

# YARA and Kongsberg to Build Autonomous and Zero-emissions Ship



The vessel '*YARA Birkeland*' will be the world's first fully electric and autonomous container ship, with zero emissions. Operation is planned to start in the latter half of 2018, shipping products from YARA's Porsgrunn production plant to Brevik and Larvik in Norway.

Named *YARA Birkeland* after YARA's founder, the scientist and innovator Kristian Birkeland, the vessel will be the

world's first fully electric container feeder. YARA's new vessel will reduce NO<sub>x</sub> and CO<sub>2</sub> emissions and improve road safety by removing up to 40,000 truck journeys in populated urban areas.

*YARA Birkeland* will initially operate as a manned vessel, moving to remote operation in 2019 and expected to be capable of performing fully autonomous operations from 2020. The zero-emission vessel will be a game-changer for global maritime transport contributing to meet the UN sustainability goals.

## A Giant Step Forward

Kongsberg is responsible for development and delivery of all key enabling technologies on *YARA Birkeland* including the sensors and integration required for remote and autonomous operations, in addition to the electric drive, battery and propulsion control systems.

By moving container transport from land to sea, *YARA Birkeland* is the start of a major contribution to fulfilling national and international environmental impact goals, according to Geir Håøy, president and CEO of Kongsberg. The concept is also a giant step forward towards increased seaborne transportation in general, he added.

Kongsberg's integrated control and monitoring systems are already capable of providing technology for remote and unmanned operations. *YARA Birkeland* will benefit from competence and technologies developed across Kongsberg.

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