



Ministerie van Infrastructuur  
en Waterstaat

# Allowing unmanned ships in Dutch inland waters

Patrick Potgraven





# Allowing USV's is desirable

- › Little risk, thanks to:
  - Limited size and weight
  - No people aboard
- › Contribution to sustainability and safety
- › Fantastic way to gain experience in unmanned sailing
  - It must obey traffic rules
  - It must act as a normal ship



# Binnenvaartpolitiereglement: “the skipper should be on board”

The skipper and the helmsman are the central figure for (a.o.):

1. Being responsible to follow the traffic rules
2. Coping with traffic management instructions
3. Communicating with other traffic participants
4. Being a voyage memory recorder
5. Etc.

## Artikel 1.02. Verantwoordelijkheid voor de naleving van het reglement

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De schipper moet tijdens de vaart aan boord zijn; de schipper van een drijvend werktuig moet tevens aan boord zijn, wanneer het werktuig in bedrijf is.

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# Adaption of the Binnenvaartpolitiereglement to allow exemption for specific articles

- › Article 1.26 to be introduced in March 2025
- › General conditions in a ministerial regulation
- › Exemptions must be judged upon by the fairway authority
- › Framework for assessing exemption requests will be provided



## Possible thanks to the BPR change:

- › Making it possible to sail without people on board:
  - Relevant for < 20 meter vessels (USV's) because
  - Technical rules do not apply\*
  - Manning rules do not apply\*\*
  
- › Giving the skipper on board authority over the remote operator:
  - Relevant for remotely sailed vessels with crew on board
  - Needed because a remote operator is not part of the (legal) crew

\* For ships > 100m<sup>3</sup>, tugs and pushboats, ferries >12 passengers, public ferry service, ADN, etc. technical rules are applicable as well

\*\*For tugs and pushboats, ferries >12 passengers, public ferry service, ADN, etc. manning rules are applicable as well

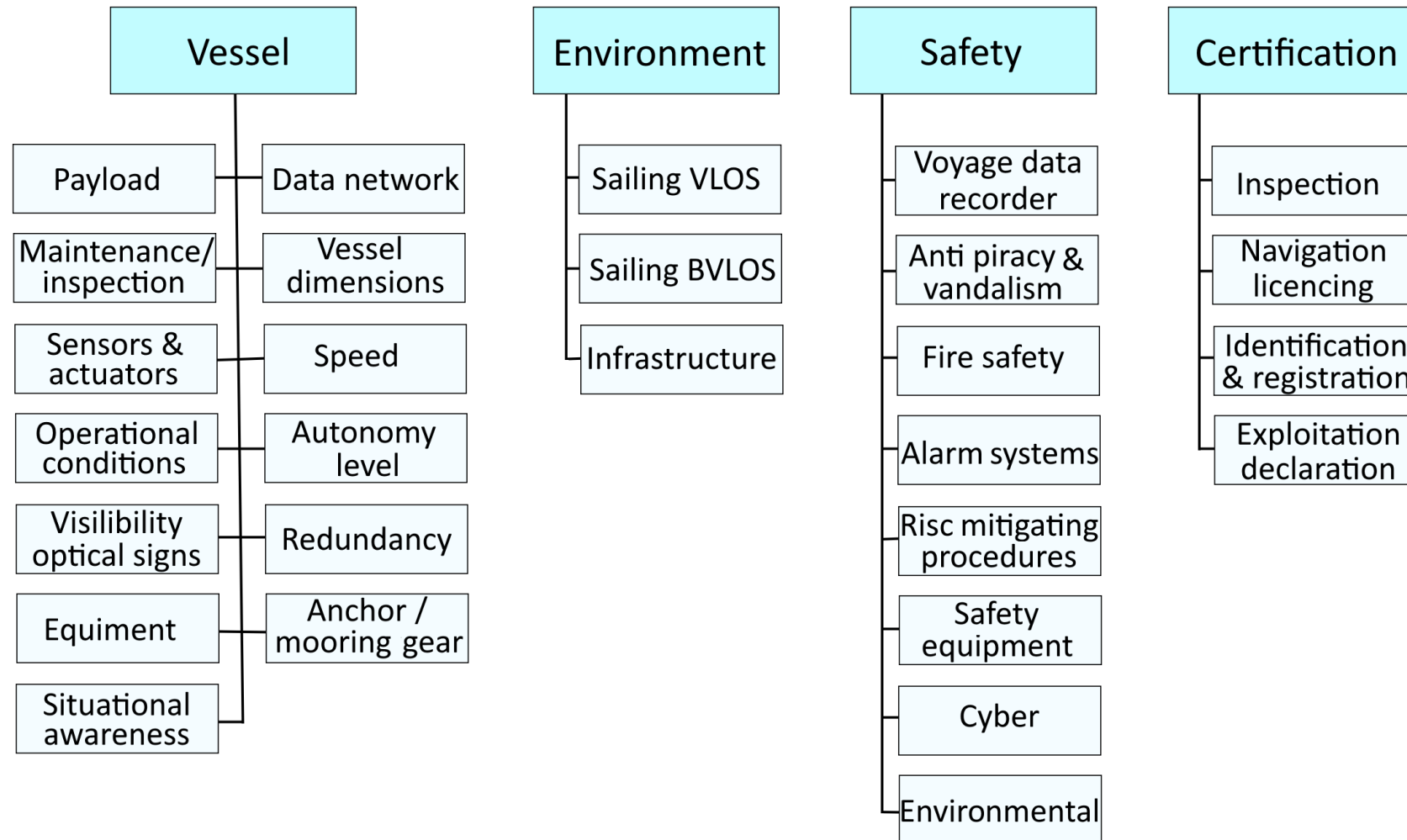


# Main topics of the ministerial regulation

- › No exemption granted for uncrewed ships that sail with passengers or hazardous goods;
- › Exemption can only be granted when:
  - there is no risk or hinderance for other users of the fairway and the infrastructure
  - there is a back up procedure to withdraw the ship
  - the status of ship and the systems on board can be monitored remotely
  - the remote operator can see the environment of the ship, f.e. via camera's
  - VHF-communication, if prescribed, can be carried out as normal.



# Functional breakdown: tasks @ functions of the skipper







# Making a framework for judgement of exemptions for USV's

- › For each area of interest:
  - Comparing the safety risk with a conventional manned vessel
- › The risk for the USV itself is not taken into account
- › Safety risks for other traffic participants and fairway infrastructure







## Leading to a judgement framework

- A set of functional requirements mitigating risks that may occur when not compliant to a specific article
- If these functional requirements cannot be met: the applicant has to deliver a risk assessment, stating that no extra risks occur



# Types of small unmanned ships

- › Three categories used in the framework (< 20 meter):
  - Portable: Ships with  $\nabla < 0.05 \text{ m}^3$
  - Small: Ships with  $\nabla < 2.50 \text{ m}^3$  and LOE < 7 meter
  - Middle: Ships with  $\nabla < 100 \text{ m}^3$  and  $7 < \text{LOE} < 20$  meter
  
- › Way of exploitation:
  - Visual Line of Sight
  - Beyond Visual Line of Sight



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# Room for questions and discussion

