27-29 May 2024

International conference on Marine Data and Information Systems

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National Oceanography Centre

British Oceanographic Data Centre

Ocean InfoHub

MARIS

FEDERATING DISCOVERY METADATA TO THE OCEAN INFOHUB IN A WORLD OF FEDERATED NETWORKS

PRESENTING AUTHOR

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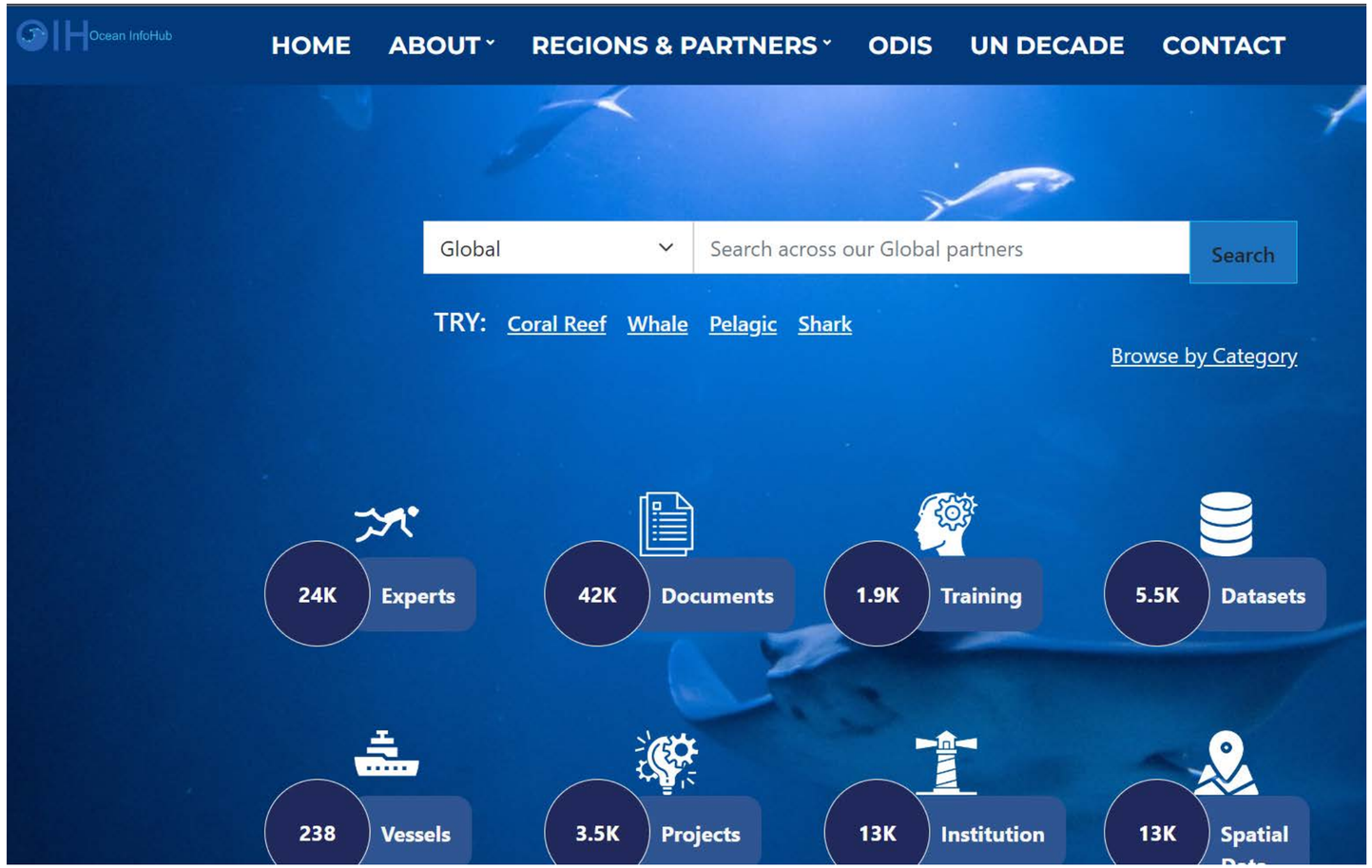
INTRODUCTION

