16th Meeting of the Hydrographic Services and Standards Committee

Report of the Open Geospatial Consortium (OGC)

Scott Simmons, OGC

Agenda Item 7.7

HSSC-16, Tokyo, Japan, 27 – 31 May 2024

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SINCE HSSC-15

- 21 Standards approved
- 18 Engineering Reports approved
- 3 Discussion Papers approved
- 4 new Working Groups

STANDARDS APPROVED (1/2)

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- OGC 22-025r2: CityJSON 2.0 (Community Standard)
- **OGC 19-086r6: OGC API - Environmental Data Retrieval (EDR) 1.1 Extract information from data cubes**
- OGC 23-008r2: OGC Training Data Markup Language for Artificial Intelligence (TrainingDML-AI) Part 1 candidate Standard
- OGC 22-047r1: OGC GeoSPARQL 1.1
- OGC 22-049r1: OGC GeoXACML 3.0
- OGC 22-050r1: OGC GeoXACML 3.0 JSON Profile 1.0
- OGC 22-022r1: OGC SensorThings API Extension: STAplus
- OGC 23-034: OGC CDB 2.0
- **OGC 12-128r19: OGC GeoPackage Encoding Standard 1.4**
- OGC 22-051r7: Overview OGC GGXF geodetic data grid exchange format
- OGC 22-010r4: OGC Abstract Specification Topic 24 - Functional Model for Crustal Deformation

STANDARDS APPROVED (2/2)

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- OGC 23-049r2: OGC Abstract Specification: Topic 25 – Abstract Conceptual Model for Time
- **OGC 23-057r1: OGC API - Environmental Data Retrieval - Part 2: Publish-Subscribe Workflows pub-sub interface to data cubes**
- **OGC 22-003r3: OGC API - Moving Features - Part 1: Core Interface to large volume / large velocity moving feature data**
- OGC 23-024: OGC Model for Underground Data Definition and Integration (MUDDI) Part 1: Conceptual Model
- **OGC 21-065r1: OGC Common Query Language (CQL2) update feature query language**
- **OGC 19-079r2: OGC API - Features - Part 3: Filtering advanced query and filter of feature data (the remaining function of WFS)**
- **OGC 20-058: OGC API - Maps - Part 1: Core the OGC API equivalent to WMS**
- OGC Abstract Specification: Topic 1 - Part 0: Geographic Information - Spatial Schema [ISO 19107:2019]
- OGC 07-011r1: OGC Abstract Specification Topic 6: Schema for Coverage Geometry and Functions – Part 1: Fundamentals
- OGC 21-060r1: OGC Abstract Specification Topic 6: Schema for Coverage Geometry and Functions – Part 3: Processing Fundamentals

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ENGINEERING REPORTS PUBLISHED (1/2)

- **OGC 23-010: Towards a Federated Marine SDI: Connecting Land and Sea to Protect the Arctic Environment**
- OGC 22-054r1: 2022 Web Mapping Code Sprint Summary
- OGC 22-024r2: Testbed-18: Filtering Service and Rule Set
- OGC 23-011r1: Testbed-18: 3D+ Data Space Object
- **OGC 22-016r3: Testbed-18: Moving Features**
- OGC 22-023r2: Testbed-18: Features Filtering Summary
- OGC 22-041: Testbed-18: Building Energy Data Interoperability
- OGC 22-035: Testbed-18: 3D+ Data Streaming
- OGC 23-025: 2023 Open Standards and Open Source Software Code Sprint Summary Engineering Report

ENGINEERING REPORTS PUBLISHED (2/2)

- OGC 23-020r2: Engineering report for OGC Climate Resilience Pilot
- OGC 23-028: OGC Testbed 19 Extraterrestrial GeoTIFF Engineering Report
- OGC 23-059: 2023 Open Standards Code Sprint Summary Engineering Report
- **OGC 23-027: OGC Federated Marine Spatial Data Infrastructure Pilot 2023 - Connecting Land and Sea for Global Awareness**
- OGC 23-033: Testbed-19: Machine Learning Models Engineering Report
- OGC 23-050: OGC Testbed-19 Agile Reference Architecture Engineering Report
- OGC 23-044: OGC Testbed 19 High Performance Geospatial Computing Engineering Report
- **OGC 21-075r2: OGC Disaster Pilot: User Readiness Guide**
- **OGC 21-074r2: Disaster Pilot: Provider Readiness Guide**

