NDIA

2018 CBRN DEFENSE CONFERENCE & EXHIBITION

July 24 – 25, 2018

Chase Center on the Riverfront

Wilmington, DE

NDIA.org/CBRN18

CONTENTS

WHO WE ARE

The National Defense Industrial Association is the trusted leader in defense and national security associations. As a 501(c)(3) corporate and individual membership association, NDIA engages thoughtful and innovative leaders to exchange ideas, information, and capabilities that lead to the development of the best policies, practices, products, and technologies to ensure the safety and security of our nation. NDIA's membership embodies the full spectrum of corporate, government, academic, and individual stakeholders who form a vigorous, responsive, and collaborative community in support of defense and national security. For more information, visit **NDIA.org**

SCHEDULE AT A GLANCE

MONDAY, JULY 23

Exhibitor Move In
12:00 - 5:00 pm

TUESDAY, JULY 24

Breakfast
7:00 - 8:30 am

General Session
8:30 am - 4:00 pm

Exhibit Hall Open
9:00 am - 6:00 pm

The 100th U.S. Army Chemical Corps Anniversary Time Capsule Ceremony
10:15 - 11:15 am

Lunch
11:15 am - 1:15 pm

U.S. Army Chemical Corps 100th Anniversary Cake Cutting Ceremony
3:45 - 4:00 pm

Reception
4:00 - 6:00 pm

WEDNESDAY, JULY 25

Breakfast
7:00 - 8:00 am

General Session
8:00 am - 3:45 pm

Exhibit Hall Open
9:00 am - 2:30 pm

Lunch
12:15 - 1:30 pm

JOINT PROGRAM EXECUTIVE OFFICE FOR CHEMICAL, BIOLOGICAL, RADIOLOGICAL AND NUCLEAR DEFENSE

The Joint Program Executive Office for Chemical, Biological, Radiological and Nuclear Defense is headquartered at Aberdeen Proving Ground, Edgewood Area and manages our nation's investments in chemical, biological, radiological, and nuclear (CBRN) defense equipment. JPEO-CBRND supports all services, from protective masks for the soldiers walking the streets of a battle torn country to our Airmen flying in our skies. JPEO-CBRND also works closely with various government agencies that need CBRN defense equipment.

Co-sponsorship of this event does not imply endorsement of NDIA, its services, or products by the United States Government, the Department of Defense, or JPEO-CBRND.

WELCOME TO 2018 CBRN DEFENSE CONFERENCE & EXHIBITION

DEAR ATTENDEES,

Welcome to the 2018 CBRN Defense Conference and Exhibition. This event reinforces the commitment of NDIA and the industrial base in partnering with DoD to ensure innovations in capability and readiness for our nation's chemical, biological, radiological and nuclear (CBRN) defense systems and equipment. The conference is designed to provide the opportunity to examine all aspects of CBRN Defense systems and technologies that underpin our military power today and in the future. This year the program emphasizes the evolving relationships between DoD and industry.

The Department of Defense is focused on remapping the way they do business, and they have highlighted industry collaboration as a top priority to accomplish readiness and modernization goals for future combat systems, survivability, and securing the nation's defense.

The conference is hosted by the NDIA CBRN Defense Division and the Chemical Biological Defense Acquisition Initiatives Forum, with attendance from the Joint Program Executive Office for Chemical, Biological, Radiological and Nuclear Defense. This year features many opportunities to listen to and interact with key leaders in acquisition and understand CBRN requirements definition; to receive in depth information on Other Transactional Agreements and their use in innovative CBRN capability acquisition; and to learn of potential business opportunities in current and future CBRN joint program requirements.

The CBRN Defense Conference and Exhibition will also provide a venue that will spotlight emerging CBRN defense national/international technologies; medical solutions and advanced development and manufacturing needs; along with promising research and development opportunities from our interagency partners. Like last year, look for another exciting and interactive Aberdeen Proving Ground Team CBRNE booth. Representatives from both the medical and non-medical DoD programs will be on hand to answer questions and host presentations.

This is an exciting year for the CBRN defense community, as we celebrate the 100th Anniversary of the United Sates Army Chemical Corps celebration at the CBRN Defense Conference and Exhibition. There will be a special Time Capsule Ceremony along with a Cake Cutting Celebration to mark this historic 100th Anniversary.

Thank you to the exhibit hall sponsors of this event who have stepped up to provide the support so vital in providing a quality experience for all participants. We appreciate their partnership and urge you to learn more about their capabilities.

Please enjoy the 2018 CBRN Conference and Exhibition, and I look forward to speaking with you.

COL Armando "Mandy" Lopez, Jr., USA (Ret)
Chairman, CBRN Defense Division
Vice President, Tex-Shield, Inc.

CBRN DEFENSE DIVISION

WHO WE ARE

The NDIA CBRN Defense Division promotes the exchange of information — technical and operational — related to defenses against weapons of mass destruction among the Defense Department and other government agencies, industry and academia. The Division is concerned with the functional areas of traditional defensive measures, chemical weapons demilitarization, treaty compliance, industrial base issues and domestic preparedness.

EVENT INFORMATION

LOCATION

Chase Center on the Riverfront
815 Justison Street
Wilmington, DE 19801

EVENT WEBSITE

NDIA.org/CBRN18

WIFI

Username: Chase Center
No password is necessary

ATTENDEE ATTIRE

Civilian: Business
Military: Uniform of the day

SURVEY AND PARTICIPANT LIST

A survey and list of attendees (name and organization only) will be emailed to you after the Conference. NDIA would appreciate your time in completing the survey to help make our event even more successful in the future.

EVENT CONTACT

Carol Dwyer
Meeting Planner
(703) 247-2582
cdwyer@ndia.org

Sarah O'Hanley
Manager, Exhibits & Sponsorships
(703) 247-2582
sohanley@ndia.org

PLANNING COMMITTEE

Armando "Mandy" Lopez
Tex-Shield, Inc.

Dwayne Green
JPEO-CBRND

Lauren Ishmael
JPEO - CBRND

Steven Lusher
JPEO - CBRND

Jennifer Nicholson
JPEO - CBRND

Jessica Stillman
JPEO-CBRND
Patricio Enterprises, Inc.

SPEAKER GIFTS

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

HARASSMENT STATEMENT

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

AGENDA

TUESDAY, JULY 24

7:00 am - 5:00 pm

REGISTRATION
LOBBY

7:00 - 8:30 am

NETWORKING BREAKFAST
GOVERNORS' HALL

8:30 - 8:35 am

NDIA WELCOME
RIVERFRONT BALLROOM

CAPT Frank Michael, USN (Ret)
Senior Vice President, Program Development, NDIA

8:35 - 8:40 am

CALL TO ORDER AND ADMINISTRATIVE ANNOUNCEMENTS
RIVERFRONT BALLROOM

COL Armando "Mandy" Lopez, Jr., USA (Ret)
Chair, NDIA Chemical, Biological, Radiological and Nuclear Defense Division
Vice President, Tex-Shield, Inc.

8:40 - 8:45 am

WELCOME TO WILMINGTON
RIVERFRONT BALLROOM

Honorable Michael Purzycki
Mayor, Wilmington, DE

8:45 - 9:15 am

KEYNOTE SPEAKER
RIVERFRONT BALLROOM

Dr. Charles Ball
Deputy Assistant Secretary of Defense for Threat Reduction and Arms Control, U.S. Department of Defense

9:00 am - 6:00 pm

EXHIBIT HALL OPEN
WILMINGTON HALL

9:15 - 9:45 am

KEYNOTE SPEAKER
RIVERFRONT BALLROOM

Dr. David Christian Hassell
Deputy Assistant Secretary of Defense for CBD, U.S. Department of Defense

9:45 - 10:15 am

CBRN INSPECTION TRENDS

RIVERFRONT BALLROOM

LTG Leslie Smith, USA
The Inspector General of the Army, U.S. Army

10:15 - 11:15 am

THE 100TH U.S. ARMY CHEMICAL CORPS ANNIVERSARY TIME CAPSULE CEREMONY

RIVERFRONT BALLROOM

11:15 am - 1:15 pm

LUNCH

GOVERNORS' HALL

1:15 - 1:45 pm

OUTSCIENCING THE ENEMY

RIVERFRONT BALLROOM

Dr. Ronald Hann
Director, Research & Development (J9) CHEM & BIO Technologies Department, Defense Threat Reduction Agency

1:45 - 2:15 pm

ARMY MODERNIZATION

RIVERFRONT BALLROOM

COL Christopher J. Cox, USA
Director of Materiel, HQDA, G-8

2:15 - 2:45 pm

CBRN OPERATIONS FORCE MODERNIZATION

RIVERFRONT BALLROOM

Scott Kimmell
Deputy Commandant, U.S. Army CBRN School

2:45 - 3:15 pm

20TH CBRNE COMMAND – SYNCHRONIZING A COMPLEX COMMAND

RIVERFRONT BALLROOM

BG James Bonner, USA
Commanding General, 20th CBRNE Command

3:15 - 3:45 pm

OVERVIEW OF THE U.S. NATIONAL DEFENSE POSTURE AND DEFENSE SPENDING OUTLOOK

RIVERFRONT BALLROOM

LTG Thomas Spoehr, USA (Ret)
Director, Center for National Defense, The Heritage Foundation

3:45 - 4:00 pm

U.S. ARMY CHEMICAL CORPS 100TH ANNIVERSARY CAKE CUTTING CEREMONY

RIVERFRONT BALLROOM

CSM Kenneth Graham
Command Sergeant Major, 20th CBRNE Command

4:00 - 6:00 pm

RECEPTION IN THE EXHIBIT HALL AREA

WILMINGTON HALL

6:00 pm

CONFERENCE CONCLUDES FOR THE DAY

WEDNESDAY, JULY 25

7:00 am - 3:00 pm

REGISTRATION

LOBBY

7:00 - 8:00 am

BREAKFAST

GOVERNORS' HALL

8:00 - 8:15 am

CALL TO ORDER AND ADMINISTRATIVE ANNOUNCEMENTS

RIVERFRONT BALLROOM

COL Armando "Mandy" Lopez, Jr., USA (Ret)
Chair, NDIA Chemical, Biological, Radiological and Nuclear Defense Division
Vice President, Tex-Shield, Inc.

8:15 - 8:45 am

WE ARE JPEO

RIVERFRONT BALLROOM

Douglas Bryce
Joint Program Executive Officer, JPEO - CBRND

9:00 am - 2:30 pm

EXHIBIT HALL OPEN

WILMINGTON HALL

8:45 - 9:45 am

DOD'S OTHER TRANSACTION AUTHORITY

RIVERFRONT BALLROOM

Dr. Joanne Abbott
Attorney & OTA SME, JPEO for Chemical & Defense, CWMD Program

9:45 - 10:45 am

NETWORKING BREAK

WILMINGTON HALL

10:45 - 11:15 am

ASPR 2018 – NEW DIRECTIONS AND OPPORTUNITIES

RIVERFRONT BALLROOM

Dr. George Korch
Senior Science Advisor, Assistant Secretary for Preparedness and Response,
Department of Health and Human Services

11:15 - 11:45 am

DEVELOPING JOINT CBRN DEFENSE CAPABILITIES

RIVERFRONT BALLROOM

COL Daryl Hood, USA
Deputy Director, JRO for CBRND, Joint Staff (J-8)

11:45 am - 12:15 pm

ACQUISITION REFORM

RIVERFRONT BALLROOM

LTG Paul A. Ostrowski, USA
Principal Military Deputy to the Assistant to Secretary of the Army (Acquisition, Logistics and Technology) and Director of the Army Acquisition Corps, U.S. Army

12:15 - 1:30 pm

NETWORKING LUNCH

GOVERNORS' HALL

1:30 - 2:00 pm

U.S. ARMY RESEARCH, DEVELOPMENT, AND ENGINEERING COMMAND

RIVERFRONT BALLROOM

Dr. Eric Moore
Director, U.S. Army RDECOM, Edgewood Chemical Biological Center

2:00 - 2:30 pm

DHS EFFORTS TO COUNTER WMD THREATS

RIVERFRONT BALLROOM

Andre Watson
Principal Deputy Assistant Secretary, Countering Weapons of Mass Destruction Office,
U.S. Department of Homeland Security

2:30 pm

EXHIBIT AREA CLOSES

WILMINGTON HALL

2:30 - 3:30 pm

JPEO-CBRND JPM PANEL

RIVERFRONT BALLROOM

Dr. David Cullin
V.P. Research, Development & Programs, FLIR Systems
Moderator

Dr. Charles Bass
Chief, Protection & Hazard Mitigation Division, DTRA

COL David Hammer, USA
Joint Project Manager Medical Countermeasure Systems, JPEO-CBRND

Scott Paris
Joint Project Manager Protection,JPEO-CBRND

Col Anna Schneider, USAF
Joint Project Manager Guardian, JPEO-CBRND

Scott White
Joint Project Manager Information Systems JPEO-CBRND

COL Jeffrey Woods, USA
Joint Project Manager Nuclear, Biological, and Chemical Contamination Avoidance, JPEO-CBRND

