

2020 JOINT ARMAMENTS, ROBOTICS, AND MUNITIONS (ARM) DIGITAL EXPERIENCE

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NDIA

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. For more than 100 years, 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





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ARMAMENTS DIVISION

The Armaments Division provides a forum for industry, military, and government personnel to address issues in order to ensure a superior armament system capability today and in the future. The Division addresses armament operational needs and requirements, approaches and concepts, system integration, weapons, munitions, fire control, and logistic support. Attention is given to total systems, technology application, and state-of-the-art advancements in technology.

LEADERSHIP AND COMMITTEES

Brian Berger

Division Chair

Bruce Webb

Division Vice Chair

Steve Faintich

Small Arms Committee Chair

Alan Kull

UEA Committee Chair

Matt Phillips

GARM Committee Chair



LEADERSHIP AND COMMITTEES

Nick Perry

Division Chair

Moises Gutierrez

Division Vice Chair

MUNITIONS TECHNOLOGY DIVISION

The Munitions Technology Division works to maintain the open exchange of technical information among government and industry programs and technical managers. In addition, the Division identifies changes and trends in policy, guidance, and organizational functions that affect the development, production, maintenance, and demilitarization of munitions. The Division is comprised of two sections, Fuze and Insensitive Munitions & Energetic Materials, and one advisory group, the Industrial Committee of Ammunition Producers.



LEADERSHIP AND COMMITTEES

Matt Dooley

Division Chair

David Thomas

Division Vice Chair

ROBOTICS DIVISION

The Robotics Division focuses on security-related robotics technology, covering the development, acquisition, application, integration, and sustainment of unmanned ground systems to improve warfighters' capabilities and survivability. The Division sponsors the Ground Robotics Champion and Ground Robotics Technology Innovator Awards.

EVENT INFORMATION

ON-DEMAND PRESENTATIONS

Releasable presentations will be available to view for 30 days after the conference ends. All registered attendees will be able to access the presentations within the virtual platform by using their personalized link.

SURVEY AND PARTICIPANT LIST

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

EVENT CONTACTS

Meredith Mangas, CMPSarah O'HanleyCarizza RosalesAssociate Director,Manager,Program Manager,MeetingsExhibits & SponsorshipsDivisions(703) 247-9467(703) 247-9460(703) 247-2599mmangas@NDIA.orgsohanley@NDIA.orgcrosales@NDIA.org

SPEAKER GIFTS

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

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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.

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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.







THURSDAY, NOVEMBER 5

9:00 – 9:05 am EST NDIA WELCOME REMARKS

MG James Boozer, USA (Ret)

Executive Vice President, National Defense Industrial Association (NDIA)

9:05 – 9:20 am EST MCOE OPENING REMARKS

Donald Sando

Deputy to the Commanding General and Director of Capabilities Development and Integration,

U.S. Army Maneuver Center of Excellence

9:20 – 9:40 am EST KEYNOTE SPEAKER

MG Patrick Donahoe, USA

Commanding General, U.S. Army Maneuver Center of Excellence

Prerecorded

9:40 – 10:00 am EST KEYNOTE SPEAKER

BG Vincent Malone, USA

Program Executive Officer, Armaments & Ammunition, U.S. Army Joint Program Executive Office

Commanding General, Picatinny Arsenal

Prerecorded

10:00 – 10:15 am EST **NETWORKING LOUNGE**

Sponsored by

10:15 – 10:45 am EST CAPABILITIES BRIEFING – MANEUVER BATTLE LAB (MBL)

COL Alexis Rivera Espada, USA

Director, Maneuver Battle Lab, U.S. Army Fort Benning

10:45 – 11:15 am EST **EXHIBIT HALL**

11:15 – 11:45 am EST UPDATE ON ARMY ROBOTICS FUNDING AND PRIORITIES

MAJ Jeremy Howell, USA

Deputy Robotics Team Chief, HQDA G8 FDD

11:45 – 11:50 am EST SPEAKER TRANSITION

11:50 am – 12:25 pm EST PLENARY SPEAKER

John Hedderich III

Director, Armaments Center, U.S. Army Combat Capabilities Development Command

12:25 – 12:30 pm EST SPEAKER TRANSITION

12:30 – 1:00 pm EST CAPABILITIES/REQUIREMENTS DIVISION BRIEFINGS

COL Samuel Edwards, USA

Director, Robotics Requirements Division, U.S. Army Fort Benning

COL Rhett Thompson, USA

Director, Soldier Requirements Division, U.S. Army Fort Benning

1:00 – 1:45 pm EST **EXHIBIT HALL**

1:45 – 2:45 pm EST AMMUNITION ENTERPRISE CROSS-SERVICE UPDATE

CLOSED TO MEDIA

John Hedderich III

Director, Armaments Center, U.S. Army Combat Capabilities Development Command *Moderator*

