

UNCLASSIFIED

## **Systems Book**



02 December 2015

1

UNCLASSIFIED

## **AEWE 2016 Technologies**

#### 49 Total Technologies 14 Government 35 Industry

#### Page Num

#### Situational Understanding

- 4. MFLTS (TCM-BF&MFLT)
- 5. TRX NEON (TRX Systems)
- 6. Xaver 400 (Camero-Tech)
- 7. Xaver 100 (Camero-Tech)
- 8. NavCom (Engineering Acoustics)
- 9. Hero –30 (Mistral)
- 10. IRIS (Roboteam North America)
- 11. Da-Vinci (Flying Production)
- 12. Micro Combat ID Beacon (The O'Gara Group)

AEWE

- 13. AID Automatic Injury Detection (Select Engineering Services)
- 14. InstantEye (Physical Science Inc.)
- 15. COMET App Suite for Tactical Intelligence OTM (Mobile Reasoning)
- 16. SitaWare (Systematic)
- 17. BI2R-TE (TCM-BF&MFLTS)
- 18. Soldier Portable OsrvT PM UAS/PdM CSI)

#### Small Unit Sustainment

- 20. Energy Harvesting Assault Pack (CERDEC)
- 21. Conformal Battery (CERDEC)
- 22. Wearable Power System (CERDEC)
- 23. PowerPot Canteen Cup (Direct Components)
- 24. MAXTRAX (Federal Resources)
- 25. Weatherproof WASP (Federal Resources)
- 26. Li Expedition Pak (Federal Resources)
- 27. Roving Blue Small Water Purifier (Roving Blue)

#### **Small Unit Mission Command**

- 29. Leader/Soldier Effects Tool Suite (ARDEC)
- 30. MAFIA (AMRDEC)
- 31. Nett Warrior Future Initiatives (PdM Soldier Warrior)
- 32. INVISIO V60 (TEA Headsets)

#### Small Unit Mission Command (Cont.)

- 33. Netcom-Trulink (Telephonics)
- 34. Ranger Satellite Communication Terminals (Federal Resources)
- 35. Makito X ISR FMV Encoder (Haivision Video Networking)
- 36. XTS GUARD 5 (BAE Systems)
- 37. GuardIAN Rapidly Deployed LTE System (Motorola Solutions)
- 38. Multi Access Cellular Extension (CERDE)
- 39. RAMM VHF/UHF Roll Up 23 Ft Integrated Antenna Mast (Rolatube)
- 40. RolaTube WIN-T Tripod Mast Combination System(Rolatube)
- 41. Power Supply Docking Stations (Perkins Technical Services)

#### Enhanced Air – Ground Operations

- 43. Counter Defilade Air Burst Munition (American Rheinmetall Munition)
- 44. 40mm Smoke & Illumination (PM Maneuver Ammunition Systems)
- 45. Enhanced Mid-Tier Air Ground Integration Network (PM Aviation Systems)
- 46. M141 BDM Extended Range Sight (Nammo Talley)

#### Improved Protection & Mobility

- 48. Rynoskin (Har-son)
- 49. Modular, Individual Load, Tactical, Adaptable Carrying System (PRP)
- 50. SERE Operational Multipurpose Tool (SERE Industries)
- 51. VATEC Vehicle Kit/Products (ReadyOne Industries)
- 52. VATEC Sniper Kit/Products (ReadyOne Industries)
- 53. VATEC MOR Kit/Hide Site (ReadyOne Industries)
- 54. VATEC Soldier Protection Products (ReadyOne Industries)

#### Small Unit Training/Other

INCLASSIFIED

- 56. Operation Identity Dominance (TCM-BF&MFLTS)
- 57. Squad Overmatch Tactical Combat Casualty Care (PEO STRI)







## Situational Understanding Experiment Objective 1

**AWFC #1:** Develop and sustain a high degree of situational understanding while operating in complex environments against determined, adaptive enemy organizations.

**Experiment Objective #1:** How do we improve the small unit's ability to develop and sustain a high degree of situational understanding while operating in complex environments?

Examples: Micro/Nano UAS, Thermal/IR Imagers, Conventional Optics, Sensors.



## TRX NEON



## **OPERATIONAL DESCRIPTION**

GPS-Denied Navigation and Mapping Solution enhances command and small team situational awareness

- Delivers reliable GPS-denied relative positions to team (Objective 1) and (optionally) to command in indoors and subterranean environments (Objective 3)
- Provides local ad-hoc network to share location improving situational awareness (Objective 1)
- Enables improved team location. A user's location (e.g. SAASM GPS) can be referenced (using peer to peer ranging) to provide team location.
- Provides map intelligence gathering capability when simply walking though a facility (Objective 3).

## Enabling the Future – Force 2025

#### **TECHNICAL DESCRIPTION**

- Provides 3D location in GPS-denied areas using low cost sensors, without installed infrastructure.
- User wears small tracking unit and has Android interface for viewing team location information.
- Sensor fusion, peer to peer ranging and inferred mapping enables seamless 'track through' capability
- Inferred maps provide automated corrections to the user location enabling longer duration tracking.
- Ranging provides reliable relative positions within the squad which do not diminish over time.
- Tested at Ft. Hood subterranean facility

## **CONTACT INFORMATION**

TRX Systems, Inc.

7500 Greenway Center Drive, Suite 420 Greenbelt, MD 20770 www.trxsystems.com

> Technical POC: Carole Teolis Tel: (301) 523-2650 Email: <u>carole@trxsystems.com</u>

> > Sponsor - MCoE



## Xaver 400 Tactical Through-Wall Imaging

Compact, Tactical Through-Wall Imaging System

AEWE



#### **OPERATIONAL DESCRIPTION**

- A compact and tactical system for providing Non-line-ofsite, through-wall situational awareness for squad members involved in urban operations.
- 2D Through-Wall location information on both living and static objects behind a wall or barrier.
- Stand-off capability to operate the system at a distance from the wall of up to 65ft (20m).
- Easy operation and rugged design.
- Integrated command & Control capabilities
- Field proven with Military and Law Enforcement customers in over 35 countries world wide.

## TECHNICAL DESCRIPTION

Patented Ultra-Wideband (UWB) Radar technology for high resolution and intuitive interpretation.

- Penetrates all standard wall materials i.e., Cinderblock, reinforced concrete, brick, drywall, wood, etc.
- Weight: 7lbs (including batteries)
- Dimensions (LxWxH): 14.6 x 8.6 x 4.8 (inches)
- Detection range: 65ft .
- Field of view: 120° (Azimuth & Elevation)
- Operation time: up to 7 hours (with rechargeable and primary batteries)

## **CONTACT INFORMATION**

Camero-Tech Ltd. / S.I.O. 101 Comac Street Ronkonkoma, NY 11779 www.camero-tech.com

Technical POC: Ilan Abramovich Tel: 972-54-4235252 Email: ilan@camero-tech.com

#### Sponsor - MCoE

Enabling the Future – Force 2025



## **Xaver 100 Tactical Through-Wall Detection**

#### Handheld, Through-Wall Detection System

AEME



#### **TECHNICAL DESCRIPTION**

Patented Ultra-Wideband (UWB) Radar technology with compact design.

- Penetrates all standard wall materials i.e., Cinderblock, reinforced concrete, brick, drywall, wood, etc.
- Weight: 1.5lbs (including batteries)
- Dimensions (LxWxH): 8.6 x 3.9 x 2.6 (inches)
- Detection range: 65ft .

LASSIFIED

- Field of view: 120° (Azimuth & Elevation)
- Operation time: 3.5 hours

#### **OPERATIONAL DESCRIPTION**

- A personal, handheld system for instant detection of presence of life behind a wall or barrier.
- Detection and range information of living objects.
- Stand-off capability to operate the system at a distance from the wall of up to 65ft (20m).
- Easy operation and rugged design.
- Integrated command & control capabilities
- Field proven with Military and Law Enforcement customers in over 35 countries world wide.

#### **CONTACT INFORMATION**

#### Camero-Tech Ltd. / S.I.O. 101 Comac Street Ronkonkoma, NY 11779 <u>www.camero-tech.com</u>

Technical POC: Ilan Abramovich Tel: 972-54-4235252 Email: <u>ilan@camero-tech.com</u>

#### Sponsor - MCoE



## NavCom



AEWE



Designated route
 Path with tactile cueing
 Path w/out tactile cueing

#### **TECHNICAL DESCRIPTION**

- The primary NavCom component is the Advanced Tactile Array (ATA) Belt comprising multiple types of tactile actuators ("tactors") and integrated electronics capable of delivering a variety of precise and salient sensations even through layers of clothing.
- The ATA Belt can interface with existing soldier systems such as Nett Warrior, or be configured as a stand-alone system with EAI's NavCom Integrated Sensor and Controller (ISC) package comprising smart phone (with tactical case), INS (GPS/IMU) sensor, antenna and battery. Mission planning, management and analysis software is provided.

## **OPERATIONAL DESCRIPTION**

- NavCom uses the human sensory channel of touch to provide navigation and communication information silently and intuitively to the warfighter.
- Navigation cues are presented as vibrations on the torso. Heading information and priority messages, warnings and target identification can be provided.
- NavCom is a hands-free, eyes-free solution that provides continuous information, supporting the Soldier's tasks to move, shoot and communicate without increasing cognitive workload.
- Field tests demonstrate improved situational awareness and navigation task efficiency with tactile cueing.

