

# Unmanned Ships – Legal Challenges

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**Sjöfartsseminarium 2018**

**Transportstyrelsen**

**Liljeholmen, Stockholm**

7 February 2018

# Outline

1. **General**
2. **Current regulatory challenges**
  - Law of the sea
  - Technical rules (IMO)
  - Liability (tort/contract)
  - Other issues
3. **On-going regulatory work**
4. **Concluding remarks**

# General

1. **Mainly international perspective**
2. **Terminology/definitions**
3. **Level of autonomy determines level of challenge (not static)**

# Scandinavian Institute of Maritime Law

	<b>Jurisdictional rules</b> (main target: states)	<b>Technical req. and standards</b> (main target: flag states)	<b>Private law issues</b> (main target: shipowner and commercial partners)	<b>Other rules</b> (Criminal, social, commercial, public law etc.)
<b>Global (UN)</b>	UNCLOS			
<b>Global (IMO&amp;ILO)</b>		SOLAS, MARPOL, STCW, COLREGS, MLC		
<b>Global (IMO, UNCITRAL, CMI etc.)</b>			Private law conventions on e.g. liability, limitation, arrest, carriage of goods, salvage, etc.	
<b>European Union</b>		Ship safety directives & regulations  Limitations on exemptions	Product liability rules, insurance requirements  Rules on competent jurisdiction and applicable law	Several issues covered by EU Treaty & legislation
<b>Nordic states</b>			Nordic Maritime Codes, Nordic marine insurance terms	
<b>National (Finland)</b>		National implementing legislation, discretion of flag state administration (Trafi)	Finnish Maritime Code 674/1994, other specified acts on liability, insurance etc.	The entire legislation applies <i>a priori</i> for ships flying its flag

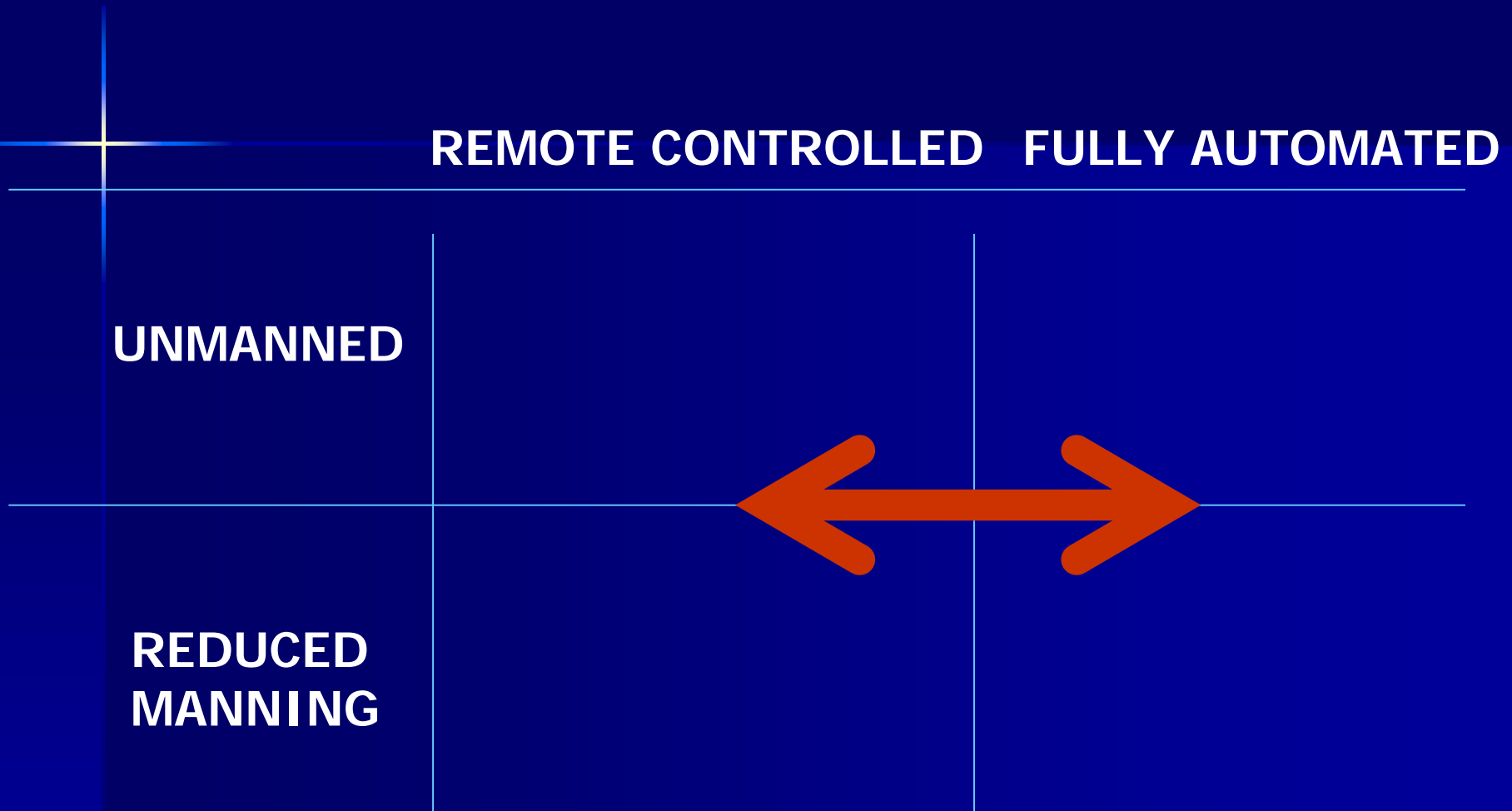
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# On the type of challenge