Warren Clare

Program Manager, Ammunition, U.S. Marine Corps

Brig Gen Heath Collins, USAF

Program Executive Officer for Weapons and Director of the Armament Directorate, Air Force Life Cycle Management Center, Air Force Materiel Command

COL Gavin Gardner, USA

Commander, Joint Munitions Command and Joint Munitions and Lethality Life Cycle Management Command

2:45 – 3:00 pm EST **NETWORKING LOUNGE**



3:00 - 4:15 pm EST

PM ACQUISITION PANEL (MES)

CLOSED TO MEDIA

Chris Grassano

Deputy Joint Program Executive Officer, Armaments & Ammunition, Joint Program Executive Office *Moderator*

COL Paul Alessio, USA

Project Manager, Maneuver Ammunition Systems, Armaments & Ammunition, Joint Program Executive Office

COL Anthony Gibbs, USA

Project Manager, Combat Ammunition Systems, Armaments & Ammunition, Joint Program Executive Office

Ben Harris

Deputy Project Director, Joint Services

COL Russell Hoff, USA

Project Manager, Close Combat Systems, Armaments & Ammunition, Joint Program Executive Office

CAPT Brian Schorn, USN

Project Director, Joint Bombs, Armaments & Ammunition, Joint Program Executive Office

4:15 – 4:45 pm EST **EXHIBIT HALL**



| BREAKOUT SESSIONS | | | | | | |
|--------------------|---|--|--|---|--|--|
| | ROBOTICS | SMALL ARMS | GARM | UEA | | |
| 4:45 – 5:10 pm EST | Update on Army Ground Robotics S&T Efforts Dr. Robert Sadowski Chief Roboticist, Ground Vehicle Robotics, Ground Vehicle Systems Center, U.S. Army Combat Capabilities Development Command | Joint Service Small Arms Synchronization Team (JSSAST) Panel Augustine Funcasta Office Chief, Joint Service Small Arms Program Office, U.S. Army Futures Command, Combat Capabilities Development Command Armaments Center | | Intelligent Armaments for Small UAS - Enabling Practical Remotely Piloted Gunships for Organic Close Air Support Bryan Bockmon Chief Executive Officer, Aimlock | | |
| 5:10 – 5:15 pm EST | SPEAKER TRANSITION | Craig LaMudge Program Manager, Combat Arms Directorate of Security Forces, | SPEAKER TRANSITION | | | |
| 5:15 – 5:40 pm EST | RCV Program Update MAJ Cory Wallace, | | APEX/RRR NAMMO Todd Harmer Senior Vice President, American Defense International (ADI) | Human to Machine Interface for Armament Systems Ralph Tillinghast Science and Technology Chief Scientist, Fire Control System and Technology Directorate Director, Collaboration Innovation Lab | | |
| 5:40 – 5:45 pm EST | NDIA CLOSING F MG James Boozer, US Executive Vice President, Prerecorded | A (Ret) | | ı | | |



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FRIDAY, NOVEMBER 6

9:00 – 9:05 am EST NDIA WELCOME REMARKS

MG James Boozer, USA (Ret) Executive Vice President, NDIA

9:05 – 9:45 am EST **KEYNOTE SPEAKER**

Honorable Kevin Fahey

Assistant Secretary of Defense for Acquisition, Office of the Secretary of Defense

9:45 – 10:15 am EST **EXHIBIT HALL**

GENERAL SESSION

10:15 – 11:00 am EST RCV ENHANCED LETHALITY PANEL

Matt Dooley

Director, Robotics & Autonomous Systems, John H. Northrop and Associates, Inc. *Moderator*

James Giacchi

Mechanical Engineer, Remote Weapons Branch, Armaments Center, U.S. Army Combat Capabilities Development Command

