KYSTVERKET

SESAME Straits – Update on the Straits Traffic Management system

John Erik Hagen, Regional Director

Norwegian Coastal Administration

– Vi tar ansvar for sjøvegen

SESAME Straits - Secure, Efficient and SAfe maritime traffic ManagEment in the Straits of Malacca and Singapore

SESAME salad

A fresh, creative and healthy Asian influenced salad

★★★★★ (3 ratings)   By Sara Buenfeld   Magazine subscription – 3 issues for £3

A fresh and healthy Asian-style salad with Thai basil and coriander, soya beans, carrots and tomatoes

Share: f | Facebook   P | Pinterest   y | Twitter   8+   ✉

Save to My Good Food ⊕   Print 🖨

Nutrition *per serving*

kcalories	protein	carbs	fat	saturates	fibre	sugar	salt
300	44g	14g	7g	1g	7g	12g	1g

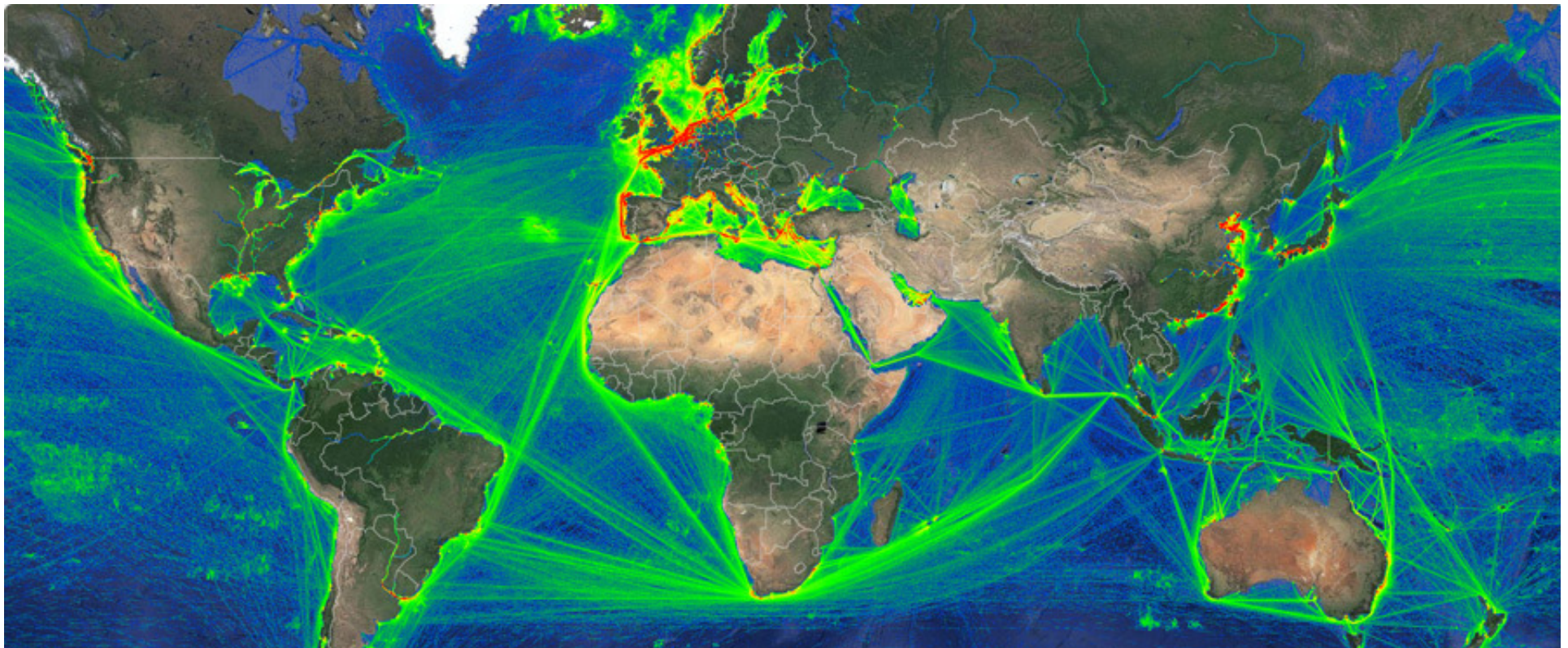Additional info

♡ Healthy

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.