	REMOTE CONTROLLED	FULLY AUTOMATED
UNMANNED		
REDUCED MANNING		

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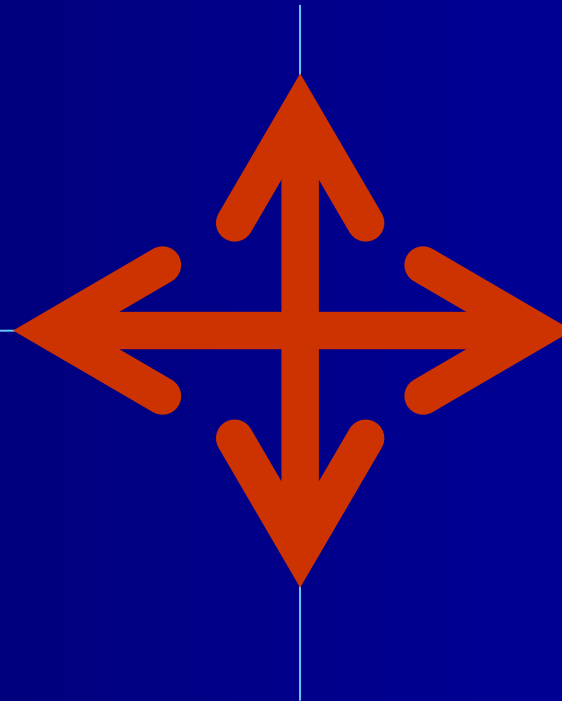