Dr. Robert Kania

Division Chief, Combat Robotics & Teaming, Ground Vehicle Systems Center (GVSC), Ground Vehicle Robotics (GVR)

MAJ Cory Wallace, USA

Robotic Combat Vehicle Action Officer, Next Generation Combat Vehicle Cross Functional Team

11:00 – 11:15 am EST NETWORKING LOUNGE

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11:15 am – 12:15 pm EST

INDUSTRY PANEL: THE EFFECTS OF COVID-19 ON THE SUPPLY CHAIN CLOSED TO MEDIA

Kevin Knotts

President and Chief Executive Officer, Azimuth Consulting Moderator

Scott Eighmy

Chief Executive Officer, American Turned Products

Jason Gaines

Vice President and General Manager, General Dynamics Munitions Systems

Col Wesley Hallman, USAF (Ret)

Senior Vice President, Strategy & Policy, NDIA

BG John McGuiness, USA (Ret)

President, American Ordnance, LLC

Steven Slabaugh

Vice President and General Manager, Tech Ord - A Division of AMTEC Corporation

Jim Veto

Division Chief, Industrial Base Analysis, Joint Munitions Command Headquarters

12:15 - 1:00 pm EST **EXHIBIT HALL**

| BREAKOUT SESSIONS | | | | | | | |
|--------------------|---|--|--|---|--|--|--|
| | ROBOTICS | SMALL ARMS | GARM | UEA | | | |
| 1:00 – 1:25 pm EST | Update on Robotics and Autonomy Demonstration Results Bernard Theisen Division Chief, Ground Vehicles Systems Center, U.S. Army Tank Automotive Research, Development and Engineering Center | PM Soldier Lethality Panel COL Scott Madore, USA Project Manager, Soldier Lethality, U.S. Army Moderator LTC Jason Bohannon, USA Product Manager, Next Generation Weapons, U.S. Army David Oatley Product Director, Crew Served Weapons LTC Pete Stambersky, USA Product Manager, Individual Weapons, U.S. Army | Long Range Precision Fires Bryan Bockmon Chief Executive Officer, Aimlock | Aim Augmentation: Improving Accuracy for Small Arms Thomas Spirock Electrical Engineer, U.S. Army Combat Capabilities Development Command, Picatinny Arsenal | | | |
| 1:25 – 1:30 pm EST | SPEAKER TRANSITION | | | | | | |
| 1:30 – 1:55 pm EST | Multiple Robotic Payloads Fully Integrated on an Optionally Manned Robotic Platform Robert Quinn Division Manager, Unmanned & Security Systems Products, Applied Research Associates, Inc. | | USMC Ammo and Weapons Briefings Panel CWO3 Chad Cason, USMC Project Officer, Medium Calibers, Marine Corps Systems Command | Human Electrophysiology for Novel Soldier- Armament Integration: Proof of Concept Testing Dr. Elizabeth Mezzacappa Scientist, Tactical Behavior Research Laboratory, Armaments Center, U.S. Army Combat Capabilities Development Command Assistant Professor, U.S. Army Armament Graduate School | | | |
| 1:55 – 2:10 pm EST | NETW | ORKING LOUNGE | Sponsored by | DEFENSE SYSTEMS USA | | | |



2:10 - 2:35 pm EST

Challenges and Potential Benefits of Al to Software Safety Assurance

Brian Connell
Computer Engineer,
Armament Software
Engineering Center,
Weapons Software and
Engineering Center

Joint Service Small Arms Program (JSSAP) Overview

Augustine Funcasta

Office Chief, Joint
Service Small Arms
Program Office,
Armaments Center,
Combat Capabilities
Development Command,
U.S. Army Futures
Command

Joint Service Small Arms Requirements Integration (JSSARI) Workshop Update

Mark McFadden

JSSARI Working Group Chairman, Armaments Center, Combat Capabilities Development Command, U.S. Army Futures Command

Metrics Working Group Updates

Adam Jacob

Program Manager
Engineer, Joint Service
Small Arms Program
Office, Armaments
Center, Combat
Capabilities Development
Command, U.S. Army
Futures Command

Tom Henthorn

Futures Project Office, JSSAP LNO, Armaments Center, Combat Capabilities Development Command, U.S. Army Futures Command

