

Innovation

E-FOIL SURFING IS ABOUT TO GET MORE STABLE

Versatile design offers greater accessibility in small hydrofoil surfboards, and also ease-of-use and seaworthiness in large hydrofoil electric boats.



By Abigail Klein Leichman

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If you enjoy extreme watersports and care about sustainability, then e-foiling probably checks your boxes.

Foil surfers “fly” above the water’s surface with the help of a hydrofoil, which creates lift similar to an airplane wing.

And while watercraft generally require a lot of juice for propulsion, battery-operated e-foil surfboards use 80 percent less energy than do non-foiling watercraft like jet skis and powered dinghies.

But there was still one challenge to conquer for aquatic buddies Arthur Yanai and Assaf Friedman: accessibility.

Their cofounded venture, **Level Hydrofoils**, will soon introduce the first-ever sustainably propelled e-foil surfboards that are stabilized with the aid of embedded sensors and algorithms paired with a patented single-mast technology.



Photo courtesy of Level Hydrofoils

“Assaf and I started Level Hydrofoils in 2018 with the premise of bringing to the world the next generation of sustainable watercraft,” said Yanai, a veteran of Shayetet 13, the Israel Navy’s sea, air and land (SEAL) unit.



Underwater view of a Level Hydrofoil. Photo courtesy of Level Hydrofoils

“Both of us are keen water sports enthusiasts. We’ve traveled the oceans and sailed the Atlantic all the way from Israel to the Caribbean. So we are super passionate about this topic,” he told me at the recent [GoForIsrael](#) international investment conference in Tel Aviv.



Arthur Yanai pitching Level Hydrofoils at GoForIsrael investment conference, May 2023. Photo by Shai Shviro

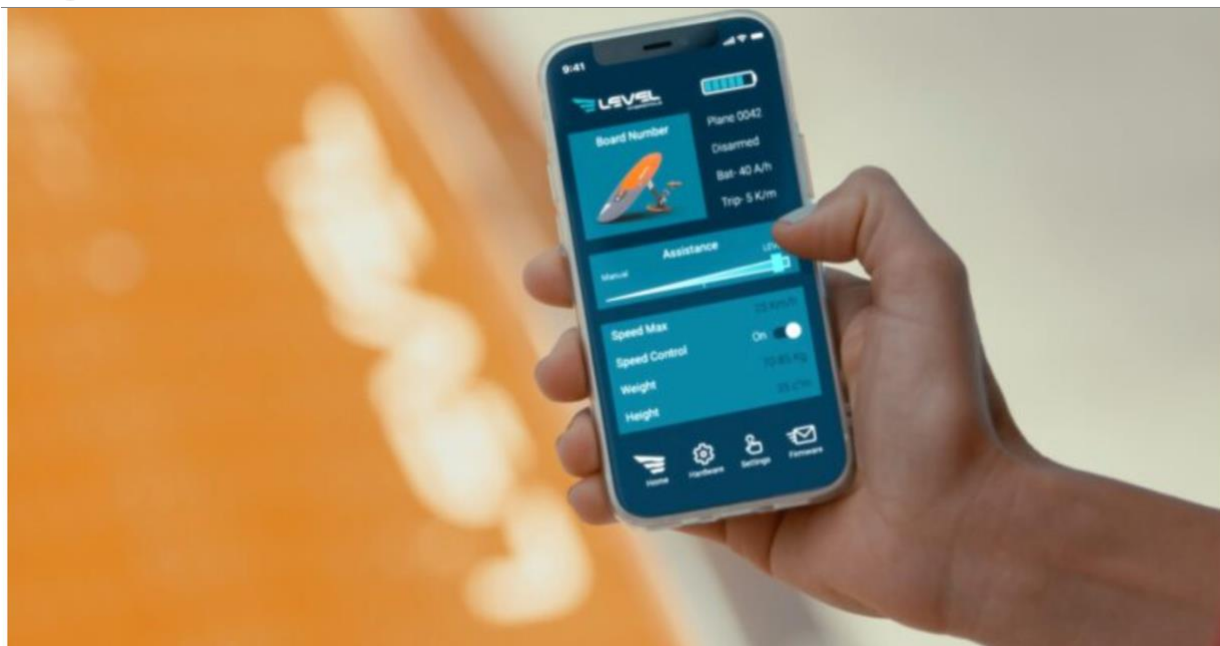
Level Hydrofoils’ design will make its product less expensive, more robust – because of fewer mechanisms – and able to sail in high seas, “something no other company in the world offers,” said Yanai.



