

Application: U.S. Army Training Exercise Control (EXCON)

What's the problem: Training Exercise Control capabilities are required during actual exercises.

The Army requires tools that support a commander's unit-training activity control during training exercises to enable them to better operate the field exercise – directing activities, correcting deficiencies and sustaining strengths. This can be achieved by controlling the exercise to coordinate, respond, and test based on the exercise plan, evaluation factors, and comparisons of soldier, leader, and unit performance against the plan and standards.

Currently, exercise control (EXCON) functionality is housed in trailer or schoolhouse buildings in the form of network portable PCs. Field-rugged (MIL810G) EXCON functionality responsive to field commanders/training coordinators has not yet been built or deployed to collect real-time training data, provide After Action Review (AAR) capabilities, be fielded into training range and home-station environments, or support real-time exercise control for unit-specific training tailoring needs.

- There is a current lack of real-time wireless connection, control, and access to the training activity in the field.
- There is a current lack of remote, real-time access to manuals and documents about the exercise, equipment, and evaluation information.
- Off-the-shelf solutions, such as PDA-style devices and commercial tablet PCs, lack the processing power, screen size, ruggedization, and capability to support the software currently used for EXCON training by the Army.
- In-the-field training equipment inventory management is required to support review of capabilities and operations.

The Solution: SWMA tablets with CAC authentication, wireless enterprise database syncing, tablet user interface, barcode reader, and PC processing capability to support any Windows-based application, including Army-certified EXCON software.

The SWMA is a high-end ruggedized tablet PC. With up to 8 GB of RAM, it can handle any Windows-based program that supports the exchange of ideas and observations, as well as the evaluation of training presidencies.

SWMA's Xtreme sunlight-readable screen enables outdoor use, viewing, and coordination of training aids such as terrain models, map blow-ups, and data sheets. SWMA's hardened touch screen, which works even when the commander is wearing gloves, facilitates the selection and grouping of observers and controllers (OCs).

The SWMA tablet can store significant amounts of data and display it on a tablet-sized screen, including relevant exercise control, doctrine, tactics, techniques and procedures. SWMA's removable camera can be used to capture and store pictures/videos for immediate review and later AAR. The removable barcode scanner can be used for inventory management, verifying the equipment used during the exercise.

Through the use of the SWMA Tablet, data can be collected during the exercise to facilitate in-field exercise control and later AAR capability – facilitating both immediate evaluation and the

construction of formal reports. SWMA tablets include ports and connection capabilities that support both field display of data and connection to projectors, other large format displays, printers, and other support tools which are available back in the schoolhouse for After Action Reviews (AAR).

The SWMA Tablet is a MIL810G ruggedized tablet computer that basically provides field replacement for desktop systems, allowing leaders and support personnel to easily carry all the required Training Exercise Control capabilities with them into the field. While back in the schoolhouse, SWMA tablets connect to docking stations, expanded keyboards, mice, trackballs, large format displays, and other standard desktop equipment as would any less rugged standard laptop PC.

What is the SWMA? Available under GSA Contract GS-35F-0269U

Cybernet's Supportability Wireless Maintenance Assistant (SWMA) is a Phase III SBIR development that has produced a reconfigurable MIL810G tablet solution platform, which is in full commercial production. SWMA is a rugged tablet computing platform that provides an intuitive interface to enterprise solutions software, optimized for hardware reconfiguration, CAC authentication, and rugged field usage. In both vehicle mount and portable usage it maximizes field personnel efficiency and effectiveness in data capture, tracking, processing and analysis for the logistical and maintenance community.



Cybernet's Supportability Wireless Maintenance Assistant platform is one of the few selected commercial technologies directed by the Navy to participate in Trident Warrior. Trident Warrior is the Navy's major annual operational FORCEnet Sea Trial event. SWMA is also in the process of other trials for integration into the Warfighter FOCUS (WFF) program to support logistics and maintenance at various Army depots throughout the U.S. These trials have proven significant cost and time savings for maintenance personnel, while proving the value of SWMA as a key technology for interfacing with legacy systems in a generic manner and providing tremendous manpower savings with high efficiency and effectiveness. For the Army, SWMA has been selected by Raytheon Warfighter FOCUS to provide training range tracking and provision automation at the National Training Center (NTC) and elsewhere, in order to substantially improve provisioning labor efficiency and reduce paper load to nearly zero.

Active Program Efforts and Developments

Long-Distance Support Capability (Navy, PEO Carrier)

This development leverages the SWMA Platform to integrate Distance Support capability into the maintenance workflow. When a subject matter expert (SME) is required, the SWMA provides the SWMA with "eyes on" assessment of the situation by integrating the SWMA module capabilities and Defense Connect Online for on-site maintenance assistance.

SWMA is available under GSA Contract GS-35F-0269U

Remote Calibration (Navy, NSWC Corona)

In order to make HM&E calibrations more efficient, the SWMA Platform is being integrated into a maintenance aid that includes a SWMA Tablet, wireless access points, and keyboard/video/mouse-over-IP to link the calibration workstations to a SWMA Tablet at the point of calibration, thus reducing the manning necessary to calibration on-ship systems.

