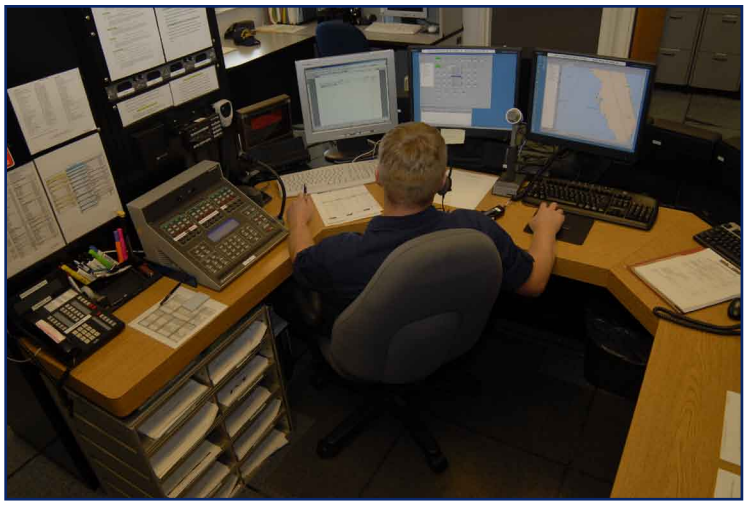
Acquisition Directorate

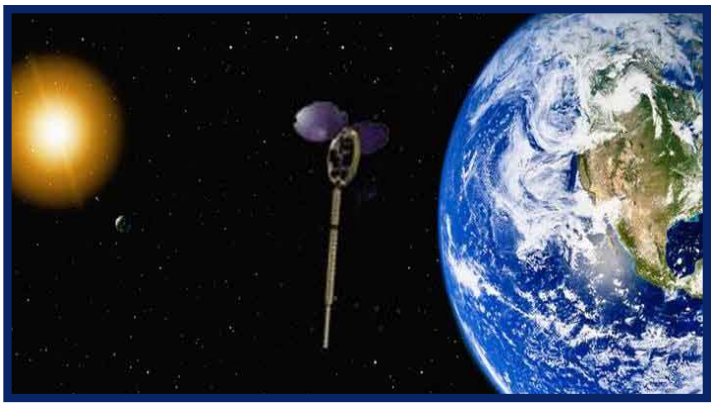
C4ISR Fact Sheet

August 2008

IDS Command, Control, Communication, Computers, Intelligence, Surveillance and Reconnaissance (C4ISR)
Training Center, Petaluma, Calif., is equipped with Deepwater C4ISR systems, to train Coast Guard National Security Cutter crews and U.S. Navy Littoral Combat Ship crews.



Rescue 21
Provides direction-finding capability and digital selective calling for more timely response to mariners in distress and allows protected communications for law enforcement and homeland security operations.



Nationwide Automatic Identification System (NAIS)
Is a two-way, maritime data communication system that provides vessel and navigational data, including vessel location, course, speed and cargo information for enhanced maritime awareness.

Mission execution begins here.

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Command, Control, Communication, Computers, Intelligence, Surveillance and Reconnaissance (C4ISR)

Mission Capability: The C4ISR technology architecture is the foundation for a network that collects, processes, integrates, analyzes, evaluates and interprets mission information. The C4ISR architecture includes sensors and processing systems carried aboard manned and unmanned aircraft and cutters, as well as shore based information technology. C4ISR project includes the following efforts: Legacy Cutter Upgrade, HC-144A MRS MPA Mission System Pallets (MSP), HC-130H/J LRS MPA Mission Support Systems (MSS), C4ISR shore facility upgrades, including Training Facility, Petaluma, Calif.; Communications Area Master Stations (CAMS), and command centers. Collectively, the C4ISR architecture supports a networked operational context, through all participant platforms and units share a Common Operational Picture (COP). The COP is a multi-dimensional visualization of the operational space that extends the influence and capabilities of each individual element, or "node" in the network –including cutters and aircraft. The C4ISR architecture links the Coast Guard's operational forces with one another, and also with the command, control, communications and intelligence capabilities of other local, state and federal agencies –including access to classified data communications through the U.S. Department of Defense's Secret Internet Protocol Routed Network (SIPRNET).