Beginner foil surfers. Photo courtesy of Level Hydrofoils

“We added a first-of-its-kind gyro stabilizer, making balancing the board automatic. It works so well, it can even fly by itself. We also swapped out the hand control that other e-foils use, for a more intuitive, fly-by-wire weight-based control. It’s the only e-foil that has this function.”

Once you get the hang of it, you can choose to switch off the stabilizer and use Level like a regular non-stabilized e-foil.



Once you get the hang of it, you can switch off the stabilizer and use Level Hydrofoil like a regular e-foil. Photo courtesy of Level Hydrofoils

New outlook on marine mobility

Yanai said that Level Hydrofoils' unique typology will allow the company not only to bring stability to e-foiling but also to develop full-scale, sustainably propelled e-foil powerboats capable of safely sailing the high seas.

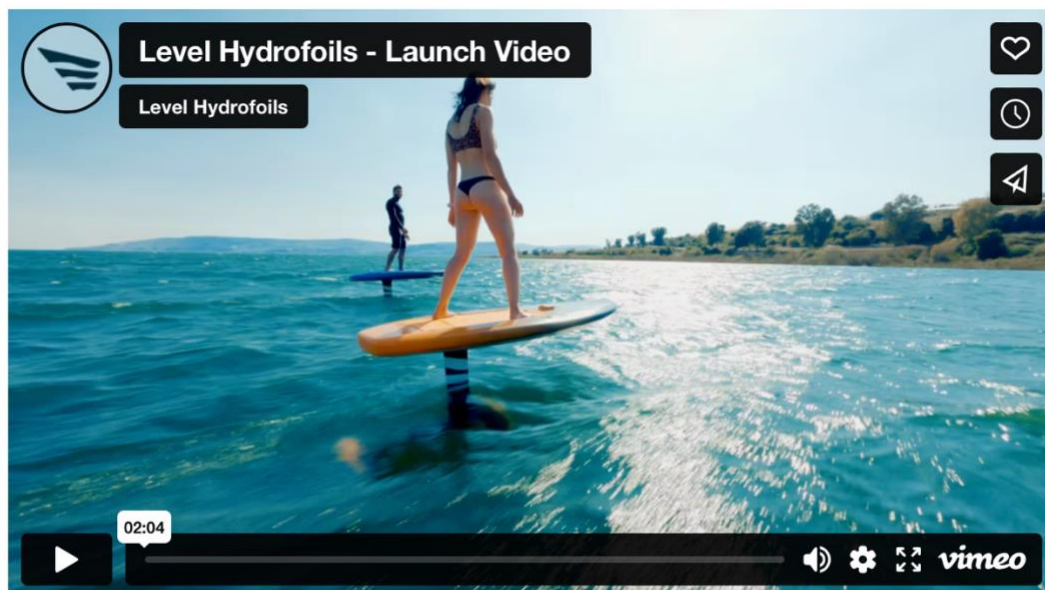
"We can reduce power consumption of any vessel – it doesn't matter if it's a surfboard or a 50-meter ferry that carries 200 passengers – up to 80 percent. And that's a gamechanger," says Yanai.

The [Israel Innovation Authority](#), [Israeli National Center of Blue Economy and Innovation](#), and private angel investors have put money into the startup.



Level Hydrofoils cofounder Assaf Friedman. Photo courtesy of Level Hydrofoils

Appropriately based in the port city of Haifa, Level Hydrofoils was in the [first cohort](#) of [Version Bravo](#), a unique joint entrepreneurship program for US and Israeli Navy SEAL veterans.



The company's first e-foils, as well as e-kayaks for less extreme adventurers, should be available for sale next spring.

A bigger impact

“Our first product offering is just the beginning,” said Yanai.

“After we anchor ourselves — pun intended — in the leisure industry, specifically the personal watercraft segment, we want to use our technology and knowhow to make an even bigger impact in verticals such as larger-scale watercraft. All our products will be based on the same proprietary hydrofoil technology.”



Level Hydrofoils cofounder Arthur Yanai. Photo courtesy of Level Hydrofoils

Commercialization plans also include an educational aspect.



A rendering of Level Hydrofoils' future hovering watercraft. Illustration courtesy of Level Hydrofoils

“We see that the mobility industry’s transition to a more sustainable method of propulsion is happening in the automotive industry but not in the boating industry,” said Yanai.

“The reason is that boats use a lot of energy to propel themselves forward. But since most people are not boaters or surfers, part of our mission is to change people’s minds about sustainable marine mobility.”



Photo courtesy of Level Hydrofoils

For more information, click [here](#).