NSWC Crane Strategic Missions Center

# GLOBAL STRIKE

**DETER**
**DEFEND**
**DEFEAT**

*Strategic Missions Center at Naval Surface Warfare Center, Crane Division (NSWC Crane) provides the Warfighter with a full range of capabilities and technologies to alter an adversary's will and ability to attack the U.S. and its interests.*

*NSWC Crane's focus on Global Strike provides the Warfighter with innovative technical solutions to quickly deter and defend aggression and effectively defeat threats worldwide.*

## Supporting the Warfighter

Global Strike provides the Warfighter with the capabilities necessary should a threat be realized. Strategic Missions experts help guarantee that offensive capabilities are fully reliable and always available, through unmatched support of global-strike capabilities such as Submarine Launched Ballistic Missiles (SLBM), land-based Inter-Continental Ballistic Missiles (ICBM) and nuclear-powered submarines.

Through its recognized leadership, preeminent facilities and experienced personnel, the Strategic Missions Center provides unprecedented support to the Ohio-class (Trident) submarine and its arsenal of weapons. This includes support to all navigation, fire control, guidance, launchers and re-entry systems that keep the Trident submarine fully functional.

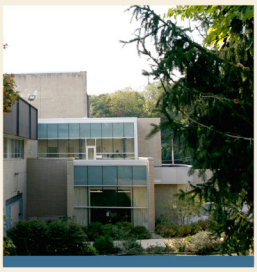
NSWC Crane marked a milestone in 2008, with 50 years of success in strategic missions, which began with its support of the Navy's Fleet Ballistic Missile (FBM) Strategic Weapons System (SWS). Today, every ballistic missile in the U.S. arsenal carries key components designed, developed or sustained by NSWC Crane's Strategic Missions personnel.

## Products and Success Stories

Throughout the half-century partnership with Strategic Systems Program Office (SSP), NSWC Crane has continued to design and develop leading edge, global strike solutions, including extensive support to the D5 missile program.

NSWC Crane played a major role in the D5LE Missile life extension program and we are now applying a commonality approach in support of the Air Force Life Extension Program for the Minuteman III Missile. NSWC Crane Strategic Missions personnel are also assisting in technology evaluations for the development of non-nuclear global strike capability.

Strategic Missions personnel also are recognized leaders among the radiation sciences community. Teaming with several universities, NSWC Crane provides extensive radiation testing capabilities and facilities, ensuring the Warfighter's defense systems are ready and effective.



NSWC Crane's radiation science experts are collaborating with Indiana University's Cyclotron Facility for the production of a new Advanced Electron-Photon Facility (ALPHA). ALPHA will significantly enhance current linear accelerator (LINAC) testing capabilities and exceed the Department of Defense's (DoD) requirements for radiation testing.

For more than 40 years, NSWC Crane also has provided engineering and testing support to the Air Force's Minuteman Intercontinental Ballistic Missile. Strategic Mission experts conduct battery testing as well as provide design, specification development and production support.

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## Customers and Partners

NSWC Crane experts are consistently engaging academia as a critical partner in the growth of our knowledge in support to the Warfighter.

Teaming with academia is an important element to the depth of work the Strategic Mission Center provides to the Warfighter. Academic partnerships within Global Strike include:

- *Indiana University*
- *Vanderbilt University*
- *Purdue University*
- *Texas A&M University*
- *Penn State University*

## Leadership, Facilities and Capabilities

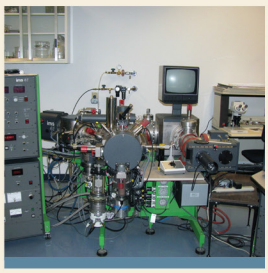
Our nation's missile deterrence systems are under tremendous stress to perform; there is no room for failure when Global Strike capabilities are needed. No other group within the Navy is capable of providing the DoD with extensive lifecycle support through failure and material analysis, electronics testing and environmental testing such as NSWC Crane.

Committed to total lifecycle management, NSWC Crane provides the knowledge, facilities and capabilities needed to deliver innovative technical solutions to the Navy, often in one design-cycle and turnaround times in as little as a year.

NSWC Crane's Global Strike facilities, capabilities and knowledge include:

- *World's most powerful semi-conductor linear accelerator (LINAC)*
- *DoD's premier facility for microelectronics failure and material analysis as well as power systems evaluation*
- *Modeling and simulation capabilities for a wide range of physical and electronic devices, including heat variations, mechanical stress, acoustic patterns and electromagnetics*
- *Recognized technical-research leaders with the radiation effects community, with more than 100 published papers*

NSWC Crane's Strategic Missions Center is the Navy's only organic organization that designs radiation hardened electronics. Radiation hardening allows electronic components and systems to be resistant to the damage caused by high-energy subatomic particles and electromagnetic radiation, which is vital for equipment used in space or around nuclear reactors.



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