

# Multi-Mission Tactical Trainer (MMTT) / Tactical Action Officer (TAO) Intelligent Tutoring System (ITS)

NAVAL AIR WARFARE CENTER  
TRAINING SYSTEMS DIVISION  
ORLANDO FLORIDA

## EXHIBIT FACT SHEET



### Multi-Mission Tactical Trainer (MMTT) /

### Tactical Action Officer (TAO) Intelligent Tutoring System (ITS)

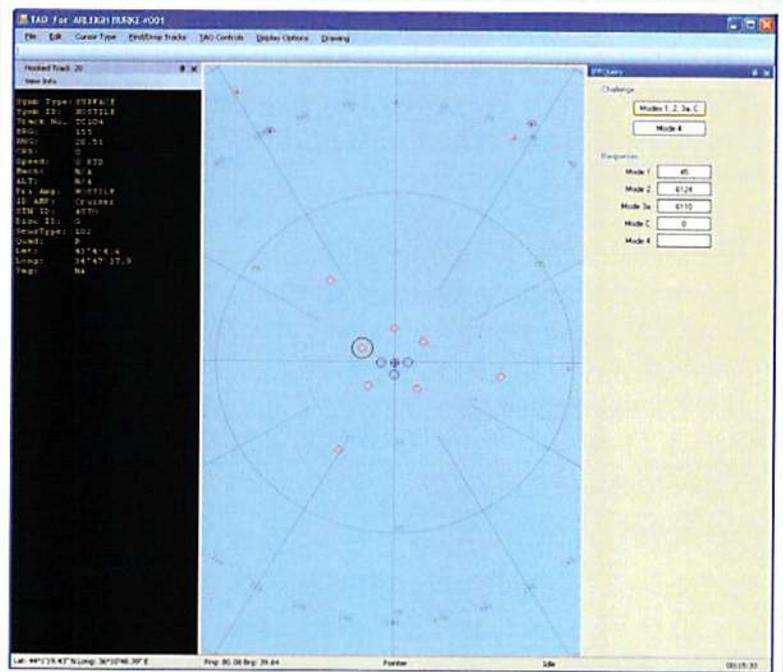
The MMTT provides tactical sensor and command and control (C2) simulation for use by ship, ship/air combat teams, and Strike Group staff supervisory-level personnel. The MMTT system supports a wide range of training operations. It can be run as a stand-alone multi-ship/multi-aircraft trainer, or can be interfaced to existing training devices to upgrade or enhance current training capabilities.

The trainer is based on the PC-based Open-architecture for Reconfigurable Training Systems (PORTS) architecture which runs the Combined Tactical Training and Analysis System (CTTAS) from Northrop Grumman as its core simulation engine.

The PORTS MMTT system is the only surface ship individual, sub-team, team, and multi-team trainer in the Fleet. The MMTT has three large installations at Surface Warfare Officers School (SWOS), Newport, Rhode Island; Fleet Anti-Submarine Warfare Training Center (FASW), San Diego, California; and Center for Surface Combat Systems (CSCS) Detachment East, Norfolk, Virginia. Smaller systems to support Air Intercept Controller (AIC) training are installed at FASW, Pt. Loma, San Diego, California; TACGRU ONE, San Diego, California; CSCS Unit, Dam Neck, Virginia; CSCS Detachment Mayport, Florida; CSCS Detachment PACNORWEST, Everett, Washington; CSCS Detachment, Pearl Harbor, Hawaii, and CSCS Detachment Yokosuka, Japan.

The trainer provides the necessary tools to:

- Train combat team supervisory personnel in the tasks that they must perform during the course of a mission
- Develop the decision-making and communications skills of ship, ship/air combat teams, and Strike Group staff supervisory-level personnel



The MMTT is designed to be an easily re-configurable multi-platform trainer, using software modules to simulate generic shipboard and aircraft combat systems and consoles. Wherever practical, operating procedures for trainee stations have been modeled after procedures and formats implemented in the actual equipment that the station is designed to represent.

The TAO Intelligent tutoring System (ITS) is an additional training capability which runs independently of—but controls—specific PORTS MMTT high-fidelity TAO simulation applications to deliver the desired curriculum principles. One goal of the TAO ITS is to reduce the number of instructors needed to present basic TAO knowledge to a large number of students at one time. A ratio of 40 students to 1 instructor can be supported in a single classroom.

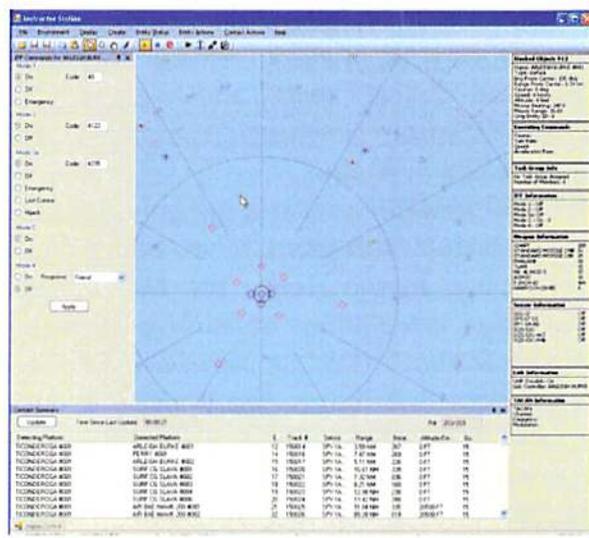


Another goal of the TAO ITS is to train the student in “command by negation” tactical watch control, where watchstanders perform their duties autonomously while the TAO supervises, intervening only to correct mistakes and rectify omissions. The TAO must know which warfare responsibilities belong to each watchstander, how and in which circumstances those duties are performed, and how to communicate with watchstanders to request information, acknowledge reports, and order appropriate actions.

The TAO ITS is designed to instill and assess mastery of these TAO abilities over the course of a series of exercises which present increasingly difficult problems. These include intentional mistakes of omission or commission

by automated watch team role players. When TAO actions are expected, such as when these intentional mistakes are made, the ITS provides hints, prompts, and feedback to the student, which are also summarized at the end of each exercise with a detailed debrief. These interventions are sensitive to real-time changes in the student’s mastery of a wide variety of principles, which are continually assessed. All of these capabilities are matched to support SWOS curriculum requirements.

The PORTS MMTT suite of applications is a hybrid of government and commercial software. The programming has been done by private contractors, and has been deployed in various forms for over 20 years. The TAO ITS has been in use at SWOS since 2007.



For further information on this exhibit, or on business opportunities with NAWCTSD, please contact our Business Support Team by telephone at (407) 380-4763, by e-mail at [orlo\\_businesssupportteam@navy.mil](mailto:orlo_businesssupportteam@navy.mil), fax at (407) 381-8825, or by mail at Business Support Team, NAWCTSD, 12350 Research Parkway, Orlando, FL 32826.