Straits Project 9: Ship Traffic Management System in the SOMS

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Ship Traffic Management System (STMS) – A Testbed Project

• A Co-operation Forum Project endorsed by TTEG to enhance navigational safety and environmental protection in the Straits of Malacca and Singapore

• Project Members:
Objectives of STMS

To **develop** and **validate** shared situational awareness and cooperative decision making between ship's bridge team and shore based Vessel Traffic Service (VTS) personnel.

To contribute to the IMO **e-Navigation** implementation

Secondary objectives are:
- Test Just-In-Time arrival concept
- Use existing systems/equipment as far as possible
STMS – CONCEPT OF OPS

1. Ship submits sailing plan and pre-arrival information

2. Satellite/VDES digital data exchange

3. Transmit marine traffic hotspot picture and resource info to ship

4. Ship receives traffic picture from VTS

5. Ship adjusts speed/passage for safe and optimal arrival

- Shared situational awareness
- Collaborative decision support
- Just-in-time arrival
- Optimal transit speed
- Efficient traffic flow
- Reduced navigational risk
- Reduced fuel consumption
- Reduced CO2 emissions
- Better utilization of port resources
STMS Status

• Development of the Ship Station, Shore Planning Station & Ship Traffic Simulator will be completed by end 2016.

• Proposed sea trial involving a ship sailing through SOMS is scheduled in 1Q 2017:
  ✓ Submission of passage plan
  ✓ Prediction of hot spots
  ✓ Sharing of traffic picture
  ✓ Testing of VDES prototype
**Proposed Sea Trial - Configuration**

A ship sailing through SOMS is scheduled in 1Q 2017

- **Cooperative decision support and shared situation awareness**
  - Planning station
  - ARPA/ECDIS

- **VHF voice/AIS**

- **Ship/Shore data communication**

- **Cooperative decision support & shared situation awareness**
  - C-Scope VTS with decision support

- **Ship Traffic Simulator model and prediction**

Shipping provided by International Chamber of Shipping (ICS)

C-Scope VTS system provided by the Maritime and Port Authority of Singapore (MPA)
Summary

1. The Project is in progress according to the time schedule

2. The Project will be finalized in April 2017 (SMW)

3. A possible Phase 2 of the Project is about to be discussed with focus on e-Navigation

   • Solution 2: Standardized and automatic ship reporting

   • Solution 5: Maritime Service Portfolio
For Information
e-Navigation has three main elements: onboard, ashore and communications.

“The harmonized collection, integration, exchange, presentation and analysis of marine information onboard and ashore by electronic means to enhance berth to berth navigation and related services for safety and security at sea and protection of the marine environment”