



✦ The SRV-8 is equipped with BluePrint Subsea Oculus 3D Imaging Sonar and Seatrac USBL Navigation. (Courtesy of Topaz Subsea in Australia)

REDEFINING ROVs: OCEANBOTICS™ SRV-8



By Robert Jechart
*CEO of RJE International, Inc.
and RJE Oceanbotics*



and Jeff Vos
*Marketing, RJE International, Inc.
and RJE Oceanbotics*

Simply put, Oceanbotics™ is the latest division of RJE International, Inc. However, if you take a closer look, you will find that Oceanbotics™ represents far more than that. You will discover an interesting history, uncover exquisite design, experience intuitive technology, cutting-edge software, and witness a relentless dedication to the creation of a positive customer experience. This ceaseless drive to innovate recently culminated in the launch of the SRV-8, a professional-grade Remotely Operated Vehicle (ROV) that delivers next-generation maneuverability and versatility.

But first, a little bit of that history.

CREATIVE ROOTS

A thirst for progress is something that unites the team at RJE International, Inc / RJE Oceanbotics. You could say that innovation is written into the team's collective DNA. This sense of technological curiosity was passed down from a famed Austrian-born inventor, Ernst Jechart, who created the modern-day portable atomic clock and happens to be the father of current company CEO, Robert Jechart. Ernst founded his own company after his employer, a large German engineering firm, rejected his new prototype for a miniature portable atomic clock. Ernst then went on to develop the modern-day atomic clock in the basement of his small house, in Germany. The new atomic clock debuted in 1972 and quickly caught the attention of organizations in the U.S. So much so, in fact, that the family decided to relocate to California and set up operations to meet demand from the American market. This paved the way for some groundbreaking technologies,

including the Global Positioning System (GPS) system that we all defer to today when using our phones for navigation. Ernst's invention was such a critical technological advancement that it is on display at the Smithsonian Space Museum.

RJE International, Inc. was formed in 1991. From humble beginnings—a spare bedroom as the first corporate HQ—the company has grown to become a 30-year leader in acoustic navigation systems, including the beacons for black boxes on aircraft and underwater mission critical products.

RJE's expansion into Remotely Operated Vehicles (ROVs) was a strategic move based on consistent feedback from clients in the ocean industries: that most ROVs were anything but user friendly, difficult to transport, complicated to pilot, equipped with rudimentary software, and overly expensive.

OCEANBOTICS™ SRV-8

RJE seized its opportunity to establish a fresh approach and began work on developing a next-generation ROV—one that addressed the shifting demands of marine and underwater professionals—which centered around the design concept of aerial drones.

This was the inspiration for RJE Oceanbotics™, created in June 2017. The Oceanbotics™ team immediately focused efforts on engineering the SRV-8 underwater ROV, the most maneuverable, intuitive, portable, and easy to use professional-grade ROV for the marine professional. Many operators describe the SRV-8 as a drone-like underwater experience for the submerged world—it pushes the boundaries of marine technology and innovation.

The SRV-8 vehicle performs the function of a mobile underwater sensor suite, a platform that is easily adaptable depending on the mission at hand. Applications include search & rescue (SAR), inspection (pilings, bridges, pipelines, ship hulls, platforms, etc.), aquatic farming, reef monitoring, defense, offshore, commercial diving, among several others. In most cases, the required end product for the customer is the video, sonar and data recordings of the mission, in digital format. RJE's state-of-the-art software transforms this into a seamless and easy task.

Eight dynamically vectored thrusters not only give this ROV its sleek profile but also provide pilots with unmatched maneuverability and precision control. The SRV-8 is powered by two lithium-ion batteries that allow for 6 to 8 hours of operation and its size allows for one-



» The SRV-8 is powered by two lithium-ion batteries that allow for 6 to 8 hours of operation and its size allows for one-person portability. (Photo credit: RJE Oceanbotics)

person portability. The advanced and easy-to-use SubNav™ Software by Oceanbotics™ is fully integrated with BluePrint Subsea's Oculus Imaging Sonar and the Seatrac USBL Navigation System, allowing for truly seamless integration. The SRV-8 and SubNav™ combine for intuitive control and a stress-free plug-and-play experience. How many other professional-grade ROVs can claim that? The SRV-8 is in a category of its own and it really is as good as it looks.

IN-FLIGHT EXPERIENCE

When it comes to operating the Oceanbotics™ SRV-8, the goal has always been to provide customers with an "Apple-like" underwater experience. Customers want to be able to take an ROV off the shelf, connect it up, drop it in the water and go. The rugged and durable SRV-8 ROV allows the user to do just that, while focusing entirely on the mission without worrying about the technicalities of the product.

ROV pilots want easy control and have a choice of either an Xbox controller or the "Flight Stick" set-up, which allows single handed and precise control of the vehicle—truly an instinctive way to fly.

The SRV-8 includes semi-autonomous flying capabilities via auto heading, auto depth and auto pitch modes easily accessible via the controller. Pilots have the choice to lock the SRV-8 in a particular heading/direction so that it will not turn. The SRV-8 can also be locked at desired depths—simply press the button and let the ROV hover in place. If you need to lock the SRV-8 in a particular angle to scan the seafloor or the bottom of a boat, then you can do that too. The pitch hold locks the SRV-8 in a desired angle with the ability to incrementally adjust the angle of view. Each hold is able to engage at the same time or can be engaged individually.

The SRV-8's advanced features translate into superior handling and faster completion of underwater tasks—this in turn saves customers valuable time and real money.

The RJE Oceanbotics™ team is currently working on a number of other innovative solutions for underwater professionals and pledges to push the boundaries of user-friendly and ergonomic underwater robotics technology. The SRV-8 is just the beginning. To find out more, visit: www.oceanbotics.com



» Kirt Ejesiak, Chairman & CEO of Arctic UAV/Sedna ROV, utilizes the SRV-8 for underwater surveying and observation purposes in the Arctic Waters. (Photo Courtesy of Arctic UAV/Sedna ROV)