## **CONTACT INFORMATION**

Engineering Acoustics, Inc. 406 Live Oaks Blvd Casselberry, FL 32707 www.atacnav.com www.eaiinfo.com

Technical POC: Gary A Zets Tel: (407) 645-5444 X202 Email: zets@eaiinfo.com

#### Sponsor - MCoE

Enabling the Future – Force 2025





AEME



Hero-30 Back-packable Expendable Precision ISR Device

#### **OPERATIONAL DESCRIPTION**

- Intended for the small operating units on the front lines, Hero-30 UAS features quick reaction capabilities for pop-up threats and combat uncertainties. An individual Soldier can deploy it within moments, and quickly obtain crucial and precise <u>situational awareness</u> in the vicinity of the unit.
- Highly automated for ease-of-operation. High speeds and extreme maneuverability to accommodate a variety of complex combat scenarios including urban engagements.

#### **TECHNICAL DESCRIPTION**

- Provides real-time video imagery using a stabilized EO/IR payload with auto-tracker.
- Cruciform configuration enables precise and extreme all-aspect manoeuvrability to maintain 'eyes-ontarget' in constrained battle scenarios.
- Launched safe air booster and powered in flight providing 30-minute loitering time duration.
- Typical range: 2-5 Km; max. data link: 10 Km
- Typical mission altitude: 200-500 m AGL; Speed range: 100-200 KpH
- · CEP less then 1m
- TRL-7

LASSIFIED

#### **CONTACT INFORMATION**

#### Mistral, Inc.

7910 Woodmont Avenue, Suite 820 Bethesda, Maryland 20814 <u>www.mistralinc.com</u>

Technical POC: Christopher Weller Tel: (301) 913-9366 Email: <u>cweller@mistralgroup.com</u>

#### Sponsor - MCoE







### **OPERATIONAL DESCRIPTION**

- Ultra-light weight, pocket-deployable, throwable, extremely ruggedized unmanned ground system.
- Highly maneuverable robot designed to support military forces in infantry, intelligence, reconnaissance and special operations missions.
- Capable of absorbing the shock of a 20 ft. vertical drop, allowing soldiers to throw the IRIS on top of buildings, through house windows, into tunnels, or down a staircase.
- Both night and day cameras with a 180<sup>°</sup> tilt mechanism, illumination, NIR and laser pointer.

## **TECHNICAL DESCRIPTION**

- Secured IP Communication
- 180<sup>o</sup> Day & Night Video, White/NIR Illumination, Audio
- Military Standard System, IP 65 Certified
- Highly Intuitive Operation with an Advanced Man-Machine Interface - operated by the ROCU-5
- Operates 350 ft. LOS •
- 2-4 Hours Working Time Operation Mode Dependent
- Weight 2.5 lbs. without battery, 3 lbs. with battery
- Can be controlled by any Android/Windows Device

### **CONTACT INFORMATION**

#### **Roboteam North America** 7979 Old Georgetown Rd Bethesda, MD 20814 www.robo-team.com

**Technical POC:** Shahar Abuhazira Tel: (301) 654-2722 Email: Shahar@robo-team.com

**Sponsor - MCoE** 

## Enabling the Future – Force 2025



## **Da-Vinci VTOL sUAS Drone**



AEWE

#### **OPERATIONAL DESCRIPTION**

- Da-Vinci is a low altitude, Vertical Take Off & Landing (VTOL), multi-rotor, small unmanned aircraft system (sUAS) that currently holds the world record for endurance and payload capabilities in it class
- Autonomous take-off and landing
- Programmed flight pattern
- Real-time waypoints and navigation
- Can be operated from a moving vehicle
- GPS guided manual control mode
- Can switch Ground Control Stations during flight
- Transmits data & video to Remote Video Terminal

#### **TECHNICAL DESCRIPTION**

- Network compatible
- Wide range of weather and terrain conditions
- Launch Weight: 39.7 lbs--Astronomy GCS: 11.5 lbs
- Operational ceiling: 10-2000 feet
- Range: 10 km (radius)
- Operational speed: 0-35 kph
- Max speed: 45 kph
- Max operational altitude (ASL): 12,000 feet
- Max payload: 5 kg/11 lbs
- Endurance: 1.5 hours

LASSIFIED

- Dual sensor EO/IR payload
- Full mission portable Ground Control Station (GCS)

## **CONTACT INFORMATION**

Flying Production, Ltd Atir Yeda 21 St Kfar Saba, Israel www.flying-production.com

Technical POC: Tom Sheets Tel: (760) 213-3705 Email: <u>tsheets@stonewall-group.com</u>

#### Sponsor - MCoE





## **Micro Combat ID Beacon**



Beacon OFF (left) and flashing ON (right) @ 10.5 km



## **OPERATIONAL DESCRIPTION**

- Highly visible to U.S. and allied MWIR and SWIR aircraft targeting pods – improves coordination between ground forces and aircraft
- Highly visible to ground based MWIR and SWIR spotting scopes, weapon sights, and NODs – improves coordination within small ground units
- Undetectable by the human eye, proliferated image intensified night vision devices, commercial cameras, and uncooled thermal imagers.
- Unaffected by RF jamming that can disable GPS and blue force tracking systems

#### **TECHNICAL DESCRIPTION**

- Out-of-band optical Combat ID beacon with three selectable spectral bands: near infrared (NIR), short wave infrared (SWIR), and mid wave infrared (MWIR)
- Hemispherical optical divergence
- 4.9 in. long x 2.1 in. wide x 1.1 in. tall 8.3 oz. (235 g)
- High Optical Output (MWIR: 1200 mW, NIR: 550 mW, SWIR: 500 mW)
- Detectable at up to 8 n.m. (15 km) by LITENING AT pod (MWIR) & Raytheon MTS pod (MWIR & SWIR)
- Class 1 eye safe

ASSIFIED

## **CONTACT INFORMATION**

The O'Gara Group Sensor Systems Division 193 Home Farm Way, Suite 2 Waitsfield, VT 05673

www.ogaragroup.com

Technical POC: Bob Kogut Tel: (802) 371-8560 Email: bob.kogut@ogaragroup.com

Sponsor - MCoE





## **AID Automatic Injury Detection**



"SENSOR" D Wireless to Nett Warrior / Radio

#### **OPERATIONAL DESCRIPTION**

Detects shots fired on body armor and provides GPS position / location / injuries / blood type and battery level for the injured soldier over an RF (VMF) message link to other battlefield assets, with NETT WARRIOR.

- Maximizes real time information sharing throughout the battle area wireless and without voice conflict.
- Automatically reports even if user is incapacitated
- Faster more accurate digital data unaffected by battlefield noise (Secure Mode) 2 meter bubble.
- Contributes to a more complete (COP) Common Operating Picture (Live Fire and Training)
- Detects penetration <u>not</u> impact (no false triggering)

## Enabling the Future – Force 2025

#### **TECHNICAL DESCRIPTION**

(AID) Automatic Injury Detection is an "Active Sensor" consisting of detection film and (ABLE) Adjustable Bluetooth Low Energy chip inserted in the Body Armor Carrier (No Modification). When attacked; shot, stabbed / IED & penetration occurs (AID) automatically sends data to NETT WARRIOR (No human input).

- No human input required (fully automated) incapacitation has no effect on communication performance.
- Light weight, low power, submersible and rugged.
- Eliminates wires (printed circuit vs connectors/cables)
- Sensor can be added to vehicles, mobile structure, tents, restraints, t-shirts and uniforms.

## **CONTACT INFORMATION**

#### Select Engineering Services, LLC 3370 Trinidad Court Punta Gorda, Florida 33950

www.selectengineering.net

Technical POC: Ken Brinkley Tel: (631) 561-3161 Email: <u>kbrinkley@selectengineering.net</u>

Sponsor - MCoE

## INSTANTEYE MK-2 GEN 4 SRM



SRW Black Relay	<ul> <li>Weight: 1.2 kg (~2 lb.) Size: Stows 30cm (12 inch), square</li> <li>Payloads: real-time video (standard), thermal, IR Illumination, SIGINT, SRW Black relay</li> <li>Range: LOS 2000m Speed: 0 to 16 m/s (0-35 mph)</li> <li>Control Interface: handheld GCS/EUD, DDL digital encrypted Vehicle Cost: Low plus radio</li> <li>Endurance: 20-30 minutes (Payload Dependent)</li> <li>Service Ceiling: &gt;12,000 ft MSL</li> <li>Wind Station Holding: &gt;30mph</li> <li>Product Status: In production August 2015</li> </ul>
<ul> <li>Demonstrate integrated squad level airborne ISR with ability to provide, networked sUAS DDL communications, SRW black relay, MAFIA enabled, cursor on target and BDA capabilities.</li> <li>Combat proven, easy to use, small sized, vertical take off and landing (VTOL) small UAS, for squad level choke point/danger zone ISR operations as well as enabling precision targeting through MAFIA.</li> <li>Expendable, all weather, day (EO) /night (LWIR) capable.</li> </ul>	CONTACT INFORMATIONOPALIC CONTACT INFORMATIONOPALIC CONTACT INFORMATIONOPALIC CONTACT INFORMATION20 AND ENCIONAL SCIENCIAL ADD ADD ADD ADD ADD ADD ADD ADD ADD A
Enabling the Future – Force 2025	2016

UNCLASSIFIED

AEWE

## **COMET App Suite for Tactical Intelligence OTM**



### **OPERATIONAL DESCRIPTION**

COMET provides key information management, display, alerting, analysis, planning & dissemination functions for select aspects of these tactical intelligence tasks:

- Support to Situation Understanding (ART 2.2)
  - Intelligence preparation of the battlefield (IPB)
  - Situation development
- Perform ISR (ART 2.3)
  - Synchronization and integration tasks
- Support to Targeting (ART 2.4)
  - Lethal and nonlethal targeting tasks

## **TECHNICAL DESCRIPTION**

COMET App Suite for Tactical Intel OTM ("COMET") is an integrated set of tactical applications designed to support small unit tactical intelligence activities:

- Enables a CoIST to operate in a fixed location, mounted, or dismounted on-the-move (OTM);
- Functions while disconnected from the tactical network by using a wireless mobile architecture;
- Supports stylus-free use of its fully touch-control user interface while on-the-move in a vehicle;
- Uses existing COTS Windows or Linux-based tablet, laptop, desktop, and server computers.

