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May 6-7, 2026

"Accelerating Warfighting Capabilities"

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Preface & Acknowledgements

The purpose of the Accelerating Warfighting Capabilities, NPS 23rd Annual Acquisition Research Symposium and Innovation Summit" is to provide a forum for the presentation of scholarly acquisition research, as well as for dialogue between scholars and acquisition policy-makers and practitioners. Research papers and presentations are given on recently completed and on-going Departments of Defense and US Navy (DoD/DON)-sponsored projects conducted by researchers at a variety of research institutions. Senior DoD/DON acquisition officials serve as panelists or keynote speakers to present their critiques and comments on research papers and priorities.

This year our symposium is coupled with an Innovation Summit and takes up the theme of "Accelerating Warfighting Capabilities."

Although attendees come from many U.S. locations, as well as from some international locales, a large number are from Naval Postgraduate School (NPS) where faculty members and graduate students engage in acquisition-related research. In particular, NPS graduate students are an integral component of the research and dialogue. The Symposium serves an essential part of their graduate learning experience and provides them the opportunity to meet with senior policy-makers, practitioners, and distinguished scholars.

We gratefully acknowledge the ongoing support and leadership of our sponsors, whose foresight and vision have assured the continuing success of the Acquisition Research Program:

- Assistant Secretary of the Navy for Research, Development and Acquisition (ASN (RDA))
- Director, Acquisition Talent Management, U.S. Navy (DATM)
- Program Executive Officer, Integrated Warfare Systems (PEO IWS)

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WEDNESDAY KEYNOTE: JASON L. POTTER, PERFORMING THE DUTIES OF THE ASSISTANT SECRETARY OF THE NAVY (RESEARCH, DEVELOPMENT AND ACQUISITION)

Mr. Jason L. Potter, Performing the duties of the Assistant Secretary of the Navy (Research, Development and Acquisition): In July 2025, Mr. Jason Potter was assigned to perform the duties of the Assistant Secretary of the Navy (Research, Development and Acquisition). In this role, he leads the Department of the Navy's (DON) Research, Development, Acquisition, and Sustainment programs and the DON's contracting community.

Mr. Jason Potter was appointed Deputy Assistant Secretary of the Navy for Ship Programs in May 2025. He is also performing the duties of the Principal Civilian Deputy Assistant Secretary of the Navy (Research, Development and Acquisition).

Prior to his appointment, Mr. Potter served as a professional staff member in the United States Senate for 10 years on the Appropriations and Armed Services Committees. His responsibilities included oversight of Navy shipbuilding; Navy and Air Force procurement accounts; various research, development, test, and evaluation accounts; Defense Production Act purchases; National Defense Stockpile transactions; and defense acquisition law.

Earlier in his career, Mr. Potter served in civilian positions on the Navy Staff (OPNAV) including as a special assistant to the Chief of Naval Operations, programming division section head, and force structure analyst. He also served as a naval officer with assignments as Navigator aboard USS CAPE ST GEORGE (CG 71), Communications and Repair Officer aboard USS RUSHMORE (LSD 47), naval liaison to Joint Special Operations Task Force – Philippines, and analyst on the 2010 Navy Quadrennial Defense Review Integration Group. He is currently serving as a Commander in the U.S. Navy Reserve.

Mr. Potter holds an executive M.B.A. from the Naval Postgraduate School, a M.A. in Government from the University of Maryland, and a B.S. in Political Science from the U.S. Naval Academy.

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PANEL #1 – ACCELERATING WARFIGHTING CAPABILITIES: PUTTING THE INDUSTRIAL BASE ON A WARTIME FOOTING

Wednesday, May 6, 2026, 1015 – 1130 ET (0715 - 0830 PT)

Panel Summary:

As the global security environment becomes increasingly dangerous, the United States can no longer rely on existing stockpiles or ossified acquisition patterns to prevail in industrial-scale warfare. This plenary panel, serving as the symposium's kickoff, explores the department-wide transformation required to shift the entire acquisition system onto a "wartime footing". By examining the intersection of industrial policy, surge capacity, and Indo-Pacific security, these top Pentagon leaders will discuss concrete actions being taken to rebuild the arsenal of freedom and deliver capabilities at the speed and scale required for modern conflict.

Chair: Dr. Jerry McGinn, Director, Center for the Industrial Base and Senior Fellow, Defense and Security, Center for Strategic and International Studies (CSIS)

Panelists:

Strategic Industrial Base Policy and Surge Capacity – *Honorable Michael Cadenazzi, Assistant Secretary of War for Industrial Base Policy*

Modernizing the Acquisition Ecosystem – *Mr. James Ruocco, Senior Executive Service, performing duties of Assistant Secretary of War for Acquisition*

Synchronizing Global Logistics and Sustainment – *VADM Dion English, Director of Logistics at the Joint Staff*

Dr. Jerry McGinn—is the director of the Center for the Industrial Base and a senior fellow with the Defense and Security Department. He is one of the nation's leading experts on industrial base, acquisition, government contracting, and security policy issues. Prior to joining CSIS, Jerry served as executive director of the Greg and Camille Baroni Center for Government Contracting at George Mason University, publishing over 70 influential reports, white papers, and commentaries. Prior to GMU, Jerry served as the senior career official in the Office of Manufacturing and Industrial Base Policy in the Department of Defense (DoD), leading efforts to analyze the capabilities of the defense industrial base. He also directed hundreds of reviews of high-profile mergers and acquisitions as well as transactions before the Committee on Foreign Investment in the United States. Before his service in DoD, Dr. McGinn spent a decade in senior defense industry roles at Northrop Grumman, Deloitte Consulting LLP, and QinetiQ North America. Prior to industry, Dr. McGinn served as special assistant to the principal deputy undersecretary for policy in DoD and as a political scientist at RAND. Dr. McGinn is also a widely acclaimed thought leader and has testified numerous times before the U.S. Congress and the UK House of Commons. Dr. McGinn served with distinction as an infantry officer and is a graduate of Ranger and Airborne Schools. He earned a PhD, MS, and MA from Georgetown University as well as a BS from the United States Military Academy.

Honorable Michael Cadenazzi—was sworn in as the Assistant Secretary of War for Industrial Base Policy (ASD(IBP)) on September 23, 2025. In this role, he is the principal advisor to the Under Secretary of War for Acquisition and Sustainment on industrial base policies and leads the Department of War's efforts to develop and maintain the U.S. defense industrial base to ensure a secure supply of materials critical to national security.

Over the past two decades, Mr. Cadenazzi has served as a serial entrepreneur and consultant with experience in managing and addressing challenging issues across the aerospace & defense sector. He has launched multiple defense industry services and technology start-ups across the signals intelligence, program analysis, data analytics, and market assessment and strategy sectors, and executed two successful transfers of business ownership. His extensive sector experience includes work from the space to undersea domains and from aircraft and munitions to armor, weapons, ships, and services. His clients have included domestic and international firms from large prime contractors to all levels in the supply chain. His direct experience spans strategy, mergers & acquisitions, operations, supply chain and organizational transformation.

Prior to his civilian career, Mr. Cadenazzi served for ten years as an active-duty U.S. Navy cryptologic warfare officer. He completed the Cryptologic Division Office Course at Corry Station in Pensacola Florida before his first tour at Naval Communications & Telecommunications Area Master Station (NCTAMS) WESTPAC in Agana, Guam. Following graduate education, he was assigned to the staff of Commander, U.S. Navy SIXTH Fleet in Gaeta Italy. He completed his military service on the staff of U.S. Naval Forces Europe in London, the United Kingdom.

Mr. Cadenazzi holds a bachelor's degree in engineering from Tulane University and a master's degree in electrical engineering with an emphasis on RF communications and signals intelligence from the U.S. Naval Postgraduate School. He was commissioned an ensign in 1995 through the Tulane Naval Reserve Officer Corps (NROTC) program.

James A. Ruocco—is a member of the Senior Executive Service, is currently performing the duties of the Assistant Secretary of War for Acquisition (ASW(A)). In this position, he advises the Under Secretary of War for Acquisition and Sustainment (USW(A&S)), the Deputy Secretary of War, and the Secretary of War on matters relating to the Department of War (DoW) Acquisition System, acquisition program management, and the development of strategic, space, intelligence, tactical warfare, command and control, and business systems.

Most recently, Mr. Ruocco served as Deputy Assistant Secretary of Defense for Strategic, Space, and Intelligence Portfolio Management (SSIPM). He is responsible for acquisition shaping, analysis, and oversight of warfighter capability portfolios across the Department of Defense associated with nuclear weapons systems; nuclear command, control, and communications; space; missile defense; and command, control, communications, computers, intelligence, surveillance, and reconnaissance domains.

Previously, he served as Acting Deputy Assistant Secretary for Defense for Platform and Weapon Portfolio Management and was responsible for assessing and analyzing major platforms and weapons capability portfolios across the Department, covering all cyber, electronic warfare, aircraft, ship, submarine, ground vehicle and weapons & munitions programs. Additionally, he served as Director for Air Platforms and Weapons and was responsible for portfolio and acquisition management, policy, and investments in all Department of Defense (DoD) aircraft-related missions and capabilities.

Mr. Ruocco holds a Bachelor of Science in Aerospace Engineering from Embry Riddle Aeronautical University and a master's degree in National Resource Strategy from the National Defense University. Additionally, he graduated from the Federal Executive Institute, and holds certificates from the University of Virginia and the Massachusetts Institute of Technology. He is a member of the Acquisition Professional Community with certifications in Program Management and Systems Engineering. Mr. Ruocco has received numerous Command-level recognitions and awards, as well as being a three-time recipient of the Secretary of Defense Exceptional Civilian Service Medal.

Vice Admiral Dion D. English, USN—is a native of Monroeville, Alabama, and of Slidell, Louisiana. English entered the Navy's Broadened Opportunity for Officer Selection and Training program in 1987. In 1993, he graduated from Louisiana State University and was subsequently commissioned through the Navy Reserve Officers' Training Corps program at Southern University. He earned master's degrees in Business Administration from Old Dominion University and in National Security and Strategic Studies from the Naval War College. He is also a 2007 graduate of the Joint Forces Staff College and attended the Executive Program in Strategy and Organization at the Stanford Graduate School of Business.

His afloat assignments include disbursing and sales officer, USS Scott (DDG 995); cargo and stock control officer, USNS San Diego (T-AFS 6); supply officer, USS Barry (DDG 52); and commanding officer, Explosive Ordnance Disposal Expeditionary Support Unit ONE.

His shore assignments include ship force support officer, Supervisor of Shipbuilding, Newport News, Virginia; executive assistant to the Commander, Defense Supply Center Columbus, Ohio; deputy logistics operations officer, Joint Task Force Civil Support (JTF-CS), Fort Monroe, Virginia; logistics readiness officer, Logistics Current Operations Division, N4 Directorate for Commander, U.S. Pacific Fleet (USPACFLT); director, Supply Corps Detailing, Navy Personnel Command (PERS-4412), Millington, Tennessee; commanding officer, Naval Supply Systems Command (NAVSUP) Fleet Logistics Center (FLC) Sigonella, Italy; and deputy director, supply and distribution, J44, Joint Staff, Washington, District of Columbia.

His flag assignments include director, logistics, fleet supply and ordnance, N4, USPACFLT, Pearl Harbor, Hawaii; vice director, logistics, J-4, Joint Staff; and director, logistics division, N4L, Office of the Chief of Naval Operations.

English is designated as a Surface Warfare Supply Corps Officer and as a Navy Expeditionary Supply Corps Officer. He is a member of the Defense Acquisition Corps and is a Joint Qualified Officer. While under his command, NAVSUP FLC Sigonella earned recognition in partnership with the team that received the prestigious Admiral Stan Arthur Award for 2018 Logistics Team of the Year.

His personal decorations include Defense Superior Service Medal, Legion of Merit, Defense Meritorious Service Medal, Meritorious Service Medal, Joint Service Commendation Medal, Navy Commendation Medal, Joint Service Achievement Medal, and Navy Achievement Medal.

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PANEL #2 – ENGINEERING THE SOFTWARE-DEFINED ENTERPRISE: AGILE PATHWAYS, MBSE, AND AI ASSURANCE

Wednesday, May 6, 2026, 1145 – 1300 ET (0845 - 1000 PT)

Panel Summary:

As the Department moves away from hardware-centric acquisition, software has become the primary differentiator of military preeminence. This panel explores the critical shift toward Software-Defined Warfare, demonstrating how digital engineering models and modernized acquisition pathways eliminate traditional bottlenecks. By integrating rapid adaptability with rigorous assurance, these research initiatives provide the framework necessary to deliver dependable, AI-enabled capabilities at the speed of the evolving threat.

Chair: Thomas W. Simms, Executive Director, Systems Engineering and Architecture, Office of the Assistant Secretary of War for Mission Capabilities

Presenters:

The Pentagon's Revolution in Software-Defined Warfare and Its Testing Dilemma – *The Honorable Nickolas H. Guertin, Virginia Tech National Security Institute*

Digital Models to Improve the Quality of Capability Needs Statements (CNS) – *Alfred (Fred) Schenker, Carnegie Mellon University Software Engineering Institute*

Transforming Acquisition for Speed, Agility, and Effectiveness – *Rita Creel, Carnegie Mellon University Software Engineering Institute*

Thomas W. Simms—is the Executive Director for Systems Engineering and Architecture within the Department of War (DoW) Office of the Assistant Secretary of War for Mission Capabilities (OASW(MC)). He leads efforts to advance DoW practice in systems engineering, software engineering, digital engineering, and specialty engineering areas such as reliability, manufacturing, and human systems integration. He leads developmental test, evaluation, and assessment teams performing critical technical risk and engineering assessments on major acquisition programs.

Mr. Simms also leads workforce development initiatives to guide the Engineering and Technical Management (ETM) and Test and Evaluation (T&E) workforce. He oversees efforts to build the ETM and T&E training frameworks to continually improve workforce knowledge and skills.

Mr. Simms has more than 35 years of experience in engineering to include developmental test and evaluation of complex weapon systems. Before his current role, he served as the acting Principal Deputy Director for SE&A and as Deputy Director for Engineering Policy and Systems, performing executive-level duties and developing engineering policy, guidance, and processes.

Before joining the Office of the Secretary of War, Mr. Simms worked with the Missile Defense Agency (MDA), involved with the Aegis Ballistic Missile Defense program. He became the MDA Director for Test Policy and Integration, responsible for the agency's test policy and test manpower. He worked with senior leaders from across the Department on missile defense–related topics.

Mr. Simms served as the Cruise Missile Technical Advisor on the staff of the Commander, Submarine Forces Pacific, where he provided technical expertise on both the Submarine-Launched TOMAHAWK Weapon System and the Encapsulated HARPOON Weapon System. He then served as the HARPOON Weapon System engineer in the Cruise Missile Weapon Control Systems Program Office (PMA-282) and led the engineering development and T&E of upgrades to the HARPOON Shipboard Command Launch Control Systems.

The Pentagon's Revolution in Software-Defined Warfare and Its Testing Dilemma

Presented by: The Honorable Nickolas H. Guertin, Virginia Tech National Security Institute

Warfare is inherently messy and adaptive—Sun Tzu's observation that "all warfare is based on deception" remains relevant—but today's tempo of capability delivery is outpacing hardware-centric acquisition and legacy warfighting patterns. This paper argues that military preeminence increasingly depends on software-defined warfare, where code—not platforms—becomes the decisive differentiator. We characterize this shift through six tenets: rapid adaptability, AI-driven decision support, digital twins and simulation, reprogrammable weapons, autonomous systems, and cyber operations. Together, these tenets demand unprecedented operational agility, enabling forces to reconfigure tactics, platforms, and effects during conflict.

The same features that enable overmatch also introduce fragility: tightly coupled "kill webs," vulnerabilities in AI reasoning, and the risk of cascading failure from a single software update. This creates a central Pentagon dilemma: software-enabled capabilities can be fielded faster than they can be objectively assessed. Traditional test and evaluation (T&E), optimized for static hardware designs, is straining under continuous updates and complex interdependencies. We propose a reinvention of T&E—supported by digital twins, AI-augmented testing, DevSecOps pipelines, and independent oversight—and offer recommendations to balance rapid innovation with assurance so software-defined arsenals remain agile and dependable in the fog of war.

Digital Engineering to Improve the Quality of a Capability Needs Statement

Presented by: Alfred (Fred) Schenker, Carnegie Mellon University Software Engineering Institute

This paper describes how an acquisition program on the Software Pathway (SWP) can elaborate its software Capability Needs Statement (CNS) within a modern digital engineering environment using Model-Based System Engineering (MBSE) principles. This elaboration (i.e., view) transforms the CNS from a static description into an authoritative, model-based view of mission deficiencies, required enhancements, interfaces, and interoperability. This view enables sponsors and users to prioritize and validate their needs iteratively with traceable evidence. This approach will lead to a more defensible and streamlined software development strategy. It also enables the program to review the capability with stakeholder(s) to ensure adequate validation and develop a quality artifact that can be used for negotiating with contractors.

Transforming Acquisition for Speed, Agility, and Effectiveness

Presented by: Rita Creel, Carnegie Mellon University Software Engineering Institute

Acquisition programs face several common challenges in adopting the Department of War (DoW) Software Acquisition Pathway (SWP) and acquiring artificial intelligence (AI) capabilities. This paper describes these challenges and the work underway to address them and help programs move swiftly from high-level policy to battlefield-ready practice.

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PANEL #3 – ADAPTIVE LETHALITY: SYNCHRONIZING DIGITAL TWINS AND EMBEDDED ENGINEERING FOR RAPID FIELDING

Wednesday, May 6, 2026, 1145 – 1300 ET (0845 - 1000 PT)

Panel Summary:

Modern conflict demands a departure from linear acquisition to meet the speed of evolving aerial and cyber-physical threats. This panel showcases three breakthrough methodologies for accelerating warfighting capabilities: the use of Cyber Digital Twins to self-heal critical infrastructure, embedded capability development to bridge the "valley of death" between prototypes and programs of record, and the rapid three-year integration of Airborne Directed Energy Weapons. Together, these researchers demonstrate how a "security-by-design" and "build-alongside" approach transforms experimental concepts into operational, cost-effective, and resilient weapon systems.

Chair: Lieutenant General Frank Lozano, USA, Portfolio Acquisition Executive Fires (PAE Fires)

Presenters:

Rapid Deployment of Airborne Directed Energy Weapons: A Strategic Solution to Evolving Aerial Threats – *Ariel Dvorjetski, PEO for Weapons, Israeli Air Force*

Embedded Capability Development: A Case Study in Rapid Missile Prototyping and Transition – *Maj Dillon Pierce, PhD, Naval Postgraduate School / HQMC CD&I*

Cyber Digital Twin-Informed Zero Trust: A Synergistic Framework for Securing Operational Technology in Defense Logistics Infrastructure – *Dr. Barry A. Humphrey, Defense Logistics Agency*

Lieutenant General Frank Lozano, USA—is the Portfolio Acquisition Executive (PAE Fires), Redstone Arsenal, AL. He is the senior leader responsible for prioritizing and synchronizing acquisition functions across the Fires enterprise to deliver cutting edge warfighting capabilities to our Soldiers and joint warfighters. LTG Lozano assumed his current position in November 2025.

LTG Lozano graduated from Texas A&M University in 1993 and commissioned as a Second Lieutenant in the Armor Branch. He served as a Platoon Leader, Executive Officer, Cavalry Squadron Staff Officer, and Cavalry Troop Commander before transitioning into the Army Acquisition Corps in 2001. He graduated with an MBA from the University of Texas at Arlington and served with Lockheed Martin Missiles and Fire Control in Grand Prairie, TX in 2002 as part of the Training with Industry Program.

After completion of Command and General Staff College, LTG Lozano was assigned as the Assistant Product Manager for Project Manager Solider Weapons, Program Executive Officer (PEO) Solider, followed by an assignment as an Ammunition and Demolition Systems Acquisition Manager for Special Operations Command and the Army Research Development and Engineering Command.

In 2008, LTG Lozano was assigned as a Department of the Army System Coordinator for Tactical Missile Systems and Ballistic Missile Defense Systems. He was subsequently selected to be the Special Assistant to the Army's Vice Chief of Staff. In his position as the Special Assistant, he provided insight, advice, and counsel on Army acquisition programs crossing many different functional capability areas.

LTG Lozano commanded the Product Management Officer for Solider Protective Equipment, PEO Solider from 2011 until 2014. From 2014 to 2016 he was assigned to the Joint Staff, J-8 Capabilities and Acquisition Division. Upon graduation from the U.S. army War College, he became the Project Manager for the Lower Tier Project Office, PEO Missiles and Space from 2017 until 2020, followed by an

assignment as the Integrated Fires and Rapid Capability Office Program Manager. He was then assigned as the ASA(ALT) Chief of Staff from 2021 to 2022, and from 2022 to 2025 he was appointed as the Program Executive Officer for PEO Missiles and Space.

