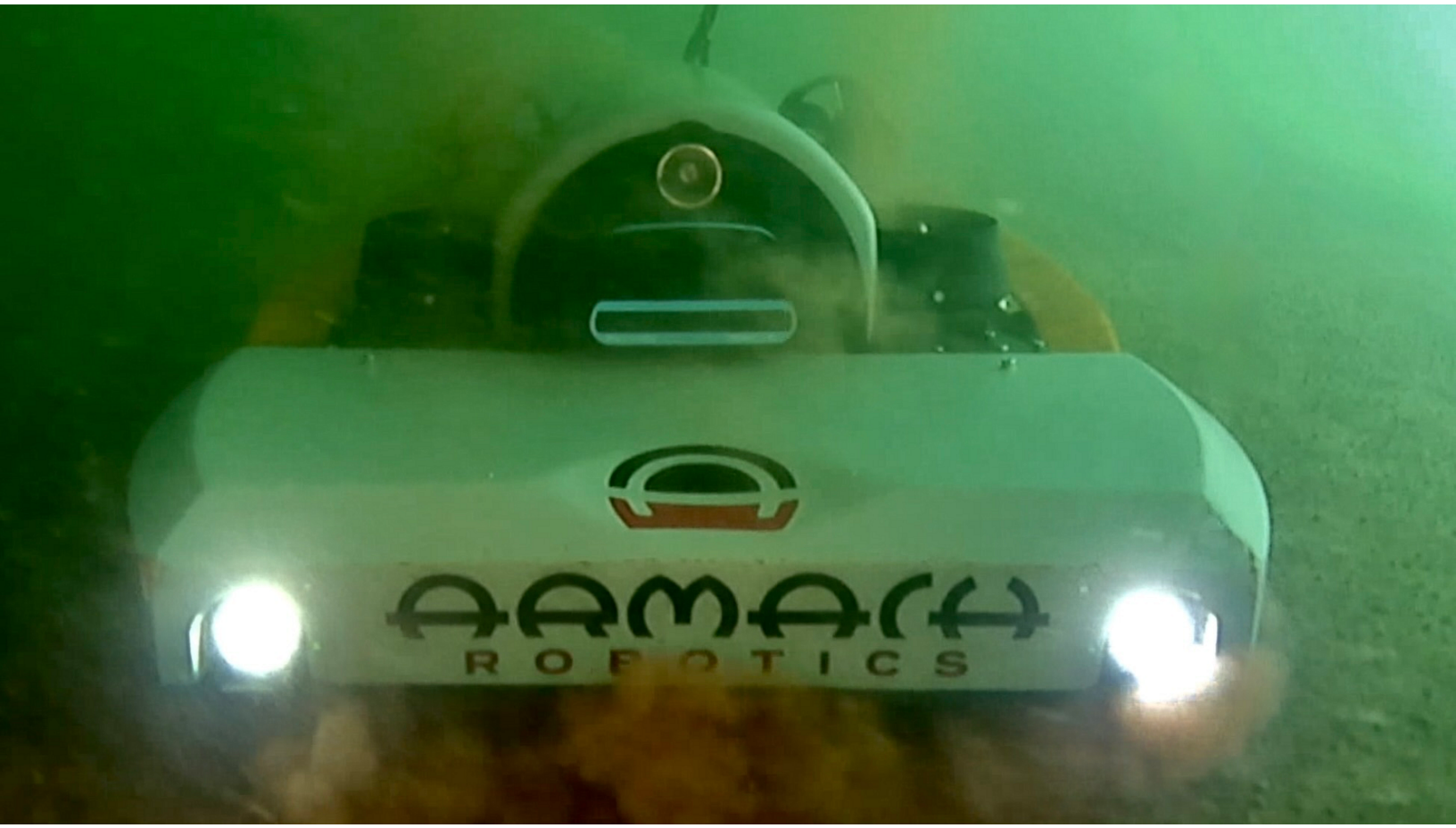
Saltwater Stone

CLIENT NEWSROOM



Armach Robotics HSR (Hull Service Robot) on a ship's hull.

