Automation in Short Sea Shipping from a safety perspective

The RBAT study

Shaping the future of European Short Sea Shipping: Autonomous & Automated technologies, 28 April 2021
Sifis Papageorgiou, Senior Project Officer
2.1 Safety and Security
“There is a growing interest in various applications of automation, among which may be mentioned:
(a) Propelling machinery;
(b) auxiliary machinery;
(c) cargo handling;
(d) navigation and direction;
(e) communication;
(f) other miscellaneous applications.”
Why autonomous or automated?

Aspirations of

- Improved safety;
- Improved sustainability;
- Financial benefits

Is it safe enough? How do we prove it?

- EMSA’s activities on MASS
- The Short Sea Shipping case
EMSA’s main activities on MASS

- SAFEMASS study
- Working on appropriate digital services
- Involved in the RSE on behalf of the EC
- Working on appropriate competencies for RCCs
- Working on cybersecurity issues
- Assisting the EC on the operational guidelines on MASS trials
- RBAT study
Risk based assessment tool (RBAT): 

Risk assess whether introduction of increased or new ways of using automaton is as safe or safer than conventional shipping.

RBAT is conducted by DNV and is separated in 3 parts:
1. Develop the framework for the tool (end 2020 - mid 2021)
2. Develop the first version of the tool with limited functionality (mid 2021 - mid 2022)
3. Develop the complete version of the tool (mid 2022 - mid 2023)
Two approval phases foreseen, RBAT to fit into preliminary approval phase;

Non binary outcome, ambition to identify risks and issues

Facilitate “assessing the assessment”
RBAT framework and tool overview

Framework
- Multi-level function map
  - Operational modes and context
  - Ship type
- Use of automation
  - Human involvement
  - Automation mode
  - Operator location
  - Etc.
- Risk model
- HAZID/ Risk acceptance criteria
- Societal risk
- Individual risk

Tool
- Concept of Operations
  - Functions
  - Sub-functions
- Auto-remote solution
- Function failure and recovery analysis
- Risk evaluation/ ALARP
- Equivalent safety
The main priority areas of the EC for SSS:

- Administrative simplification.
- Support industry in picking up new technologies for complying with new and stricter environmental legislation.
- Integration of short sea shipping in full logistics chains.

Can MASS be the answer?
Final remarks

EMSA to continue working on supporting EU MS and the EC on MASS;

RBAT expected to standardise the early stages of the approval process of MASS concepts;

SSS is going to be the first field of application of advanced automation

Automation is the means, not the goal
Thank you!

twitter.com/emsa_lisbon
facebook.com/emsa.lisbon