LTG Lozano's operational and combat experience include deployments to Bosnia, Kuwait, and Iraq. His awards and decorations include the Parachutist Badge, Ranger Tab, Legion or Merit, Bronze Star Medal, joint Service Commendation Medal, the NATO Service Medal, the Army Staff Identification Badge, and the Joint Staff Identification Badge, He is certified in Program Management, Contractive, System Research, Planning and Engineering, and System Test career fields.

Rapid Deployment of Airborne Directed Energy Weapons: A Strategic Solution to Evolving Aerial Threats

Presented by: Ariel Dvorjetski, PEO for Weapons, Israeli Air Force

Modern aerial warfare is increasingly characterized by low-cost, high-volume threats such as unmanned aerial vehicles (UAVs) and cruise missiles, which challenge the economic and operational sustainability of traditional kinetic air defense systems. This paper examines the feasibility of rapidly deploying airborne Directed Energy Weapons (DEWs), specifically high-TRL solid-state lasers, as a strategic response to this imbalance. The research integrates technical analysis, operational scenario modeling, and acquisition strategy to define a realistic pathway for deployment within a three-year timeframe. A 30–50 kW class laser system is identified as the optimal balance between operational effectiveness and Size, Weight, Power, and Cooling (SWaP-C) constraints, enabling multiple engagements per sortie while remaining compatible with existing airborne platforms. Scenario-based analysis demonstrates that such systems can effectively counter high-volume UAV threats and enhance layered defense architectures by improving cost-exchange ratios and operational persistence. The study further argues that traditional acquisition processes are incompatible with current threat timelines and proposes the Middle Tier of Acquisition (MTA) as a critical enabler for rapid fielding. The findings indicate that airborne DEWs are not only technically feasible but strategically necessary, providing a scalable and sustainable solution for modern air defense.

Embedded Capability Development: A Case Study in Rapid Missile Prototyping and Transition

Presented by: Maj Dillon Pierce, PhD, Naval Postgraduate School / HQMC CD&I

This paper presents embedded capability development as a practical execution approach for integrating requirements refinement, technical maturation, and transition preparation within a single collaborative government-industry development effort. In this model, a uniformed Service member is embedded within the technical team and serves both as a hands-on developer and as the principal government lead for the day-to-day refinement of evolving operational and system-level requirements. The approach addresses two persistent problems in defense capability development: promising science and technology efforts that fail to mature into transition-ready capabilities, and formal development processes that separate requirements, development, resourcing, and transition into sequential activities that delay delivery to the warfighter. The paper examines the model through an ongoing case study in low-cost tactical missile development and describes the organizational structure, collaborative industry engagement, and enabling tools used to implement it, including a government reference architecture and government reference design. The case suggests that embedded capability development can provide a practical complement to recent strategic-level reform guidance by showing how a program can organize itself to integrate technical learning, evolving requirements, and transition preparation within one collaborative development effort.

Cyber Digital Twin-Informed Zero Trust: A Synergistic Framework for Securing Operational Technology in Defense Logistics Infrastructure

Presented by: Dr. Barry A. Humphrey, Defense Logistics Agency

The convergence of Information Technology (IT) and Operational Technology (OT) has exposed critical infrastructure to cyber-physical threats that perimeter-based security was never designed to handle. The consequences extend beyond data loss or equipment malfunction: compromised OT systems directly degrade military readiness, endanger both warfighter and civilian lives, and create national security vulnerabilities near-peer adversaries are actively probing. Legacy OT environments—the systems governing logistics, utilities, and manufacturing across military supply chains—operate under assumptions about isolation and trust that no longer hold. This research presents a security framework that integrates Cyber Digital Twins (CDT), Artificial Intelligence and Machine Learning (AI/ML), and a Zero Trust Architecture (ZTA) framework to provide an integrated defensive capability for OT cybersecurity. The approach centers on a high-fidelity virtual replica of the OT environment, training AI/ML models to recognize both normal operational signatures and simulated attack signatures within that replica, using the resulting risk intelligence to drive dynamic ZTA framework enforcement. The concept of the operational signature, the distinctive behavioral fingerprint of a device, process, or communication

patterns is central to this framework: the CDT establishes baseline signatures, AI/ML models detect deviations from those signatures, and the ZTA framework enforces containment when anomalous signatures are identified.

PANEL #4 – THE FRICTIONLESS FRONTIER: REFORMING ACQUISITION TO SECURE CUTTING-EDGE CAPABILITY

Wednesday, May 6, 2026, 1145 – 1300 ET (0845 - 1000 PT)

Panel Summary:

Preserving military superiority requires an acquisition system that can successfully attract non-traditional innovators while maintaining the agility to manage complex contracts under "wartime" pressure. This panel addresses the systemic barriers preventing new commercial entrants from joining the defense industrial base and introduces proactive frameworks—from wargaming the contracting lifecycle to "re-risking" through contract-type conversion—designed to increase budget predictability and mission resilience. By aligning institutional incentives with warfighting outcomes, these research initiatives offer a roadmap for a more inclusive, flexible, and responsive defense marketplace.

Chair: Mr. John Jolokai, Executive Director and Senior Contracting Officer (SCO), U.S. Army Contracting Command- Detroit Arsenal

Presenters:

Exploring the Use Case of Wargaming Tools Across the Contracting Lifecycle – *Capt Michael Alexander, MSCM, Naval Postgraduate School*

Is the Military Attracting New Companies? Assessing First-Time Entrants into the Defense Market – *Amanda Bresler, President, PW Communications*

Buying Flexibility: Converting Cost-Plus to Firm-Fixed-Price to Strengthen Mission Resilience – *Martin Jay Barlow, Senior Engineer Specialist, The Aerospace Corporation*

Mr. John Jolokai—is the Executive Director and Senior Contracting Officer (SCO) of the Army Contracting Command - Detroit Arsenal (ACCDTA). ACC-DTA ensures warfighting readiness by providing contracting and acquisition support for combat and tactical vehicle systems, deployment and Soldier support equipment, and intelligence and security related requirements. Mr. Jolokai leads over 700 civilian and military personnel across seven sites, executing more than 20,300 contracting actions annually, totaling $10 billion in obligations.
Prior to becoming the ACC-DTA Executive Director, Mr. Jolokai served as the Deputy to Commander, U.S. Army Contracting Command, 409th Contracting Support Brigade (CSB) in Kaiserslautern, Germany. The 409th Contracting Support Brigade provides enhanced readiness and operational capacity for U.S. and Partner Forces in the European Theater by delivering the power of Army contracting to leverage commercial capability and provide business advice to support sustaining, shaping, and decisive operations to maintain a strong Europe.
After starting with the TACOM Acquisition Center in 2001, Mr. Jolokai has held several key contracting roles, including Chief of the ACC-DTA Source Selection Center of Excellence, Tactical/MRAP Contracting Division Chief, Civilian Deputy Army Contracting Command-Detroit Arsenal ACC-DTA, and assignments with the Office of the Deputy Assistant Secretary of the Army (Procurement) and the Army's Next Generation Combat Vehicles Cross-Functional Team.

Mr. Jolokai holds a Master's in Global Leadership Management (2019), MBA (2008), and a Bachelor of Arts in Finance (2003). He is a member of the Army Acquisition Corps and is certified in Contracting. He is a graduate of the 2019 Defense Acquisition University Senior Service College.

Exploring the Use Case of Wargaming Tools Across the Contracting Lifecycle

Presented by: Michael Alexander, Capt, MSCM, Naval Postgraduate School

From the receipt of a requirement to the close of a contract, there are numerous activities that occur throughout the contract life cycle. These activities are performed by contracting professionals who are faced with making business judgements that balance multiple tradeoffs such as awarding contracts with speed at a fair and reasonable price, meeting the mission's needs in a timely manner, mitigating risks, and adhering to laws and regulations. Nonetheless, contracting professionals are required to be not only technically proficient but professionally competent as well. To develop these requisite competencies, incorporating wargaming tools into the education and training fabric of Defense contracting offers a plausible path for helping contracting professionals attain these important skills. This exploratory and conceptual research focuses on how the use of wargaming tools can be integrated into the contracting enterprise. Through a review of extant literature, a framework is proposed for developing educational wargames and describing how a wargame's objectives can be crafted for contracting specific games. A notional use case is developed showing how a wargame can be developed to "battle test" an acquisition plan.

Is the Military Attracting New Companies? Assessing First-Time Entrants into the Defense Market

Presented by: Amanda Bresler, President, PW Communications

Over the last 20+ years, companies outside of the traditional defense industrial base (DIB) increasingly drive innovation in areas critical to national security. This paradigm shift has resulted in the Department of War (DoW) investing billions of dollars into innovation programs, rapid acquisition programs, small business outreach programs, and accelerators ("innovation initiatives" or "initiatives") that have a stated purpose of making it easier for innovative commercial companies to break into the defense market. In our 2020 Naval Postgraduate School paper, we assessed contract award data from fiscal year (FY) 2010 through FY2019 and determined that, rather than expanding the industrial base, these initiatives primarily benefit entrenched defense contractors. In this paper, we revisited the analysis of new versus existing DoW vendors, using updated datasets from the Federal Procurement Data System (FPDS) between FY2015 and FY2024. We determined that the DoW remains largely inaccessible for nonentrenched contractors, and the majority of first time vendors to the defense market do not purvey commercial technologies. In addition to quantitatively analyzing the types of companies that sell to the DoW, we discuss the underlying issues that have made the defense market so inhospitable towards new entrants. Finally, we offer a series of recommendations for how the DoW can better attract, engage, and retain innovative commercial companies.

Buying Flexibility: Converting Cost-Plus to Firm-Fixed-Price to Strengthen Mission Resilience

Presented by: Martin Jay Barlow, Senior Engineer Specialist, The Aerospace Corporation

The Department of War has long relied on cost-reimbursement (CP) contracts to manage technical uncertainty but continued use of cost-type instruments on mature, stable efforts impose unnecessary administrative burden, diffuses contractor accountability, and slows delivery of warfighting capability. This paper proposes a readiness-gate framework for determining when and how to convert CP contracts to firm-fixed-price (FFP) arrangements. Drawing on Federal Acquisition Regulation authorities, historical case studies from space and defense programs, Government Accountability Office assessments, and recent senior-leader direction to accept greater acquisition risk in order to reduce operational risk, the study defines eight readiness gates—including requirement maturity, configuration stability, cost-data transparency, and supply-chain robustness—and operationalizes them as go/no-go criteria. It develops five archetypal conversion pathways, ranging from progressive risk transfer through fixed-price incentive and economic-price-adjustment instruments to direct CP-to-FFP conversion for mature recurring work. A practitioner toolkit provides checklists, sample contract line-item structures, financing-method comparisons, and risk–benefit tradeoff analysis. The paper argues that disciplined, selective conversion improves cost discipline, reduces audit and compliance burden, and frees resources for mission-focused oversight—while cautioning that premature FFP conversion can increase price, default risk, and change-order costs.

PANEL #5 – HIGH-GROUND INNOVATION: SYNCHRONIZING AGILE DEVELOPMENT AND PRIVATE INVESTMENT IN SPACE

Wednesday, May 6, 2026, 1315 – 1430 ET (1015 - 1130 PT)

Panel Summary:

Maintaining military preeminence in the space domain requires a fundamental shift in how the Department of War acquires and integrates orbital capabilities. This panel explores the dual pillars of modern space acquisition: the implementation of agile, DevSecOps, and digital engineering processes to streamline system development, and the strategic alignment of private-sector defense products with National Security Space needs. By examining case studies in AI-enhanced systems engineering and the efficacy of U.S. Space Force planning, these researchers offer a roadmap for delivering mission-critical space capabilities at the speed of relevance.

Chair: Steven Butow, Director, Space Portfolio, Defense Innovation Unit (DIU), Office of the Secretary of War (OSW)

Discussant: Dr. Wenschel Deng Lan, Chair, Space Systems Academic Group, Naval Postgraduate School

Presenters:

Accelerating DoW Space-based Acquisition through the Implementation of Agile, DevSecOps and Digital Engineering Processes – *Michael Orosz, Research Director and Professor, University of Southern California Information Sciences Institute*

Aligning Defense Products to National Security Space Needs – *Andrew Berglund, Senior Analyst, Center for Space Policy and Strategy, The Aerospace Corporation*

Steven Butow—General Butow joined the team in 2015 as an early plank owner when DIU was known as the Defense Innovation Unit Experimental (DIUx). He initially served as West Coast Military Lead and helped establish the organization's operating locations in Silicon Valley, California; Boston, Massachusetts; and Austin, Texas. In 2016, he was selected as DIU's first Space Portfolio Director. Upon promotion to brigadier general, Butow continued this role at DIU as a DoD civilian.

General Butow continues to serve as the Commander of the California Air National Guard in a dual Title 10/32 status where he leads 4,900 Airmen assigned to five wings and a headquarters staff performing air, space and cyber operations as part of the Total Air Force. He commanded the 129th Rescue Wing at Moffett Field, CA, from 2011 to 2014.

General Butow's previous Title 10 leadership assignments include Deputy Director of the Joint Search and Rescue Center for U.S. Central Command in 2005, and as Chief of Personnel Recovery for U.S. Air Forces Central in 2007 supporting Operations IRAQI and ENDURING FREEDOM. Prior to joining DIU, Butow was the Vice Chief of the Joint Staff, California Military Department with responsibilities including cybersecurity, incident awareness and innovation. He has deployed ten times to support combat and contingency operations across Southwest Asia, the Middle East, the Horn of Africa and other global locations. General Butow has more than 3,500 flying hours in T-37, T-38, C-130, HC-130 and MC-130P aircraft.

Butow graduated from San Jose State University with a B.A. in Physics & Astronomy and earned a M.S. in Management with specialization in Air and Space Strategic Studies from the University of Maryland. He has also completed executive courses at Harvard's John F. Kennedy School of Government, and was a

member of the National Leadership Preparedness Initiative (NPLI) Cohort 16. Butow is a lifetime member of the Honor Society of Phi Kappa Phi for academic achievement.

As a researcher with the Search for Extraterrestrial Intelligence (SETI) Institute, Butow worked on instrument concepts for Mars surface soil analysis at NASA Ames Research Center in Mountain View, CA. He later served as co-principal investigator for a series of airborne science missions for which he was recognized for outstanding achievement and contributions to the Space Science Division in 1999 and received an Ames Honor Award as a member of an Astrobiology Mission Project Team in 2000.

Dr. Wenschel Deng Lan—is an Associate Research Professor at the Naval Postgraduate School in Monterey, California. A graduate of California Polytechnic State University, San Luis Obispo, she received Bachelor of Science and Master of Science degrees in aerospace engineering in 2008. At Cal Poly, she was on the team that launched the first CubeSats on both Russian and U.S. launch vehicles. Starting in 2007, she worked at the Rocket Systems Launch Program Engineering Center in San Bernardino as a mechanical engineer performing independent verification and validation for target and space vehicles. Lan returned to academia in 2010 to pursue a PhD in aerospace engineering at NPS. As a research associate in the Space Systems Academic Group, she continued research in enabling multi-manifest CubeSat launch opportunities. Recognized as a subject matter expert in aerospace structural analysis and dynamics, she has consulted for various projects in the CubeSat and space launch communities. After earning her PhD in 2015, Lan continues to lead research of national interest and educate U.S. military officer students in space systems engineering and operations at NPS. Her teaching and research focus areas include spacecraft and payload design, augmenting national capabilities with small satellites and near-space platforms, and space applications for emerging technologies.

Accelerating DoW Space-based Acquisition through the Implementation of Agile, DevSecOps and Digital Engineering Processes

Presented by: Michael Orosz, Research Director and Professor, University of Southern California Information Sciences Institute

Over the past nine years, using funding from the U.S. Air Force and the U.S. Space Force, System Engineering Research Center (SERC) researchers at the University of Southern California's Information Sciences Institute (USC/ISI) along with the active support and engagement of the USAF and USSF have undertaken a series of case studies focused on accelerating the Department of War's space systems acquisition process through the application of agile, DevSecOps, digital engineering and other advanced technologies such as AI.

The major focus of this research is discovering challenges and exploring solutions to managing process flow, resources and deliverables throughout the agile/DevSecOps system development process. Such challenges include managing dependencies on external and internal systems; supporting real-time continuous multi-system integration and testing; managing staff loading and specialties over the course of the program; adapting to new and changing capabilities; arranging operator engagement throughout the development process; and the availability, collection and analysis of performance metrics for improved situational awareness and real-time decision-making.

Several observations and lessons learned will be covered in this paper. In addition, this paper discusses lessons learned to date in employing AI as a systems engineering aid throughout the development and deployment cycle.

Aligning Defense Products to National Security Space Needs

Presented by: Andrew Berglund, Senior Analyst, Center for Space Policy and Strategy, The Aerospace Corporation

The U.S. defense acquisition system has struggled to keep pace with security threats and rapid technology change, despite decades of reform efforts to integrate commercial innovation in military systems. Traditional acquisition approaches with long development timelines tied to predetermined and static system requirements do not meet the urgency or speed that military leaders and political decision-makers demand. Powered by software-driven business models and private capital, a cohort of defense tech companies have developed new approaches to meet both military and commercial needs with dual-use products. However, military users will always require a set of capabilities that differ in important and substantive ways from what the commercial market is able to deliver. This gap has contributed to a small but important new segment of the defense industrial base, companies that self-fund development of military-specific systems and capabilities in anticipation of government demand and funding. If the U.S. Space Force correctly signals its future demand and adapts its processes to incentivize this approach, these defense product companies could play an important role in delivering future warfighting capabilities. This paper explores the factors that contributed to the emergence of defense product companies and some of the challenges and opportunities to scale this model.

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PANEL #6 – GUARDING THE MACHINE: PRESERVING HUMAN AGENCY AND MARKET INTEGRITY IN THE AI ERA

Wednesday, May 6, 2026, 1315 – 1430 ET (1015 - 1130 PT)

Panel Summary:

As the Department of War accelerates the adoption of emerging technologies, it faces a complex landscape where autonomous AI algorithms and transition barriers threaten to outpace traditional governance. This panel explores the critical intersection of market integrity and technology readiness, examining how AI-driven collusion in procurement auctions and the rise of "AI-to-AI" proposal ecosystems necessitate a renewed focus on meaningful human oversight. By introducing practical tools like the Technology Maturity Framework (TMaF), these researchers provide a roadmap for maintaining ethical discernment, accountability, and strategic trust while delivering advanced capabilities to the warfighter.

Chair: CAPT Michael Owen, USN, Vice Provost for Warfare Studies and Director, Naval Postgraduate School AI Task Force

Presenters:

Keeping Humans in Command: Preserving Human Agency in AI-Driven Federal Acquisition – *Adam Bouffard, The MITRE Corporation*

AI Collusion in Procurement Auctions – *Andrew Tai, Defense Resources Management Institute*

An Actionable Framework & Interactive Web Application for Transitioning Technology to the Warfighter: The Transition Maturity Framework (TMaF) and Tech2PEO/PAE – *Alex Cocco, MITRE*

CAPT Mike Owen—grew up in central Virginia and graduated with distinction from Virginia Tech in 1997 with a Bachelor of Science in Mechanical Engineering. He also holds a Master of Engineering Management from Old Dominion University and a Master of Arts in Government from Regent University. He is a Joint Qualified Officer and a qualified Joint Targeting Officer.

CAPT Owen began his career as a submarine officer with at-sea assignments in USS MINNEAPOLIS-ST PAUL and USS NORFOLK and as the Submarine Special Projects Officer on the COMUSNAVEUR staff in London, England. Following his re-designation to Naval Intelligence in 2005, his Intelligence assignments have included the Joint Transformation Command-Intelligence as the Head of the Intelligence Quick Reaction Team, SIO on USS KEARSARGE (LHD-3), Fleet Intelligence Officer at COMSUBLANT, N2 at Naval Special Warfare Group Four (NSWG-4), Director of Intelligence for COMSUBLANT and JFMCC-STRAT, and Director of Operations and Training for Naval Information Warfighting Development Center. Additionally, CAPT Owen deployed to Ramadi, Iraq in 2008 as the Deputy J2 for Task Force Ramadi as part of a team from the JFCOM Joint Enabling Capabilities Command (JECC).

CAPT Owen lives in Monterey, CA with his wife of 26 years, Carrie. They have two adult children, Devyn, 25, and Aiden, 22.

Keeping Humans in Command: Preserving Human Agency in AI-Driven Federal Acquisition

Presented by: Adam Bouffard, The MITRE Corporation

As artificial intelligence (AI) rapidly transforms government operations and private industry, the federal acquisition process faces a new paradox: the increasing use of AI to generate, evaluate, and award contract proposals. This convergence creates an "elephant in the room" scenario, where AI enabled procurement systems in government may ultimately review proposals drafted by AI tools in industry, potentially diminishing the role of human judgment in critical decision-making processes. While automation offers efficiency, consistency, and scalability, the absence of human oversight risks eroding accountability, fairness, ethical discernment, and institutional knowledge in the acquisition process.