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Armach Robotics launches first production Hull Service Robot

This release was originally issued on 16th May 2022 by Armach Robotics, a company launched in November 2021 by marine software pioneer Greensea Systems, Inc. Both companies were merged into Greensea IQ on 1st September 2023. The content remains relevant and factual.

Following an extensive technological development phase, Armach Robotics

(Armach), a spin-off company from Marine software pioneer GREENSEA SYSTEMS INC. (Greensea) has unveiled its first post-prototype Hull Service Robot (HSR).

Plymouth, MA, 16th May 2022 – Armach was launched in November 2021 to capitalize on Greensea's digital expertise to offer an industry-leading subscription model, proactive and robotic hull cleaning system using autonomy, intelligence and data fusion.
Part of the company's USP is the HSR itself as it's a disruptive technology in hull cleaning, being man-portable at under 66lbs (30kgs) and around 34 inches (86cm) long, greatly reducing deployment costs and increasing convenience. This Smaller, Smarter, Better robot was recently launched for its first in-water trials at Plymouth, Massachusetts marking an important milestone in making proactive in water cleaning a viable solution for fuel saving and optimized ship performance.

James Truman, Armach's VP of Engineering says: "My favorite job in this industry is working on next-generation systems. The team learns so much in the development and testing of a product for a new application but once a vehicle is sufficiently functional then the pace of design evolution slows dramatically. Designing the next generation, once you have a good understanding of the requirements and have developed proven key components, is an amazing opportunity."

The original prototypes consisted of off-the-shelf navigation systems, a custom crawler skid, and a separate ROV all bolted together, but as James explains, there were more efficient ways of integrating this equipment in the finalized vehicle: "It worked well in the prototypes but was expensive and clunky. For the purpose-built Armach HSR we stripped out a lot of the structural and electrical overhead from the prototypes. That gave us a smaller, lighter, and more streamlined vehicle that can operate in faster water currents and on lower friction coatings. We've tested extensively to minimize hull-coating impact and will continue accelerated life testing and design iteration to ensure long term reliability".

Greensea has enormous experience in intelligent control systems for underwater robots, indeed this is how Armach came into being. The vehicle is purpose built around the state of the art in miniaturized navigation sensors. Greensea's OPENSEA fuses a navigation solution from the myriad sensors and provides rock-solid vehicle control.

For the HSR vehicle, Armach designed and is producing the electro-mechanical drive and cleaning components in-house because it needed not only high power-density and unique packaging but also precision control and feedback. This bespoke approach pays dividends when it comes to in-water usability and control, along with the quality of the hull data fed back: “The resulting performance driving on a hull as well as the free-flying stability are amazing. The networked architecture and SAFEC2 functionality mean we can monitor or control the vehicles from anywhere in the world,” adds James.

Armach offers shipowners a proactive, autonomous in-water robotic cleaning solution. The company’s ‘Robot as a Service’ solution simply offers shipowners a constantly clean hull and following each cleaning operation provides an accurate georeferenced hull condition survey. The technology is not coating specific and is based on a state-of-the-art system, powered by Greensea’s autonomy, intelligence and data fusion technologies. Armach’s business model provides cleaning robots to ships, ports, harbours and established service providers on a monthly subscription basis.

To learn more about the cutting-edge technologies that make this revolutionary service possible please visit www.armachrobotics.com

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Image Captions:

Armach_James_Truman Image Caption: James Truman, Armach’s VP of Engineering
Armach_hsr Image Caption: Armach Robotics HSR (Hull Service Robot) was recently launched for its first in-water trials at Plymouth, Massachusetts

Armach_hsr_on_hull Image Caption: Armach Robotics HSR (Hull Service Robot) on a ship's hull

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About Armach Robotics

Incorporated in November 2021 as a spin-out company from Greensea Systems Inc., Armach offers shipowners a proactive, autonomous in-water robotic cleaning solution. Our service simply offers shipowners a constantly clean hull and following each cleaning operation provides an accurate georeferenced hull condition survey.

The technology is not coating specific and is based on a state-of-the-art system, powered by Greensea's autonomy, intelligence, and data fusion technologies. Our business model provides resident cleaning robots to ships, ports, harbours, and established service providers on a monthly subscription basis.

www.armachrobotics.com

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