SEAMLESS

IDIT

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INSTITUTE OF INTERNATIONAL LAW FOR TRANSPORT, LOGISTIC, MOBILITY AND NEW ENERGY

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INNOVATION & TECHNOLOGY ⇄  ⇄ LAW & REGULATION

✓ **Legal and Regulatory Framework Analysis**
Analysis of applicable legal and regulatory regulations
Identification of gaps, risks and barriers

✓ **Support to Innovation, Pilots, and Experimentation**
Legal support to pilot activities and experimental operations

✓ **Policy Development and Dissemination**
Policy-oriented recommendations
Dissemination of results through publications, conferences and webinars

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IDIT CONTRIBUTIONS TO **SEAMLESS**

COMPARATIVE LEGAL & REGULATORY ANALYSIS

Comparative analysis of existing international, EU and national legal frameworks

Identification of regulatory gaps, risks and barriers

Development of a roadmap of legal and policy recommendations

👉 **Providing foundations for autonomous waterborne transport**

SKILLS, COMPETENCES AND LEGAL IMPACTS

Analysis of legal impacts on crew composition, skills and qualifications

Assessment of training, certification and responsibility frameworks

Support to the safe deployment of autonomous services

👉 **Anticipating legal and human impacts of automation**

POLICY SUPPORT & DISSEMINATION

Contribution to policy-oriented roadmaps and recommendations

Support to regulators and public authorities

Participation in dissemination activities (events, workshops, webinars)

👉 **Bridging project results with policy and decision-makers**

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SEAMLESS

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The automated ship : A ship like any other?

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INTRODUCTION

Value of European regulations in the French legal system

Kelsen pyramid

International sources

Text requiring ratification (or approval) to enter into force in national law.

International treaty
(Non-EU)

European law

Binding acts

European regulation

Text **directly applicable** in national law as soon as it enters into force.

No possibility of modification by national law

European directive

Text requiring **the adoption of a law** in national law to enter into force

Subject to conditions by national law

Non-binding acts (resolutions, guidelines, IMO opinions, etc.)

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INTRODUCTION

Birth of international maritime law

Convention for the Safety of Life at Sea,
« SOLAS Convention », 1918

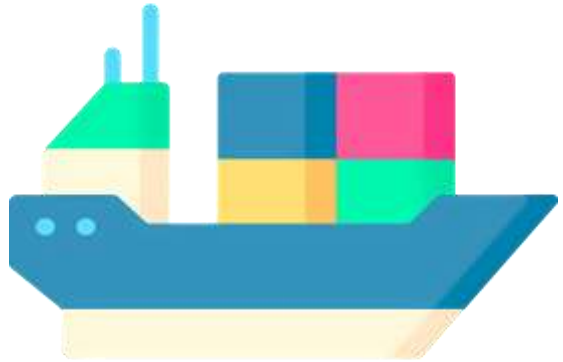
A ship is :

- **1924 Brussels Convention (art. 1, d)**

Ship" means any vessel used for the carriage of goods by sea".

- **Directive (EU) 2022/993 of the European Parliament and of the Council of 8 June 2022 on the minimum level of training of seafarers**

"seagoing ship": a ship other than those navigating exclusively in inland waters or in waters situated within or in close proximity to sheltered waters or areas where port regulations apply.



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1. Qualification of the automated ship

International definition

- « *Autonomous surface ship* »
- Non-binding act

[Results of the regulatory definition exercise for the operation of autonomous surface ship](), 3 June 2021

- Degree 1: The ship has automated processes and decision support.
- Degree 2: The ship is remotely controlled with seafarers on board.
- Degree 3: The ship is remotely controlled without seafarers on board.
- Degree 4: The ship is completely autonomous.

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1. Qualification of the automated ship

International definition


TECHNICAL SPECIFICATION

ISO/TS 23860

Ships and marine technology — Vocabulary related to autonomous ship systems

- ISO standard = technical recommendation
- ISO standard = voluntary application (not compulsory)
- The ISO standard becomes mandatory if it is incorporated into a law

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1. Qualification of the automated ship

National definitions

- FRANCE

*« [...] a **ship operated remotely** or **by its own operating systems**, whether or not there are seafarers on board ».*

- BELGIUM

*« [...] a seagoing ship capable, for all or part of its voyage, of **sailing without human intervention or sailing under remote control ».***

- NORWAY

*« [...] ships that are to be **autonomous**, and **fully or partially remotely operated ».***

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1. Qualification of the automated ship

Qualification of the ship envisaged in the SEAMLESS project

ASKO MARITIME

This is a "*self-driving electric vessel (maritime drone) with a connected port infrastructure that transports trailers and containers without a car or driver*".

Problem of legal qualification :

- Is it an automated ship if there is no crew or if the crew is operating at a distance ?
- Is it a drone?

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1. Qualification of the automated ship

Seaworthiness criteria

Seaworthiness: (≠ registration conditions for the pavillon)

- Ship suitably armed and equipped (Brussels Convention, art.3)

FRANCE

Article L. 5000-4 of the Transport Code: *material, administrative and human resources required for the* planned *maritime activity*

NORWAY

National law: Seaworthiness replaced by the concept of "safety".