Three Elements of an MEH

ENVIRONMENT PROTECTION AND MANAGEMENT

MARITIME SAFETY

SUSTAINABLE FINANCING

Ref: *"three sides of a coin"*

Content

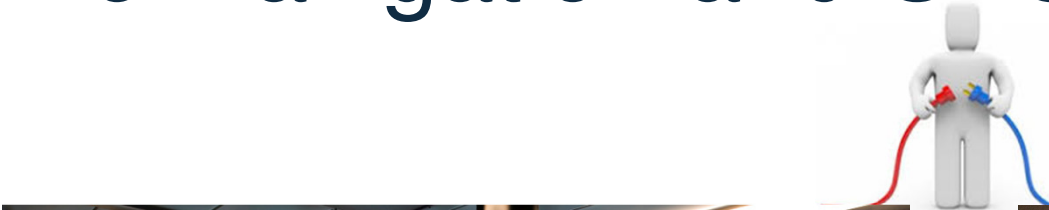# e-navigation has three main elements: onboard, ashore and communications

Onboard

Ashore

"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"

# e-Navigation and SESAME Straits

*"The harmonized **collection**, **integration**, **exchange**, **presentation** and **analysis** of marine information **onboard** and **ashore** by electronic means to **enhance berth to berth navigation** ...."*

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
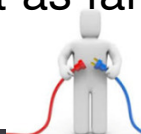
Content

SESAME Straits - partners

- **Project members**:
  - 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 - Concepts

Cloud

Route Advice evaluated for onboard decision making

Route Advice service: new route and/or speed

Ship alters speed and/or changes route

C-Scope VTS Centre

Ship Traffic Simulator prediction

Hot spot detection

Route & Speed optimization
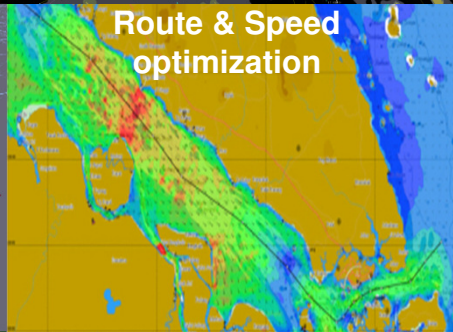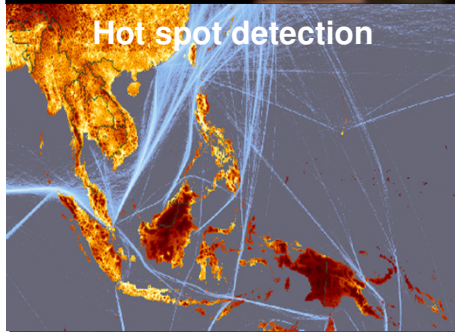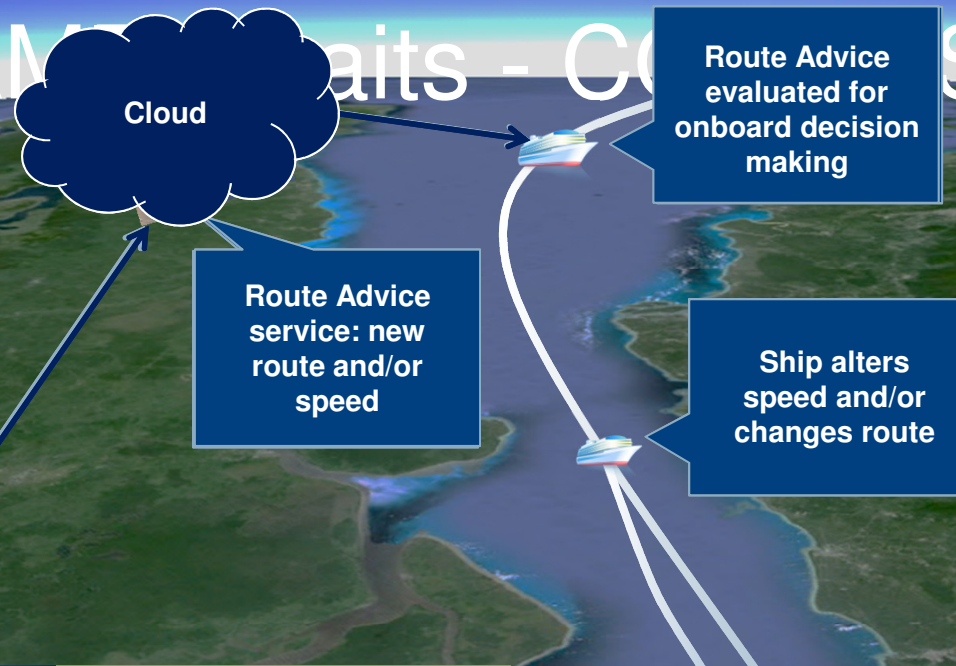
- **Shared situational awareness**

