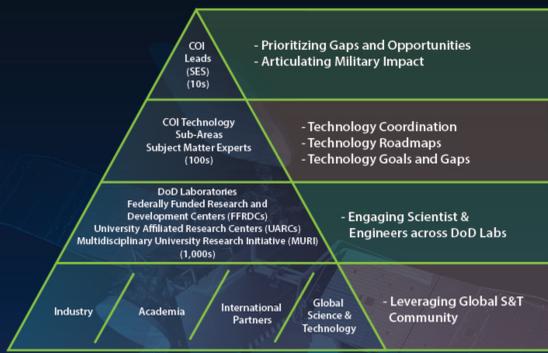




RELIANCE 21 – DoD COMMUNITIES OF INTEREST

‘BRINGING TOGETHER THE DoD S&T ENTERPRISE’



Overview of Portfolio
Topic Breakdown, scope, Approximate investment across sub-topic

Major Goals
What are the technical challenges, opportunities and desired outcomes?
How do these align with operational capability needs?
What is the potential impact?

Investment Plans
Laydown of current and planned project Transition Opportunities
Key performers, critical capabilities and facilities
What are the Priority Gaps?

Portfolio Health Assessment
What are the concerns, risks and mitigation?
What are the highlights and strengths?

COI Portfolio Reviews

Electronic Warfare

The mission of the Electronic Warfare (EW) COI is to develop a cross-cutting S&T investment strategy with resulting leap-ahead capabilities involving the use of Electro-Magnetic (EM) and directed energy to control the EM Spectrum or to attack the enemy while protecting our own EM systems against interference.

Space

The goal of the Space COI is to: 1) Facilitate collaboration and leveraging of complementary investments of the space S&T efforts performed by the DoD, Intelligence Community, the National Aeronautics and Space Administration (NASA), the Department of Energy (DoE), the National Oceanic and Atmospheric Administration (NOAA), the commercial space industry and, as appropriate, Allied and friendly nations in support of the intent of the nation's Space interests; and 2) Identify gaps, establish and maintain a set of S&T roadmaps to guide Space Community research program investments, perform portfolio assessments, and provide future resource recommendations to leadership.

Cyber

The purpose of the Cyber COI is to promote cooperation and collaboration between DoD components leading the discovery, development, and integration of innovative and affordable technologies to dominate cyberspace through integrated defensive and offensive operations across blue, red, and gray cyber systems as well as across the global cyberspace commons.

Counter Improvised Explosive Devices (C-IED)

The purpose of the Counter-IED COI is to encourage multi-agency coordination and collaboration in crosscutting science and technology focus areas that have particular benefit addressing the proliferating and enduring challenge presented by IEDs. The COI concentrates on fostering the bonds between the Joint IED Defeat Organization (JIEDDO) and the DoD S&T Enterprise by improving the visibility of operational needs and technology gaps, and identifying alignment of S&T capabilities, experts, facilities, and programs/projects with these gaps.

Counter Weapons of Mass Destruction (C-WMD)

The mission of the Counter-WMD COI is to promote cooperation, collaboration, and communication among the Components leading to the discovery, development, and integration of innovative and affordable technologies that enhance DoD capabilities in C-WMD. It also provides a forum to advocate for new ideas, technical directions, technology opportunities, C-WMD S&T strategies. The C-WMD COI also serves as a mechanism for DoD to facilitate improved interagency communication, coordination, and research and development as envisioned in the National Strategy for Combating WMD.

Ground and Sea Platforms (G&SP)

The G&SP COI provides a forum for discussion of topics associated with a broad range of platform technologies for both ground and sea systems. The portfolio examines concepts in modularity, survivability and mobility as the primary emphasis areas. In addition examination of required S&T for cost effective maintenance and sustainment of platforms is pursued in the portfolio.

Sensors

The Sensors COI provides a forum for sharing new ideas, technical directions and technology opportunities, jointly planning programs, measuring technical progress, and exchanging advances in sensors and surveillance technology.

Mission Focus

Roadmaps describe capabilities enabled by advanced technologies and systems

Engineered Resilient Systems (ERS)

The purpose of the ERS COI is to facilitate the coalescence of the Service and Acquisition Community concepts related to the ERS S&T portfolio, and to provide operating guidelines and policies for governance of the DoD ERS roadmap development, as well as fielding and implementation of technologies.

