



AT THE HEART
OF THE MISSION

NDIA



2019

GLOBAL EXPLOSIVE ORDNANCE DISPOSAL SYMPOSIUM & EXHIBITION

Innovation for the Future

August 6 – 8 | Bethesda, MD | NDIA.org/GlobalEOD



EXPLOSION

CONTAINMENT



EXPLOSIVE ORDNANCE DISPOSAL



THIOT INGENIERIE
830 route Nationale
46130 - PUYBRUN
FRANCE

CONTACT US

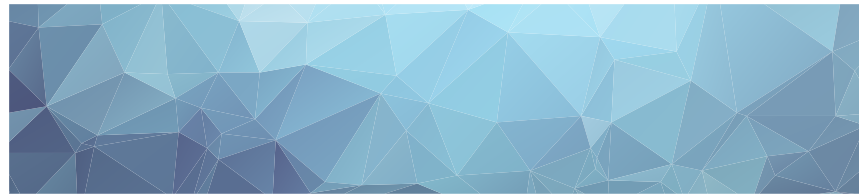
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WHO WE ARE

The National Defense Industrial Association is the trusted leader in defense and national security associations. As a 501(c)(3) corporate and individual membership association, NDIA engages thoughtful and innovative leaders to exchange ideas, information, and capabilities that lead to the development of the best policies, practices, products, and technologies to ensure the safety and security of our nation. NDIA's membership embodies the full spectrum of corporate, government, academic, and individual stakeholders who form a vigorous, responsive, and collaborative community in support of defense and national security. NDIA is proud to celebrate 100 years in support of our warfighters and national security. The technology used by today's modern warfighter was unimaginable 100 years ago. In 1919, BG Benedict Crowell's vision of a collaborative team working at the intersection of science, industry, government, and defense began what was to become the National Defense Industrial Association. For the past century, NDIA and its predecessor organizations have been at the heart of the mission by dedicating their time, expertise, and energy to ensuring our warfighters have the best training, equipment, and support. For more information, visit NDIA.org



EOD LEADERSHIP

Nicole Motsek
Executive Director

EOD WARRIOR FOUNDATION

WHO WE ARE

The mission of the EOD Warrior Foundation is to improve the quality of life for the EOD Family by providing educational, financial, and emotional support.

The Foundation offers four pillars of support (Financial Relief, Education, Hope & Wellness, EOD Memorial Care) and handles each request on a case-by-case basis. The assistance and resources provided are above and beyond the budgetary constraints of the Department of Defense (DoD) and Department of Veterans Affairs (VA).

The Foundation believes that the EOD Family is for life. We work to disarm the challenges of the EOD Family by providing our support with compassion and care to every individual we serve.

WELCOME TO THE 2019 GLOBAL EXPLOSIVE ORDNANCE DISPOSAL SYMPOSIUM & EXHIBITION

This year, our tenth anniversary coincides with NDIA's 100th anniversary. We are working toward the 6 NDIA strategic priorities:

- Advance Budget Stability,
- Expand International Security Cooperation and Interoperability,
- Gain Acquisition Agility and Regulatory Efficiency,
- Promote Innovation in Technology and Process,
- Foster Small Business Success, and
- Strengthen the Defense Industrial Base and Workforce.

This year, our theme is *Innovation for the Future*. We have added separate technical breakout sessions on Tuesday and Wednesday afternoon that are based upon the call for papers issued earlier in the year. We have some excellent presentations on technical innovation. If you think of someone who has innovative technology that should be here, please encourage them to submit an abstract during our call for papers for next year's event.

The National Defense Authorization Act of 2019 directed the Department of Defense to do a study on blast injury. Part of that study involves blast injury to cognitive function. We are providing a Brain Health Workshop on Tuesday afternoon to discuss this important topic for the EOD community and bring everyone up to speed on medical and policy efforts that are ongoing in support of our troops. Additionally, on Wednesday afternoon, our partners from the EOD Warrior Foundation are providing a Suicide Prevention Workshop with leaders from the medical community, academia, and military to discuss this important issue.

For the past few years, we have had a Humanitarian Mine Action Panel included in the Symposium. We have expanded the panel into a breakout session on Wednesday morning with a technology panel and a policy and programs panel. Additionally, we have the Countering WMD Panel in a breakout room on Wednesday.

As you can see, there is a lot going on at this year's Symposium. The committee hopes you find attendance educational and rewarding. As always, you will be contacted later with a post-event survey. Please take the time to respond so that we can improve this event every year.

COL Leo Bradley, USA (Ret)

Owner, L.E. Bradley Consulting, LLC

Chair, EOD Symposium, National Defense Industrial Association

SCHEDULE AT A GLANCE

TUESDAY, AUGUST 6

Networking Breakfast
7:00 – 8:00 am

General Session
8:00 – 11:30 am

Exhibit Hall
9:00 am – 6:00 pm

Networking Lunch
11:30 am – 12:30 pm

Concurrent Sessions
12:30 – 5:00 pm

Networking Reception
5:00 – 6:00 pm

WEDNESDAY, AUGUST 7

Networking Breakfast
7:00 – 8:00 am

General Session
8:00 – 11:30 am

Exhibit Hall & Silent Auction
9:00 am – 3:00 pm

Networking Lunch
11:30 am – 12:30 pm

Concurrent Sessions
12:30 – 5:00 pm

THURSDAY, AUGUST 8

Networking Breakfast
7:00 – 8:00 am

General Session
8:00 am – 12:00 pm

LOCATION

Bethesda North Marriott
5701 Marinelli Road
Bethesda, MD 20852

EVENT WEBSITE

NDIA.org/GlobalEOD

EVENT THEME

Innovation for the Future

ATTIRE

Civilian: Business Casual
Military: Class B or Uniform of the Day

SURVEY AND PARTICIPANT LIST

You will receive via email a survey and list of participants (name and organization) after the Symposium. Please complete the survey to help make our event even more successful in the future.

EVENT CONTACTS

Andrew Peters
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LEADERSHIP

Leo Bradley
EOD Symposium Chair

Eugene Squires
EOD Committee Chair

SPEAKER GIFTS

In lieu of speaker gifts, a donation is being made to the Fisher House Foundation.

HARASSMENT STATEMENT

NDIA is committed to providing a professional environment free from physical, psychological and verbal harassment. NDIA will not tolerate harassment of any kind, including but not limited to harassment based on ethnicity, religion, disability, physical appearance, gender, or sexual orientation. This policy applies to all participants and attendees at NDIA conferences, meetings and events. Harassment includes offensive gestures and verbal comments, deliberate intimidation, stalking, following, inappropriate photography and recording, sustained disruption of talks or other events, inappropriate physical contact, and unwelcome attention. Participants requested to cease harassing behavior are expected to comply immediately, and failure will serve as grounds for revoking access to the NDIA event.

AGENDA

MONDAY, AUGUST 5

1:00 – 5:00 pm	REGISTRATION OPEN GRAND FOYER
5:00 – 5:30 pm	BOARD OF DIRECTORS MEETING SENECA BOARD ROOM

TUESDAY, AUGUST 6

7:00 am – 5:00 pm	REGISTRATION OPEN GRAND FOYER
7:00 – 8:00 am	NETWORKING BREAKFAST GRAND FOYER
8:00 – 8:15 am	WELCOME REMARKS SALON F – H Eugene Squires Senior Partner, Squires & Fulcher, LLC Chair, EOD Committee, National Defense Industrial Association COL Leo Bradley, USA (Ret) Owner, L.E. Bradley Consulting, LLC Chair, EOD Symposium, National Defense Industrial Association
8:15 – 9:00 am	KEYNOTE SPEAKER SALON F – H Michael Cardash Former Deputy Head, Israeli National Police Bomb Squad
9:00 am – 6:00 pm	EXHIBIT HALL OPENS GRAND A – E
9:00 – 9:45 am	MISSION KEYNOTE SALON F – H LTC Jeanette Bernaola, USA Battalion Commander, Operation Inherent Resolve-Combined Joint Task Force, U.S. Army
9:45 – 10:15 am	NETWORKING BREAK EXHIBIT HALL SILENT AUCTION BEGINS EXHIBIT HALL