- **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 facilties resources

SESAME Straits

e-Navigation
Intelligent Ship
Traffic Management

Content

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

Cooperative decision support and shared situation awareness	Ship/Shore data communication	Cooperative decision support and shared situation awareness
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 e-Navigation Intelligent Ship Traffic Management

SCOPE

Ship Traffic Simulator - WP

SESAME Straits e-Navigation Intelligent Ship Traffic Management

SIMPLUS make smarter decisions

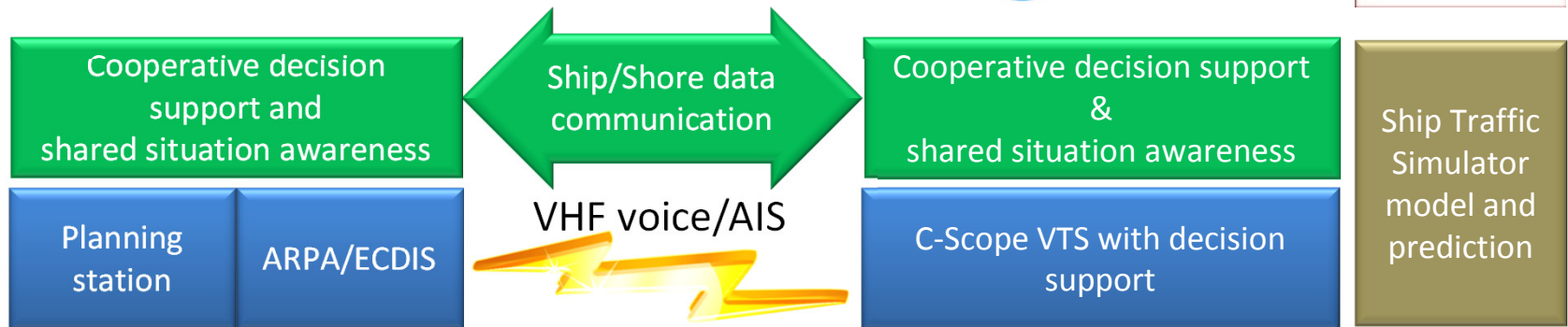| Cooperative decision support and shared situation awareness	Ship/Shore data communication	Cooperative decision support & shared situation awareness	Ship Traffic Simulator model and prediction
Planning station	ARPA/ECDIS	VHF voice/AIS	C-Scope VTS with decision support	

Shipping provided by International Chamber of Shipping (ICS)

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

SCOPE

SESAME Straits – Work Packages

WP №	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

SESAME Straits
e-Navigation
Intelligent Ship Traffic Management

WP 2 – Analysis of decision making (MSP)