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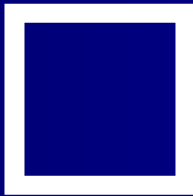
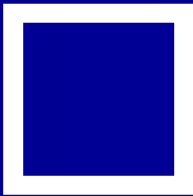
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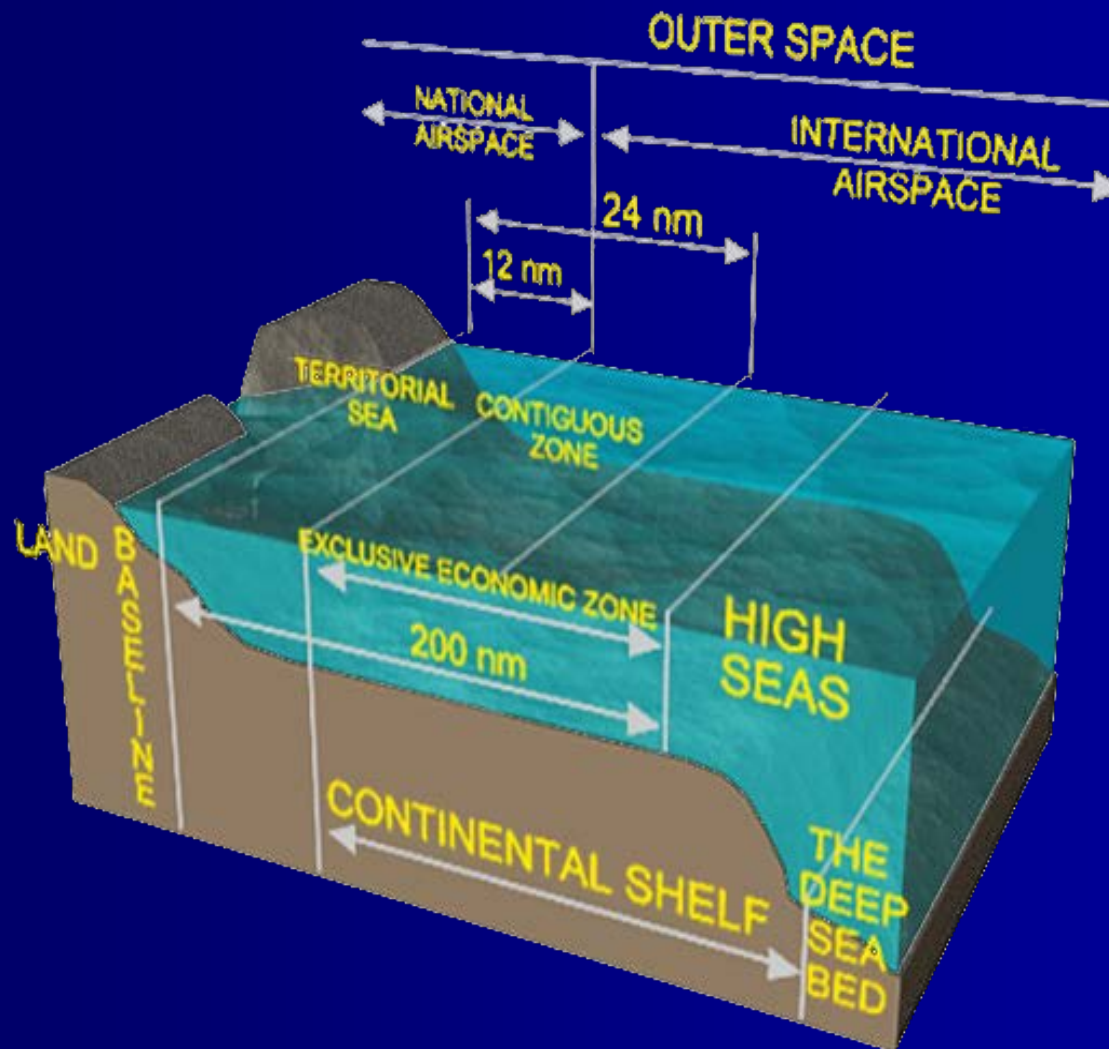




# On the nature of the challenge

	REMOTE CONTROLLED	FULLY AUTOMATED
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# Law of the sea