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DISCUSSION PAPERS PUBLISHED

- OGC 23-022r1: Establishing the Framework of Disaster Early Warning Mechanisms - A Case Study of Slope Disaster
- **OGC 23-013: Discussion paper for Publish-Subscribe workflow in OGC APIs**
- **OGC 23-056: Mobility Data Science Discussion Paper**

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WORKING GROUPS CHARTERED

- GeoParquet Standards Working Group
- GeoZarr Standards Working Group
- Space Standards Domain Working Group
- **Land Administration Domain Model Standards Working Group**
  includes S-121 scope per ISO 19152 (LADM)

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OGC MEMBER MEETINGS

Date	Location	Host/Sponsor
5-9 June 2023	Huntsville, AL USA	Geo Huntsville
25-29 September 2023	Singapore	Singapore Land Authority
25-29 March 2024	Delft, Netherlands	Geonovum, TU Delft
17-21 June 2024	Montreal, Canada	NRCan, Bentley Systems, Esri Canada, CAE
4-8 November 2024	Seoul, Republic of Korea	LH, LX, MOLIT

Connecting Land and Sea for Global Awareness
Federated Marine Spatial Data Infrastructure Pilot 2023
Singapore - Arctic - Caribbean
Open Geospatial Consortium

Open Geospatial Consortium

Collaborative Solution & Innovation Program

https://www.ogc.org/ogc/innovation

Marine Spatial Data Infrastructure (MSDI) – CDS

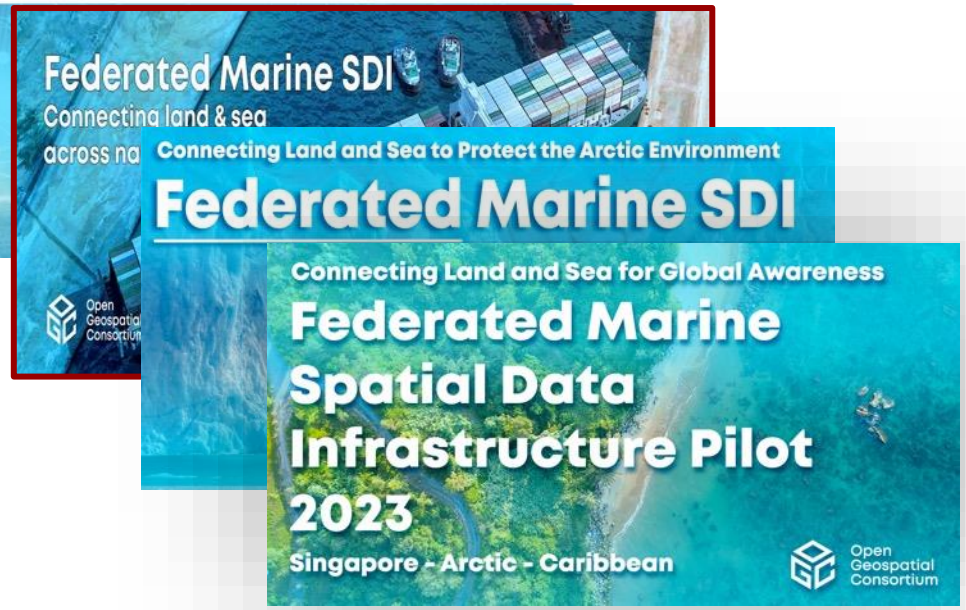
For more information please contact innovation@ogc.org

Maritime Limits and Boundaries (MLB) Pilot

For more information please contact innovation@ogc.org

Arctic Spatial Data Pilot

For more information please contact innovation@ogc.org



FMSDI Initiative

Phase 1 (Sep-Dec 2021)	Phase 2 (Jan-Jun 2022)	Phase 3 (Jun 2022-Feb 2023)	FMSDI 2023 Feb 2023-Oct 2023)
Understand status quo Running an RFI on resource collection focus on MPA Availability of S-122 (Marine Protected Areas) data, who produces it, where is it held	**Demonstrate marine protected areas at OGC API endpoints** Demonstrating S-122 Standard for MPA in Baltic and North Demonstrate S-1XX and other marine standards and data **UNGGIM-IGIF derived maturity model for Marine SDIs**	**Extend to new location: Arctic** **Add more data, more services to address more complex scenarios**	**Extend to new locations: Singapore Arctic Canada Caribbean** **Demonstrating interoperability between land and marine data, general sensitivity to climate change, and storm surge, and different use-cases**

Project Overview: Sponsors

5 Sponsors

Maritime & Port Authority of Singapore (MPA)

Singapore Land Authority (SLA)

Natural Resources Canada (NRCan)

UK Hydrographic Office (UKHO)

National Oceanic and Atmospheric Administration (NOAA)

Project Overview: Participants

10 Participants

Compusult Limited

Ecere Corporation

ESRI Canada

Geomatys

Global Geo-Intelligence Solutions Ltd. (GGIS)

Health Solutions Research, Inc.