## **CONTACT INFORMATION**

#### Mobile Reasoning, Inc.

15737 W 100<sup>th</sup> Terrace Lenexa, KS 66219 <u>http://www.mobilereasoning.com</u>

Technical POC: Dr. Scott Bublin Tel: (913) 226-3919 Email: <u>bublin@mobilereasoning.com</u>

Sponsor - ICoE

## Enabling the Future – Force 2025





AENE

#### **OPERATIONAL DESCRIPTION**

SitaWare HQ6/Frontline provides a unified C2 across echelons from vehicle platforms to the battalion headquarters and above. SitaWare allows commanders/staff to collaborate across multiple echelons and leverage geospatial, terrain, and environmental effects in the development and assessment of COAs, visualize potential outcomes, make decisions, and rapidly develop, assess, disseminate, and execute plans. Frontline provides the Company CDR with the ability to produce/track both Friendly/Enemy Sensors, through a comprehensive (COP), during movement down to dismounted Soldiers.

## SitaWare :Headquarters/Frontline/Edge

#### **TECHNICAL DESCRIPTION**

Battle Management Apps

•Friendly Force Tracks – consumed and produced from vehicles and dismounted commanders

 Tactical Situation Picture – Blue/Red Sensor COP, spot reports of hostile, neutral and unknown objects

- Plans and Intelligence Overlays depicting Sensor location/activity, danger areas, points of interest, etc.
- Command Layers to illustrate tactical maneuvers

• Tactical Communication – compressed for low bandwidth movement of data around the battlefield

• System Integration – video down link, legacy systems, Boomerang, FAC, Ground Radar, ect.

## **CONTACT INFORMATION**

Systematic Inc. 5875 Trinity Parkway, Suite 130 Centreville, VA 20120-1971 www.systematic.com

**POC: Rafael Torres Jr.** Tel: (571) 294-5915 Email: <u>rafael.torres@sseusa.com</u>

Sponsor - None

## Enabling the Future – Force 2025



**Biometric Identity Intelligence Resource Training Environment** 



#### **OPERATIONAL DESCRIPTION**

The goal of BI2R-TE is to create a training environment that reproduces the "look and feel" of BI2R, but uses fictitious FOUO data to provide a baseline upon which a training scenario can be established.

Analysts can use BI2R-TE to train on how to analyze and develop biometrically infused intelligence reports in a protected training environment.

#### **TECHNICAL DESCRIPTION**

BI2R-TE is a server/client (or standalone) based system that simulates the Biometric Identity Intelligence Resource (BI2R), a data repository for biometrically related biographical and contextual information that provides a centralized location for processing and analyzing biometricrelated intelligence. The training application is designed to teach entry-level analyst how to perform functions associated with the BI2R application.

#### **CONTACT INFORMATION**

**Contact Information:** 

TCM-BF&MFLTS

ATTN: ATZS-CDI-BF Bldg. 80011, Carter St. Ft. Huachuca AZ 85613

Tel: 520-454-1838 Email: james.a.morris88.civ@mail.mil

Sponsor - ICoE

Enabling the Future – Force 2025



## Soldier Portable OsrvT (SPOT)



ASSIFIED

#### **OPERATIONAL DESCRIPTION**

The Soldier Portable One system remote video Terminal (SPOT) is a potential small form factor addition to the current OSRVT Program Of Record. The SPOT wearable form factor provides the dismounted soldier direct receipt of Unmanned/Manned Intelligence, Surveillance, and Reconnaissance (ISR) video/data feeds. **SPOT provides the disadvantaged user on the tactical edge with enhanced situational awareness thru full motion video and telemetry data from multiple platforms**: ex. Gray Eagle, Shadow, Hunter, Raven, other Unmanned Aircraft Systems (UAS), and manned platforms.

#### **CONTACT INFORMATION**

PM – Unmanned Aircraft Systems (UAS), PdM Common Systems Integration (CSI) Sparkman Center, Bldg. 5300 Redstone Arsenal, AL 35898

#### **OSRVT Assistant Program Manager (APM):**

MAJ Art Thomas, Tel: (256) 876-8627 Email: <u>auther.e.thomas.mil@mail.mil</u>

Technical POC: Mark Austin Tel: (256) 313-5389 Email: <u>mark.r.austin.civ@mail.mil</u>

Enabling the Future – Force 2025





## Small Unit Sustainment Experiment Objective 2

**AWFC #16:** Set the theater, provide strategic agility to the Joint Force, and maintain freedom of movement and action during sustained and high tempo operations at the end of extended lines of communication in austere environments.

**Experiment Objective #2:** How can we improve small unit sustainment to maintain freedom of movement and action during sustained and high tempo operations at the end of extended lines of communication in austere environments?

Examples: Expeditionary Sustainment, Autonomous Resupply, Power Solutions, On-Site Supply Generation.

**Enabling the Future – Force 2025** 





## **Energy Harvesting Assault Pack**

#### **TECHNICAL DESCRIPTION**

The Energy Harvesting Assault Pack is a two part device comprised of a lightweight frame and an assault pack as one unit for power generation.

- Generate 5-7 W, while walking at 3.5 mph or greater with 35 lb payload.
- Weight:10 lbs in addition to the issued 5 lb assault pack.
- Minimizes accelerative forces felt on the soldier during walking, effectively lightening the load.

#### **OPERATIONAL DESCRIPTION**

- The electricity generating assault pack is intended to be used as an alternative energy Soldier power generation solution.
- Provide on-the-move recharging to extend communication capabilities and maximize mission effectiveness through interoperable power solutions.
- During an extended duration (72 hr) mission, the pack would reduce Soldier load and decrease Soldier fatigue.

#### **CONTACT INFORMATION**

#### **CERDEC-CP&I** Power Division

5100 Magazine Rd Aberdeen Proving Ground, MD 21005 http://www.cerdec.army.mil/inside\_cerdec/cpi/

> Technical POC: Cao Chung Tel: (443) 395-4394 Email: <u>cao.b.chung.civ@mail.mil</u>

> > Sponsor - MCoE

SSIFE



## **Conformal Battery**







8

#### **OPERATIONAL DESCRIPTION**

The conformal battery is a thin, lightweight, wearable battery that is designed to fit in the chest pouch of the Soldier's vest, along with armor. It is designed for integration with Soldier systems, in which it is used as a centralized power source, providing power to all of the Soldier's worn electronics. It is a good balance between size, weight and energy content to provide a safe, high energy content, ergonomic and low cost power source.

#### **TECHNICAL DESCRIPTION**

Wearable, conformal primary and rechargeable battery contours to match the dimensions of the Soldier protection plates

- Energy Density: 150Wh-400Wh
- Operating range: -20°C to 60°C
- Max discharge capability at 5 amps
- Thin profile with thickness of approximately 0.63 inches
- Push button activated, 5 LED State of charge (SOC) indicator

#### **CONTACT INFORMATION**

#### **CERDEC-CP&I** Power Division

CERDEC-CP&I Power Division 5100 Magazine Rd Aberdeen Proving Ground, MD 21005 website address

Technical POC: Cao Chung Tel: (443) 395-4394 Email: cao.b.chung.civ@mail.mil

Sponsor - MCoE





#### **TECHNICAL DESCRIPTION**

- 20W continuous power; 35W peak for 10 minutes
- Consist of power unit with internal starting battery, fuel gauge and fuel cartridges
- Provides 60Wh of energy per cartridge
- Environmentally friendly can discard used cartridge
- Can store energy in internal battery harvested from solar panels and kinetic energy devices
- Cartridge: 3.5 oz (0.22 lbs); Power unit : 2 lbs

#### **CONTACT INFORMATION**

#### **CERDEC-CP&I** Power Division

CERDEC/CPI/ARMY POWER

5100 Magazine Road APG, MD 21005

Technical POC: Cao Chung Tel: (443) 395-4394 Email: <u>cao.b.chung.civ@mail.mil</u>

Sponsor - MCoE

CLASSIFIED

## Cartridge Power Start Fuel Fan Out Button Gauge Exhaust WPS Unit OPERATIONAL DESCRIPTION

AEWE

- Powers Soldier worn radios and EUDs using high energy density fuel -reduces battery weight and volume
- Fits into conformal battery pouch
- Fuel state determined by pressing the button and reading fuel indicator lights or reading fuel state on EUD
- If internal WPS starting battery runs down, charge using standard battery charger, solar panel, or kinetic energy device

## Enabling the Future – Force 2025



## **PowerPot Canteen Cup**



#### **OPERATIONAL DESCRIPTION**

Provide individual warfighters with the ability to generate portable DC power from 5 to 50 watts. Designed for provide relief to thousands of exposures to extreme hot and cold temperatures.

