



Press release – Marseille, March 10th, 2026

Fives and Avantis Partner to Deliver Scalable DeNOx Retrofit Solutions for Cleaner Global Shipping

Fives, a worldwide leader in industrial combustion and engineering, and Avantis, an internationally based marine and offshore services provider specialising in retrofits for emission reduction and compliance-driven projects, have entered into a strategic cooperation agreement to deliver next-generation DeNOx solutions for marine boilers. By combining best-in-class industrial combustion expertise with proven marine retrofit capabilities, backed by Fives' state of the art R&D and combustion testing facilities, the partnership aims to help shipowners worldwide meet tightening environmental requirements and deliver a step change in NOx emissions reduction across the global fleet.

A Gamechanger for Marine Retrofit

The collaboration targets the retrofit market, focusing on the modernisation of boiler and combustion systems across the existing fleet of a major international oil and gas operator. With the majority of the world's vessels already in operation, retrofit represents the fastest and most impactful pathway to achieve near-term emissions reductions at scale.

- **Fives will develop a high-performance, customised burner with integrated DeNOx technology**, drawing on more than 100 years of industrial combustion expertise through its subsidiary Fives Pillard, supported by Fives' advanced R&D and combustion testing capabilities (Fives European Combustion Centre).
- **Avantis will lead onboard integration and installation**, leveraging its extensive experience in emissions control and decarbonisation retrofits, alongside deep expertise in marine boiler services and a global service footprint, to ensure fast, reliable deployment with minimal operational disruption.

Already proven in demanding industrial environments, the solution delivers a cost-effective, scalable, and easy-to-deploy pathway to address one of the maritime industry's most critical challenges: reducing NOx emissions. The technology is designed to be adaptable across vessel sizes and boiler types, enabling fleet-wide rollouts without complex redesigns.

For shipowners, the value proposition extends well beyond compliance. The solution enables operators to future-proof their fleets against tightening environmental standards while **delivering clear operational and financial benefits:**

- Reduced CAPEX and OPEX
- Minimized vessel downtime
- Rapid scalability across fleets
- A practical pathway toward long-term sustainability targets



Press release – Marseille, March 10th, 2026

Xavier NICOLAS, Managing Director, Fives Pillard:

“This agreement marks a significant milestone in expanding Fives’ marine offering and international footprint. Together with Avantis, we are bringing proven DeNOx technology from industry to the maritime sector, giving shipowners a concrete solution to reduce their environmental impact today while preparing for the regulatory landscape of tomorrow. We are proud to see our Pillard DeNOx system deployed at sea for the first time, with many more installations to come.”

Chris DAVID, Chairman, Avantis:

“Clean-tech retrofit is central to Avantis’ mission. With a large international client base and a global service footprint, combined with our extensive experience in marine boiler emissions and controls and general decarbonisation retrofits, Avantis is uniquely positioned to scale practical emissions-reduction solutions across operating fleets. This partnership with Fives brings together industrial DeNOx innovation and proven marine retrofit delivery, enabling shipowners to achieve immediate, measurable environmental impact across their fleets worldwide.”



© Fives. From left to right: Louis RICCI, Combustion Chief Technical Officer Fives – Mathias RITUIT, Sales Director Fives Pillard – Xavier NICOLAS, Managing Director Fives Pillard – Chris DAVID, Chairman Avantis – Chris JONES, General Manager of Power Solutions Avantis



Press release – Marseille, March 10th, 2026

About Fives

Fives, your partner for a more efficient and sustainable industry

From the first railway lines to the Eiffel Tower lifts and factory 4.0, for over 200 years Fives has been designing the disruptive solutions and technologies that make up industry. As a pioneer of decarbonization and digitalization, Fives is always one innovation ahead thanks to its ability to anticipate customer needs. By responding to the specificities of each market locally, Fives combines economic and environmental performance in 25 countries thanks to its 9,200 employees.

The Energy | Combustion Business Unit of Fives, under the renowned names ITAS[®], North American[®] and Pillard[®], designs, supplies and manufactures customized burners, combustion systems, and controls for furnaces, flares, and boilers. Fives' offer also includes maintenance services, process optimization and reduction of environmental footprint.

More information: www.fivesgroup.com

About Avantis

Avantis is a global service provider and regulatory compliance expert in the marine, offshore, and power generation markets. Through the use of advanced logistics, data-driven decision-making, and strategic advisory, Avantis provides high-quality, turnkey services across clean technologies, power solutions, asset and energy optimisation, new builds, and lifecycle management.

Avantis' mission is to lead the transition toward a low-carbon future by delivering innovative, compliant, and sustainable solutions that enhance asset performance, safety, and environmental stewardship.

More information: www.avantisgroup.com

Press contacts:

Fives

Diana Alves

diana.alves@fivesgroup.com

+33 (0)6 30 41 25 90

Avantis

Heather Jordan-Carter

Heather.Jordan-Carter@avantisgroup.com