PD Crew Served Weapons and Medium Caliber Weapon System Efficiencies

Laura Battista U.S. Army Program Officer

E=MV Subsonic – Bullet Mass and Low Energy Transfer for Greater Range and Lethality

Howard Kent
Chief Executive Officer,
Armor Development
Group

2:35 - 3:05 pm EST

EXHIBIT HALL

| 3:05 – 3:30 pm EST | Robot Teams Supporting Infantry Squads: Hard Problems and Tradeoffs Matthew Henry Chief Scientist, BAE Systems | Joint Suppressor IPT Adam Jacob Program Manager and Engineer, Joint Service Small Arms Program Office, Armaments Center, Combat Capabilities Development Command, U.S. Army Futures Command Joint Service Small Arms Science and Technology Advisory Council (JSTAC) Update Marc Ritt General Engineer, JSSAP Office, Armaments Center, Combat Capabilities Development Command | | KRWS Advance Breaching Ammunition Sean Flaherty Director, Research and Development, Rocky Mountain Scientific Laboratory | |
|--------------------|---|--|--|---|--|
| | | JSSAP FY20 Portfolio Highlights of S&T Projects Terence Rice Senior Project Management Engineer, Joint Services Small Arms Program | | | |
| 3:30 – 3:35 pm EST | SPEAKER TRANSITION | | | | |
| 3:35 – 4:00 pm EST | Jump-Start Autonomous Combat Vehicles Platform with Modular Open System Approach (MOSA) Software Neil Puthuff Senior Software Integration Engineer, Real-Time Innovations | Feasibility of UV-Cured External Case Mouth Sealants for U.S. Government Small Caliber Ammunition Daniel Meierhofer Lead Engineer, Northrop Grumman Corporation Timothy Redinger Mechanical Engineer, Armaments Center, U.S. Army Combat Capabilities Development Command, Picatinny Arsenal | | | |
| 4:00 – 4:05 pm EST | NDIA CLOSING RI MG James Boozer, USA Executive Vice President, N Prerecorded | (Ret) | | | |



KEYNOTE BIOGRAPHIES



HONORABLE KEVIN FAHEY

Assistant Secretary of Defense for Acquisition
Office of the Secretary of Defense

HON Fahey currently serves as the Assistant Secretary of Defense for

Acquisition (ASD(A)). In this position, he advises the Under Secretary of Defense for Acquisition and Sustainment (USD(A&S)), the Deputy Secretary of Defense, and the Secretary of Defense on matters relating to the Department of Defense Acquisition System, acquisition program management, and the development of strategic, space, intelligence, tactical warfare, command and control, and business systems. Before assuming his position as ASD(A), Mr. Fahey was employed with Cypress International, Inc. in Alexandria, VA, as Vice President, Combat Vehicles and Armaments following a 34-year civil service career culminating with his retirement on December 1, 2015 from the Senior Executive Service.

Mr. Fahey was selected for the Senior Executive Service in February 2000. Effective June 1, 2014, Mr. Fahey assumed the duties as the Executive Director, System of Systems Engineering and Integration Directorate, Office of the Assistant Secretary of the Army (Acquisition, Logistics, and Technology). Mr. Fahey previously served as the Program **Executive Officer for Combat Support** and Combat Service Support, Program **Executive Officer Ground Combat Systems** at Warren, MI, as well as the Deputy Program Executive Officer Ammunition, Senior Technical Executive for Close Combat Armament Systems, Armament Research, Development and Engineering Center, at Picatinny Arsenal, NJ. Mr. Fahey also served as the Deputy Project Manager, Crusader and the Chief of the Systems Engineering and International Division for the Crusader Program, the Future Armored Resupply Vehicle (FARV) Program Development Project Officer and Chief of Systems Engineering, the U.S. delegate to the international 155mm Joint Ballistic Working Group and the M119 Development Project Officer. Mr. Fahey, a native of Massachusetts, entered

civil service in 1981 following graduation from the University of Massachusetts with a Bachelor of Science Degree in Industrial Engineering/Operations Research. Upon graduation from college, Mr. Fahey attended the Quality and Reliability intern program at the DARCOM Intern Training Center, Red River Army Depot, Texarkana, Texas. Mr. Fahey has been the recipient of multiple awards and honors to include the Presidential Distinguished Rank Award, Exceptional Civilian Service Award (2nd award), Meritorious Civilian Service Award, and Superior Civilian Service Award. He has been inducted into the Honorable Order of Saint Barbara, Ancient Order of Saint Christopher, Honorable Order of Samuel Sharpe, Honorable Order of Saint Maurice, Honorable Order of Saint George, Distinguished Order of Saint Martin, and Bronze Order of the Fleury Medal. He currently resides in Alexandria, Virginia with his wife, Judy. He has two sons, Keegan and Mackenzie, and a grandson, Declan.



