

SESAME Straits – Update on the Straits Traffic Management system

40th Tripartite Technical Experts Group Meeting
Singapore
7 – 8 Oct 2015

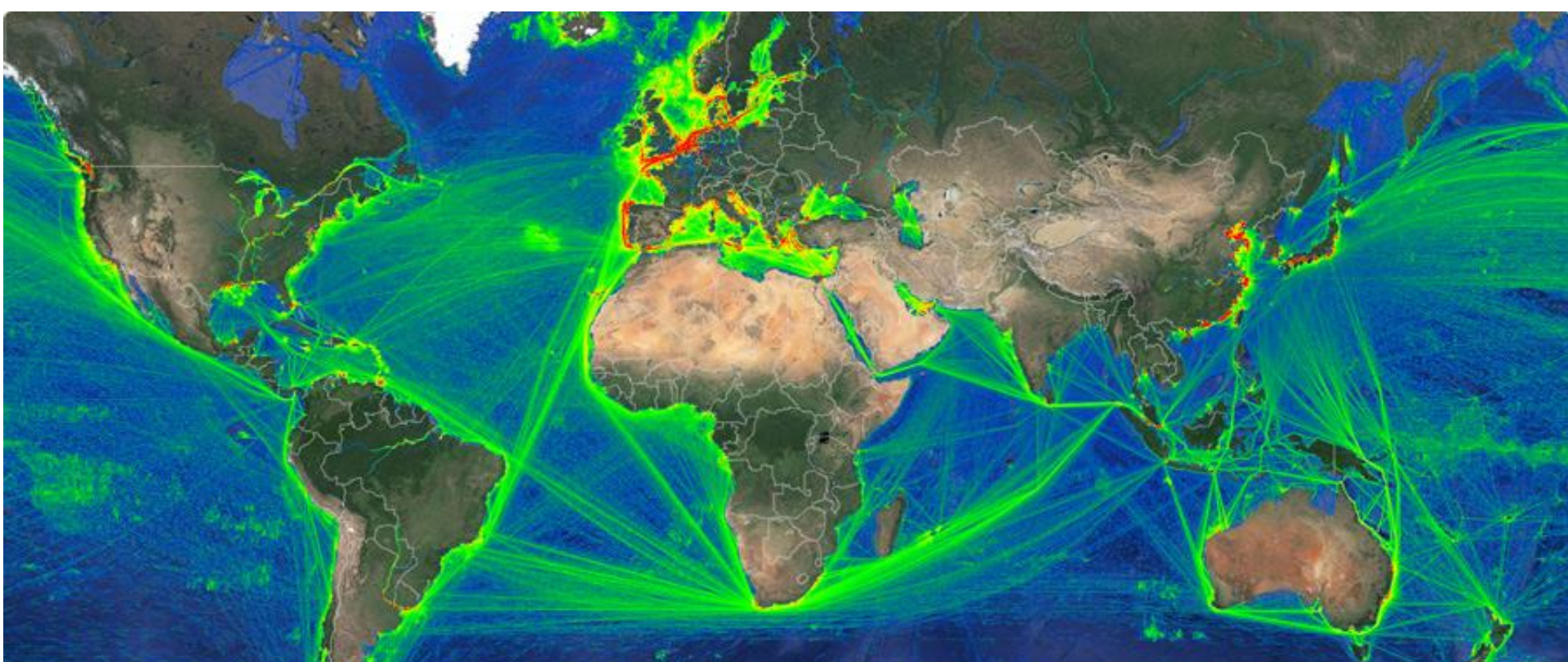
Presented by
Capt Chong Jia Chyuan
Controller, Vessel Traffic Management
Maritime and Port Authority of Singapore

Content

1. Project background
2. Objectives
3. Partners and CONOPS
4. Work Packages
5. Implementation Schedule

Project background - MEH

- Marine Electronic Highway (MEH) demonstration project 2006-2010
- MEH was to improve **safety** and **efficiency** of shipping in the SOMS
- MEH focus was on accurate sea-bed surveys and **ship-shore data exchange**



Project background – e-navigation

- Clear synergies between the MEH project and e-Navigation
- It is important to show ship owners and mariners the benefits of any e-navigation solution
- Seeing is believing and the importance of test-beds is identified in the IMO e-Navigation Strategic Implementation Plan (SIP)

Fig. 4. The 3 elements of a marine electronic highway.



