



KYSTVERKET
NORWEGIAN COASTAL ADMINISTRATION

The autonomous ship test area – legal, operational and safety issues

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Test areas - status

- Trondheimfjorden and Storfjorden are established
- Horten to be announced shortly
- Grenland to be announced next year
- Tromsø possible next



Test areas - assessment

- The law (Harbour and Fairways Act) is not a showstopper
- Test activities will require a permission if safety or navigability in waters is effected



Test areas – recommendations/guidelines

- COLREG needs to be safeguarded when carrying out test activities
- For each test activity the safety and the navigability of the waters needs to be assessed. If affected, the test activity will require a separate permit from the Coastal Administration.
- Safety for crews, ships and the environment must be respected and be in accordance with current regulations. Any deviations must be compensated for, and applications must be approved by the Norwegian Maritime Authority.
- Test activities must comply with current operational requirements and requirements regarding operation of ships. In case of deviation, established procedures must be followed to obtain acceptance from the relevant authority.
- A responsible person for the operation must be defined in advance. This person should have the authority to cancel test activities.
- The responsible for the operation shall carry out a risk assessment. All involved actors shall be made aware of this.
- When testing autonomous solutions, it must be possible to take local control onboard the vessel.



Test areas – recommendations/guidelines cont.

- For remote-controlled solutions where there are no personnel on board, one must have implemented solutions that ensure that the vessel does not expose its own or other ships to danger if there is a loss of control and signal.
- The Coastal Administration and the Maritime Authority must be notified of test activities before they take place, including a geographical indication of the specific area that will be used, the duration of the activity, and the name and contact information for the person responsible for the operation.
- Based on the risk assessment, the need for special navigational lights ("limited maneuverability"), special marking of the test vessels, and the need for a general notification of the activity to other vessels in the area (eg on maritime VHF) should be considered.
- The above guidelines will generally be recommended for all test activity with autonomous vessels in the test area and will be made available to anyone other than the contracting parties who may wish to conduct testing activities in the area.
- In cases where the test activities are to take place within the service area of the VTS, the VTS shall always be notified in advance





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Approach and preliminary requirements



- The NCA has chosen an industry-friendly and innovation-promoting approach
- One main requirement:
It must be documented that the maritime safety level is kept at the same level or better than with a manned vessel
- In addition, some functional requirements must be met:
 - An autonomous vessel must be able to communicate with and follow the instructions from a VTS
 - An autonomous vessel must be able to be towed
 - An autonomous vessel must be able to comply with any pilotage requirements



Current laws an regulations





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CLEAN, SAFE AND EFFICIENT SEAWAYS

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Thank you for your attention