3:30 - 3:45 pm

CLOSING COMMENTS

RIVERFRONT BALLROOM

Douglas Bryce
Joint Program Executive Officer, JPEO - CBRND

3:45 pm

CONFERENCE ADJOURNMENT

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

VENUE MAP

THANK YOU TO OUR REGISTRATION SPONSOR

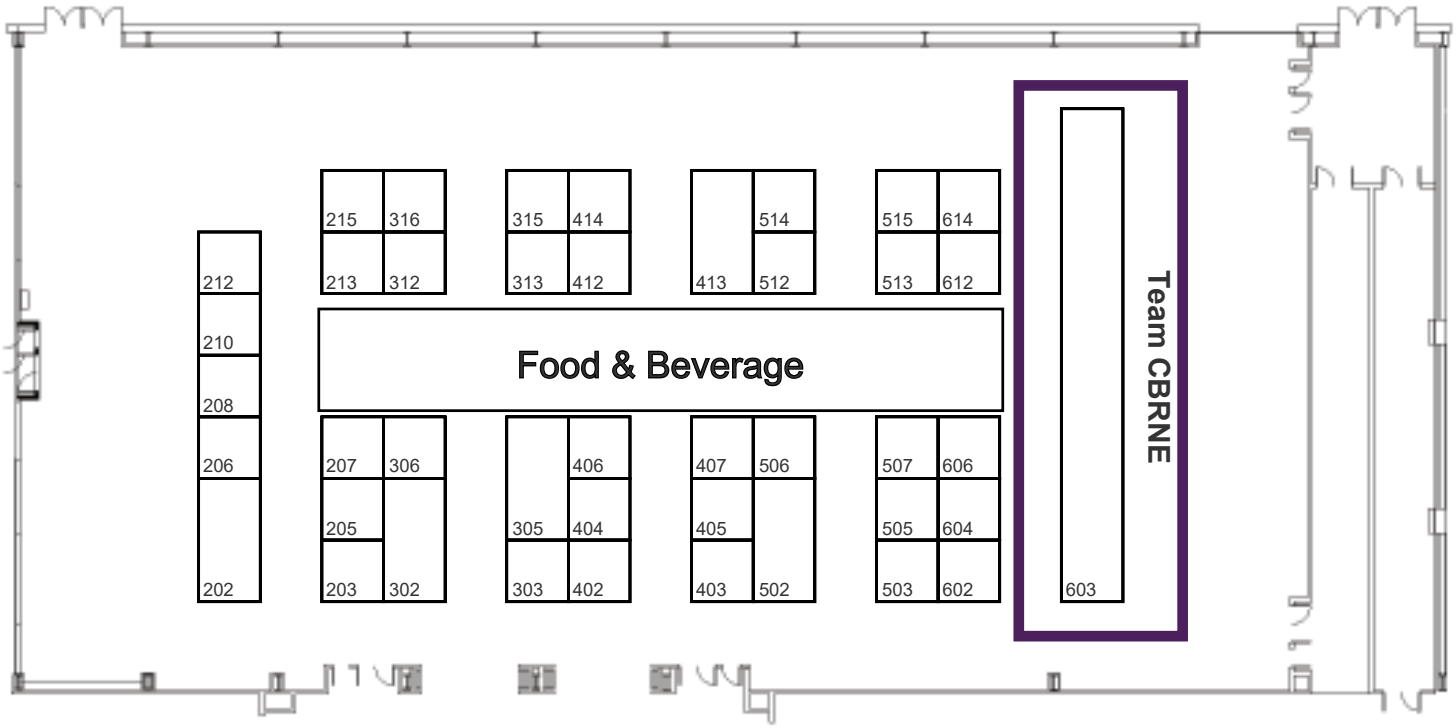
FLIR®

EXHIBIT HALL HOURS

TUESDAY, JULY 24
9:00 am – 6:00 pm

WEDNESDAY, JULY 25
9:00 am – 2:30 pm

FLOOR PLAN



Entrance

REGISTER NOW

21ST ANNUAL SYSTEMS ENGINEERING CONFERENCE

October 22 – 25, 2018

Grand Hyatt Tampa Bay

Tampa, FL

NDIA.org/SE18

EXHIBITORS BY BOOTH NUMBER

As of 7.18.18

EXHIBITOR DESCRIPTIONS

908 DEVICES 403

MX908TM increases mission support with unmatched flexibility and trace detection power for responders in priority drug, chemical, explosive and high-threat hazmat scenarios. Leveraging the power of HPMS, MX908 lightens the overall technology burden by displacing other less selective technologies from the response toolkit.

ADS 202

ADS is the world's premier equipment, procurement, and solutions specialist to the US Military. We ensure mission success, operational efficiency, and cost savings for our customers by partnering with leading manufacturers of CBRN equipment. Bring us your mission requirement and we will help you identify the best solutions to meet it. We will offer you a range of contract vehicles for procurement to get your equipment when and where you need it. Our Purpose. Your Mission

AIR TECHNIQUES INTERNATIONAL 205

ATI is a recognized global leader in the development, manufacture, and service of equipment for testing high purity air filters and protective masks, including the JSMLT, 2HF, 99B, and 100P.

AIRBOSS DEFENSE 503

ABD; ISO Registered, manufacturer of technically advanced, highest quality, patented Personal Protective Equipment (PPE); Masks, Over Boots, Gloves, Powered Air Purifying Respirators (PAPRs). We manufacture rapidly deployable, tested/durable Articulating Framed Shelters/Shelter Systems, Negative Pressure Individual Isolation Transportation Systems (ISO-PODS), Filters and thermal targets for military organizations and civilian first responders.

ALION SCIENCE AND TECHNOLOGY CORP. 210

Alion has provided scientific and engineering solutions to the DoD for over 80 years. We apply innovative solutions across the entire acquisition process, from concept development to production and manufacturing, with an emphasis on technology transition. As a mid-tier systems integrator, we provide systems design and engineering, modeling/simulation, software development, and test and evaluation R&D. We have integrated radiation detectors into operational prototypes and delivery platforms.

AVON PROTECTION SYSTEMS INC. 306

Avon Protection Systems, a global leader in respiratory protection for the military, first responder, fire and industrial markets, boasts an unrivalled 80 year pedigree in military mask design and manufacture. Our global installation of Personal Protective Equipment (PPE) is at frontlines of today's national defense, first responders, industrial, and tactical deployment strategies.

BATTELLE 305

For 30 years, government agencies and industry have trusted Battelle to solve their most complex chemical and biological defense challenges. Tap our expertise spanning decades and dozens of interrelated scientific disciplines, unmatched chemical and biological test facilities, advanced product design and manufacturing, and objectivity as the world's largest independent R&D organization.

BIOFIRE DEFENSE 312

At BioFire Defense we deliver a fully integrated suite of biological agent identification products, including the FilmArray, and RAZOR EX Systems to the biodefense and first responder community. Our products and services speed up medical results, help people stay healthy and make communities more secure. Simply put, we make the world a safer and healthier place.

BLAUER MANUFACTURING CO. INC. 313

BRIMROSE CORP OF AMERICA 604

BTC is a leader in AOTF-NIR remote sensing technology, a field we have been heavily invested in for 30 years. Working with DoD and various DoD labs, we are at the cutting edge of chemical, biological, radiation and nuclear detection. We offer many tools, including crystal growth characterization, photorefractivity, hyperspectral imaging and NIR analysis. Applications include powder analysis and identification, gas identification, LIBS, planetary soil analysis, optical taggants, and many more.

BRUKER DETECTION CORP. 507

Bruker Detection Corporation is a worldwide leader in supplying high performance CBRNE detection instruments for substance detection and pathogen identification in security, defense, and law enforcement applications.

CALGON CARBON CORP. 612

Calgon Carbon, the world's largest producer of granular activated carbon, supplies more than 100 types of activated carbon products—in granular, powdered, pellet, and cloth form—for more than 700 distinct applications. The company operates production facilities in North America, Europe, and Asia. Calgon Carbon maintains the most advanced R&D organization in the industry and manages an expanding network of sales and service centers worldwide. Visit www.calgoncarbon.com for more information.

CWMD/MCDC CONSORTIA ATI 602

The Countering Weapons of Mass Destruction (CWMD) Consortium and the Medical CBRN Defense Consortium (MCDC) consist of business and academic entities across the medical, CBRN, WMD and defense industries assembled to address the DoD's need for innovative, safe and effective medical solutions to counter CBRN threats and technologies to counter WMD. They operate through an Other Transaction Agreement (OTA) with JPEO-CBRND and are managed by Advanced Technology International (ATI).

D. WHEATLEY ENTERPRISES INC. 303

D. Wheatley Enterprises, Inc. (DWE) is an engineering, development and manufacturing company whose core competency is life-support systems design and development supported by capabilities in injection molding and polymer systems for the CBRN protection/detection. Special Projects Operations, Inc. (SPO) is a global leader in the research, development and manufacturing of advanced hybrid life support systems, exothermic cutting torch technologies, and air and oxygen management systems.

DECON7 SYSTEMS LLC 206

Decon7 Systems LLC develops and manufactures tactical decontamination solutions for military, public safety, and security professionals worldwide. On top of large scale solutions, D7's portable, ready-to-use low burden systems are able to seamlessly reduce the spread of contamination and minimize exposure risk to soldiers and first responders.

DEFENDER PHARMACEUTICALS INC. 505

Defender Pharma is a development-stage pharmaceutical company focused on the discovery, development & partnering of novel anti-emetic compounds. Our primary focus is the development of scopolamine as a motion sickness countermeasure, specifically for military & for astronauts, filling an unmet need for an easily-administered, fast-acting motion sickness remedy leading to life- & mission-threatening debilitation. Scopolamine may also been used as treatment for depression, PTSD & chemical defense.

DESIGN WEST TECHNOLOGIES INC. 213

Design West Technologies, Inc. (DWT) is an innovative R&D and manufacturing solution provider of a complete portfolio of design, products, services and solutions in detection and protection for the CBRN industry and US Government. DWT is engaged in the development of CNT-based sensors and monitors, CBRN filters and filtration systems, as well as engineering services from concept development, engineering test, and producibility/LRIP, to final build and test.

DRAEGER 404

For more than 100 years, Dräger has focused on one goal: human safety. By working closely with military and civil forces, we have learned about the dangers you face on a daily basis. Using state-of-the-art technology, we develop products based on knowledge of your special requirements. Dräger solutions include respiratory protection systems, portable gas detectors and monitors, diving equipment, and NBC/CBRNe protection/ detection systems – all backed by service and support points worldwide.

ENDEAVOR ROBOTICS 513

Endeavor Robotics is the world's largest provider of tactical unmanned ground vehicles, delivering more than 6,500 robots to customers in over 40 countries. We design and build the most trusted, rugged, easiest-to-operate robots used to safeguard life and property around the world, whatever the mission. Every day, our products operate in areas of conflict, assist law enforcement agencies, and respond to natural disasters to help save lives.

E-N-G MOBILE SYSTEMS INC. 207

E-N-G Mobile Systems is the leading US designer and manufacturer of mobile laboratories for CBRN threat detection, monitoring and analysis. E-N-G has delivered over 400 mobile labs since 1977 – more than any other US manufacturer. Our versatile, easy-to-operate mobile labs allow fast, on-site identification or confirmation of CBRN hazards and threats and are effective in quickly determining on-site the extent of contaminated areas and in monitoring the progress of remediation efforts.

ENSCO 316

ENSCO CBRN early warning and decision support products offer a comprehensive approach to enterprise and campus security. Our indoor and outdoor systems integrate COTS technologies and innovative enhancements with existing infrastructure to offer a tailored approach to CBRN security. They are backed by proven scientific technology, years of experience, and complementary service offerings to meet unique CBRN protection needs, and are used by some of the world's most valuable facilities.

FAST-ACT 212

FAST-ACT immediately contains or neutralizes acids, bases, and other chemical hazards (including CWAs) safely and in a single response tool. FAST-ACT provides safety benefits beyond traditional measures. The broad range of utility makes FAST-ACT a valuable tool for a variety of environments including: public and commercial transportation, government facilities, laboratories, production facilities, police, fire, and any place where hazardous chemicals are a potential threat.

FEDERAL RESOURCES 302

Federal Resources is the premier single source provider of the customized, integrated solutions your team needs to successfully complete it's next assignment. With more than three decades of specialized experience, coupled with industry connections and trusted partnerships, FR helps military, first responders and organizational professionals equip, train and maintain every component of your next mission, program or project.

FIRST LINE TECHNOLOGY LLC 402

First Line Technology designs, manufactures, and supplies disaster preparedness and response equipment like our medical ambulance bus (the AmbuBus®), our PhaseCore® Cooling Vests, and our line of decontamination equipment (including Dahlgren Decon and FiberTect). We work with first responders and the military to develop innovative products that make their jobs easer and their lives safer.

FLIR SYSTEMS INC. 203

FLIR Systems, Inc. designs, develops, manufactures, markets, and distributes technologies that enhance perception and awareness. We bring innovative sensing solutions into daily life through our thermal imaging systems, visible-light imaging systems, locator systems, measurement and diagnostic systems, and advanced threat detection systems. Our products improve the way people interact with the world around them, enhance public safety and well-being and enable healthy and entertained communities.