<p>10:15 – 11:00 am</p>	<p>FEATURED ADDRESS: OPERATION MARKSBURG: ADDING A FIELD PERSPECTIVE TO THE PROSECUTION OF TERRORISM SALON F – H Damien Spleeters Deputy Director, Operations, Conflict Armament Research</p>
<p>10:15 – 11:30 am</p>	<p>MILITARY-TO-CIVILIAN TRANSITION WORKSHOP GREAT FALLS MG Randy Manner, USA (Ret) Executive Leadership Coach</p>
<p>11:00 – 11:30 am</p>	<p>● EOD WARRIOR FOUNDATION UPDATE SALON F – H Nicole Motsek Executive Director, Explosive Ordnance Disposal Warrior Foundation</p> <p>● IGNITION GENERATOR FOR INSENSITIVE AND TAILORABLE EFFECTS, AS A WARHEAD INITIATOR (IGNITE) WHITEFLINT AMPHITHEATER Eric Enig President and CEO, Enig Associates, Inc.</p>
<p>11:30 am – 12:30 pm</p>	<p>NETWORKING LUNCH EXHIBIT HALL</p>
<p>12:30 – 1:00 pm</p>	<p>● ACADEMIC SUPPORT OF HMA SALON F – H William Bagley Associate Research Engineer, The Johns Hopkins University</p> <p>Heather Holsinger Communication Manager, James Madison University Center for International Stabilization and Recovery</p> <p>● INNOVATIVE LONG-RANGE STANDOFF OPTICAL EXPLOSIVES & WMD DETECTION WHITEFLINT AMPHITHEATER Ed Dottery President, Alakai Defense Systems</p>

<p>1:00 – 1:30 pm</p>	<p>● DTRA COUNTER-IMPROVISED THREAT TECHNOLOGIES (RD-TT) UPDATE SALON F – H Lisa Swan Director, Counter-Improvised Threat Technologies (RD-TT), Defense Threat Reduction Agency (DTRA)</p> <p>● LONG WAVE IR (LWIR) POLARIZATION COMBINED WITH REFLECTIVE BAND CAMERA FOR ENHANCED DETECTION AND IDENTIFICATION OF SURFACE HAZARDS IN CLUTTERED SCENES WHITEFLINT AMPHITHEATER Collin Bright Research Advisor, NVESD, U.S. Army Futures Command</p> <p>● BRAIN HEALTH WORKSHOP: MEDICAL PANEL BROOKSIDE Stephen Phillips Senior Professional Staff, The Johns Hopkins University Applied Physics Lab (JHU APL) <i>Moderator</i></p> <p>Dr. Joseph Long Chief, Blast-Induced Neurotrauma Branch, Walter Reed Army Institute of Research</p> <p>Dr. John Meyers Program Director, ANAM, Office of the Surgeon General of the Army</p> <p>Todd Massow Director of Operations, Neuro-Tactical Research Team (NTRT), Uniformed Services University of the Health Sciences (USUHS)</p>
<p>1:30 – 2:00 pm</p>	<p>NETWORKING BREAK EXHIBIT HALL</p>
<p>2:00 – 2:30 pm</p>	<p>● DEPARTMENT OF HOMELAND SECURITY OFFICE FOR BOMBING PREVENTION UPDATE SALON F – H William Byrd Deputy Chief, Office for Bombing Prevention (OBP), Cybersecurity and Infrastructure Security Agency</p> <p>● UNMANNED SYSTEM (UXS) IPT AND ENGINEERING PRECEPTS FOR SAFE AUTONOMY WHITEFLINT AMPHITHEATER Jeff Fornoff Subject Matter Expert, VLS, UxS, DEW, and Ground Weapon Systems, Weapon System Explosives Safety Review Board (WSESRB)</p> <p>● BRAIN HEALTH WORKSHOP: MEDICAL PANEL BROOKSIDE Stephen Phillips Senior Professional Staff, The Johns Hopkins University Applied Physics Lab (JHU APL) <i>Moderator</i></p> <p>Dr. Joseph Long Chief, Blast-Induced Neurotrauma Branch, Walter Reed Army Institute of Research</p> <p>Dr. John Meyers Program Director, ANAM, Office of the Surgeon General of the Army</p> <p>Todd Massow Director of Operations, Neuro-Tactical Research Team (NTRT), Uniformed Services University of the Health Sciences (USUHS)</p>

<p>2:30 – 3:00 pm</p>	<p>● NAVSCOLEOD UPDATE SALON F – H CAPT Dean Muriano, USN Commanding Officer, Naval School Explosive Ordnance Disposal (NAVSCOLEOD)</p> <p>● X-RAY TOOLKIT UPDATE WHITEFLINT AMPHITHEATER Bryce Eldridge Senior Member, Technical Staff, Sandia National Laboratories</p> <p>● BRAIN HEALTH WORKSHOP: POLICY PANEL BROOKSIDE COL Michael Evans, USA Operations Coordinator, 734 Co-Project <i>Moderator</i></p> <p>CAPT Scott Cota, USN Director, Branch Clinics, Medical Center Camp Lejeune, U.S. Navy Medical Coordinator, 734 Co-Project</p> <p>Kathy Lee, MS, CRNP, ANP-BC, CNRN Special Assistant to Deputy Assistant Secretary of Defense, Health Readiness Policy and Oversight (HRP&O), Health Affairs, U.S. Department of Defense</p> <p>Paul Scharre Senior Fellow and Director, Technology and National Security Program, Center for New American Security</p> <p>Dr. Terry Rauch Acting Assistant Secretary of Defense, Health Readiness Policy and Oversight (HRP&O), Health Affairs, U.S. Department of Defense</p>
<p>3:00 – 3:30 pm</p>	<p>NETWORKING BREAK EXHIBIT HALL</p>
<p>3:30 – 4:00 pm</p>	<p>● NATO COUNTER-IMPROVISED EXPLOSIVE DEVICE CENTER OF EXCELLENCE SALON F – H COL Stephen Kavanaugh, USA Deputy Director, NATO Counter IED Centre of Excellence</p> <p>● PYROSHOCK: COST-EFFECTIVE C-IED DEVICE FOR NEUTRALIZING OPERATING SYSTEMS OF IEDS CONTAINING SENSITIVE EXPLOSIVES WHITEFLINT AMPHITHEATER Ronnen Paytan Director, Business Development, Mistral, Inc.</p> <p>● BRAIN HEALTH WORKSHOP: POLICY PANEL, CONTINUED BROOKSIDE COL Michael Evans, USA Operations Coordinator, 734 Co-Project <i>Moderator</i></p> <p>CAPT Scott Cota, USN Director, Branch Clinics, Medical Center Camp Lejeune, U.S. Navy Medical Coordinator, 734 Co-Project</p> <p>Kathy Lee, MS, CRNP, ANP-BC, CNRN Special Assistant to Deputy Assistant Secretary of Defense, Health Readiness Policy and Oversight (HRP&O), Health Affairs, U.S. Department of Defense</p> <p>Paul Scharre Senior Fellow and Director, Technology and National Security Program, Center for New American Security</p> <p>Dr. Terry Rauch Acting Assistant Secretary of Defense, Health Readiness Policy and Oversight (HRP&O), Health Affairs, U.S. Department of Defense</p>

4:00 – 4:30 pm	<p>● RAVEN'S CHALLENGE UPDATE SALON F – H John Simpson Program Manager, Bureau of Alcohol, Tobacco, Firearms and Explosives</p> <p>● POSSIBLE EFFECTS OF WALL REFLECTIONS ON THE BLAST OVERPRESSURE THREAT TO BOMB TECHNICIANS – MEASUREMENT & ANALYTICAL TOOLS WHITEFLINT AMPHITHEATER Dr. Jean-Philippe Dionne Director, Research Engineering, Med-Eng</p> <p>● BRAIN HEALTH WORKSHOP: TRAUMATIC BRAIN INJURY, POST-TRAUMATIC STRESS DISORDER AND SUICIDE PREVENTION BROOKSIDE</p>
4:30 – 5:00 pm	<p>● OSU: MSFS ARSON & EXPLOSIVES SALON F – H Tom Gersbeck Graduate Faculty and Military Liaison, Arson-Explosives Investigation (AEI) Program, Oklahoma State University</p> <p>● HOW THE NIJ BOMB SUIT STANDARD ADDRESSES BLAST EFFECTS & OPERATOR NEEDS WHITEFLINT AMPHITHEATER Dr. Jean-Philippe Dionne Director, Research Engineering, Med-Eng</p>
5:00 – 6:00 pm	<p>NETWORKING RECEPTION EXHIBIT HALL</p>
WEDNESDAY, AUGUST 7	
7:00 am – 5:00 pm	<p>REGISTRATION GRAND FOYER</p>
7:00 – 8:00 am	<p>NETWORKING BREAKFAST GRAND FOYER</p>

