



eNavigation and the Ship/Shore Coastal Relationships

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Definition

*“e-Navigation is the **harmonised 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*

IMO definition

What really is e-navigation?

- It's a highly coordinated workframe
 - reflecting a networked 21st century
- It merges communications with navigation and other functions

It concentrates on

- Making available high integrity information
 - From shore sources, eg ports, HOs, coastguards
 - From shipborne and remote navigation related sensors
- Simplifying reporting
- Optimising the human machine interface
- Maximising the respective strengths of humans and machines
- Minimising the respective weaknesses of humans and machines
- Increasing the safety, efficiency and environmental compatibility of shipping

We have had electronic navigation for years
e-navigation is very different

A Changing World

A growing demand for Coastal Domain Awareness, driven by:

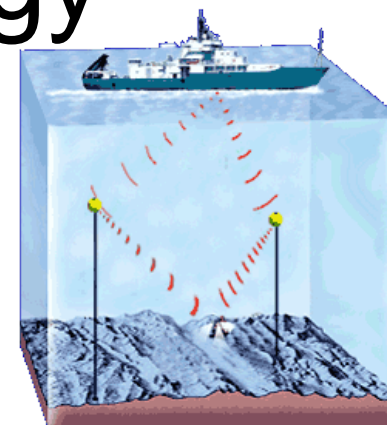
- Security,
- Environmental Protection
- Improved Navigational Safety
- Accountability
- Commercial Efficiency
- Incident Response Effectiveness
- Political Reactions
- Available Technologies



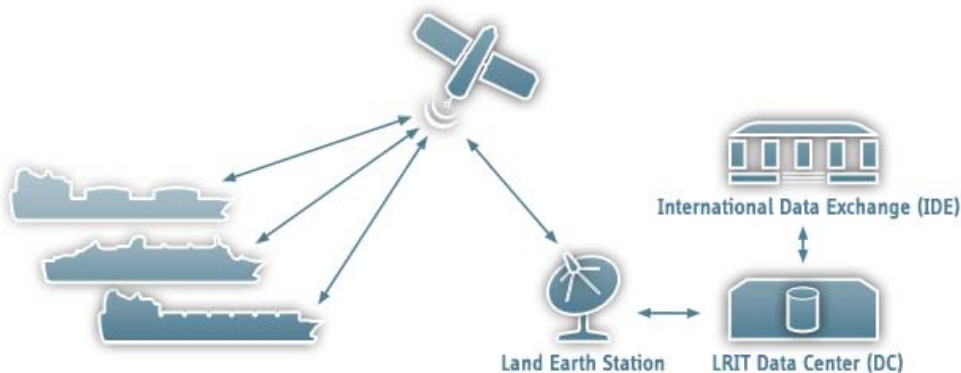
Technology



AIS/Radar Networks



Acoustic Transponders



LRIT



Satellite Radar

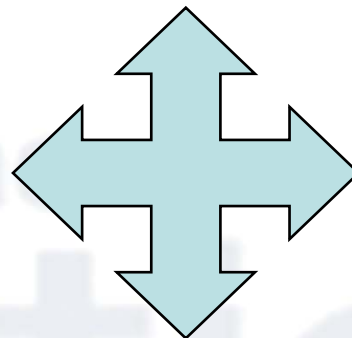
<http://www.sjofartsverket.se/en/MonaLisa/>

Early Stages

- Technology exists
- Legal issues under review
- Procedures to be agreed
- Training to be addressed
- Stakeholders to be involved
- User (ship/shore) Involvement



Relationships



Affect on Mariners?

- Provide Support
- Identify Hazards
- Ease congestion
- Slot Management
- Communication
- Changing Relationships
- ...NI SGCG Consulted





Support

- Better Ship/Shore teamwork?
- Ships must have the competence and authority to navigate safely.
- Ship's team must have the right info at the right time.
- Support decision making, avoid distraction.
- Shore personnel must understand ship operations e.g. reasons for deviation.

Hazard Identification

“Mariners are familiar with identifying hazards and should not be unduly reminded of them, particularly if they are charted, unless they are posing a significant risk. Of more importance would be the effective display of hazards, such as provided by Navtex in a clear graphical format on the ships ECDIS or Radar.”

Bunching & Congestion

- Useful advisory service
- Early warning to Stand by Engines
- Should be advisory service only
- Shore will need access to ship's voyage plans.



Slot Management

- Concept well received
- To be decided in collaboration with ship's navigation team
- Presumed that ship would retain control within agreed parameters
- Negate 'rogue vessels'.
- Concept will need further development in terms of operational and legal issues.



Communication

- Good communication essential!
- Procedure equally important to technology
- Alerts should be graded
- Enforce SMCP!
- Text vs. Voice debate
- Perhaps text could augment voice?



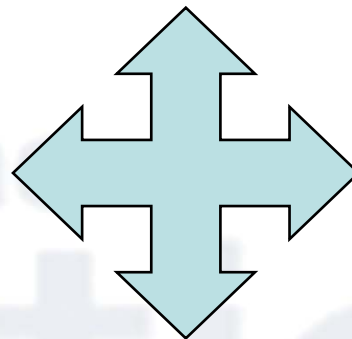


Relationships

- Wide area navigation team?
- Must co-operate to achieve a common goal
- Must have good interpersonal communication skills
- Must have mutual respect
- Role of integration.

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Relationships



Conclusion

- Anonymity is history
- Will monitoring lead to management?
- Bridge teams must be competent and in control
- Good teamwork relies on communication and respect.
- NI has leading role to play.





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appreciated!**

Thank You

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