HOMELAND DEFENSE AND SECURITY INFORMATION ANALYSIS CENTER 614

The Homeland Defense and Security Information Analysis Center (HDIAC) is one of three Information Analysis Centers sponsored by the Department of Defense. HDIAC reports to the Defense Technical and Information Center on projects performed on the behalf of the Under Secretary of Defense for Research and Engineering. HDIAC leverages expertise from government agencies, academia, and industry to solve the government's toughest scientific and technical problems. For more info visit www.hdiac.org.

ISOVAC PRODUCTS LLC 414

ISOVAC has designed, developed, commercialized, and currently manufactures products that provide Chemical / Biological / Radiological (CBR) isolation and containment of casualties and remains in order to protect personnel, equipment, and transport assets. These products are designed to mitigate the risks and adverse effects of CBRN warfare and terrorist attacks, naturally occurring disease outbreaks and pandemics (e.g., H5N1, SARS, Ebola, etc.), industrial accidents, and natural disasters.

ITL SOLUTIONS 506

ITL Solutions is your source for equipment to meet today's requirements and tomorrow's unknowns. Offering mission specific equipment from Marine Engineering to CBR Decontamination, ITL Solutions is a SDVOSB with the right systems to meet your needs. ITL Solutions is proud to be the US Distributor of the Cristanini S.p.A. line of Chemical, Biological, Radiological Decontamination and Firefighting equipment, a world leader since 1972.

JGW GROUP 502

The JGW Group has spent the last 37 years providing clients with highly specialized support in both the aerospace and defense sectors. Our expertise includes marketing and sales, training, consulting, proposal preparation and management, business development, and contractual intelligence. Our focus areas include CBRNE, Force Protection, and Defense.

ORTEC 412

ORTEC will be demonstrating the new Detective X handheld radioisotope identifier, the latest product in the ORTEC Detective product line. ORTEC Detective products are the standard devices deployed by Customs, Defense, and Intelligence agencies and by many state and local First Responders in the US and around the world. Visit the ORTEC booth to learn more about ORTEC's product to support your CBRN application needs.

POLO CUSTOM PRODUCTS 405

CBRN products are our specialty. Polo Custom Products designs, develops, and delivers custom manufactured CBRN products made in the USA. We specialize in sewn & sealed products, such as CBRN hoods, the original Chemical Protective Patient Wrap, fire suppression bags, contaminated human remains pouches, and modular light-weight load carrying cases. Experienced in working direct with the military & defense contractors. We've been in business over 70 years and can meet Berry Compliance standards.

PROENGIN INC. 512

Chemical & Biological Detection

TACTICAL DEFENSE MEDIA/CST & CBRN/ARMOR & MOBILITY 208

TDM publications provide readers with insights into DoD program requirements and industry technologies that support joint force ops including mounted and dismounted protection systems, intel and comms applications, tactics, and training. TDM publications' mission focus is centered on collecting expert opinion regarding best practices and lessons learned through the eyes of military and civilian authority, warfighters and law enforcement.

TEAM CBRNE 603

Team Chemical, Biological, Radiological, Nuclear and high-yield Explosives (CBRNE) partners form a consolidated CBRNE defense capability on the Edgewood area of Aberdeen Proving Ground, MD. Team CBRNE is made up of: ECBC, USAMRICD, USAMRIID, JPEO-CBRND, CMA, PEO ACWA, 20th CBRNE, USAPHC, and DTRA/JSTO. Team CBRNE has life cycle responsibility for the safety and defense of our Joint Forces, civilians and nation against CBRNE threats; providing medical and material solutions, safe destruction of chemical stockpile and recovered material, expertise in technologies and emerging threats, promoting health and preventing disease/injury, and providing countering weapons of mass destruction products.

TEX-SHIELD INC. 407

SARATOGA®,"the most trusted name in chemical protective clothing" Tex-Shield is the exclusive U.S. licensee of the SARATOGA® chemical protective technology, "The most trusted name in chemical protective clothing." SARATOGA® garments are air permeable, adsorptive systems designed to provide optimal protection against chemical agents. Tex-Shield's products include the JSLIST overgarment, HAMMER Suit®, CWU-66/P and the JPACE flight coveralls

TYR TACTICAL® 606

TYR Tactical® products push the standards of today's tactical equipment, define modularity and scalability and are custom made for you, The Next Generation Warrior®.

VETERAN CORPS – AN INTERFUZE COMPANY 406

Veteran Corps - An INTERFUZE Company delivers the comprehensive, innovative solutions and exceptional performance that our Nation needs to safeguard our freedom and future. With decades of past performance developed in serving Federal missions, we have honed extensive capabilities in engineering, IT and contractor logistics support services needed to address our client's toughest challenges. Our Clients include defense and civil agencies, local first responders across public and private sectors

W. L. GORE & ASSOCIATES INC. 413

For more than 30 years, W. L. Gore & Associates has played a vital role equipping all branches of the military with critical gear and equipment. And over time the military has learned it can count on Gore where it really matters most – in the field.

NOTES

REGISTER TODAY

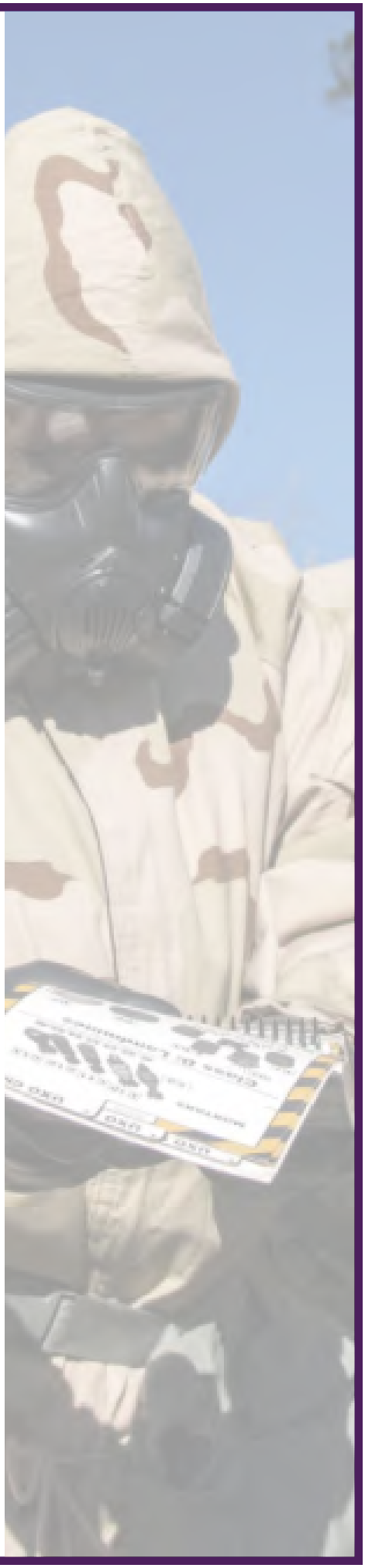
ARMY SCIENCE & TECHNOLOGY SYMPOSIUM SHOWCASE

August 21 – 23, 2018

Walter E. Washington Convention Center

Washington, DC

NDIA.org/Army-Science



NDIA CBRN Defense

July 24, 2018

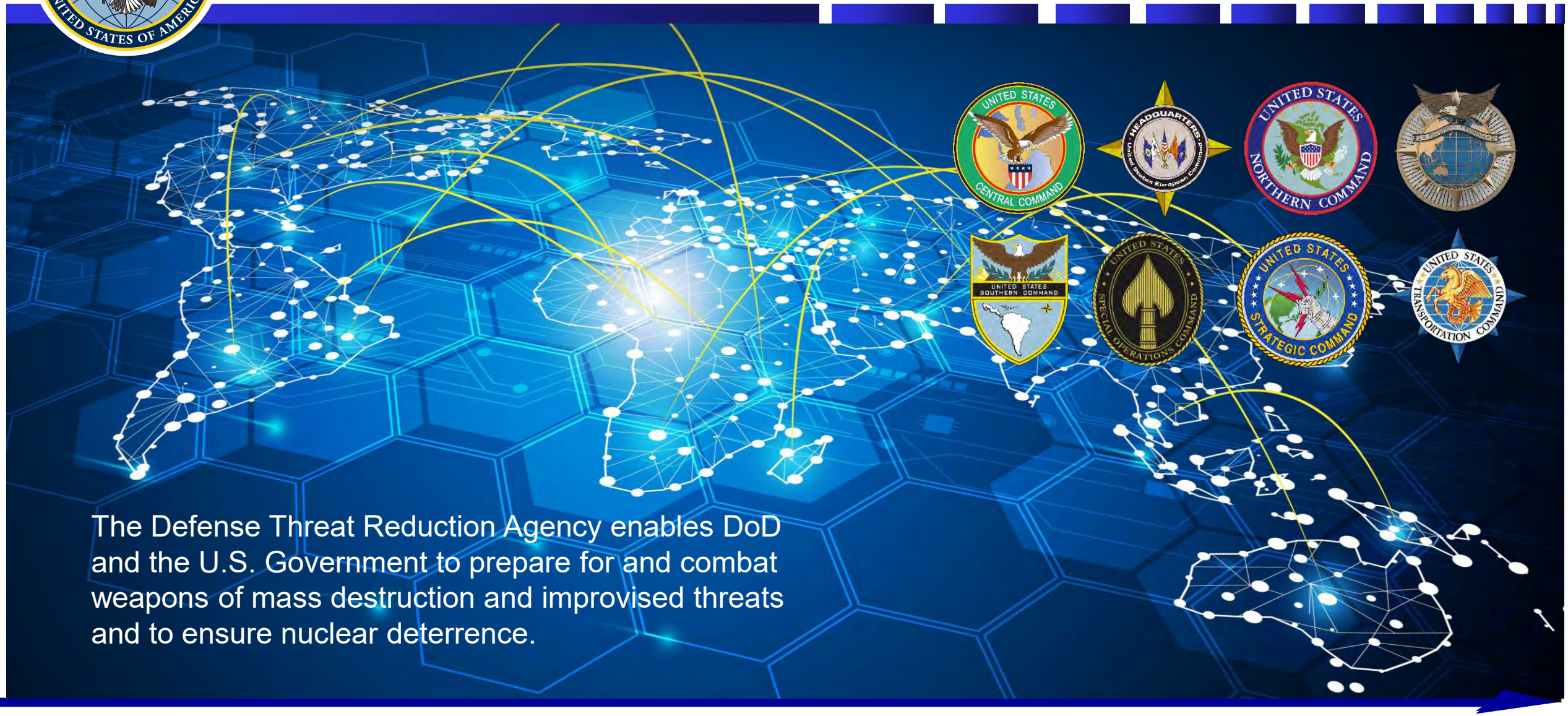
Dr. Ronald K. Hann, Jr.

Director, Chemical and Biological Technologies Department

Joint Science and Technology Office
for Chemical and Biological Defense

Defense Threat Reduction Agency

DTRA Mission



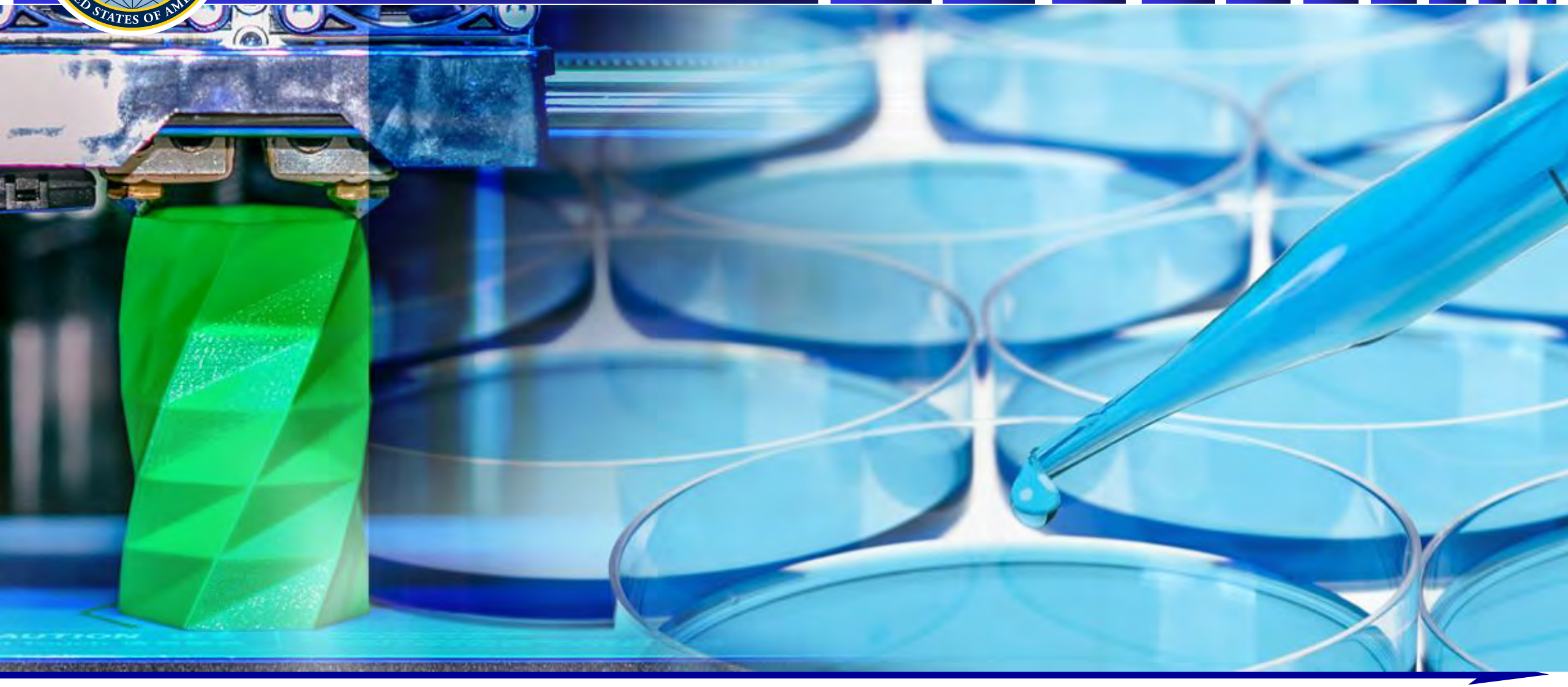
The Defense Threat Reduction Agency enables DoD and the U.S. Government to prepare for and combat weapons of mass destruction and improvised threats and to ensure nuclear deterrence.