THANK YOU TO OUR SPONSORS



<p>8:00 – 8:15 am</p>	<p>ADMINISTRATIVE REMARKS SALON F – H COL Leo Bradley, USA (Ret) Owner, L.E. Bradley Consulting, LLC Chair, EOD Symposium, National Defense Industrial Association</p>
<p>8:15 – 9:00 am</p>	<p>● CONGRESSIONAL PERSPECTIVE PANEL SALON F – H Col Wes Hallman, USAF (Ret) Senior Vice President, Strategy & Policy, National Defense Industrial Association <i>Moderator</i></p> <p>John Holcomb Military Legislative Assistant, Office of Congressman Rick Crawford (AK-1)</p> <p>Maj Daniel Long, USAF Office of Congressional Liaison, U.S. Air Force</p> <p>● TECHNICAL SOLUTIONS FOR HMA CHALLENGES BROOKSIDE William Bagley Associate Research Engineer, The Johns Hopkins University <i>Moderator</i></p> <p>Elise Becker Vice President, Operations, Marshall Legacy Institute</p> <p>Roland Evans Advisor, Land Release, Operational Efficiency and Training Development</p> <p>LTC Alexander Riebl Advisor, IED Threat Mitigation, United Nations Mine Action Service (UNMAS)</p> <p>Allen Tan Director of Applied Technology, Golden West Humanitarian Foundation</p>
<p>9:00 am – 3:30 pm</p>	<p>EXHIBIT HALL OPEN SALON A – E</p>
<p>9:00 – 9:45 am</p>	<p>● EOD WARRIOR FOUNDATION LECTURE: LONELINESS SALON F – H Dr. William Lopez, CPE Lead Medical Director, Cigna Behavioral Health</p> <p>● HMA POLICY AND PROGRAMS: GROUNDWORK FOR THE FUTURE BROOKSIDE Suzanne Fiederlein Associate Director, James Madison University Center for International Stabilization and Recovery <i>Moderator</i></p> <p>David Hewitson Director, Fenix Insight, Ltd.</p> <p>Rob Jenkins Deputy Assistant Administrator, Bureau for Democracy, Conflict and Humanitarian Assistance, U.S. Agency for International Development (USAID)</p> <p>Vennie Pikoulas-Psaros Resource Management Chief, Office of Weapons Removal and Abatement (PM/WRA), U. S. Department of State</p> <p>Lewis Rasmussen Director, Corporate Relations Proposals and Strategy, Tetra Tech</p>

9:45 – 10:15 am	<p>NETWORKING BREAK EXHIBIT HALL</p>		
10:15 – 11:00 am	<p>● IMPROVISED EXPLOSIVE DEVICES KEYNOTE SALON F – H</p> <p>Dr. Kirk Yeager Chief Scientist, Explosives, Federal Bureau of Investigation (FBI)</p>		
11:00 – 11:30 am	<p>● ADDRESSING CWMD NEEDS THROUGH PUBLIC-PRIVATE PARTNERSHIPS/CONSORTIA SALON F – H</p> <p>Mike Stebbins Executive Director, Countering Weapons of Mass Destruction Consortium and Medical CBRN Defense Consortium</p> <p>● UAS DRONE DROP SIGNATURE IDENTIFICATION: DJI PHANTOM 3 STANDARD WHITEFLINT AMPHITHEATER</p> <p>Dr. Stephen Pearson Technical Forensic Exploitation Researcher, High Tech Crime Institute, Inc.</p>		
11:30 am – 12:30 pm	<p>NETWORKING LUNCH EXHIBIT HALL</p> <p>SILENT AUCTION CLOSURES EXHIBIT HALL</p>		
12:30 – 1:30 pm	<p>● EOD WARRIOR FOUNDATION SUICIDE PREVENTION WORKSHOP BROOKSIDE</p> <table border="0" style="width: 100%;"> <tr> <td style="width: 50%; vertical-align: top;"> <p>Michael Cardash Former Deputy Head, Israeli National Police Bomb Squad</p> <p>LTG Reynold Hoover, USA (Ret) Former Deputy Commander, U.S. Northern Command (USNORTHCOM)</p> <p>Dr. William Lopez, CPE Lead Medical Director, Cigna Behavioral Health</p> <p>Dr. Kelly Posner Founder and Director, Columbia Lighthouse Project, Columbia University Center (CUC)</p> </td> <td style="width: 50%; vertical-align: top;"> <p>COL Terry Romine, USA Chaplain, Ordnance Corps, U.S. Army</p> <p>Matthew Reinhard, Psy.D. Director, War Related Illness and Injury Study Center, Veterans Affairs Medical Center</p> <p>Michael Roy, MD, MPH, FACP, COL USA (Ret) Director, Division of Military Internal Medicine, Uniformed Services University of the Health Services (USUHS)</p> </td> </tr> </table>	<p>Michael Cardash Former Deputy Head, Israeli National Police Bomb Squad</p> <p>LTG Reynold Hoover, USA (Ret) Former Deputy Commander, U.S. Northern Command (USNORTHCOM)</p> <p>Dr. William Lopez, CPE Lead Medical Director, Cigna Behavioral Health</p> <p>Dr. Kelly Posner Founder and Director, Columbia Lighthouse Project, Columbia University Center (CUC)</p>	<p>COL Terry Romine, USA Chaplain, Ordnance Corps, U.S. Army</p> <p>Matthew Reinhard, Psy.D. Director, War Related Illness and Injury Study Center, Veterans Affairs Medical Center</p> <p>Michael Roy, MD, MPH, FACP, COL USA (Ret) Director, Division of Military Internal Medicine, Uniformed Services University of the Health Services (USUHS)</p>
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12:30 – 1:00 pm	<p>● UNITED NATIONS MINE ACTION SERVICES (UNMAS) REQUIREMENTS SALON F – H</p> <p>LTC Alexander Riebl Advisor, IED Threat Mitigation, United Nations Mine Action Service (UNMAS)</p> <p>● COMBATING TERRORISM TECHNICAL SUPPORT OFFICE (CTTSO) BRIEF TO INDUSTRY WHITEFLINT AMPHITHEATER</p> <p>Dr. Edwin Bundy Program Manager, Improvised Device Defeat/Explosives Countermeasures, Combating Terrorism Technical Support Office (CTTSO)</p>		

<p>1:00 – 1:30 pm</p>	<p>● EPA UPDATE ON THE USE OF ALTERNATIVES TO OPEN BURN/OPEN DETONATION/BLOW-IN-PLACE SALON F – H</p> <p>Kenneth Shuster Lead Engineer, United States Environmental Protection Agency (USEPA)</p> <p>● THE HYBRID THERMAL LANCE – A SAFE AND INEXPENSIVE WAY TO DESTROY UXO WITHOUT CAUSING DETONATION WHITEFLINT AMPHITHEATER</p> <p>Dr. Don Pratt Professor, Engineering, Messiah College</p>
<p>1:30 – 2:00 pm</p>	<p>NETWORKING BREAK EXHIBIT HALL</p>
<p>2:00 – 4:00 pm</p>	<p>● EOD WARRIOR FOUNDATION SUICIDE PREVENTION WORKSHOP BROOKESIDE</p> <p>Michael Cardash Former Deputy Head, Israeli National Police Bomb Squad</p> <p>LTG Reynold Hoover, USA (Ret) Former Deputy Commander, U.S. Northern Command (USNORTHCOM)</p> <p>Dr. William Lopez, CPE Lead Medical Director, Cigna Behavioral Health</p> <p>Dr. Kelly Posner Founder and Director, Columbia Lighthouse Project, Columbia University Center (CUC)</p> <p>COL Terry Romine, USA Chaplain, Ordnance Corps, U.S. Army</p> <p>Matthew Reinhard, Psy.D. Director, War Related Illness and Injury Study Center, Veterans Affairs Medical Center</p> <p>Michael Roy, MD, MPH, FACP, COL USA (Ret) Director, Division of Military Internal Medicine, Uniformed Services University of the Health Services (USUHS)</p>
<p>2:00 – 3:00 pm</p>	<p>● COUNTERING WEAPONS OF MASS DESTRUCTION (CWMD) PANEL GREAT FALLS</p> <p>Warren Baugh Director, Nuclear and DOE Programs, TetraTech <i>Moderator</i></p> <p>Jeff David Managing Director, DAGER Technologies</p> <p>Dr. Patricia McDaniel Program Manager, CBRNE, Combating Terrorism Technical Support Office, Technical Support Working Group</p> <p>Thomas O’Brien Program Manager, Research and Development Directorate, Combating Weapons of Mass Destruction Division, Defense Threat Reduction Agency</p> <p>Michael Oldham CWMD Office, Department of Homeland Security</p>