Status: To date, 39 of the Coast Guard's cutters have received the first phase of the Legacy Cutter Upgrade –including 14 210ft. and 13 270ft. cutters; and 12 378ft. high endurance cutters. All 39 have the Eicon Card Wide Area Network (ECWAN) upgrade; Automated Information System (AIS); and INMARSAT-B upgrade. The 12 378ft. cutters have the Law Enforcement/Marine Digital Selective Calling (DSC) Multiband (VHF/UHF) Radio upgrade. The program is currently preparing to begin Operational Test and Evaluation testing on the first three Mission Support Pallets (MSPs) delivery for the HC-144A. A total of six HC-130Js will be missionized. The program also plans to upgrade C4ISR suites aboard 130 Coast Guard helicopters. In March 2007 Training Center, Petaluma, Calif., was equipped with Deepwater C4ISR systems, to train Coast Guard National Security Cutter and U.S. Navy Littoral Combat Ship crews. C4ISR upgrades have been completed at CAMS Atlantic, and Miami and San Juan, Puerto Rico command centers. The first phase of the Legacy Cutter Upgrade has been completed, and already is demonstrating improved operational capability.

Rescue 21

Mission Capability: Rescue 21 is the United States Coast Guard's advanced command, control and communications system. Created to improve the ability to assist mariners in distress and save lives and property at sea, the system is currently being installed in stages across the United States. By harnessing cutting-edge communications technology, Rescue 21 enables the Coast Guard to perform all missions with greater agility and efficiency. The new system will close 88 known coverage gaps in coastal areas of the United States, enhancing the safety of life at sea. The system's expanded system frequency capacity enables greater coordination with the Department of Homeland Security, as well as other federal, state, and local agencies and first responders. When completed, this vital major systems acquisition will provide an updated, leading-edge Very High Frequency – Frequency Modulated (VHF-FM) communications system, replacing the legacy National Distress Response System installed and deployed during the 1970s. Rescue 21 will cover more than 95,000 miles of coastline, navigable rivers and waterways in the continental United States, Alaska, Hawaii, Guam, and Puerto Rico. By replacing outdated legacy technology with a fully integrated system, Rescue 21 provides the Coast Guard with upgraded tools and technology to protect the nation's coasts and rescue mariners at sea.

Status: A total of 39 Coast Guard Sectors will be outfitted with Rescue 21 capability at the end state of Full Production Completion. The Rescue 21 project, which replaces the legacy National Distress and Response System, now provides coverage for 16,577 miles of coastline. Rescue 21 is online at the following Sectors and Group/Air Stations: Seattle, Delaware Bay, Long Island Sound, New York, Jacksonville, Hampton Roads, Miami, St Petersburg, North Bend, Portland, Mobile, Baltimore, New Orleans, and Group/Air Station Port Angeles, and Group/Air Station Astoria. The project has two Project Resident Offices (PRO), one located in Scottsdale, Ariz., and the other in Juneau, Alaska. As full rate production continues, other sectors, groups and air stations are scheduled for Rescue 21 acceptance at a rate of one per month.

Nationwide Automatic Identification System (NAIS)

Mission Capability: NAIS is a two-way, maritime data communication system that provides vessel and navigational data, including vessel location, course, speed, and cargo information. NAIS data coupled with other government intelligence and surveillance information forms a holistic, overarching view of maritime traffic within or near the U.S. and its territorial waters. NAIS will enable the USCG to identify, track and communicate with marine vessels using the AIS, a maritime digital communication system that automatically transmits and receives vessel position and voyage data over very-high frequencies. NAIS will allow the USCG to collect vessel safety and security data from AIS-equipped vessels in the nation's territorial waters and adjacent sea areas out to approximately 2,000 nautical miles (nm) and share the data with USCG operators and other government partners.

Status: On 19 June 2008, the U.S. Coast Guard launched an ORBCOMM concept demonstration satellite, equipped with Automatic Identification System (AIS) capability, from Kapustin Yar, Russia. The U.S. Coast Guard Nationwide Automatic Identification System (NAIS) Project sponsored equipment on the satellite to test the feasibility and effectiveness of AIS message reception and reporting from space for ship tracking and other navigational activities. The NAIS project is being implemented in three primary increments. Increment one, fielded in September 2007, currently provides the capability to receive AIS messages at 55 critical ports and nine coastal areas across the nation. Increment two (with nationwide AIS transmit and receipt coverage) will provide the capability to receive AIS messages out to 50 nautical miles and transmit AIS messages out to 24 nautical miles along the entire coastline of the U.S. and designated inland waterways. Increment three will extend the coverage for receipt of AIS messages out to 2,000 nautical miles from shore. The upcoming satellite testing will assist in the development of Increment three of the NAIS project.

Note: C4ISR (IDS) improvements, Rescue 21, and NAIS all work cooperatively to ensure integration and command use of equipment where possible.