Strategy: Deliver S&T Products

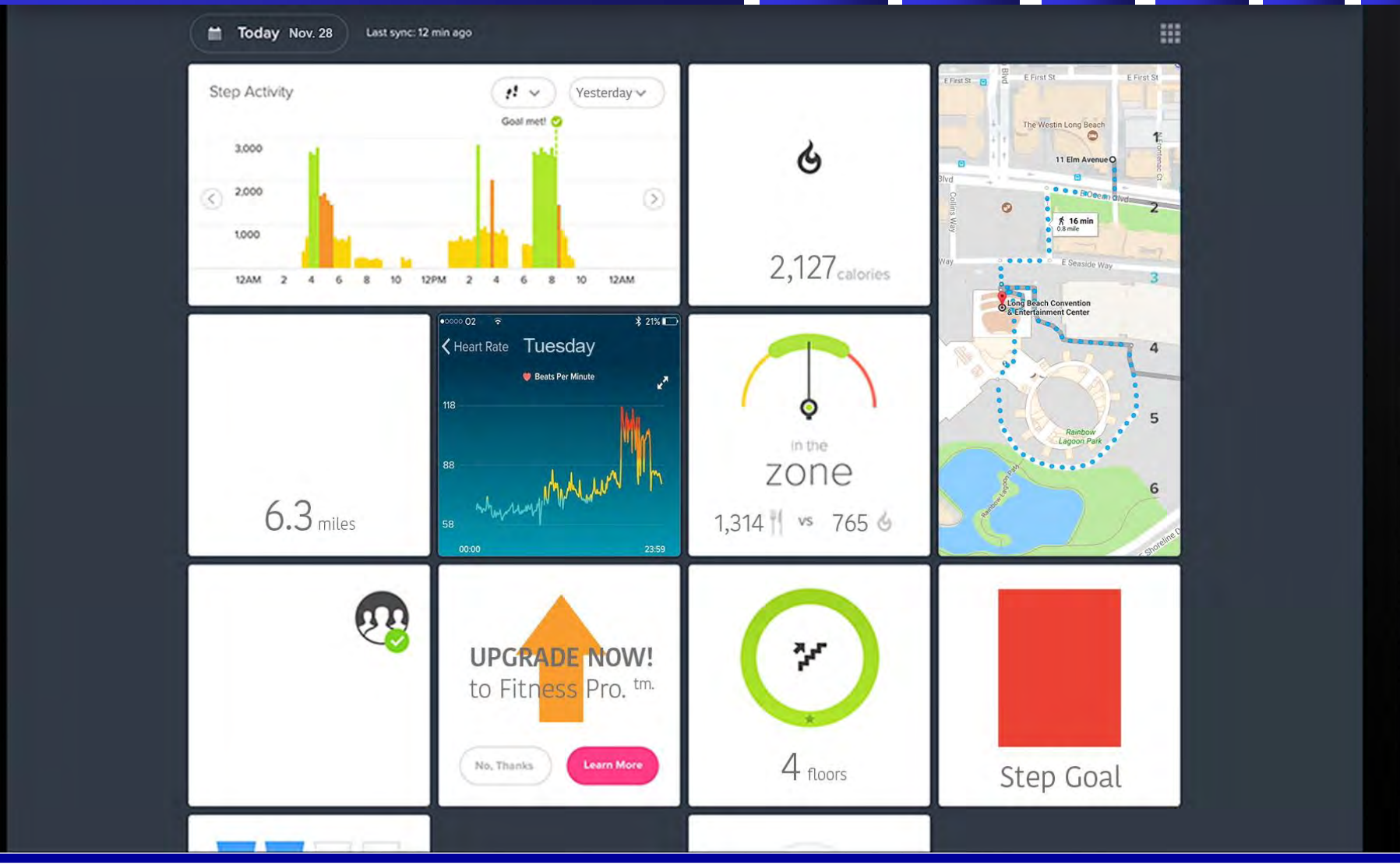
CB Mission: Lead DoD science and technology to anticipate, defend and safeguard against chemical and biological threats for the warfighter and the nation.

