



University of Southeast Norway

Horten Autonomous Maritime Test Area

Who established the area, for what purpose and for what type of ships?

- Establishers
 - The Norwegian Coastal Administration
 - Norwegian Maritime Authority
 - Kongsberg Maritime AS
 - Norwegian Defence Research Establishment (FFI)
 - DNV-GL
 - Horten Municipality/Harbour
 - University of South-Eastern Norway
- Purpose
 - Test of technology and operations of autonomous vessels
 - Support businesses and academia
- Type of ships
 - Any type of ship suitable for the test area



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Who established the area, for what purpose and for what type of ships?

- Rules for operation in the area
 - According to defined procedures with responsible person/notification/risk assessment/communication etc and of course standard rules and regulation
- Open to external parties
 - Yes, Norwegian as well as foreign
- Costs for use
 - No current services available

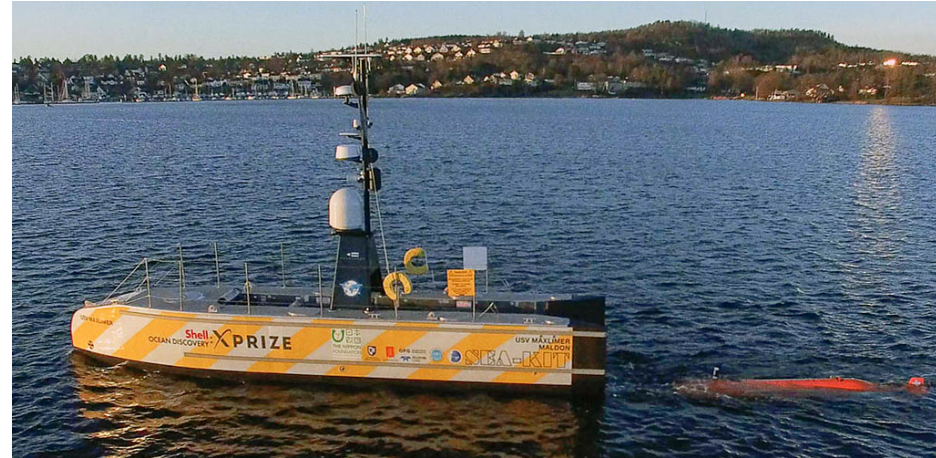


FFI's autonomous vessel «Odin»

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What infrastructure exists for use by testers?

- None – which is identified as an issue
- Start up cost to test even the smallest sensor is high!
- Plan 2018:
 - Develop Test Area into a test platform
 - Make ship, digital platform and control system available to businesses, researchers and students at a reasonable cost
 - Run by USN



Complementary activities in the area supporting the development

- Analysis, development and test of short range crewless ferries (Ole 4) + multiple interested parties
- Academic development project «AUTOSTRIP» – Autonomous Systems within Transport and Industrial Processes
 - Multimodal - Ships, busses, trains, drones...
 - Holistic approach though Systems Engineering, Security and Human Factors
- Autonomous Cluster – SAMS (Sustainable Autonomous Mobility Systems)
- Land based test arena Kongsberg
- Developing Industrial Test Arena (Herøya, Porsgrunn)
- Developing virtual testing of autonomous CS



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What is the potential for cooperation with other test areas?

- Cooperation on a academic level is highly interesting, especially utilising big data resources
- Each test area has specific benefits or challenges (traffic pattern, size of vessels, small crafts)
- Autonomy requires cooperation to succeed (due to scepticism and international rules and regulations)



Norsafe USV