VHF DATA EXCHANGE SYSTEM

Enhancing maritime communications in a digital world!

Jillian Carson-Jackson
IALA – EfficienSea 2 project
Evolution of connectivity

- How connected?
- What's required?
- Why connected?
- When NOT connected?
The Future of Maritime Information Exchange and Sharing
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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.
Requirements and use-cases

If you don’t get the requirements right, it doesn’t matter how well you do anything else.

-- Karl Weigers
Use Cases – building the requirements for VDES
Scenario - Telemedical

- Person injured or sick onboard / medical attention required
- Conversation with doctor ashore by voice via radio or phone

VDES could be used to:

- Transfer advice by text, avoiding misunderstanding of accents
- Transfer images, indication from medical equipment
- Information could be integrated and portrayed on systems onboard or ashore

http://aih-telemed.com/
IALA GUIDELINE

1117
VHF DATA EXCHANGE SYSTEM (VDES)
OVERVIEW

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Connectivity – where?

Areas of Operation

1. Port areas and approaches
2. Coastal waters and confined, or restricted, areas
3. Open sea and open areas
4. Areas with offshore and/or infrastructure developments
5. Polar Areas
6. Other remote areas
Connectivity – how?

• NAVDAT (development of NAVTEX)
• VDES (includes AIS, ASM, VDE-T and VDE-S)
• DSC (VHF, HF, MF)
• Digital VHF & HF
• Wifi
• 3G/4G (including WiMAX & LTE)
• 5G (expected 2020)
• Satellite (GEO; LEO)

Area of operation / Range?
Cost? (shore authority? User?)
Standard formats for data exchange?
Port and approaches

- VDES *
- 3G/4G (LTE)
- (Wifi)

Coastal waters / confined waters

- VDES *
- VHF (digital)

Offshore / infrastructure

- VDES *
- MF/HF (digital)
- Satellite

Open Sea / Polar / other remote areas

- VDES*
- HF (digital)
- Satellite

* VDES includes AIS, ASM, VDE-T & VDE-S
VHF Data Exchange System

- Digital data exchange capability on VHF
- ‘Groups’ bands of VHF spectrum
- Existing AIS Applications
- Data exchange – ship/shore; terrestrial/satellite
- Data exchange – manual / automatic / M2M
- Language independent communications
- Integrity monitoring, high level of availability
A next generation maritime digital communications system

www.iala-aism.org