Ref: "three sides of a coin"

Content

1. Project background
2. Objectives
3. Partners and CONOPS
4. Work Packages
5. Implementation Schedule

SESAME Straits - objectives

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

Secondary objectives are:

- Just In Time arrival within a Regional Maritime Service Portfolio
- Use existing systems/equipment as far as possible



Content

1. Project background
2. Objectives
3. Partners and CONOPS
4. Work Packages
5. Implementation Schedule

SESAME Straits - partners

- **Project members:**
 - DGST, MDM, MPA, NCA, RCN, Vestfold University, Navtor, Marintek, SimPlus, KONGSBERG
- **Country Agreement:**
 - Singapore/Norway R&D MoU
- **Funding - MAROFF programme:**
 - Budget approx. NOK 25 mill
- **Project Owner:**
 - Kongsberg Norcontrol IT



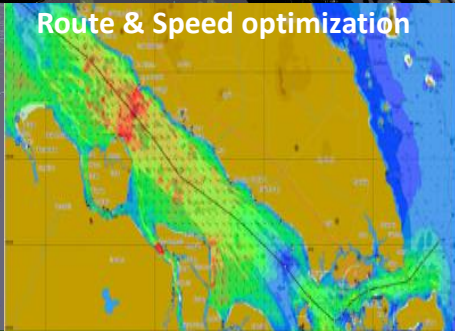
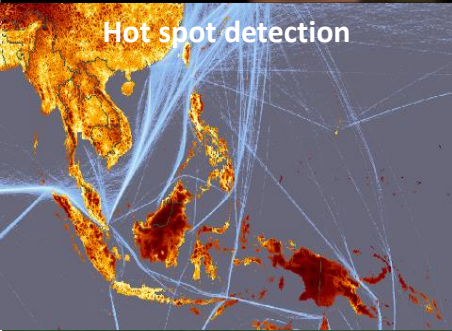
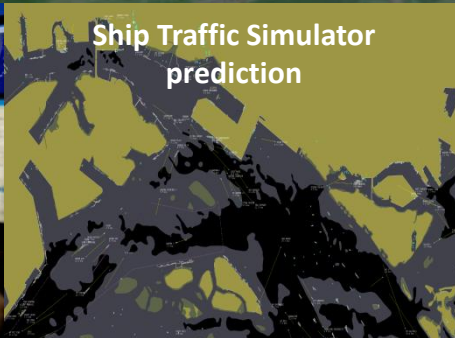
SESAME Straits OPS



Route Advice service: new route and/or speed

Route Advice evaluated for onboard decision making

Ship alters speed and/or changes route



- Shared situational awareness
- Cooperative decision support
- Regional Maritime Service Portfolio (MSP) Route Advice-JIT:
 - Efficient traffic flow
 - Reduced navigation risk
 - Reduced ship bunkers
 - Reduced toxic gas emissions
 - Better utilization of port facilities resources

Content

1. Project background
2. Objectives
3. Partners and CONOPS
4. Work Packages
5. Implementation Schedule

SESAME Straits – existing systems today

Planning station

ARPA/ECDIS

VHF voice/AIS



C-Scope VTS with decision support



Shipping provided by
International Chamber of Shipping
(ICS)



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

SESAME Straits – New systems



Shipping provided by
International Chamber of Shipping
(ICS)



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

SESAME Straits – Work Packages

WP N ^o	Description	Responsible
1	Monitoring and control strategy, metrics	Norwegian Coastal Administration
2	Analysis of decision making - HCD	Vestfold University
3	System design – S100/200	Kongsberg Norcontrol IT
4	Data collection and preparation	Marintek
5	Simulation collaboration - SimPlus	Kongsberg Norcontrol IT
6	Cooperative Decision Support Tools	Kongsberg Norcontrol IT
7	Ship-shore data communication	Kongsberg Maritime
8	Upgraded Planning station	Kongsberg Maritime/NAVTOR
9	Demonstration and dissemination	Kongsberg Norcontrol IT
10	Management	Kongsberg Norcontrol IT

WP 2 – Analysis of decision making (MSP)

1. VTS Information Service
2. VTS Navigation Assistance Service
3. VTS Traffic Organization Service
4. Local Port Service
5. Maritime Safety Information service
6. Pilotage service
7. Tugs service
8. Vessel shore reporting
9. Telemedical Maritime Assistance Service
10. Maritime Assistance service
11. Nautical chart service
12. Nautical publications service
13. Ice navigation service
14. Meteorological information service
15. Real-time hydrographic and environmental information service
16. Search and Rescue (SAR) service

WP 2 – Analysis of decision making (MSP)

