

SBIR/STTR TRANSITION PROGRAM

SPOTLIGHT

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Beacon Interactive Systems: Digitally Transforming Shipboard Operations for the Navy

By Julie Scuderi

For Beacon Interactive Systems (Beacon), being a defense contractor was never really on the radar. However, the purposeful, thoughtful and bespoke nature of the Navy's Small Business Innovation Research (SBIR) Program investment approach changed that.

When 9/11 forced the collapse of the software bubble and changed the dynamic of the commercial marketplace, Beacon, a digital innovator delivering enterprise software systems to high profile commercial customers, found it advantageous to be adaptive. The company opened itself up to the possibilities inherent within SBIR, and today, works with multiple U.S. Navy organizations including ONR, NAVSEA, NAVAIR, NAVWAR and U.S. Fleet Forces Command. Today, Beacon's impact in the defense space is providing digital capabilities that keep ships mission ready, planes in the air, and vehicles confidently deployed.

"We're a great example of a non-traditional defense contractor who engaged with the Navy SBIR program to bring our commercial expertise to the military," explains ML Mackey, CEO of Beacon. "We have transitioned 100 percent of the NAVSEA SBIR investments in Beacon to Phase III and into the hands of the warfighter. Our SBIR products are being actively fielded fleet-wide across the ships, submarines and carriers of the U.S. Navy."

The key to Beacon's success lies in its ability



U.S. Navy Photo

Beacon's SBIR-funded technologies, including eTagOut, eLogBook and SEAS and SEAS+, are actively used across the fleet on ships, submarines and U.S. Navy carriers. The company has successfully transitioned 100 percent of its NAVSEA SBIR investments into the hands of warfighters.

to employ premier design principles in its technology and actively engage with end users. In all simplicity, "We listen to the end user," says Mackey, "by immersing ourselves in the end user's environment." Utilizing solid UX/UI design principles as well as adhering to a disciplined focus on integration with existing business processes and systems, Beacon's SBIR-developed products have extraordinary end-user adoption.

Other key contributors to the company's success include purposeful considerations such as whether the technology will have a growth impact on the company's existing product suite as well as consistent cultivation of dual-use technology. From the onset, Beacon aims to leverage its technology developed through SBIR to benefit other end users and clients as well.

One of Beacon's original SBIR projects has been

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manifested in the Navy's eTagOut program, developed in conjunction with Navy Doctrine for shipboard maintenance safety and derived from multiple NAVSEA SBIR investments. eTagOut provides an intuitive digital solution for shipboard maintenance crew streamlining the mission-critical safety procedures inherent in day-to-day ship operations.

eTagOut is an easy-to-use solution for the maintainer; it guides the user step-by-step through the safety tag-out process, from planning to hanging and clearing to auditing. Used daily by Navy Sailors, eTagOut allows users to create safety tags for all types of conditions including danger and caution. This technology saves time and results in increased efficiency, but most importantly, it keeps our Sailors safe.

eTagOut is a complementary technology to

another SBIR-bred success—eLogBook, which revolutionizes the Navy's shipboard logging process by converting manual paper logs to electronic logs. This "smart" logging capability provides situational awareness and cross-log integration for watch standers and decision-makers not available with the current manual approach. With eLogBook, the Navy benefits from increased entry speed, accuracy and contextually relevant data for maintenance, operational decision-making and ongoing lifecycle management.

Another huge Navy SBIR win for Beacon has been the Shipboard Energy Assessment System (SEAS), the Navy's Energy Command and Control (C2) capability. SEAS is a shipboard energy management system that gathers operational data to provide a near real-time onboard energy picture informing in-the-moment decision-making to include what



Courtesy of Beacon Interactive Systems

Beacon's SEAS technology allows users to gather operational data to provide a near real-time onboard energy picture. This presents a visual situational awareness of the ship's operational energy condition to decision-makers such as the Commanding Officer.

energy was expended and why. This presents to decision-makers such as the Commanding Officer a visual situational awareness of the ship's operational energy condition.

Building on the success of SEAS, the company's most recent project with NAVSEA and the Navy SBIR/STTR Transition Program (Navy STP Contract N68335-20-C-0157) focuses on a Plug-and-play Analytical Framework for Distributed Structured and Unstructured Data Sets for Condition Based Maintenance. This system is called the SEAS+ Digital Sustainment Platform, and it provides insight and actionable intelligence for both shipboard and land-based industrial organizations. Since Navy ship operators and maintainers greatly benefit from a system that provides real-time visibility across all existing assets, SEAS+ integrates information and structured/unstructured data from multiple stovepiped systems and people into a single actionable digital platform.

SEAS+'s target transition path to the Fleet is via NAVSEA's GENISYS Program as an enhancement to the current Shipboard Energy Assessment System. One of the benefits of the new system is the extension of SEAS' operational readiness calculations beyond energy algorithms, as this directly contributes to an enhanced digitally informed bridge and watch stander experience.

Participation in the Navy's STP provided Beacon with the strategic guidance of how to best communicate this value proposition, not only to other areas of the Navy, but also to other service branches within the DoD.

After working with NAVSEA on the SEAS and SEAS+ technology, Beacon caught the attention of the Air Force, which has adopted this technology and placed it in its Rapid

Sustainment Office (AFRSO) pathways to scale it across the agency.

As a software company in the private sector that made the transition to big-time military success, Beacon can't help but reflect upon the process and give thanks to SBIR for opening up many doors both in the government and commercial sectors.

"SBIR has been very good to us," explains Mackey. "The fact that we have made a positive impact for the DoD, while at the same time developing a scalable commercial product portfolio, demonstrates the power and opportunity of the SBIR program. We never thought we'd be delivering military technology. When the e-bubble collapsed, that's when we were introduced to SBIR. We initially said: 'We don't do federal.' But the Navy was asking specifically for the expertise we had developed with commercial markets in an active SBIR solicitation. We didn't know anything about working with the military, but what we saw was a non-dilutive investment in evolving our technology with engaged customers who were very specific about their operational needs. They told us what they needed and then they worked with us to come up with an answer to their problem. This is the Holy Grail of product development: funding and engaged end-users. So, for a company looking for dual use, the SBIR program is ideal."

For more information, visit Beacon's website at www.beaconinteractive.com.

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