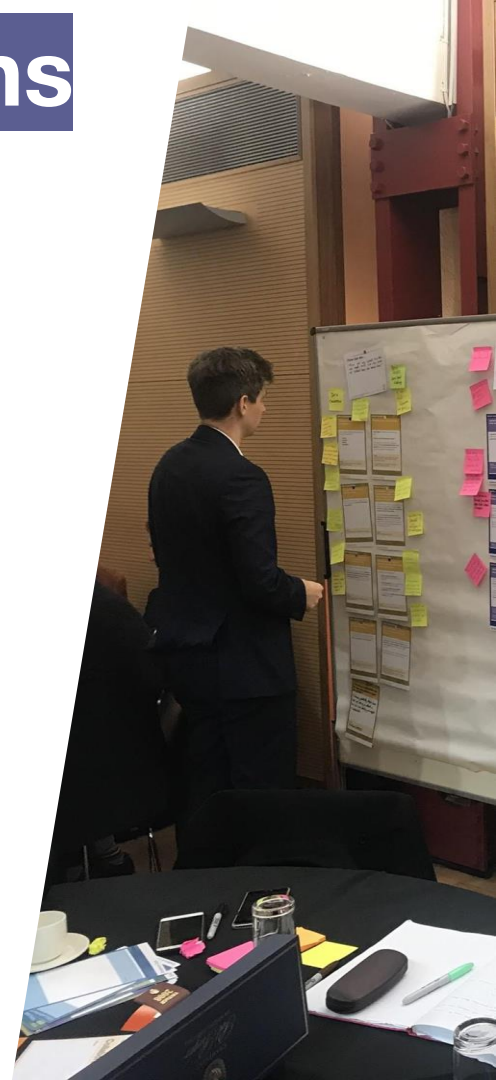
8. Give UKHO a budget to buy data from commercial sources

Funder

9. Establish a data exchange so that the value can flow both ways
10. Fund agencies to share and open up data
11. Incentivised data sharing initiatives
12. Fund capture of metadata for legacy datasets

Provider

13. Online centralised repository for data and collation of existing datasets
14. Provide a catalogue of all open data sources
15. Work to join services with easily searchable catalogues
16. More effective routes to selective data
17. Private and public sector agreement for data sharing



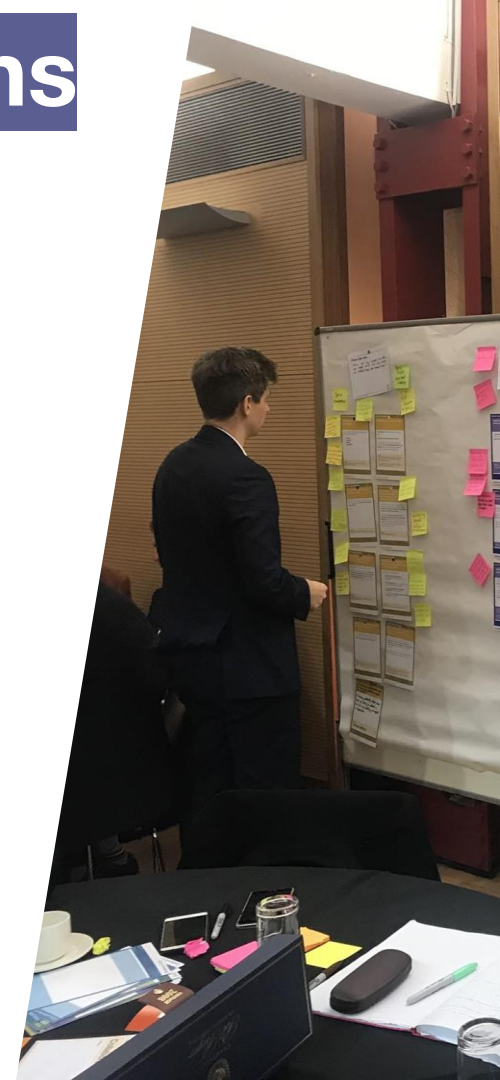
5.3: Strategic recommendations

Regulator

18. Make data sharing an obligation when undertaking any marine geospatial activity
19. Commitment to open source data as the norm
20. Government licences to enforce sharing of data

Legislator

21. Compulsory moratorium period for commercial data release
22. Create legal requirement for sharing of metadata
23. Enforce sharing of data in specified formats as part of planning applications or purchasing agreements
24. Embargo on data that is already available



5.3: Policy solution canvases

- A Challenge:** Data as a public asset
Idea: *If data=money, how can government co-ordinate and deliver this asset effectively for public good. Should it be recognised on asset register?*
- B Challenge:** Change guidance on data sharing
Idea: *Any government funded or licenced data made public*
- C Challenge:** De-pooling/processing big data and sharing across government
Idea: *Departments with processing and/ or storage capability work with others who do not have this capability. Data is 'pre-processed' once and available for all to use*

5.3: Policy solution canvases

- D** **Challenge:** Single point of access for marine data
Idea: *Single authoritative point of access - Website and GIS portal powered by linked data archive*
- E** **Challenge:** Ensuring we have clear governance over all marine geospatial data
Idea: *Regulation to ensure that it is clear what data is collected, who owns it and who can use/access it*
- F** **Challenge:** Accessing existing data
Idea: *Large amount of industry data that needs to be shared for the benefit of all stakeholders*

5.3: Policy solution canvases

- G** **Challenge:** Make sharing data an obligation of any operating licence
Idea: *To make all data more 'open source', accessible, fit for use and interoperable*
- H** **Challenge:** True benefit needs to be beyond a UK approach. Best use of data needs international collaboration
Idea: *Establish international agreement and framework for global co-operation*
- I** **Challenge:** Accessibility - data portals
Idea: *Government national data portal with open and licenced data*

A group of people in a meeting room are gathered around a large mural and whiteboards. The mural depicts a man in a suit and a woman in a floral dress. The whiteboards contain various documents and charts. The room has a modern, industrial feel with exposed pipes and a wooden wall.