This paper examines the dual-use evolution of AI in federal procurement, specifically how government acquisition offices are adopting AI-driven tools for market research, requirements generation, and proposal evaluation, while industry leverages similar technologies to optimize proposal writing and cost modeling. Drawing on guidance from America's AI Action Plan and other federal AI policy frameworks, this research identifies the core risks of an AI-to-AI procurement ecosystem: diminished transparency, amplified algorithmic bias, and the potential loss of critical human judgment in evaluating qualitative and context-sensitive factors.

The expected outcome of this research is a framework for preserving meaningful human oversight within AI-augmented acquisition environments. This includes recommendations for: (1) defining human-in-the-loop thresholds across acquisition phases; (2) establishing verification and audit mechanisms for AI-generated content; and (3) integrating AI literacy training for acquisition professionals.

By confronting the AI-to-AI dilemma directly, this study seeks to confirm that automation enhances, rather than replaces, the human expertise, ethical reasoning, and strategic judgment that underpin the integrity of federal acquisitions. The goal is a balanced approach where AI supports data-driven decision making, while humans remain the final arbiters of fairness, accountability, and mission alignment, preserving the essential role of human agency at the core of accelerating warfighting capabilities. This research directly aligns with the theme of this year's Naval Postgraduate School Acquisition Research Symposium, "Accelerating Warfighting Capabilities," by advancing an ethical and operational framework that confirms AI adoption strengthens, rather than undermines, the speed, trust, and integrity of defense acquisition.

AI Collusion in Procurement Auctions

Presented by: Andrew Tai, Defense Resources Management Institute

Auctions are an important format for defense procurement, historically accounting for at least $1 billion per year (DoD Inspector General, 2012; GAO, 2018). A common format is the reverse auction, in which potential sellers submit bids for a contract, and the buyer selects the lowest bid (Alper & Boning, 2003; Coughlan et al., 2008). This design is well-suited for small uniform contracts where price is the only dimension of choice; common applications include commodities and routine services.

However, this setting is also conducive to the application of AI bidding algorithms by sellers. Such algorithms generally seek to maximize profit for their owners. An obvious way to do this is to collude. AI algorithms for bidding introduces the possibility that competing algorithms collude to increase prices without explicitly communicating with each other.

I conduct simulations in a simplified environment to test this possibility. I find that Q-learning algorithms indeed converge to supra-competitive prices in reverse auctions, allowing firms to extract higher than competitive profit. The learned policies also suggest they sustain collusion by punishing competitors for deviations.

An Actionable Framework & Interactive Web Application for Transitioning Technology to the Warfighter: The Transition Maturity Framework (TMaF) and Tech2PEO/PAE

Presented by: Alex Cocco, MITRE Corporation

MITRE developed the Transition Maturity Framework (TMaF) and Tech2PEO/PAE in partnership with the Operational Energy-Innovation Directorate (OE-I) within the Office of the Under Secretary of War for Acquisition and Sustainment (OUSW(A&S)). The TMaF offers program managers a standardized means to evaluate, balance, and monitor transition maturity. For innovators, it provides actionable guidance to inform strategic resourcing/execution of critical activities needed to navigate transition. Starting with its FY25 call for proposals, OE-I fully integrated the TMaF into its proposal solicitation, selection, and execution management processes. As OE-I's FY25 cohort executes their projects, periodically reporting progress via TMaF assessments, they are creating a longitudinal, technology maturation data set. This TMaF data stands to be a key resource to inform decision-makers on how best to invest in maturing technologies to increase the likelihood of their successful transition to warfighters. As OE-I's TMaF rollout continues, it is working with MITRE to create complementary transition tools, such as Tech2PEO/PAE. Tech2PEO/PAE is designed to help innovators work through a common barrier to transition: identifying and connecting with a relevant program. Both the TMaF and Tech2PEO/PAE are available via MITRE's Acquisition in the Digital Age site at https://aida.mitre.org/tmaf.

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PANEL #7 – THE ARSENAL OF INNOVATION: REVITALIZING INDUSTRIAL SURGE AND MANUFACTURING SECURITY

Wednesday, May 6, 2026, 1315 – 1430 ET (1015 - 1130 PT)

Panel Summary:

Global deterrence and warfighting success depend on an industrial base capable of rapid mobilization and sustained production. This panel addresses the erosion of U.S. industrial might and explores frameworks to rebuild surge capacity through strategic government-industry collaboration. By examining the creation of a Manufacturing Security Program (ManuSP), analyzing high-stress case studies like the Civil Reserve Air Fleet, and investigating chronic underinvestment in critical sub-tier industries like aerospace gears, these researchers offer a roadmap to transition from fragile, just-in-time supply chains to a robust "Arsenal of Democracy" suited for modern peer competition.

Chair: Todd Lyons, Col USMC (Ret.), Vice President for the Naval Postgraduate School Alumni Association and Foundation

Presenters:

Connecting the Kill Chain to the Supply Chain: Building Industrial Surge Capacity – *Dr. John Matlik, Fellow at Northrop Grumman Aeronautics Systems*

Establishing a Manufacturing Security Program – *Katy Buda, Center for Strategic and International Studies (CSIS)*

The Gears of War: The State of the Aerospace Gear Industry and the Implications for Accelerating Acquisition – *LtCol Nathaniel L. Ross, USMC, PEO Air Anti-Submarine Warfare, Assault & Special Mission (PEO(A))*

Todd Lyons, Col USMC (Ret.)—Retired Colonel Todd Lyons serves as the Vice President for the Naval Postgraduate School Alumni Association and Foundation. In this role, he bridges the divide between industry, academia, and DoD entities to accelerate the responsiveness of NPS to the challenges arising from great power competition and emerging technology. Lyons also serves as a volunteer instructor for Innovation Leadership at NPS.

Lyons served in the Marine Corps for 30 years. In his last assignment, he served as the Senior Marine Representative and the Associate Dean of Research at the Naval Postgraduate School. In those roles, he connected the work of students and faculty to the operational challenges of the Marine Corps, the Navy, and the broader DoD. As an innovation leader, he leveraged the research at NPS and the operational experiences of the students to drive the adoption of new practices across the Naval Services.

After graduating from the Naval Postgraduate School in 2000, Lyons became a Middle East Foreign Area Officer and an Intelligence Officer with assignments at the Marine Corps Intelligence Activity and the Defense Intelligence Agency. Todd spent nine of his last eighteen years in the Marine Corps serving in a variety of assignments across the Middle East, including Qatar, Israel, Oman, and Iraq.

Lyons earned a Master of Arts with honors in National Security Affairs from the Naval Postgraduate School. He earned a Master of Science degree from the University of Haifa and was the Honor Graduate from the Israeli National Defense College in 2007. For his reporting during the Israeli withdrawal from Gaza in 2005, he received the Department of State Superior Honor Award. He received a second Superior Honor Award from the Department of State for his service in Oman from 2011-2014.

Lyons is married and has three daughters. He enjoys being active and keeping up with his family.

Connecting the Kill Chain to the Supply Chain: Building Industrial Surge Capacity

Presented by: Dr. John Matlik, Fellow at Northrop Grumman Aeronautics Systems

U.S. industrial might, once a decisive deterrent in the post–World War II era, has significantly eroded. Consolidation of the defense industrial base, offshoring of commercial manufacturing, and brittle just-in time supply chains have hollowed out our ability to deter or defeat peer adversaries. This research builds on scenario planning performed by the National Defense Industrial Association (NDIA) Surge Capacity working group. It develops a framework for actions and investments during peacetime for an industrial mobilization capability—one that is prudent to plan and hopefully never needed. The research examines quantification of demands for ordnance, spares and maintenance at combat utilization rates; resource strategies for building the needed industrial capacity for a prolonged conflict; acquisition strategies for pre-planned surge capacity; sustainment actions to maintain supply chain visibility; transition strategies that re-create an industrial mobilization board; and rapid response adaptation strategies for combat contingencies. A targeted literature review evaluates prior planning efforts, organizations and models dating back to the Cold War. The framework proposes courses of action suited to today's defense and commercial industrial base (including allies).

Establishing a Manufacturing Security Program

Presented by: Katy Buda, Center for Strategic and International Studies (CSIS)

The Department of Defense faces persistent challenges related to munitions production, including single source suppliers, reliance on foreign-sourced materials, limited surge capacity, and cybersecurity threats to defense industrial systems. These vulnerabilities compromise readiness and strategic deterrence while endangering the warfighter. This paper provides foundational research for the concept of a Manufacturing Security Program (ManuSP), a framework designed to ensure secure, scalable, and resilient domestic manufacturing of critical munitions. The paper analyzes seven case studies for their effectiveness in the following four components: 1) authorities and policies, 2) government-industry collaboration; 3) resources and contracting 4) and activation phases and utilization. The case studies focus on the following programs: the Voluntary Intermodal Sealift Agreement (and Maritime Security Program), the Voluntary Tanker Agreement (and Tanker Security Program), the "Voluntary Agreement, Manufacture and Distribution of Critical Healthcare Resources Necessary to Respond to a Pandemic," the Civil Reserve Air Fleet, the National Armaments Consortium, the Munitions Campus, and the Civil Reserve Manufacturing Network. They are scored as either "low," "medium," or "highly" effective. The following paper is a draft of the ongoing research project.

The Gears of War: The State of the Aerospace Gear Industry and the Implications for Accelerating Acquisition

Presented by: LtCol Nathaniel L. Ross, USMC, PEO Air Anti-Submarine Warfare, Assault & Special Mission (PEO(A))

Innovation is transformed into combat power through industrial capacity and production. Though much attention in Acquisition Reform centers on lowering barriers to entry for new entities and encouraging innovation and accountability for defense primes, these same primes are often paced by their sub-tier suppliers. This paper will explore how a subset of this supply base, namely aerospace gear and gear component manufacturers, illustrates the broader challenges of the defense acquisition enterprise. Chronic underinvestment from defense primes and national policymakers, coupled with recent inflationary trends, has created a supply base in this segment with flat or declining output and upward cost pressure. This paper will demonstrate, through exploration of United States Government Databases, that a buildup in the combat power required to defeat U.S. adversaries will be rate limited unless policy changes are made. Though the U.S. Government has tools to shore up supply chain capability, such as utilizing the Defense Production Act, these tools are often underutilized and/or too narrowly applied. Though the idiosyncrasies of the aerospace gear industry do not precisely generalize to the acquisition system as a whole, taking a finer, limited view of one aspect of the supply chain illustrates broader challenges and highlights the need to focused just as much on producibility as a catalyst for accelerating acquisitions.

PANEL #8 – WINNING THE COMPETITION: LEVERAGING ACQUISITION FOR STRATEGIC ADVANTAGE

Wednesday, May 6, 2026, 1445 – 1600 ET (1145 - 1300 PT)

Panel Summary:

In an era of intensifying great power competition, defensive readiness alone is insufficient. This panel introduces the paradigm-shifting concept of "Offensive Acquisition"—leveraging procurement processes to actively target adversary weaknesses and strategic asymmetries. By exploring the behavioral drivers behind successful acquisition acceleration in Norway and identifying transferable domestic innovations for U.S. Foreign Military Sales (FMS), these researchers demonstrate how individual expertise and agile methodologies can be weaponized to maintain global military preeminence.

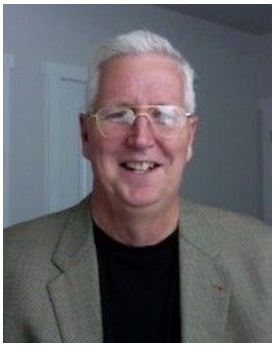
Chair: Dr. Dave Lewis, VADM USN (ret.), Professor of the Practice, Naval Postgraduate School, former Director of the Defense Contract Management Agency (DCMA)

Presenters:

From Policy to Practice: Drivers of Acquisition Reform – *Ane Ofstad Presterud, Norwegian Defence Research Establishment*

Offensive Acquisition: How Acquisition Processes Can Seize the Initiative in the US-China Competition – *Emily de La Bruyere, Horizon Advisory*

Defense Acquisition and Contracting Approaches: Implications for Foreign Military Sales *Jerry McGinn, Center for Strategic and International Studies (CSIS)*



Dr. Dave Lewis, VADM USN (ret.)—is a retired United States Navy Surface Warfare Officer and Engineering Duty Officer. He currently serves as a Professor of the Practice at the Naval Postgraduate School, Monterey, CA as an intermittent employee. He works full time in the Defense Industry.

His leadership assignments included duty as the Aegis Shipbuilding Program Manager, Program Executive Officer, Ships, Commander, Space and Naval Warfare Systems Command, and prior to his retirement, as Director of the Defense Contract Management Agency.

His afloat tours were in USS Spruance (DD-963), USS Biddle (CG-34) and USS Ticonderoga (CG-47), all in combat systems and communications assignments.

David Lewis earned bachelor's and master's degrees in computer science and a certificate of completion in Weapons Engineering. He recently completed his Ed.D in Leadership and Learning in Organizations. He is a graduate of the Naval War College, Vanderbilt Peabody College, the Naval Postgraduate School and the University of Nebraska.

He is a lifetime Member of the US Naval Institute, the American Society of Naval Engineers and the Surface Navy Association and has published several articles on shipbuilding and warship engineering topics.

From Policy to Practice: Drivers of Acquisition Reform

Presented by: Ane Ofstad Presterud, Norwegian Defence Research Establishment

The current geopolitical environment has intensified security concerns and increased pressure to deliver military capability rapidly. A persistent challenge has been the long timelines associated with defense acquisitions. In Norway, successive governments have sought to improve the effectiveness of defense acquisitions by promoting greater use of off the shelf solutions as the preferred acquisition strategy, rather than costly custom-developed solutions. Despite repeated policy signals, implementation remained limited for years. Recent evidence, however, indicates change, with a growing share of new acquisition projects adopting an off the shelf approach. This study examines what has driven this shift and what it can tell us about implementing acquisition policy more broadly. Drawing on policy implementation theory, we develop hypotheses about the conditions influencing the implementation of off the shelf policy. Empirically, we combine document analysis, previous research, and analysis of survey data. The findings align weakly with explanations based on changes in market conditions, governance structures, incentives, or policy communication. Instead, the observed change aligns more closely with shifts in the attitudes and perceptions of implementing actors. We argue that the policy has become more meaningful as its justification has shifted from a primary focus on cost efficiency toward enabling rapid build up of defense capability.

Offensive Acquisition: How Acquisition Processes Can Seize the Initiative in the US-China Competition

Presented by: Emily de La Bruyere, Horizon Advisory

The US and China are in a strategic, great power competition. This is widely accepted. But thus far, US modes of engagement have been defensive. In the acquisition space, for example, the United States has focused on shoring up supply chains and maintaining readiness. All are important efforts. However, great power competition also demands offense. The US can and should target PRC weaknesses – and use acquisition processes to do so.

This paper introduces the concept of offensive acquisition for the US-China great power competition. This paper will also develop a framework for operationalizing that concept in the current competitive environment, as well as specific actions and action types for doing so. The goal is to present an adversary-informed roadmap for leveraging acquisition processes to target strategic asymmetries in the US-China competition. Based on Chinese strategic orientation and capabilities, the framework advanced includes a) targeting Chinese dependencies (e.g., supply chain bottlenecks), b) encouraging competitive innovation (e.g., in areas of sensitivity for the PRC), and c) prioritizing these areas for accelerated warfighting capability across the War Department, Combatant Commands, and joint service.

Defense Acquisition and Contracting Approaches: Implications for Foreign Military Sales

Presented by: Jerry McGinn, Center for Strategic and International Studies (CSIS)

This paper examines how contracting structures shape the United States' Foreign Military Sales (FMS) system. It challenges explanations that attribute FMS inefficiencies to the limited use of acquisition "innovation pathways," such as Other Transaction Authority (OTA) or the Middle Tier of Acquisition (MTA), and instead argues that outcomes are better explained by established Federal Acquisition Regulation (FAR)-based contracting instruments. Using data from the Federal Procurement Data System (FPDS), the analysis compares FMS and non-FMS procurement across contract types, platform portfolios, vendor composition, and time trends.

The findings show that FMS contracting is concentrated in mature production and sustainment activities, dominated by Firm-Fixed-Price (FFP) contracts with limited but growing use of incentive-based structures. Indefinite Delivery/Indefinite Quantity (IDIQ) contracts play a supporting role, while Undefinitized Contract Actions (UCAs) remain marginal. Compared to domestic procurement, FMS relies more heavily on large contractors, reflecting both the scale and complexity of procured systems as well as institutional constraints such as pricing transparency and intergovernmental coordination.

Overall, the study reframes FMS as a constrained system in which performance is shaped less by new acquisition authorities and more by how conventional contracting tools are applied, highlighting opportunities for reform through improved implementation of existing mechanisms.

PANEL #9 – FUTURE-PROOFING THE LIFECYCLE: SILO-BUSTING THROUGH INTEGRATED DIGITAL MATURITY

Wednesday, May 6, 2026, 1445 – 1600 ET (1145 - 1300 PT)

Panel Summary:

Traditional, linear acquisition models struggle to keep pace with the volatile, interconnected nature of modern warfare. This panel introduces transformative frameworks designed to dismantle organizational silos and accelerate the delivery of mission-critical capabilities. From the "Quantum Acquisition" paradigm that reveals hidden interdependencies across complex architectures to AI-augmented "Human-in-the-Loop" systems that function as force multipliers for contracting officers, these research initiatives provide the tools necessary to operationalize the 2025 Acquisition Transformation Strategy. By blending advanced maturity modeling with real-time AI feedback, this panel offers a scalable roadmap for reducing procurement lead times while strengthening the strategic judgment of the acquisition workforce.

Chair: Rear Admiral Kurk Rothenhaus, USN, Commander, Naval Information Warfare Systems Command

Presenters:

Quantum Acquisition: A New Paradigm for Understanding the Interdependencies of Complex Networks in the Acquisition Life Cycle of Warfighting Systems – *Raymond Jones, Naval Postgraduate School*

AI-Infused Integrated Digital Maturity Pathway (IDMP) User-Story Framework for Defense Acquisition Transformation – *Darryl Draper-Amason, PhD, Old Dominion University*

Augmented Acquisition: Operationalizing Human-in-the-Loop AI to Accelerate Warfighting Capabilities – *Omar Haroun, Eudia*

Rear Admiral Kurk Rothenhaus, USN—is a native of New York City, New York. He received his commission in 1992 upon graduating from the University of South Carolina where he earned a Bachelor of Science degree. He also earned a Master of Science in Computer Science and a Ph.D. in Software Engineering from the Naval Postgraduate School, transferring to the Engineering Duty Officer community in 2003.

He assumed command of the Naval Information Warfare Systems Command (NAVWAR) in October of 2025. His previous flag assignments include Chief of Naval Research at the Office of Naval Research from June 2023, and Program Executive Officer, Command Control Computers Communications and Intelligence (PEO C4I) from May 2020.

He served as the Combat Systems/C5I officer on USS Harry S. Truman (CVN 75) and Chief Engineer on USS O'Brien (DD 975). Additionally, he served on the staff of Destroyer Squadron 15 embarked USS Kitty Hawk and on USS Fife (DD 991). He completed an Individual Augmentee tour in Baghdad, Iraq.

He completed numerous acquisition tours, including Program Manager for the Navy's Tactical Networks Program Office (PMW-160) and Commanding Officer of Space and Naval Warfare Systems Center Pacific. He also served as the Deputy Program Manager for the Navy Communications and GPS Program Office (PMW/A 170). Additionally, he served in various Assistant Program Manager roles in Command and Control, Battlespace Awareness, and Carrier Aviation Integration.

Quantum Acquisition: A New Paradigm for Understanding the Interdependencies of Complex Networks in the Acquisition Life Cycle of Warfighting Systems

Presented by: Raymond Jones, Naval Postgraduate School

Defense acquisition programs continue to struggle with persistent cost overruns, schedule delays, and capabilities that fail to align with rapidly evolving threats. Traditional "Newtonian" linear models treat requirements, design, budgeting, and operations as semi-isolated domains, failing to capture the non-deterministic and highly interdependent nature of modern systems development. This paper introduces Quantum Acquisition, a metaphorical framework grounded in quantum mechanics, graph theory, and Bayesian inference. It models the defense acquisition life cycle as an entangled network of four architectural layers: system architecture, business/acquisition process architecture, Doctrine, Organization, Training, Materiel, Leadership and Education, Personnel, and Facilities (DOTMLPF), and the operational threat network. By viewing programs as probabilistic "acquisition probability clouds" rather than fixed paths, the framework highlights superposition of options, entanglement across layers, and the observer effect of premature measurement. A "Twin-Track" experimental methodology is proposed for validation, supported by practical guidance using graph databases and artificial intelligence (AI)-enabled simulations. Quantum Acquisition challenges traditional cost-centric methods such as Earned Value Management (EVM) by shifting toward a predictive, value-centric approach. Ultimately, it offers a pathway to reduce structural volatility, accelerate delivery of minimum viable products (MVPs), and improve operational relevance in complex, contested environments.