Biomedical (ASBREM)

The purpose of the Armed Services Biomedical Research Evaluation and Management (ASBREM) COI is to: 1) Sustain and improve the program's responsiveness to medical readiness and warfighting needs; 2) Eliminate unwarranted duplication of effort within the program; 3) Promote program efficiency, stability and productivity by optimizing infrastructure, capabilities, coordination and information exchange among the Services and Defense Agencies; and 4) Provide a forum and mechanism to address program and management issues and organizational roles among the Services and Defense Agencies.

Air Platforms

The Air Platforms COI serves as a standing forum within the DoD S&T Reliance 21 Program for developing consensus and identifying S&T issues related to air platforms, including fixed and rotary wing vehicles, aircraft propulsion, hypersonic systems, aircraft power and thermal management. The Air Platforms COI promotes cooperation and collaboration between DoD components leading the discovery, development, and integration of innovative and affordable technologies for manned, unmanned, and optionally manned future air systems.

Autonomy

The Autonomy COI will closely examine the DoD's S&T investments in the enabling of autonomous systems, to include the strategic assessment of the challenges, gaps, and opportunities to the development and advancement of autonomous systems, and identification of potential investments to advance or initiate critical enabling technology development.

Systems/Capability Focus

Roadmaps describe how multiple technologies are integrated into complex systems to achieve mission impact

Energy and Power (E&P) Technologies

The E&P Technologies COI purpose is to provide technologies to enable intelligent power & energy management to enhance operational effectiveness.

Command, Control, Communications, Computers & Intelligence (C4I)

The C4I COI will coordinate the DoD C4I S&T portfolio investment and review DoD organizations' strategic plans to support C4I related S&T investments in the context of overall DoD strategic priorities and goals. The C4I COI will establish priorities and guidance, monitor current and planned investments in S&T including but not limited to Networks, Command & Control (C2), and Data to Decision efforts. The COI will identify gaps, establish and maintain a set of S&T roadmaps to guide DoD research program investments, perform portfolio assessments, and provide future resource recommendations to leadership. The C4I COI will also establish mechanisms to encourage coordination between researchers to facilitate information exchange, and promote collaboration.

Human Systems

The Human Systems COI provides a framework for Service, Agency, and DoD Executives, Scientists, Engineers, and Human Systems Integration Practitioners to share information, ideas, and best practices; identify opportunities; measure progress; jointly plan and coordinate programs across Department of Defense (DoD), and report on the state of the health of Human Systems and related science and technology.

Technology Focus

Roadmaps describe technology goals with multiple applications

Weapons Technologies

The Weapons Technologies COI serves as the mechanism for the Components to understand technical capabilities and roadmap / integrate S&T efforts to address operational challenges, mitigate foreign threats, affordably-extend weapons performance, and develop leap-ahead offsets. Technology development thrusts (subareas) involve guidance navigation & control (GN&C) and data links, ordnance, propulsion, undersea weapons, high energy lasers (HEL), radio frequency weapons (RFW), and non-lethal weapons (NLW). Advances in technology thrust areas are integrated, prototyped, and demonstrated in the Guided Weapon Demonstrators (GWD) subarea. The applications for the technologies in this COI are air, naval, ground, offensive, defensive, tactical, theater, or strategic weapons including missiles (conventional and hypersonic), bombs, rockets, artillery, mortars, torpedoes, mines, guns, launchers, and projectiles.

Advanced Electronics

The advanced electronics technologies encompassed by the Advanced Electronics COI include those that provide for the processing of information; detection of chemical, biological, radiological and nuclear threats; radio frequency (RF) sensing, transmission, communication; electro-optical/infrared (EO/IR) sensing, transmission and communication; motion detection including assured references; and the underlying enabling technologies, among others.

Materials & Manufacturing Processes (M&MP)

The purpose of the M&MP COI is to provide National leadership in developing technology-based options for advanced materials and processes for the Department of Defense. The COI delivers technology products as well as the scientific and engineering expertise needed to maintain and enhance U.S. Defense capability. The COI achieves these objectives through direct integration and coordination of eight (8) key technology activities and by continuing collaboration with the best expertise available in related activities across the broader materials and manufacturing fields, whether domestic or international. The cross-DoD technology teams currently making up the COI include SMEs in the materials and manufacturing processes for the following Structures and Protection; Propulsion and Extreme Environments; Sensors, Electronics, and Photonics; Power and Energy; Readiness; Individual Warfighter; Civil Engineering; and Corrosion.