Yara International and Kongsberg Digital enter collaboration on digital twin technology

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Kongsberg Digital, a leading provider of industrial software, and Yara International, a global fertiliser company and the world's largest distributor of ammonia, have entered into a two-year agreement under which Kongsberg Digital will develop digital twin technology for Yara's factories in Herøya in Norway and Sluiskil in the Netherlands.

The agreement includes an operational twin for Yara's production facilities at Herøya in Porsgrunn and a project twin for the carbon capture project in Sluiskil in the Netherlands. The ambition is to deploy the solution to Yara's production facilities worldwide.

The Right Decision at the Right Time

The operational twin for the production facility at Herøya will utilise industrial data from the factory in combination with technical data and equipment documentation. Based on this, a contextualised work surface with detailed 3D models of the plant and the various units will be created, along with associated maintenance, operational, and facility information gathered from the factory's sensors and data sources. The work surface will assist users in making the right decision at the right time by providing relevant information.

"Yara is collaborating with several partners for our digitalisation program. We chose Kongsberg Digital because of its technical solutions and flexible user interface. Yara is the first wholly Norwegian industrial company to use Kognitwin - Kongsberg Digital's twin technology. With this technology, a significant improvement in the work process is expected, thereby leading to a more efficient workday for engineering, maintenance, and operations," says Merete Østby, Digital Manager at Yara Porsgrunn.

"It is a fantastic recognition for Kongsberg Digital to develop and deliver twin technology to Yara. We will build on the already close cooperation between Kongsberg Gruppen and Yara and deliver technology that provides Yara with improved insights and new opportunities to optimise the operation of their facilities.?For Kongsberg Digital, this marks a significant milestone as this agreement demonstrates our use of digital twin technology and how we are solving common challenges across the process and chemical industry," says Shane McArdle, CEO of Kongsberg Digital.

Digital leap in Yara's production

Twin technology will also be implemented into the carbon capture project at Yara's facility in Sluiskil, Netherlands, where a new carbon capture unit is being built to convert CO2 gas into liquid before transporting it by ship for injection and storage in reservoirs in the North Sea. The twin technology will play an essential role in this project by contributing to efficient collaboration and preparations for data transfer from project to operation before the plant is operational. The digital twin will establish a "digital thread" through all project phases and into the operation and maintenance phase.

"With digital twin technology, Yara takes another great stride forward in digitalising our production. This technology has the potential to optimise operations by gathering and visualising large amounts of data and information on a simple and user-friendly platform. Together with Yara's Digital Production Platform - our industrial IoT platform - this opens up entirely new possibilities for data-driven insights," says Roar Nilsen, Program Manager Yara International ASA.

Media contacts

Kongsberg Digital:

Henning Hammer Torp, senior communications advisor
Mail: henning.torp@kongsbergdigital.com
Phone: +47 416 99?349

Jannicke Hauan Strand, kommunikasjonsdirektør
Mail: jannicke.strand@kongsbergdigital.com
Phone: +4790545419

Yara

+47 400 04 170
press@yara.com

Kongsberg Digital

Kongsberg Digital, a subsidiary of KONGSBERG, is an industrial software company shaping the future of work by changing how businesses design, operate and maintain their assets. Businesses trust us for our innovative carbon capture and storage technology, new energy ventures towards net zero, voyage optimisation, emissions reduction, and technology to help balance grids and complex power systems.?We are transforming carbon-intensive industries by providing industry-leading solutions that extract value from industrial data. We enable businesses to connect physical assets to an industrial work surface, serving as one common infrastructure for decision-making across the value chain.

Yara International

Yara's mission is to responsibly feed the world and protect the planet. We pursue a strategy of sustainable value growth through reducing emissions from crop nutrition production and developing low-emission energy solutions. Yara's ambition is focused on growing a nature-positive food future that creates value for our customers, shareholders and society at large and delivers a more sustainable food value chain.

To drive the green shift in fertiliser production, shipping, and other energy-intensive industries, Yara will produce ammonia with significantly lower emissions. We provide digital tools for precision farming and work closely with partners at all levels of the food value chain to share knowledge and promote more efficient and sustainable solutions.

Founded in 1905 to solve the emerging famine in Europe, Yara has established a unique position as the industry's only global crop nutrition company. With 18,000 employees and operations in more than 60 countries, sustainability is an integral part of our business model. In 2023, Yara reported revenues of USD 15.5 billion.

Attachments

- Shane McArdle
- Merete Østby
- Digital Production Platform

- Yara Porsgrunn