



MPA
SINGAPORE

GeoSpace-Sea

Singapore's National Marine Spatial Data Infrastructure

Maritime and Port Authority of Singapore (MPA)

IHO MSDIWG15

05 Mar 2024

Previously 2023, Looking Ahead



❑ **Continued Review of Operational Sustainability within GeoSpace-Sea**

- Reviewing of datums for Land-Sea Integration
- Migration from On-Premise to Cloud Infrastructure



❑ **Building Partnerships and Capacity Building**

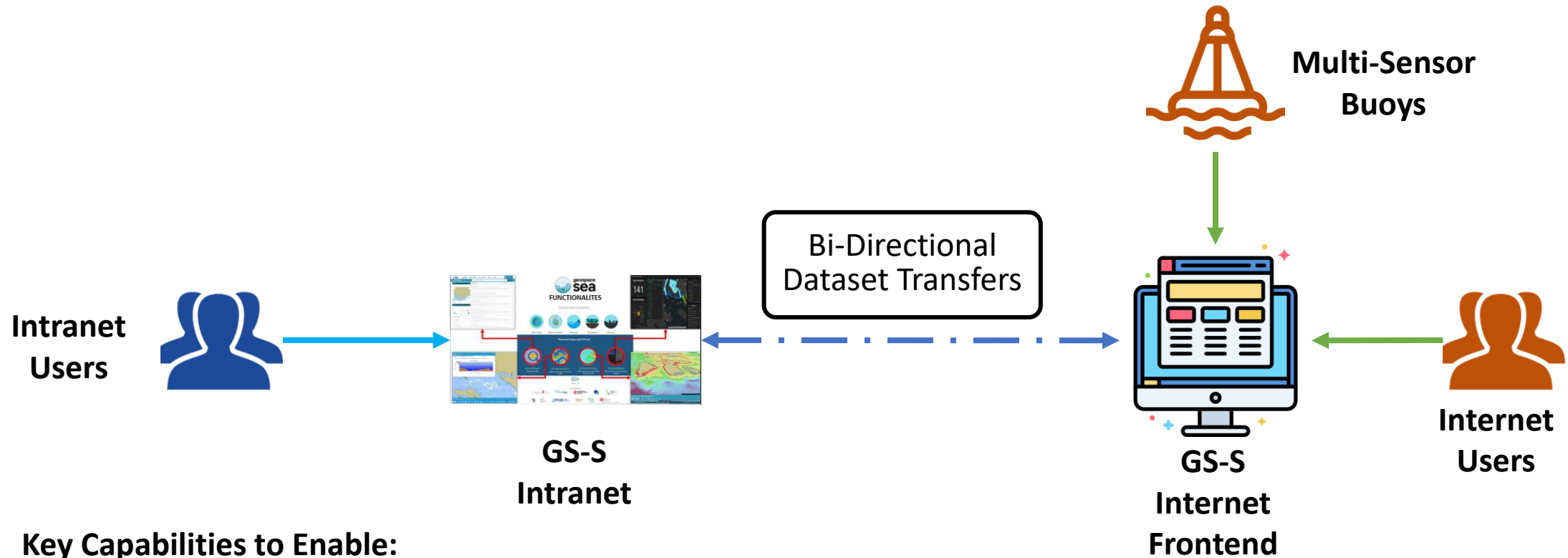
- Expanding beyond current partners for collaboration
- Capturing near real-time datasets (sensor data)
- Inclusion of marine geospatial in education for capability development



❑ **Developing Open MSDI Metadata Standards**

- Referencing FAIR-TLC and UN-GGIM IGIF-H Guiding Principles
- Inclusion of oceanographic, marine science and land categories

GeoSpace-Sea's Integrated Internet Frontend Expansion



Key Capabilities to Enable:

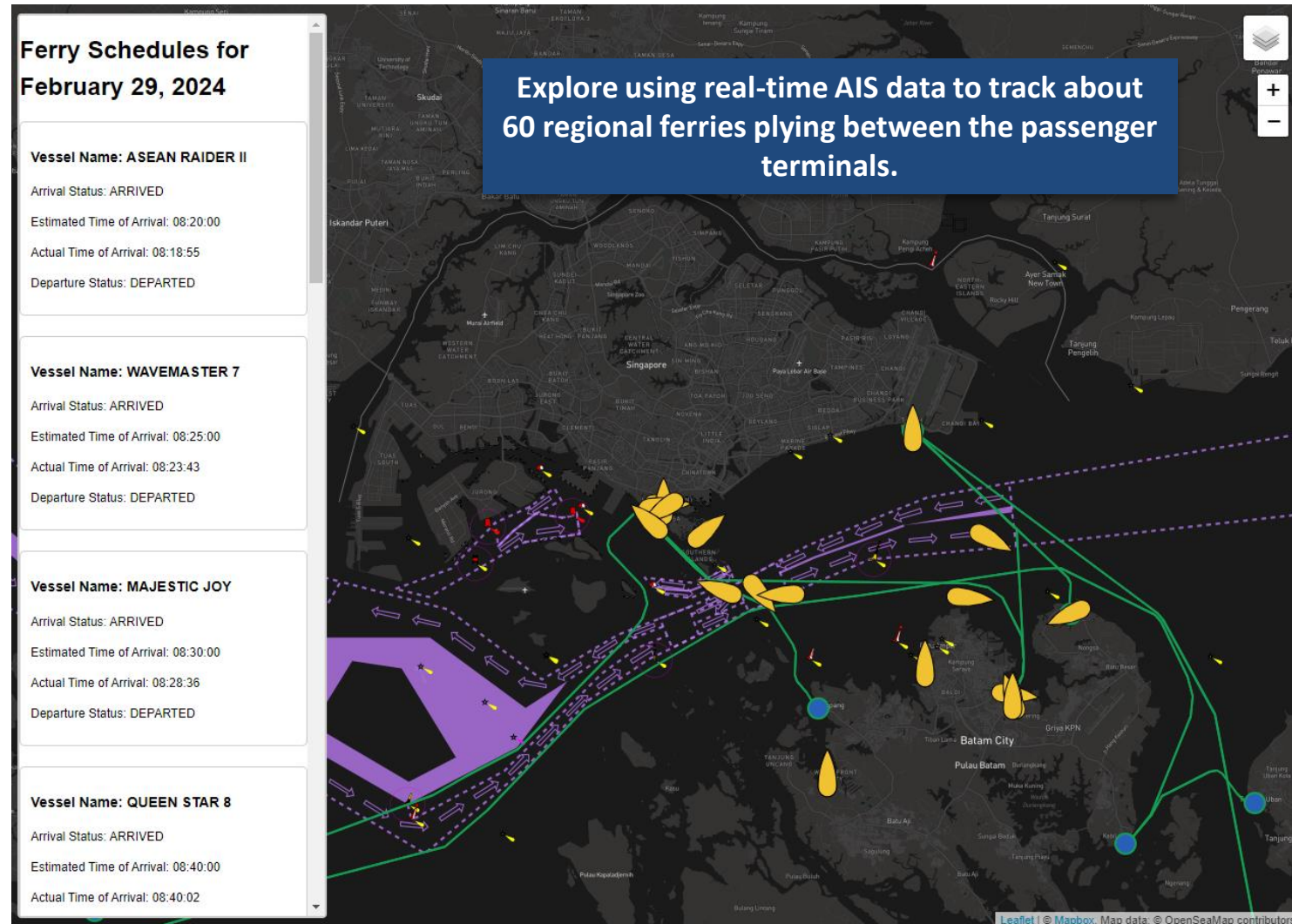
1. Integrated Internet Platform
2. Bi-directional Dataset Transfers
3. API-based Data Distribution
4. Hydrospatial Map Visualisation
5. Near Real-time Sensor Data Streaming