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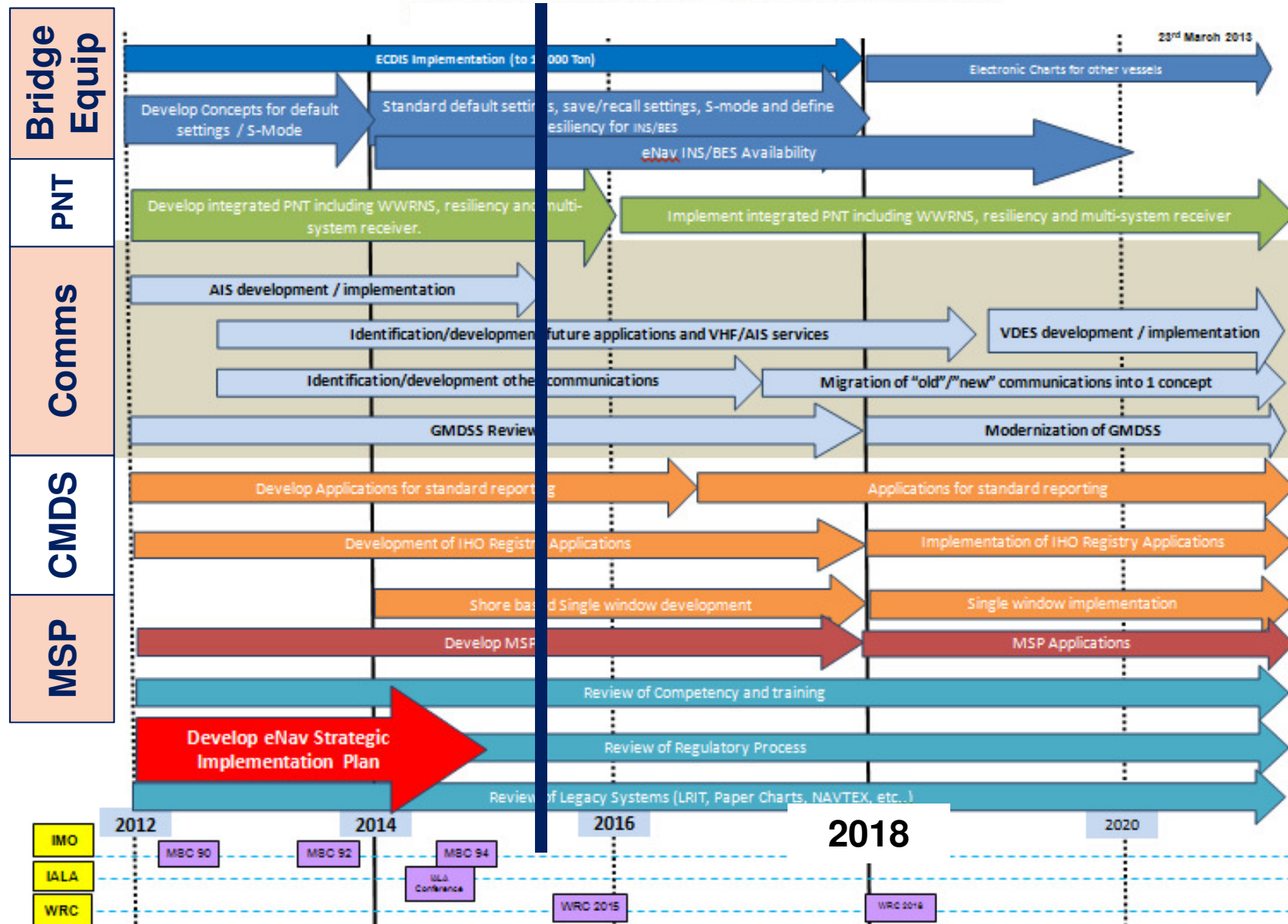
16. Search and Rescue (SAR) service