OCEAN INFOHUB & ODIS

- Ocean InfoHub (OIH) is a key data portal to make data visible for the UN Decade of the Ocean
- The Ocean Data Interoperability System (ODIS) is the architecture that underpins Ocean InfoHub
  - Large pool of documentation at https://book.oceaninfohub.org/index.html
- Linking data to OIH is a key indicator for BODC internationally



SCHEMA.ORG AS AN ENABLING TECHNOLOGY

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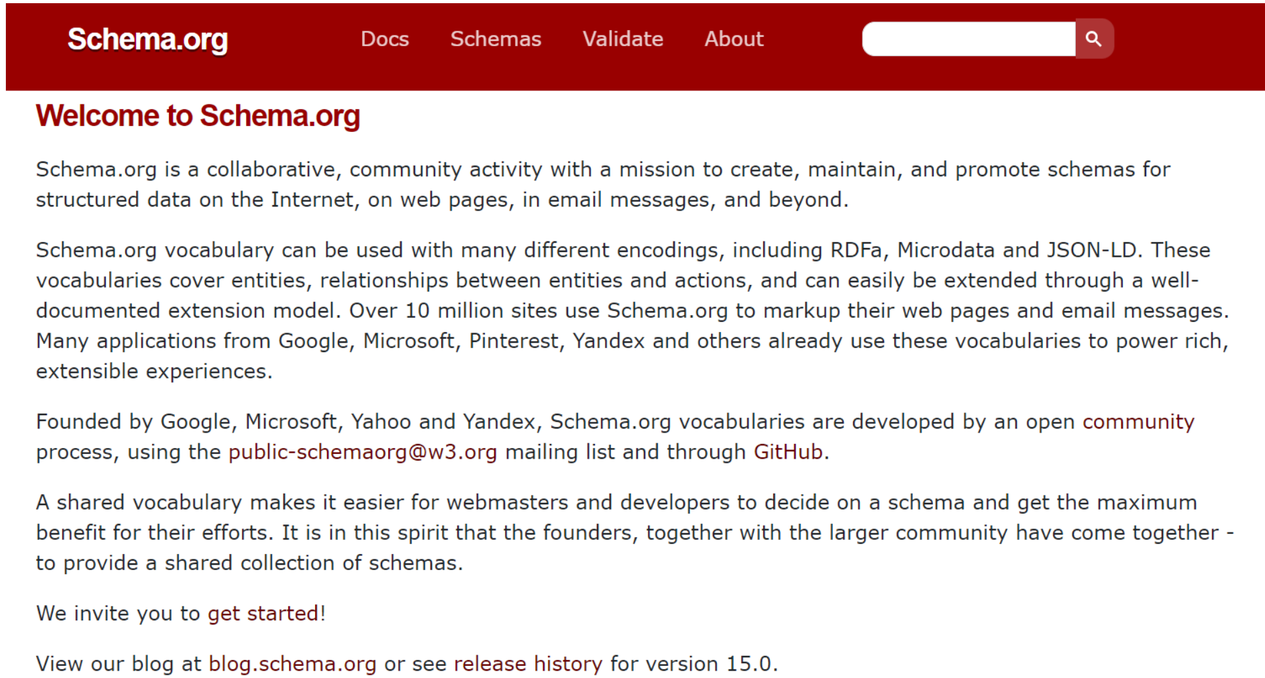
- Schema.org is the standard used to serve metadata to ODIS and OIH
  - Is a common standard that also underpins discovery in Google
  - Written in JSON-LD documents
- BODC already include Schema.org on PDL and EDMED pages
- The METS RCN workshop generated template schema.org for time series data
  - Enriched with NVS terms thoguhout



BODC AS A NODE IN A CONNECTED ECOSYSTEM

Data originators

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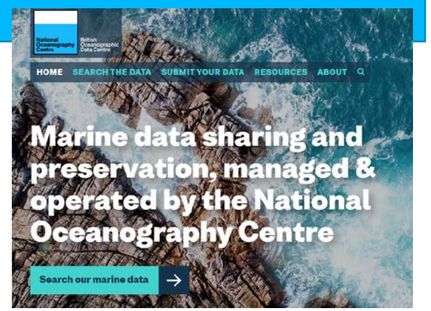
Curate and serve data to national and international network