Increasing Data Sharing Partnerships

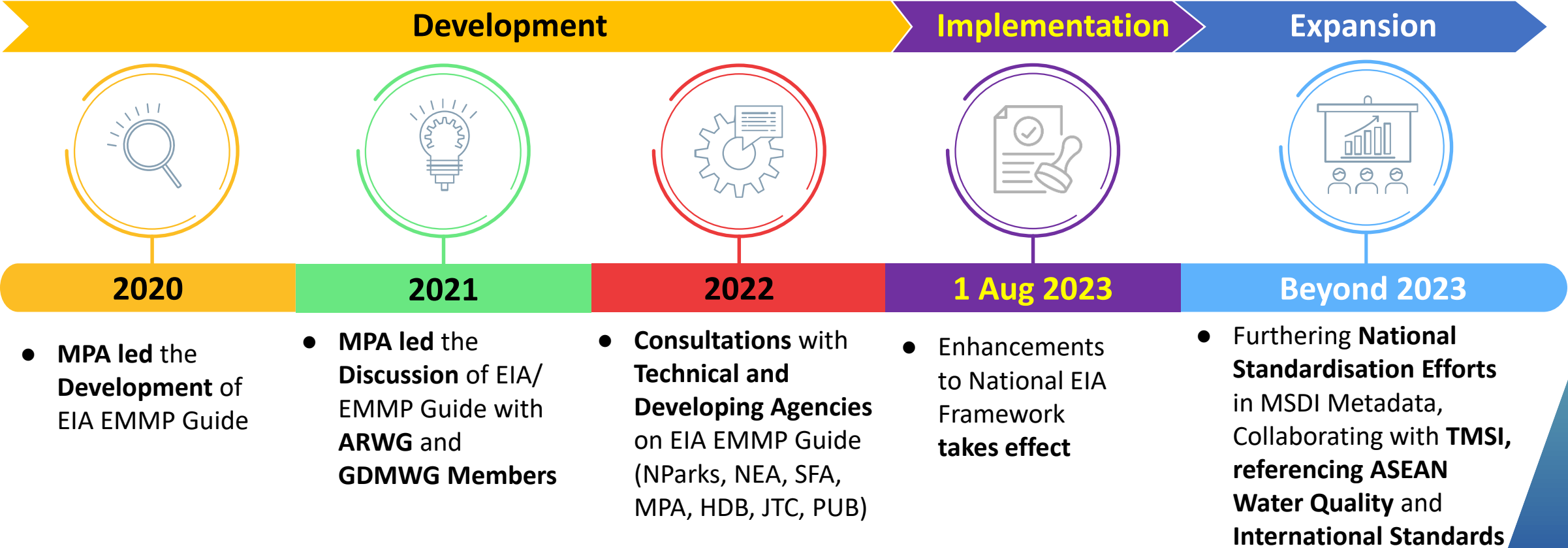
- **Government Agencies**
 - **Two-way sharing of datasets on GeoSpace-Sea Intranet Portal with the following agencies:**
 - BCA, CLC, HDB, JTC, NEA, NRF, NParks, PUB, SFA, SLA, URA
 - **Datasets include:**
 - Coastal and Marine EIA and EMMP datasets, Water Quality, Masterplans, Borehole, Fish Farms, Coastal and Marine Habitat, etc.
- **Institutes of Higher Learning**
 - **Tropical Marine Science Institute:**
 - Marine Science, Oceanography Datasets
 - **Marine Environment Sensor Network:**
 - Near Real-Time Sensor Data
- **Industry Partners** – Singapore Cruise Centre (SCCPL)
 - Visualisation of ferry locations and ferry routes between Indonesia and Singapore
 - Automated the integration of various Geospatial APIs
 - Utilised open-source geospatial technologies to develop web map visualisation

Collaboration with Singapore Cruise Centre

- Automated the integration of AIS and Ferry Schedule APIs
- Open-source datasets, map layers and information utilised
- Next phase will involve incorporating dashboarding functions and more relevant ferry information



Development and Implementation of Standardisation Guide For Coastal And Marine Environment Impact Analysis (EIA) Datasets



- Developed 11 Standardised Coastal and Marine Data Templates with up to 69 parameters, guided by GeoSpatialSG Data Standards and Darwin Core Standard (DwC).
- Standardised presentation of Data, Metadata, and Submission Workflow to MPA GeoSpace-Sea Portal.



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Thank You