- Takes standard issue Canteen Cup and makes it multipurpose unit. (For Canteen or Nalgene)
- Charge electronic devices in the field.
- Flexible power solution that works day, night, rain, or shine.
- Can still use for heating up water for food and drinks
- Portable Power in any environment.

#### **TECHNICAL DESCRIPTION**

This fully integrated system is thermoelectric power generator that doubles as a Canteen Cup and coverts heat into power within seconds.

- Lightweight, portable electrical generator
- 5 to 50 watt DC Power Generator
- Uses any heat source hot enough to boil water
- Power gauge to help war-fighters understand how much power is being generated.
- Can be heated on an open flame or Military vehicle's high temperature surface(s).
- Fuel gel, Esbit tabs or go completely flameless
   using MRE type heaters.

## **CONTACT INFORMATION**

Direct Components 109 W 17<sup>th</sup> Street Cheyenne, WY 82001 www.powerpractical.com

#### **Technical POC: Steve Mancanin**

Tel: 202-350-1943 Office Direct 949-521-3434 Cellular Email: <u>stevem@directcomponents.com</u>

Sponsor - MCoE



## MAXTRAX



**OPERATIONAL DESCRIPTION** 

Demonstrated ability extract vehicles stuck in mud, sand

one Soldier to place under tires, reducing personnel risk.

Constructed of UV stabilized, flexible, super tough

Easily employed in minutes or less for immediate self

Large cleats sink their teeth into tire tread and terrain

and snow quickly. Stackable configuration allows for

easy vehicle storage and accessibility. Requires only

AEWE

#### **TECHNICAL DESCRIPTION**

Lightweight vehicle extraction device:

• Ramps at each end for easy insertion between tires and ground

 88 raised round provide incredible traction that won't damage tires

6 comfortable handles to make use and carry easy

- 3 longitudinal beams provide support for fully laden vehicles in sand, mud and snow
- Keyholes near each end allow linking, pegging or mounting with accessories
- Available in Safety Orange, Black, Grey, Desert Tan, Olive Drab, Multicam and Sandglow

#### **CONTACT INFORMATION**

#### **Federal Resources** 235-G Log Canoe Circle Stevenvsille, MD 21666 www.federalresources.com

Technical POC: Scott Graham Tel: (410) 490-5307 Email: scott.graham@federalresources.com

#### **Sponsor - SCoE**

ASSIFIED



under the vehicle to prevent backsliding

engineering grade reinforced nylon.

recovery



## Weatherproof WASP



AEWE

#### **OPERATIONAL DESCRIPTION**

- Reduces power & weight demands of the Warfighter; ideal for 72 hour mission profile
- · Reduces fuel and battery logistics requirements
- · Ability to harvest energy from multiple sources
- Modularity and scalability features enable tailoring
- Functions as a Universal Battery Charger
- Self-sustaining power source for unattended ground sensors

## TECHNICAL DESCRIPTION

Soldier carried expeditionary power solution:

- In a weatherproof case or in rucksack
- Charges multiple battery chemistries to include BA2590s and conformal battery
- Multiple accessories available
- AC and DC power input and output
- Standard configuration weighs 14 lbs

### **CONTACT INFORMATION**

Federal Resources 235-G Log Canoe Circle Stevensville, MD 21666 www.federalresources.com

Technical POC: Scott Graham Tel: (410) 490-5307 Email: <u>scott.graham@federalresources.com</u>

#### Sponsor - MCoE

**ICLASSIFIED** 

24



## Li Expedition Pak



AEWE

#### **TECHNICAL DESCRIPTION**

Expeditionary portable power solution with 420W power generation, 2kWhr power storage and intelligent power management functions in a single Pelican 1740 case:

- Dimensions 44" X 16" X 14" ٠
- Weight 150 pounds ٠
- Input Connections 120VAC NEMA 5-15P; 12VDC ٠ Inter-connect: 24VDC Lithium Inter-connect: 24VDC NATO; 24VDC bayonet for solar
- Output Connections 120VAC, 60Hz, 250W NEMA ٠ 5-15R; 24VDC Lithium Inter-connect; 24VDC NATO; 5VDC, 2.1 Amps USB; 5VDC signal for autostart equipped generators

#### **CONTACT INFORMATION**

Federal Resources 235-G Log Canoe Circle Stevensville, MD 21666 www.federalresources.com

Technical POC: Scott Graham Tel: (410) 490-5307 Email: scott.graham@federalresources.com

**Sponsor - SCoE** 

25

### **OPERATIONAL DESCRIPTION**

- Provides the Warfighter operating in an austere environment self-sufficiency, extended operational endurance and reduced logistical tail by reducing fossil fuel consumption & generator maintenance
- Utilizes battery-based power-on-demand concept that provides just the right amount of clean power and only when needed
- Provide AC and DC power and accept charge from an AC and 12/24VDC sources
- Scalable and modular allowing for tailoring to meet specific power requirements



## **Roving Blue Small Water Purifier (SWP)**



AEWE

#### **OPERATIONAL DESCRIPTION**

Lightweight, ruggedized, turn-key water purification system designed to produce up to 1 liter/minute of drinkable water from surface freshwater sources (~350 gal/day)

- Significant weight/power reduction of water purification equipment for small military units.
- Additional benefit: Output water carries downstream sanitation capability and can be used to sanitize food, surfaces, water storage tanks/bladders, medical equipment and potentially for wound irrigation
- No additional chemicals required.
- Quiet operation

#### Enabling the Future – Force 2025

#### **TECHNICAL DESCRIPTION**

Five-stage water purification process includes dual debris screens, sediment filter, activated carbon + silver filters, and ozone generator for sanitation.

- Weight: 25 pounds
- Size: L 18.7" x W 14.8" x H 7"
- Power: Any DC (10-30V), or 110-220V AC source
- 100% FDA, EPA, or NSF approved materials, made
- in USA w/US made components.
- Optional filters for specific problem areas (lead, etc.)
- Latest micro ozone technology provides highlyeffective microbiological control regardless of humidity or altitude.

### **CONTACT INFORMATION**

Roving Blue, Inc. 5220 St. Patricks Road Lena, WI 54139 www.rovingblue.com

Technical POC: Marianna "Yana" DeMyer

Tel: (920) 621-2163 Email: <u>yana@rovingblue.com</u>

**Sponsor - SCoE** 





## Small Unit Mission Command Experiment Objective 3

**AWFC #1:** Develop and sustain a high degree of situational understanding while operating in complex environments against determined, adaptive enemy organizations.

**Experiment Objective #3:** How can we facilitate effective command post operations and information gathering and intelligence fusion at the company level?

Examples: Mission Command, Communications, Intelligence Fusion, Mobility, Lethal and Non-Lethal Targeting.

Enabling the Future – Force 2025



## Leader/Soldier Effects Tool Suite



/4\*\$\*//2

#### **OPERATIONAL DESCRIPTION**

Provides the small unit leader/soldier role based capabilities that enables the planning, coordination and execution of networked LOS/BLOS effects, supports cooperative engagements, the integration of maneuver and fires, as well as the optimization of effects asset management and execution to include sensor-toshooter information processing and target hand-off Capabilities include: Improved weapon placement tool, planning & coordination sharing capabilities between lower and upper echelons such as range cards and sector sketches, control measures, target nominations, strike warnings, and taskings

#### **TECHNICAL DESCRIPTION**

- This product will run on Nett Warrior and/or MAFIA software architectures. Current development of the capabilities is being done using surrogate architecture until final event architectures (POR or future initiative) are available.
- This product will required IP-based network hardware (ex. Radios) and interfaces to communicate with other systems. Currently integrated with Nett Warrior net services
- This product will support CoT, JVMF and other Army standard messaging protocols
- Android based open architecture

LASSIFIED

#### **CONTACT INFORMATION**

#### US Army RDECOM ARDEC

Technical POC: Ketula Patel Tel: 973-724-8671 Email: <u>Ketula.patel.civ@mail.mil</u>

