BAE Systems Expanding Riptide UUV Manufacturing Capacity

The Riptide family of UUVs features micro, one-man-portable and two-man-portable versions. BAE SYSTEMS

ARLINGTON, Va. – BAE Systems has expanded its capacity to manufacture its Riptide family of autonomous unmanned underwater vehicles (UUVs) a year after the company acquired Riptide Autonomous Systems. The company also has been integrating its sensor packages on the UUVs.

BAE has built a new manufacturing facility in Plymouth, Massachusetts, a "multimillion dollar state-of-the-art prototype and production site … that greatly increases capacity for both vehicle development and personnel focused on the Riptide product line," the company said in a release.

The Riptide UUVs are used by the U.S. Navy and other government agencies, said Dr. John Hogan, director of the Sensor Processing and Exploitation group at BAE Systems, in an interview with *Seapower*. He was not at liberty to discuss the customers' use in any detail.

The Riptide family consists of three types of portable small UUVs, which the company said in a release "are sophisticated yet simple, efficient and highly flexible platforms that offer performance discriminators including being able to perform at greater depth, at longer range, with more endurance, and at greater speed."

The Riptide family includes a 25-pound, 4.875-inch-diameter Micro UUV; a 65 to 120-pound, 7.5-inch-diameter, one-man-portable (1MP) UUV; and a 120 to 240 pound, 9.375-inch-diameter two-man portable (2MP) UUV. The Micro UUV now features enhanced functionality. The prototypes of the 1MP and

2MP have been completed.

“Additionally, we have developed the first prototype of our 6,000-meter-rated UUV,” Hogan said in the release. “This depth in a small UUV will allow unparalleled flexibility and cost efficiency by taking on missions unprecedented for the small class of UUVs, reducing the barriers to access the deep ocean.”

Hogan told *Seapower* the Riptide UUVs have a “very efficient computing system” and have the lowest power usage rate in the industry.

He told *Seapower* that the systems and sensors that can be employed in the UUVs include navigation, communications, electro-optical and electronic warfare. The UUVs use waypoints for navigation and a have an open architecture for integrating sensors.

Hogan pointed to the the Navy’s ANTX-19 demonstration last year in which a Riptide UUV was used for signals intelligence collection. The UUV recorded radio transmissions and was able to transmit the data acoustically to a surface vessel.

“As joint all-domain operations become the Department of Defense’s (DoD) operational norm, there is increased need for undersea platforms capable of integrating key payload and autonomy technology,” Hogan said in the release. “In the time since the acquisition was announced, we have made tremendous technology and integration progress that positions us to serve our DoD customer base as well as commercial, research and development, and educational organizations to affordably and expertly explore under the sea.

“Our Riptide family of autonomous undersea vehicles brings a sustainable and scalable solution for developers of autonomy and behaviors, power systems, subsea sensors, and new payloads,” Hogan said in the release. “Among the many commercial and military-based uses for our UUVs and sensor

packages are seabed surveillance, harbor protection, intelligence collection, infrastructure surveillance, oil and gas survey, and mine countermeasures.”

BAE Systems has set a commercial pricing model for the Riptide family to “streamline vehicle acquisition by employing standard, mission-focused system configurations that satisfy our broad customer base while continually enhancing vehicle quality, reliability and repeatability,” the release said.