

MoU to Build First Unmanned and Fully Automated Vessel for Offshore Operations



The UK's Automated Ships and Norway's Kongsberg Maritime have signed a Memorandum of Understanding (MoU) to build the world's first unmanned and fully automated vessel for offshore operations. In January 2017, Automated Ships Ltd will contract the 'Hrönn', which will be designed and built in Norway in cooperation with Kongsberg. Sea trials will take place in Norway's newly designated automated vessel test bed in the Trondheim fjord and will be conducted under the auspices of DNV GL and the Norwegian Maritime Authority (NMA). The 'Hrönn' will later be classed and then flagged.

Currently, only small unmanned boats are being utilised for near-shore operations but there are no technical limitations to constructing large, unmanned and automated systems.

The only impediments are regulatory, but with the participation of DNV GL and the NMA,

and Norwegian and UK companies and institutions, it will be possible to rapidly and at low-cost be the first to market with a full-size unmanned ship.

Multi-role Vessel

Hrönn is a light-duty, offshore utility ship servicing the offshore energy, scientific/hydrographic and offshore fish-farming industries. Its intended uses include but are not limited to: survey, ROV (Remotely Operated Vehicle) and AUV (Autonomous Underwater Vehicle) launch & recovery, light intermodal cargo delivery and delivery to offshore installations, and open-water fish farm support. The vessel can also be utilised as a standby vessel, able to provide firefighting support to an offshore platform working in cooperation with manned vessels. Automated Ships Ltd is currently in discussion with several end-users that will act as early-adopters and to establish a base-rate for operations and secure contracts for *Hrönn* offshore, in the near future.

Hrönn will initially operate and function primarily as a remotely piloted ship, in Man-in-the-Loop Control mode, but will transition to fully automated, and ultimately autonomous operations as the control algorithms are developed concurrently during remotely piloted operations.

Dynamic Positioning

Automated Ships will be the primary integrator, project manager and ship-owner of this world's first fully automated and unmanned ship for commercial use. The project will leverage existing technology to develop a robust, flexible and low-cost ship to become the market leader and offer a capable work-boat and provide a R&D asset for the furtherance of this emerging industry sector.

Kongsberg's role in the project is to deliver all major marine equipment necessary for the design, construction and operation of *Hrönn*. The leading global maritime technology manufacturer will deliver all systems for dynamic positioning and navigation, satellite and position reference, marine automation and communication. All vessel control systems including K-Pos dynamic positioning, K-Chief automation and K-Bridge ECDIS will be replicated at an Onshore Control Centre, allowing full remote operations of the *Hrönn*.

Hrönn is expected to be built by Fjellstrand, a Norwegian shipyard with a long history of building aluminium fast ferries in addition to a number of steel offshore vessels and aluminium work boats. As the builder of the world's first battery driven car ferry, *Ampere*, Fjellstrand is known for taking the lead in maritime innovation and green technology.