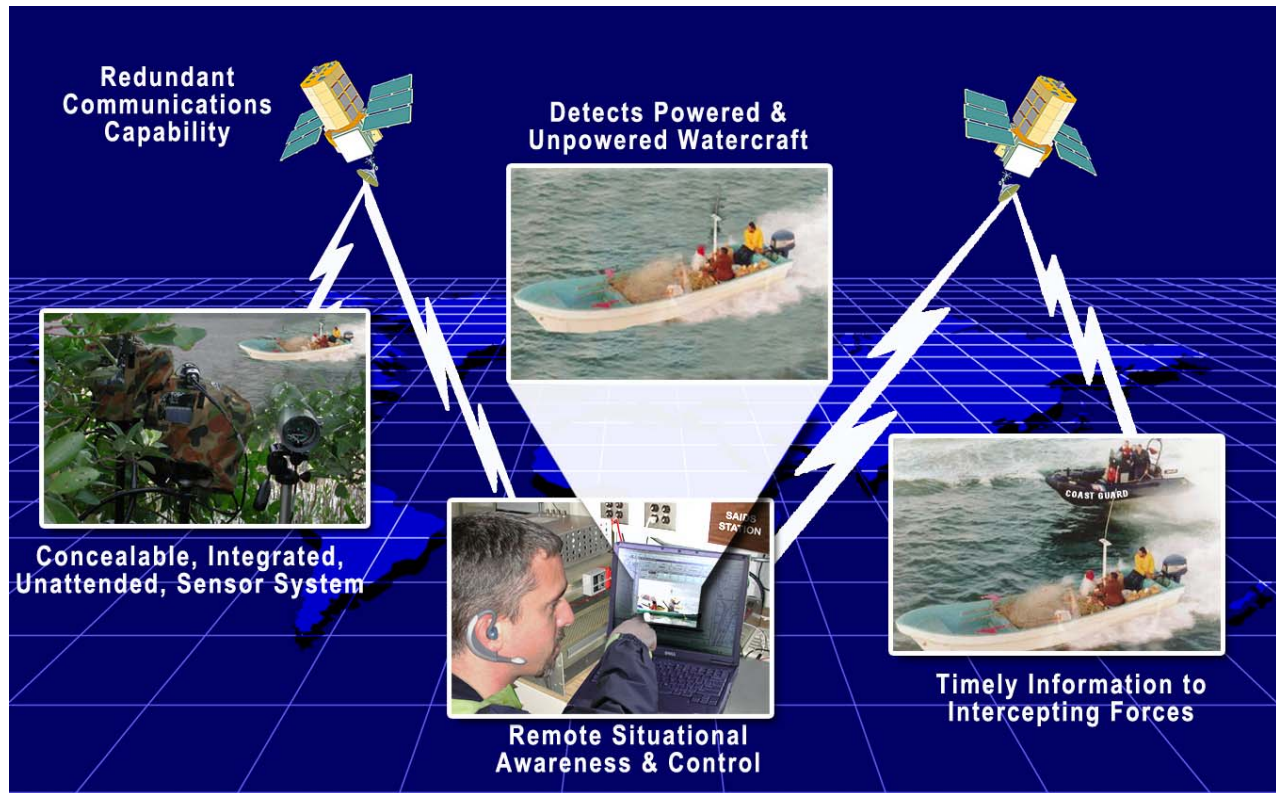


Remote Marine & Watercraft Surveillance System (RMWSS)



The Threat

The emerging Narcoterrorism threat is severely impacting U.S. military and police forces' ability to stem the flow of illegal drugs. Narcoterrorists use a variety of methods to transport drugs from their laboratories to final destinations in the United States.



The Problem

The starting point for much of the illegal drug traffic into the United States is the Andean Region of South America, a dense jungle environment dominated by the 11,000-mile Amazon waterway and its tributaries. Using a variety of craft from canoes to "Go Fast" boats, this network of waterways has become a prime transportation corridor for the narcoterrorists to convey drugs from fields or laboratories to larger vessels for transshipment to the United States.

Until now, no existing unattended ground sensor (UGS) could effectively detect and classify both powered and non-powered craft in a riverine environment. In support of its counter drug mission, U.S. Southern Command (USSOUTHCOM) has a pressing need to rapidly develop, deploy, and integrate a robust system for remote detection of riverine watercraft.

