



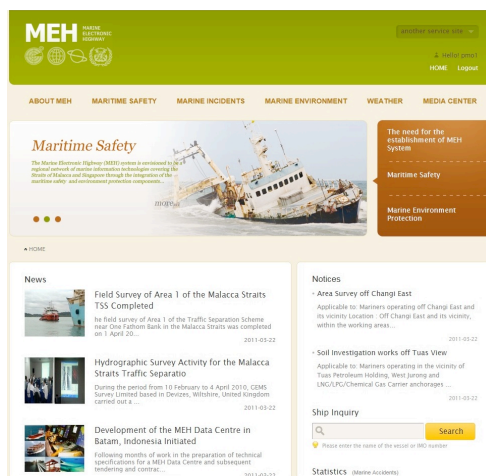
# INTERNATIONAL WATERS RESULTS NOTES

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## Indonesia GEF/IBRD/IMO Marine Electronic Highway Demonstration Project (MEHDP)

GEFID#: 1270, GEF Agency Project ID#: P068133, Project Status: Active or Completed



1. Completion of the hydrographic survey of the Straits of Malacca and Singapore to update data and provide the means towards the development of electronic navigational charts for the integration, interfacing and display of environment marine information.

2. Establishment of the Project Management Office in Batam, Indonesia and the construction of the Marine Electronic Data Centre Information Technology System therein. Next is to move into the operational for the construction of the electronic navigational chart platform upon which overlay of environment-marine information are to be interfaced.

3. Establishment of the Marine Electronic Highway Website ([www.meh-project.com](http://www.meh-project.com)) for the display and disbursement of environment marine information to the stakeholders and the public.

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## PROJECT OBJECTIVE

Following on a decade of consultative and technical preparatory work the GEF Marine Electronic Highway (MEH) project for the Straits of Malacca and Singapore was approved in 2006. The project built on the latest information/ telecommunication technology advances and emerging efforts to develop integrated marine geospatial information systems to pioneer a new level of market-oriented integration of maritime safety and environmental protection and management.

To this end the *Global Environment objective* of the project is defined as:

“... to improve maritime safety and reduce environmental damage to the globally-significant shared natural resources of the Straits of Malacca and Singapore.”

To achieve this, the projects development objective aims:

“... to assist the Republic of Indonesia, Malaysia, the Republic of Singapore and representatives of some of the large commercial ship owners that use the Strait of Malacca and the Strait of Singapore, to collectively decide whether to establish a marine electronic highway for the entire length of the Straits of Malacca and Singapore.”

The project approaches the achievement of these objectives along three strategic pillars (not necessarily listed in order):

- I. *Fostering and supporting a cooperative mechanism to jointly engage and strengthen the coordination among the three littoral states* in an effort to improve the navigation safety and reduce the risk of maritime pollution in the Straits, while producing tangible economic benefits for major Straits users and improving the flow of geospatial information for the environment and natural resource management of the area.
- II. *Supporting and improving the Littoral's states technical and institutional capacity to generate in real time improved navigation and environmental information* for the Straits—including the acquisition of critical hydrographic data and hydro meteorological data and products—while aligning and strengthening their respective Vessel Traffic Information Systems (as a foundation for potential integration under a future full MEH)
- III. *Demonstrating and promoting the deployment of pioneering ICT and marine geospatial technologies* for delivering critical navigation and environmental information in real time to navigation bridges, such as ENC/ECDIS, AIS, Marine GIS, navigation-relevant MIOs, both at the global level and, specifically, as foundation for the creation of an integrated Marine Electronic Highway system in the Straits.

The project further translated these strategic pillars into 5 investment components organized around the MEH design/ piloting as an organizing principle.

Embedded in the above is the *critical need to address the existing institutional, technological, and resource discrepancies in the capacity of the three littoral states to invest and achieve the project's environmental objective.*

The other important critical assumption for ensuring the scaling-up and the long-term operational and financial sustainability of the MEH pilot—as well as the economic model underpinning the entire demonstration project—rely on the premises that the project will *generate commercial value-added by delivering updated navigation data and information in real time to transiting vessels.*

The main components of the Project are the activities of the hydrographic survey, the construction of the MEH Data Centre IT System, the environment-marine information overlays (E-MIOs) and the baseline

survey. Value added to the MEH system are the incorporation of models such as the oil-spill, hydrodynamic and sand-wave study to support the efforts of the Littoral States on emergency response measures to deal with navigational and pollution incidents..

## **RESULTS: PROCESS**

Concrete and tangible outputs can only be realised when the Project information technology infrastructure and its associated software for the integration, interfacing and display in IT format are completed. The physical output of the hydrographic survey would be the promulgation of revised electronic charts to enhance the common-datum charts of the Straits developed under the four nation joint survey in the 1970s and 1980s and the construction of such charts onto the platform of the MEH IT System.

To enter into the operational phase dynamic data in real or near real time and static data have to be fed and display in the MEH IT System. To date real time data at 10 minutes interval are being provide from Singapore tide station by FTP (File-Transfer Protocol); real time tide/current/temperature data from two stations in Malaysia are being finalized through the AIS message 8 network. Dynamic data feed from the stations in Indonesia is expected by January 2012. This will be followed by ship-borne sea trials to evaluate the functionalities of the MEH IT System with the participation of the industry.

An understanding has been reached during the workshops on environmental data feed for the provision and management of environmental marine information covering the spatial distribution of environment sensitive areas such as mangroves, seagrass, concentration of fisheries and aquaculture and marine related industry. Since data and maps provide would be raw in nature the Project will have to digitise and format them for display in the MEH IT System as well as develop internationally accepted symbologies for inclusion into the respective electronic charts of the MEH platform. Marine traffic data including record of incidents would also be provided by the Littoral States at regular intervals for analysis and display.

Since the Project's inception, three Project Steering Committees Meetings and several Technical Committee Meetings as well as two workshops on Environmental Marine Data Feed have been held. The Project is expected to be completed by June 2012.

**INDICATOR#1** Development and evaluation of a demonstration MEH system for the most congested 300 km section of the Straits of Malacca and Singapore are well coordinated, managed and technically supported. [The pilot MEH system is 100% established and functional]

**Results:** Hydrographic survey has been completed; data center and technical components for ENC under procurement; ship board equipment installed. Electronic navigation charts and data feed from all Littoral States are required to make MEH pilot system fully functional. .

**INDICATOR#2** At least 160 large oil tankers and container ships that regularly navigate the Straits begin using the newly produced ENCs with supplemental ENRM info covering the area of the project. [Well functioning ENCs with ENRM supplemental information covering the MEH demonstration area of the Straits are produced, tested and available for use by appropriately equipped ships.]

**Results:** Vessels are equipped but charts not yet produced.

**RESULTS ON STRESS REDUCTION, WATER RESOURCE AND ENVIRONMENTAL STATUS will only be achieved once the demonstration project is fully operational and the decision is made to scale the project up.**

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