

# Seatrec Unveils Autonomous Echosounder Float Initiative to Boost Seafloor Mapping



Seatrec, a renewable energy company that harvests energy from temperature differences in the environment, has launched a project to develop an autonomous echosounder float powered by clean, sustainable energy.

With funding from Schmidt Marine Technology Partners, a programme of the Schmidt Family Foundation founded by Wendy and Eric Schmidt, Seatrec will

provide the float and power system while New Hampshire-based [Airmar Technology Corporation](#), in collaboration with [Innomar Technologie](#) based in Germany, will provide the active acoustic echosounder for high-resolution mapping.

## Seafloor Mapping Dream Team

“80% of the seafloor has not been mapped at high-resolution – an area roughly twice the size of Mars – and covering an area that large using ships and today’s state-of-the-art autonomous platforms will cost billions of dollars,” explains Yi Chao, CEO and founder of Seatrec. “This initiative brings together a seafloor mapping dream team with the transformative technology needed to create a sustainably powered method for mapping the ocean floor for a fraction of the cost compared to ships.”

The project is led by Larry Mayer, a professor and director of the [Center for Coastal and Ocean Mapping](#) at the University of New Hampshire.

## No Time to Lose

“The ocean’s resources are critical to supporting and sustaining all life on Earth and it’s shocking how little we know about something as fundamental as the seafloor,” observes Mayer. “It’s imperative that we develop the next generation of ocean mapping technologies to support the international community’s unprecedented effort to finally map the seafloor at high-resolution – there’s no time to lose.”

Indeed, the world is racing to map the seafloor to help manage living resources, improve marine navigation, and guide infrastructure construction, as well as better define the impacts of current and future human activity. The Nippon Foundation-GEBCO [Seabed 2030](#) Project is a first-of-its-kind international effort to facilitate the complete mapping of the seafloor by 2030 and is a major contribution to the [UN Decade of Ocean Science for Sustainable Development](#).

## Cost-effective and Sustainable Solution

However, two critical obstacles stand in the way of success: energy and cost.

Mapping the 80% gaps of the global seafloor will cost an estimated US\$3 billion using ships burning diesel fuel and emitting carbon dioxide into the atmosphere. A robotic revolution has resulted in the growing use of autonomous vehicles to reduce the cost of using ships and the associated carbon footprint. Seatrec’s technology to harvest energy from the ocean temperature difference is transformative and provides a cost-effective and sustainable solution to deploy a fleet of subsea robots at a fraction of the cost of ships.

“Mapping the seafloor provides fundamental and critical data that we need to protect the health of our oceans, but such a massive undertaking requires innovative and sustainable solutions from the best and brightest,” points out Erika Montague, chief technologist of Schmidt Marine Technology Partners. “This initiative provides a path forward towards a better understanding and protection of our ocean.”



Sunrise over the ocean. 80% percent of the seafloor has not been mapped at high resolution – an area roughly twice the size of Mars.

