

WWNWS 6

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E-nav... where are we going?

1. Where we were
2. Where we are now
3. Where we are going ...

E-nav... where we were



E-nav... where we were



Some statistics

- Cargo
 - 1970s 2,500m tonnes annually
 - Now over 8,000m tonnes annually
- Ships*
 - 1970s 52,000
 - Now 105,000

*100GT and above

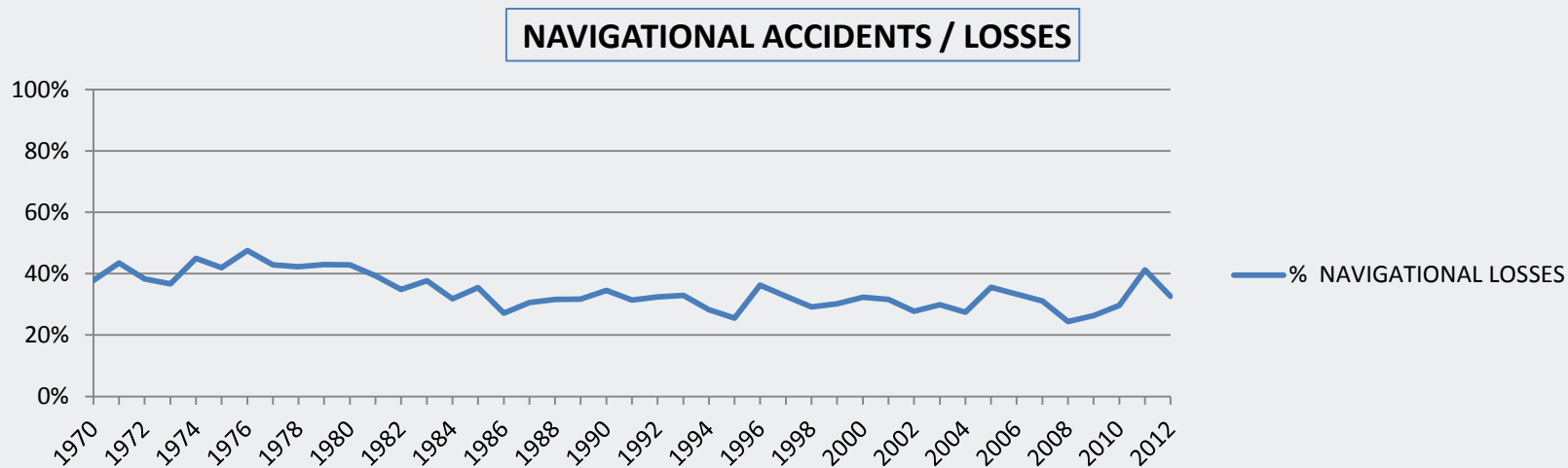
E-nav now...



- ECDIS
- AIS
- LRIT
- SART
- INS



Some more statistics



E-nav... where we were

- E-nav for the seafarer
- For safety at sea
- For efficiency/costs



E-nav... where we were

- VHF, MF and HF Radio
- Faxes
- Navtex
- Radio



E-nav... where we were

- Some satellite communications
- Broadband
- Mobile phones



A re-cap:

- MSC 81 in May 2006
- NAV & COMSAR
- IMO lead
- IALA, IHO et al

Some issues:

- Training and education
- User driven
- Correspondence group



Objectives:

- Minimize navigational errors
- Transmission and display of information
- Electronic formats
- Improve monitoring (and security)
- Reduce costs

Objectives met by:

- Common datum
- Up-to-date electronic charts
- Position fixing systems
- Integrated displays
- Data exchange

Progress made:

- IHO S-100 standard
- Resilient PNT systems
- Software quality assurance (insurance)
- Human-centred design

However ...

- 8 years
- Clarity
- Five priorities



Priorities:

- Bridge design
- Reporting
- Reliability
- Integration
- Communication

Based on:

- Seamless transfer of data between items of equipment on board
- Seamless transfer of electronic information/data between
 - ship/shore and vice versa
 - ship/ship
 - shore/shore

Guidelines on:

- Human centred design
- Usability evaluation
- Software quality assurance
- Harmonization of test-bed reporting

“e-navigation ?”

- Improved resilience
- User-friendly bridge design



E-nav ... where are we going

“e-navigation”

- Machines talking to each other
- Requisite standards
- Software assurance



Improving navigational safety

- S-mode
- Single display
- Better presentation
- More (less) data

Transfer of data

- Needed for navigation?
- Timely and **relevant** data
- Not just more data
- Information exchange = communications



Declaring victory

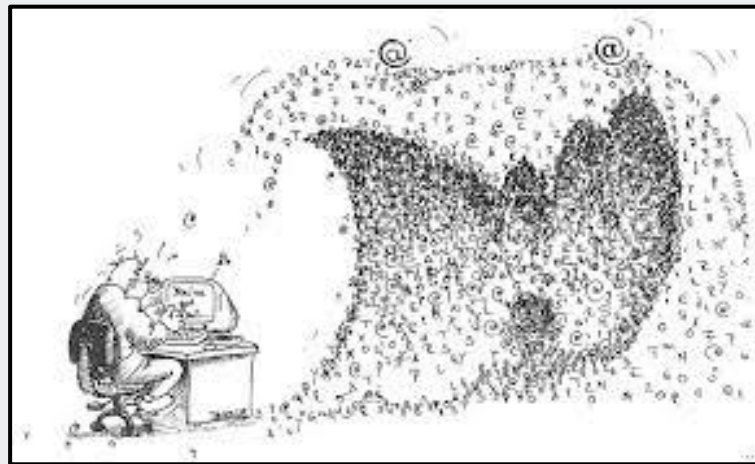


Some issues

- Volume of data
- Administrative burden
- Navigational data
- Need to have or nice to have?

Feeding the data monster:

- Efficiency needed
- WRC work
- High-speed data transmission
- On-going review of GMDSS



Electronic navigation

- Here to stay
- Software-based
- Training and education

Electronic navigation

- The equipment works
- Now we need to make the human work too

Thank you....



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