AI-Infused Integrated Digital Maturity Pathway (IDMP) User-Story Framework for Defense Acquisition Transformation

Presented by: Darryl Draper-Amason, PhD, Old Dominion University

The 2025 Acquisition Transformation Strategy requires the Department of War to adopt faster, mission-centric, and data-enabled acquisition methods that strengthen both acquisition and mission readiness. This paper presents preliminary findings from an ongoing R&E through Systems Engineering Research Center (SERC) funded project, led by the Center for Mission Engineering at Old Dominion University, to advance this mandate using an AI-infused Integrated Digital Maturity Pathway (IDMP) User-Story Framework. The project engages government and industry stakeholders including acquisition executives, program managers, engineers, and industrial base partners through structured workshops to surface operational challenges, identify capability gaps, and develop user stories reflecting real decision needs. An AI/ML component explores how pattern detection and machine reasoning enhance user-story analysis, maturity assessment, and readiness scoring. A targeted survey supplements workshop data, capturing perspectives on readiness barriers, decision bottlenecks, workforce needs, and digital transformation opportunities. Expected findings include a validated set of acquisition executive user stories aligned with the strategy, evidence that AI-enabled analytics improve clarity and decision value, an enhanced IDMP maturity model, and a scalable, practitioner-ready method for translating policy objectives into actionable, mission-focused acquisition decisions.

Augmented Acquisition: Operationalizing Human-in-the-Loop AI to Accelerate Warfighting Capabilities

Presented by: Omar Haroun, Eudia

Contracting officers are the backbone of delivering mission-critical advantages to the warfighter, responsible for navigating thousands of pages of regulatory guidance across the Federal Acquisition Regulation (FAR) and its sub-regulatory supplements while producing accurate, defensible, and timely acquisition packages. Beyond regulatory complexity, contracting professionals must manage massive volumes of contract data across the enterprise and at the squadron level while often simultaneously operating across multiple disconnected systems to accomplish a single task. The acquisition process itself spans numerous stages, from requirements development through pre-solicitation, solicitation, pre-award, and award, each with distinct documentation and compliance demands.

Compounding these challenges, requirement owners frequently delay timelines of critical acquisitions due to poorly defined or incomplete requirements, a key area where AI can provide meaningful augmentation. As the Department of War accelerates efforts to deliver warfighting capability

at the speed of relevance, the acquisition workforce faces mounting pressure to reduce Procurement Acquisition Lead Time (PALT) without sacrificing compliance or accountability. The leading approach to address these challenges with cutting-edge AI technology is to combine human input with artificial intelligence to significantly enhance the productivity of high-performing personnel.

This paper investigates an alternative paradigm: human-centered AI that augments contracting officer judgment rather than replacing it. The proposed approach positions AI as a copilot that reviews, validates, and enhances human-generated content in real time, enabling acquisition professionals to reach their maximum capacity for production while retaining full ownership of every decision. Our research is grounded in an active research and development (R&D) contract with the 39th Contracting Squadron (39 CONS) at Incirlik Air Base, where Eudia is developing and evaluating an augmented acquisition capability comprising three integrated applications: Insights, Sigma, and Augmented Contract Review (ACR). The system reviews human-generated acquisition documents against structured training data drawn from the FAR, DFARS, DAFFARS, internal policy, and historical contract files, providing clear citations, plain language explanations of regulatory risks, and structured feedback that strengthens document quality and compliance confidence.

Through testing, we estimate PALT reductions varying by acquisition type—with simpler actions such as Simplified Acquisition Procedures under $250,000 showing different improvement rates than complex Source Selection efforts. Preliminary findings indicate that human-in-the-loop AI reduces document error rates, accelerates regulatory review, and supports workforce development by reinforcing training concepts and surfacing relevant guidance for junior personnel. This research contributes to the symposium's focus on accelerating warfighting capability by demonstrating that the fastest path to contract award is not replacing human judgment but amplifying it.

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PANEL #10 – EMPOWERING THE PROFESSIONAL: SHAPING THE FUTURE OF ACQUISITION TALENT

Wednesday, May 6, 2026, 1445 – 1600 ET (1145 - 1300 PT)

Panel Summary:

The success of any acquisition reform is fundamentally tied to the caliber and readiness of the professionals executing it. This executive panel brings together the Service Directors of Acquisition Career and Talent Management to discuss the strategic development of the Department's most critical asset: its people. By highlighting cross-service initiatives in education, credentialing, and certification, these leaders will explore how to synchronize efforts to build a modern workforce capable of accelerating warfighting capabilities in a complex global environment.

Chair: Bob Marion, LTG USA, (ret.), Professor of the Practice, Naval Postgraduate School; former Military Deputy, Assistant Secretary of the Army, Acquisition, Logistics and Technology (ASA ALT)

Panelists:

Army Acquisition Career Management – *Ronald R. Richardson, Jr., Director, U.S. Army Acquisition Support Center and DACM*

Navy Acquisition Talent Management – *Renee King, Acting U.S. Navy Director, Acquisition Talent Management (DATM)*

Air Force Acquisition Career Excellence – *Ruben Rios, U.S. Air Force Director, Acquisition Career Management (DACM)*

4th Estate Acquisition Workforce Integration – *Michelle Trigg, 4th Estate Director, Acquisition Career Management (DACM)*

Bob Marion, LTG USA, (ret.)—LTG Bob Marion began his career in the Acquisition Corps as an Assignment Officer in the Acquisition Management Branch, U.S. Army Personnel Command. He later served as the Assistant Project Manager (APM) for UH-60 Black Hawk A/L Production and Fielding, Utility Helicopter Project Office (UHPO), Aviation and Missile Command (AMCOM). He was then assigned to establish the Product Manager's (PdM's) Office for Black Hawk Modernization (UH-60M), UHPO, AMCOM, and served as the Acting PdM.

LTG Marion served as the Chief, Acquisition Management Branch in the Officer Personnel Management Directorate of the Army Human Resources Command and then deployed as the Assistant Secretary of the Army (Acquisition, Logistics and Technology) (ASA (ALT)) Forward Representative for the Deputy Assistant Secretary of the Army-Procurement. After changing command, LTG Marion served as the Assistant Deputy for Acquisition and Systems Management in ASA(ALT). He later served as the Program Executive Officer for Aviation until assigned as the Deputy for Acquisition and Systems Management, ASA(ALT). LTG Marion then deployed and served as the Deputy Commanding General for the Combined Security Transition Command - Afghanistan. He currently serves as the Principal Military Deputy to the ASA(ALT) and Director of the Army Acquisition Corps.

LTG Marion is a graduate of the Aviation Officer Basic and Advanced Courses, the Combined Arms Staff Services School, the Air Command and Staff College, and the Air War College. He also graduated from the Defense Acquisition University's Program Manager and Executive Program Management Courses. He earned a Master of Business Administration from George Mason University, a Master of Military Operational Art and Science and a Master of Science in Strategic Studies, both from the U.S. Air Force's Air University. He holds a Bachelor of Science in Labor Relations from the University of South Alabama.

His military awards and decorations include the Senior Aviator Badge, the Air Assault Badge, the Defense Superior Service Medal, the Legion of Merit, the Defense Meritorious Service Medal (1OLC), the Meritorious Service Medal (4OLC), the Army Commendation Medal, the Army Achievement Medal (3OLC), the National Defense Service Medal, the Global War on Terrorism Expeditionary Medal, the Global War on Terrorism Service Medal, the Korea Defense Service Medal, the Army Service Ribbon, the Overseas Service Medal, the Afghanistan Campaign Medal, the NATO Medal, and the German Armed Forces Badge for Military Proficiency.

Ronald R. Richardson, Jr.— currently serves as the Director of the U.S. Army Acquisition Support Center (USAASC). In this role, he oversees the Army Acquisition Workforce (AAW) and supports the Army's Capability Program Executives in the areas of human resources, resource management, program structure, acquisition information management and program protection.

Mr. Richardson has over 30 years of medical, information and weapon system acquisition experience as both an Army civilian and a U.S. Army officer. Before coming to USAASC, he served as the Director of Acquisition and Operations for Program Executive Office (PEO) Soldier. Prior to joining PEO Soldier, he was the Deputy Project Manager for the DOD Healthcare Management System Modernization (DHMSM®) Program, a $14B Major Automated Information System (MAIS) acquisition to replace the legacy Military Health System (MHS) Electronic Health Record (EHR) with an off-the-shelf (OS) system now known as MHS GENESIS. Before that, he was the Product Lead for Increment 3 of the Integrated Electronic Health Record (iEHR) Program in the DOD/Department of Veterans Affairs Interagency Program Office (IPO). Prior to joining the DOD/VA IPO, he served as the Director of Acquisition Review and Analysis for the Office of the Assistant Secretary of the Army, Acquisition, Logistics and Technology (ASA(ALT)). Before joining ASA(ALT), Mr. Richardson served in a multitude of Military, Civilian and Private Sector positions culminating in his selection for Senior Service College.

Mr. Richardson received his M.S. in Biomedical Engineering from Duke University, and his M.S. in National Resource Strategy from the Industrial College of the Armed Forces. He is also a graduate of the U.S. Army Command and General Staff College. He is the recipient of the Superior Civilian Service Medal (3), the Meritorious Civilian Service Medal (2), the Civilian Service Achievement Medal, the Army Staff Identification Badge and the Order of Military Medical Merit (O2M3). Mr. Richardson also holds multiple professional memberships and certifications, including Advanced Defense Acquisition Workforce Improvement Act (DAWIA) Certification in Program Management (previously Level III) and previous membership in the Army Acquisition Corps.

Ms. Renee King— is the Director, Acquisition Talent Management office under the Assistant Secretary of the Navy Research, Development and Acquisition (ASN RDA). Ms. King assumed this role in March 2024. In this role, she leads and synchronizes a staff of ten action officers and contractors, who support the Navy's 54,000-member Acquisition Workforce and the leadership and developmental programs and initiatives that enhance the capabilities of the Navy Warfighter.

In 2021, Ms. King competed and was selected to participate in the Naval Sea Systems Command (NAVSEA) Commander's Executive Fellows (CEFP) program as part of Cadre VII. This distinguished leadership initiative provided her with the chance to assist multiple commands, including the Program Executive Office (PEO) Ships, United States Fleet Forces Command, the NAVSEA Transformation Office (NTO), the Shipyard Infrastructure Optimization Program (SIOP) and Industrial Operations in various roles from an Acquisition Program Manager (APM) to Chief of Staff.

Prior to her selection into CEFP, Ms. Renee King served as the Director for the NAVSEA Acquisition Workforce Program Office in SEA 10. Ms. King led three enterprise-wide programs, the Defense Acquisition Workforce Development Account (DAWDA), the Defense Acquisition Workforce Improvement Act (DAWIA) Program and the Naval Acquisition Development Program (NADP). These programs

collectively supported more than 20,000 Acquisition Workforce members, funded approximately $18M in incentives and training to those employees (annually), and created a pipeline of more than 400 NADP Interns and Professionals to NAVSEA' s acquisition workforce. In September 2016, Ms. King graduated from the NAVSEA Journey Level Leader (JLL) Program, in which her 90- day rotation supported Surface Maintenance Engineering Planning Programs (SURFMEPP) Third Party Planning division, engaging in the technical management of three major contracts.

Ms. King particularly enjoyed her role at Trident Technical College, supporting veterans, as she is a United States Marine Corps veteran herself. She continues to support and volunteer her time with veterans and veterans-based programs. Ms. King is an active member of the Women Marines Association (WMA), Federally Employed Women (FEW), and Blacks In Government (BIG). Ms. King holds a Bachelor of Science degree in Business Management from Park University and is currently pursuing a master's degree in organizational leadership from Southern New Hampshire University.

Mr. Ruben Rios—is the Director of Acquisition Career Management Directorate, Assistant Secretary of the Air Force for Acquisition, Technology, and Logistics (SAF/AQH). Mr. Rios is responsible for the integrated management of the acquisition workforce across all functional areas. He provides acquisition human resources policy and strategic planning while managing the training and development of civilian and military acquisition personnel across the department's acquisition enterprise. Mr. Rios is also designated as the Career Field Manager for both military and civilian Scientists, Engineers, and Acquisition Program Managers. His team also provides personnel management services to the SAF/AQ Headquarters Staff and is the Department of the Air Force's Acquisition Demo Program Management Office.

Mr. Rios was an active-duty Air Force officer for 21 years, before retiring in 2010. He was commissioned through the Air Force ROTC program in 1988, after graduating with a bachelor's in mechanical engineering from the New Jersey Institute of Technology. His career in the DAF includes assignments within various System Program Offices, executing the roles of ground systems engineer for the Defense Satellite Program Mobile Ground Terminal System, flight test director for the E-767 Japanese AWACS, and Chief of Modeling & Simulation/Test for the E-10A/MP-RTIP program. His operational assignments include weapons controller/director, and later, senior director with the 963rd Airborne Warning and Control System (E-3 AWACS) Squadron. During his tenure with the 963rd , he participated in the closing phase of Operation Desert Storm, as well as numerous other deployments supporting operations Southern/Northern Watch, Provide Comfort, and Uphold Democracy.

His staff assignments include tours at HQ PACAF, where he served as a Pol-Mil officer and as an Action Officer in PACAF's Commander's Action Group. He served various tours at Air Staff, including, Branch Chief for Financial Execution/Budgeting within the Deputy Assistant Secretary of the Air Force for Acquisition Integration (SAF/AQX) and Deputy Division Chief for Program Integration with the Global Power Directorate (SAF/AQP). While at Air Staff, he was deployed to Islamabad Pakistan in support of Operation Enduring Freedom and was the Chief of Staff for the Office of the U.S Defense Rep. to Pakistan. Upon his return from Pakistan, he was selected to command the 364th Air Force Recruiting Squadron. In 2009, he returned for a second assignment with Air Staff, and assumed the position of Dep Chief, Program Integration Div., of the Global Power Directorate (SAF/AQP) before retiring.

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PANEL #11 – OPPORTUNITIES AND CONSIDERATIONS FOR ACQUISITION IN THE SECURITY COOPERATION SPACE

Wednesday, May 6, 2026, 1615 – 1730 ET (1315 - 1430 PT)

Panel Summary:

As the Department of War (DOW) implements its new Acquisition Transformation Strategy, the mission space of security cooperation is undergoing a fundamental shift to enhance global deterrence. This panel explores the critical integration of allies and partners into the U.S. defense enterprise, addressing long-standing hurdles in Foreign Military Sales (FMS) and technology transfer. By examining new frameworks for consolidating global demand signals, leveraging allied R&D, and opening pathways for non-traditional and commercial technologies, these researchers provide a roadmap for building a more resilient, responsive, and collaborative international industrial base.

Chair: Alan G. Gorowitz, Senior Strategy Advisor, Defense Security Cooperation Agency (DSCA)

Presenters:

Opportunities for the DOW to Leverage Allies and Partners to Support Acquisition in the U.S. Defense Industrial Base – *Dr. Jennifer Moroney, RAND Corporation*

Total Demand: Integrating Foreign Military Sales and Domestic Acquisition to Fortify the Defense Industrial Base and Strengthen Alliances – *Aidan Winn and Jennifer Moroney, RAND Corporation*

Embracing Non-Traditional Solutions: Evolving Security Cooperation for the Modern Threat Environment – *Jarrett Lane, Institute for Defense Analyses (IDA)*

Alan G. Gorowitz—serves as Senior Strategy Advisor, providing analysis and recommendations regarding the DoD security cooperation enterprise in the context of DoD strategy, future scenarios, and emerging trends. He serves as a Senior Leader, supporting the Defense Security Cooperation Agency (DSCA) leadership team.

Mr. Gorowitz has served for over 20 years in the Department of Defense security cooperation community. He began his Department of Defense career in 2000 at the George C. Marshall European Center for Security Studies in Germany, supporting partner defense reform and strategy development through advising, conferences and seminars, and national security professional networks. Returning to the U.S. in 2007, he served in the Office of the Secretary of Defense (Policy) for over ten years providing policy advice and oversight including assignments as Director, Counterterrorism Partnerships; Chief of Staff and Director, Partnership Policy and Strategy; and Domestic Terrorism and Cyber Threat Information Sharing Coordinator. In 2017, he was detailed from Policy to DSCA to stand up a Planning and Program Design team.

He joined DSCA in 2018 as Assistant Director for Strategy, Plans, and Policy (SPP), facilitating strategic planning, leading security cooperation administration and execution policy, and promoting comprehensive security cooperation planning and program design.

Prior to Federal Service, Mr. Gorowitz served at the Center for International Strategy, Technology, and Policy (CISTP), Sam Nunn School of International Affairs, Georgia Institute of Technology.

Mr. Gorowitz is a graduate of the National War College. His awards include the Office of the Secretary of Defense Award for Exceptional Service (3), the OSD Achievement Award, and the Department of the Army Award for Superior Civilian Service.

Opportunities for the DOW to Leverage Allies and Partners to Support Acquisition in the U.S. Defense Industrial Base

Presented by: Dr. Jennifer Moroney, RAND Corporation

The transition of DSCA and DTSA to OSW A&S is intended to address long-standing concerns that the FMS/DCS system is bloated and sluggish, often delivering defense products to partners and allies far too slowly. The transition is expected to support FMS and DCS reform by linking these processes, systems, and personnel more directly to DOW acquisition strategy. Keeping in mind that Security Cooperation is more than defense sales introduces the prospect of reaping additional benefits from this transition, pertaining to increasing burden sharing with key partners and allies and building more resilient supply chains that include allied and partner investments. This paper will identify and unpack opportunities that might otherwise be overlooked. For example, bringing together FMS/DCS Title 22 activities and international armaments cooperation under Title 10 (to include co-design/development/production/sustainment) could generate cases (that is, product transfer to allies and partners) that share aspects of both sales and R&D. The new FMS/DCS system could be designed to better enable this kind of hybrid case as well as other new ways to simultaneously meet US and allied needs in support of the warfighter. There are already a few examples of such hybrid cases, which this paper will analyze to generate potential lessons. Taking a step further, the new FMS/DCS system could also identify avenues to import innovative capabilities from allies and partners in a way that directly supports the DIBs of both the US and its allies and partners. The paper will integrate insights from a recent RAND publication on Exploring the "Optimal Pathway" to AUKUS Pillar II Success, which has specific lessons and best practices that can inform these changes.

Total Demand: Integrating Foreign Military Sales and Domestic Acquisition to Fortify the Defense Industrial Base and Strengthen Alliances

Presented by: Aidan Winn, RAND Corporation

This paper examines the historical structural separation between U.S. domestic defense acquisition and foreign military sales (FMS) and its impact on the defense industrial base. Traditionally, domestic procurement has been planned through internal Department of War processes, while allied demand is generated through partner-initiated FMS requests, resulting in fragmented and reactive demand signals for industry. As allied procurement has become an increasingly significant share of total demand, this bifurcated system has contributed to production instability, supply chain fragility, and delayed capability delivery.

To address these challenges, the paper proposes a "Total Demand" framework that integrates domestic and allied procurement into a unified planning construct. Leveraging advances in artificial intelligence and data analytics, this approach aggregates data from program planning, partner requests, readiness indicators, and industrial capacity to generate predictive demand forecasts. The analysis demonstrates how integrated demand signals can stabilize production, enable economies of scale, and strengthen supply chain resilience.

The paper concludes that adopting a Total Demand framework would enhance industrial readiness, improve the efficiency of defense exports, and reinforce alliance interoperability, positioning the United States to better support coalition operations in an era of strategic competition.

Embracing Non-Traditional Solutions: Evolving Security Cooperation for the Modern Threat Environment

Presented by: Jarrett Lane - Institute for Defense Analyses (IDA)

Advancing burden-sharing and enhancing the resilience among partners requires the security cooperation enterprise to open the aperture to a wider array of technologies and solutions. The security cooperation enterprise's near-exclusive reliance on "traditional" solutions covered by programs of record to build partner nation capabilities under-values the criticality of commercial technologies in modern warfighting. Further, neo-primes and early-stage defense technology companies are rapidly developing new military-unique technologies that may not become a program of record but could prove useful to allies and partners.

The increasingly perilous threat environment, compounded by the pace of technological change, means the security cooperation enterprise must accelerate efforts to help partners acquire non-program of record solutions. As the security cooperation enterprise undergoes significant changes (i.e., Defense Security Cooperation Agency's realignment to the Undersecretary of War for Acquisition & Sustainment) now is an opportune time to evolve the Department's approach to security cooperation to leverage these defense technology opportunities.