MG PATRICK DONAHOE, USA

Commanding General
U.S. Army Maneuver Center of Excellence

Major General (MG) Patrick Donahoe has served in the United States Army

since May 1989. A native of New Jersey, he attended Villanova University where he studied History, and received his commission as an Armor Officer upon his graduation.

With over 31 years as an Army officer, MG Donahoe served in 23 different assignments before assuming his current position as the Commanding General of the Army's Maneuver Center of Excellence at Fort Benning. Noteworthy periods include his assignment as a Battalion Commander in the 4th Infantry Division in Iraq from 2005-2006; a tour in Bosnia in 1996 in support of Operation Joint Endeavor, and Kuwait in 2001 during the 9/11 attacks; two tours to Afghanistan from 2012-2013 and 2016-2017, and two tours to South Korea, first as a Lieutenant, and just recently as a Major General.

MG Donahoe is a graduate of the United States Naval War College where he earned his Master's Degree in National Security and Strategic Studies, and was a National Security Fellow at Harvard University's John F. Kennedy School of Government.

He and his wife, Theresa, have been married for over 26 years and have three daughters, Peyton, Brenna, and Delaney and a small dog. He is an avid reader, and is active on Twitter at @PatDonahoeArmy.

BRIG GEN HEATH COLLINS, USAF



Program Executive Officer for Weapons and Director of the Armament Directorate Air Force Life Cycle Management Center, Air Force Materiel Command

Brig. Gen. Heath A. Collins is the Program Executive Officer for Weapons and Director

of the Armament Directorate. Air Force Life Cycle Management Center, Air Force Materiel Command, Eglin Air Force Base, Florida. He is responsible for the planning and execution of all life cycle activities for air-delivered munitions, including the Advance Medium-Range Air-to-Air Missile, Hard Target Void Sensing Fuze, Joint Air-to-Surface Standoff Missile, Joint Direct Attack Munition; Joint Programmable Fuze, Miniature Air Launched Decoy; and Small Diameter Bomb. His \$92 billion portfolio also includes numerous other legacy weapons and ammunition; combat training systems; threat emitters for test and training purposes; and aerial targets including the QF-16 and BQM-167A.

Brig. Gen. Collins entered the Air Force in 1993, receiving his commission through the ROTC program at Clarkson University. His acquisition, space, test, operations and staff assignments have encompassed air-toair missiles, electronic countermeasures, space, radar, intelligence, surveillance and reconnaissance, nuclear, fighter and bomber systems. He has served in numerous program management and senior-leader positions including Program Manager, Wideband Global Satellite Communications, Block1 Program, Deputy Commander of the Wideband SATCOM Group, Commander, Space Based Infrared System Space Squadron, Senior Materiel Leader and Deputy Director for the Infrared Space Systems Directorate, and the Remote Sensing Systems Directorate. Brig. Gen. Collins has also served in the Office of the Under Secretary of Defense for Intelligence,

overseeing the department's Airborne ISR, Space and Special Programs. He is a graduate of the Air Command and Staff College and the Industrial College of the Armed Forces. He also holds master's degrees from Florida State University, Air University and National Defense University.

Prior to assuming his current duties, Brig. Gen. Collins served as the Program Executive Officer for Fighters and Bombers, Air Force Life Cycle Management Center, Air Force Materiel Command, Wright-Patterson Air Force Base, Ohio. He was responsible for development, production, fielding, sustainment and modernization of the fighters and bombers portfolio, which includes the A-10, A-29, B-1, B-2, B-52, F-15, F-16, F-22 and special programs. He was also responsible for organizing, training and equipping the F-35 System Program Office.