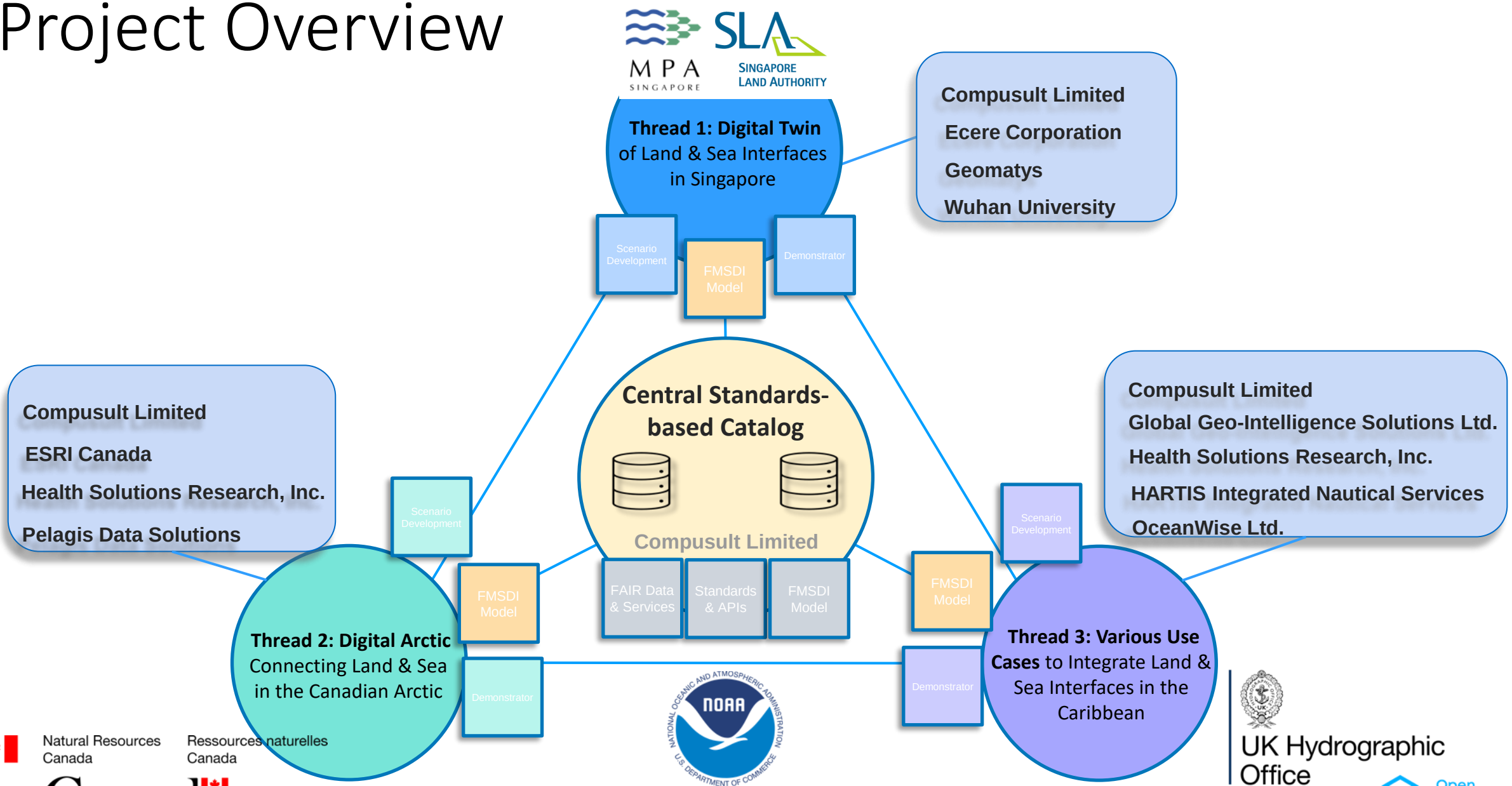
HARTIS Integrated Nautical Services Ltd

OceanWise Ltd.

