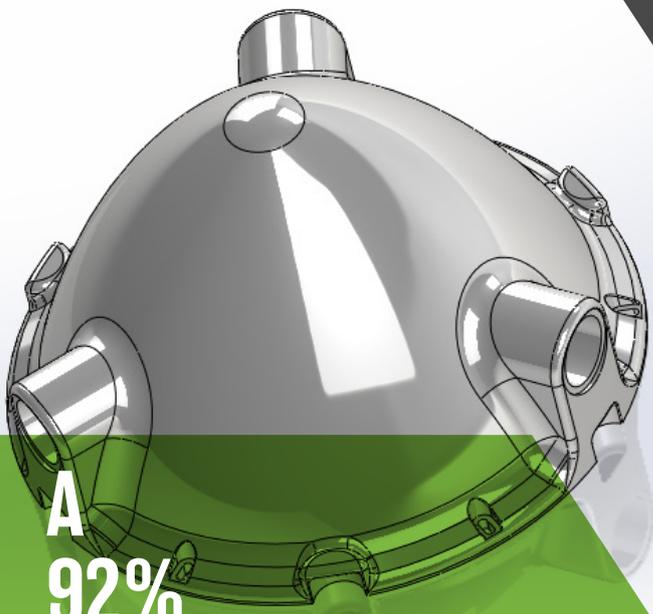


Case Study



A
92%
Cost Decrease

How Vaupell helped WHOI achieve their ocean research initiatives with the production of cost-effective parts.

The Company

Woods Hole Oceanographic Institution (WHOI) is the world's leading, independent non-profit organization dedicated to ocean research, exploration, and education.

Industry: Nonprofit and higher education

Location: Massachusetts

Company Size: About 1,000 staff and students

The Project

Critical Business Issues: The R&D team needed a cost-effective way to create small-batch parts for autonomous vehicles and other systems to use in ocean exploration.

The Solution: Vaupell provided small-batch urethane molds and assembly for a unique chassis component.

The Outcome: The production costs for this project 92% lower than the fees associated with large-scale manufacturers, enabling WHOI to deploy their innovative technology faster and make progress on their scientific research initiatives.

Our oceans are as vast as they are valuable to life on Earth. An incredible 95% of the ocean remains unexplored, and the mission of WHOI is to discover the wealth of unknown data that could shed insight on essential environmental issues like plant and animal life, erosion, pollution, and climate change.

Cost-Effectiveness

Small batch manufacturing projects are notoriously expensive. With Vaupell, WHOI was able to reduce the cost of production by 92%.

Quick Turnaround

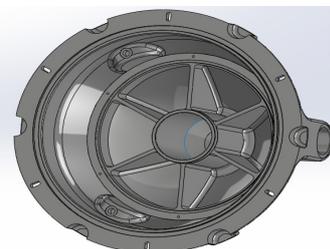
Vaupell's expertise in small-batch projects made it possible for WHOI to assemble their innovative technologies faster than before.

Forward-Thinking

WHOI occasionally faced challenges dealing with tolerances on larger urethane molded parts. Vaupell has been a valuable, solution-oriented partner in these instances, helping WHOI with part design, features, materials, and new techniques.

WHOI is based in Massachusetts, and its staff conducts scientific research on the ocean from the vantage point of the coasts and waves, all the way to outer space and the depths of the sea.

As engineers and innovators, the staff at WHOI is heavily involved in research and development projects involving custom tools and machinery to be used in the field. Keenan Ball, senior engineer in the Acoustic Communication Group, is a leader in the R&D space at WHOI. As the primary systems designer of the acoustic modern hardware that the team builds, Ball oversees the creation of prototypes for vehicle applications and other oceanographic systems.



A COSTLY PRODUCTION PROCESS

In the WHOI R&D atmosphere, the team usually only produces a couple of new prototypes at a time. These parts are designed for very specific uses, and require a forward-thinking and flexible manufacturer who can rise to the challenge.

At the same time, as a nonprofit, WHOI is always seeking new ways to keep costs down without compromising quality. When it comes to finding a partner to create a functioning prototype of a new part, most large-scale manufacturers charge very high fees for these small-batch projects.

“At WHOI, we only build one or two units, or maybe a batch of 10 units, at a time. There typically isn’t sufficient funding to support the tooling costs – often in the range of \$30-50k – that these larger companies could support,” says Ball. His team needed a cost-effective, yet high-quality, solution.

REDUCING LABOR COSTS FROM HUNDREDS TO ONES

WHOI first engaged Vaupell in 2006 to make an injection-molded chassis component with threaded inserts to fit between a pair of circuit boards. “The goal was to reduce the amount of labor costs associated with assembling the board stack,” Ball recalls.

If WHOI hadn’t engaged Vaupell, they would have been spending hundreds of dollars on molds and assembly – a cost-prohibitive process that would limit the number of systems they could produce.

“Ultimately, working with Vaupell enabled us to manufacture the part in large quantities while reducing the cost of the mold and assembly by hundreds of dollars. Over the course of several thousand systems, these cost savings really add up.”

A LUCRATIVE PARTNERSHIP

Since then, Vaupell has been instrumental in helping WHOI develop urethane fairings for different applications, including autonomous vehicles and other oceanographic systems.

“Vaupell’s urethane molding group has allowed for parts that would otherwise be too cost prohibitive in our systems to be included, and push our technology forward,” says Ball. “Vaupell’s ability to make quick-turn, small batch, molded parts via rubber molds from 3D printed positives is unmatched.”



Arctic Buoy Endcap Radome

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-Keenan Ball, Senior Engineer at WHOI

Do you need custom parts fast? Let’s talk!

Robert White

Product Development Specialist | 603.577.9970 x.4029 | robert.white@vaupell.com

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