

AIMU Marine Insurance Day 2017

Autonomous Vessels: A Future of Unmanned Vessels Imagined Ready or not - here they come!

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The Five W's of Autonomous Vessel Development

- The Who includes: Rolls-Royce, Inmarsat, Wartsila, Norsafe, Kongsberg
- Significant Financial Gain in play for stakeholders.
- Headlines sound a lot like ads at times.
- Is there a real need, or could this technology be better utilized to make current ships safer?



The What of Autonomous Vessels

- It is more than semantics – Autonomous vs. Automated.
- Autonomous - self-governing.
- Automated – to install automatic procedures.
- SAE (J3016) Autonomy Levels (Automotive) – 0 to 5.
- Lloyd's Register's ShipRight design - six autonomy levels: AL 1 through AL 6.



When & Where: Change is coming to a Fjord near you.

- Trondheimsfjorden - ASTAT - Autonomous Ship Transport at Trondheimsfjorden
- The goal is to develop **methods for assessment** of autonomous ship transport systems.
- Distances are between 80 and 90 kilometres for all cases (43 to 48 nautical miles). This is about 8 hours at 6 knots. The routes are in sheltered waters without excessive waves or currents. The project will run until March 2019.
- <http://nfas.autonomous-ship.org/projects-en.html#H3>

The Why of Autonomous Vessels.

- Safety, Emissions, Manpower Shortage...or
- Cost Savings & Revenue Production
- According to Allianz Global Corporate & Specialty, between 75% and 96% of all accidents in the shipping sector can be attributed to human error.
- Let take a different view on that figure – not “get rid of the Human Element, eliminate the loss” but “There are so many areas where Human Interaction is needed to operate a modern ship”.



The How of Autonomous Vessels.

- Challenges of developing and testing autonomous maritime technology.
- Addressing the reliability of onboard systems to even support this type of operation.
- Reliability of Satellite Communications.
- Deterioration of systems – maintaining accuracy.
- SOLAS - PRINCIPLES OF MINIMUM SAFE MANNING.



The Questions of How

- This is about so much more than the COLREGS.
- Interaction with Manned Vessels.
- Arrivals & Departures.
- Choke Point Transits / will Pilots now be needed?
- How many remote operators will be needed?
- Vessel manning is based around the number of crew you need when things go wrong.

Summary

If you want to make ship's safer and address human error, let's talk about:

1. Manning Levels
2. Pay Scales
3. Training
4. Work Schedule

Progress is impossible without change, and those who cannot change their minds, cannot change anything.

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