<p>2:00 – 2:30 pm</p>	<p>● ARMY EXPLOSIVES SAFETY UPDATE SALON F – H COL Michael Evans, USA Operations Coordinator, 734 Co-Project</p> <p>● MARINE CORPS WARFIGHTING LAB UPDATE: AUTONOMOUS MINE & IED CLEARANCE WHITEFLINT AMPHITHEATER Robert Bamberger Principal Professional Staff, Intelligent Systems Group, The Johns Hopkins University Applied Physics Lab (JHU APL)</p>
<p>2:30 – 3:00 pm</p>	<p>● FEATURED ADDRESS: JOINT EOD UPDATE SALON F – H RDML Eric Ver Hage, USN Commander, NAVSEA Warfare Centers</p> <p>● EXPLOSION CHAMBER FOR CONFINEMENT OF AMMUNITION DESTRUCTION: DESIGN RULES AND APPLICATIONS WHITEFLINT AMPHITHEATER Jerome Mespoulet Expert, Shock Physics, Thiot Ingenierie</p>
<p>3:00 – 3:30 pm</p>	<p>NETWORKING BREAK EXHIBIT HALL</p> <p>SILENT AUCTION PICKUP GRAND FOYER</p>
<p>3:30 pm</p>	<p>EXHIBIT HALL CLOSES SALON A – E</p>
<p>3:30 – 4:00 pm</p>	<p>● NATO EOD CENTER OF EXCELLENCE SALON F – H Lt Col Ryszard Waclawik, POL ARMY Department Head, Technology Development, NATO Explosive Ordnance Disposal Centre of Excellence (EOD COE)</p> <p>● ADVANCES IN ORDNANCE DATA CLASSIFICATION, STORAGE AND TRANSMITTAL WHITEFLINT AMPHITHEATER Allen Tan Director, Applied Technology, Golden West Humanitarian Foundation</p>

<p>4:00 – 4:30 pm</p>	<ul style="list-style-type: none"> ● INTERNATIONAL VIEWPOINT SALON F – H Colonel Gareth Bex, OBE Senior Engineer, Explosives, UK Ministry of Defense ● NSWC INDIAN HEAD EOD TECHNOLOGY DIVISION: EOD DEPARTMENT CURRENT PROJECTS WHITEFLINT AMPHITHEATER Amanda Vehslage Department Head, Explosive Ordnance Disposal, Naval Surface Warfare Center Indian Head
<p>4:30 – 5:00 pm</p>	<ul style="list-style-type: none"> ● GENEVA INTERNATIONAL CENTRE FOR HUMANITARIAN DEMINING BRIEF SALON F – H Roland Evans Advisor, Land Release, Operational Efficiency and Training Development ● WHAT WOULD A JOINT IED ANALYSIS TOOL LOOK LIKE TODAY IN A BIG DATA WORLD? WHITEFLINT AMPHITHEATER Stuart Booth Lead Engineer, Cogility Software Corporation

SPONSOR DESCRIPTION



Sierra Nevada Corporation (SNC) is a trusted leader in solving the world’s toughest challenges through advanced engineering technologies in Space Systems, Commercial Solutions, and Defense and National Security.

SNC delivers customer-focused technologies and best-of-breed systems integrations in the aerospace and defense sectors. With applications including navigation and guidance, communication and surveillance systems, electronic warfare, aircraft systems and telemedicine, SNC provides state-of-the art solutions to military and commercial customers around the world.

The drive to transform humanity through technology and imagination has fueled SNC’s steady expansion from its headquarters in Nevada to 33 locations worldwide. SNC is a team of nearly 4,000 people—from scientists and cybersecurity experts to software engineers and former military leaders—united in support of customer needs.

SNC has been honored as a Tier One Superior Supplier for the U.S. Air Force, consistently ranks among America’s fastest growing companies, and was selected to represent the commercial space industry before the newly formed National Space Council as one of the most innovative U.S. companies in space.

Founded in 1963 and headquartered in Sparks, Nevada, SNC operates under the leadership of owners, CEO Fatih Ozmen and President Eren Ozmen. For more than 50 years, customers have turned to SNC for its technical expertise and reputation for delivering results. SNC’s impressive workforce surpasses the status quo by sourcing the best systems and talent, and reliably beating timelines and budgets.

Anchored by our heritage, we dream without limits and work to empower the next generation of engineers and innovators so we can all realize a better, safer world.

THURSDAY, AUGUST 8

7:00 am – 12:00 pm	REGISTRATION OPEN GRAND FOYER		
7:00 – 8:00 am	NETWORKING BREAKFAST GRAND FOYER		
8:00 am	ADMINISTRATIVE REMARKS SALON F – H COL Leo Bradley, USA (Ret) Owner, L.E. Bradley Consulting, LLC Chair, EOD Symposium, National Defense Industrial Association		
8:00 – 8:30 am	IMPLEMENTATION OF THE NATION’S C-IED STRATEGY SALON F - H David Kontny Chief of Staff, Joint Program Office for Countering IEDs		
8:30 – 9:15 am	ARMY REQUIREMENTS PANEL SALON F – H BG Heidi Hoyle, USA 41st Chief of Ordnance and Commandant, U.S. Army Ordnance School <i>Moderator</i> <table border="0"> <tr> <td> MAJ James Alfaro, USA EOD Capability Development, Capability Development Integration Directorate (CDID), U.S. Army Louis Analure Product Manager, Unmanned Ground Vehicles, PM Force Protection </td> <td> MAJ Austin Banford, USA Program Executive Officer, Soldier Protective Equipment, APM COL Jonathan Slater, USA Project Manager, Close Combat Systems, U.S. Army </td> </tr> </table>	MAJ James Alfaro, USA EOD Capability Development, Capability Development Integration Directorate (CDID), U.S. Army Louis Analure Product Manager, Unmanned Ground Vehicles, PM Force Protection	MAJ Austin Banford, USA Program Executive Officer, Soldier Protective Equipment, APM COL Jonathan Slater, USA Project Manager, Close Combat Systems, U.S. Army
MAJ James Alfaro, USA EOD Capability Development, Capability Development Integration Directorate (CDID), U.S. Army Louis Analure Product Manager, Unmanned Ground Vehicles, PM Force Protection	MAJ Austin Banford, USA Program Executive Officer, Soldier Protective Equipment, APM COL Jonathan Slater, USA Project Manager, Close Combat Systems, U.S. Army		
9:15 – 10:00 am	USMC REQUIREMENTS PANEL SALON F – H Maj Jason Perry, USMC Section Head, EOD Advocacy (LPE-2) <i>Moderator</i> <table border="0"> <tr> <td> Richard Daley SYSCOM Maj Joe David, USMC Officer, EOD Capabilities Integration, CD&I/MCCDC </td> <td> Maj Joe Hockett, USMC Officer in Charge, EOD Technology Division, MarDet, Naval Surface Warfare Center Indian Head </td> </tr> </table>	Richard Daley SYSCOM Maj Joe David, USMC Officer, EOD Capabilities Integration, CD&I/MCCDC	Maj Joe Hockett, USMC Officer in Charge, EOD Technology Division, MarDet, Naval Surface Warfare Center Indian Head
Richard Daley SYSCOM Maj Joe David, USMC Officer, EOD Capabilities Integration, CD&I/MCCDC	Maj Joe Hockett, USMC Officer in Charge, EOD Technology Division, MarDet, Naval Surface Warfare Center Indian Head		
10:00 – 10:30 am	NETWORKING BREAK GRAND FOYER		

<p>10:30 – 11:15 am</p>	<p>NAVY REQUIREMENTS PANEL SALON F – H</p> <p>RDML Brian Brakke, USN Commander, Expeditionary Combat Command, U.S. Navy</p> <p>CAPT Brad Andros, USN Branch Head, Expeditionary Combat Branch (OPNAV N957), U.S. Navy</p> <p>LCDR Deward Cummings, USN Officer in Charge, EOD Fleet Liaison Unit (NAVEODFLTALU), U.S. Navy</p> <p>CAPT Scott Kraft, USN Commanding Officer, EOD Technology Division, Naval Surface Warfare Center Indian Head</p> <p>LCDR Jonathan Mocker, USN PMS 408</p>
<p>11:15 am – 12:00 pm</p>	<p>USAF REQUIREMENTS PANEL SALON F – H</p> <p>Dr. Robert Diltz Program Manager, RDT&S Program, Rapid Airfield Damage Recovery</p> <p>Lt Col Miroslav Karamarinov, USAF Chief, EOD Divison, Civil Engineer Center, U.S. Air Force</p> <p>Maj Nicholas Pulire, USAF Director, EOD Program, U.S. Air Force</p> <p>Dr. John Olive Deputy, EOD Division/SME, HQ AFCEC/CXD</p>
<p>12:00 pm</p>	<p>SYMPOSIUM ADJOURNS SALON F – H</p>

The NDIA has a policy of strict compliance with federal and state antitrust laws. The antitrust laws prohibit competitors from engaging in actions that could result in an unreasonable restraint of trade. Consequently, NDIA members must avoid discussing certain topics when they are together at formal association membership, board, committee, and other meetings and in informal contacts with other industry members: prices, fees, rates, profit margins, or other terms or conditions of sale (including allowances, credit terms, and warranties); allocation of markets or customers or division of territories; or refusals to deal with or boycotts of suppliers, customers or other third parties, or topics that may lead participants not to deal with a particular supplier, customer or third party.

