Contribution ID: **146** Type: **Paper**

Assessing business cases for autonomous and unmanned ships

Wednesday, 20 June 2018 16:30 (15 minutes)

Public interest in autonomous ships has grown significantly since 2012, when the MUNIN project started to investigate the concept. In 2017, the first concrete project, Yara Birkeland, was published. Other projects are also under development. However, the business case for autonomous ships is not obvious: Benefits are no crew cost and no accommodation section or safety equipment for crew. However, it requires expensive shore infrastructure, it cannot be maintained during the voyage, needing more redundancy and often more expensive fuels than the normal heavy fuel oil, and the approval process may be costly. This may be the reason why several projects, like Yara Birkeland, is not initiated by the conventional ship owners, but by other parties in the supply chain, like the fertilizer manufacturer Yara. This illustrates one aspect of autonomous and unmanned ships: They are much more an integrated part of a transport system rather than a ship as we know them. This paper will go through the most important benefits and cost factors for autonomous and unmanned ships and assess what business cases may be suitable for this technology: "An unmanned ship is not a ship without crew – it is a new factor in waterborne transport".

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Session Classification: Ship Digitalization and Unmanned Vehicles

Track Classification: Ship digitalization, unmanned vehicle and cyber security