



Intelligent
anchoring

Anchoring is part a yacht's routine, but numerous uncertainties can cause headaches for the crew and skipper. The ground's nature, the currents strength and how the anchor comes to rest are among the essential factors in anchoring, which are often difficult to assess. Mistakes or inattention can then quickly lead to catastrophes – from collisions with other vessels to running aground to damage to submarine cables or pipes. The team at Swiss Ocean Tech has therefore set itself the task of making life on board easier and ensuring increased safety when anchoring for boat and environment alike. With the AnchorGuardian, the eight-person startup company led by founder Thomas Frizlen has developed an innovative piece of technology that has the potential to become essential equipment on private yachts and boats as well as commercial vessels.

The device, inconspicuous at first glance, consists mainly of a cylinder made of SuperDuplex steel. Inside, however, hides a lot of sensor technology and engineering. The AnchorGuardian is installed as a connecting piece between the anchor and the anchor chain and is underwater when used. There, the device collects a wealth of information on bottom conditions, anchor position, movement of the anchor, force on the anchor and much more. It then transmits the information via ultrasound to a receiver on the ship's hull, which in turn communicates with a Bluetooth-compatible terminal and displays



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the information clearly on the smartphone, tablet or computer screen. This gives skippers full visibility into all factors of the anchoring process at all times. However, the system provides not only information but also concrete instructions for action. A dynamic colour scale, for example, provides information on how securely the anchor is lying, taking all values into account. If the display changes from green to red, it is time to repeat the anchoring process or look for another anchoring location. In addition, the device determines the ideal chain length for the respective anchoring situation and provides a corresponding recommendation.

According to company founder and Managing Director Thomas Frizlen, the environmental aspect also plays a crucial role in anchoring. »A drifting anchor, for example, causes considerable environmental damage. Within minutes, the an-

chor upsets the seabed and thus destroys the sensitive ecosystem whose growth has taken decades,« explains Frizlen. »AnchorGuardian contributes to the protection and preservation of the oceans, seagrass and the animals living in them by providing a wealth of information when the anchor is being laid and raised and during anchoring. For the first time, smart anchoring is enabled by AnchorGuardian and will also minimise the risk of drifting at anchor.«

Currently, the AnchorGuardian is still a prototype. After a successful sea trial, the manufacturer is looking for more captains willing to test the device on a crossing. This is intended to optimise the technology further before it is expected to be launched on the market at the end of 2023. The anticipated cost of the system for superyachts of 30–50 m in length is to be around 20,000–50,000 €. ■