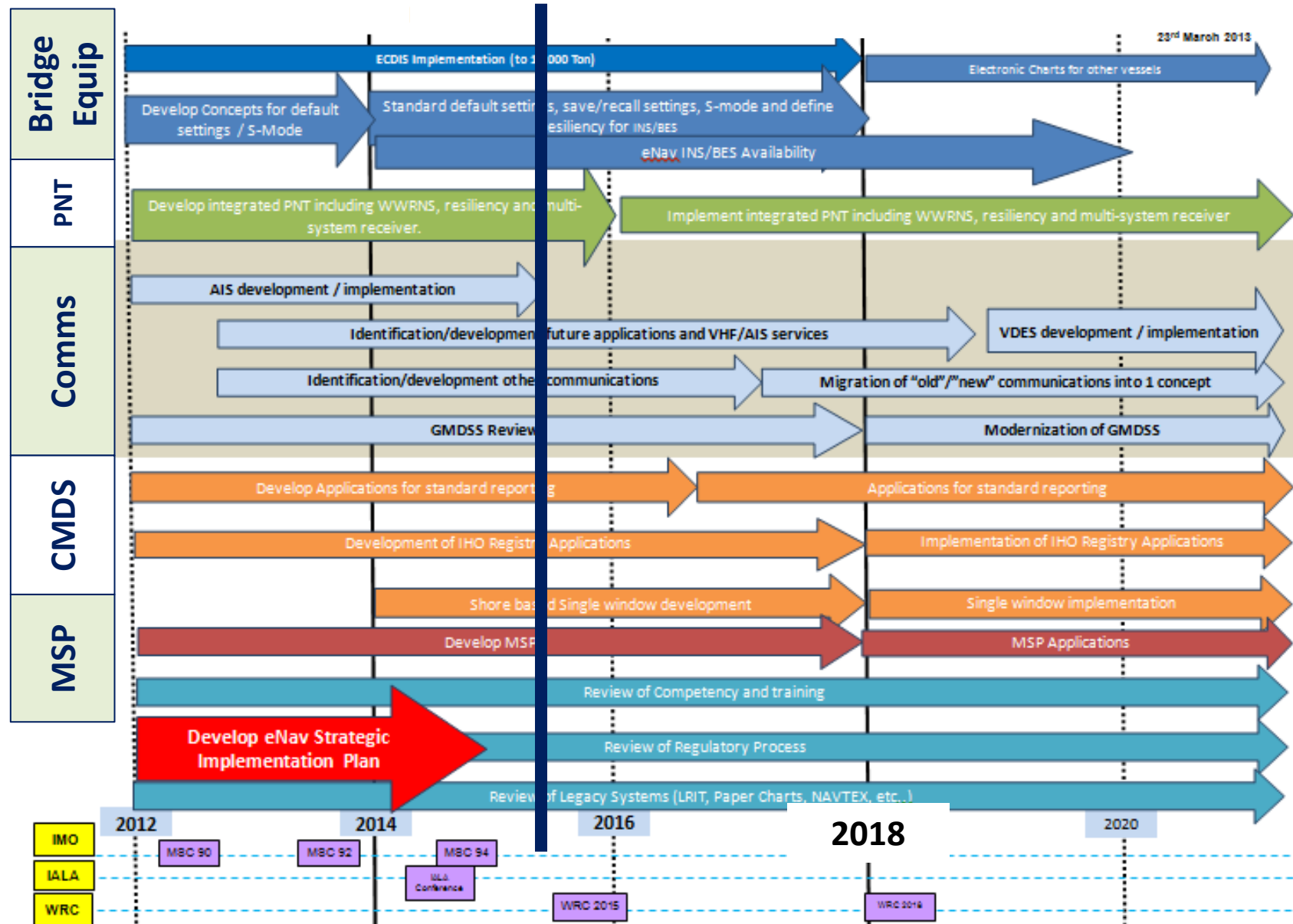
- 1. VTS Information Service**
- 2. VTS Navigation Assistance Service**
- 3. VTS Traffic Organization Service**
4. Local Port Service
5. Maritime Safety Information service
6. Pilotage service
7. Tugs service
- 8. Vessel shore reporting**
9. Telemedical Maritime Assistance Service
10. Maritime Assistance service
- 11. Nautical chart service**
- 12. Nautical publications service**
13. Ice navigation service
- 14. Meteorological information service**
- 15. Real-time hydrographic and environmental information service**
16. Search and Rescue (SAR) service