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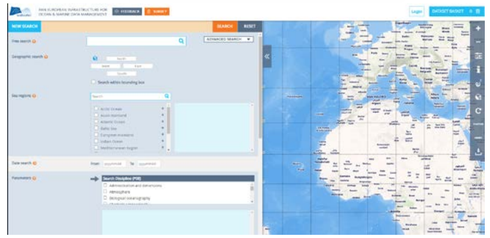

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marine environmental data & information network

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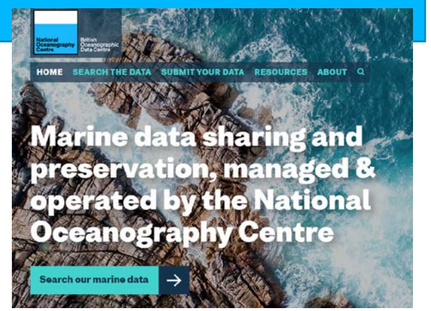

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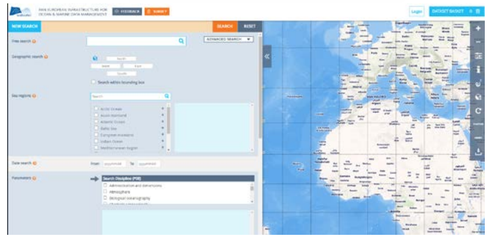

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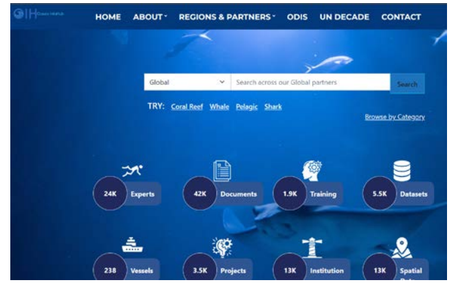
IH

Ocean InfoHub



CHALLENGES

1. HOW TO EFFICIENTLY SERVE METADATA TO ODIS/OIH VIA EXISTING PARTNERSHIPS?

2. HOW TO ALSO DEVELOP THE ENHANCED METADATA PROFILE OF METS-RCN?

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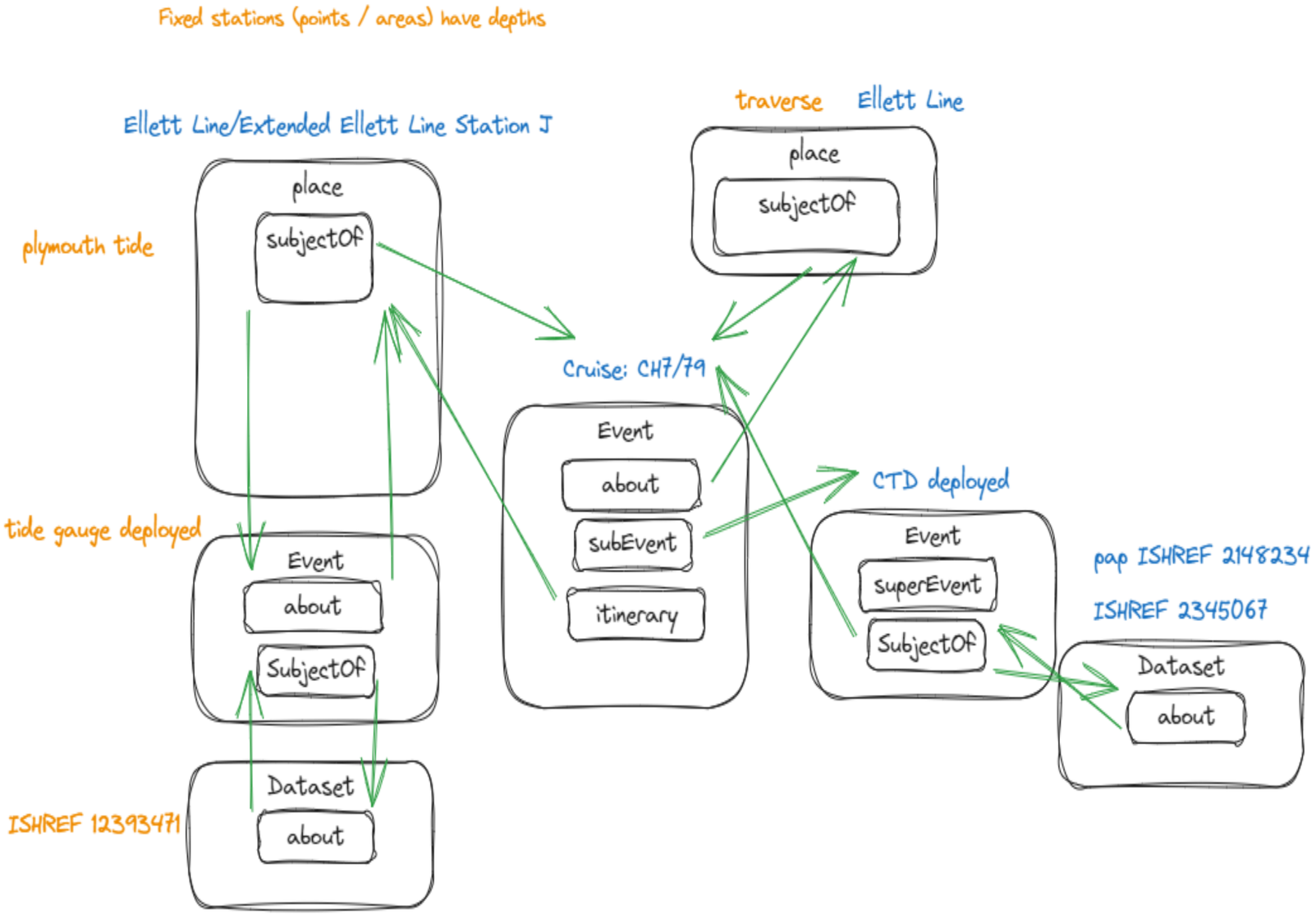
MODELLING AND PATTERNS

