

YARA MARINE: BUILDING AN ECOSYSTEM OF SOLUTIONS

The complex path to greener future requires multiple, interrelated solutions that can benefit everyone and enhance collaboration, writes Per Bjärkby, CTO of Yara Marine Technologies.

The deadline to address climate change is closer than ever, with a mere eight years left to achieve the 2030 decarbonisation targets set by the International Maritime Organisation (IMO). This shared focus has spurred innovation in maritime industry, with many pledging a commitment to the ambitious goal of net-zero emissions. Although this is a complex path, requiring cultural and structural change, it is also a valuable opportunity to drive a change for the better and adopt sustainability as a core tenant of our industry's future.

Thanks to evolving public conversations, the maritime sector is past the point of working to convince stakeholders to go greener and is now tackling the various logistical, technological and infrastructural issues that would underpin this industry-wide transition.

Although many green solutions are already available in the market, scaling



Per Bjärkby, Chief Technology Officer

up these offerings requires greater collaboration. This is true in many cases: emerging products may be created by companies new to maritime or lacking in in-depth experience of the sector, cutting-edge products exist that would benefit our industry if a rapid market expansion could be achieved, or promising concepts may be conceived that have complex supply and production requirements.

Yara Marine helps address this need for collaboration by facilitating innovative approaches to green shipping and connecting these technologies with the market know-how required for success. We offer a variety of means by which to increase collaboration and ensure efficient technologies find their place in shipping: whether through acquisition (such as with Lean Marine in 2021) or via commercial collaboration agreements with other companies. These affiliations exist alongside our own internal research and development processes.

In this way, we have expanded our portfolio of clean technologies that help decrease the carbon footprint of a vessel, while also helping springboard existing green solutions for smaller companies and start-ups. Additionally, we collaborate with companies looking for the support and oversight needed to advance their technologies through testing and implementation, requiring assistance with financing, and potentially supply the market contacts needed to scale and deliver projects.

FACTORING IN MULTI-STAGE APPROACHES

Shipping's decarbonised future relies on a wide ecosystem of green solutions with multistage approaches. After all, older vessels will have different needs than younger ones, inland vessels will not have the same emission targets as deep-sea ships, and smaller operators in developing nations will be operating in significantly different conditions than larger operators.

Success hinges on meeting the needs of individual stakeholders rather than prescribing a set group of solutions that may not be fit for purpose. Thus, effective innovation must consider geographical factors, vessels, financial means, availability of shipyards and bunkering facilities, operating schedules, and more when coming up with workable and future-proofed solutions.

We believe the best approach is where the design of revolutionary technologies addresses emerging or future needs and creates and ensures access to solutions that meet (and exceed) the current needs of owners and operators. The most sustainable approach is one that extends the lifespan of an asset. Good solutions should try to optimise vessels to comply with the newest regulations, as well as give them room to rise to more ambitious, self-set targets.

ADDRESSING RISK FACTORS

The real hurdle to achieving a net-zero future is not a lack of will, but rather challenges with financing large-scale changes. Maritime can be intimidating to private investors that are unfamiliar with our profit cycles and pay-back periods. At the same time, many governments and companies are experiencing financial upheaval as a result of the pandemic, reducing their appetite for non-essential investment.

While large, well-established companies may develop solutions in-house to address the needs of their fleets, those with smaller profit margins or research budgets are left to source off-the-shelf solutions – not easy given the unique requirements of individual vessels or fleets. Also, many start-ups may have ground-breaking solutions, but be unable to secure long-term investment for product development in a marine setting, easily demonstrate the efficiency of their products, or ramp up enough to gain enough market-share.



Yara Marine Technologies is able to offer both operators and innovators peace of mind. We actively partner with up-and-coming technology providers to supply them the resources to go from drawing board to vessel launch – with the backing of an established company. Simultaneously, operators and owners can rely on our industry reputation and long-term sector knowledge for assurance that the technologies we bring forward are of good quality, fit for purpose and will have appropriate customer care. Working with well-established companies is also attractive to company shareholders, who may have a low appetite for financial risk.

ACCELERATING INNOVATION

Caution, while understandable, should never stand in the way of progress – particularly when the stakes are so high. By making entry difficult for new technologies or start-ups, we are losing out across the board. Companies miss out on the best technology for their needs, technology innovators and providers lose out on the chance to prove themselves, and the industry cannot find the wide-scale innovation it desperately needs to achieve net zero. This fails to benefit any of us.

COMMITMENT TO A SUSTAINABLE FUTURE

In addition to our own research and development, Yara Marine Technologies is committed to ensuring that valuable technologies find their place in the shipping industry, allowing shipowners and operators to benefit as they transition to a sustainable future.

Among the first of our partnership agreements, we announced our collaboration with innovative simulation-driven marine engineering consultancy BAR Technologies in 2021. The partnership allows us to expertly facilitate the complex value change of procurement, construction, installation, service and training required to ensure that ship owners gain access globally to BARTech's WindWings.

As of 2019, we have also offered a specifically designed three-month tailored start-up accelerator programme, Yara Marine X, which offers start-ups focused on clean

technologies for the maritime sector the chance to win an opportunity to scale up their existing solutions rapidly. This allows them to expand from small-scale production to larger impact on the market. And as part of the Yara Marine X programme, they will benefit from direct access to our industry competence, network distribution, and knowledge scale.

Yara Marine ensures that these technologies are created in sync with our customer demand, creating a sustainable environment for them to gain market share. This allows for cutting-edge technology to be developed not simply in a single instance or as an unusual outlier in an otherwise distinct fleet, but made available per the rapid scale that the industry currently needs.

The second edition of the accelerator programme concluded in April 2022, with the aim of announcing its winner in May 2022.

RECRUITING THE FUTURE

Using every option available to us to reduce emissions and maximise vessel efficiency is a matter of urgency: after all, every drop of fuel saved at this stage counts towards reduced carbon emissions. At Yara Marine, we believe that people are just as important as technology when it comes to navigating the path to a net-zero future. Recruiting, training and retaining the talent our industry needs, not just for the moment but for the future, is an ongoing commitment. Diversity in thought and action create a robust approach to problem solving, and are vital to delivering a safer and greener future.

We are dedicated to creating a supportive environment for the next generation of maritime leaders to address the challenges of the future, whether these come in the form of changing weather patterns and sea conditions, tighter regulations, or increased digitalisation and automation.

SHARED GOALS

Saving the planet, by its very nature requires global focus from every individual in the present and the future. At Yara Marine Technologies, we believe that an open mind and collaborative approach are the ideal way in which to build a greener future for maritime. Revolutionary technologies have the power to change the market as we know it, but small changes can add up to big results – particularly if managed in a sustainable way. This is why our portfolio contains a wide range of solutions that cater to various vessel types and operator needs, and we welcome partnership opportunities.

Our goal is to ensure that solutions are not ring-fenced by those companies with deep pockets, but are accessible for wider uptake by all relevant stakeholders, including smaller operators. This is how we have committed to saving our planet: by ensuring that solutions that reduce emissions and improve operations are able to benefit everyone. We look forward to a greener tomorrow together.

For more information, visit: yaramarine.com



Yara Marine Technologies has signed a contract with Algoma Central Corporation, a leading Canadian marine shipping company, to install its FuelOpt propulsion optimisation technology onboard a further eight of their bulk carriers