There are some practical steps that the Department could take immediately. For example, organizations steeped in commercial technology and innovation (e.g., the Defense Innovation Unit) should be formally incorporated into the security cooperation enterprise and resourced to support security cooperation initiatives. However, bolder steps to create entirely new acquisition pathways for allies and partners should also be considered.

Authorities could be revised to allow foreign military financing to be used by all allies and partners to procure certain technologies through direct commercial contracts. Marketplaces of vetted, trusted technologies would allow allies and partners to more quickly acquire new capabilities. Adopting a portfolio-like approaches to aligning partner nation requirements with technical expertise resident in the Foreign Area Officer community could also enable security cooperation organizations to more effectively identify and implement solutions for partner nations.

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PANEL #12 – BEYOND THE LINEAR BARRIER: DATA-DRIVEN STRATEGIES FOR ACCELERATED ACQUISITION

Wednesday, May 6, 2026, 1615 – 1730 ET (1315 - 1430 PT)

Panel Summary:

As threats and technology evolve at an unprecedented pace, the traditional linear acquisition model is being challenged by a global push for speed and iterative innovation. This panel provides a data-driven examination of recent progress in reducing cycle times, contrasting statistically significant improvements in Major Defense Acquisition Programs (MDAPs) with persistent structural inefficiencies identified by the Government Accountability Office (GAO). By analyzing leading product development practices and a proposed "Korean-style" rapid acquisition model, these researchers offer a roadmap for institutionalizing speed and ensuring that newer programs are structured for immediate operational impact.

Chair: Major General Christopher D. Schneider, USA, Deputy for Acquisition and Systems Management, ASA (ALT)

Presenters:

A Study on Establishing a Rapid Acquisition Process for the Military Application of Advanced Commercial Technologies in Korea – *Prof. JANG, Won Joon, Jeonbuk National University, South Korea*

Recent Improvements in Acquisition Speed to Initial Operational Capability – *Dr. Philip S. Anton, Stevens Institute of Technology*

Weapon Systems Annual Assessment: DOD Leaders Should Ensure That Newer Programs Are Structured for Speed and Innovation – *Erin Carson, U.S. Government Accountability Office (GAO)*

Major General Christopher D. Schneider, USA— received his commission an Infantry Officer from the United States Military Academy in 1994. His tactical assignments include: Rifle and Reconnaissance Platoon Leader, Headquarters and Headquarters Company Executive Officer, and Battalion Assistant S-3, 1st Infantry Division; Assistant G-3 Training Officer for XVIII Airborne Corps; Airborne Rifle Company Commander and an Airborne Headquarters and Headquarters Company Commander in 3-325 A.I.R, 82d Airborne Division; and Ranger Assistant Operations Officer, 75th Ranger Regiment. He has multiple operational/combat deployments to Bosnia-Herzegovina, Iraq, and Afghanistan.

In 2005, Major General Schneider entered the Acquisition Corp and served in numerous assignments to include: (LTC/COL) Assignment Officer in the Human Resources Command, Alexandria, Virginia; Product Manager for Soldier Maneuver Sensors in PEO Soldier; Branch Chief for the Acquisition Branch in the Human Resources Command; Military Assistant to the Assistant Secretary of Defense for Acquisition; Project Manager for Soldier Sensors and Lasers and as the Assistant Program Executive Officer (APEO) for Futures and Integration in PEO Soldier. Project Manager for the Integrated Visual Augmentation System, a Rapid Prototyping initiative in PEO Solider. He recently served as the Deputy for Acquisition and Systems Management, Office of the Assistant Secretary of the Army (Acquisition, Logistics and Technology).

Major General Schneider's military education includes the Infantry Officer Basic Course, Ranger School, Air Assault School, Bradley Leader Course, Scout Platoon Leader Course, Jumpmaster Course, Armor Officer Advanced Course, Combined Arms and Services Staff School, the Army Acquisition Basic Course, U.S. Army Command & General Staff College, and the National Defense University. Major General Schneider has received a B.S. in Mechanical Engineering from the United States Military Academy, a

M.B.A. from Liberty University, and a M.S. in National Resourcing and Strategy from the Eisenhower School.

His awards and decorations include the Defense Superior Service Medal, Legion of Merit, Bronze Star Medal, Meritorious Service Medal with four oak leaf clusters, Joint Commendation Medal, Army Commendation Medal with oak leaf cluster, Army Achievement Medal with two oak leaf clusters, National Defense Service Medal, Armed Forces Expeditionary Medal, Afghanistan Service Medal, Iraq Service Medal, Valorous Unit and Superior Unit Award, Senior Parachutist Badge, German Parachutist Badge, Ranger Tab, Air Assault Badge, Expert Infantryman Badge, and Combat Infantryman Badge.

Major General Schneider is a native of Louisville, Kentucky, and is married to COL Maria Schneider, an Army Acquisition Officer and native of Miami, Florida. They have three children: Michelle, Jacob, and Luke.

A Study on Establishing a Rapid Acquisition Process for the Military Application of Advanced Commercial Technologies in Korea

Presented by: Won Joon Jang, Jeonbuk National University, South Korea

This study proposes a new rapid acquisition procedure for the swift military application of advanced commercial technologies in Korea, reflecting the growing global trend of accelerating the integration of cutting-edge commercial innovations into defense systems. To this end, the research examines and analyzes the institutional frameworks and practical cases of rapid military adoption in leading countries—including the United States, Israel, and Ukraine—to identify key success factors, best practices, and limitations. In particular, a nationwide survey of experts from Korean industry, academia, research institutes, and the military was conducted to assess the shortcomings of Korea's traditional weapon acquisition processes and derive a rapid acquisition model tailored to the Korean context. Based on these findings, the study presents actionable Korean style rapid acquisition process, policy and institutional recommendations that can enhance Korea's ability to accelerate the defense adoption of advanced civilian technologies to a level comparable with leading global defense nations.

Recent Improvements in Acquisition Speed to Initial Operational Capability

Presented by: Philip S. Anton, Stevens Institute of Technology

Threats and technology are changing at a faster pace, so defense acquisition needs to respond quickly to meet warfighter and operator needs. With emphasis on speeding acquisition, has delivery of initial capabilities gotten faster? Analysis of the time between formal initiation of Major Defense Acquisition Programs (MDAPs) at Milestone (MS) B or C to achieved Initial Operating Capability (IOC) found statistically significant reductions since 2010. Using Selected Acquisition Report (SAR) and Modernized SAR (MSAR) schedule data, analysis found that MDAPs initiated at MS B since January 2010 took an average of 5.6 years compared to 8.7 years before 2010. MDAPs that initiated at MS C (i.e., using relatively mature technology and thus skipping MS B—a best practice for speed) reached IOC in an average of 3.5 years overall with no statistical difference before or since 2010. Combining these cases, programs started at either MS B or C since January 2010 took an average of 5.1 years compared to 8.1 years before 2010. While some caution is warranted given the relatively low population sizes, these results indicate that the Warfighting Acquisition System has made statistically significant progress in speeding initial capabilities to the warfighter.

Weapon Systems Annual Assessment: DOD Leaders Should Ensure That Newer Programs Are Structured for Speed and Innovation

Presented by: Erin Carson, U.S. Government Accountability Office (GAO)

Despite recent reforms, the Department of Defense (DOD) remains plagued by escalating costs, prolonged development cycles, and structural inefficiencies that impede its ability to acquire and deploy innovative technologies with speed. GAO found that DOD plans to invest nearly $2.4 trillion to develop and acquire its costliest weapon programs. Yet the average expected time for major defense acquisition programs to provide the warfighter with even an initial capability is almost 12 years from the program's start—a time frame incompatible with meeting emerging threats. DOD remains deeply entrenched in a traditional linear acquisition structure--characterized by rigid, sequential processes—that has proven inadequate in adapting to evolving threats and integrating emerging innovation. In a linear acquisition, the cost, schedule, and performance baselines are fixed early. Thus, programs develop weapon systems to meet fixed requirements that were set years in advance. This approach risks delivering a system—sometimes decades later—that is already obsolete. In contrast, leading companies use iterative cycles to design, validate, and deliver complex products with speed. Activities in these iterative cycles often overlap as the design undergoes continuous user engagement and testing, which allows the product to get to market quickly. This presentation discusses findings from GAO's 23rd annual weapon system assessment, including characteristics and performance of 106 of DOD's costliest weapon programs and findings from selected programs' implementation of leading practices for product development, as well as modern software and cybersecurity practices.

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PANEL #13 – FROM DEMO TO DETERRENCE: ACCELERATING SURGE CAPACITY AND FLEET INTEGRATION

Wednesday, May 6, 2026, 1615 – 1730 ET (1315 - 1430 PT)

Panel Summary:

Success in modern strategic competition is determined by the ability to shape the environment before conflict and adapt at the speed of battle. This panel explores breakthrough frameworks for enhancing warfighting readiness through adaptive contracting, advanced manufacturing for legacy munitions, and the rapid 30-day fielding of critical maintenance technologies. By integrating AI-enabled infrastructure investment tools with high-level advocacy and creative transition authorities, these research initiatives provide a blueprint for overcoming programmatic barriers and delivering resilient, integrated capabilities to the fleet.

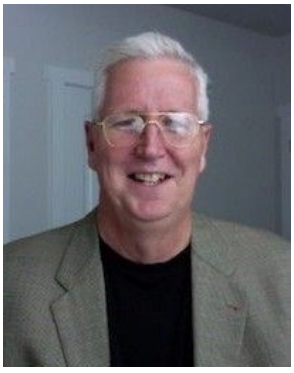
Chair: Dr. Dave Lewis, VADM USN (ret.), Professor of the Practice, Naval Postgraduate School, former Director of the Defense Contract Management Agency (DCMA)

Presenters:

Pathfinding Innovation for Legacy Munitions – *Gregory Sanders, Joint Production Accelerator Cell (JPAC)*

Generating Adaptive Capability from Constraints: Aligning Operational Dependency, Requirements, and Competitive Procurement to Sustain Advantage in Maritime Expeditionary Operations – *Lieutenant Commander Adam Pierce, Navy Expeditionary Warfighting Development Center*

Demo to Deployment in 30 Days: The ARMS Case Study – *Matthew Cole, Naval Surface Warfare Center, Port Hueneme Division*



Dr. Dave Lewis, VADM USN (ret.)—is a retired United States Navy Surface Warfare Officer and Engineering Duty Officer. He currently serves as a Professor of the Practice at the Naval Postgraduate School, Monterey, CA as an intermittent employee. He works full time in the Defense Industry.

His leadership assignments included duty as the Aegis Shipbuilding Program Manager, Program Executive Officer, Ships, Commander, Space and Naval Warfare Systems Command, and prior to his retirement, as Director of the Defense Contract Management Agency.

His afloat tours were in USS Spruance (DD-963), USS Biddle (CG-34) and USS Ticonderoga (CG-47), all in combat systems and communications assignments.

David Lewis earned bachelor's and master's degrees in computer science and a certificate of completion in Weapons Engineering. He recently completed his Ed.D in Leadership and Learning in Organizations. He is a graduate of the Naval War College, Vanderbilt Peabody College, the Naval Postgraduate School and the University of Nebraska.

He is a lifetime Member of the US Naval Institute, the American Society of Naval Engineers and the Surface Navy Association and has published several articles on shipbuilding and warship engineering topics.

Pathfinding Innovation for Legacy Munitions

Presented by: Gregory Sanders, Joint Production Accelerator Cell (JPAC)

Advanced manufacturing encompasses the innovation of improved methods for manufacturing existing products, such as components and parts, as well as the production of new products enabled by advanced technologies. Advanced manufacturing approaches, include robotic technologies, digital engineering, sensing, advanced materials, and 3D printing are reimagining manufacturing. The Pathfinding Innovation for Legacy Munitions Project seeks to understand the landscape of advanced manufacturing approaches and to identify processes that could be applied to legacy munitions to enable surging production of major weapons systems. In this paper, legacy munitions refer to munitions that are currently in production and have been deployed. Currently, many legacy munitions are manufactured using production processes that predate proven commercial approaches. Newer commercial approaches have the potential to improve the cost-effectiveness and efficiency of munitions production.

Optimizing Infrastructure Capability & Capacity: Risk Decision-Making for Mission Success in Maritime Expeditionary Operations through Adaptive Contracting and Resilience Improvement

Presented by: Lieutenant Commander Adam Pierce, Navy Expeditionary Warfighting Development Center

This research examines how infrastructure-driven operational dependency in maritime expeditionary environments can be translated into scalable capability through alignment across dependency identification, requirements development, and competitive procurement. Contemporary operations are constrained by contested logistics, distributed infrastructure networks, and interdependent systems whose performance cannot be assumed, yet existing processes do not effectively convert dependency-driven risk into actionable requirements or generate responsive industrial output at scale.

To address this gap, the research develops an integrated framework linking geostrategic logistics evaluation and nodal selection (GEO-LENS), functionally defined capability requirements, and variable portfolio contracting (VPC). GEO-LENS identifies and prioritizes dependencies using a structured Operational Dependency Index, generating distributed demand signals that are executed through a competitive, multi-vendor procurement model.

Results demonstrate that dependency is concentrated in high-leverage nodes and that energy functions as a system-level pacing constraint. The VPC model improves performance while reducing cost and supply risk by shifting innovation incentives from government-directed processes to continuous competition among firms. These findings demonstrate that constraint, when identified and translated into demand, becomes a driver of adaptability, innovation, and scale—transforming operational vulnerability from a source of risk into a source of advantage.

Demo to Deployment in 30 Days: The ARMS Case Study

Presented by: Matthew Cole, Naval Surface Warfare Center, Port Hueneme Division

In February 2025, Augmented Reality Maintenance System (ARMS) had a shipboard demonstration of its remote technical assistance capabilities. Video of the demonstration made its way to critical leaders across Systems Commands (SYSCOMs), and the ARMS team at Naval Surface Warfare Center Port Hueneme Division (NSWC PHD) was asked to field the system across a Carrier Strike Group within 30 days. Over the next month, the ARMS team overcame every programmatic and policy barrier to deploy an integrated, accredited, and capable system into the hands of the warfighter. This achievement was made possible through a variety of prototype and technology acceleration authorities, including creative contracting strategies, Non-Permanent Change (NPC) alteration status, the Fleet Risk Acceptance process, and an Urgent Deployment Test (UDT) Interim Authority to Test (IATT). The volume of necessary workarounds reveals several insights about technology transition in the U.S. Navy; namely, criticality of high-level advocacy, relationships with key Fleet staff, shipboard integration expertise, emergent labor funding, and flexible procurement options. This paper offers a case study of the ARMS rapid deployment effort, intended as a resource for acquisition professionals and an example of how a program can successfully innovate by trading risk for speed.

THURSDAY KEYNOTE: HONORABLE MICHAEL P. DUFFEY, UNDER SECRETARY OF WAR FOR ACQUISITION AND SUSTAINMENT

The Honorable Michael Duffey—was sworn in as the Under Secretary of War for Acquisition and Sustainment (USW(A&S)) on June 5, 2025. In this role, he is responsible to the Secretary of War for all matters pertaining to acquisition; contract administration; logistics and materiel readiness; installations and environment; operational energy; nuclear deterrence, chemical, and biological defense; the acquisition workforce; and the defense industrial base.

Over the past two decades, Mr. Duffey has served in several senior roles throughout the Department of War, including Deputy Chief of Staff to the Secretary of War, Chief of Staff to the Under Secretary of War for Research and Engineering, as well as multiple positions in the former Office of the Under Secretary of Defense for Acquisition, Logistics and Technology. Throughout his tenure in the Department, Mr. Duffey has led efforts to improve the application of systems engineering in the Department's development and procurement of our most complex weapon systems, established a capability to prioritize and protect critical technologies from exfiltration by our adversaries, and led teams developing critical technologies that maintain U.S. technological advantage on the battlefield.

In addition to his leadership at the Department of War, Mr. Duffey served as the Program Associate Director for National Security at the Office of Management and Budget (OMB), where he oversaw the entire $1+ trillion national security budget for the United States Government, including the Departments of War, State, Veterans Affairs, the Office of the Director of National Intelligence, the Central Intelligence Agency, and several international economic agencies. In his role at OMB, Mr. Duffey worked with Department leadership to publish a robust 30-year shipbuilding strategy prioritizing U.S. maritime superiority, and led efforts to fund nuclear modernization and the standup of the U.S. Space Force.

Under Secretary of War for Acquisition and Sustainment Duffey is a graduate of the University of Wisconsin.

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PANEL #14 – FORGING THE SHIELD: COLLABORATIVE DEVELOPMENT FOR IMMEDIATE WARFIGHTING ADVANTAGE

Thursday, May 7, 2026, 1015 – 1130 ET (0715 - 0830 PT)

Panel Summary:

While high-level policy sets the strategic intent, the actual delivery of overmatch occurs where tactical operators meet technical innovators. This plenary panel focuses on the "Innovation Operating System"—the execution-level organizations and their industry counterparts who are transforming requirement-setting from a linear process into a rapid, iterative loop. By bringing together the organizations responsible for scaling drones, AI, and hypersonics with the operators who field them and the companies that build them, this session explores how to move past prototypes to achieve true battlefield scale.

Chair: Raymond D. Jones, Col. (Ret.) USA, Professor of the Practice, Department of Acquisition, Finance and Manpower, Naval Postgraduate School

Panelists:

Military Operator – *RADM Michael Mattis, USN, Director, Strategic Effects, Commander U.S. Naval Forces Europe/Africa Commander, Task Force-SIX SIX (CTF-66)*

Traditional Defense Powerhouse: Top-Tier Defense Prime – *Chris Mang, Vice President, Strategy & Business Development, Lockheed Martin Rotary and Mission Systems (RMS)*

Military Operator – *Ariel Dvorjetski, PEO for Weapons, Israeli Air Force*

Non-Traditional Industry Disruptor – *Kyle Tucker-Davis, Director of Data Engine for Scale AI Public Sector*

Raymond D. Jones, Col. (Ret.) USA—retired as a Colonel from the U.S. Army in 2012 and is a Professor of Practice with the Graduate School for Business and Public Policy at the Naval Postgraduate School. His last assignment in the Army was as the Deputy Program Executive Officer for the Joint Tactical Radio System (JTRS).

Additionally, he served as the Military Deputy for the Director of Acquisition Resources and Analysis in the Office of the Under Secretary of Defense for Acquisition Technology and Logistics (USD(AT&L)), managed three Major Defense programs for the DoD in addition to his many operational and research and development assignments.

He graduated from the U.S. Naval Test Pilot School in 1995 and is 1983 graduate of the United States Military Academy. He has a Bachelor of Science degree in Aerospace Engineering, a Master of Science Degree in Aeronautical Engineering from the Naval Postgraduate School, a Master's in Business Administration from Regis University, a Master's Degree in National Resource Strategy from the Industrial College of the Armed Forces and is currently a PhD candidate with the Graduate School of Information Sciences at the Naval Postgraduate School in Monterey California.

RADM Michael Mattis, USN—is from Fullerton, CA, graduated with distinction from the United States Naval Academy, Annapolis, MD in 1994 and Oxford University, England in 1996 as a FitzGerald Scholar. At sea, Mattis qualified in submarines, as a nuclear engineer and as a ballistic missile officer while serving on USS HENRY M. JACKSON (SSBN 730)(GOLD). He also deployed aboard USS ALABAMA (SSBN 731)(GOLD) and USS COLUMBUS (SSN 762) during his Junior Officer tour from 1998-2000.

Ashore, Mattis served on the staff of the Chief of Naval Operations, Washington, DC as an Assistant for Political-Military Affairs in 1994 and at the Naval Satellite Operations Center (NAVSOC), Point Mugu, CA from 2000-2002 as Satellite Operations Department Head and later Operations Director (N3/5/6). He transitioned to the Navy Reserve in 2003.

Returning to Active Duty in 2008-2009, Mattis, trained in Army Civil Affairs and deployed to Baghdad, Iraq as part of Operation Iraqi Freedom (OIF) in support of the XVIII Airborne Corps/Multi-National Corps-Iraq (MNC-I. In 2020 Mattis returned to Active Duty supporting OPNAV N7 as the Space, Information Warfare and Integrated Fires Lead for the Tri-Service Maritime Strategy and led COVID-19 relief efforts in Los Angeles (LA) as the shore OIC and later Commander, Task Force-LA. He returned to Active Duty again in 2021-2022, serving as Director, Navy Space Command (NAVSPACE), leading the stand-up of NAVSPACE as the Navy Service Component to US Space Command (USSPACECOM). Mattis assumed his current roles as Director, Strategic Effects for Commander U.S. Naval Forces Europe/Africa and Commander, CTF-66 in October 2023.