“Out-Sciencing” the Enemy

Evolving Weapons

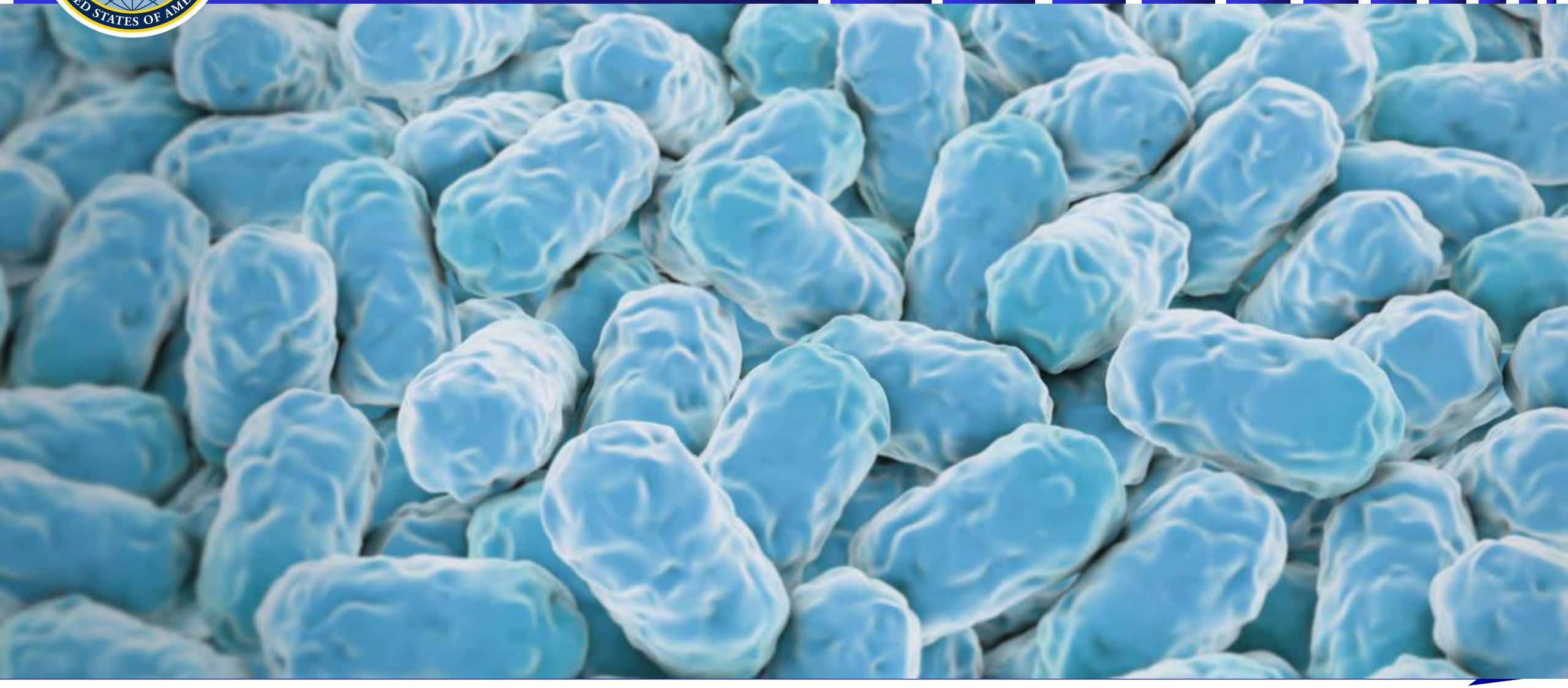


Wearable Technologies for Future Protection

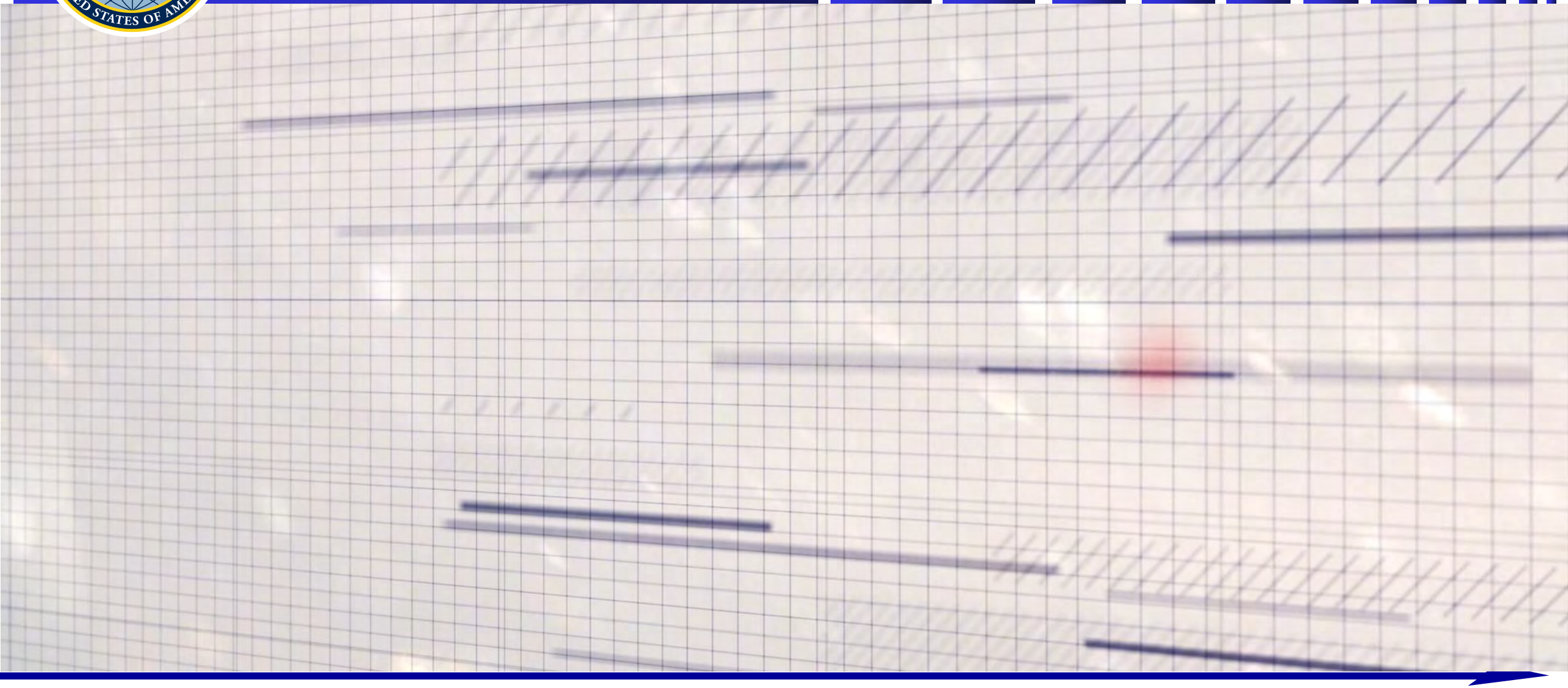


Enhancing Protective Suits

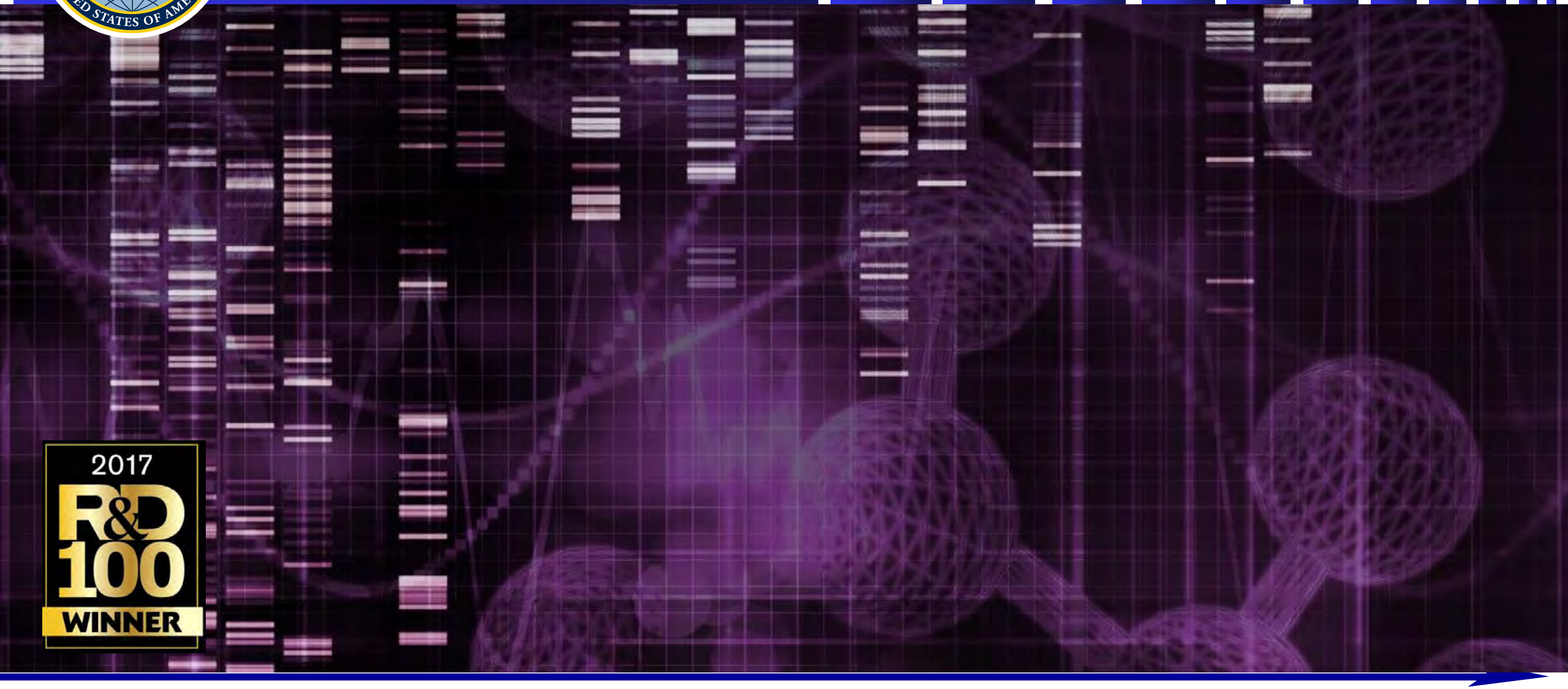
Opportunities with Synthetic Biology



The Promise of Big Data



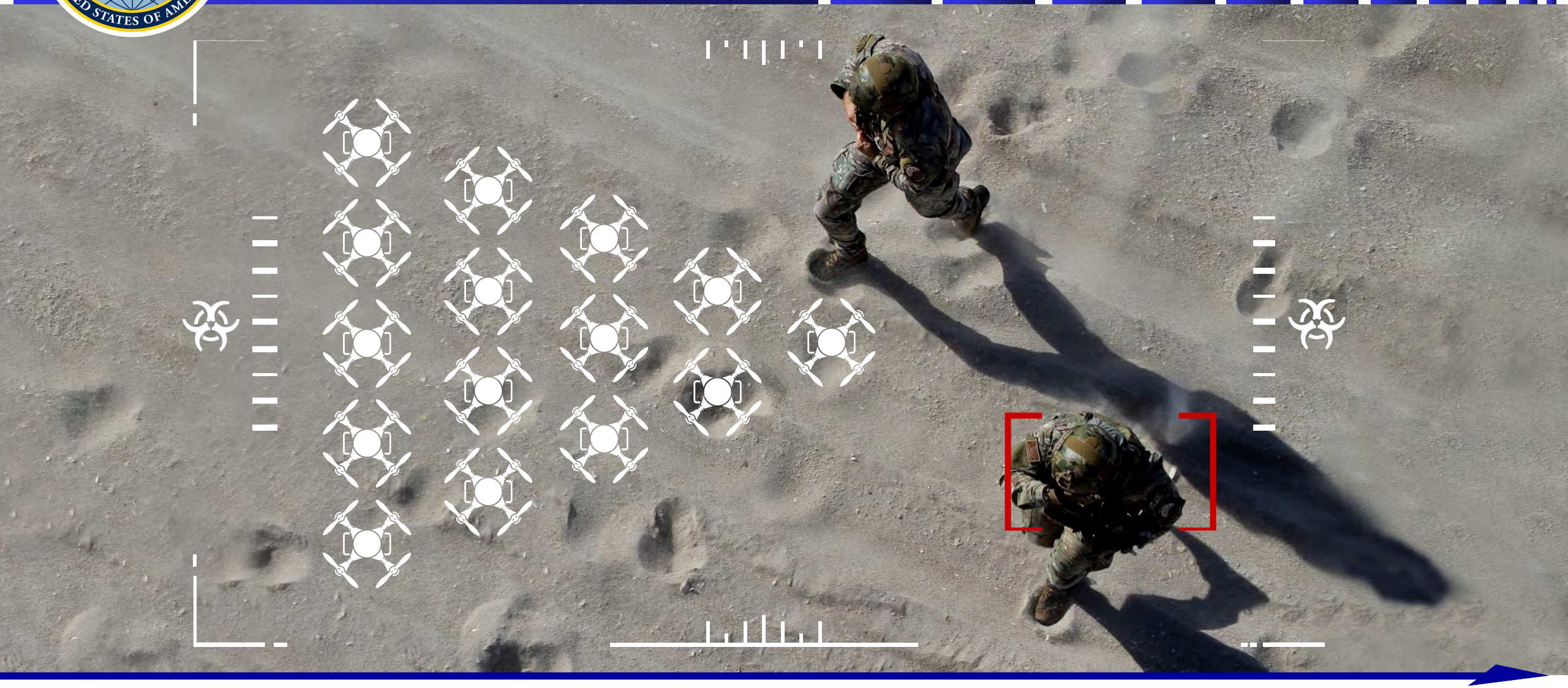
Transforming Industry



Adversaries at Work

Innovation Gone Rogue

Delivering at the Speed of Relevancy



Doing Business with DTRA

Grants.gov

- Fundamental Research BAA: HDTRA1-14-24-FRCWMD-BAA

FBO.gov

- S&T New Initiatives BAA: HDTRA1-17-S-0002-BAA
- Chem-Bio Technologies BAA: HDTRA1-18-S-0001

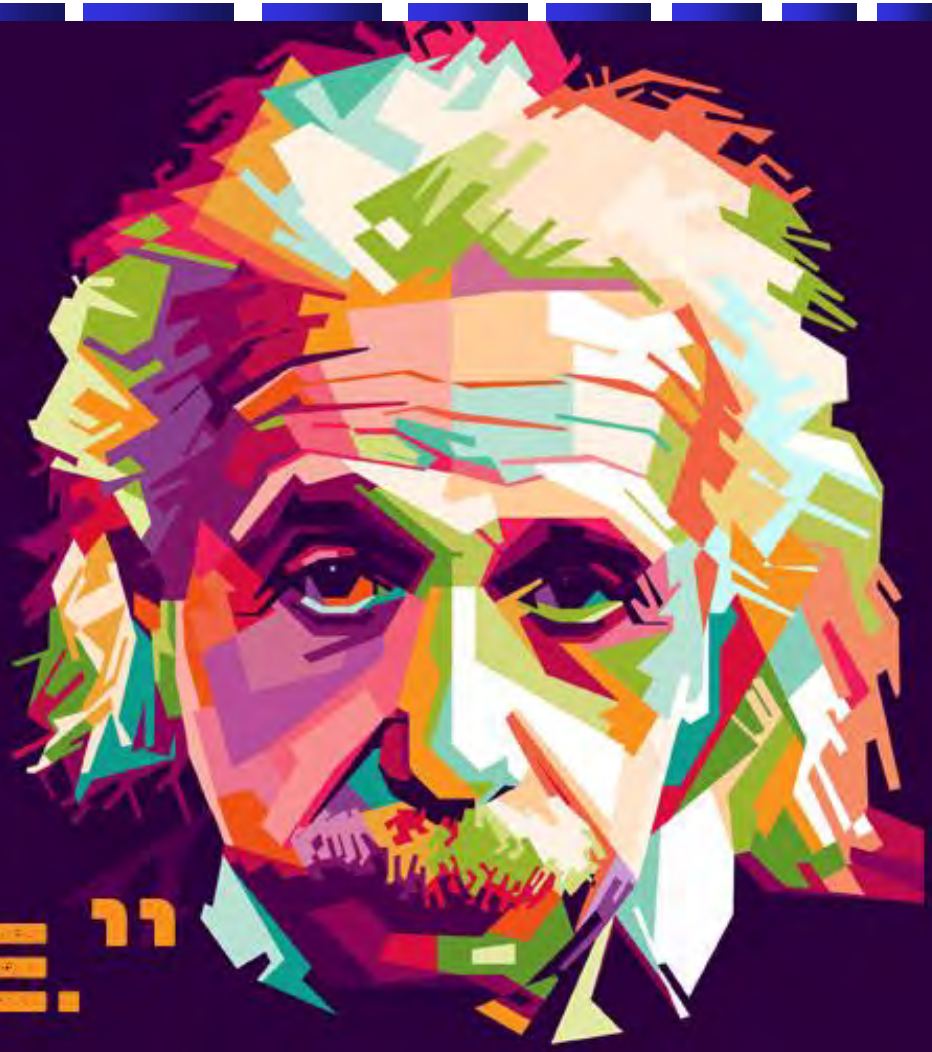
Submit to: www.dtrasubmission.net

Questions? Email: DTRAInnovation@mail.mil

Other Transaction Authority

Innovation and National Security

"IMAGINATION IS MORE IMPORTANT THAN KNOWLEDGE."



CBD S&T Conference

For more information, please visit us at

www.dtra.mil

Visit us
Keyword: DTRA

Download our ebook
Keyword: DTRA

Army Modernization

COL Christopher J. Cox
Director of Materiel, HQDA, G-8

Agenda

- Army Modernization Defined
- Modernization Priorities
- Army Vision
- Thoughts on the Way Ahead

What is Army Modernization?

The U.S. Army's modernization strategy has one focus: make Soldiers and units more lethal to win the nation's wars, and come home safely. The modernization process will leverage commercial innovations, cutting-edge science and technology, prototyping and warfighter feedback.

– Army Stand-To, January 2018

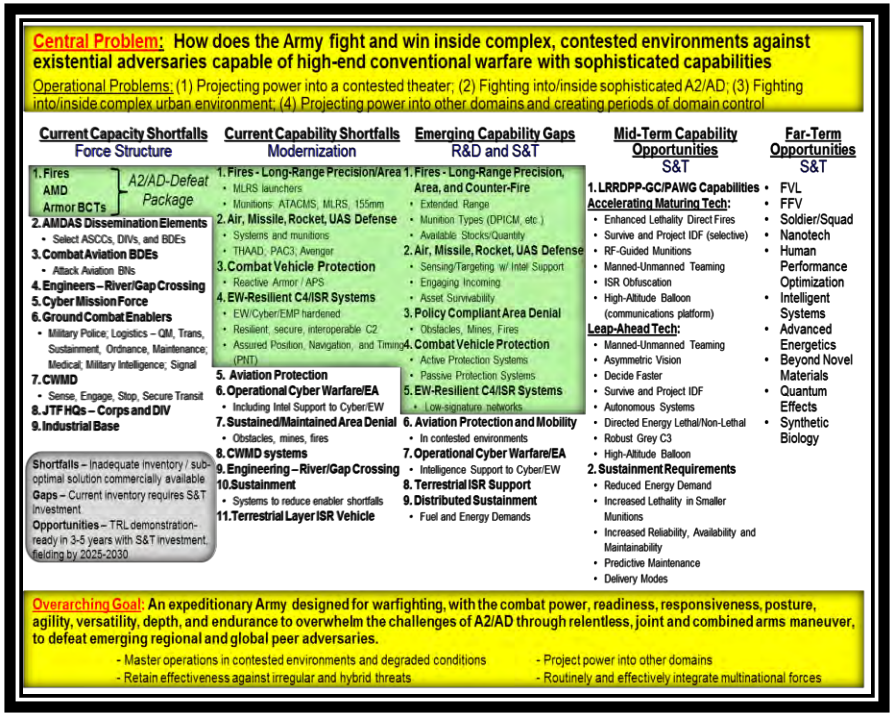
Army Modernization Defined

Definition and Structure

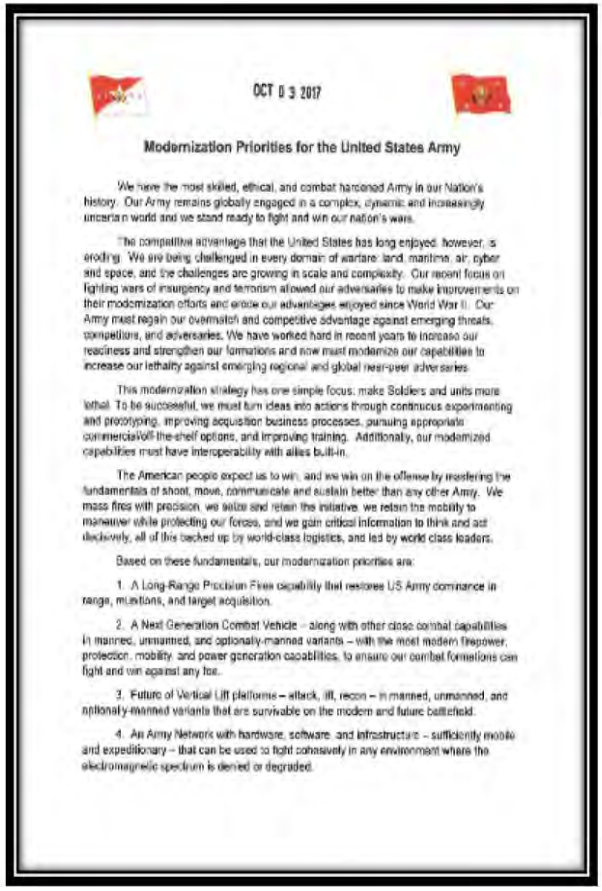
The ability to sustain, improve, or replace combat systems in order to ensure *formation based* tactical overmatch and technological superiority in the current and future fight. To accomplish this, *given current resource guidance*, the U.S. Army will:

- Continue to make *incremental improvements* to existing combat systems to ensure the U.S. can fight and win in the near term (now to ~2025).
- *Focus our Science and Technology* investments, on a *limited number* of prioritized portfolios, to guarantee our Soldiers have formation based tactical overmatch and technological superiority in the mid to long term (~2025 to ~2050).
- Begin prototyping a select number of next generation combat system technologies and vehicles. Begin development as soon as the technologies are mature enough we can rapidly move from prototype to production.
- *Sustain* current combat support and combat service support equipment to extend useful life.
- Continue to *divest* less important capabilities to free up resources for higher priorities.

This is the construct guiding the Army's modernization strategy



Modernization Priorities



OCT 0 3 2017

Modernization Priorities for the United States Army

We have the most skilled, ethical, and combat hardened Army in our Nation's history. Our Army remains globally engaged in a complex, dynamic and increasingly uncertain world and we stand ready to fight and win our nation's wars.

The competitive advantage that the United States has long enjoyed, however, is eroding. We are being challenged in every domain of warfare: land, maritime, air, cyber and space, and the challenges are growing in scale and complexity. Our recent focus on fighting wars of insurgency and terrorism allowed our adversaries to make improvements on their modernization efforts and erode our advantages enjoyed since World War II. Our Army must regain our overmatch and competitive advantage against emerging threats, competitors, and adversaries. We have worked hard in recent years to increase our readiness and strengthen our formations and now must modernize our capabilities to increase our lethality against emerging regional and global near-peer adversaries.

This modernization strategy has one simple focus: make Soldiers and units more lethal. To be successful, we must turn ideas into actions through continuous experimenting and prototyping, improving acquisition business processes, pursuing appropriate commercial/off-the-shelf options, and improving training. Additionally, our modernized capabilities must have interoperability with allies built-in.

The American people expect us to win, and we win on the offense by mastering the fundamentals of shoot, move, communicate and sustain better than any other Army. We mass fires with precision, we seize and retain the initiative, we retain the mobility to maneuver while protecting our forces, and we gain critical information to think and act decisively, all of this backed up by world-class logistics, and led by world class leaders.

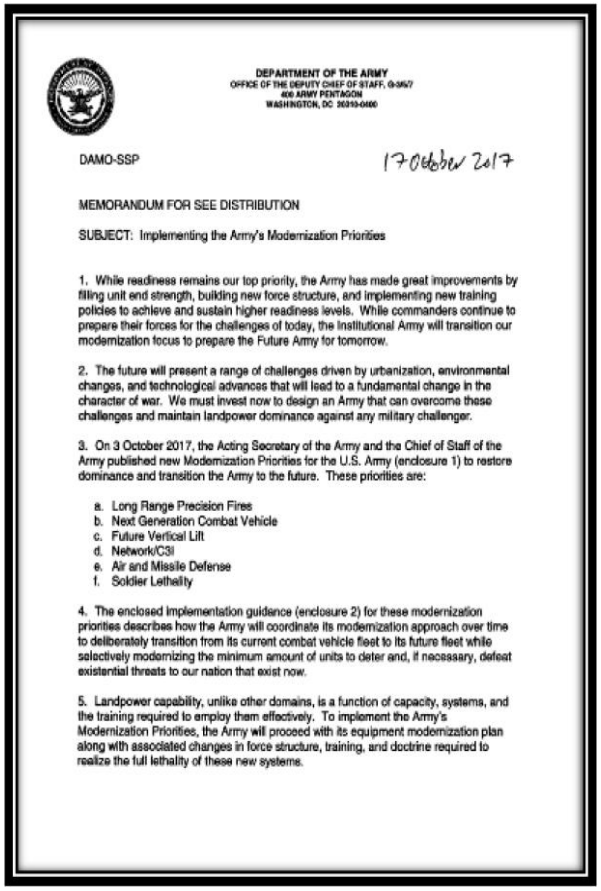
Based on these fundamentals, our modernization priorities are:

1. A Long-Range Precision Fires capability that restores US Army dominance in range, munitions, and target acquisition.

2. A Next Generation Combat Vehicle – along with other close combat capabilities in manned, unmanned, and optionally-manned variants – with the most modern firepower, protection, mobility, and power generation capabilities, to ensure our combat formations can fight and win against any foe.

3. Future of Vertical Lift platforms – attack, lift, recon – in manned, unmanned, and optionally-manned variants that are survivable on the modern and future battlefield.

4. An Army Network with hardware, software, and infrastructure – sufficiently mobile and expeditionary – that can be used to fight cohesively in any environment where the electromagnetic spectrum is denied or degraded.



DEPARTMENT OF THE ARMY
OFFICE OF THE DEPUTY CHIEF OF STAFF, G-3/5/7
400 ARMY PENTAGON
WASHINGTON, DC 20310-0400

DAMO-SSP

17 October 2017

MEMORANDUM FOR SEE DISTRIBUTION

SUBJECT: Implementing the Army's Modernization Priorities

1. While readiness remains our top priority, the Army has made great improvements by filling unit end strength, building new force structure, and implementing new training policies to achieve and sustain higher readiness levels. While commanders continue to prepare their forces for the challenges of today, the Institutional Army will transition our modernization focus to prepare the Future Army for tomorrow.

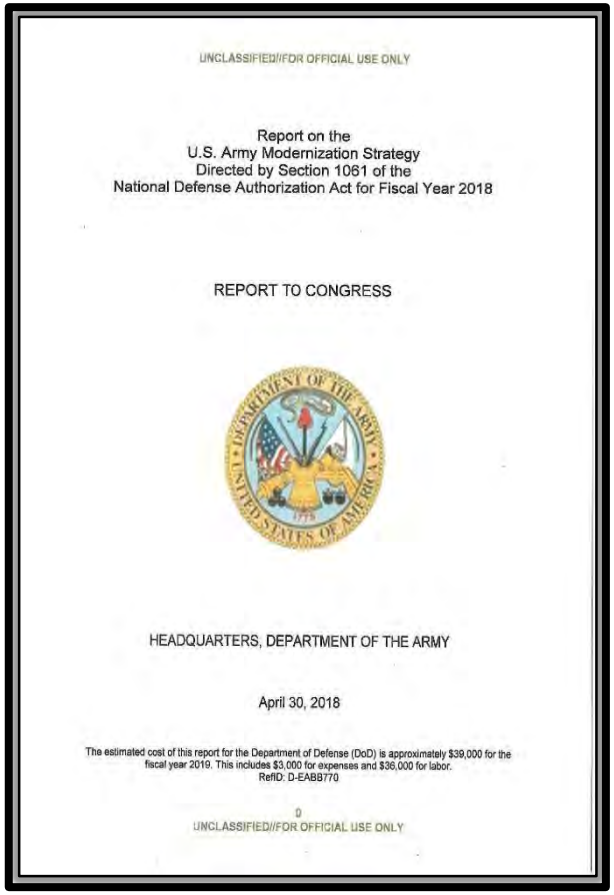
2. The future will present a range of challenges driven by urbanization, environmental changes, and technological advances that will lead to a fundamental change in the character of war. We must invest now to design an Army that can overcome these challenges and maintain landpower dominance against any military challenger.

3. On 3 October 2017, the Acting Secretary of the Army and the Chief of Staff of the Army published new Modernization Priorities for the U.S. Army (enclosure 1) to restore dominance and transition the Army to the future. These priorities are:

a. Long Range Precision Fires
b. Next Generation Combat Vehicle
c. Future Vertical Lift
d. Network/C3I
e. Air and Missile Defense
f. Soldier Lethality

4. The enclosed implementation guidance (enclosure 2) for these modernization priorities describes how the Army will coordinate its modernization approach over time to deliberately transition from its current combat vehicle fleet to its future fleet while selectively modernizing the minimum amount of units to deter and, if necessary, defeat existential threats to our nation that exist now.

5. Landpower capability, unlike other domains, is a function of capacity, systems, and the training required to employ them effectively. To implement the Army's Modernization Priorities, the Army will proceed with its equipment modernization plan along with associated changes in force structure, training, and doctrine required to realize the full lethality of these new systems.



UNCLASSIFIED//FOR OFFICIAL USE ONLY

Report on the
U.S. Army Modernization Strategy
Directed by Section 1061 of the
National Defense Authorization Act for Fiscal Year 2018

REPORT TO CONGRESS

HEADQUARTERS, DEPARTMENT OF THE ARMY

April 30, 2018

The estimated cost of this report for the Department of Defense (DoD) is approximately $39,000 for the fiscal year 2019. This includes $3,000 for expenses and $36,000 for labor.
RefID: D-EABB770

UNCLASSIFIED//FOR OFFICIAL USE ONLY

What is the Army Doing?

The Army published its modernization strategy and priorities on Oct. 3, 2017. Eight Cross-Functional Teams (CFTs) were created to address the six modernization priorities, with two of the priorities, Army Network and Soldier Lethality being further divided into focus areas:

- Long-Range Precision Fires
- **Next Generation of Combat Vehicles**
- **Future Vertical Lift Platforms**
- **Army Network**
  - Network Command, Control, Communications and Intelligence
  - Assured Position Navigation and Timing
- Air and Missile Defense Capabilities
- **Soldier Lethality**
  - Soldier Lethality
  - Synthetic Training Environment

Army Directive 2017-33, published on Nov. 7, 2017, established the Army Futures Command Task Force, to explore all options to establish unity of command and unity of effort that consolidates the Army's modernization process under one roof.

Army Vision

- **Army Mission**: To deploy, fight, and win our Nation's wars by providing ready, prompt, and sustained land dominance by Army forces across the full spectrum of conflict as part of the Joint Force.

- **Army Vision**: The **Army of 2028** will be ready to deploy, fight, and win decisively against any adversary, anytime and anywhere, in a **joint, multi-domain, high-intensity conflict**, while **simultaneously deterring** others **and maintaining its ability to conduct irregular warfare**. The Army will do this through the employment of **modern manned and unmanned ground combat vehicles, aircraft, sustainment systems, and weapons**, coupled with robust combined arms formations and tactics based on a modern warfighting doctrine and centered on exceptional Leaders and Soldiers of unmatched lethality.

- **Objectives**:
  - Man. Grow the Regular Army above 500,000 Soldiers.
  - Organize. Ensure warfighting formations have sufficient infantry, armor, engineer, artillery, and air defense assets.
  - Train. Focus training on **high-intensity conflict**, with emphasis on operating in **dense urban terrain**, **electronically degraded** environments, and under constant **surveillance**.
  - Equip. Modernize the force by first **reforming the current acquisition system** and **unifying** the modernization enterprise under a single command to focus what Soldiers need when they need it, **experimenting** with and developing autonomous systems with **less logistical dependence.**
  - Lead. Develop smart, thoughtful, and **innovative leaders** of character.