MODELLING OF BODC METADATA

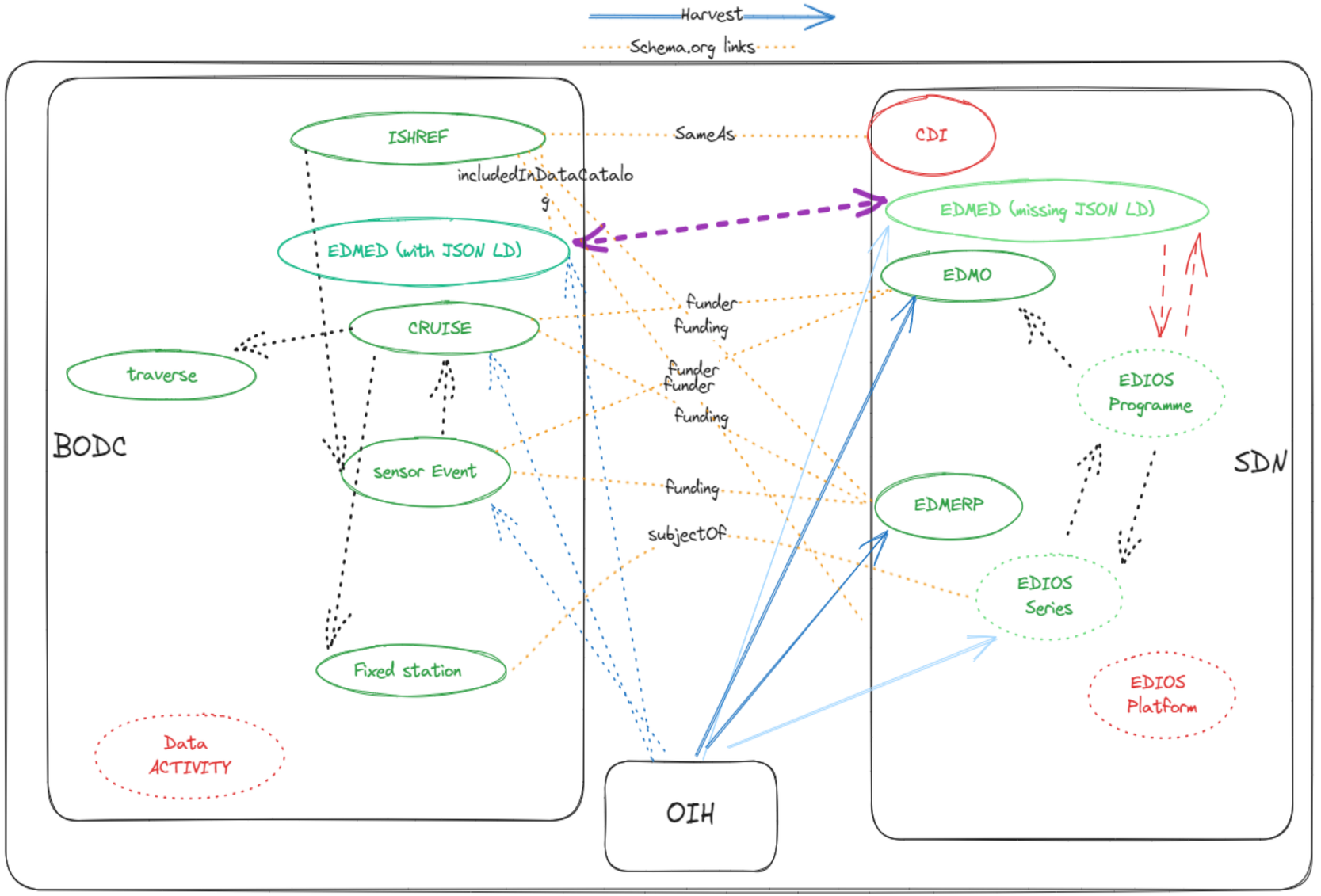
The model for exposure of BODC metadata data to ODIS based on Schema.org concepts the ISHREF concept is a metadata granule in the BODC internal schema and could span one oceanic CTD castor one sampling station within a research cruise, for example.