BUT Norway is part to the Brussels Convention so the ship must be suitably armed and equipped.

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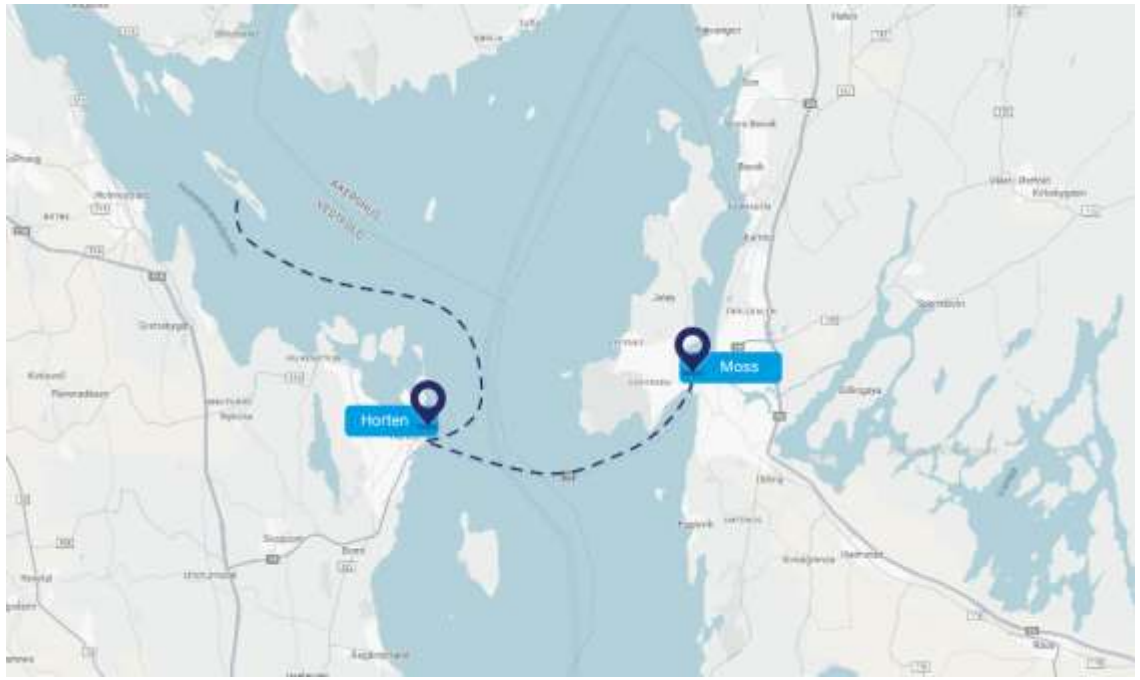
1. Qualification of the automated ship

Seaworthiness criteria



Experimentation: Norwegian law

Outside experimentation: example of the application of French regulations

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2. The existence of a Master

Experimental traffic in Norwegian territorial waters

In international law :
« Master »: the person in command of a ship.

NORWAY :

- The Master is considered a member of the crew
- There is no definition of an autonomous ship's Master.

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2. The existence of a Master

Circulation in French territorial waters outside the experiment.

The Master of a ship :

"the captain or any other person exercising de facto command of the ship".

(article L. 5511-4 of the French Transport Code)

The person in remote command of an automated ship (Degree 3 IMO)

"When the persons involved in the operation of an autonomous ship, (…), are seafarers, they are considered to be on board ".
(article L. 5511-3-1 of the French Transport Code)

IMO, report of May, 2nd 2023 (not legally binding)
A Master of an autonomous surface ship **should always be on board** "***if crew members or other persons are on board*** *the ship, to ensure their safety*".

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3. The existence of a crew

Experimental traffic in Norwegian territorial waters

In international law :
principle of minimum safety staffing levels

NORWAY :

- No specificity for automated ship / the circular is a technical guidance
- Compliance with international and national regulations
  - ➢ for example : Regulations of June 18th 2009 No. 666 on the manning of Norwegian ships

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3. The existence of a crew

Circulation in French territorial waters outside the experiment.

« Every ship shall be manned by a sufficient number of seafarers with a sufficient level of professional qualifications [...] » (Article L. 5522-2 of the French Transport Code)

- Sufficient crew
  - Minimum workforce set by the shipowner.

- A skilled crew
  - Status of persons operating at a distance who do not have maritime vocational training qualifications ?

Autonomous ship :
« The human resources of an autonomous ship may not be embarked in whole or in part ».
(Article L. 5000-4 of the French Transport Code).

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CONCLUSION

- Automated ships are, in, principle, ships like any other
- Existing maritime law largely applies, but was not designed for automation
- Remote operation is not prohibited, but raises unresolved legal questions
- The Master remains responsible, regardless of the mode of operation
- The MASS Code will provide a progressive and experience-based framework
- International harmonisation remains essential

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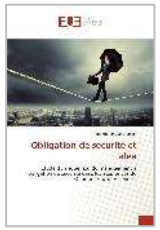

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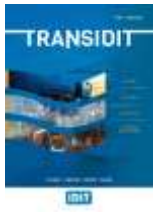

TRAINING

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