BIOGRAPHIES



MICHAEL CARDASH

Former Deputy Head
Israeli National Police Bomb Disposal Division

Chief Superintendent Michael Cardash, the former deputy head of the Israeli National Police Bomb Disposal Division, served 27 years as a senior bomb technician. During those years, he participated in numerous

counterterrorist missions and operations defeating IEDs. Mr. Cardash commanded bomb disposal units with border guards and the Israeli police during intense terrorist conflicts, gaining experience in investigating and responding to a variety of terror attacks and, in particular, to suicide bombing

devices and incidents. Mr. Cardash currently researches global IED incidents, is the Senior C-IED analyst at Terrogeance, and authors the Terrogeance Möbius C-IED reports that analyze and assess global IED-related technical and tactical intelligence.



DR. KIRK YEAGER

Chief Explosives Scientist
Federal Bureau of Investigation

Dr. Kirk Yeager received a BS in Chemistry from Lafayette College and then a PhD in Inorganic Chemistry from Cornell University. Dr. Yeager worked as a research scientist and Associate Director of R&D at the Energetic Materials Research and Testing Center (EMRTC). While in the Land of Enchantment, he also held the

position of Adjunct Professor in the New Mexico Tech Chemistry Department. For 10 years, he served as a Physical Scientist/Forensic Examiner for the FBI Laboratory's Explosives Unit where he deployed as a bombing crime scene investigator to dozens of countries. Currently, Dr. Yeager is the FBI's Chief Explosives Scientist. With approximately 25 years of experience with improvised explosives and IEDs, Dr. Yeager

has presented over 180 talks at international meetings and conferences, produced over 75 specialty publications about explosives and IEDs, and written 4 book chapters. Over the course of his colorful career, he has served as a subject matter expert for the National Academies of Sciences, worked as a technical advisor for the Mythbusters, and been the subject of a feature article in *Popular Mechanics*.



LTC JEANETTE BERNAOLA, USA

Battalion Commander, Operation Inherent Resolve-Combine Joint Task Force
U.S. Army

Lieutenant Colonel Jeanette Bernaola was raised in Stone Mountain, GA. She graduated from Georgia Southern University in 1999 and was commissioned into the Ordnance Corps and branch detailed for two years in the Chemical Corps.

Her military education includes the Chemical Officer Basic Course, Ordnance Officer Basic Course, Combined Logistics Captains Career Course, and Command Staff College graduate. She holds a BA in Anthropology. LTC Bernaola is an explosive ordnance disposal officer.

LTC Bernaola has served in overseas tours in South Korea, Sinai, as well as combat tours in Kuwait, Iraq, and Afghanistan.

Key assignments include: chemical officer, 507th Corps Support Group; platoon leader, 58th Maintenance Company (GS), Fort Bragg, NC; support operations maintenance officer, 2nd Forward Support Battalion, Camp Hovey, South Korea; company commander, 75th Ordnance Company (EOD), Selfridge Air National Guard Base, MI; battalion S4, 184th Ordnance Battalion (EOD), Fort Bragg, NC; detachment commander, 1st EOD Detachment, Sinai; assistant S3, 52nd Ordnance Group (EOD); executive officer, 192nd Ordnance Battalion (EOD), Fort Campbell, KY; Deputy EOD Branch Chief, G-38, Headquarters Department of the Army; Commander, TF EOD-Afghanistan; and Force Protection Branch Chief, G-8, Headquarters Department of the Army.

Her awards include Bronze Star Medal with oak leaf, the Meritorious Service Medal with three oak leaf clusters, the Army Commendation Medal with three oak leaf clusters, the Army Achievement Medal with two oak leaf cluster, the National Defense Service Medal, Afghanistan Campaign Medal, Iraq Campaign Medal, Global War on Terrorism Expeditionary Medal, Global War on Terrorism Service Medal, Korea Defense Service Medal, Army Service Ribbon, Overseas Service Ribbon (Numeral 4), NATO Medal, Multinational Forces and Observers Medal (Numeral 2), Army Staff Identification Badge, Parachutist Badge, Air Assault Badge, and Master Explosive Ordnance Disposal Badge.

EXHIBIT HALL HOURS

TUESDAY, AUGUST 6

9:00 am – 6:00 pm

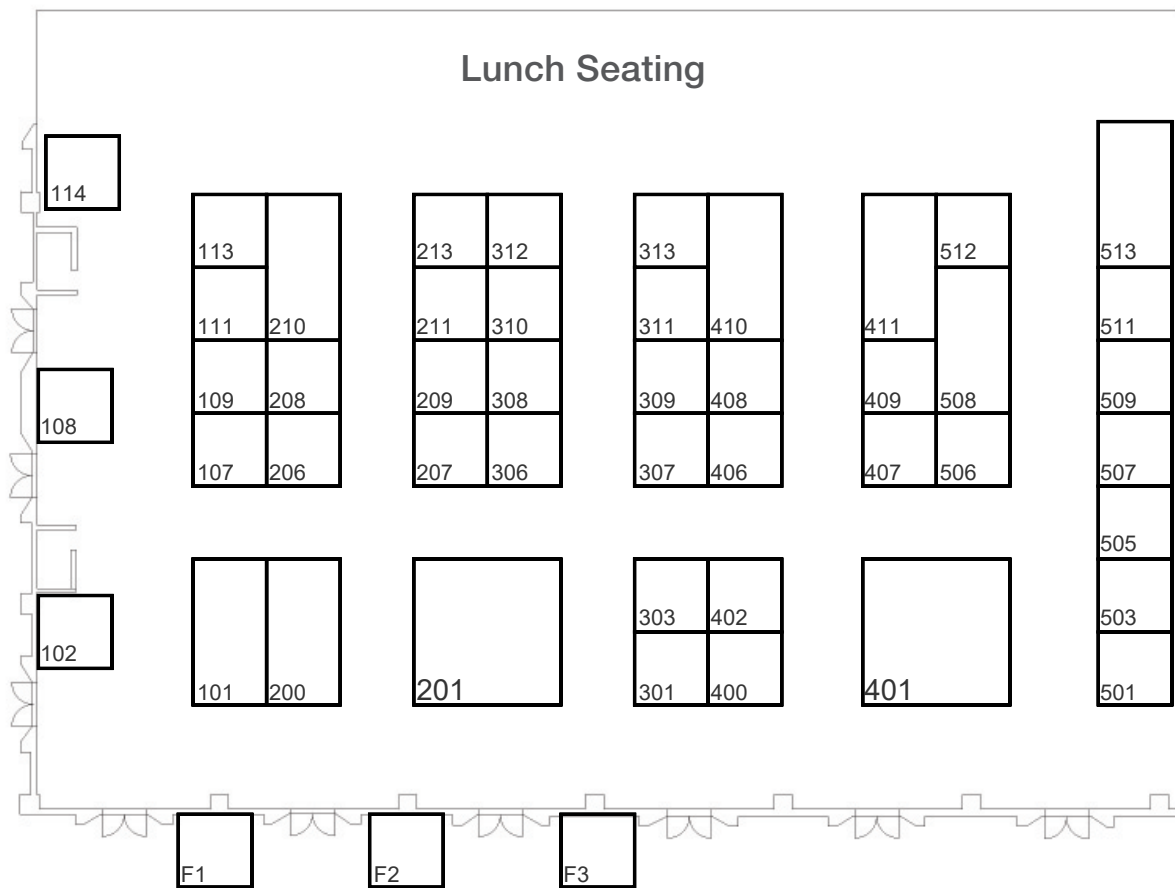
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9:00 am – 3:30 pm

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EXHIBIT HALL MAP



EXHIBITOR DESCRIPTIONS

55TH ORDNANCE COMPANY (EOD)

F1

The 55th OD CO (EOD) conducts EOD operations to reduce or eliminate the hazards of munitions and explosive devices. On order, conducts defense support of civil authorities (DSCA) by providing explosive ordnance disposal (EOD) support to federal, state, and local LE agencies.

