



Autonomous and 100% electric, 'YARA Birkeland' will be the world's most advanced container feeder ship

May 10, 2017 06:50 BST

YARA and KONGSBERG enter into partnership to build world's first autonomous and zero emissions ship

- *YARA will reduce diesel-powered truck haulage by 40,000 journeys a year.*
- *KONGSBERG will integrate sensor, control, communication and electrical systems.*

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 famous scientist and innovator Kristian Birkeland, the vessel will be the world's first fully electric container feeder. YARA's new vessel will reduce NOx and CO₂ 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 new zero-emission vessel will be a game-changer for global maritime transport contributing to meet the UN sustainability goals.

World's first autonomous, all-electric vessel for commercial operation

"As a leading global fertilizer company with a mission to feed the world and protect the planet, investing in this zero emission vessel to transport our crop nutrition solutions fits our strategy well. We are proud to work with KONGSBERG to realize the world's first autonomous, all-electric vessel to enter commercial operation," says Svein Tore Holsether, President and CEO of YARA.

"Every day, more than 100 diesel truck journeys are needed to transport products from YARA's Porsgrunn plant to ports in Brevik and Larvik where we ship products to customers around the world. With this new autonomous battery-driven container vessel we move transport from road to sea and thereby reduce noise and dust emissions, improve the safety of local roads, and reduce NOx and CO₂ emissions," says Holsether.

A giant step forward for seaborne transportation

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. The new concept is also a giant step forward towards increased seaborne transportation in general," says Geir Håøy, President and CEO of

KONGSBERG.

As a leading global maritime technology company, 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.

“Developing systems for autonomous operations is a major opening and natural step for KONGSBERG, considering our decades of expertise in the development and integration of advanced sensors, control and communication systems for all areas of ship operations. YARA Birkeland will set the benchmark for the application of innovative maritime technology for more efficient and environmentally friendly shipping,” says Håøy.

- ENDS -

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About Yara

Yara's knowledge, products and solutions grow farmers', distributors' and industrial customers' businesses profitably and responsibly, while protecting the earth's resources, food and environment.

Its fertilizers, crop nutrition programs and technologies increase yields, improve product quality and reduce the environmental impact of agricultural practices. Its industrial and environmental solutions improve air quality by reducing emissions from industry and transportation, and serve as key

ingredients in the production of a wide range of goods. YARA fosters a culture that promotes the safety of employees, contractors and societies.

Founded in 1905 to solve emerging famine in Europe, today, Yara has a worldwide presence, with close to 15,000 employees and sales to about 160 countries.

www.yara.com

About KONGSBERG

KONGSBERG(OSE-ticker: KOG) is an international, knowledge-based group delivering high technology systems and solutions to clients within the merchant marine, offshore, oil and gas industry, defence and aerospace. KONGSBERG has 7 200 employees located in more than 25 countries and total revenues of NOK 15.8 billion in 2016. Follow us on Twitter: @kongsbergasa.

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