

## Surrogate Unmanned Aerial Vehicle Project Update, CY-2005

Over the last calendar year, *Systems Consultants* and its technical team from L-3Comm have continued to improve the Surrogate UAV training program technically, academically and programmatically. Highlights include:

- Establishment of a new joint contract via the White Sands Basic Ordering Agreement (BOA). This contract vehicle has been competed, **may be used by any Government agency**, is extremely flexible and user friendly.
- The system demonstrated complete compatibility with the Receive-Only Video Enhanced Receiver (ROVER III), which is the new joint Remote Video Terminal (RVT).
- Initiated a “Dial an Overlay” system that allows the transmission of tactical symbology with the video that emulates a variety of UAVs and tactical aircraft.



**C-182 aircraft, MX-15 sensor and data link**

During the past year, Systems Consultants has provided the following services to Department of Defense customers:

### U.S. Air Force

The U.S. Air Force has a requirement for live video products with tactical overlays that can be integrated into military Joint Tactical Air Control Party and Combat Search and Rescue exercises. ROVER III compatibility was a requirement. U.S. Air Force Central Command solicited UAV simulation and chose *Systems Consultants* over the other competitors. In October 2005, Systems Consultants supported exercise Atlantic Strike in Avon Park, Florida. The exercise planning, asset integration, training assistance and technical accuracy was so successful that Systems Consultants has already been requested to support the next Atlantic Strike exercise in 2006.



**ROVER III FLIR Video from SUAV**

### Commander Third Fleet, Joint Task Force Exercises (JTFEXs)

Commander Third Fleet utilized the SUAV system in five Joint Task Force Exercises (JTFEXs) in CY-05 and has extended the contract on into FY06. The SUAV



products are typically injected into a theater like C4I infrastructure via the Global Broadcast System (GBS) and also directly to fielded RVTs. Included in the video stream is the appropriate metadata that supports full Predator / video integration into Global Command and Control System (GCCS). During these exercises, the SUAV has provided real time video products and exercise integration into the following training scenarios:

- Intelligence, Surveillance and Reconnaissance (ISR) and Time Sensitive Targeting (TST). The SUAV tasking and control was integrated into Joint ISR and TST chat rooms. The aircraft participated in striking TSTs from the target location phase through bomb-hit assessment.
- Fires Support (Field Artillery, Naval Gun Fire, Close Air Support). The SUAV was integrated into the JTAC syllabus on San Clemente Island with live fires into SHOBA bombing range.
- Special Operations Force support (Direct Actions at sea and ashore). The SUAV delivered video to fielded special operations forces via RVTs and to their Mission Support Center.
- Combat Search and Rescue support from location of the survivor and opposition forces, through the recovery phase.



**Live ordnance, San Clemente Island**

### **Marine Advanced Weapons and Tactics Squadron ONE (MAWTS-1)**

MAWTS-1 used the SUAV to support USMC pre-deployment training exercise Desert Talon and three Weapons Training Instructor (WTI) courses at MCAS Yuma. During these training events, the SUAV provided the following services:

- Simulated a Predator UAV supporting USMC Tactical Air Controllers and tactical aircraft during urban combat operations. Services included direct downlink of video to ROVER III, on-site ROVER technical support plus a spare ROVER III.
- In conjunction with providing UAV reconnaissance products, the aircraft flew red-air low-slow flyer presentations in support of air-to-air training objectives.
- Simulated a Pioneer UAV by installing a unique C-band transmitter in the aircraft. With this system Systems Consultants supported Concept of Operations (CONOPS) testing of video



**ROVER III Training at MAWTS-1**



directly to an AH-1 Cobra helicopter and to two different convoys. Two days of testing culminated with integration into syllabus events that included target area tactics with rotary and fixed wing tactical aircraft with live ordnance.

### **Tactics, Techniques & Procedures / Concepts of Operation / Technical Demonstrations**

The SUAV services are provided in addition to our normal Tactics Development and Evaluation (TAC D&E), Concept of Operations (CONOPS) and Technical Demonstration design services. Recent and current TAC D&E projects are:

- Laser Guided Bombs through the Weather
- Formalized Targeting Process for Attacking Time Critical Targets
- JDAM Employment in a Friendly Jamming Environment
- Joint Direct Attack Munitions – TARGET OF OPPORTUNITY
- Helicopter-Based Electro-Optical Recognition Differentials
- Multi-Platform ASUW Employment
- Coherent Stand-in Jammer UAV

Our current DoD clients include:

- U.S. Air Force Central Command, Shaw AFB, SC
- Commander Third Fleet, San Diego, CA
- Naval Warfare Development Command, Newport, RI
- Naval Strike and Air Warfare Center, Fallon, NV
- Naval Research Laboratory, Washington, DC
- Marine Advance Weapons and Tactics Squadron ONE, Yuma, AZ
- Naval Surface Warfare Center, Crane, IL

Below are some pictures from various training events the SUAV has supported over the last year. For further information please contact me at the address listed below.

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**TACP and CSAR ROVER III Integration Training, Exercise Atlantic Strike**



**AH-1W Cobra Helicopter that was modified to receive live video from the SUAV**



**MAWTS-1 Air Officer class conducting Rover III training in an urban environment**



**Night Maritime Intercept Operations**