

SUCCESS STORY

TOPIC NUMBER:
AF083-139

SBIR INVESTMENT:
\$3,388,253

PHASE III FUNDING:
\$12,698,929



SEA DRAGON INTELLIGENCE, SURVEILLANCE AND RECONNAISSANCE (ISR) SERVICES

Technology Service Corporation (TSC) developed the Sea Dragon intelligence, surveillance and reconnaissance (ISR) airborne system to offset illegal activities in the Indo-Pacific region.

Technology Service Corporation (TSC)

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THE CHALLENGE

The United States is strengthening maritime domain awareness throughout the Indo-Pacific region through the Building Partner Capacity program. The program requires a low-cost air platform with minimal size, weight, and power (SWaP) capable of generating evidentiary-quality data while providing real-time reporting. This technology is used by partner nations to prosecute human trafficking, drug smuggling, and illegal fishing events.

THE TECHNOLOGY

Technology Service Corporation (TSC) developed the Sea Dragon Air platform, a SWaP-compliant open architecture system providing customer-tailored services. The Sea Dragon provides customizable intelligence, indications and warnings, and tipping/cueing services complete with metrics of performance. Sea Dragon has a flight endurance of up to six hours and has both line-of-sight and beyond line-of-sight data link capabilities. Sea Dragon's synthetic aperture radar can detect targets surveillance areas with a high-quality intelligence, surveillance and reconnaissance (ISR) output.

THE TRANSITION

This project developed hardware and software for a compact, lightweight surveillance receiver in response to a solicitation for radio frequency detection, integrated communication and threat emitter jamming. In Phase I, TSC created a multi-sensor Threat Emitter Geolocation System (TEGS). TEGS was designed for rescue, homeland security, and detecting surveillance spoofing. Phase II proved the TEGS system's ability to geolocate ground-based emitters. The TEGS technology evolved to Sea Dragon ISR. Two SBIR Phase III contracts were awarded under topic AF083-139. The first was sponsored by NAVAIR SYSCOM Security Cooperation Office to acquire Sea Dragon ISR services for Indo-Pacific maritime domain awareness.

The ISR services are part of partner building with Compact of Free Association nations within the Indo-Pacific area of responsibility, by providing maritime domain awareness for U.S. security concerns. The second Phase III contract was awarded by NAVAIR for a mobile ground control station to support Sea Dragon ISR.

THE NAVAL BENEFIT

The Sea Dragon ISR system has been instrumental in detecting illicit activities. The system has effectively alerted host countries to unlawful fishing, dark targets and spoofing events while providing unique collection statistics. Tailored information has enabled law enforcement to better patrol territorial waters by instantly sharing real-time updates. The system has also plays a crucial role in multiple search and rescue missions, saving the lives of people in the region. Since the Sea Dragon is platform-agnostic, it can be operated on small manned aircraft or unmanned aerial vehicles, which are relatively inexpensive to operate.

THE FUTURE

The Sea Dragon is being used on larger aircraft with longer flight time, duration and distance to monitor illegal activities. The Navy is partnering with other Indo-Pacific countries to provide ISR services through the Non-Program of Record Building Partner Capacity program.

"The successful utilization of the Sea Dragon program was made possible by leveraging emerging U.S. industry technologies via the Small Business Innovation Research (SBIR) program. SBIR encourages small domestic businesses to engage in Federal Research/Research and Development (R/R&D) with the potential for commercialization."

Sarah Mudd, Case Manager, NAVAIR Non-Program of Record