Mattis' awards include the Legion of Merit (3), Bronze Star Medal, and Meritorious Service Medal (4). He is a graduate of USMC Command and Staff College and Joint Forces Staff College Joint Professional Military Education programs, National Defense University Reserve Component National Security Course, Naval War College Executive Level OLW Course and Naval Postgraduate School Navy Senior Leader Seminar. He is a Joint Qualified Officer and qualified as an Information Warfare (Space Cadre) Officer.

Chris Mang—is vice president of Strategy & Business Development for Lockheed Martin's Rotary and Mission Systems (RMS) business area, a $17.2 billion enterprise that employs approximately 35,000 people and manages more than 1,000 programs. He is responsible for leading RMS's global strategy and business-development activities, delivering innovative, competitive, and reliable solutions that enable Lockheed Martin customers to create a more secure and prosperous world. Chris also oversees strategic planning, investment, acquisitions, and new-business concepts for each of the four lines of business that comprise the RMS portfolio.

Mang previously served as the vice president of Strategy & Business Development for Lockheed Martin's Missiles and Fire Control (MFC) business area, where he developed a comprehensive growth strategy supporting operations in more than 50 countries across 50+ product and service lines. Earlier in his MFC tenure, he was vice president of Strategy, leading multiple teams in strategy development, cross-business-area collaboration, portfolio management, alignment of new-business resources, mergers and acquisitions, and government affairs.

Throughout his career, Mang has led several critical initiatives for Lockheed Martin, including serving as vice president of Strategy & Business Development for Air Dominance Weapon Systems (ADWS) and Tactical & Strike Missiles (TSM). In these roles he led multiple teams and was responsible for overseeing line of business growth, customer relationships, and partnerships in the US and in 30 countries worldwide. This portfolio included air-to-air missiles, ground and air launched weapons, anti-tank weapons, long range cruise missiles, hypersonic weapons development and special programs.

Mang joined MFC in 2012 from Lockheed Martin Government Affairs where he was responsible for business development in the Navy unmanned air vehicle, weapons, sensors, and classified program areas. He started with Lockheed Martin in 2003 at what was then Simulation, Training and Support after a 10-year career in the Navy as an E-2C Hawkeye Naval Flight Officer.

Mang graduated from the United States Naval Academy with a Bachelor of Science degree and has a Master of Business Administration from Old Dominion University.

Colonel Dr. Ariel Dvorjetski—Brigadier General (Selected) Ariel Dvorjetski is the Program Executive Officer for Weapons and Commander of the Armament and Electronic Warfare Department, Israel Air Force Materiel Directorate.

He is responsible for the planning and execution of all life cycle activities for air-delivered munitions for the Israel Air Force Weapons Portfolio. He also provides strategic and technical guidance to the workforce of military, civilian, and contractor personnel leading discovery, development, and integration of all warfighting weapons technologies for the Israel Air Force.

The Armament and Electronic Warfare Department is responsible for designing, developing, producing, integrating, fielding, and sustaining a family of air-to-ground and air-to-air munitions for the Israel Air Force to defeat a spectrum of enemy targets. The Department advances applied research for seekers, navigation and control, image processing, munitions integration, warheads, fuzing, explosives, and technology assessment methodologies, as part of its responsibility for managing the Air Force Weapons Portfolio Science and Technology program.

BG(s) Dvorjetski was nominated to assume the role of Head of the Materiel Directorate in July 2026.

Previously, he was the head of Aircraft Programs and Engineering Center, Israel Air Force Materiel Directorate from July 2020 to August 2023, where he was responsible for total life cycle management of all aircraft systems. he handled the acquisition and initial fielding of new aircraft systems and upgrades.

BG(s) Dvorjetski was the Air Force Technical Airworthiness Authority, the single independent official authorized to make determinations that air systems are safe for flight and approved for flight operations.

BG(s) Dvorjetski was born in Tel-Aviv in 1978. In 2000 he joined the Israel Air Force after graduating the faculty of Aerospace Engineering at the Technion (Israel Institute of Technology) with distinction, as part of the IDF Academic Reserve program. He also holds Ph.d degree in Aerospace Engineering from the Technion. His research thesis was focused in basic fundamentals of Counterflow Spray Diffusion Flames, which earned him the International Bernard Lewis Fellowship award at Montreal, 2008. BG(s) Dvorjetski was also recognized by the Israel National Wolf Foundation for academic excellence. Throughout his career he has published more than 20 papers in world-class peer-review journals.

BG(s) Dvorjetski is also a graduate of the Israel National Defense College, 2023, where he earned the degree of M.A. in Security and Strategic Studies.

In his previous positions, BG(s) Dvorjetski has held number of acquisition and sustainment engineering, program management, staff, and command positions for the Israel Air Force and the Ministry of Defense. BG(s) Dvorjetski is married to Diana, and they have three children.

Kyle Tucker-Davis—is currently the Director, Data Engine for Scale AI Public Sector, focused on the development of reliable AI systems for both Computer Vision & GenAI applications. Prior to his current role, Kyle spent multiple years driving the creation of AI training data for national security applications. Before Scale AI, Kyle spent 10 years as an Infantry Officer in the United States Marine Corps, where he served in various operational and instructor roles. Kyle's academic background includes a B.S. in Mathematics from the United States Naval Academy, M.A. in Military Studies & Leadership, and Graduate Certificate in Artificial Intelligence.Prior to the JAIC, Major Tadross, an Air Traffic Control Officer, was hand selected as a member of the Secretary of the Navy's Innovation Advisory Council, where he conducted independent research at the MITRE Corporation on integrating AI into Aviation Command and Control. His previous tours included Marine Air Tactical Command Squadron 18 in Okinawa, Japan where he served as the Senior Air Coordinator and supported exercises in South Korea, the Philippines, and Australia. He has a Bachelor of Science degree in Mechanical Engineering from Old Dominion University and a Masters in Technology Management from Georgetown University.

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PANEL #15 – THE MODERN ARSENAL: SCALING PRODUCTION THROUGH HETERODOX ACQUISITION AND STRATEGIC INVESTMENT

Thursday, May 7, 2026, 1145 – 1300 ET (0845 - 1000 PT)

Panel Summary:

Accelerating warfighting capabilities requires a fundamental shift from traditional, often confrontational procurement models to integrated strategies that prioritize industrial scale and coalition readiness. This panel explores the "Large Lot Procurement" (LLP) typology designed to maximize munitions production at full economic rates, alongside a proposed framework for synchronizing U.S. munitions demand with allied co-production and equipping needs—specifically regarding regional stability in the Indo-Pacific. Furthermore, the panel examines the emerging role of the Department as a strategic investor, using direct equity in private firms to catalyze private capital and secure critical supply chains.

Chair: Dr. Dale L. Moore, Acquisition Sciences, Program Management Faculty, Naval Postgraduate School

Panel Presenters:

Large Lot Procurement for Munitions Acceleration: A Novel Acquisition Typology to Catalyze a Defense-Industrial Renaissance – *Ryan Burgess & Darryl R. Chew, Office of the Undersecretary of War (Comptroller)*

A Strategic Investor: Federal Equity Investing Approaches to Advance National Security – *Sam Moyer, National Defense Industrial Association (NDIA)*

Strengthening the Arsenal of Deterrence: Modernizing the DoD Munitions Requirements Process to Include Allied Equipping – *Sara Eighmey, U.S. Indo-Pacific Command*

Dr. Dale L. Moore—is the Chair of the Maryland Aerospace and Technology Commission. He currently serves as the President of the Southern Maryland Navy Alliance and is an Intermittent Lecturer at the Navy Postgraduate School in the Acquisition Sciences Group of the Department of Acquisition, Finance, and Manpower. He chairs the Southern Maryland 2030 Workforce Board of Advisors and is a member of the Maryland Military Installations Council, the Southern Maryland Economic Development Association, the Patuxent Partnership Board of Directors and the St. Mary's County Economic Development Commission.

Dr. Moore is the Founder and President of The Moore Group LLC. He has 43 years of experience across the full life cycle of DoD Acquisition. He has successfully led enterprise-wide strategic operations and organizational change and transformation initiatives, is a regular public speaker and panelist as well as a published academic researcher.

Dr. Moore has served in the Department of the Navy (DON) as the Director, Strategy and Innovation, DASN(RDTE) where he led development of the Department of the Navy's (DON) 30 Year Research and Development Plan, and supported the development of the 2045 Future Fleet Design and Architecture (FFDA), the Office of the Secretary of Defense Science and Technology Vision, and was selected as a Navy Innovation Advisory Council (NIAC) Fellow where he led the DON Strategic Thinking Community of Interest and the "DON Leadership @ the Edge Series."

Prior positions include: Naval Air Systems Command (NAVAIR) Director, Strategic Initiative Coordination and Execution, Assistant to the Commander of the Naval Air Warfare Center – Aircraft Division for Strategic Operations, Chief Systems Engineer for PMA-268 Navy Unmanned Combat Air System (UCAS/X-47B), Deputy Corporate Deployment Champion for "NAVAIR AIRSpeed" Continuous Process

Improvement including leading the development and release of the DON-wide Continuous Process Improvement Solicitation, and NAVAIR's National Competency Leader for Materials Research and Engineering.

Dr. Moore holds an Ed.D. from The George Washington University; an MS with Distinction from the Naval Postgraduate School; and certificates of completion from the M.I.T Sloan School of Management and School of Engineering; and a BS in Mechanical Engineering from the University of Delaware.

Dr. Moore has received the Department of the Navy Meritorious Civilian Service Award three times.

Large Lot Procurement for Munitions Acceleration: A Novel Acquisition Typology to Catalyze a Defense-Industrial Renaissance

Presented by: Ryan Burgess & Darryl R. Chew, Office of the Undersecretary of War (Comptroller)

Large Lot Procurement (hereinafter, Large Lot or LLP) was designed to address one of the primary structural constraints in munitions production: the current misalignment between government and private sector incentives. The proximate goal of this contracting typology is to incentivize vendors, at the prime level as well as lower tiers, to invest their own funds into facilities, personnel, and R&D. Accomplishment of this immediate aim, from production efficiencies as well as this additional investment, is then leveraged for additional manufacturing of end items. While, as originally conceived, Large Lot Procurement was intended to catalyze munitions production and supply chain development, it could easily be applied to other categories of defense articles that are like munitions.

A Strategic Investor: Federal Equity Investing Approaches to Advance National Security

Presented by: Sam Moyer, National Defense Industrial Association (NDIA)

The U.S. government has begun purchasing equity in private companies as a tool for advancing national security. This approach can be appropriate for a narrowly scoped set of conditions: gaps in the capital markets for investments requiring large volumes of capital, with high levels of risk, for which debt is inappropriate, and the need to govern firms in sensitive industries where existing control mechanisms are insufficiently robust.

This complex and powerful form of industrial policy is unfamiliar to most national security professionals. Yet, if government equity activities continue to expand, the acquisition workforce will increasingly encounter these instruments. This paper argues that although equity investing can advance national security, the risks are also acute, and managing those risks will require a major investment in training, governance, and control mechanisms.

Strengthening the Arsenal of Deterrence: Modernizing the DoD Munitions Requirements Process to Include Allied Equipping

Presented by: Sara Eighmey, U.S. Indo-Pacific Command

The Department of Defense Munitions Requirements Process provides the analytical foundation for identifying and prioritizing joint force munitions needed to execute approved war plans, yet its historical focus on U.S.-only operational demand limits its ability to account for the increasingly coalition-dependent character of contemporary conflict. This paper argues that the existing framework is insufficient and should be expanded to incorporate two critical dimensions: allied and partner equipping, and co-production of key munitions with trusted foreign defense industries.

Drawing on a comparative assessment of established analytical methodologies and emerging policy guidance on industrial base resilience and partner capability development, this paper identifies seams and statutory constraints that complicate integrating allied and partner considerations into munitions planning. It evaluates how incorporating allied and partner demand signals and co-production capacity could affect demand forecasting, risk/burden sharing, and resourcing trade-offs within resource allocation cycles.

The analysis also examines the distinct strategic considerations associated with defense articles provided under the Taiwan Relations Act of 1979 and emerging bilateral and trilateral initiatives, given their role in deterrence, industrial surge capacity, and regional stability. This paper concludes by proposing an expanded, coalition-integrated munitions requirements framework to improve analytical coherence, strengthen industrial resilience, and support credible collective deterrence.

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PANEL #16 – ENGINEERING RESILIENCE IN CONTESTED LOGISTICS: RELAY-BASED HYBRID HUBS, TECHNICAL DATA OWNERSHIP, AND MANUFACTURING SIMULATION

Thursday, May 7, 2026, 1145 – 1300 ET (0845 - 1000 PT)

Panel Summary:

In the face of long distances, high-threat environments, and systemic data dependencies, traditional logistics models are no longer sufficient to ensure mission success. This panel explores cutting-edge strategies to secure the "Sustainment War" through three critical vectors: the construction of distributed logistics hubs on remote islands in the Western Pacific, the transformation of the Department into a Digital OEM to break vendor lock, and the use of advanced Modeling and Simulation (M&S) to link factory production capacity directly to field effectiveness. By integrating AI-powered grids with sea-based relay nodes, these researchers present a scalable framework for converting logistical vulnerabilities into an asymmetric warfighting advantage.

Chair: CDR Chris O'Connor, USN, Logistics Warfare Chair, Office of Warfare Studies, Naval Postgraduate School

Panel Presenters:

Constructing a Logistics Hub through the Integration of Remote Islands and Ocean Platforms – *Captain Atsushi Yanagita, Japan Maritime Self-Defense Force*

Toward an AI-Powered Logistics Grid for Maintenance, Repair, and Overhaul: Why the DoW Must Become a Digital OEM to Win the Sustainment War – *Jen Gebhardt, Govini*

From Factory to Field: Modeling Production Capacity and Logistics Effectiveness for Defense Systems – *Michael Belisle, Northrop Grumman Corporation*

CDR Chris O'Connor, USN—is the Logistics Warfare Chair and Head of the Futures Group at the Naval Postgraduate School (NPS) Naval Warfare Studies Institute. A 2003 U.S. Naval Academy graduate, he specializes in strategic planning, force design, and contested logistics, previously serving at NATO Supreme Headquarters Allied Powers Europe (SHAPE).

Constructing a Logistics Hub through the Integration of Remote Islands and Ocean Platforms

Presented by: Captain Atsushi Yanagita, Japan Maritime Self-Defense Force

This study examines whether a relay-based hybrid hub linking Japan's remote border islands with offshore ocean platforms can improve logistics performance in the Western Pacific under contested and disrupted conditions. Focusing on Minamitori Island and Okinotori Island, it addresses the sustainment gap between Japan, Guam, and Hawaii by comparing direct-route and relay-route models across six military and disaster-response scenarios. The concept is evaluated using four key performance indicators: Delivery, Distribution, Resilience, and Sustainment. Results indicate that relay routing consistently outperforms direct transport, especially in severe conditions. In the high-threat scenario, delivery probability rises from 47.9% to 65.6%, operational availability from 53.2% to 71.7%, and forward Days of Supply by about 2–3.5 days. These gains derive from a 72-hour buffer that absorbs disruption, supports limited inspection and repair, and enables redistribution in smaller lots. The study concludes that resilience through distribution provides a practical and scalable framework for sustaining maritime operations in contested environments.

Toward an AI-Powered Logistics Grid for Maintenance, Repair, and Overhaul: Why the DoW Must Become a Digital OEM to Win the Sustainment War

Presented by: Jen Gebhardt, Govini

The Department of War (DoW) faces a critical readiness crisis, with billions spent annually on Maintenance, Repair, and Overhaul (MRO) failing to keep advanced weapon systems operational. By examining trends in contract obligations, technical data access, and operational availability across aviation, ground, and maritime systems, this study correlates declining platform availability with low levels of government access to technical data and a shift toward contractor-led MRO. These findings highlight that systemic sustainment challenges are rooted in the government's lack of access to technical data, which precludes competitive sourcing and independent organic repair.

Such reliance is operationally perilous in an era of contested logistics, where distributed sustainment and rapid repair are essential for victory. This paper makes the case that the DoW must recognize sustainment as a data problem and transform MRO through a three-step process: (1) establish the DoW as a Digital OEM through access to technical design files; (2) fuse technical data with AI-enabled software for predictive and prescriptive maintenance; and (3) deploy a decentralized logistics grid leveraging additive manufacturing and distributed sustainment hubs closer to the point of need. Realizing this vision enables the DoW to regenerate combat power at the speed and distance required by modern conflict.

From Factory to Field: Modeling Production Capacity and Logistics Effectiveness for Defense Systems

Presented by: Michael Belisle, Northrop Grumman Corporation

Recent conflicts have underscored the importance of adaptable supply lines in contested logistics and rapidly evolving technological environments. Traditional supply chains respond slowly to changing conditions and often lack traceability to campaign-level measures of performance. To address this gap, we propose a modeling and simulation (M&S) environment that supports data-driven assessment of alternative scenarios. A previous phase of the effort developed an overall logistics model for the delivery and storage of goods, although that model has not yet been fully integrated with the present work. This paper focuses on a higher-fidelity model of a notional manufacturing facility and evaluates how production-line design changes affect campaign-level supply-chain performance. The manufacturing steps are based on publicly available descriptions of Ling-Temco-Vought's Multiple Launch Rocket System production process. Two scenarios are examined: a battle scenario that transitions from high-demand engagement to lower-demand sustainment and a second scenario that introduces an unexpected surge in demand.

PANEL #17 – BEYOND THE VALLEY OF DEATH: VENTURE STUDIOS AND STRATEGIC SMALL BUSINESS GROWTH

Thursday, May 7, 2026, 1145 – 1300 ET (0845 - 1000 PT)

Panel Summary:

Bridging the gap between a laboratory concept and a fielded military capability requires a fundamental shift in how the Department of War (DoW) incentivizes small businesses and simulates policy impacts. This panel introduces transformative models for scaling innovation, including the Small Business Engineering Resource (SBER), which pivots the SBIR program from perpetual research to assured engineering execution. Complementing this are cutting-edge tools like the Agentic AI-based "Policy Test Lab," designed to simulate acquisition reforms at machine speed, and the Venture Studio model, which applies proven commercial scaling methodologies to accelerate the development of operational warfighting capabilities.

Chair: Pete Modigliani, CEO, Creative Defense Network (CDN)

Panel Presenters:

Small Business Engineering Resource: Breaking the SBIR-Mill Business Model and Creating Big Companies from Small Ones – *The Honorable Nickolas Guertin, Virginia Tech National Security Institute*

Venture Studios to Scale Warfighting Concepts to Capabilities – *Dr. Peter Khooshabeh, DEVCOM Army Research Laboratory (ARL)*

The Policy Test Lab: An Agentic AI-based Simulation Tool – *Dr. Douglas J. Buettner, Acquisition Innovation Research Center (AIRC)*

Pete Modigliani—has held key positions in prestigious organizations like Govini, Atlantic Council, Beacon Global Strategies LLC, MITRE, Alion Science and Technology, and more. He also runs the Defense Tech and Acquisition Substack, where he shares valuable insights and updates on defense acquisition.

Pete led strategic initiatives and reforms across the Department of Defense and Intelligence Community acquisition enterprises to enable delivery of better capabilities faster. He led MITRE's efforts within the Office of Secretary of Defense (A&S) for software acquisition, portfolio management, and acquisition enablers. He advised acquisition executives and program managers on transforming their strategies, initiatives, and processes.

He co-founded the Acquisition in the Digital Age (AiDA) platform to disrupt and digitally transform the acquisition enterprise. It led to the development of the transformational Adaptive Acquisition Framework (AAF) for USD(A&S) and the acquisition workforce. This included developing and shaping the new Congressionally directed acquisition pathways for Middle Tier of Acquisition and Software Acquisition.

He previously was a part of the Congressionally directed Section 809 Panel where he championed strategic portfolio management, simplifying acquisition, and requirements reforms.

Pete served as an Air Force officer and program manager within the Joint STARS and Mission Planning programs. He led the strategy development of a billion-dollar enterprise contract, modernization programs, and managed multiple smaller acquisition and systems engineering efforts. While serving in this capacity, he partnered with industry executives to prototype a B2G portal to foster collaboration on Air Force capability needs and industry offerings.

He began his career as an industrial engineer with Xerox, 3M, and ITT Automotive. He received a bachelor's degree in industrial engineering from Rochester Institute of Technology and a Master of Business Administration from Boston College.

