MARITIME

Ship connectivity – how current developments in communication technologies may impact shipping

Based on:
Ship Connectivity: New position paper from DNV GL Strategic Research & Innovation, Maritime Transport Program (GGRNO911)
Drivers

From must have to ‘must have’

- Connectivity previously driven by regulatory requirements
- Now driven by business, vessel crews and passengers
Existing communication options

- Terrestrial radio
- MSS on L-band
- Terrestrial mobile
- VSAT
Boom! As connectivity demand rockets, VSAT vessel installations shoot skywards

Source: The COMSYS Maritime VSAT Report
4th Edition http://www.comsys.co.uk
....and so does the network capacity ....

The connectivity boom is enabled by next generation VSAT systems

- Inmarsat GX 2015 5/50 Mbps
- Intelsat EpicNG 2016 x10 existing sat
- Iridium Next 2016 1.4 Mbps
- O3B 2014 500 Mbps
- Telenor’s Thor VII 2015 2-6/>10Mps
- Telesat Vantage2 2016
- WorldVu’s OneWeb 2019/20
- SpaceX 2020

Increased capacity
Higher data throughput
More competition
Reduced price/bandwidth
Other trends and innovations ......
How can ship connectivity enable new applications?
Enabling applications: welcome to a world of possibility

- Vessels already collect data
- Sharing that data onshore will create new applications

New applications
- Condition monitoring
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New applications
- Condition monitoring
- Autonomy & Remote control

Source: http://www.dailymail.co.uk/sciencetech/article-3412480
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**New applications**

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- Remote diagnostics & maintenance

DAQRI’s smart helmet - www.daqri.com
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- VTS / e-Navigation

Source: DMA
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New applications
- Condition monitoring
- Autonomy & Remote control
- Environmental monitoring
- Safety applications
- Remote diagnostics & maintenance
- VTS / e-Navigation
- Risk based classification & surveys
- Energy efficiency optimisation
- Applications we haven’t yet thought of
Everyone’s a winner: Connected ships benefit all industry players and promote transparency

- Ship owners and operators
- Crew
- Yards and equipment vendors
- Marine authorities and regulators
- Classification societies
- Charterers and cargo owners
- Insurers
- Communication operators/vendors
- Academia
- New players
...but, with all new opportunities comes challenges

- Capacity limitations
- Reliability
- System integration
- Data quality
- Cyber security
- Lack of standards
- Legal and commercial
Conclusions

- The era of ship connectivity is here
- New applications will be enabled
- New opportunities will be created

- Download DNV GL’s Position Paper “Ship Connectivity” at www.dnvgl.com
Thank you for the attention!

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www.dnvgl.com

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