908 DEVICES

306

MX908™ increases mission support with unmatched flexibility and trace detection power for responders in priority drug, chemical, explosive and high-threat hazmat scenarios. Leveraging the power of HPMS, MX908 lightens the overall technology burden by displacing other less selective technologies from the response toolkit.

ADS

201

ADS, Inc. is a leading value-added logistics and supply chain solutions provider that proudly serves all : ADS, Inc. provides equipment, procurement, logistics, and supply chain solutions. We offer access to the largest product and service selection, the broadest array of procurement and contract options, and world-class expertise and support to assist you—every step of the way.

ALAKAI DEFENSE SYSTEMS

512

Alakai Defense Systems, Inc., a small, veteran owned high-tech company, specializes in laser and electro-optical standoff threat detection sensors for defense and security applications through it's unique, leading-edge technologies. Informed official sources have cited our systems as "best in the world" in terms of longest ranges and greatest deployable maturity giving soldiers and first responders a critical tool needed in modern warzones and hazardous areas, protecting their lives and ours.

ALLUVIAM, LLC 303

Adopted by the US Military, NATO, coalition partners and other civilian, intelligence and military agencies, HazMasterG3 puts state-of-the-art HME/IED decision support in the hands of those that need it most. HazMasterG3 is the only handheld CBRNE/HME Decision Support System to have earned U.S. DHS (Department of Homeland Security) certification and designation as an approved anti-terrorism technology.

BAUER COMPRESSORS, INC. 113

BAUER COMPRESSORS is recognized as the world's foremost innovative designer and manufacturer of high pressure systems. BAUER's Breathing Air Compressor Systems and Components are the gold standard for fire-fighting, diving and military applications where reliable ultra-pure breathing air is required to maintain life safety. Each product within our portfolio is specifically designed for the end user application.

BREN-TRONICS, INC. 207

Supporting warfighter/EOD teams for 45+ years, all made in the US Li-Ion batteries for every major military robot system, small hand-held robots to larger robotic platforms on ground, air and sea Tactical chargers using mains, solar, vehicles (-40C / 80C) High power 24V Li-Ion batteries to start/power vehicles (6T) + high energy batteries for mobile/fixed silent watch applications (>3 kWh) Accept no substitute, if you want a "BB-2590/U" there can be only one choice. Everything else is an imitation

BSX CORP 503

BSX Corporation has been developing revolutionary ChemiFluorescence sensor and platforms that can detect hazardous substances in order to adapt into the volatile market trends and new emergence of technologies since 2013. Based on Vision bio-biometric technology and ultra-sensitive photochemical sensor technology, we will supply high-tech safety equipment needed for homeland security market and public safety market in a timely manner to meet customer's needs.

CALIBURN 209

We are a leading provider of professional services and solutions to U.S. federal government agencies and commercial clients. We provide consulting, engineering, medical, and environmental services as well as large scale program management in support of our core markets of national defense, healthcare, international diplomacy, and homeland security client readiness. Calburn employs approximately 8,000 dedicated professionals deployed across five continents.

CEIA USA 213

CEIA Ground Search Metal Detectors provide overall superior performance in the areas of detection distance, soil compensation capability and immunity to external interference. CEIA USA provides nationwide sales, service and customer support to customers in North America. Dynamic solutions are the foundation of CEIA USA's commitment to customer satisfaction. For more information, visit www.ceia-usa.com.

COMBATING TERRORISM TECHNICAL SUPPORT OFFICE / IMPROVISED DEVICE DEFEAT & EXPLOSIVES COUNTERMEASURES 513

The Improvised Device Defeat/Explosives Countermeasures (IDD/EC) Subgroup, which is part of DoD's Combating Terrorism Technical Support Office (CTTSO), focuses on the management and execution of advanced technology development activities related to countering terrorist and criminal use of explosives, both in the United States and abroad. This program delivers C-IED tools and technologies for operational evaluation directly to military and public safety bomb technicians.

DARLEY DEFENSE 401

Since 1908, Darley has been dedicated to serving the world's Fire & Emergency Services and Defense organizations. Darley remains a family owned and operated business with corporate headquarters in Illinois. In 2007, we were awarded the first of two major DLA contracts under the TLSP for Fire & Emergency Services Equipment (F&ESE) and Special Operational Equipment (SOE). Equipment can be ordered through TLS, GSA, DoD FEDMALL, or open market. Visit www.darleydefense.com to view our Capabilities.

DHS OFFICE FOR BOMBING PREVENTION 308

The Office for Bombing Prevention (OBP) leads the Department of Homeland Security's (DHS) efforts to implement the National Policy for Countering Improvised Explosive Devices (National Counter-IED policy) and enhance the nation's ability to prevent, protect against, respond to, and mitigate the use of explosives against critical infrastructure; the private sector; and federal, state, local, tribal, and territorial entities.

EOD WARRIOR FOUNDATION 507

The EOD Warrior Foundation is a 501(c)(3) non profit organization that was established through the March 1, 2013 merger of the EOD Memorial Foundation and the Wounded EOD Warrior Foundation to streamline and increase our capacity to support the EOD community.

EXPLOTRAIN, LLC 505

Battlefield Effects Simulators that immediately ramp up the realism of your training! In the classroom, MOUT Site, or in the field, Explotrain has the Battlefield Effects to TRAIN THEM LIKE THEY'LL FIGHT!

FEDERAL RESOURCES 101

Delivering comprehensive, mission-based solutions, Federal Resources serve the vast global military and government markets facing critical defense developments and other challenges. With hundreds of trusted vendor relationships around the globe, Federal Resources excels in locating and delivering the exact tools teams require to proceed, quickly and efficiently. On-time, and on budget.

FFI TACTICAL – A DIVISION OF FIELD FORENSICS, INC. 310

FFI TACTICAL is a distributor of EOD equipment including Constant Potential (CP) portable x-ray generators, such as LITEX™ and XTK compatible systems, long-range recoilless disruptors, such as the VULKAN™, and detonator carriers, including the Advance Manual Techniques, AMT mini det pouch. FFI TACTICAL is a division of Field Forensics, Inc., a developer, manufacturer and distributor of chemical test kits and portable instruments for law enforcement, homeland security, and military customers.

FLIR SYSTEMS, INC. 508

FLIR UIS Division comprises the largest global provider of tactical unmanned ground vehicles as well as leading nano and Class-1 unmanned aircraft systems (UAS). We design and build the most trusted, rugged, easiest-to-operate robots used to safeguard life and property around the world. Whatever the mission, our advanced robots are out there every day supporting US and international military, law enforcement, and industrial users.

GHOST ROBOTICS 409

Robots That Feel the World® Ghost Robotics™ is revolutionizing legged robotics and the market for autonomous unmanned ground vehicles (Q-UGVs) used in unstructured terrain and harsh environments. Our Q-UGVs are unstoppable. Beyond all terrain operation, a core design principle for our legged robots is size-scalability, and reduced mechanical complexity with total software (SDK) control when compared to other legged and traditional wheeled and tracked UGVs on the market.

H3D, INC. 109

H3D offers the world's highest-performance gamma-ray spectrometers and imaging spectrometers. From storage to measurement in less than two minutes, we guarantee 1.1% FWHM energy resolution at 662 keV in a portable package. The A400 series RIIDs are the new state-of-the-art technology for portable isotope identification in a ruggedized package. H3D also has the capability of developing custom solutions for your spectroscopy or imaging needs.

IABTI F3

The International Association of Bomb Technicians & Investigators (IABTI) is an independent, non-profit, international professional association formed to counter the criminal use of explosives. Our goal is achieved through the exchange of information, expertise, and training: in-service training & technology expos, bi-monthly magazine & annual EOD Equipment Buyer's Guide, certification as Certified International Post Blast Investigator, Scholarships, Accidental Death Assistance, and much more.

INERT PRODUCTS, LLC 313

Inert Products, LLC provides Law Enforcement, Homeland Security and the United States Department of Defense with extremely durable, highly realistic inert training aids used in training against terrorist threats. Located in Scranton, PA, Inert Products, LLC produces and supplies support materials used by security forces in training to recognize, respond to, and mitigate the threat of explosives & terrorism.

