



Above: AnchorGuardian module
Right: Thomas Frizlen (right) discusses AnchorGuardian with Capt. Luke Windle (left)



Prevent Anchor Drag with AnchorGuardian

Anchor dragging causes major concern, whether it's in a collision, grounding, oil spill, or damaged cables/pipelines. That's why Swiss Ocean Tech (SOC)'s only focus is safe anchoring. The Zürich-based company is in the midst of extensive R&D for the 2023 launch of AnchorGuardian, which minimizes the risk of anchor dragging by providing predictions and immediate alarms for superyachts, leisure boats, fishing vessels, and merchant ships. As part of their R&D process, they've been running pilot projects within the superyacht industry, the first of which wrapped at the end of 2021

with Capt. Luke Windle, who spent two months giving regular performance updates. Following a data analysis at the beginning of December, SOC did a review with Capt. Windle in mid-December.

"I have never partaken in any kind of study before, but AnchorGuardian certainly struck a chord with me. Being able to have a good night's sleep depends on us as a crew knowing we are safely anchored. If I can support the development of a technology towards that goal, then that is motivation enough for me," Capt. Windle told SOC. The captain and his crew, aboard a private 43-meter superyacht, were the first to participate in this pilot project.

For Capt. Windle, there are minor anchor dragging occurrences a couple times of year with a major one coming up once a year. The possibility of anchor dragging "... typically happens when people are asleep in the middle of the night and it is one of those things where if you do not have an early warning system, by the time you know there is a problem, you are already in a lot of trouble and potentially in a situation you can't get out of without damage to the boat or risk to the people on board," he said.

"Not many people want to talk about their anchor-dragging stories, which

makes you unsure of how much it does or doesn't happen," Windle told SOC, describing this as a taboo subject in the industry due to the human error factor.

AnchorGuardian identifies dangerous anchor drag, predicts anchor hold with early warnings and provides essential info while laying the anchor, while at anchor, and when lifting the anchor, and it promises to eliminate false alarms due to wind and tide. Some examples of the info AnchorGuardian provides:

- / Depth of anchor and remaining distance to seafloor
- / Notification when anchor reaches seafloor
- / Roll angle of anchor on seafloor
- / If and how much the chain is being lifted from seafloor
- / Dynamic anchor position in electronic sea chart

"Together this information provides the captain with an overall view to understand if and how well the anchor has settled into the sediment; whether the anchor still holds should wind and waves increase; whether more or less chain should be laid out; if the anchor at this very moment is holding or dragging; if the forces are getting close to the maximum anchor hold and if and how the swaying affects the anchor," Thomas Frizlen, founder and managing director at Swiss Ocean Tech, told *Dockwalk*. "Since we collect the data directly at anchor, our patented technology, AnchorGuardian, is self-sufficient and independent of any external influences such as e.g. movements of the yacht itself. False or late alarms caused by GPS, wind, current, swell, or human error are thus excluded. We work with our proprietary algorithms and sensors," Frizlen says.

"Today, there are no direct competitors who can monitor the movement of the anchor, only indirect competitors like GPS or radar anchor alarm," he says. "However, these common solutions monitor the movement of the yacht and not of the anchor, which leads to false or late alarms."

Frizlen reveals one idea in the works for their first series product: "Sending the anchor position as a dynamic AIS signal to other yachts so that they can see where your anchor is located and avoid crossing their anchor."

Ahead of next year's launch, they're running additional pilots and getting class certified. They wrapped on their first pilot project in December and have another pilot slot set for April/May this year in the Med. Any captain interested in participating is more than welcome to contact them at SOC.

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