



Armach Robotics' Karl Lander speaking at the 3rd Decarbonizing Shipping Forum, Hamburg

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## From Vision to Reality - Armach Robotics Introduces Proactive In-water Hull Cleaning

**Plymouth, MA, 23<sup>rd</sup>June 2022** – Karl Lander, Director, Regulatory Compliance and Outreach of Armach Robotics (Armach) joined a host of leaders in sustainable technologies and innovation at the 3<sup>rd</sup> Decarbonizing Shipping Forum, being held in Hamburg this week. He introduced the concept of autonomous robots making proactive in-water cleaning a reality, in support of the worldwide goal of decarbonizing in shipping.

During the presentation, Karl Lander discussed the impacts of fouling, and the need for a more proactive approach to biofouling, before introducing the world's first autonomous system capable of proactive in-water cleaning and inspection.

Although shipping is considered the lowest carbon footprint of any mode of transport per ton transported, it is nevertheless responsible for least 2.5% of the world's total CO2 emissions. The International Maritime Organization has set a target to reduce emissions by 50% by 2050.

Ship owners are required to plan and manage ship efficiency, which is where an increase in implementing new technologies and practices will become a key strategy to reach the targets set. Owners and operators are increasingly considering the availability of latest technology to support their efforts, reliably, scalable and cost effectively.

Armach's in-water robots are built on Greensea's fully open architecture platform OPENSEA, the most powerfully integrated control and navigation technology available in the market today, with over 2,000 fielded systems.

The robots offer in-water cleaning capability, optimized for large ships without magnetic robot adhesion to the ship's hull, with the ability to clear 7,200 sqft (669 sqm) of hull per hour. They are man-portable, weighing around 66 lbs (30 kg), making it a convenient solution to implement.

Through proactive in-water cleaning, vessel operators are able to maintain their fleet at their optimal condition, therefore benefiting from fuel savings, operational efficiency and fleet readiness, in addition to benefiting from hull intelligence and maintaining a lower environmental impact.

Armach is harnessing the power of intelligence and autonomy, to proactively control biofouling, and to deliver unprecedented hull awareness through reliable, cost effective and scalable technology.

Karl Lander is a 25-year maritime veteran including 20 years in the US Coast Guard. He joined Armach as Senior Program Manager from sister company Greensea Systems where he served as Director, Hull Robotics. Karl now works with ship owners, maritime regulatory organizations, and NGOs to shape policy, foster adoption, and set best practices for proactive in water cleaning

of ships through the use of Armach's service.

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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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