Small Business Engineering Resource: Breaking the SBIR-Mill Business Model and Creating Big Companies from Small Ones

Presented by: The Honorable Nickolas Guertin, Virginia Tech National Security Institute

The Small Business Innovation Research (SBIR) program funds important applied research that often fails to transition into fielded military capability. Recent congressional activity highlights continued frustration with this gap (Ernst, 2026). This paper argues that pending SBIR reauthorization (as of this writing) does not address the root cause: Topics, statutory funding caps, and governance remain misaligned with acquisition pathways and current acquisition transformation efforts (Bresler, 2023; Department of Defense, 2025). We redefine the pervasive "SBIR-mill" outcome not as a moral failing of firms, but as a predictable result of government-created incentives that prioritize recurring research over production at scale, inhibit acquisition success, and prevent graduation from the program (Bryant, 2025).

To rectify this, we propose recasting SBIR as the Small Business Engineering Resource (SBER): a program oriented toward engineering execution, qualification, and integration so solutions are mature enough for adoption and scaling. This is not a cosmetic rebrand; it is a shift from early-stage R&D toward deliverables that are programmatically and financially embedded in Programs of Record, so transition is planned and funded from the start.

We outline a research design to evaluate two measurable transition outcomes: (a) integration into a Program of Record under a prime contractor or (b) displacement of an incumbent supplier enabled by open interfaces and competed technology insertion. We derive testable hypotheses and a data plan using federal acquisition data, with policy levers including fewer, larger awards (e.g., >$20 million), topics tied to Program of Record requirements with accountable PM sponsorship, and budgeting aligned to PPBE with explicit funds for integration, test, qualification, delivery, and iterative improvement.

Venture Studios to Scale Warfighting Concepts to Capabilities

Presented by: Dr. Peter Khooshabeh, DEVCOM Army Research Laboratory (ARL)

Venture studios are rapidly emerging as efficient entities for creating companies, developing innovative business concepts, evaluating market traction, providing seed funding from associated venture capital (VC) firms, and accelerating growth through strategic partnerships. This paper explores how the venture studio model can uniquely support the scaling of emerging technologies into operational warfighting capabilities. By constructively analyzing various venture studio models and identifying best practices, this research aims to provide actionable insights for the broader National Security science and technology ecosystem. Using a case study methodology, the paper examines successful venture studio exemplars to extract lessons learned and strategies for effective technology transition across the broader government science and technology laboratory ecosystem.

The Policy Test Lab: An Agentic AI-based Simulation Tool

Presented by: Dr. Douglas J. Buettner, Acquisition Innovation Research Center (AIRC)

As an emerging technology, Agentic Artificial Intelligence or Large Language Models (LLM)–based/Generative AI agent systems, have been increasingly adopted to enable autonomous reasoning, tool-using, and decision-making systems that transcend the traditional boundaries and use cases of language models. Many of these systems rely on multiple interacting agents, each capable of perception, reasoning, and adaptive behavior. Such agents collaborate in multilayered ecosystems to achieve cognitive and operational objectives. The policy test system introduced in this paper extends the agentic paradigm into the policy simulation domain by designing an LLM-based orchestration agent that autonomously interprets academic documents and translates them into executable implementations of simulation and optimization models.

While this research is still in its infancy, the agentic tool already extracts an analogous model from peer reviewed literature, where the LLM serves as a cognitive controller, parsing unstructured knowledge into executable code. The resulting code provides simulation agents with the underlying dynamics of policies, resource flows, and behavioral adaptation. This work is a step towards a future where generative reasoning agents autonomously analyze, simulate, and optimize complex socio-technical systems in support of informed policy exploration.

PANEL #18 – FISCAL AGILITY AND DIGITAL PRECISION: SCALING MODERNIZATION THROUGH NEW FUNDING AND ENGINEERING MODELS

Thursday, May 7, 2026, 1315 – 1430 ET (1015 - 1130 PT)

Panel Summary:

Accelerating warfighting capabilities requires a departure from rigid, hardware-centric fiscal and engineering processes that create a "valley of death" between modernization and operational sustainment. This panel presents two high-impact solutions to this challenge: the reinterpretation of the Defense Working Capital Fund (DWCF) as a capability-based revolving fund to ensure self-sustaining innovation, and the implementation of Digital Technical Data Packages (TDPs) to drastically reduce the cost and time of combat system integration. By linking operational demand with market-aligned fiscal loops and replacing costly live-fire tests with virtual validation, these research initiatives provide a framework for a more responsive and accountable acquisition ecosystem.

Chair: Terry Blake, VADM USN (ret.), Professor of the Practice, Naval Postgraduate School; former Deputy Chief, Naval Operations, Integration of Capabilities and Resources

Discussant: Tom Steffens, Professor of the Practice, Department of Acquisition, Finance and Manpower, Naval Postgraduate School

Panel Presenters:

Leveraging the Working Capital Fund Model to Scale and Sustain Innovation – *Major Rachel Kim, Joint Program Executive Office Armaments and Ammunition*

Quantifying Return on Investment in Digital Technical Data Packages for Combat Systems: A Lifecycle Perspective – *John Fiore, Vice President of Strategic Growth, Kitty Hawk Technologies*

Terry Blake, VADM USN (ret.)— served more than 37 years in the United States Navy before retiring in February 2013. He most recently served as the Deputy Chief of Naval Operations for Integration of Capabilities and Resources (OPNAV N8).

As the Navy's Chief Financial Officer, he was charged with planning, programming and executing the Navy's Budget. He also served in numerous positions in the Pentagon including Deputy Assistant Secretary of the Navy (Financial Management & Comptroller) and Deputy Director Resources and Acquisition (Joint Staff J8). His sea commands included a Destroyer, an AEGIS Cruiser, and a Carrier Strike Group.

Since retiring from the Navy, VADM Blake has served as an independent consultant on a number of projects both in the defense and commercial sectors.

He graduated from the U.S. Naval Academy with a Bachelor of Science degree in Political Science, a Master of Science degree in Finance from the Naval Postgraduate School and a Master of Science degree in National Security from the National War College. Additionally, he completed the Seminar XXI program in International Relations from MIT.

Tom Steffens—has served within the Department of Defense for over 40 years to include over 27 Years as an Army Financial Management Officer. He was appointed to the Senior Executive Service in May 2013 and completed his Civilian service as Deputy Chief Financial Officer, Department of Defense from 2022-2024. In this position, Tom was the senior advisor to the Under Secretary of Defense (Comptroller)/Chief Financial Officer and other key Defense leaders on all issues concerning compliance with Congressional mandates and development of DoD initiatives designed to improve Departmental Financial Operations and integrity of Financial Reporting. Previously he served as the Chief Financial Officer for the US Army Corps of Engineers (USACE) for over six years supporting the budgeting, financial operations and reporting of nearly $40 billion in annual outlays supporting our Nation's critical Civil Works & Disaster Response and Military Construction Programs executed by over 36,000 personnel, obtaining unmodified (clean) annual financial statement audit opinions during his entire tenure. Prior to that he was a Director of Accountability and Audit Readiness, Office of the Assistant Secretary of the Army (Financial Management and Comptroller) where he led preparations for the first Army-wide audit of Financial Statements by an Independent Public Accountant.

Tom retired from the Army at the rank of Colonel serving at every leadership level through Battalion Commander with additional assignments ranging from Assistant Professor of Economics, National Defense University; Chief of PPBE Integration, Assistant Secretary of the Army, Financial Management & Comptroller; CFO, U.S. European Command; and Finance Detachment Commander in support of 1st Special Forces Operational Detachment-Delta.

Tom was a recipient of the Presidential Rank Award in 2022 and has previously received the DoD Distinguished Civilian Service Medal and both the Distinguished Civilian Service Award and Superior Civilian Service Award while with Department of the Army. Among his military awards are the Bronze Star Medal while deployed as Battalion Commander in Iraq, the Defense Superior Service Medal and the Legion of Merit (2nd Award). He has both a Certified Government Financial Manager and Certified Defense Financial Manager.

A native of New Jersey, Tom earned his bachelor's degree in accounting from Saint Peter's University, Jersey City in 1985. He received his MBA as a graduate of the Defense Comptrollership Program (then The Army Comptrollership Program) at Syracuse University in 1993 and M.S. In National Security Strategic Studies from the Naval War College in 2007.

Leveraging the Working Capital Fund Model to Scale and Sustain Innovation

Presented by: Rachel Kim, Joint Program Executive Office Armaments and Ammunition

This paper reexamines the Defense Working Capital Fund (DWCF)—a congressionally authorized revolving fund codified under Title 10, United States Code, Section 2208—as a potential mechanism to bridge the gap between modernization and sustainment.

Traditionally used for logistics and commodities, the DWCF model can be reinterpreted as a capability-based funding mechanism that aligns with economic first principles and leverages existing authorities to improve responsiveness and accountability. The proposed framework introduces a capability-based Working Capital Fund (WCF) that could establish a pre-qualified vendor pool organized by capability area (e.g., artificial intelligence, autonomy, or munitions), setting sustainment rates that units can plan for within the Future Years Defense Program (FYDP). This approach creates a self-sustaining, market-aligned feedback loop that links operational demand with fiscal execution, allowing real-time performance feedback from the warfighter to inform procurement and sustainment decisions.

Quantifying Return on Investment in Digital Technical Data Packages for Combat Systems: A Lifecycle Perspective

Presented by: John Fiore, Vice President of Strategic Growth, Kitty Hawk Technologies

Combat system acquisition is shifting toward digital engineering (DE) as a strategic necessity for accelerating warfighting capability. Traditional Technical Data Package (TDP) development relies on physical integration and live testing, often causing delays and high costs. Digital TDPs instead enable virtual performance exploration, executable mission threads, and early configuration control. Even in sustainment phases, they support faster updates and reduce risk through model-based validation.

Using ACAT I benchmarks, this paper quantifies DE return on investment (ROI) across the life cycle. One case draws on early Model-Based Test and Evaluation (MBT&E) applied to the AEGIS Ballistic Missile Defense baseline, reducing live-fire tests by 50%, avoiding about $222 million in costs, and producing a reusable modeling and simulation environment. A second case examines the Threat Digital Twin Advanced Technology Demonstration, showing how validated digital twins improve design performance, reduce test burden, and enable reuse across variants.

Results show DE delivers ROI at any life cycle stage, with the largest gains in Operations and Support, where most life cycle costs occur. Key benefits include fewer live tests, faster integration and validation, improved configuration management, and greater stakeholder confidence. DE transforms acquisition into a faster, more resilient force multiplier.

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PANEL #19 – DATA-DRIVEN ACQUISITION MANAGEMENT: PERFORMANCE-BASED INCENTIVES, INDUSTRIAL CAPACITY CONSTRAINTS, AND WORKFORCE COMPETENCY ALIGNMENT

Thursday, May 7, 2026, 1315 – 1430 ET (1015 - 1130 PT)

Panel Summary:

True warfighting overmatch requires a fundamental realignment of the "Hexagon of Deterrence"—balancing the competing constraints of scope, schedule, cost, quality, resources, and risk to revitalize the U.S. defense industrial base. This panel explores how the Department can move beyond transactional compliance toward high-performance, Outcome-Based Contracting (OBC) that incentivizes supplier innovation and creative problem-solving. By integrating these results-driven partnerships with Portfolio Management competency standards that align with industry best practices, these research initiatives provide the framework for a more agile, transparent, and mission-aligned acquisition enterprise.

Chair: Bob Marion, LTG USA, (ret.), Professor of the Practice, Naval Postgraduate School; former Military Deputy, Assistant Secretary of the Army, Acquisition, Logistics and Technology (ASA ALT)

Panel Presenters:

Outcome-Based Contracting: What Works, What Doesn't, and What's Next – *Daniel J. Finkenstadt, PhD, Commerce and Contract Management Institute*

The Value Hexagon of Warfighting Acquisition: Applying the Six Competing Constraints to Accelerate Warfighting Capability and Revitalize the U.S. Defense Industrial Base – *CAPT Jeffrey Dunlap, USN (Ret.), Naval Postgraduate School*

Portfolio Management Competency Standards – *Professor Bob Mortlock, Ph.D., Naval Postgraduate School*

Bob Marion, LTG USA, (ret.)—began his career in the Acquisition Corps as an Assignment Officer in the Acquisition Management Branch, U.S. Army Personnel Command. He later served as the Assistant Project Manager (APM) for UH-60 Black Hawk A/L Production and Fielding, Utility Helicopter Project Office (UHPO), Aviation and Missile Command (AMCOM). He was then assigned to establish the Product Manager's (PdM's) Office for Black Hawk Modernization (UH-60M), UHPO, AMCOM, and served as the Acting PdM.

LTG Marion served as the Chief, Acquisition Management Branch in the Officer Personnel Management Directorate of the Army Human Resources Command and then deployed as the Assistant Secretary of the Army (Acquisition, Logistics and Technology) (ASA (ALT)) Forward Representative for the Deputy Assistant Secretary of the Army-Procurement. After changing command, LTG Marion served as the Assistant Deputy for Acquisition and Systems Management in ASA(ALT). He later served as the Program Executive Officer for Aviation until assigned as the Deputy for Acquisition and Systems Management, ASA(ALT). LTG Marion then deployed and served as the Deputy Commanding General for the Combined Security Transition Command - Afghanistan. He currently serves as the Principal Military Deputy to the ASA(ALT) and Director of the Army Acquisition Corps.

LTG Marion is a graduate of the Aviation Officer Basic and Advanced Courses, the Combined Arms Staff Services School, the Air Command and Staff College, and the Air War College. He also graduated from the Defense Acquisition University's Program Manager and Executive Program Management Courses. He earned a Master of Business Administration from George Mason University, a Master of Military

Operational Art and Science and a Master of Science in Strategic Studies, both from the U.S. Air Force's Air University. He holds a Bachelor of Science in Labor Relations from the University of South Alabama.

His military awards and decorations include the Senior Aviator Badge, the Air Assault Badge, the Defense Superior Service Medal, the Legion of Merit, the Defense Meritorious Service Medal (1OLC), the Meritorious Service Medal (4OLC), the Army Commendation Medal, the Army Achievement Medal (3OLC), the National Defense Service Medal, the Global War on Terrorism Expeditionary Medal, the Global War on Terrorism Service Medal, the Korea Defense Service Medal, the Army Service Ribbon, the Overseas Service Medal, the Afghanistan Campaign Medal, the NATO Medal, and the German Armed Forces Badge for Military Proficiency.

Outcome-Based Contracting: What Works, What Doesn't, and What's Next

Presented by: Daniel J. Finkenstadt, PhD, Commerce and Contract Management Institute

This research addresses a foundational question for defense acquisition leaders, namely, what are outcome-based contracts (OBCs), under what conditions should the Department of War employ them, and what institutional capacities must be in place for them to succeed? Drawing on a multi-phase, mixed-methods research design that included a comprehensive literature review, 14 semi-structured interviews with senior commercial and contract management professionals across eight countries, two practitioner focus groups (N = 34), a federal acquisition community survey, and an executive roundtable with 62 senior acquisition leaders, this study integrates both U.S. federal and global commercial perspectives to identify five critical success factors for OBC implementation: requirements definition, data sufficiency, inter-party trust, governance capability, and oversight balance. The theoretical foundation integrates Graeber's (2001) anthropological theory of value, Zeithaml's (1988) perceived value framework, Vargo and Lusch's (2004, 2008) Service-Dominant Logic, and empirical research on perceived service quality in business-to-government settings (Finkenstadt, 2020). A central finding is that outcome-based strategy and outcome-based contracts are distinct constructs; conflating them produces implementation failure. The study offers five policy recommendations directed at defense acquisition leadership, including FAR repositioning, governance training investment, portfolio prioritization, and structured low-risk piloting mechanisms.

The Value Hexagon of Warfighting Acquisition: Applying the Six Competing Constraints to Accelerate Warfighting Capability and Revitalize the U.S. Defense Industrial Base

Presented by: CAPT Jeffrey Dunlap, USN (Ret.), Naval Postgraduate School

This paper proposes the adoption of the Value Hexagon of Warfighting Acquisition. By adding three dimensions—Benefit/Value, Sponsor/Combatant Commander (CCMD) Priority, and Risk Tolerance—alongside the original three—Cost, Schedule, and Performance (C/S/P)—the Warfighting Acquisition System can shift from a risk-averse/risk-minimization focus to one of program value optimization and innovation.

The Value Hexagon is a visualization tool that provides Portfolio Acquisition Executives (PAE) with the analytical basis to make transparent decisions and swiftly, decisively shift funding within portfolios' authorized boundaries. Rather than shifting funds based on gut feel or political pressure, a PAE can show two Value Hexagon spider profiles side by side—a "Legacy Drifter" program bleeding resources and a "Rapid Responder" program starved of them—and document the trade; this is defensible to Congress and to the Secretary in a way that a narrative memo is not.

The PAE has the authority to ensure honest scoring on the Value Hexagon and to make real decisions about which programs continue to add warfighting value and which should be terminated. Requiring the decision authority to co-sign an explicit risk tolerance statement—rather than leaving risk as a hidden variable—creates accountability that does not currently exist in acquisition.

Portfolio Management Competency Standards

Presented by: Professor Bob Mortlock, Ph.D., Naval Postgraduate School

Department of Defense (DoD) acquisition programs and professionals have been under scrutiny for years. Direction has been provided, over time, to adopt civilian program management practices within the DoD. The Project Management Institute (PMI) sets and manages civilian project, program, and portfolio management standards and certifications. This study assesses DoD alignment with PMI standards and focuses on portfolio management competency standards. In both this study and previous research, gap analysis methodology (both qualitative and quantitative approaches) was applied. This research found a nearly 60% alignment between the DoD program management (PM) competency model and industry standards. The research recommends an alignment between DoD standards and the industry-accepted PMI standards for portfolio management.

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PANEL #20 – SUSTAINING SUPERIORITY: REINVIGORATING READINESS AND GLOBAL MARITIME POWER

Thursday, May 7, 2026, 1315 – 1430 ET (1015 - 1130 PT)

Panel Summary:

Maintaining a credible deterrent requires more than just acquiring new platforms; it demands a radical rethink of how the Department of War (DOW) sustains its existing arsenal and leverages global industrial capacity. This panel addresses the persistent decline in weapon system readiness by identifying root causes—such as neglected maintenance planning and fragmented data rights—and proposing a framework for predictive, lifecycle-centric management. Complementing this is a strategic analysis of international shipbuilding cooperation, evaluating pathways such as allied investment in U.S. yards and modular co-production to revitalize the maritime industrial base. Together, these research efforts offer a roadmap for achieving operational overmatch through resilient sustainment and strengthened allied partnerships.

Chair: CAPT Cedric McNeal, USN, Executive Director for Amphibious, Auxiliary, and Sealift (Acting)

Panel Presenters:

Evaluating Pathways for U.S. Shipbuilding Cooperation with Allies – *Henry H. Carroll, Research Associate, Center for Strategic & International Studies (CSIS)*

Shipbuilding Procurement: An International Analysis of Source Selection Processes – *Dr. Rene G. Rendon, Professor, Naval Postgraduate School*

Neglect with the Old, in with the New: How Neglect of Existing Weapon Systems Is Causing a Readiness Issue Within the Department of War, And How Acquisition Approaches Can be Improved to Solve It – *Moshe Schwartz, President, Etherton & Associates*

CAPT Cedric McNeal, USN—Born and raised in Jackson, Mississippi, Captain McNeal received his commissioning in 1997 from the Southern University and A&M College in Baton Rouge, Louisiana Naval Reserve Officers Training Corps (NROTC) unit. After commissioning, he reported to Surface Warfare Officer School in Newport, Rhode Island where he completed the basic Surface Warfare Officer training course. In November 1997, he reported aboard USS Gunston Hall (LSD 44) where served as Communications Officer and CMS Custodian/Electronic Key Management System (EKMS) Manager, qualifying as a Surface Warfare Officer, and also earning his qualification as a Diesel Engineering Officer of the Watch (EOOW). In November 1999, Captain McNeal reported aboard USS Caron (DD 970) and served as the ship's Navigator and Administrative Officer. Prior to completing his tour onboard Caron, Captain McNeal decided to pursue his commissioning option for the Engineering Duty Officer Community and in 2001, reported to the Naval Postgraduate School in Monterey, California. While there, he completed his Postgraduate studies, earning a Master of Science degree in Applied Physics with a concentration in Weapons Systems. His postgraduate studies were followed by his completion of the Engineering Duty Officer Basic Course in Port Hueneme, California.

Evaluating Pathways for U.S. Shipbuilding Cooperation with Allies

Presented by: Henry H. Carroll, Research Associate, Center for Strategic & International Studies (CSIS)

The U.S. naval shipbuilding industrial base faces well-known challenges delivering ships on time and at cost. The U.S. shipbuilding challenge is a complex, enterprise-wide issue. There is no single policy solution or silver bullet to solve the overall problem. Solutions are urgently needed, but the inherent policy trade-offs must be carefully weighed.