JOHNS HOPKINS UNIVERSITY APPLIED PHYSICS LABORATORY 311

The Johns Hopkins University Applied Physics Laboratory (JHU APL) presents the NAVSEA Advanced EOD Robotic System (AEODRS) program, encouraging widespread industry participation to fulfill the EOD mission through integration of various capability modules via a common system architecture, system testbed for test development and compliance, and representative integration platforms for risk reduction.

KIRINTEC, INC. 400

Kirintec specialises in the design of innovative Counter-IED, Counter-UAS and Electronic Warfare technology. We deliver battle proven capabilities across the world. Our EOD equipment is in daily use globally, with government and non-government organisations. We use this experience to continually innovate and solve today's security threats.

LEIDOS INNOVATIONS CENTER 506

Leidos, Fortune 500® information technology, engineering, and science solutions company, is proud to support bomb squads and EOD teams with leading edge, real-time digital x-ray systems. Since Leidos introduced the first Real-Time-Radiography (RTR) system twenty years ago, the RTR has been a valuable aid in assessing and defusing improvised explosive devices and unexploded ordnance at a safe distance. Stop by Leidos booth to see the latest generation RTR - the RTR-6.

LOGOS IMAGING, LLC 111

Logos Imaging is a US-based manufacturer of innovative and cost-effective portable X-ray systems designed to meet the requirements of security and industrial users. Come see our NEW XIRÓS imaging system. The XIRÓS is our newest, and most rugged small format DR imaging system. We were the first to introduce a glass-free DR imager to the security market with the PRÓTOS, and the XIRÓS continues Logos Imaging's commitment to the leading edge of DR imaging design.

MASSIF 402

Massif is a leading supplier of flame-resistant, high performance protective apparel to the U.S. military and other professionals who work in extreme environments. Over the past twenty years, Massif has revolutionized the look and feel of flame-resistant clothing with innovative fabrics and forward-thinking designs, offering a new generation of high-end gear that sets the industry standard for protection, performance and comfort.

MED-ENG 206

All branches of the U.S. military trust Med-Eng bomb suits for life-saving protection against Improvised Explosive Devices (IEDs) and other blast threats, while Med-Eng suits, robots, blast sensors and specialized tools are trusted in 100 countries worldwide. Med-Eng is a brand of the Safariland Group.

MISTRAL, INC. 309

Mistral Security, Inc. serves as a "bridge" between the requirements of the Department of Homeland Security, law enforcement agencies and private sector security with innovative, relevant and ready solutions for the challenges faced while out in the field. Continuous analysis of capability gaps and existing technologies enables MSI to stay ahead of the problems faced by these markets today, tomorrow and into the future.

MITHIX PRO, LLC 102

Mithix Pro is a SDVO Small Business USA owned Manufacturer specializing in EOD, Combat Engineer, Special Ops and Demining, Counter-UXO, IED and Booby-Trap tools/tool kits and solutions. Our strengths are working with end-users at DoD, federal, state and local levels to manufacture, integrate, develop and/or supply custom tools/kits to meet mission needs.

MOBILE VIRTUAL PLAYER

114

MVP is a privately held robotics & engineering startup that specializes in developing high-performance robotic solutions for sports & tactical operations, headquarters in MA & VT. MVP has continued developing their patented robotic system to create HEKTR (Humanoid Engageable Kinetic Training Robot) a remote-control, fully armored, all-terrain, responsive live-fire target (speeds up to 18 mph) & provides instantaneous feedback to the shooter—filling the realistic training needs of the warfighter.

NDIA

509

The National Defense Industrial Association (NDIA) is America's leading defense industry association promoting national security. With its members, NDIA convenes legal and ethical forums for industry and government to exchange information. Through its Divisions, Chapters, and Affiliates, NDIA champions innovative and superior equipment, training, and support for warfighters and first responders. NDIA publishes the award-winning *National DEFENSE* Magazine. For more information, visit NDIA.org

NOVO DR, LTD.

200

NOVO DR Ltd. is the leading developer and manufacturer of Portable Digital Radiography X-Ray Inspection Systems. We produce the latest generation flat panel based radiography inspection systems for the Security & NDT sectors. Combining our decades of experience and intensive in-house R&D, NOVO takes portable DR to the highest level possible while emphasizing the following: • Highest image quality • Portability & Small footprint • Ruggedness • Efficient user experience • Field work optimization

NSWC INDIAN HEAD EOD TECHNOLOGY DIVISION

210

The Indian Head EOD Technology Division develops and delivers Explosive Ordnance Disposal (EOD) technology, knowledge, tools and equipment and their life cycle support to meet the needs of the Department of Defense, combatant commanders and our foreign and interagency partners, and supports the Executive Manager for EOD Technology and Training.

PANASONIC

511

Powerful, Rugged and Wireless. The wide variety of form factors available from Panasonic rugged and reliable mobile computers and tablets are designed to survive the rigors of the real-life business world.

PENDAR TECHNOLOGIES

301

Pendar X10™ offers breakthrough, short-range standoff Raman chemical identification for EOD, HAZMAT, Narcotics, Forensics, and more. It can be used at a standoff distance of up to 3 feet (1 meter), mitigates fluorescence and has minimal ignition risk with black powder and sensitive primaries. Simple point-and-shoot technology requires little training and delivers results within seconds, enabling EOD personnel to focus on their primary objectives of responding to emergencies and saving lives.

POINT ONE USA, LLC

406

Point One is an SDVOSB dedicated to providing the highest quality training, services and products in the most comprehensive manner with superior results. Decades of experience in the SOF and EOD communities within joint, multi-agency, and national level environments ensures we are the best choice to provide the services offered.

QINETIQ NORTH AMERICA

107

QinetiQ North America (QNA) provides cutting-edge technology and revolutionary products to the defense, security and military markets. Our product offerings include tactical land vehicle and aircraft protection, sensors to protect soldiers, unmanned robots in a variety of sizes and with varying capabilities and power and control systems. Customers rely on our products to enhance security, aid in personal safety, streamline operations, increase situational awareness and improve efficiencies.

QSA GLOBAL, INC./OPENVISION

211

R3 STRATEGIC SUPPORT GROUP

408

R3 Strategic Support Group, Inc. (R3) is an agile SDVOSB that provides innovative strategic solutions across a broad spectrum of government and commercial domains. Our principal mission areas include Counter-IED; Explosive Ordnance Disposal (EOD); Asymmetric and Irregular Warfare; Expeditionary and Joint Operations.

RAVEN'S CHALLENGE

108

Interoperability Exercise

ROBOTEAM

307

Roboteam designs, develops and manufactures cutting edge, user-oriented, multi-purpose, unmanned platforms and controllers for Defense, Law Enforcement and Public Safety missions. We created a line of lightweight, fast deployable systems that deliver technological and functional breakthroughs for tactical purposes with unmatched reliability. Among our customers are top units within the US Military, Special Forces, EOD units and SWAT teams as well as other elite units around the globe.

SCANNA MSC, INC.

501

Scanna MSC Inc, is a worldwide manufacturer and supplier of portable x-ray systems for defense and security applications. Our specialisation is integrating and customising x-ray imaging panels and components into highly reliable software controlled x-ray imaging solutions that work with Golden generators. Our Range Of Portable X-rays Include Scanx Scout CR Scansilc DR systems. The new Scansilc systems combine solid state flat panel amorphous silicon technology with fast x-ray acquisition .

SIERRA NEVADA CORP

407

Sierra Nevada Corporation (SNC) provides customer-focused solutions in the areas of aerospace, aviation, electronics, and systems integration, with applications including telemedicine, navigation systems, threat detection and security, and infrastructure protection. Founded in 1963 and headquartered in Nevada, SNC has a global workforce supporting its customers. <https://www.sncorp.com/>

SMARTRAYVISION/SHARPLOGIXX

312

SmartRayVision, manufactured in Green Bay Wisconsin is the #1 Selling EOD X-Ray Kit in the Nation! Leading Innovation with Unsurpassed Ruggedness and Reliability, SmartRayVision has No Equal! Custom EOD built, Cyber Secure and Spectrum Certified with Critical Capabilities including Indefinite Exposure Window, 3D X-Ray, proven Extreme Temperature Performance and the Highest Quality X-Ray image!

STEMRAD

208

StemRad has made personal protection from radiation possible, making the lives of first responders, soldiers, nuclear industry workers and astronauts safer while they complete their critical tasks. Through scientific breakthrough and innovation, StemRad has enabled shielding to save lives.

