



Naval Information Warfare Center Pacific (NIWC Pacific) Command and Control (C2) rapidly delivers systems providing Navy and Joint C2 at strategic, operational, and tactical levels. NIWC Pacific provides the professional expertise to develop, deliver, test, and certify operational and tactical C2 systems and command centers that provide the common operational picture, tactical situational awareness, and fused intelligence data used for Navy, Joint, and Coalition warfighters' interoperability. As part of our technical leadership in C2, we also perform basic and applied research to explore and develop new technologies for C2 applications.



Operations specialist operates the Global Command and Control System-Maritime (GCCS-M) aboard USS Bonhomme Richard.

### NIWC Pacific's Unique C2 Capabilities

- Command and control systems
- Systems and systems of systems engineering
- User-centered design, human systems interface
- Tactical data links (TDL)/C2, standards, network design, interoperability certification testing, and operational support
- TDL/Ballistic Missile Defense System (BMDS) testing and certification
- Agile Software Development/development operations
- Systems integration
- Command centers
- C2 basic and applied research
- Data Analytics
- Artificial Intelligence/Machine Learning

Today, U.S. Navy and other military services must take action to protect and operate within the cyber warfighting domain. NIWC Pacific and the Navy have utilized technological advances across the cyber domain to maintain that critical warfighting advantage over all adversaries.

### Some of NIWC Pacific's current C2 efforts

- **Maritime Tactical Command and Control (MTC2):** MTC2 is a next generation C2 software-only program that will deliver battle management aid and maritime

planning tool capabilities to dynamically plan, direct, monitor, and assess maritime operations in support of Fleet design and the commander's scheme of maneuver, as well as Joint, multi-Service, and Coalition partner planning.

- **Ballistic Missile Defense System (BMDS):** NIWC Pacific supports BMDS test missions (flight tests, missions, and ground test campaigns) and command, control, communications, computers, intelligence (C4I) block development of the BMDS as well as real-world operations and Fleet/warfighter events (e.g., Fleet BMD exercises, installations and check-outs, system operational verification tests, self-assessment groom training, inspections and surveys, and casualty report trouble shooting).
- **Command and Control Processor (C2P)/Common Data Link Management System (CDLMS):** NIWC Pacific is the software support activity for C2P/CDLMS, a shipboard system that provides real-time control and management of Tactical Digital Information Links (TADILs) through interfaces with the host combat system and data link terminals. TADILs supported include Link-11, Link-16, Satellite TADIL J, Joint Range Extension, and Link-22.
- **Joint Space Operations Center (JSpOC) Mission System (JMS):** JMS is an acquisition category I Major Automated Information System providing C2 capabilities for space and replacing multiple legacy systems with sustainable hardware and open, evolvable software architecture.
- **Intelligent Multi-UxV Planner with Adaptive Collaborative/Control Technologies (IMPACT):** Agility in tactical decision making, mission management, and control is the key attribute for enabling heterogeneous unmanned vehicle teams to successfully manage the "fog of war" with its inherently complex, ambiguous, and time-challenged conditions. NIWC Pacific is performing applied research on supervisory control and the machine learning of tactics that combine flexible play-calling, bi-directional human-autonomy interaction, "global" cooperative control algorithms, and "local" adaptive/reactive capability.
- **Science and Technology (S&T) System Engineering, Integration and Test (SEI&T):** NIWC Pacific demonstrates the ability to increase/fuse command control situation awareness information that includes maneuver control, blue force tracking, intelligence, fires, and logistics by using composable services at the tactical edge.
- **Global Command Control System – Integrated Imagery and Intelligence (GCCS I3):** NIWC Pacific provides system engineering, software/system design, and test integrated imagery and intelligence (I3) products to the Defense Information Systems Agency, Office of Naval Intelligence, Joint Deployable Intelligence Support System, Joint Program Office, and Program Executive Office, Command, Control, Communications, Computers, and Intelligence. The capability supports

operational commander's situational awareness by providing capability for integrating actionable intelligence into the common operational picture.

- **Comprehensive Automated Maintenance Environment-Optimized (CAMEO):** Demonstrates the ability to perform analytics to improve aircraft readiness and reduce sustainment costs for the warfighter community. NIWC Pacific provides a condition-based maintenance capability enabling continuous integration and automation of operational, maintenance, and logistical processes and technical data.
- **Tactical Network Readiness Group (TNRG):** NIWC Pacific provides tactical data link operational verification tests for all TDL-equipped ships and tactical aircraft. This unit-level assessment ensures deployment readiness, and provides an operational check of the combat system or operational flight program. The TNRGs also participate in exercises, real-world operations, and ship's force troubleshooting. TNRGs are located in the Fleet concentration areas of Norfolk, San Diego, and Yokosuka, Japan.
- **Navy Information Applications Product Suite (NIAPS):** NIWC Pacific provides system/software engineering expertise and serves as the system's software support activity. The NIAPS system delivers maintenance, logistics, administrative, training, and management applications to users at sea while ensuring data between ship and shore sites remain synchronized with all hosted stations aboard 240 surface ships and submarines and at AEGIS Ashore sites.

## With the Warfighter

NIWC Pacific is providing around-the-clock support to assist and maintain operational readiness for C2 Systems.

United States Strategic Command is establishing a new, 1 million square foot headquarter facility at Offutt Air Force Base (AFB) Nebraska. NIWC Pacific provides on-site expertise, with reach-back to Hawaii and San Diego offices, to design, develop, procure, integrate, install, and transition C4I/IT capabilities into the new C2 facility.

NIWC Pacific operates, maintains, and manages the U.S. Navy's Link 16 Network Design Facility, which provides critical pre-deployment TDL support to the U.S. Navy by providing Link 16 load files for Navy platforms, verifying and validating network requirements, and implementing Link 16 networks for Navy, Joint, and Allied Forces, as well as supporting representation at the U.S. Joint Network Design Team and managing the Joint Tactical Information Distribution System/Multifunctional Information Distribution System Network Library and the network description documents of every Link 16 network for the U.S. Navy.

**For more information**  
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