#### Sponsor - MCoE

## Maneuver Aviation Fires Integrated Application (MAFIA)

		TECHNICAL DESCRIPTION
Potential Radio   Potential Radio <th>Integrated UAS Raven Instant Eye</th> <th><ul> <li>TECHNICAL DESCRIPTION</li> <li>100% Government Owned</li> <li>Hardware agnostic (future hardware migration)</li> <li>Employs the AMRDEC Army Global Engine software - similar to Google Earth Engine</li> <li>Applies the AMRDEC Terrain Association algorithm to determine heading and provide User immediate orientation into surrounding terrain.</li> <li>Employs NAVAIR unclassified rPFIs (Precision Fires Imagery)</li> <li>Exploits SUAS &amp; Soldier Borne Sensor FMV <ul> <li>Displays FMV and location cursor on AGE</li> <li>Digital interoperability between EUD and SUAS operator to support bi-directional data</li> </ul> </li> </ul></th>	Integrated UAS Raven Instant Eye	<ul> <li>TECHNICAL DESCRIPTION</li> <li>100% Government Owned</li> <li>Hardware agnostic (future hardware migration)</li> <li>Employs the AMRDEC Army Global Engine software - similar to Google Earth Engine</li> <li>Applies the AMRDEC Terrain Association algorithm to determine heading and provide User immediate orientation into surrounding terrain.</li> <li>Employs NAVAIR unclassified rPFIs (Precision Fires Imagery)</li> <li>Exploits SUAS &amp; Soldier Borne Sensor FMV <ul> <li>Displays FMV and location cursor on AGE</li> <li>Digital interoperability between EUD and SUAS operator to support bi-directional data</li> </ul> </li> </ul>
Laser Range Finders Pocket DDL & Mission Mode	ule (FMV Solutions)	
OPERATIONAL DESCRI	PTION	<b>CONTACT INFORMATION</b>

ASSIFIED

 Provides leaders the ability to quickly generate CAT 1 coordinates for accurate, timely, and predictable fires
 Enables CO ESO to dynamically clear and maintain

Enables CO FSO to dynamically clear and maintain air picture for the CO AO (offensive and defensive fires)
Provides FMV from SUAS (ex. Raven/Puma) and Soldier Borne Sensors (InstantEye) down to PLT/Squad level EUD (no OSRVT)

• Digital interoperability supports Cursor On Target (COT) commands from MAFIA requesting SUAS asset to put "Eyes-On" target area

• Improvement over current voice only operations with SUAS operator

Aviation Missile Research Development and Engineering Center (AMRDEC) – US Army

> Technical POC: Jonathan Porter PH: 706-545-7287 Cell: 706-580-6339 jonathan.s.porter.ctr@mail.mil

> > Sponsor - FCoE

## Enabling the Future – Force 2025

AEWE



## **Nett Warrior Future Initiatives**



#### **OPERATIONAL DESCRIPTION**

PdM Ground Soldier focuses on the development of Situational Awareness and Mission Command capabilities for the dismounted leader. Nett Warrior (NW) has the ability to graphically display the location of an individual leader's position, as well as the positions of other NW equipped leaders, on a digital geo-referenced map image. NW is connected through a secure radio capable of sending and receiving data and position location information from one NW to another. NW will increase the leader's Situational Awareness and Command & Control capabilities, while greatly reducing the potential for fratricide.

#### **TECHNICAL DESCRIPTION**

ARMY Supplied   Image: stress point   I	<ul> <li>Platform: Android OS smart device (device agnostic)</li> <li>Network Agile (IP mesh network based capability)</li> <li>GIG (Global Information Grid) Access: NW provides standard VMF messages and leverages existing BFT gateways (JBCP &amp; JCR) to populate SA data on C2 networks.</li> <li>DAICAP (DoD Information Assurance Certification and Accreditation Process): The NW system is accredited to process and store data up to the Secret level.</li> <li>ATO (Authority to Operate): The NW system has a full ATO (v2.0.4)</li> </ul>

LASSIFIED

#### **CONTACT INFORMATION**

#### Program Manager Soldier Warrior

10125 Kingman Rd., Bldg 317 Fort Belvoir, VA 22060

#### Technical POC: LTC Adrian A Marsh

Product Manager Ground Soldier Tel: (703) 704-3846 Email: <u>adrian.a.marsh2.mil@mail.mil</u>

Sponsor - MCoE

A EVIE

Conform



## **INVISIO V60**



AEWE

### **OPERATIONAL DESCRIPTION**

Supports full radio functionality during all mission profiles for both the mounted and dismounted Soldier.

- Radio communication with continuous and unimpeded hear-thru in both ears.
- Provides certified hearing protection rated at SNR 32dB and NRR 29dB (Fully tested and certified by ARL & AFRL for the US Army TCAPS program).
- Advanced digital signal processing, miniaturized audio components and ergonomic headset design provide the most natural hearing possible in extreme conditions.
- Crystal clear communication with enhanced SA.

## **TECHNICAL DESCRIPTION**

Advanced Tactical Communication and Hearing Protection System

- Lightest quad-com control unit, 20M submersible
- Listen and talk simultaneously on 4 channels; to include urban & maritime 2-channel radios (PRC-148B (V)1 & (V)2 and PRC-154, etc.)
- Ultimate Soldier hub for virtually all radios, ICS, Mobile devices, computers using any legacy & future headset
- Completely modular with breakaway connectors to improve Soldier safety
- Precise sound localization for situational awareness

## **CONTACT INFORMATION**

#### **TEA Headsets**

16 Mount Ebo Road South, Ste. 6 Brewster, NY 10509 www.teaheadsets.com

Technical POC: Russ Bell Tel: (706) 846-3515 Email: <u>russ@teaheadsets.com</u>

Sponsor - MCoE



## **Telephonics-Netcom-Trulink**





34844-09(A) ©2009 Telephonics Corporation

#### NetCom-V Communications Management System

TruLink Wireless Intercom

Aircraft Interface Unit (AUI)

#### **TECHNICAL DESCRIPTION**

- Highly Flexible to Support varied Platform and Mission Requirements
- Digital IP-based System with Distributed Architecture for Survivability
- Single LRU System Solutions with Low SWAP
- Crew Station LRUs support Two (2) users and Four (4) Programmable Analog Interfaces (Tx/Rx)
- Network Enabled with Support for VICTORY Architecture – Published, License Free API
- Fully Qualified (MIL-STD-461/810, TEMPEST)
- TRL 9 and MRL 10 (Operationally Deployed)

## **OPERATIONAL DESCRIPTION**

- Seamless Wired (NetCom-V)/Wireless (TruLink) Communications Management Solution for Ground Vehicles – Mounted/Dismounted Soldier Support
- Provides all Traditional Intercommunications System Capabilities (Intercom, Radio Tx/Rx Access) as well as Communications Gateway functions (ex. VoIP Client, Digital Comm Terminal Connectivity)
- Advanced Features (ex. Spatial Audio (NetCom) and Noise Cancellation enhance Audio Intelligibility and Soldier SA.
- Integration into Platform C4ISR systems reduces soldier workload and operational stresses

## **CONTACT INFORMATION**

Telephonics Corporation Communications and Integrated Systems Division 815 Broad Hollow Road Farmingdale, NY 11735-3904 www.telephonics.com

Technical POC: Bob Jordan Tel: (706) 566-0319 <u>Robert.L.Jordan1948@Gmail.com</u>

Sponsor - None

## Enabling the Future – Force 2025



SSIFE



## **Ranger Satellite Communication Terminals**



**OPERATIONAL DESCRIPTION** 

Interchangeable, integrated feed boom assemblies

Antenna interface allows change out of feed boom

Configurable with various amplifier options to match

The pointing assistant has its own interface with any

Ranger terminals offer the most versatile, easily

computer or tablet and is non-proprietary

star, mesh or hybrid satellite networks.

assembly within seconds

operational requirements

deployable and operator friends access available for

#### **TECHNICAL DESCRIPTION**

Modular, Highly configurable, multi-band terminals: • Fully compatible with SkyWAN networks as well as conventional SCPC and IP based networks

- Antenna sizes from 1.0m to 2.4m with carbon fiber and SMC reflector variants
- Integrated Feed Boom assemblies define respective operational frequency bands an facilitate rapid band changes
- Common L-Band interfaces between feed boom assemblies an electronics
- X and Ka-Band configurations are WGS, DSCS, SKYNET and XTAR compliant

## **CONTACT INFORMATION**

Federal Resources 235-G Log Canoe Circle Stevensville, MD 21666 www.federalresources.com

Technical POC: Scott Graham Tel: (410) 490-5307 Email: <u>scott.graham@federalresources.com</u>

#### Sponsor – Cyber CoE

## Common L-Band interface with modem



## Makito X ISR FMV Encoder



#### **OPERATIONAL DESCRIPTION**

The Makito X series of encoders meet the immediate requirement for a MISB/STANAG-4609, multi-channel, full HD, low latency, metadata enabled, H.264 FMV encoder for manned/unmanned aircraft or ground based vehicle EO/IR sensor suites. The Makito X auto-senses and encodes Composite, SD-SDI, HD-SDI & 3G-SDI video to multiple H.264 profiles and sends standards compliant streams over UDP over IP capable networks (including wireless radios/data-links, and SATCOM). Makito X provides tailored streams to the varying networks (LOS, BLOS, etc) and end points (mobile, C2, PED, etc) within the ISR architecture.