The Solution – RMWSS

Custom Manufacturing & Engineering, Inc. (CME) has developed and demonstrated a new sensor suite that detects, tracks, and reports the position of watercraft targets. This architecture is called the Remote Marine & Watercraft Surveillance System (RMWSS).

RMWSS includes several key imaging and non-imaging sensors, sensor data links, networking protocols, and situational awareness displays. In addition, CME provided a venue for a demonstration of relevant technologies developed by the University of Florida and the University of Texas at Austin for RF Doppler sensing and hydro-acoustics, respectively.

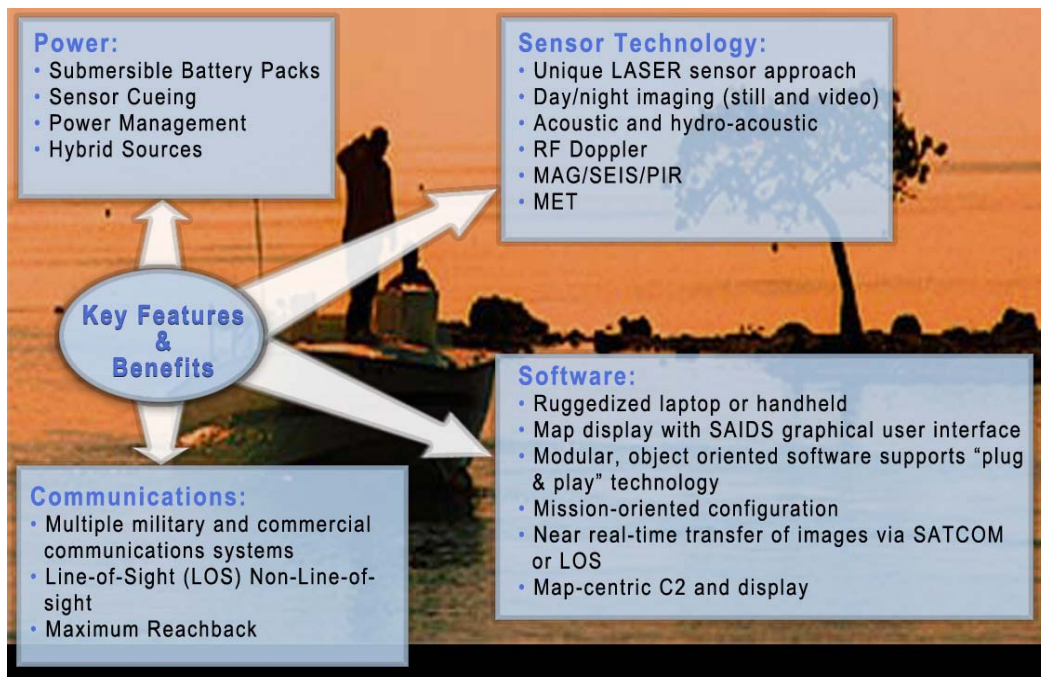
CME conducted technical experiments and field trials that demonstrated the RMWSS in a relevant field environment. Using an off-the-shelf, high-performance long-range electro-optic tripwire and CME-developed detection algorithms, RMWSS successfully demonstrated reliable detection and tracking of watercraft out to ranges of over 1,000 yards while achieving near-zero false alarms. The field trials demonstrated that the RMWSS architecture is now capable of conducting ongoing, remote surveillance of rivers and coastal waters at

various ranges. In addition, some of the architecture has already been ruggedized for field use.

Due to the interoperable capabilities of the UGS architecture, RMWSS provides for inclusion of new or emerging sensor requirements or technologies as they become available. RMWSS can also be used to provide additional mission support for traditional remote reconnaissance, observation, surveillance, situational awareness, and force protection.

To date, this project has demonstrated a range of enabling technologies that in some cases are ready for operational use today. Other new or emerging technologies will be readied for operational demonstration at the end the Phase II effort. CME has demonstrated RMWSS to be applicable to both Military and Homeland Security applications. CME is working closely with proponent organizations to implement new solutions that meet mission needs.

During the Phase II effort, CME will develop a completely integrated sensor mix based on the RMWSS architecture. The system will be fully interfaced with the sensor suite and will provide near-real-time reachback situational awareness.



About CME

- High-value small business
- Fabrication and production assembly
- Research, development, systems integration and rapid prototyping
- Experienced vendor to Government and prime contractors
- Certified SDB, WOSB, 8(a)
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- Power-Electronics and Power Management
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