Content

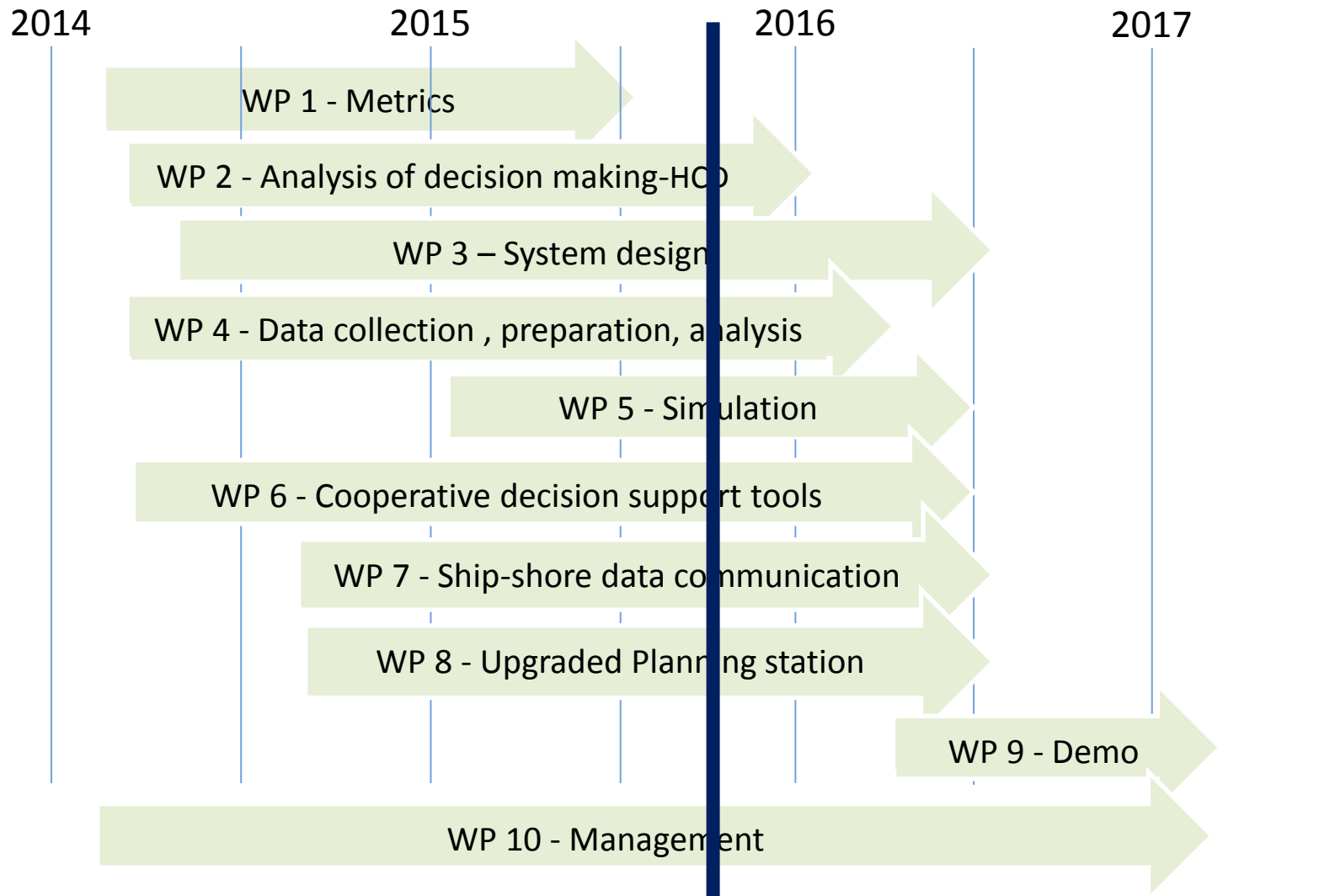
1. Project background
2. Objectives
3. Partners and CONOPS
4. Work Packages
5. Implementation Schedule

Today

IALA e-Navigation Committee - Roadmap

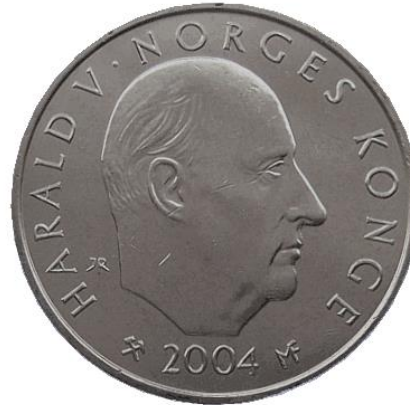


SESAME Straits - Schedule



Summary

1. Project background
2. Objectives
3. Partners and CONOPS
4. Work Packages
5. Implementation Schedule



e-Navigation is “*three sides of a coin*” and money makes the shipping industry spin!

THANK YOU