



# From testbeds to Implementation *e-Navigation hits reality*

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31 January 2017

*E-Navigation Underway International 2017*

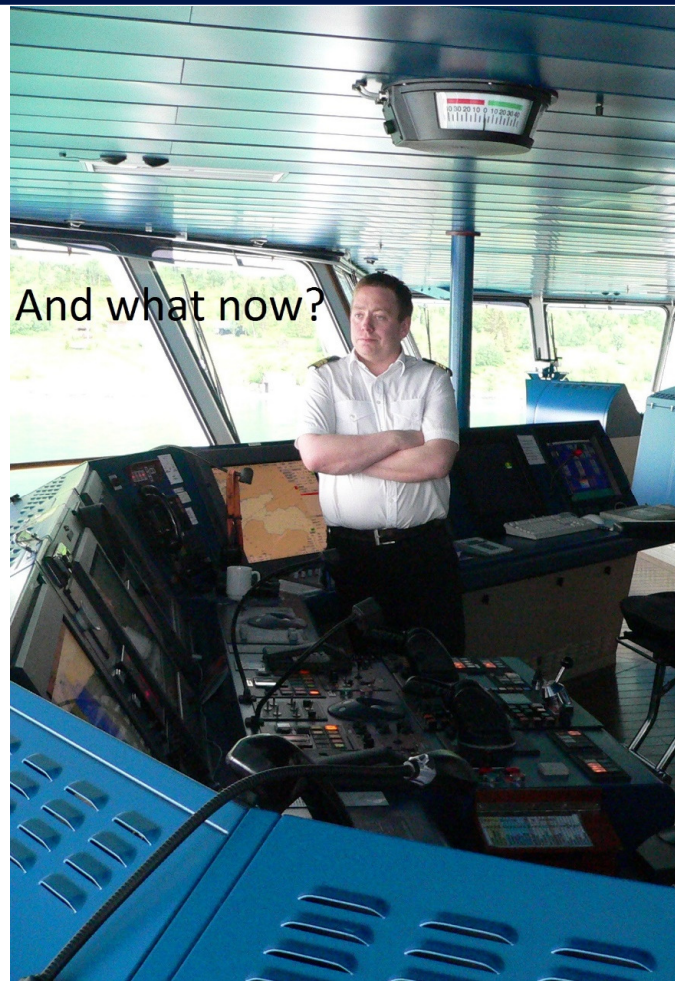
A flash back

# *e-Nav Underway*

*The journey 2011 to 2016*



# e-Navigation



And what now?

31 January 2017

*E-Navigation Underway International 2017*



# The e-Navigation Journey

Setting the Scene

Developing the Concept

Defining the Architecture

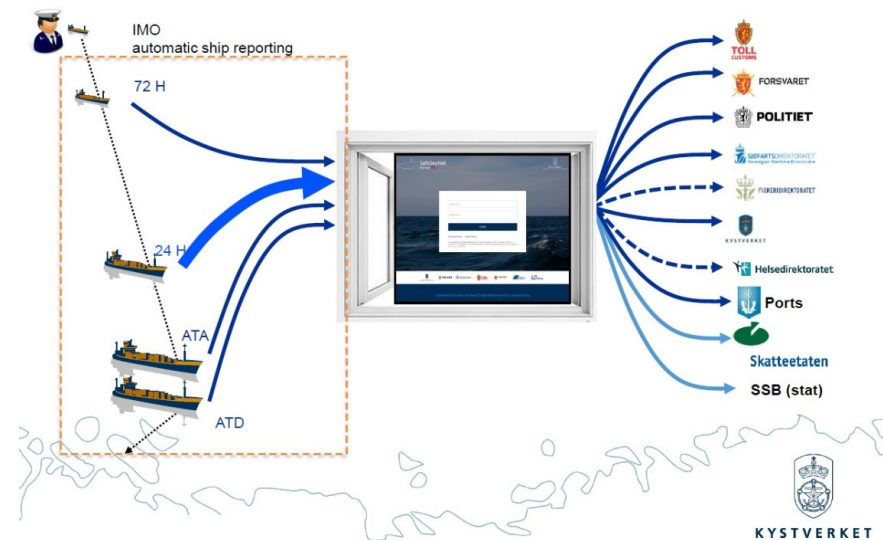
Testing the components

Next Stop:

Implementing Solutions

# Developing Solutions: Setting Standards and Guidelines

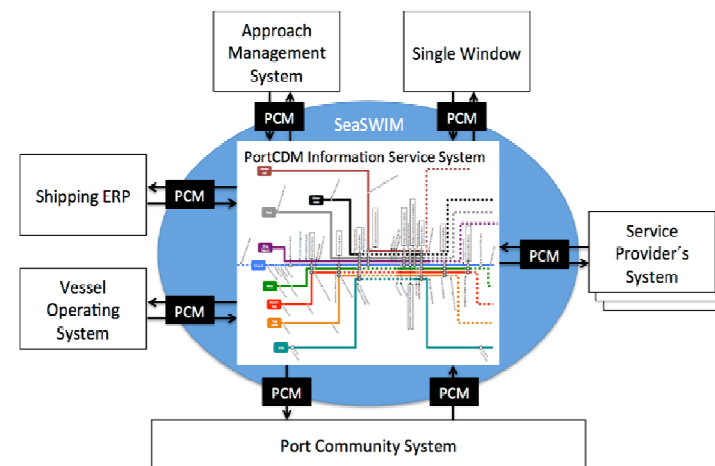
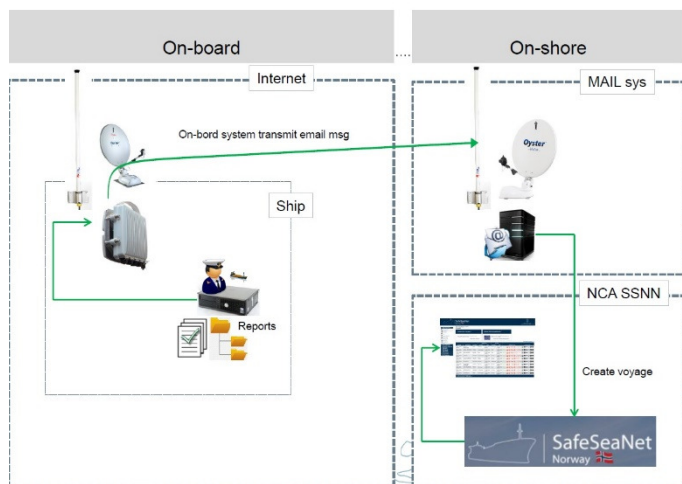
- IMO
  - ECDIS Mandate
  - Establishing the CMDS Concept
  - Software Quality and HCD Guidelines
- IHO
  - Increase ENC Availability
  - S-100 establishment
  - IHO GI Registry stabilisation
- IALA
  - Domain establishment
  - S-2xx development
- CIRM/BIMCO...
  - Software Updating Guideline
  - Cyber Security Guideline



# Implementation Projects

- European Union
  - STM Validation Project
    - With PortCDM
  - EfficienSea2
  - EPEDS (*Enhancing Port Efficiency through Digital Standardization*)

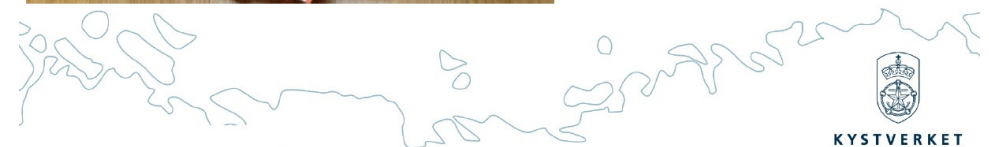
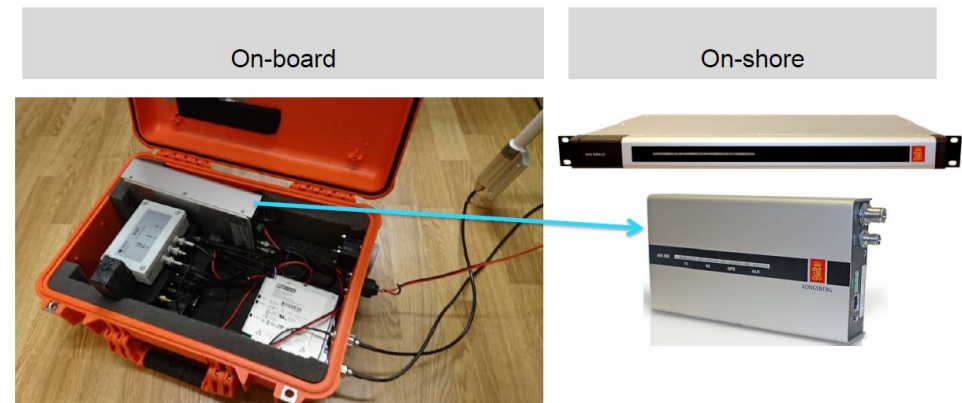
Automatic Ship Reporting



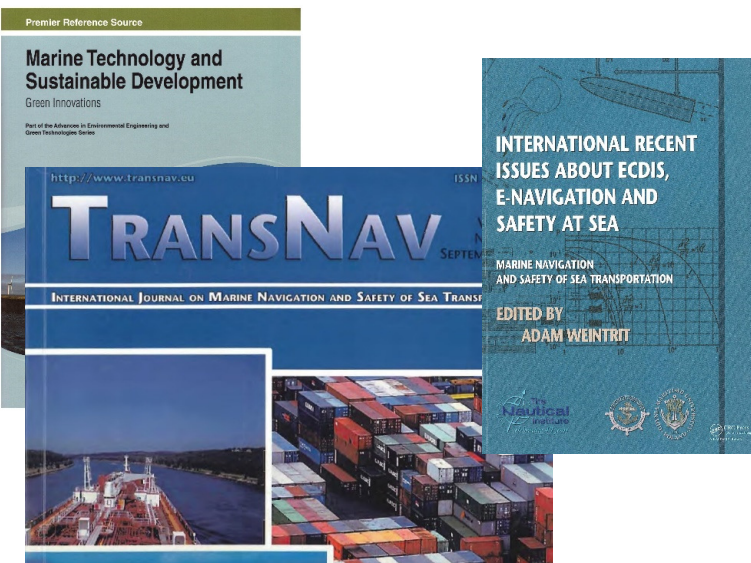
- International
  - SENA: STMS Implementation / SESAME
  - Korea: „Smart Ship“, „Smart Navigation“ and „Green Ship“ initiatives
  - Australia: UKCM in Torres Strait
  - Canada/USA: Saint Lawrence Seaway

# Implementing – And promoting it!

- Develop real Solutions  
Those that actually can be used
  - Use existing Infrastructure
  - Develop new Components
  - Utilizing IoT and Big Data



- Promote successful Implementation
  - Implement PR Strategy
  - Find Partners in Industry
  - Use Conferences:
    - E-Nav Underway North America
    - E-Nav Underway Asia





# Thank you!