



FORECAST 3D
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Seasats

Customer Success Story



Using MJF for Smooth Sailing

Much like drones in the sky, autonomous surface vehicles (ASVs) are becoming valuable aquatic tools for scientific research, national defense and commercial uses. ASVs can be sent on months-long expeditions without incurring the high costs or safety risks associated with manned missions. Seasats, a small manufacturer in San Diego, is on its own mission to meet a rising wave of demand.

Eliminating the middleman

In the summer of 2023, Seasats approached Forecast 3D to start producing virtually every plastic part on its ASVs. At the time, the company was sourcing its parts through a third party. But to reduce costs, create greater efficiencies and reduce turnaround time, Seasats decided to order directly from a manufacturer.

Finding a supplier willing to comply with their timeline and design demands had not always been easy. “We design a lot of our parts to be manufactured with the MJF (Multi Jet Fusion) process because we simply don’t produce enough parts to warrant injection molding or other processes that require capital-intensive start-up costs,” said MacKenzie Wasson, Seasats project manager.

However, Seasats found a supplier willing to act as a more proactive partner in Forecast 3D. “We can iterate much more quickly and create custom or one-off parts that still come out looking great,” said Wasson.

Building a partnership

Each Seasats ASV is about 11 feet long and requires 60+ MJF parts, including brackets, connectors and clamps that can be produced quickly and to specific customer needs. As a smaller manufacturer, Seasats found that other suppliers were unable or unwilling to produce in the quantities and timeframes they needed.

However, Seasats found that Forecast 3D wasn’t just able to take on the demand, but willing to be more hands-on, even producing models



The plate cover installed on the Lightfish is 3D printed for durability and longevity to withstand the rigor of operating across the open ocean.

of ASVs. Wasson said, “[Forecast 3D] has taken a real interest in what we do, visits our factory from time to time, and is always offering ideas to add value to our product.”

Timing is everything

With numerous customers across fast-moving industries, Seasats frequently needs to adapt designs and respond to feedback. “On many projects, we have to move extremely fast to integrate payloads onto our vehicles,” said Wasson. Using MJF printing, Forecast 3D can produce the parts Seasats needs with a one-day turnaround time. This allows their customers to install payloads on the vehicles and be out on the water within days.



The Lightfish provides reliable, affordable and sustainable ocean operations. High endurance, modular construction and portability combine with a user-driven UI and easy payload integrations to create a uniquely powerful ASV.



The Seasats team secures a 3D printed antenna to the bow of the Lightfish ASV.

Increased productivity and durability

Forecast 3D MJF printing has also allowed Seasats to increase the number of vehicles it can produce – and their durability too. The boats have gone on longer missions of up to 73 days, including two voyages from San Diego to Hawaii. “That was a great proof of concept for us,” said Wasson. He added that he expects to continue working with Forecast 3D to ramp up production and expand the Seasats product line.

Seasats also reports that the Forecast 3D partnership has helped:

- Streamline their supply chain, which has reduced production costs by 15%
- Return 4 hours of productivity each month, thanks to the recurring ordering system
- Reduce manufacturing costs 10-20%, due to price matching and discounts from Forecast 3D

Sailing on to continued success

Seasats looks forward to continued innovation and efficiencies through its partnership with Forecast 3D. Currently, the team is looking to integrate more textured parts into ASVs, exploring new designs and production methods. Wasson added, “It gives my engineering team the confidence and freedom to continuously iterate and drive product improvements, knowing that we can seamlessly get new parts into production.”



With the demand for ASVs growing – and the need for manufacturers to adapt quickly – Forecast 3D will continue to be a collaborative partner both on land and at sea.



This functional handle installed on the Lightfish leverages additive manufacturing with digital textures to achieve efficiency and singularity in their designs.

Find out how Forecast 3D can take your product from prototype to production. Visit forecast3d.com today or contact us directly at (800) 549-5414 or hello@forecast3d.com to learn more.

Front Cover

Seasats' autonomous surface vehicle (ASV), the Lightfish, makes the 2,500 mile journey from San Diego, CA to Honolulu, HI, proving the ASV's seaworthiness while continuously operating in challenging conditions.



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