Thoughts on the Way Ahead

- **Innovation**:
  - Novel / disruptive technology
  - Use what you have better – ***how do we do this?***

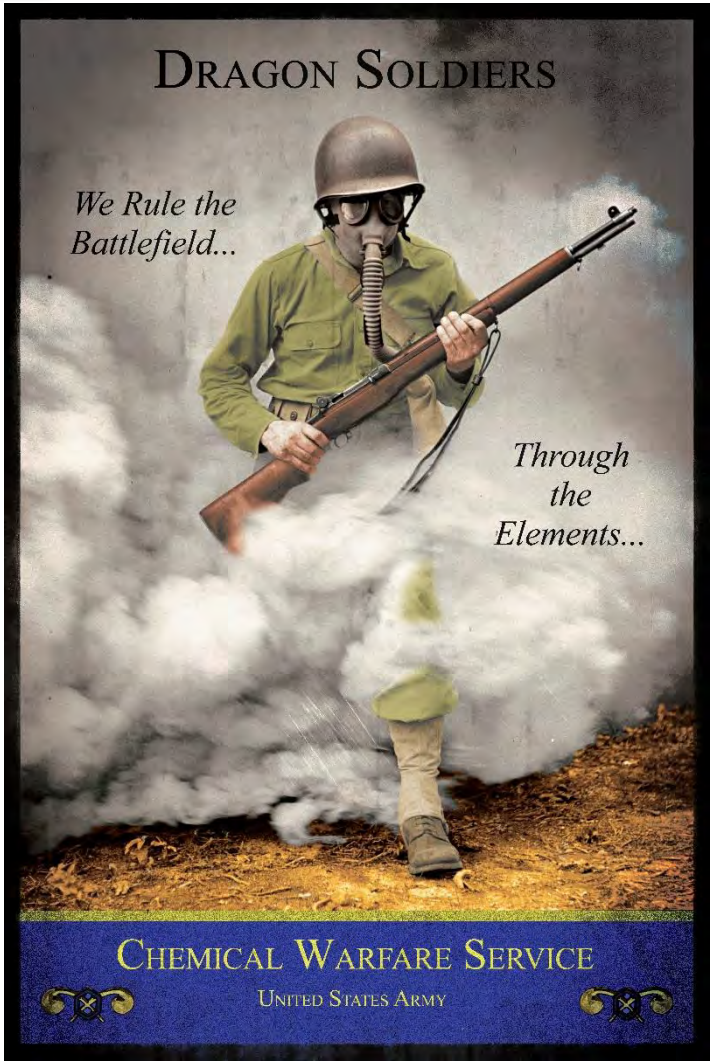
- **Increase Artificial Intelligence**
  - Power Commander's Decision Making
  - Increase Soldier competency and capability

- **Increase Autonomy** across the CBRN Mission Portfolio
  - More than just unmanned or remote sensors
  - Automated decon using non-aqueous technologies
  - Must operate in a contested electro-magnetic environment

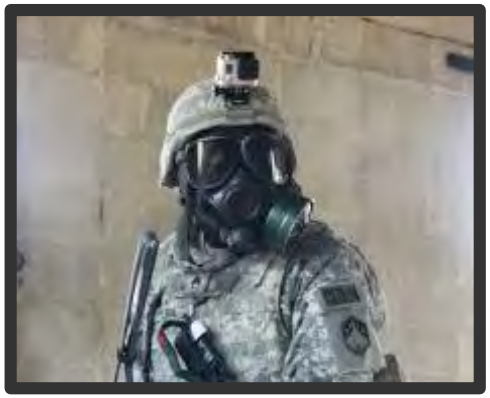
- **Reduce Warfighter Burden**
  - Technology and training overload for CBRN Soldiers
  - Sustainment and Logistics
  - Applique is better

Where do CBRN capabilities fit in the Army's Modernization Priorities?

CBRN Operations Force Modernization

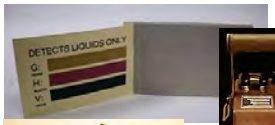


Building CBRN operations capability to 2028 and beyond …



ASSESS – PROTECT – MITIGATE … Ensuring freedom of action in complex CBRN environments

Recent History of Modernization

	ASSESS	PROTECT	MITIGATE
1980s	  	 	  
1990s	  	 	 
2000s	  	 	 
2010s	 		 

A Paradigm Shift

- Transitioned from COIN to LSGCO
- Create a culture shift to embrace innovative thinking and evolving technology – adapt and leverage both as we develop new concepts
- Shift from “react to CBRN hazards” to proactive decision making
- Embrace new ideas and processes (e.g. AFC) to build a new generation of CBRN operations capabilities
- Accelerate requirements development through early prototyping and advanced capability experiments and demonstrations

Modernization Construct

- Purpose - Modernize CBRN operations capabilities to support the Army (and land component)
  - Conduct cross-domain maneuver
  - Fight semi-independently
  - Continuous cross-domain reconnaissance and security

enabled by…

- Three core competencies: CBRN Recon - Contamination Mitigation - CBRN Staff

linked together with…

- Three core functions: Assess – Protect – Mitigate

…across the spectrum of S&T, concepts and DOTMLPF-P.

- Balances modernization and readiness

- Enables new requirements and existing programmatic procedures

Force Modernization Strategy

Mission: Enable movement and maneuver to conduct large-scale combat operations in a CBRN environment

Core Functions				Objectives
Assess	All-Source Information Reception	Information Assessment/Trends	Analysis & Integration	Real Time Understanding
Protect	Lightweight PPE Organic Collective Protection	Adaptive PPE & Collective Protection Agile Vaccines	Integrated Equipment & Physiological Protection	Inherent Survivability
Mitigate	Tactical Decon	Automated Decon Agile Therapies	Resident Decon	Negate Hazard Effects

ENDSTATE

Retain freedom of action in a CBRN Environment

Graduating levels of capability

\- → +

Required Future CBRN Operations Capabilities

- Real Time Understanding - Create a functionally integrated framework that enables commanders to achieve a level of understanding as early as possible to make informed risk based decisions to protect the force while retaining freedom of action in a CBRN environment. The force requires:
  - Expanded access to all sources of information and integration of CBRN information requirements into a commander's ISR collection plan.
  - CBRN centric sensing and detection capability integrated with all source information receptors and collectors.
  - The capability to assess and analyze information from ISR sources to establish knowledge of CBRN threats and hazards in the OE.
  - The capability and capacity to analyze and integrate decision support products into the commander's decision cycle to provide risk based, real time understanding of the CBRN complex environment.

Assess to retain freedom of action in a complex CBRN Environment

Required Future CBRN Operations Capabilities

- Inherent Survivability: Enabled with integrated protection individually and collectively, the force conducts large-scale ground combat operations without degradation in a CBRN environment. The force requires:
  - Integrated personal protection equipment with physiological monitoring that protects from all CBRN hazards and threats without physical degradation or loss of combat effectiveness.
  - Adaptive collective protection that allows mission command and medical activities to sustain operations without individual PPE in a CBRN environment.
  - Vaccines to protect the force from known CB hazards to reduce reliance on IPE and COLPRO.
  - Flexible and adaptable protection options against biological agents, leveraging an understanding of the OE and atmospheric conditions.

Protect to retain freedom of action in a complex CBRN Environment

Required Future CBRN Operations Capabilities

- Negate Hazard Effects: Provide commanders the flexibility to make risk informed decisions on the mitigation of residual CBRN contamination without reduction of combat power or unnecessary expenditure of time and resources. The force requires:
  - Organic/crew level mitigation capability that allows first line leaders to assess and mitigate contamination at the lowest level, focused on reducing risk to their squads and crews without reliance on CBRN enablers.
  - Automated and waterless mitigation capability to reduce logistical burden and increase responsiveness of CBRN enablers.
  - Forward diagnostic capability coupled with therapies to reduce reliance on specialized medical enablers and maintain combat power forward.

Mitigate to retain freedom of action in a complex CBRN Environment

Modernization Intent

- Understand how CBRN formations and staffs support BCTs and EAB IAW FM 3-0 and across the Warfighting Functions (WfF)
- Develop the most effective set of DOTMLPF-P solutions to support EAB and BCT formations
- Balance risk in the near, mid, and far terms through comprehensive DOTMLPF-P analysis
- Leverage a combined and synchronized approach across S&T, advanced development, and requirements determination
- Minimize programmatic risk and deliver best capability to the force

Science and Technology

- Success measured by our ability to identify and synchronize S&T efforts with the strategy
- Plan for and execute focused experiments and demonstrations with prototypes – increase interface between user community and engineers/scientists
- Buy down operational risk more rapidly with accelerated prototyping demonstrated in the field (e.g. AWA, JWA, Perceptive Dragon, etc.)
- Leverage experimentation and demonstration success to bridge to long term programs to enable maintenance and life-cycle replacement
- Focus S&T development of future capability across DOTMLPF-P desired solutions

Conclusion

- The mission of the Chemical Corps now and into the future is to enable movement and maneuver in the execution of large-scale combat operations semi-independently in a CBRN environment.

- Three core functions of assess, protect and mitigate we will generate near-real time understanding of the CBRN environment, provide integral protection at both individual and collective levels, and negate CBRN hazard effects.

- Fundamental to accomplishing this modernization strategy is a vigilant focus on what we are for and who we support - enable movement and maneuver in the execution of large-scale ground combat operations in the complex CBRN environment to 2040 and beyond.

- This strategy provides vision and direction for modernizing CBRN operations and CWMD capabilities to meet the requirements for movement and maneuver formations executing operations along the Army concept of Multi-Domain Operations.


20TH CBRNE COMMAND
CHEMICAL, BIOLOGICAL, RADIOLOGICAL, NUCLEAR, EXPLOSIVES
SYNCHRONIZING A COMPLEX COMMAND
24 JULY 18

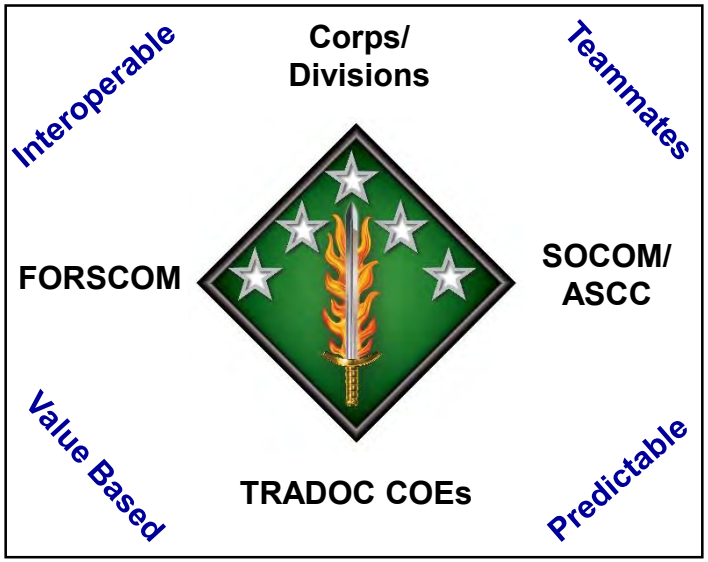
Operational Approach

Mission: The 20th CBRNE Command exercises **mission command** over assigned FORSCOM CBRN and EOD forces; on order **provides CBRN and EOD forces** to Army and Joint, Interorganizational, Multinational (JIM) headquarters; on order **deploys JTF-E headquarters** in support of COCOM requirements.

Enduring Priorities

- Readiness
- Integrate w/ Maneuver & Special Operation Forces
- Leader Development
- Care for Soldiers, Leaders, and Families
- Inform the Future Force

Focused thru



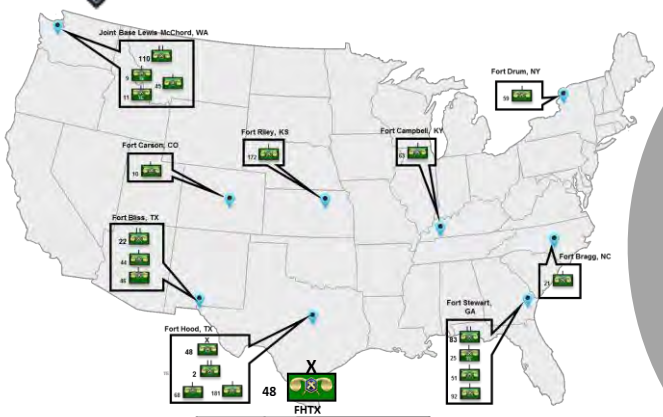
Results in

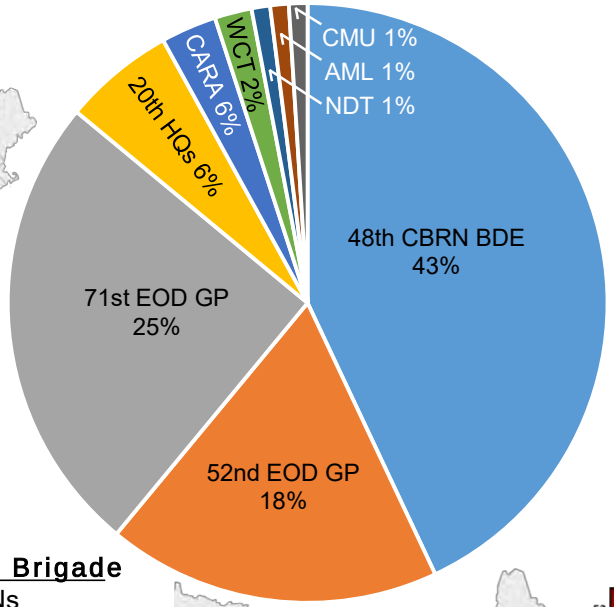
Ready Now

- Manned
- Trained
- Equipped
- Maintained

Vision: Provide highly trained CBRNE forces that are 'Ready Now' to enable the Army to conduct Unified Land Operations and the Joint Forces to execute Unified Action