# Vessels/ships?

- UNCLOS
- IMO Conventions
- National law
- Conclusion
- Implications



# Article 94 (Duties of the flag State)

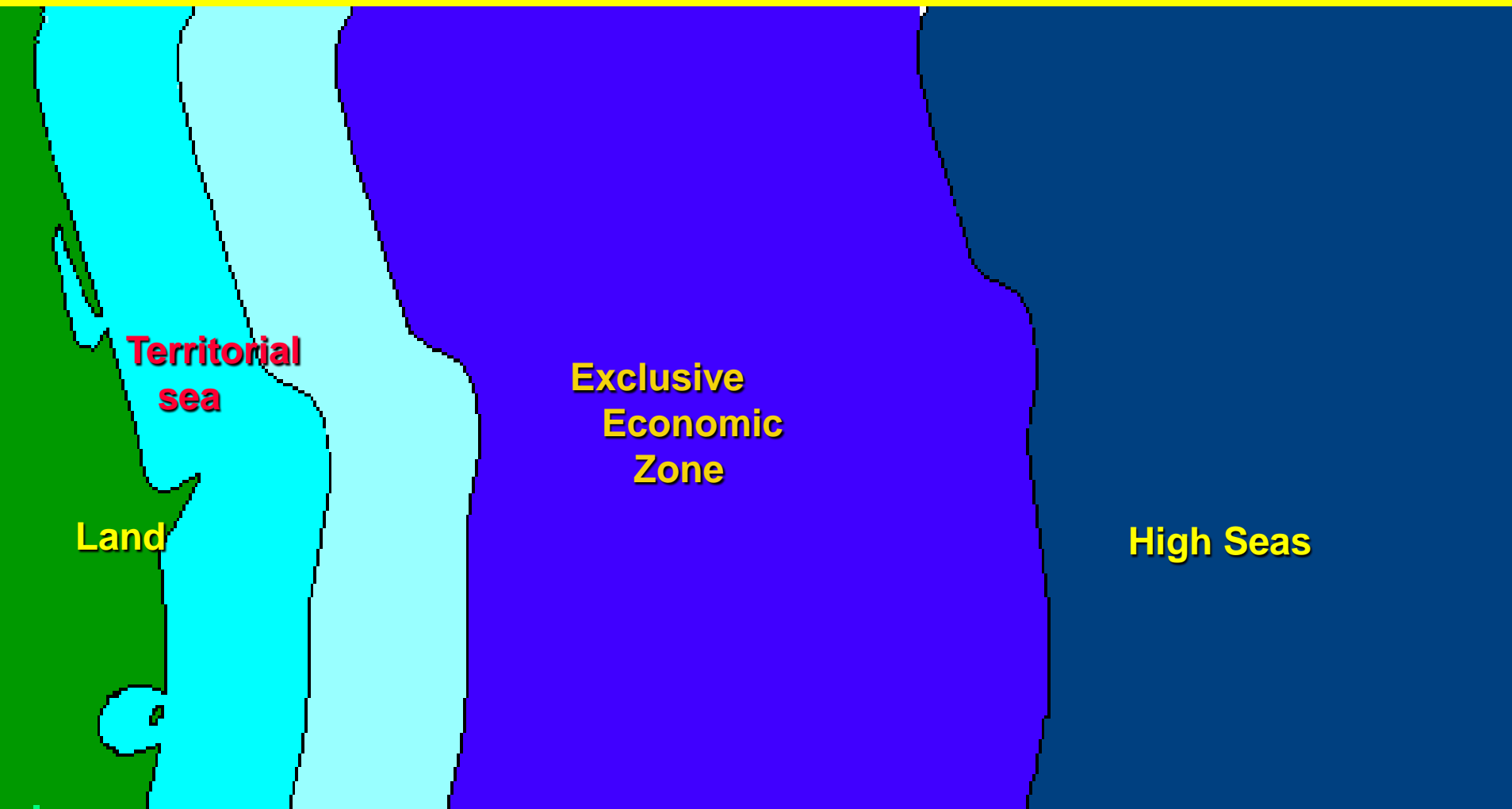
3. Every State shall take such measures for ships flying its flag as are necessary to ensure safety at sea with regard, inter alia , to:

**(b)** the manning of ships, labour conditions and the training of crews, taking into account the applicable international Instruments;

4. Such measures shall include those necessary to ensure:...

b) that each ship is in the charge of a master and officers who possess appropriate qualifications, in particular in seamanship, navigation, communications and marine engineering, and that the crew is appropriate in qualification and numbers for the type, size, machinery and equipment of the ship;

5. In taking the measures called for in paragraphs 3 and 4 each State is required to conform to generally accepted international regulations, procedures and practices and to take any steps which may be necessary to secure their observance.



# Coastal & Port States

## ■ EEZ

## ■ Territorial sea

- Right of innocent passage
- Straits used for international navigation
- Other risks? (Cf. nuclear-powered ships or ships carrying other inherently dangerous or noxious substances)

## ■ Ports & Internal waters

- No general right of access to foreign ports
- Conditions for access (arts 25(2), 211(3), 255)
- Limits may be placed by treaties (IMO, WTO etc., but also bilateral ones)
- Limits places by general principles ('reasonableness' criteria: non-discrimination, proportionality, prohibition of abuse of right etc.)
- Potential hurdle for unmanned ships, but not unique to such ships

# Technical rules



- Usually laid down in the form of functions to be performed
- SOLAS
  - Exemptions, equivalences
  - V/14 Safe manning
- COLREGs:
  - Lookout (Rule 5)
  - Decision-making (Rule 2)
- STCW, MLC
- Practical issues (documentation, PSC, salvage, pilotage?)
- International foundation needed (possibly in a 'soft law' format)



# Private maritime law (National variations)

- Who is liable?
  - Usual starting point: shipowner is liable
  - Broad range of helpers covered
- For what acts/omissions is liability triggered?
  - What is fault in an automated context?
  - Strict liability in environment, pax
  - Collision rules
- New players → new types of liability (e.g. product liability)
- Insurance