BG VINCENT MALONE, USA

Program Executive Officer, Armaments & Ammunition, U.S. Army Joint Program Executive Office Commanding General, Picatinny Arsenal

Brigadier General Vincent F. Malone Il became the Joint Program Executive

Officer Armaments & Ammunition and the Commanding General, Picatinny Arsenal in May 2020, leading the mission to develop and procure conventional and leap-ahead munitions to increase the Warfighter's combat power.

He previously served as Deputy Commanding General of the Research, Development and Engineering Command (RDECOM) and later Combat Capabilities Development Command (CCDC) upon transition of RDECOM into the Army's Future's Command on February 3, 2019.

Prior to his CCDC assignment Malone II was assigned as the Military Deputy to the Deputy Assistant Secretary for Plans, Program & Resources, OASA(ALT), Washington, D.C., where he served as the co-executive of the Equipping and Sustaining Program Evaluation Groups (PEGs) responsible for overseeing the planning, programming, budgeting and execution of all associated funding.

Malone II is a 1989 graduate of the U.S. Military Academy and was commissioned as an Infantry officer. His military education includes the Infantry Officer Basic and Advanced Courses, Command and General Staff College, and Senior Service College. He holds a Master of Science degree in Chemistry from the University of Colorado, a Master of Science degree in National Resource Strategy from the National Defense University, and is a graduate of the Defense Acquisition University Executive Program Manager's Course.

Malone II spent his formative years as a Platoon Leader and Company Executive Officer in the 1st Battalion (ABN), 501st Infantry Regiment, Fort Richardson, AK. He was assessed into the Acquisition Corps following Company Command at

Fort Benning, GA, and an assignment as an assistant professor in the Department of Chemistry at West Point. His acquisition leadership experience includes assignments as Assistant Product Manager for Light Tactical Vehicles, Commander of the Army Cold Regions Test Center and Project Manager for Training Devices. He has also served in a variety of HQDA staff positions as a systems coordinator, legislative liaison, executive officer, and portfolio director. In addition to his recent acquisition experience, he deployed as the Chief of Plans and Integration, ARCENT Support Element -- Afghanistan.

His awards and decorations include the Legion of Merit, Bronze Star, Meritorious Service Medal, the Army Commendation Medal, the Army Achievement Medal, the Army Staff Identification Badge, the Senior Parachutist Badge, the Expert Infantryman's Badge and the Ranger Tab.



JOHN HEDDERICH III

Director, Armaments Center
U.S. Army Combat Capabilities Development Command

John F. Hedderich III was assigned as Director of the U.S. Army Combat

Capabilities Development Command (CCDC) Armaments Center at Picatinny Arsenal, New Jersey, on February 8, 2015.

As Director, Mr. Hedderich provides strategic leadership and managerial accountability to the CCDC Armaments Center's obligation of over \$1.3 billion, 64 laboratories, and a workforce of over 4,000 government and support personnel, including engineers and technical staff dedicated in delivering superior lethal and non-lethal armament solutions to the warfighter.

Prior to his current position, Mr. Hedderich was the Executive Director of the Munitions Engineering and Technology Center at the CCDC Armaments Center. He was responsible

for providing guidance and direction to an engineering and scientific community. He was also responsible for developing, directing and managing CCDC Armaments Center's investment strategies to ensure state-of-the-art facilities, people and equipment, as well as the center's extensive research, development and engineering efforts for fielding new ammo, munitions, and combat systems.

Mr. Hedderich previously served as the Director of the Armaments Engineering Technology Center from January 2007 to June 2008. He also served as Acting Director for CCDC Armaments Center from November 2004 to August 2005. Mr. Hedderich was Director for Enterprise Management from October 2003 to January 2007. In this capacity, he was responsible for CCDC Armaments Center's technology base and manufacturing technology programs, strategic planning, and portfolio and knowledge management.

From June 2002 to October 2003, Mr. Hedderich served as Senior Technical Executive in the former ARDEC Close Combat Armaments Center, where he was responsible for developing and executing scientific and technology strategies for small, medium and large caliber weapons, ammunition, mines and countermine, nonlethal weapons and ammunition and special operations gear.

He also served as Associate Technical
Director (Systems Concepts and Technology)
where he was responsible for the Armament
Technology Base Program executed by CCDC
Armaments Center.

A career executive, he was appointed to the Senior Executive Service, the highest level of civilian government service, in November 1998.

