

POTENTIAL PROJECT PROPOSAL PART 1 – INTEGRATION OF SEA AND LAND DATUM FOR MONITORING OF POSSIBLE RISE IN SEA LEVEL

1. Project objective, team composition and Project Team Leader, broad work packages, indicative budget and duration.
<ul style="list-style-type: none">• Understanding the significance of integrated monitoring of relative and absolute sea level variation using tide gauge and GNSS data to address short and long-term issues in climate change monitoring and adaptation.• Accelerating capacity building and knowledge sharing amongst HOs and broader marine geospatial information community.• Collaboration between hydrographers and land surveyors on innovative solutions to reach shared objectives.
2. Project scope, challenges identified, innovation opportunities and potential benefits
<ul style="list-style-type: none">• Explore how sea level data from tide gauges and land motion data from GNSS stations can be analysed together and potentially create new applications.• Explore and exploit findings from past projects such as the Pacific Sea Level and Geodetic Monitoring (PSLGM) project which could be replicated elsewhere, while addressing project limitations.• Explore the development of a toolkit for the joint monitoring of tide gauge and GNSS data, considering the physical infrastructure, data ecosystem and governance frameworks for long-term monitoring and analysis.• Outlines the successes and lessons learnt in Singapore and other Member States from SDI and MSDI development,• Explores the Singapore and other Member States experiences and challenges of domain integration using the 9 Strategic pathways, and• Proposes several initiatives and innovations to address these challenges.
3. R&D or test-bedding work descriptions.
<ul style="list-style-type: none">• Examine differences between Gravimetric Geoid Model and Ellipsoid Model. When conducting surveys, shared on the need to indicate the reference model used in the metadata, so that other users can account for uncertainty in the reference model.• Examine physical height datum, as the MSL can move with respect to the geoid. Suggested to explore the Gravimetric Geoid Model as a potential standard height datum.• Support efforts to develop use cases for integrated geodetic system and long-term monitoring, to generate support and funding from governments.
4. Key milestones and deliverables for each milestone.
<ul style="list-style-type: none">• Provide use cases where governments, HOs and communities have benefited from the long-term monitoring of geophysical data.• Develop minimum level of HO infrastructure required to address national priorities, be it for navigation or climate change adaptation, as part of capacity development.
5. Profile and respective of industry partner(s) participating in the industry consortium (if the company is forming a consortium) including their role and contributions (financial or in-kind).

- The Maritime and Port Authority of Singapore and the Singapore Land Authority with partnering agencies and research institution will collaborate to develop models / use-cases to highlight the importance of joint effort to address contemporary issues i.e., climate change.
- In addition, the collaboration would exploit the different capabilities of the stakeholders, which in turn would help to reduce duplication of resources and cost savings.

6. Project risk assessment and mitigation plan.

Low.

7. Brief description of the Intellectual Property (IP) arrangements to facilitate eventual commercialisation of the project IP developed.

None identified at the moment.