Theme 4: Data collection

How do we collect the data we need and 'live' the concept of 'collect once use many times'?

5.4: Strategic recommendations

Collaborator

1. Work with industry to understand what the need is
2. Link UK efforts to international initiatives such as Seabed 2030
3. One lead agency should work with industry to co-ordinate and collect data based on government requirement

Steward

4. Census of ongoing survey areas and future data collection projects
5. Process to determine frequency of data gathering
6. Deep understanding of value chain of data and where UKHO could improve efficiency of value chain
7. National clarity on who is responsible for what data, where it is collected and subsequently stored

Customer

8. Flexible review programmed to enable innovation
9. Align resolution across agencies and countries
10. Responsible authorities so that duplication is avoided



5.4: Strategic recommendations

Funder

11. Invest in autonomous data collection technology
12. Government funded programme to incentivise industry to collect data
13. Encourage and enable innovation for large scale mapping via funding competitions
14. Provide tax incentives - If vessel is not in use, use it for data collection

Provider

15. UK marine estate needs more study to understand its characteristics and economic potential
16. Fill the gaps between industry collected data
17. Enable crowdsourcing data methodologies

Regulator

18. Governance over datasets – what, where, when?
19. Ensure that data collection is balanced to benefit all sectors & uses

Legislator

20. Reassessment of national security requirements



5.4: Policy solution canvases

- A Challenge:** How do we collect the data we need and ‘live’ the concept of collect once use many times?
Idea: *Co-design data collecting campaigns as a community*
- B Challenge:** UK seabed mapping programme - characterise UK seabed
Idea: *UK marine geospatial data collected is made publicly available, communication of data is limited to modelling/data products, comprehensive characterisation of UK seabed, baseline measured*
- C Challenge:** Characterise UK marine estate, including Overseas Territories
Idea: *Long-term plan to survey estate and estimate its economic potential*

5.4: Policy solution canvases

- D Challenge:** Openness across government about projects
Idea: *To improve cohesion and management across government departments and agencies*
- E Challenge:** What marine data can I use?
Idea: *Central catalogue of marine data, including metadata, provider details and licencing terms*
- F Challenge:** Improve co-ordination to avoid duplication
Idea: *To designate responsible authority for feature types so particular organisations manage their area of expertise*

5.4: Policy solution canvases

G Challenge: How do we co-ordinate collection, collation and storage of data?

Idea: *To establish a single co-ordination centre for collecting data and storing/distributing to ensure strategic continuity*

H Challenge: Driving innovation through funding

Idea: *To ensure short-, medium- and long-term innovation for marine geospatial data collection*

I Challenge: A register of planned survey activity

Idea: *All planned surveys are visible in a single place. This prevents duplication of effort and encourages collection collaboration. It also serves as a platform to enable private companies to clearly see all government survey contracts that are out for tender.*

(See annex for full canvases)

5.4: Policy posters

UNLOCK YOUR DATA'S POTENTIAL!

Includes interpreted data products?

Linked data

Standard data format open access

DERIVATIVE PRODUCTS?

TANGIBLE BENEFITS TAX CREDITS GRANT BUDG ETC

CLEAR DATA GOVERNANCE

WHO BENEFITS? (All marine data users, public & private sectors.)

Need regulation to ensure it is clear:
 What data exists?
 Who owns it?
 Who can access it?

NEED INTERNATIONAL STANDARDS

Build on momentum...

Initiatives to make it work:

- Adoption of MEDINA Standards as government requirements + funding
- Invest to make it easy to implement clear governance
- Engage in marine data community forum

Don't Collect

Streaming Data into 2050

NO SINGLE FORMAT - NO SINGLE TRUTH OR DATA

CITIZEN SCIENCE WE NEED YOU FOR CROWD SOURCING

FACE

YES IF SUPPORTING SCIENCE? BEST GOVERNANCE DESIGN

MARINE GEOSPATIAL DATA

LINKS TO A SIMILAR POSTER UNDER "collaboration"

UK seabed mapping & environmental data collection programme

- comprehensive
- follows industry & academia agreed data standards
- publicly available data

YES! NEEDS BUSINESS CASE PARALLEL

YES! But need the Gov investment

UK SIDE DONE BY 2025 PROFORMA

LINKS TO A SIMILAR POSTER UNDER "collaboration"

6. Closing remarks

A group of people in business attire are gathered around a table, looking at documents and sticky notes. The scene is dimly lit with a blue tint. A large white text overlay reads "6. Closing remarks". The people are focused on the documents on the table, which include several yellow sticky notes and papers. There are also coffee cups and glasses on the table. In the background, other people are visible, some standing and talking. The overall atmosphere is professional and collaborative.

Closing remarks

The outputs from this workshop were:

- A common, **shared perspective** on the **evidence**, with the opportunity to add or challenge the information presented
- Stakeholders identified the **key issues**
- Stakeholders proposed **strategic recommendations** for the issues that mattered most to them, using a range of interventions
- Stakeholders developed the recommendation in more detail with a **practical proposal** as a prompt and reference point for policy development.





Stakeholder Workshop - 12th Nov 2019 at the Churchill War Rooms, London