



# SENSORS

**RAPID RESPONSE  
PROVEN SOLUTIONS**



*Special Missions Center at Naval Surface Warfare Center, Crane Division (NSWC Crane) supports the Department of Defense (DoD) in the warrior centric capability areas of Special Operations, Irregular Warfare and Expeditionary Operations primarily Navy Special Warfare and Naval Expeditionary Forces.*

*Special Mission's Sensor thrust area personnel are responsible for designing, developing, and delivering real-time integrated solutions to the elite Warfighter, giving them a decisive advantage in the ever-changing combat environment.*

## SUPPORTING THE WARFIGHTER

NSWC Crane's innovators rapidly transition technology by integrating threat assessment, proven solutions and risk management with product deployment and training to give our troops a decisive advantage. NSWC Crane experts develop and deploy sensors and communications technologies that enable the most advanced intelligence gathering, and surveillance capabilities for ground, surface and air support.

As the military works to increase the agility and versatility of its sensor systems, NSWC Crane continuously works to increase the capabilities of military sensors, surveillance and reconnaissance (ISR), by supporting the ever-changing sensor technologies into new weapon systems and operating methods. NSWC Crane is integral in sensor integration to platforms that provide tactical communications, situation awareness, remote sensors, close-air support and fire support.

NSWC Crane sensor experts enable our troops to capture complete, accurate and up-to-the-minute information about their surroundings. Whether tracking enemy movements through high-powered night vision devices, using sensors to detect incoming ground and air attacks, or saving lives with Identification Friend or Foe/Combat Identification (IFF/CID) technology, the Warfighter depends on innovative solutions created and designed by Crane's Special Missions experts.

NSWC Crane supports the Special Operations Command's (SOCOM) Program Managers with products and technologies that have a direct impact of the safety on our troops in combat situations, including Integrated Night Observation Device (INOD), Special Operations Laser Marker (SOFLAM), Special Operations Visual Augmentation Systems (SOVAS) and Handheld Imager (HHI).

## PRODUCTS AND SUCCESS STORIES



NSWC Crane's Special Missions experts and facilities are the premier source for the elite Warrior who requires reliable and practical solutions, expertly delivered and deployed to ensure safe and effective missions.

NSWC Crane is the genesis behind the United States Marine Corps (USMC) Ground Based Operational Surveillance System (GBOSS) which enables Warfighters to have the upper hand in surveillance while in theater. Equipped with off the shelf technology integrated by Crane software experts, GBOSS provides continuous, real-time surveillance that is required to monitor Improvised Explosive Device (IED) placement and other activities of interest. GBOSS uses electro-optical day and infrared cameras, radars, laser designator, and wireless data feeds to communicate information to Warfighters stationed near forward-operating bases as well as other unmanned aerial systems and ground sensors. The software designed for GBOSS originated and is patented by NSWC Crane experts to be able to fully integrate additional system requirements for rapid and affordable system integration. NSWC Crane has designed multiple variations of GBOSS to meet Warfighter needs. Crane also provides trained experts in the deployment and operation of the system.

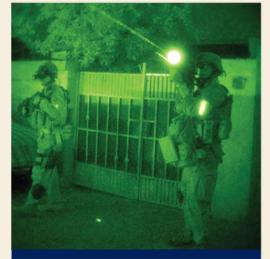
# SENSORS

## PRODUCTS AND SUCCESS STORIES

Utilizing its expertise in sensor technologies, NSWC Crane supports the Warfighter with Integrated Airborne ISR sensors. These sensors play a key role in the detection and monitoring of illicit trafficking and counter-narcoterrorism targets and events. The sensors are capable of all weather, day and night operations that occur at sea, in littoral zones, air and on the ground. They forward real-time fused sensor data to ground control stations.

Given the evolving threats for today and tomorrow's Warfighter, NSWC Crane collaborates with nearly 140 academic, industry, DoD and Department of Homeland Security professionals from 60 different organizations to create the first-ever Electro-Optic (EO) Technology Roadmap. The Roadmap serves as a resource to enable rapid EO technology transition for the Warfighter and assist in planning for the research, development, test, evaluation, acquisition and sustainment of current and future EO, Infrared (IR) and laser systems.

NSWC Crane was responsible for delivering the new Common Aviation Command and Control System (CAC2S) to the United States Marine Corps (USMC). Warfighters now have the ability to engage the enemy rapidly and effectively ensuring command and control of all air support operations and enabling efficient assembly of aviation command and control centers. CAC2S centers consist of tactical shelters with state-of-the-art software and technology, which can be free standing, mounted in transit cases or mounted onto High Mobility Multipurpose Wheeled Vehicles (HMMWVs). Furthermore, the CAC2S provides operators the capability to simultaneously support current operations as well as plan for future endeavors. NSWC Crane sensor experts provide all the logistical, hardware, and interim support for CAC2S. NSWC Crane has produced 20 Phase 1 CAC2S systems so far and is building another three training systems for completion by mid-2015. In addition to the new systems, NSWC Crane will be integrating additional engineering upgrades to the TPS-59 radar interface and a Link-16 tactical data interface.



The NSWC Crane Electro-Optic Experts also serve as the In-Service Engineering Agent/Acquisition Engineering Agent/Supervisory Special agent for all visual augmentation systems for Special Operations.

NSWC Crane's national experts have developed, qualified and supported deployed power sources for air, surface and undersea manned and unmanned vehicles for over 20 years. Crane's power experts enable sensor and combat systems to successfully execute their mission from sea-based to airborne platforms as well as man-portable systems. Crane develops and supports primary power sources for Special Operations undersea mobility applications such as the U.S Navy Sea, Air and Land (SEAL) Delivery Vehicle.

## CUSTOMERS AND PARTNERS

Anchored by the technical rigor and proven leadership expertise required for systems engineering, NSWC Crane delivers comprehensive and affordable technical solutions to the Warfighter.

DoD, USSOCOM, Marine Corps, Naval Sea Systems Command (NAVSEA), Department of Homeland Security and the Office of Naval Research are just a few of many customers who have turned to NSWC Crane for special missions support during its decades of commitment to our nation.

## LEADERSHIP, FACILITIES, AND CAPABILITIES

NSWC Crane's technical experts rapidly respond to Warfighter needs with multi-spectral, multi-platform solutions across the entire life cycle utilizing innovative thought processes from research and development to sustainment.

With more than one-million square feet of offices and laboratories, the Special Missions staff of more than 1,000 employees provides world-class technical solutions.

Test ranges supporting the Sensors and sensor integration platforms include: laser ranges, night vision test range, the NSWC Crane Special Weapons Assessment Facility and the DoD's largest resource dedicated to power systems.

NSWC Crane scientists and engineers are national experts in support to the Warfighter through innovative technology development by disclosing more than 300 pieces of intellectual property since FY 2000. Special Missions experts consistently strengthen innovation through Warfighter product development building intellectual capital that has NSWC Crane becoming a recognized leader in patent portfolio programs.

[www.navsea.navy.mil/Home/WarfareCenters/NSWCCrane.aspx](http://www.navsea.navy.mil/Home/WarfareCenters/NSWCCrane.aspx)

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