SPONSOR DESCRIPTIONS

GHOSTROBOTICS Robots That Feel the World*

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Ghost Robotics® is revolutionizing legged robotics and the market for highly agile and fast tele-operated and autonomous UGVs for military, homeland security, public safety, and enterprise applications. From ISR, EOD and persistent security applications, to mesh communications and small payload delivery platforms for a broad range of warfighter applications. Our quadrupedal UGVs (Q-UGV®) unstoppable.



NETWORKING LOUNGE SPONSOR

EOS Defense Systems USA, Inc., based in Huntsville, AL, is a world leader in Remote Weapons Station (RWS) design, development and production. The precision which makes the EOS family of RWS unique derives from a gimbal that integrates proprietary algorithms which compensate for atmospheric conditions, gun, and platform attributes as well as ammunition characteristics. Our precision is enabled by our Sensor Unit which is an advanced, compact, day/night, targeting and aiming system based on cooled thermal imager

technology whose performance rivals many current ISR systems.

The EOS Family of RWS have already been successfully integrated onto all classes of unmanned ground vehicles operating in both tethered and wireless modes. The low weight-to-maximum caliber ratio, along with minimal platform intrusion for integration, and a design optimized for distributed operations makes EOS RWS a prime candidate to provide precise lethality to a robotic system while still maintaining high payload capacity.

NORTHROP GRUMMAN

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At Northrop Grumman, we are focused on equipping our warfighters with high-quality products that provide overmatch in a number of land, sea and air engagement scenarios. Our defense portfolio includes industry-leading precision weapons, tactical rocket motors, defense electronic products, and ammunition and gun systems serving America and our allies. In addition, we develop advanced fuzes and warheads, weaponized special-mission aircraft and propulsion control systems. For more information, speak with us at Munitions Executive Summit or visit us at www.northropgrumman.com.

EXHIBITOR DESCRIPTIONS

Aimpoint

For over 40 years, Aimpoint has been the world leader in design and manufacture of electronic red-dot sighting systems. Soldier tested and combat proven – don't settle for anything less.



EOS Defense Systems USA, Inc., based in Huntsville, AL, is a world leader in Remote Weapons Station (RWS) design, development and production. The precision which makes the EOS family of RWS unique derives from a gimbal that integrates proprietary algorithms which compensate for atmospheric conditions, gun, and platform attributes as well as ammunition characteristics. Our precision is enabled by our Sensor Unit which is an advanced, compact, day/night, targeting and aiming system based on cooled thermal imager technology whose performance rivals many current ISR systems.

The EOS Family of RWS have already been successfully integrated onto all classes of unmanned ground vehicles operating in both tethered and wireless modes. The low weight-to-maximum caliber ratio, along with minimal platform intrusion for integration, and a design optimized for distributed operations makes EOS RWS a prime candidate to provide precise lethality to a robotic system while still maintaining high payload capacity.

GENERAL DYNAMICS

Ordnance and Tactical Systems

General Dynamics Ordnance and Tactical Systems (OTS) is a global systems developer and manufacturer of munitions, weapons and tactical systems across the entire air, land, and sea battle spectrum. It is the purpose of General Dynamics – OTS to empower the United States Armed Forces and its Allies through readiness and innovation to protect what is most important, the warfighter. We are dedicated to our people, our products and our processes to ensure that every day we are Delivering the Best to the BestTM.

GHOSTROBOTICS Robots That Feel the World*

Ghost Robotics® is revolutionizing legged robotics and the market for highly agile and fast tele-operated and autonomous UGVs for military, homeland security, public safety, and enterprise applications. From ISR, EOD and persistent security applications, to mesh communications and small payload delivery platforms for a broad range of warfighter applications. Our quadrupedal UGVs (Q-UGV®) unstoppable.



The National Armaments Consortium (NAC) serves as the industry partner for the Department of Defense Ordnance Technology Consortium's (DOTC) and the Aviation and Missile Technology Consortium (AMTC). Our robust, transparent, and unique collaboration approach, once considered a novel and unrealistic concept, has evolved into a well-established process through which our DoD stakeholders acquire the innovative Armament technologies needed to maintain U.S. technological superiority.



Real-Time Innovations (RTI) is the largest software framework provider for smart machines and real-world systems. The company's RTI Connext® product enables intelligent architecture by sharing information in real time, making large applications work together as one.