HYBRID MODEL

The hybrid model for brokering metadata to ODIS for the BODC SDN use case. The acronyms shown are all SDN concepts.

Elements in red are still to be modeled while the elements are fully modeled and agreed by BODC and SDN.



HOW WE PUBLISH TO ODIS

- We produce URLs for all relevant content stored within the NODB, a sitemap.xml was created containing URLs for harvest by ODIS.
- ODIS harvest this sitemap to then populate OIH

This XML file does not appear to have any style information associated with it. The

```
<!--   generator="Inspyder Sitemap Creator 5.1.4"   -->
<!--  Last Updated 26/06/2023 09:20:43  -->
▼<urlset xmlns="http://www.sitemaps.org/schemas/sitemap/0.9" xmlns:xsi="htt
image/1.1" xmlns:mobile="http://www.google.com/schemas/sitemap-mobile/1.0"
http://www.sitemaps.org/schemas/sitemap/0.9/sitemap.xsd http://www.google.
http://www.google.com/schemas/sitemap-video/1.1/sitemap-video.xsd">
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    <lastmod>2023-06-23</lastmod>
    <changefreq>monthly</changefreq>
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RESULTS AND FUTURE WORK

ENDED UP WITH A HYBRID MODEL

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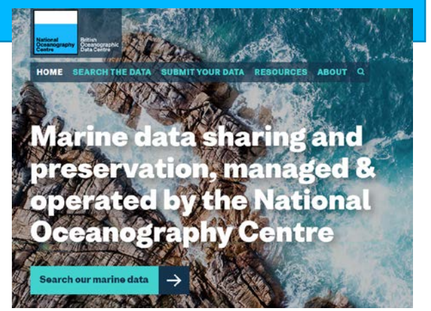

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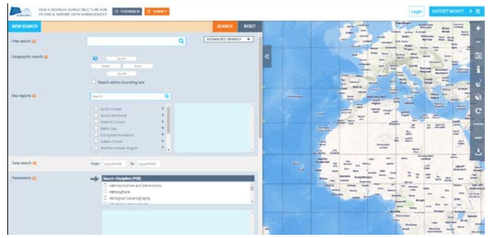