Work Order/Inventory Maintenance (Army/Raytheon)

Retrieval, entry, and processing of work orders, service requests, and inventory controls have been made available in the field where network connectivity is not available. Using a combination of the SWMA Platform, MAXIMO, and Datasplice, field operators can access and input work order-related information when downrange without a network connection and synchronize data updates upon return to base. Prior to SWMA integration, data processing was on the order of hours to days; the SWMA integration has reduced this to real-time input with a few minutes of synchronization time at the end of a shift.

Instrumentation Equipment Issue and Tracking Support (IITS) System (Army/Raytheon)

This effort is a technology drive to move from paper to fully-electronic forms for tracking vehicle instrumentation that occurs during each training rotation. Using the SWMA Tablet, installers can track the equipment associated with each vehicle from “issue” to “QA.” An offline database is also available to provide down-range tracking of instrumentation changes necessary due to failure during training.

Partnerships and Collaboration:



Development supported by PEO SHIPS Science and Technology, providing access to ships, maintenance documents and maintenance personnel.

NAVSEA Carderock – Applications and Database support.



NAVSEA Crane – Network connectivity to IT-21 (Ship-based networks), Distance Support (DS).

SPAWAR San Diego – Certifications/Authorizations for secure network based data.



Logistics and maintenance development and support for Warfighter FOCUS (WFF).

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For more information, visit www.cybernet.com and swma.cybernet.com.

SWMA can be customized and integrated into your enterprise or training application as requested:

Capabilities:

Multiple Source Data and Information Capture:

- Imagery and Video
- Barcode, RFID, UID
- Multimeter
- Direct Equipment Interfaces

Rapid High-Performance Data Processing:

- User Manual and Procedure Document Hosting
- Image Annotation
- Collaboration and Access to Alternative Source Information
- Schedule and Task Management
- Electronic Checklists

Supported Applications:

- Any Windows-based Application
- Legacy Logistics/Maintenance Applications (such as SKED, ICAS, and Maximo)
- Functions under COMPOSE load
- LT2 HITS EXCON (and related)

Flexibility via Form Factor and Hardware Design:

- High-performance Computer in Tablet PC Form
- Uniquely Qualified for Field Maintenance Operational Environments
- Meets all Military and Industry-standard Ruggedization Specifications
- Incorporates Water-proof Specifications (IP65)
- Wireless and Wired Operations

Specifications:

<p>Dimensions:</p> <ul style="list-style-type: none"> • 11.75" x 9" x 3.375" • 5.5 lbs. <p>MIL-STD 810F Enclosure:</p> <ul style="list-style-type: none"> • Method 512.4 • Procedure 1 (Sand/Dust/Salt Fog) • Solar Radiation, UVB, IP65 (Equiv.) <p>Display:</p> <ul style="list-style-type: none"> • 10.4" XGA (1024x768) • Dual-Mode Digitizer (Pen & Finger Touch) 	<p>Temperature Ratings:</p> <ul style="list-style-type: none"> • MIL-STD 810G • Methods 501.4/502.4 • -4° to 140° (operational) • -60° to 160° (storage) <p>Shock & Vibration Ratings:</p> <ul style="list-style-type: none"> • MIL-STD 810F • Method 516.5 • Up to 4ft drop (to concrete) • 75g, 11ms Crash Shock 	<p>Processor:</p> <ul style="list-style-type: none"> • Intel i7 620UE • 1.06 GHz • 2.13 GHz Turbo <p>Memory:</p> <ul style="list-style-type: none"> • 2GB (standard) • 8GB (maximum) <p>Hard Drive Options:</p> <ul style="list-style-type: none"> • 320GB Hard Drive (standard) • 80GB Solid State (option) 	<p>Wireless:</p> <ul style="list-style-type: none"> • Bluetooth 2.1 + EDR • 802.11a/b/g/n • FIPS 140-2 • Other wireless methods • (optional, available) <p>Battery:</p> <ul style="list-style-type: none"> • 10 cell (65Whr) battery • Up to 6.5 hour lifetime • Warm swap 	<p>Ports and I/O Connections:</p> <ul style="list-style-type: none"> • 3 USB 2.0 ports • 2 SWMA Module Connectors • RJ-45 Gigabit LAN Ethernet • Serial Port (RS232/422/485) • VGA (option, in place of serial port) • Smartcard Reader (optional) • Headset Jack • Microphone Jack • DC-in Jack • CAC Reader
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Products and Selected Accessories:

<p>SWMA Tablet (standard configuration)</p>  <p>\$3,631 (+\$400 for Xtreme screen)</p>	<p>Docking Solutions</p>  <p>Varies by application</p>	<p>Modules (Camera, barcode, Fluke, CAC, Oscope, RFID)</p>  <p>\$160-\$790</p>	<p>Accessories</p> <p>Carrying Cases (small & large sizes)</p> <p>Shoulder Strap</p> <p>Varies</p>
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