# 3. On-going regulatory work

## ■ IMO

- MSC 99 – Scoping exercise
- LEG 105

## ■ CMI

- Questionnaire
- Review of conventions

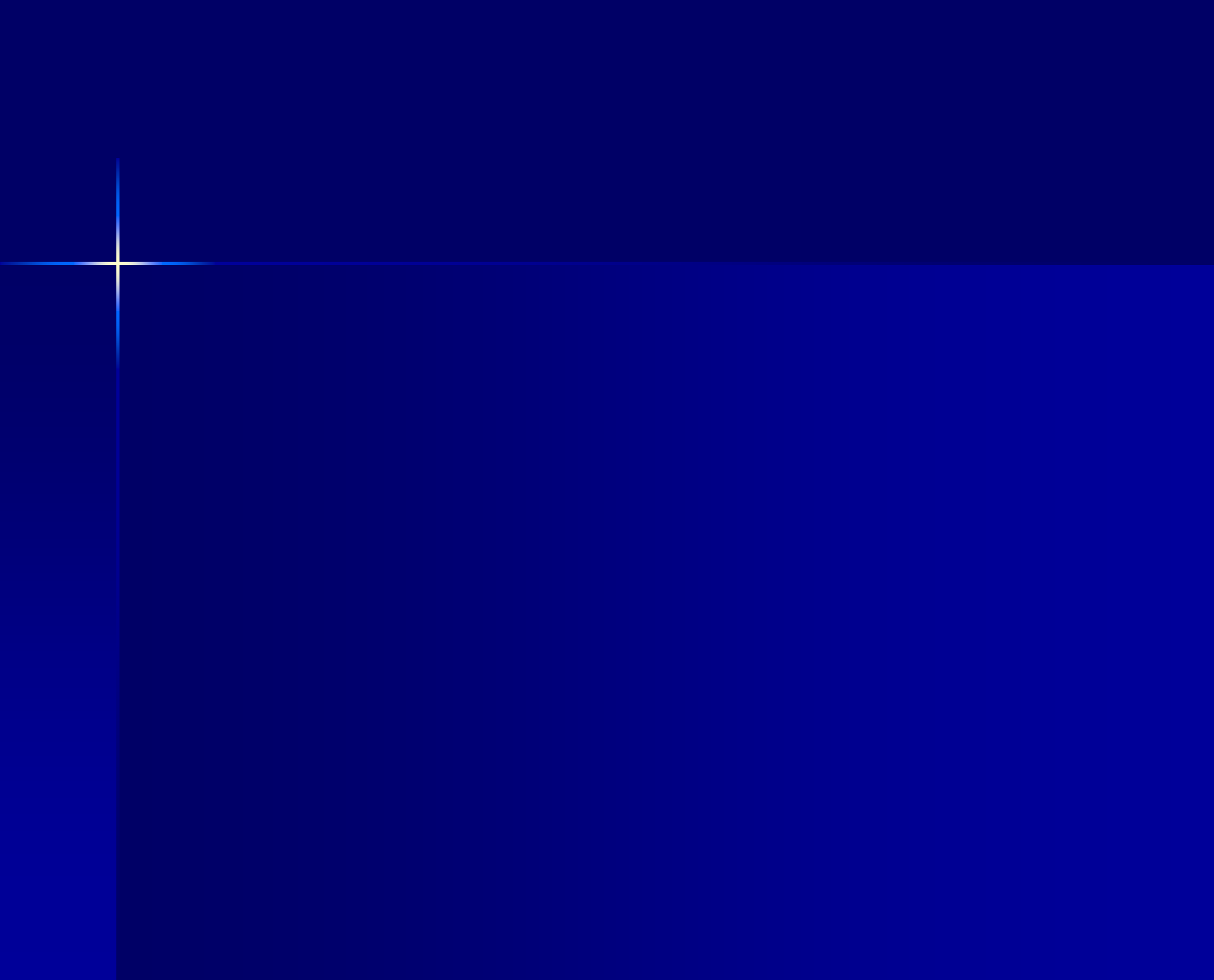
## ■ National level

- Flag states in particular
- OneSea, NFAS, UKMIA, DK

## ■ R&D projects, academia (e.g. AAWA, D4V)

# Summing up

- Degree of automation are important for scope of legal challenge, so is presence of passengers
- In general: few direct prohibitions, flag state is key and has wide discretion if satisfied about safety
- Generally, the key lies in the IMO layer, the other rules will follow
- Liability rules seem to require less immediate amendments
- Laws can always be changed if there is political willingness for it, but it takes time



# On legal benefits

- **What do we mean by legal benefits?**
  - **Integration into current legal scheme would be a main benefit compared to current uncertainty**
  - **Benefits in comparison to manned ships: different implications in different fields of maritime law**
- **Are legal benefits for unmanned ships desirable?**  
**(E.g. Colregs, liability)**

# Potential future legal benefits

- **The most obvious legal benefits tend to be ‘post-event’ (fact-finding etc.)**
  - a. **Traceability (proof)**
  - b. **No contradictory statements or lies to save one’s own skin**
  - c. **No emotional decisions, hidden motives, little discretion in decision-making**
  - d. **No language problems in investigations**
- **Transparency and focus on rational decision-making may have longer-term implications**

# Concluding observations on legal benefits

- Unmanned ships involve series of general benefits (safety, economy, environmental, practical etc.)
- But, neither realistic nor desirable to expect significant legal benefits from operating them, at least short-term
- Integrating them into current maritime legal framework is already a challenge and would represent a significant achievement
- The short term legal benefits are mainly in the field of investigations and *ex post* fact-finding
- In the longer term,
  - Compliance, implementation
  - Optimised liability rules
  - Smoother harmonization of international rules



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