#### **TECHNICAL DESCRIPTION**

- Multi-channel full HD standards compliant video
- encoder in appliance or rack mount form factors
- Single/Dual/Quad channel Composite/SDI/HD-SDI/3G-SDI
- Non-rugged with built-in or removable storage
- Semi-rugged, fanless, operates up to 70C
- Rugged MIL STD 810G, 704F, 1275D & DO-160F
- MISB & STANAG 4609 compliant with KLV/COT metadata (VANC, serial, UDP)
- Multi simultaneous bitrates & streams (32Kbps-25Mbps)
- Optimize streams for network (LOS, BLOS, etc) & end point (mobile, web browser, PED, etc)

## **CONTACT INFORMATION**

Haivision Video Networking, Inc. 13975 Polo Trail Dr Lake Forest, IL 60045 www.haivision.com

Technical POC: Alex Beck Tel: 1-215-262-3107 Email: <u>abeck@haivision.com</u>

Sponsor – Cyber CoE

LASSIFIED

34



## **XTS GUARD 5**





#### **TECHNICAL DESCRIPTION**

• XTS Guard 5 is a high assurance cross domain solution that enables secure sharing between networks of various security classifications and enclaves.

• Built to support the simple plug-in of leading content filters, organizations and agencies need not worry about compatibility issues.

With XTS Enterprise Guard, a wide variety of data can be shared all on one machine, including: Email – Files
Chat- XML- Imagery - and many more data types

#### **OPERATIONAL DESCRIPTION**

- Demonstrate an ability to ingest various battlescape data formats for dissemination to various classification levels, domains, coalition partners and/or battlefield assets or the rear HQs.
- Validate, filter and/or sanitize the data types ensuring complex data types are clean and worthy of passing to other classifications, domains and enclaves.

#### **CONTACT INFORMATION**

BAE Systems 2525 Network Pl Herndon, VA> 20171 City, State and Zip Code www.baesystems.com/csp

Technical POC: John Murphy Tel: (703) 736-4325 Email: john.murphy4@baesystems.com

**Enabling the Future – Force 2025** 





LASSIFIED

### **OPERATIONAL DESCRIPTION**

- Rapidly deployable LTE comms allows Warfighters to have wireless voice and data communication to include C2, situation awareness, text and position, mapping, identification, reporting, coordination -information at the right place and time.
- Tethered UAV with autonomous launch, hover and landing provides secure up/downlink and extended coverage times without requirement to refuel
- Manpack configuration supports agile unit comms when weather conditions prevent use of the UAV
- L10 data platform stealth mode enables night operations without concern over light discipline

#### Motorola Solutions, Inc.

**CONTACT INFORMATION** 

1301 E Algonquin Road Schaumburg, IL 60196 http://www.motorolasolutions.com

Ben La Pointe (301) 466-8070 p25968@motorolasolutions.com

Enabling the Future – Force 2025



## **Multi-Access Cellular Extension (MACE)**

#### SRW radio tethered to MACE enabled EUD ad hoc SRW WiFi SRW manpack radio 4G LTE BS MACE enabled EUDs MACE 4G LTE Users on all three networks can communicate with MACE enabled EUDs each other via MACE

AENE

#### **TECHNICAL DESCRIPTION**

 MACE provides two major capabilities: network security and network mobility Network Security:

 Pair of encrypted tunnels
 National Security Agency's (NSA's) Suite B
 Cryptography Commercial Solution for Classified (CSfC)
 Network mobility:

 Allows applications running on the EUD to transition between different interfaces (4G LTE, Ad-Hoc Wi-Fi, SRW) seamlessly
 Provide a single network location for the user

#### OPERATIONAL DESCRIPTION

A typical scenario works as follows: while a user is in range of a 4G LTE tower they will benefit from the speed offered by 4G LTE and the security of MACE. As a user reaches the edge of a cell network's coverage, MACE facilitates seamless transition between a device's LTE interface, Ad-Hoc Wi-Fi, or tethered Solider Radio Waveform (SRW) Rifleman Radio. An EUD or set of EUDs separated from MACE server connectivity will form an Ad-Hoc Wi-Fi network or use the SRW network to maintain connection with one another and 2 tunnel security.

## **CONTACT INFORMATION**

Communications-Electronics Research, Development, and Engineering Center (CERDEC) 6010 Frankford Street APG, MD 20015 <u>http://www.cerdec.army.mil</u>

> Technical POC: Brian Casey Tel: 443-395-7765 Email: <u>brian.k.casey20.civ@mail.mil</u>



## **RAMM VHF/UHF Roll Up 23 Ft Integrated Antenna Mast**



ASSIFIED

#### **OPERATIONAL DESCRIPTION**

- Covers Tac VHF (30-108) and Tac UHF (225-512)
- L Band and HF NVIS can also be added to the system
- Radio Agnostic
- Fast Set Up Time
- Compact and Light when packed
- Safe & Low Training and Maint Burden

### Enabling the Future – Force 2025

## **CONTACT INFORMATION**

#### **Rolatube Expeditionary Systems Ltd**

Room 1073, Building A8, Cody Technology Park, Farnborough, Hampshire, UK, GU14 0LX www.rolatube.com

> **Technical POC:** Will Pike (CEO) Tel: (202) 812-0561 Email: wp@rolatube.com



## **RolaTube WIN-T Tripod Mast Combination System**



AEWE



#### **TECHNICAL DESCRIPTION**

A lightweight / compact / Roll Up RolaTube mast and tripod system:

- Provides tactical / fast means of deploying / elevating comms / surveillance networks
- Effective with comms systems
- Effective with surveillance systems
- Developed for PM WIN-T deployed Access Points but can mount other systems and sensors alsoe

#### **OPERATIONAL DESCRIPTION**

- Suitable for tactical comms detachmenmts
- Enables elevation of an assortment of systems
- Rapid Set Up less then 5 mins
- Compact and Lightweight when packed
- Various mounts available

#### **CONTACT INFORMATION**

**Rolatube Expeditionary Systems Ltd** Room 1073, Building A8, Cody Technology Park, Farnborough, Hampshire, UK, GU14 0LX www.rolatube.com

> **Technical POC:** Will Pike (CEO) Tel: (202) 812-0561 Email: wp@rolatube.com





## **Power Supply Docking Station (PSDS)**



AEME

#### **TECHNICAL DESCRIPTION**

PTS PSDS offers the user the capability to operate SINCGARS, Harris and Raytheon tactical radios in dismounted Fixed and Semi-Fixed Facilities using AC or AC/DC power (Worldwide AC Power/ Frequency/ Auto switching/Filtered) in a continuous, reliable, and cost effective fashion. Key features include:

- Lightweight (10-21 lbs., Model Dependent)
- Worldwide AC Voltage Input 85 to 260 VAC
- Worldwide Frequency Input 47 to 440 Hz
- Automatic Voltage and Frequency, 22-32 VDC Input
- All Aluminum Construction, Built-In Speaker

#### **OPERATIONAL DESCRIPTION**

PTS Power Supply Docking Stations (PSDS) provides reliable communications power for expeditionary command posts and training environments supporting fielded tactical military radios; a TOC in a Box solution.
PTS PSDS are designed to support military tactical radios at any location in the world. Total installation of the radio into PTS PSDS is completed in five minutes.
PTS PSDS have supported 24/7/365 radio operations to deployed Army, Marines, Navy, and National Guard forces over the last 15 years with over 5,000 systems fielded worldwide.

#### **CONTACT INFORMATION**

Perkins Technical Services, Inc. (PTS) 1318-B Putman Drive Huntsville, Alabama 35816 <u>www.pts-inc.com</u>

> Technical POC: Hank Perkins Tel: (256) 539-6787 Email: <u>hperkins@pts-inc.com</u>

ASSIFIED





AEWE 2016

- **AWFC #11:** Conduct effective air-ground combined arms reconnaissance to develop the situation in close contact with the enemy and civilian populations.
- **AWFC #12:** Project forces, conduct forcible and early entry, and transition rapidly to offensive operations to ensure access and seize the initiative.
- AWFC #13: Establish and maintain security across wide areas (wide area security) to protect forces, populations, infrastructure, and activities necessary to shape security environments, consolidate gains, and set conditions for achieving policy goals.
- **AWFC #15:** Conduct combined arms air-ground maneuver to defeat enemy organizations and accomplish missions in complex operational environments.

**Experiment Objective #4:** How can we enhance air-ground operations to conduct forcible entry and transition rapidly to offensive operations to ensure access, seize the initiative and defeat the enemy in close combat?

Examples: Voice/Data Communications, Lethality, Mobility, SOF/Conventional Forces Integration, TeleMed.

**Enabling the Future – Force 2025** 



## **Counter Defilade Air Burst Munition (CDABM)**

ABM System: (Tier II program at MCoE in 2012, 2013) 40mm CDABM and Vingmate Fire control Unit + IR Programmer

AEWE



#### **TECHNICAL DESCRIPTION**

- Air Burst High Explosive ammunition programmed by fire control outside the barrel via IR programmer. The Vingmate Fire Control Unit has been procured for T&E by NSWC, Crane.
- The ammunition has been qualified by the German Army in 2014 and Dutch Army in 2013.
- Successful Live-Fire CDABM Demonstration conducted at NSA (FBGA) on 11 SEP 2014. USG Witnessed. Video available upon request.
- Rounds available for USG Testing and Evaluation.

#### **OPERATIONAL DESCRIPTION**

- The System is able to measure the distance to the target and program the HE and HEDP CDABM by infrared beam to detonate at programmed point. (e.g. at, above or behind the target.) NON DUD PRODUCING
- ABM is programmed once the round exits the weapon creating a more cost effective system (Live fire and training)
- The Ammunition is equipped with a programmable fuse with mechanical safe and arm device (SAD) and electronic self destruct mechanism (ESD).