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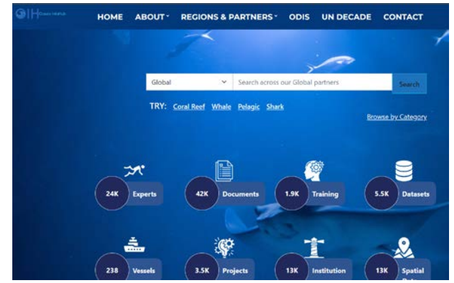
Ocean InfoHub



Additional metadata with links to SDN and MEDIN records

RESULTS – VISUALISING THE GRAPH

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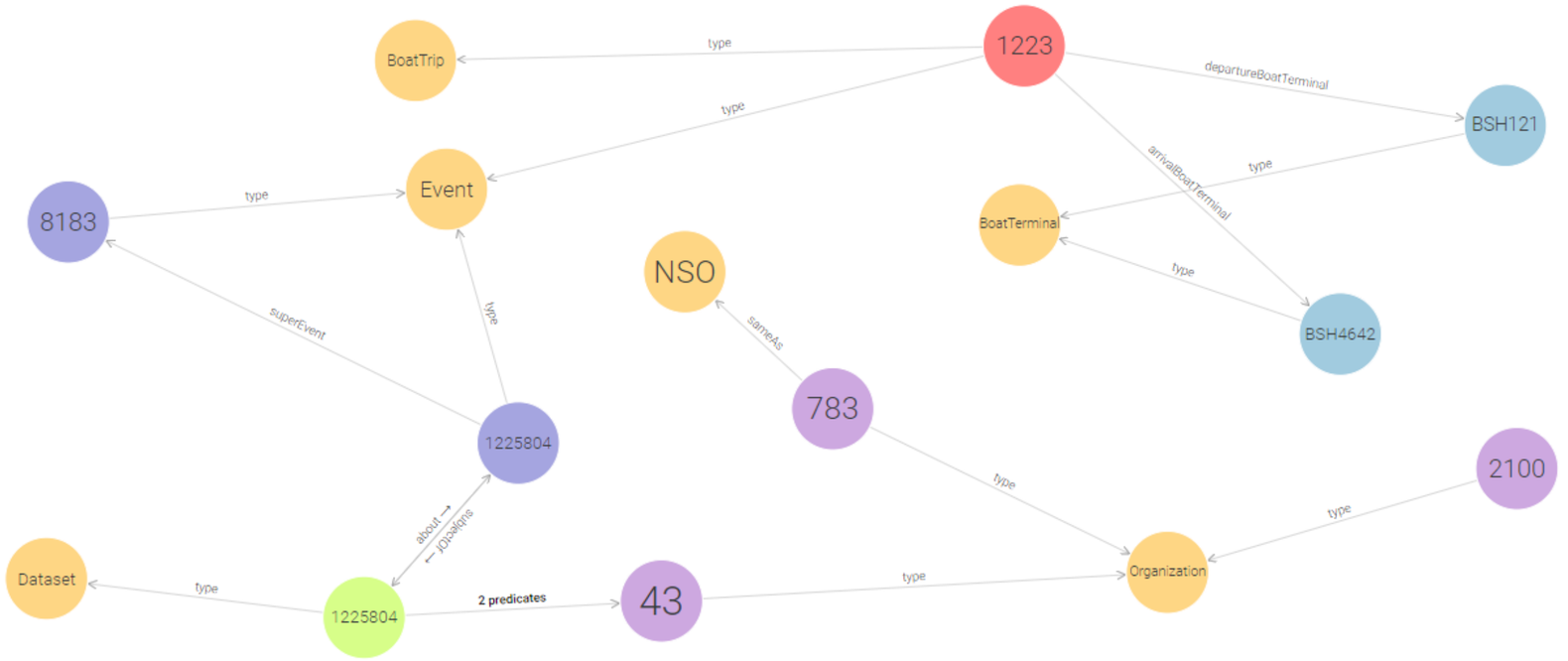
TestEDMO en

Visual graph



GraphDB 10.6.2 • RDF4J 4.3.9 • Connectors 16.2.6 • Workbench 2.6.2 • © 2002–2024 Ontotext AD. All rights reserved.

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https://portal.medin.org.uk/portal/browse_step.php
We’re getting there

SUMMARY & NEXT STEPS

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Summary

Hybrid model for serving metadata to ODIS

- Leverages existing partnerships to reduce duplication of effort.
- The hybrid approach enables the development of the enhanced metadata profile. The results potentially shape future requirements of new projects with partners.

Next steps

Exemplar metadata with ODIS for the PAP site is operational.

Load issue to address to enable exposure of full ~140,000 records

Future work can potentially include specific profiles for different research communities

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THANK YOU

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