TETRA TECH

410

Tetra Tech is a global leader in the identification, abatement, and removal of explosive hazards to restore land to productive use in some of the world's most difficult operating environments. With over two decades of experience, we tailor our approach to the unique needs of commercial and U.S. government clients and host-nation requirements to safely provide services on time and within budget. Through our robust global procurement, logistics, and recruiting networks, Tetra Tech's teams are fully equipped with the right tools and supplies, skill sets, and training for each project's unique need.

UNITED STATES BOMB TECHNICIAN ASSOCIATION

F2

The United States Bomb Technician Association strives to fuse Bomb Disposal Professionals, Academics, Industry, and Innovators by providing opportunities to share resources, ideas, and experiences. We seek to strengthen the Bomb Disposal Community and enhance public safety by establishing a network of trust, awareness, and collaboration.

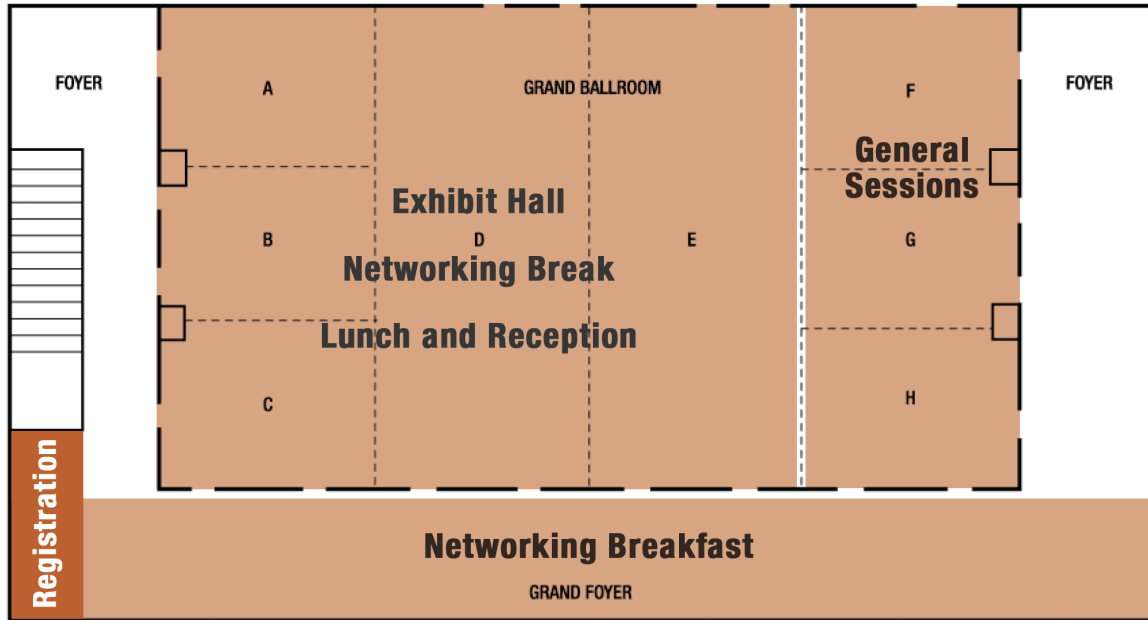
VIDISCOUSA

411

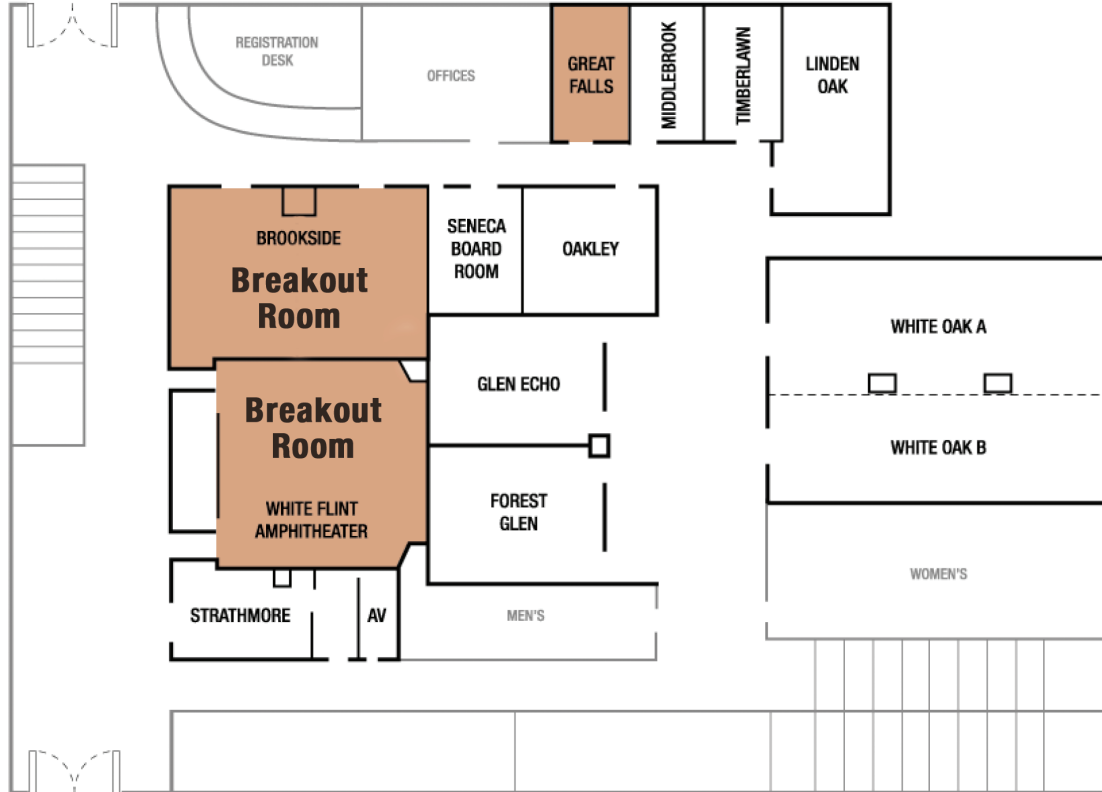
Vidisco's portable digital X-ray systems offer the optimal solution when dealing with modern threats. Each of our ruggedized solutions can be carried by a single bomb tech into the roughest terrain, providing fast and safe operation and enabling informed decision making on the spot. Vidisco's Advantages: - A Full robot integration -User focused and intuitive operating software with a single capture click and one touch filters -Plug & Play solutions For more details contact us: security@vidisco.com

VENUE MAP

MAIN LEVEL



LOWER LEVEL



The Next-Generation Back-Packable Robot



SPUR

Squad Packable Utility Robot

Proud to be selected as the winner of the U.S. Army's Common Robotic System (Individual) (CRS(I)) Program.

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QINETIQ
North America

RAVEN'S CHALLENGE XIII



2020

Raven's Challenge (RC) Interoperability Exercise is an annual, international, interagency, counter-IED exercise that incorporates scenarios focused on interoperability capabilities between Public Safety Bomb Squads (PSBS) and military Explosive Ordnance Disposal (EOD) units in operational environments. The exercise also provides national level leadership an opportunity to monitor events as they unfold and make preemptive decisions to lessen the impacts of a potential IED campaign. Experience a premier counter-IED training environment with a focus on the following key areas:

Information Exchange & Interoperability | Positive Environment | Free Play | Self-Evaluated | Live Fire | Team Building | Emerging Threats | Realistic Scenarios | Contemporary Devices | Distraction Free

Raven's Challenge is funded by the Department of the Army and is operationally managed by the Department of Justice's Bureau of Alcohol, Tobacco, Firearms, and Explosives (ATF). This exercise also involves joint collaboration with other like-minded agencies such as the Federal Bureau of Investigation (FBI), the Department of the Defense, the Department of Homeland Security's Transportation Security Administration and Office for Bombing Prevention, and state and local public safety agencies throughout the country.

KEY DATES:

*Observer Controller Exercise Support	Exercise Execution	Location
Feb 26 – Mar 6, 2020	March 1-6, 2020	Camp Blanding, Starke, Florida
Mar 25 – Apr 3, 2020	Mar 29 – Apr 3, 2020	Camp Gruber, Oklahoma
Apr 22 – May 1, 2020	Apr 26 – May 1, 2020	Camp Dodge, Iowa
May 27 – Jun 5, 2020	May 31 – Jun 5, 2020	Fort Devens, Massachusetts

* Please note: Observer Controller (OC) duties have a 10 day commitment.

Any FBI Hazardous Devices School (HDS) certified state and local partner interested in assisting as an OC should contact John Simpson, Raven's Challenge Program Manager: john.simpson@atf.gov.

For more information please go to <https://www.psbseod.com>.

INITIAL SUCCESS OR TOTAL FAILURE