#### **CONTACT INFORMATION**

#### American Rheinmetall Munition 125 Wood stream Blvd Stafford, VA 22556

#### Technical POC: Deac Heilig

Tel: (727) 560-9599 Email: <u>deac.Heilig@americanrheinmetall.com</u>

#### Sponsor - MCoE



## 40mm Smoke & Illumination



M583A1 White Star Parachute M661 Green Star Parachute M662 Red Star Parachute M992 IR Parachute M585 White Star Cluster

M713 Red Smoke M715 Green Smoke M716 Yellow Smoke

ASSIFIED



#### **OPERATIONAL DESCRIPTION**

Illumination/Signal cartridges are used to communicate instructions or initiate a prearranged action and enhance night visibility. They provide visual ground-to-ground and ground-to-air signaling and temporary close-in illumination for individuals and small units.
Ground Smoke Marker cartridges are used to control actions and/or communicate instructions, initiate a prearranged signal, mark target areas, drop zones, and evacuation sites. They also used to mark the position of the front line or identify the limits of friendly ground establishments.

#### **TECHNICAL DESCRIPTION**

•M583A1, M661, M662 and M992, the ejection charge ignites the candle and blows the candle assembly out through the top of the projectile body. The attached parachute deploys upon ejection to lower the candle at 7 feet per second. The candle burns for approx 40 seconds. The M992 candlepower is greatly reduced.
•M585, the ejection charge ignites the star charges and blows the candle assembly out through the top of the projectile body. The individual stars burn for approx 7 seconds during free fall.

•M713, M715 and M716 cartridges payload consists of a pyrotechnic smoke mixture .

#### **CONTACT INFORMATION**

PM Maneuver Ammunition Systems Bldg 354 Picatinny Arsenal, NJ 07806-5000 www.pica.army.mil

PM-MAS POC: MAJ Ed Churchill Technical POC: Rich Reed Tel: (973) 724-9455;(706) 545-4021 Email: Edwin.a.churchill.mil@mail.mil <u>Richard.c.reed28.ctr@mail.mil</u>

Sponsor - MCoE



## eMAGINET



AEME

#### **OPERATIONAL DESCRIPTION**

- <u>Phase 1</u> On-board leaders maintain Nett Warrior network connectivity in the UH-60L Black Hawk troop seats to exchange messages with their ground commanders; collaborate with other leaders onboard their/other aircraft; and, maintain situational awareness through the use of moving maps and graphics.
- <u>Phase 2</u> Commanders and subordinate leaders observe FMV from AH-64D/UAS sensors of objective areas, significant actions, etc... from the troop seat of UH-60L Black Hawks for situational understanding enroute to the objective.

### **TECHNICAL DESCRIPTION**

- Air to ground Operations will be accomplished through the bridged radio with the ground element.
- Soldiers equipped with the Rifleman Radio and the Nett Warrior EUD will continue to operate systems onboard the lift aircraft to maintain SA and communications with Soldier between aircraft.
- Airborne Mission Command on the Move provided through the Mid-tier "backbone" network from the battalion/company CP.
- Unit SRW will be "bridged" with an onboard SRW radio to the Mid-tier backbone network.

## **CONTACT INFORMATION**

#### **PEO** Aviation

APD Networks & Mission Command Integration PD ANMP Project Management Office for Aviation Redstone Arsenal, Alabama 35801

> Technical POC: Al Abejon Tel: (256) 313-0459 Email: <u>Alvin.A.Abejon.CIV@mail.mil</u>

> > Sponsor – AVN CoE

ASSIFIED



## Sight Mounted On BDM Range Adjustment Slide 10 = 1000 N Post Clip Range Adjustment Slide Windo 5.5 = 550 M Aperture Post Clip ERS Slide Bar Rear Sight Cover Rail Guides **Clip-on ER Sight**

## **OPERATIONAL DESCRIPTION**

Provides dismounted Soldiers a lightweight shoulder

Reusable, clips onto existing iron sight SIGHTUNIT is combat proven

CLASSIFIED

٠

### **CONTACT INFORMATION**

## Nammo Talley Inc.

Mesa, AZ 85215

**Technical POC: John Johnson** Tel: (480) 898-2449 Email: jjohnson@nammotalley.com

#### **Sponsor - MCoE**

## Enabling the Future – Force 2025

#### Dual mode fuze & warhead Outstanding breaching weapon on adobe and

double/triple brick or similar thicker targets

Increases individual User organic firepower

Delivers 2.4 lbs of explosive in fragmenting case

launch direct fire capability out to 1Km

- Light armor & reinforced concrete
- Offers demonstrated lethal over-pressure and fragmentation to defeat targets in structures
- Extensive use in current operations

## M141 BDM Extended Range Sight (ERS)

**TECHNICAL DESCRIPTION** 

Need for Squad level Direct Fire SLM at 1,000m

KPPs: light-weight, low cost,  $\leq$  100m CEP Concept validation testing at 900m Feb 2012

Qualified in 2012, NSN: 1240-01-613-0555

PIP to existing M141 BDM/HEDP weapon

Raw data CEP of 26m on 900m target

All shots < 15m from target

#### 4051 N Higley Road

www.nammo.com





<u>AEWE 2016</u>

- AWFC #12: Project forces, conduct forcible and early entry, and transition rapidly to offensive operations to ensure access and seize the initiative.
- AWFC #13: Establish and maintain security across wide areas (wide area security) to protect forces, populations, infrastructure, and activities necessary to shape security environments, consolidate gains, and set conditions for achieving policy goals.
- **AWFC #15:** Conduct combined arms air-ground maneuver to defeat enemy organizations and accomplish missions in complex operational environments.
- **Experiment Objective #5:** How can we improve protection and mobility at the Soldier and small unit level in a way that contributes to operational maneuverability with improved survivability?

Examples: Protective Equipment, Load carrying equipment, Ultra Lightweight Combat Vehicles, Light Reconnaissance Vehicles.

**Enabling the Future – Force 2025** 



## Rynoskin



#### **OPERATIONAL DESCRIPTION**

Rynoskin® system demonstrates a creative innovation for insect protection. Rynoskin ® has been scientificallysuccessfully tested by the OSU Department of Entomology and Plant Pathology against biting arthropods. Rynoskin® has been deemed to be anti-inflammable (utilizing specifications outlined in the Flammable Fabrics Act). Rynoskin ® has been favorably field- tested by a significant number of agencies such as, Military Units, Special Operations, Individual Soldiers (stateside and in the theater), DEA, US Marshalls, US Border Patrol, US Search and Rescue, and US Secret Service and Sheriff's Departments.

#### **TECHNICAL DESCRIPTION**

Rynoskin ® has created the innovation the military has been seeking for decades---a lightweight, breathable, undetectable, chemical-free, fire-retardant, insectrepelling body suit, constructed of a revolutionary USA made fabric which can be comfortably worn under a Warfighter's uniform and equipment.

Rynoskin's® impenetrable fabric and elastic cuffs completely protect against ticks, fleas, chiggers, buffalo gnats, and sand fleas/flies during the course of military operations. Rynoskin® also aides in the protection against mosquitoes.

#### **CONTACT INFORMATION**

Har-son Inc.- Rynoskin Insect Protection Body Armor 2801 Parklawn Drive Ste. 400 Midwest City Oklahoma 73110 <u>www.rynoskin.com</u>

> **Technical POC: Tijunia Hudson** (405) 737-2494 Email: <u>harson2@sbcglobal.net</u>

#### Sponsor - MCoE

47





#### **OPERATIONAL DESCRIPTION**

Highly versatile pack and frame system that allows soldiers to quickly modify their individual load carrying system to adapt to immediate mission requirements.

- Modular configuration allows pack and frame systems to be separated and used independently
- Ergonomic design and suspension system reduces neck and back injuries caused by heavy loads
- Load stabilizing cargo deck allows for non-standard loads to be easily attached and carried
- Expandable pack allows for customized load configuration and ballistic insert

#### **TECHNICAL DESCRIPTION**

High Strength Composite Frame System:

- Glass and foam filled injection moulded chemical and temperature resistant composite
- Pivoting Lumbar for increased support
- Adjustable shock absorbing system to reduce dynamic shock

Detachable Rucksack:

ASSIFIED

- 500 Denier Poly / Canvas •
- 4,200 in<sup>3</sup> Main Compartment; 140 in<sup>3</sup> Top Pocket ٠
- Concealed shoulder harness and waistband for use • when separated from frame
- MOLLE and PALS compatible •

### **CONTACT INFORMATION**

PRP LLC

2755 Miller Park North, Suite 250 Garland, Texas 75042 www.pack-rabbit.com

**Technical POC: John Addleman** Tel: (214) 774-4363 Email: jaddleman@pack-rabbit.com

**Sponsor - MCoE** 



#### **OPERATIONAL DESCRIPTION**

The OM27-S is addressing the operational problem of mission critical weight. This tool capitalizes war- fighter capability and performance. A 5<sup>th</sup> Generation tool and scalable solution greatly reducing the logistical footprint.

• Multi-Function Tactical Tool eliminates the need to carry multiple tools - - Modernize Equipment.