Pelagis Data Solutions

Wuhan University

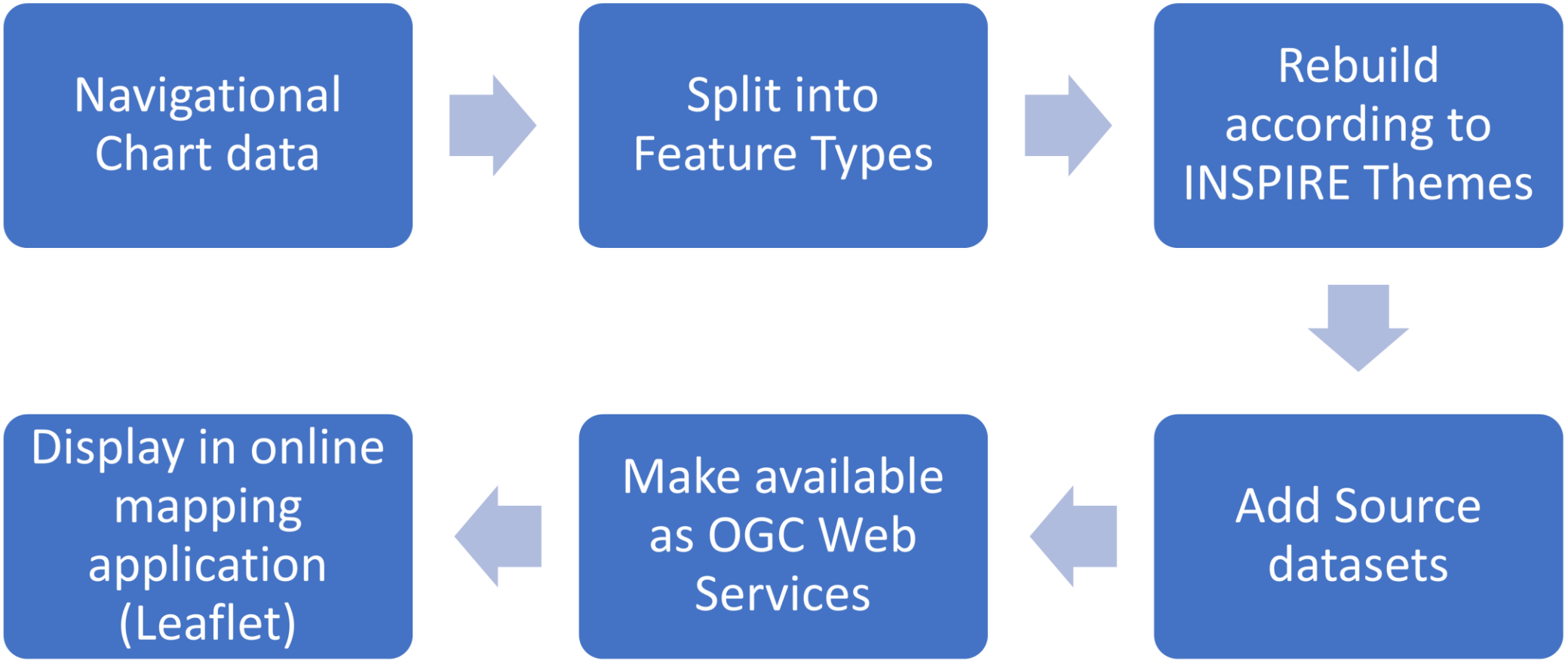
Project Overview



Integrated terrain and bathymetry (Singapore)

Coastal inundation modeling

Wind farm optimization (courtesy OceanWise)



https://www.ogc.org/initiatives/fmsdi4/#Persistent-demonstrators

The best part!

Persistent Demonstrators

The persistent demonstrators are workflows and applications that stakeholders can access for outreach, testing, and experimentation purposes. They are referred to as persistent because they remain available even after the project is completed, but only **until December 2024**. As each participant has their own solution platform, they have taken different approaches, all of which are available for review by stakeholders. Security concerns, such as authentication and authorization, are unique to each participant and have been communicated to stakeholders and participant contacts. For further details and access to the demonstrators, please refer to the link provided.

Thread 1 Singapore

Compusult

URL(s) to Persistent Demonstrator: https://ogc.compusult.com/singapore

Login with:

Please email fmsdi2023@gmail.com for access credentials.

Ecere

URL(s) to Persistent Demonstrator: https://maps.gnosis.earth/fmsdi4/

Login with:
Please email fmsdi2023@gmail.com for access credentials.

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ACTIONS REQUESTED FROM HSSC

1. Take note of the report.
2. Contact OGC with any questions or comments:

   Scott Simmons – ssimmons@ogc.org

   Trevor Taylor – ttaylor@ogc.org