One option to address the challenges is through partnerships with close allies to enhance the shipbuilding enterprise. This research assesses three pathways for cooperation including allied purchase and revitalization. of U.S. shipyards; various methods of coproduction, including modular construction; and U.S. purchase of allied-built ships. These pathways, identified in a previous work, each present their own opportunities and challenges that are analyzed in this report. The paper also explored hybrid approaches that involve multiple pathways. The research focuses on the strong shipbuilding nations—and U.S. allies—South Korea and Japan as the most likely partners, but the findings are relevant to shipbuilding cooperation with other nations as well. This paper is a preliminary excerpt from a forthcoming work that discusses four pathways (including maintenance cooperation) and hybrid approaches in more detail.

Shipbuilding Procurement: An International Analysis of Source Selection Processes

Presented by: Dr. Rene G. Rendon, Professor, Naval Postgraduate School

Naval shipbuilding procurement accounts for a significant portion of discretionary budgets worldwide. With high initial costs and long-term sustainment expenses, an effective source selection strategy is crucial in the contracting process for these critical weapon systems. This research examines the shipbuilding procurement source selection strategies of the United States, Egypt, Japan, and Taiwan, comparing these countries' source selection basis for award, source selection team composition, and proposal evaluation criteria. Using government acquisition regulations, laws, and publicly available solicitation/tender data, a comparative analysis is conducted to identify opportunities for improvement in the contract source selection process.

Neglect with the Old, in with the New: How Neglect of Existing Weapon Systems Is Causing a Readiness Issue Within the Department of War, And How Acquisition Approaches Can Be Improved to Solve It

Presented by: Moshe Schwartz, President, Etherton & Associates

This research identifies the challenges driving poor weapon system operational readiness within the Department of War (DoW) and proposes ways to improve associated readiness rates. Weapon system operational readiness has been on a steady decline over the last two decades. This decline in readiness rates has been highlighted by both the General Accountability Office, the DoW Inspector General, and DoW officials at various levels.

PANEL #21 – OPPORTUNITIES TO RAPIDLY DELIVER WARFIGHTING CAPABILITIES USING LEADING PRACTICES

Thursday, May 7, 2026, 1445 – 1600 ET (1145 - 1300 PT)

Panel Summary:

In an era of rapid technological change, the Department of Defense (DOD) must move beyond linear acquisition models to maintain a decisive edge. This panel explores the critical shift toward iterative development and agile portfolio management, highlighting how leading commercial companies prioritize investments to deliver value at speed. By examining Government Accountability Office (GAO) assessments of weapon system testing and technology investment oversight, these researchers provide an informative baseline for operationalizing reforms that transform the test and evaluation enterprise from a reactive bottleneck into a proactive catalyst for modernization.

Chair: Shelby Oakley, Director, Contracting & National Security Acquisitions, U.S. Government Accountability Office

Panel Presenters:

Weapon Systems Testing: DOD Needs to Update Policies to Better Support Modernization Efforts – *Christopher Durbin, Assistant Director, U.S. Government Accountability Office (GAO)*

Leading Practices: Agile Portfolio Management and Iterative Business Cases Drive Innovative Product Development – *Brenna Derritt, Assistant Director, Contracting and National Security Acquisitions, U.S. Government Accountability Office (GAO)*

Defense Research and Engineering: Action Needed to Improve Management and Oversight of Technology Investments – *Brian Smith, Senior Analyst, U.S. Government Accountability Office (GAO)*

Shelby Oakley—is a Director in the Government Accountability Office's (GAO) Contracting and National Security Acquisitions team. In her role, she oversees GAO's portfolio of work examining the most complex and expensive acquisitions within the federal government. Her portfolio includes Navy Shipbuilding and Nuclear Triad recapitalization programs, DOD acquisition policy and oversight, and leading practices in product development. In addition, she is responsible for GAO's annual work to assess the cost, schedule, and performance of DOD's portfolio of major defense and middle-tier acquisition programs.

Further, her portfolio also includes oversight of acquisition management at the Veterans Affairs Department. Ms. Oakley previously served as a Director in GAO's Natural Resources and Environment team where she led teams reviewing a range of nuclear security, policy, and nonproliferation related issues.

From 2004 to 2015, Ms. Oakley led teams reviewing the activities of the National Aeronautics and Space Administration (NASA) with a focus on helping NASA improve its acquisition management practices. Her reviews covered key aspects of NASA's operations, such as Space Shuttle workforce transition and sustainment of the International Space Station, as well as reviews of all major NASA systems including in-depth reviews of NASA's human spaceflight programs and the James Webb Space Telescope.

Ms. Oakley earned a Master's Degree in Public Administration from the University of Pittsburgh's Graduate School of Public and International Affairs and her Bachelor of Arts Degree from Washington and Jefferson College.

Weapon Systems Testing: DOD Needs to Update Policies to Better Support Modernization Efforts

Presented by: Christopher Durbin, Assistant Director, U.S. Government Accountability Office (GAO)

The Department of Defense (DoD) identified test and evaluation modernization as a crucial part of its effort to get capabilities to warfighters faster. DoD organizations, including the Office of the Secretary of Defense and the military departments, have undertaken modernization planning efforts with varying areas of focus and levels of detail. Nonetheless, these plans share themes, including the use of digital engineering tools and highly skilled workforces.

The GAO's analysis of DoD-wide test and evaluation policies found they were not fully consistent with selected leading practices for product development as applied to test and evaluation: involve testers early, conduct iterative testing, use digital twins and threads, and obtain user feedback iteratively. These policies contained some tenets of the leading practices, particularly for the software acquisition and urgent capability acquisition pathways. However, these leading practices were largely not reflected in the policies for programs in the major capability acquisition and middle tier of acquisition pathways, which account for the majority of DoD spending on weapon systems acquisition.

Leading Practices: Agile Portfolio Management and Iterative Business Cases Drive Innovative Product Development

Presented by: Brenna Derritt, Assistant Director, Contracting and National Security Acquisitions, U.S. Government Accountability Office (GAO)

This report (GAO-25-107130) is the third of a series on product development leading practices that are instructive for improvements to the Department of Defense's acquisition processes. The Government Accountability Office's (GAO) recent work has emphasized the importance of structuring defense acquisition programs around iterative development--a technical process crucial to how leading companies develop innovative, value-added products on timelines responsive to users' needs. GAO's work has found that leading companies employ equally robust business processes to the management of individual product developments as well as the overall product mix, or portfolio. Understanding how leading companies decide on their product development investments and how they use business cases--justifications for undertaking a product development--to support their decisions can inform ongoing acquisition reform efforts. GAO identified eight leading companies based on rankings in well-recognized lists, interviewed, company representatives, and analyzed documentation.

Defense Research and Engineering: Action Needed to Improve Management and Oversight of Technology Investments

Presented by: Brian Smith, Senior Analyst, U.S. Government Accountability Office (GAO)

The Department of Defense (DOD) seeks to outpace foreign adversaries' capabilities by quickly adopting innovative technologies. The Office of the Under Secretary of Defense for Research and Engineering (OUSD[R&E]) has responsibility for managing, overseeing, and improving technology development efforts across DOD to help reach that goal. In the President's fiscal year 2026 budget submission, DOD requested nearly $180 billion for research, development, test and evaluation (RDT&E) activities aimed, in part, at developing technologies that meet both the short-term and long-term needs of current and future warfighters. This request included more than $20 billion for science and technology (S&T) activities and more than $40 billion for advanced component development and prototyping efforts, funding for which OUSD(R&E) is responsible for providing management and oversight.

OUSD(R&E) and the Office of the Under Secretary of Defense for Acquisition and Sustainment were established in February 2018 following the dissolution of DOD's Office of the Under Secretary of Defense for Acquisition, Technology, and Logistics (OUSD[AT&L]). OUSD(R&E)'s duties and responsibilities include serving as DOD's Chief Technology Officer; establishing policies on, and supervising, all defense research and engineering, technology development, technology transition, prototyping, and experimentation activities and programs; and designating senior officials for critical technology areas supportive of the National Defense Strategy, among others.

PANEL #22 – DIGITAL FORTIFICATION: MASTERING SOFTWARE ASSURANCE AND CYBER SURVIVABILITY

Thursday, May 7, 2026, 1445 – 1600 ET (1145 - 1300 PT)

Panel Summary:

In today's contested environments, the reliability of warfighting systems is determined by the quality and assurance of the code that powers them. This panel explores the critical shift toward Software-Defined Warfare, addressing the urgent need for robust Software Management Plans (SMPs) and data-driven cyber survivability requirements. By examining a new acquisition process for military simulations and a repeatable model for decomposing complex cyber attributes into verifiable engineering specifications, these researchers provide the framework necessary to ensure U.S. forces field systems that are not only capable but dependable and resilient against evolving digital threats.

Chair: Gaurang Dävé, Cyber Technology Officer, Marine Corps System Command (MCSC)

Panel Presenters:

Stop Chasing the Perfect Requirement Specification: Formalizing Conceptual Model Documentation in Simulation Acquisition – *Lieutenant Colonel Matthew Morse, PhD, United States Marine Corps*

Operationalizing Cyber Survivability Through Requirements Decomposition: A Marine Corps Case Study – *Kathleen Coen, Computer Scientist, Marine Corps Tactical Systems Support Activity*

Acquisition Software Management Planning (SMP) is Critical to Mission Success – *Carol Woody, Principal Researcher, Software Engineering Institute*

Gaurang Dävé— serves as Cyber Technology Officer for the Marine Corps Systems Command (MCSC). In this role, he serves as the principal cyber advisor and technical expert to the Commander, Executive Director and Chief Engineer, MCSC; and Program Executive Office Land Systems (PEO-LS) and subordinate activities, for Cyberspace, Cybersecurity, and information technology (IT).

Mr. Dävé previously served as Cyber Advisor at MCSC. In this role, Mr. Dävé provided technical cyber Subject Matter Expertise (SME) for cyber policy, budgeting, evaluating new technologies, representing command senior leadership at DoD, DoN, and within USMC for cyber related matters.

Prior to joining MCSC, Mr. Dävé served as Senior Cyber Technical Advisor and Cybersecurity Program Director for Naval Surface Warfare Center (NSWC) Dahlgren. In this capacity, Mr. Dävé led the Navy's combat systems cybersecurity portfolio across the Warfare Systems Program Office. Mr. Dävé provided technical leadership, guidance, and program management leadership. Prior to that, Mr. Dävé served as Cybersecurity Risk Posture lead for the Office of the Chief of Naval Operations, OPNAV N2N6 Cybersecurity Division at the Pentagon. His contributions included synchronizing cyber strategy, standards and requirements, evaluating and prioritizing investments, providing oversight, and resource sponsorship.

Mr. Dävé began his career as a software engineer and served in technical, program management, and supervisory positions across the joint services. Mr. Dävé led the Chemical, Biological, Radiological (CBR) Analysis, Testing, and Systems Engineering Branch at NSWC, Dahlgren Division. Under his leadership, the branch provided SME in CBR modeling & simulation, threat analysis, executed White House initiatives for Medical Countermeasures, and led several ACAT-3 efforts. Mr. Dävé served as CBR Thrust Area Manager for Major Defense Acquisition Program at Joint Science & Technology Office led by US Army. Prior to joining government service, Mr. Dävé worked in private industry at International Business

Machines (IBM). As a Security Software Engineer, Mr. Dävé led several software security program development efforts designed to protect the company's network.

Mr. Dävé holds Bachelor of Science degrees in Computer Science and Biochemical Pharmacology from State University of New York at Buffalo. Master of Science degree in Systems Engineering with focus in Operational Research from George Mason University. Graduate degree in Cyber Engineering from University of Maryland. He is DAWIA Level III certified in Systems Engineering.

Stop Chasing the Perfect Requirement Specification: Formalizing Conceptual Model Documentation in Simulation Acquisition

Presented by: Lieutenant Colonel Matthew Morse, PhD, United States Marine Corps

Across the U.S. military, modeling and simulation capabilities are increasingly sought to support analysis, experimentation, and training for the employment of complex capabilities in multi-domain operations. Many of the associated simulation acquisition efforts result in failure, despite extensive expenditures of manpower and funds. Efforts to avoid these outcomes have included rigorous specification of requirements and attempts to implement the Software Acquisition Pathway, with limited success. This paper highlights challenges associated with military simulation acquisition and recommends a new approach grounded in an understanding of simulation design and development best practices. To ensure a simulation's requirements and operating context are adequately understood, the simulation designer must provide the requirements owner, and other stakeholders, explicit documentation of the simulation conceptual model. Once the simulation conceptual model has been validated by the requirements owners, it serves as a blueprint for acquisitions partners in the development of the simulation. In addition to providing a clear guide for the development of the simulation, this process will also ensure the delivery of conceptual model documentation which is critical for supporting simulation verification and validation, use, and maintenance. With the Department of War undergoing a massive reevaluation of the acquisitions process, now is the time to revise the acquisition process for simulation design and development.

Operationalizing Cyber Survivability Through Requirements Decomposition: A Marine Corps Case Study

Presented by: Kathleen Coen, Computer Scientist, Marine Corps Tactical Systems Support Activity

United States Marine Corps (USMC) warfighting systems must operate reliably in contested cyber environments to bring their capabilities to bear to a future fight. To ensure mission-critical and safety-critical functions and components remain operational, these systems must be equipped to prevent, mitigate, recover from, and adapt to adverse cyber events: a concept known as cyber survivability. Joint Staff J6 defines 10 Cyber Survivability Attributes (CSAs) and provides guidance for requirements and resource sponsors early in the acquisition lifecycle. However, as programs progress through the acquisition lifecycle, there exists no additional guidance on how to derive, validate, and verify standardized and measurable system-level cyber survivability requirements. This lack of traceability between policy, security controls, and system engineering artifacts results in inconsistent implementation, redundant testing, and reduced ability to evaluate survivability. The Marine Corps Tactical Systems Support Activity's (MCTSSA's) Cyber Branch worked with various USMC Program Offices and other stakeholders to decompose cyber survivability requirements into tailored performance specifications, verification processes, and acceptance criteria. Through iterative application to multiple USMC Programs of Record, this design science research led to the service's inaugural guidance on cyber survivability within the Warfighting Acquisition System: the USMC Cyber Survivability Requirements Guidebook.

Acquisition Software Management Planning (SMP) is Critical to Mission Success

Presented by: Mike Bandor, Senior Software Engineer, Software Engineering Institute

Today's systems are increasingly software intensive, complex, and reliant on third-party technology. We live in a world of systems of systems linked by software that connects services and hardware and essentially removes many previous human and geographic restrictions. Unfortunately, acquisition practices have not kept pace with these changes. Leadership is still primarily monitoring cost and schedule. Today's systems can be assembled faster and cheaper because software is rarely built for its intended use. Instead, much of it is reused, sourced from third parties (and increasingly from open source sites), but with increased risk. All software contains potential vulnerabilities that increase the risk of experiencing successful cyber attacks. It is critical to ensure that system requirements are met without extraneous behaviors that would jeopardize the mission. This paper explains why effective software management is critical to the acquisition of today's systems, which are primarily software intensive. It also shares lessons learned in current efforts underway to build and implement a Software Management Plan

(SMP) in major Department of War (DoW) acquisitions and describes the research underway to improve how software is monitored and managed.

PANEL #23 – ACCELERATING GUIDED MUNITION PRODUCTION THROUGH MODULARITY AND SUSTAINED COMPETITION

Thursday, May 7, 2026, 1615 – 1730 ET (1315 - 1430 PT)

Panel Summary:

The return of industrial-scale warfare necessitates new technical and business approaches to acquisition. This panel explores how Modular Open System Approaches (MOSA) and Government Reference Architectures (GRA) are dismantling traditional barriers to entry and enabling a more resilient defense industrial base. By transitioning from single-prime reliance to the direct acquisition of modular components, these research initiatives provide a strategic framework for accelerating production agility—while rigorously examining the cost implications of a decentralized, competitive supply chain and guiding successful implementation.

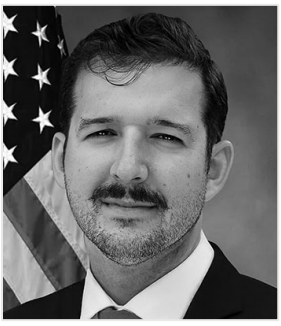
Chair: Jullian "Dean" Revell, Lead Architect, Air Force Weapons Government Reference Architecture (GRA), Air Force Material Command

Panel Presenters:

A Review of DoW Systems Engineering Modernization Activity – *Dr. Kelly Alexander, Chief Engineer, System Innovation and Nicholas LeGrande, Systems Engineering Modernization Director, OUSW R&E SE&A*

Architecting Affordable Mass – *Gregory Sanders, Joint Production Accelerator Cell / OUSD(A&S)*

Contracting, Acquisitions, and Costing Considerations for Realizing the Promise of MOSA – *Elizabeth Hastings Roer, RAND*



Jullian "Dean" Revell—serves as the Lead Architect for the Air Force Weapons Government Reference Architecture (GRA), a product of the Digital Acquisition and Sustainment Office of the Armament Directorate (AFMC/AFLCMC/EBRD). He leads collaborative efforts with industry and government partners across the DoD to ensure the Weapons GRA and associated products reflect best practices and comply with DoD regulations and standards. The Weapons GRA enables weapon acquisition programs to implement Model-Based Engineering practices and achieve the Air Force's goals of Digital Materiel Management.

Dean has seven years of experience as a civil servant, specializing in systems modeling with SysML, systems acquisition, and test and evaluation. Prior to his current role, Dean was integral to the development of technical requirements and contract language for the Stand-in Attack Weapon (SiAW), a MOSA-compliant weapon system with a development contract valued at $705m. He served as the technical lead for Systems Agility and Architecture as part of proposal evaluation and led MBSE efforts for SiAW post-award. Dean holds a Bachelor of Science in Electrical Engineering and a Master of Science in Systems Engineering from Florida State University.

A Review of DoW Systems Engineering Modernization Activity

Presented by: Dr. Kelly Alexander, Chief Engineer, System Innovation

This paper provides a summary of Systems Engineering (SE) Modernization (SE MOD) published material over the past five years. The SE MOD effort began in 2021 with the intent of understanding the delay and accelerating the implementation of the digital transformation. The Office of the Under Secretary of War for Research and Engineering (OUSW[R&E]) and the Systems Engineering Research Center (SERC) collaborated on this effort that included workshops, one-on-one interviews, and SE surveys across government, industry, and academia. Each of the published reports or papers are summarized below along with a link to access the full report. (Note: Each of the summaries includes references to tables or cited material that can be found in the published report/paper).

Architecting Affordable Mass

Presented by: Gregory Sanders, Joint Production Accelerator Cell / OUSD(A&S)

The global proliferation of munitions, advances in unmanned systems and their use in conflict, China's emergence as a manufacturing superpower, and the return of industrial scale warfare are a pressing problem for the U.S. guided munitions enterprise. The guided missiles that DoD is currently using have exquisite capability but face challenges that limit their production capacity and surge capability of the defense industrial base (DIB). Executive orders, legislative action, and Departmental decisions invested time and money in pursuit of addressing this problem.

Fortunately, the Department is already pursuing two initiatives that, along with supply chain efforts, enable production adaptability and thus addressing the warfighting imperative of accelerating the rate at which the acquisitions system and IB orients and acts on operator needs.

- Developing affordable mass programs that leverage flexible requirements, commercial technology, and new manufacturing processes to boost producibility and lower unit costs.
- Architecting for openness and commonality to lower barriers to entry, sustain competition, and speed innovation through a modular open system approach (MOSA), government reference architectures (GRA), or government reference designs (GRD).

This project examines how synergies between how affordable mass and MOSA can address the warfighting imperative of production adaptability.

Contracting, Acquisitions, and Costing Considerations for Realizing the Promise of MOSA

Presented by: Elizabeth Hastings Roer, RAND

One hope for Modular Open System Architecture (MOSA) design is that it will enable new business approaches to systems acquisitions. RAND recently analyzed an emerging Air Force concept white paper which reimagined how acquisitions might work for a MOSA precision guided munition by evaluating the concept against standard program costing procedures. The Air Force's concept paper outlined a new business approach which would eschew a single prime contractor responsible for providing all weapon system components. Instead, the concept describes a program in which many vendors contract directly with DAF to design and produce different modules that will be assembled in many possible configurations to form all-up rounds. RAND analyzed the cost implications of both the technological and business approaches, identifying several features that may have drastic implications for the acquisition business approach and, consequently, for program costs. We find that whether the approach will ultimately increase or decrease munitions costs relative to alternative approaches is an open question, since final costs will depend on unknowable future events, such as whether or not the U.S. enters a conflict and the munitions expenditure associated with any such conflict. Our intent for this paper is not to weigh in on the net cost implications of the approach, but instead to identify aspects that may impact direct munitions program costs, and whether those impacts are positive or negative. We find that several of the identified considerations are multifaceted and may simultaneously have cost-increasing and cost-reducing implications, depending on the details of implementation. DAF leaders will need to weigh the financial implications of the MOSA concept approach against its operational and strategic implications.



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