- Reduces overall carry weight - True Force Multiplier.
- Ensures critical tools are readily available improving mission performance. - Transform operations.
- Reduces the weight of the overall mission.

Maximize survivability while mitigating injury & fatigue.

## **SERE Operational Multipurpose Tool**

## **TECHNICAL DESCRIPTION**

The OM27-S is a one of kind multi-functioning hybrid tactical tool, designed for infinite combinations of use. This ergonomic light-weight instrument is capable of performing in any environment and offers a multitude of solutions in support of strategic operations. Such as assault breach, trenching, pry, ladder, splint, mono pod exfil litter, and protection from the elements but, ultimately a means of enhanced survival for every Ground Combat Element (GCE) and (SOF) unit confronted with a myriad of immediate tactical challenges. The OM27-S is an efficient and adaptive 60 to 1 tool that delivers multiple capabilities.

## **CONTACT INFORMATION**

SERE Industries Inc. 23052 H Alicia Parkway Suite 475 Mission Viejo, CA. 92692 www.sereindustries.com

Technical POC: Tim Langan Tel: (949) 636-6317 Email: <u>tlangan@sereindustries.com</u>

#### Sponsor - None

49



## VATEC Vehicle Kit/Products



#### **OPERATIONAL DESCRIPTION**

The Thermal Visual Camouflage (TVC) products called VATEC enable: Individual Soldiers, SQD size units, crew served weapons, unattended sensors, and vehicles to hide in plain sight by countering Visual, Thermal, and Infra-Red detection. The system is intended to protect Soldiers from near and long range detection in the Visual, Thermal and Infra-Red Spectrum. Vehicle products now available are the ATVC kit with 4 (large vehicles) and 2 modules (small vehicles).

### **TECHNICAL DESCRIPTION**

VATEC is a mature capability at Technical Readiness *Level (TRL)* **8** with level **9** being conducted now that enhances Signature Management Multispectral Reduction for Small Unit Dominance. ReadyOne is committed to producing a system with the following elements: lightweight, durable, three-dimensional, and a modular camouflage system. The ease at which US adversaries can acquire night vision and thermal devices makes it imperative to protect US and Allied Soldiers from detection while they are conducting reconnaissance, surveillance, combat, or non combat missions.

### **CONTACT INFORMATION**

**ReadyOne Industries** 1414 Ability Dr. El Paso, TX 79936

Technical POC: Bill Fore. Director of Sales & **Business Development** (623) 332-8817 bfore@readyone.org

#### **Sponsor - MCoE**

ASSIFIED



## **VATEC Sniper Kit/Products**



#### **OPERATIONAL DESCRIPTION**

The Thermal Visual Camouflage (TVC) products called VATEC enable: Individual Soldiers, SQD size units, crew served weapons, unattended sensors, and vehicles to hide in plain sight by countering Visual, Thermal, and Infra-Red detection. The system is intended to protect Soldiers from near and long range detection in the Visual, Thermal and Infra-Red Spectrum. Sniper products now available are the Sniper Kit (1 XXL TVC panel & 1 Ruckcover), a TVC Shoot/Observation panel, and a TVC Head Cowling.

### **TECHNICAL DESCRIPTION**

VATEC is a mature capability *at Technical Readiness Level (TRL)* **8** with level **9** being conducted now that enhances Signature Management Multispectral Reduction for Small Unit Dominance. ReadyOne is committed to producing a system with the following elements: lightweight, durable, three-dimensional, and a modular camouflage system. The ease at which US adversaries can acquire night vision and thermal devices makes it imperative to protect US and Allied Soldiers from detection while they are conducting reconnaissance, surveillance, combat, or non combat missions.

## **CONTACT INFORMATION**

ReadyOne Industries 1414 Ability Dr. El Paso, TX 79936

Technical POC: Bill Fore, Director of Sales & Business Development (623) 332-8817 bfore@readyone.org

ASSIFIED



## VATEC MOR Kit/Hide Site



#### **OPERATIONAL DESCRIPTION**

The Thermal Visual Camouflage (TVC) products called VATEC enable: Individual Soldiers, SQD size units, crew served weapons, unattended sensors, and vehicles to hide in plain sight by countering Visual, Thermal, and Infra-Red detection. The system is intended to protect Soldiers from near and long range detection in the Visual, Thermal and Infra-Red Spectrum. MOR or hide site products now available are the MOR kit (rucksack with 15 TVC panels or individual panels and the infrastructure kit is available for separate sales.

#### **TECHNICAL DESCRIPTION**

VATEC is a mature capability *at Technical Readiness Level (TRL)* **8** with level **9** being conducted now that enhances Signature Management Multispectral Reduction for Small Unit Dominance. ReadyOne is committed to producing a system with the following elements: lightweight, durable, three-dimensional, and a modular camouflage system. The ease at which US adversaries can acquire night vision and thermal devices makes it imperative to protect US and Allied Soldiers from detection while they are conducting reconnaissance, surveillance, combat, or non combat missions.

#### **CONTACT INFORMATION**

ReadyOne Industries 1414 Ability Dr. El Paso, TX 79936

Technical POC: Bill Fore, Director of Sales & Business Development (623) 332-8817 <u>bfore@readyone.org</u>

#### Sponsor - MCoE

ASSIFIED

52





#### **OPERATIONAL DESCRIPTION**

The Thermal Visual Camouflage (TVC) products called VATEC enable: Individual Soldiers, SQD size units, crew served weapons, unattended sensors, and vehicles to hide in plain sight by countering Visual, Thermal, and Infra-Red detection. The system is intended to protect Soldiers from near and long range detection in the Visual, Thermal and Infra-Red Spectrum. The Soldier Protection products are individual TVC panels that are made of TVC-50 (less volume and weight. Can make in a poncho type panel (Australian Hoochie, 9"x6" at only 2.25 lbs.)

## **VATEC Soldier Protection Products**

#### **TECHNICAL DESCRIPTION**

VATEC is a mature capability *at Technical Readiness Level (TRL)* **8** with level **9** being conducted now that enhances Signature Management Multispectral Reduction for Small Unit Dominance. ReadyOne is committed to producing a system with the following elements: lightweight, durable, three-dimensional, and a modular camouflage system. The ease at which US adversaries can acquire night vision and thermal devices makes it imperative to protect US and Allied Soldiers from detection while they are conducting reconnaissance, surveillance, combat, or non combat missions.

#### **CONTACT INFORMATION**

ReadyOne Industries 1414 Ability Dr. El Paso, TX 79936

Technical POC: Bill Fore, Director of Sales & Business Development (623) 332-8817 bfore@readyone.org

#### Sponsor - MCoE

LASSIFIED

53





# **Small Unit Training**

**Enabling the Future – Force 2025** 



## **Operation Identity Dominance (OID)**



#### **OPERATIONAL DESCRIPTION**

Operation Identity Dominance (OID) 1.x is a Government developed training product designed to train Soldiers on how to successfully plan and conduct biometric, forensic and Site Exploitation related processes. Soldiers are trained using simulated equipment and virtual environments, then use the skills acquired during training to properly conduct biometric enrollments and exploit a mock site (buildings and/or vehicles).

#### **TECHNICAL DESCRIPTION**

OID is a game-based application designed to train Service Members and select DOD civilians on the planning and implementation biometric, forensic and Site Exploitation processes in a simulated environment. Development of this tool includes a blend of level 2-4 Interactive Multimedia Instruction (IMI) and a Commercial of The Shelf (COTS) gaming platform (Unity Game Engine), that is compatible with existing DoD computing hardware. OID has a Certificate of Networthiness (CoN) and runs on a trusted Windows 7 platform.

#### **CONTACT INFORMATION**

#### TCM-BF&MFLTS

ATTN: ATZS-CDI-BF Bldg. 80011, Carter St. Ft. Huachuca AZ 85613

Technical POC: James Morris Tel: 520-454-1838 Email: james.a.morris88.civ@mail.mil

Sponsor – ICoE & MSCoE

ASSIFIED





#### **OPERATIONAL DESCRIPTION**

The Squad Overmatch Study evaluates improved training methodologies to enhance team decision making under stress to include Tactical Combat Casualty Care (TC3). This effort addresses the issue of how to facilitate squad performance in combat casualty management to reduce impact on Army and Marine squad mission success during firefights. TC3 providers and squad leaders will practice decision making that balance tactical and medical in realistic TC3 scenarios. It will provide technology insertion in Gaming, Virtual, and Live environments to influence future MedSim capabilities and Army doctrine. One Squad, One Fight.

#### **TECHNICAL DESCRIPTION**

Study / Product Aims

Squad Overmatch Tactical Combat Casualty Care

- Develop squad resilience training that integrates TC3 concepts
- Develop/Validate stress exposure curriculum
- Develop immersive scenarios
- Deliver AAR capability that integrates tactical and cognitive performance feedback
- Approach
  - Develop TC3 scenarios for integrated training in Gaming, Virtual, Live environments and evaluate Army/Marine squad performance in the Human Dimension

## **CONTACT INFORMATION**

#### **PEO STRI / PM TRADE**

12350 Research Parkway Orlando, FL 32826 http://www.peostri.army.mil/

#### **Government Project Director: Rob Wolf**

Tel: (407) 384-5233 Email: Robert.g.wolf6.civ@mail.mil

Sponsor - MCoE

