



# Impacts of e-Navigation

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# IMO e-Navigation Strategic Implementation Plan



- Five “solutions,” 7 Risk Control Options, 18 Tasks, 16 Maritime Service Portfolio descriptions, 4 draft guidelines, 27 sub-solutions and 1 outreach plan
- Many are not actionable
- Adoption of the plan this year ends the IMO work on e-Navigation as a topic

# U.S. Federal Government e-Navigation Involvement



- International Level – IMO, IHO, IALA, IEC, RTCM in a contributing role on e-Navigation supporting projects
- National Level – Interagency collaborations to continue national initiatives aiding mariners and to improve “back office” operations
- Agency Level – Advancing level-of-service for MTS within Agency areas of responsibility but mindful of e-Navigation aims

# Example NOAA Activities Supporting e-Navigation Aims



- S-100 family of data and product standards
- Unified symbology development
- S-57 to S-100 translator
- Electronic Navigational Chart distribution
- Portrayal of chart data accuracy
- Extension of service to the Arctic
- Electronic publications
- Los Angeles/Long Beach “test bed”



# Challenges With e-Navigation



- Lack of an integrating, actionable e-Navigation “thing”
- Harmonization is an attribute not a deliverable
- Solutions need to be suitable for global deployment

# Fruitful Areas of Work to Further e-Navigation



- Continued emphasis on standardization of data and information
- Communications – both capacity and accessibility
- Information fusion to decision-ready status
- Machine-to-Machine wherever practical
- More local experiments and “test beds”
- Back office operations, particularly interagency ones
- System usability and human factors



# Desired Impacts of e-Navigation



- Mariners have to worry about fewer things
- Mariners navigate ships rather than operate equipment
- Needed information is “just there”