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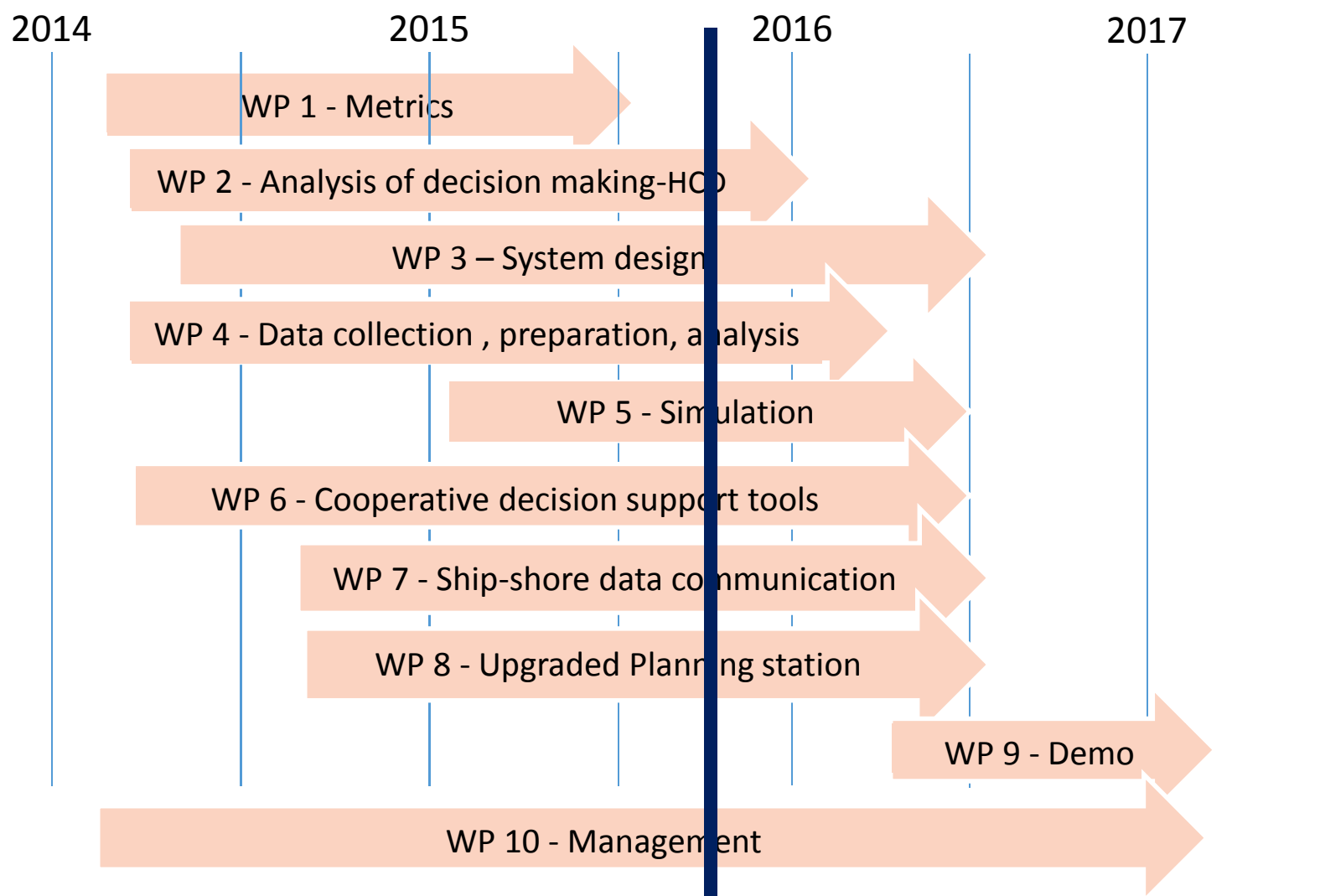4. Work Packages

5. Implementation Schedule

Today

IALA e-Navigation Committee - Roadmap

SESAME Straits — e-Navigation Intelligent Ship Traffic Management

Bridge Equip
- ECDIS Implementation (to 10,000 Ton) — 23rd March 2013
- Electronic Charts for other vessels
- Develop Concepts for default settings / S-Mode
- Standard default settings, save/recall settings, S-mode and define resiliency for INS/BES
- eNav INS/BES Availability

PNT
- Develop integrated PNT including WWRNS, resiliency and multi-system receiver.
- Implement integrated PNT including WWRNS, resiliency and multi-system receiver

Comms
- AIS development / implementation
- Identification/development future applications and VHF/AIS services
- VDES development / implementation
- Identification/development other communications
- Migration of "old"/"new" communications into 1 concept
- GMDSS Review
- Modernization of GMDSS

CMDS
- Develop Applications for standard reporting
- Applications for standard reporting
- Development of IHO Registry Applications
- Implementation of IHO Registry Applications
- Shore based Single window development
- Single window implementation

MSP
- Develop MSP
- MSP Applications
- Review of Competency and training
- **Develop eNav Strategic Implementation Plan**
- Review of Regulatory Process
- Review of Legacy Systems (LRIT, Paper Charts, NAVTEX, etc..)

2012   2014   2016   **2018**   2020

IMO — MBC 90 — MBC 92 — MBC 94
IALA — IALA Conference
WRC — WRC 2015 — WRC 2018

Summary

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

THANK YOU FOR YOUR ATTENTION

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