20th CBRNE Command at a Glance



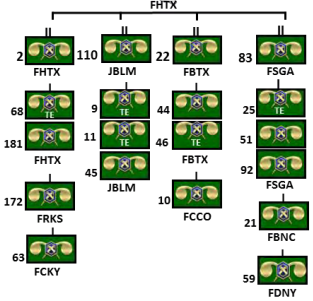


++ **20th CBRNE HQs**

20th HQs (MCP and OCP)
Deployable Operational Command Post as JTF-E HQs

CARA
MEL
RRT

CBRNE Analytical and Remediation Activity (CARA)
- 4 Mobile Expeditionary Labs (MEL)
- 4 Remediation Response Teams (RRT)
- Theater validation capability
- Tech escort of chem surety material with organic aviation assets (2 UH-72 Lakota's and 1 C-12 Turbo-prop)



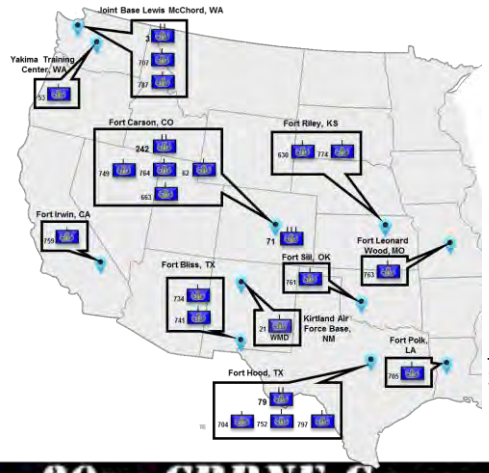
48th CBRN Brigade
4 x CBRN BNs
5 x Tech Escort COs
10 x Hazard Response COs

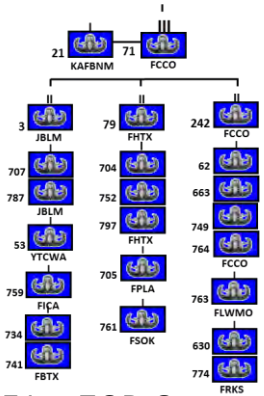
WMD Coordination Teams
- CBRNE, Intel, Signal SMEs
- Rapidly Deployable
- CBRNE Planning Expertise

WCT

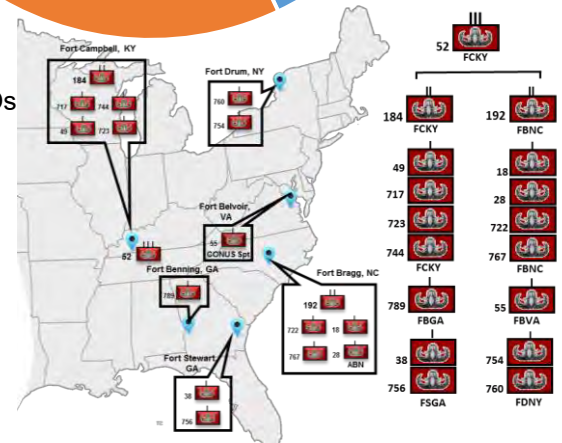
Nuclear Disablement Teams
- Locate/Disable WMD Infrastructure
- Package/Transport Nuclear Material

NDT





71st EOD Group
3 x EOD BNs
18 x EOD CO
1 x EOD CO (WMD)



52nd EOD Group
2 x EOD BNs
9 x EOD CO
1 x EOD CO (ABN)
1 x EOD CO (CONUS Support)
2 x EOD CO (w/ABN)

1st Area Medical Lab
- Level IV preventive medicine staff for public health
- Theater validation capability for chem/bio/environmental

AML

Consequence Management Unit
US Army Reserve Technical SMEs

CMU

20th CBRNE Command Worldwide Missions

Support to civil authorities, homeland emergency response, and tech escort of chemical surety material

CIED training in EUCOM

Ongoing training and operations with Pacific partners

Counter narcotics and Counter Improvised Explosive Device (CIED) operations

Elimination of chemical warfare munitions

CIED operations and theater laboratory support in CENTCOM area of operations

Humanitarian Demining Assistance and CIED training in 12 African countries

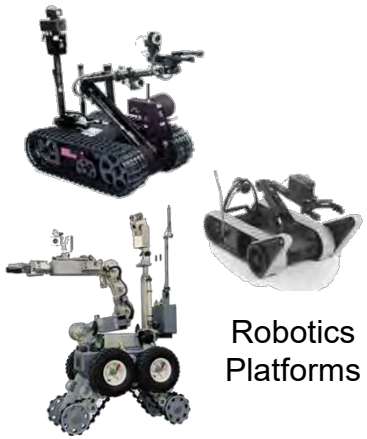
Routinely training and conducting operations with multiple international partners on 5 continents

The Complexity

- ✓ Differing Requirements
- ✓ Separate Funding Streams
- ✓ Multiple DOTMLPF Solutions
- ✓ Diverse Fielding Timelines
- ✓ Disparate Communications

20th HQs
CARA
SRC 37
Proponent:
MSCOE

How do we gain synergy across the Enterprise?



Robotics Platforms

CBRN Units
SRC 03
Proponent:
CBRN School

EOD Units
SRC 09
Proponent:
OD School

Vehicles

Tiered
Units
Proponent:
SOCOM

DR SKO

DR SKO - EOD Variant

Conclusion

- Similar capabilities with differing solutions adds complexity
- Synchronizing proponency efforts across the command is a consideration in all planning
- The key to success is a steady exchange of ideas on doctrine, TTPs, and materiel solutions between EOD, CBRN, and SOF.

- S

NDIA CBRN Defense

July 24, 2018

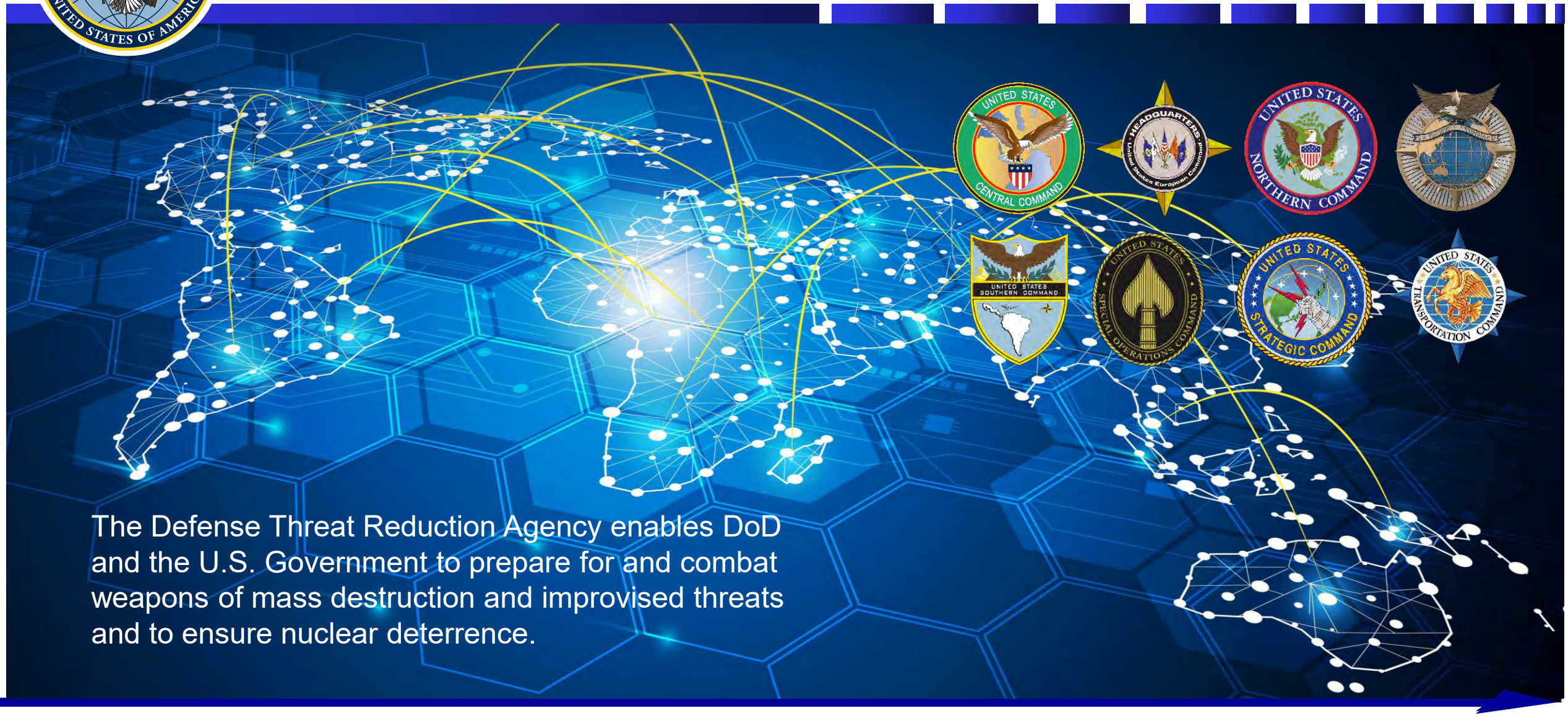
Dr. Ronald K. Hann, Jr.

Director, Chemical and Biological Technologies Department

Joint Science and Technology Office
for Chemical and Biological Defense

Defense Threat Reduction Agency

DTRA Mission



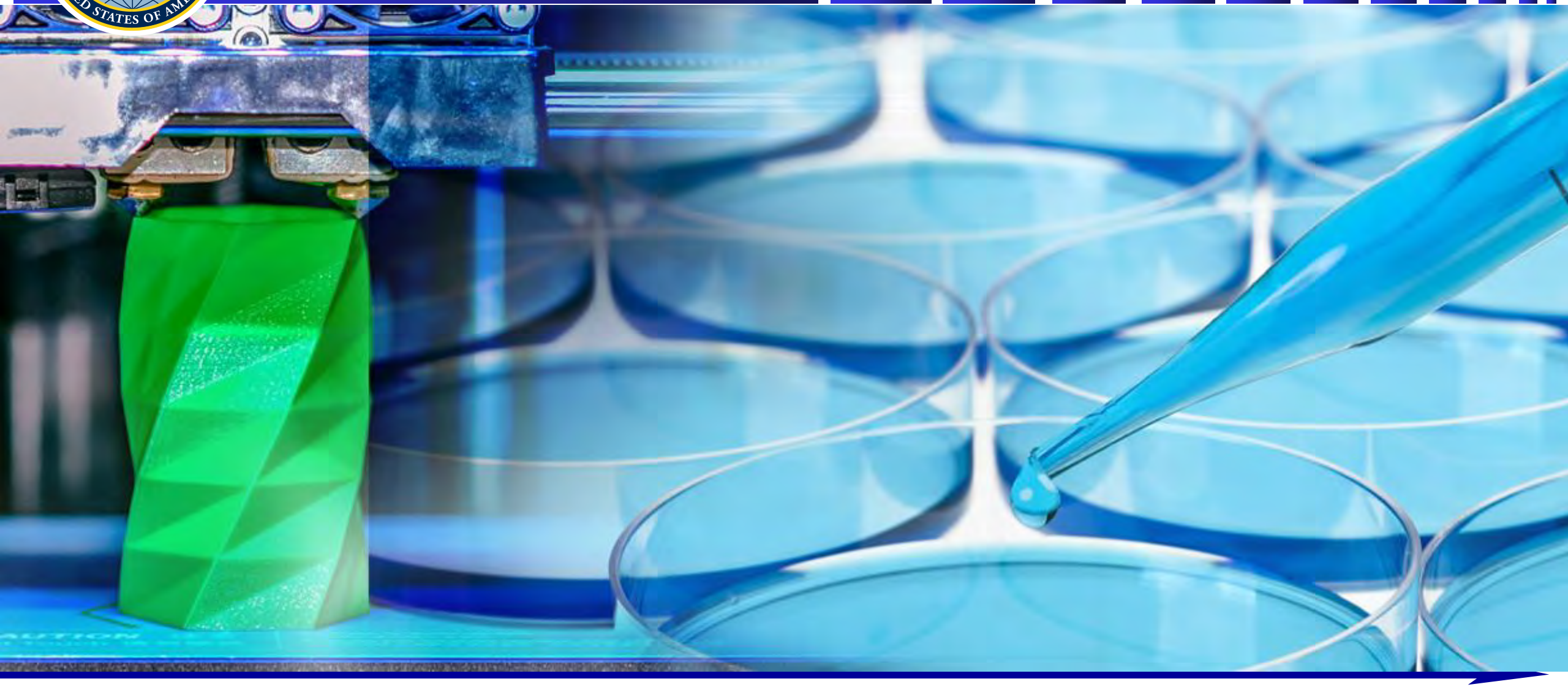
The Defense Threat Reduction Agency enables DoD and the U.S. Government to prepare for and combat weapons of mass destruction and improvised threats and to ensure nuclear deterrence.

Strategy: Deliver S&T Products

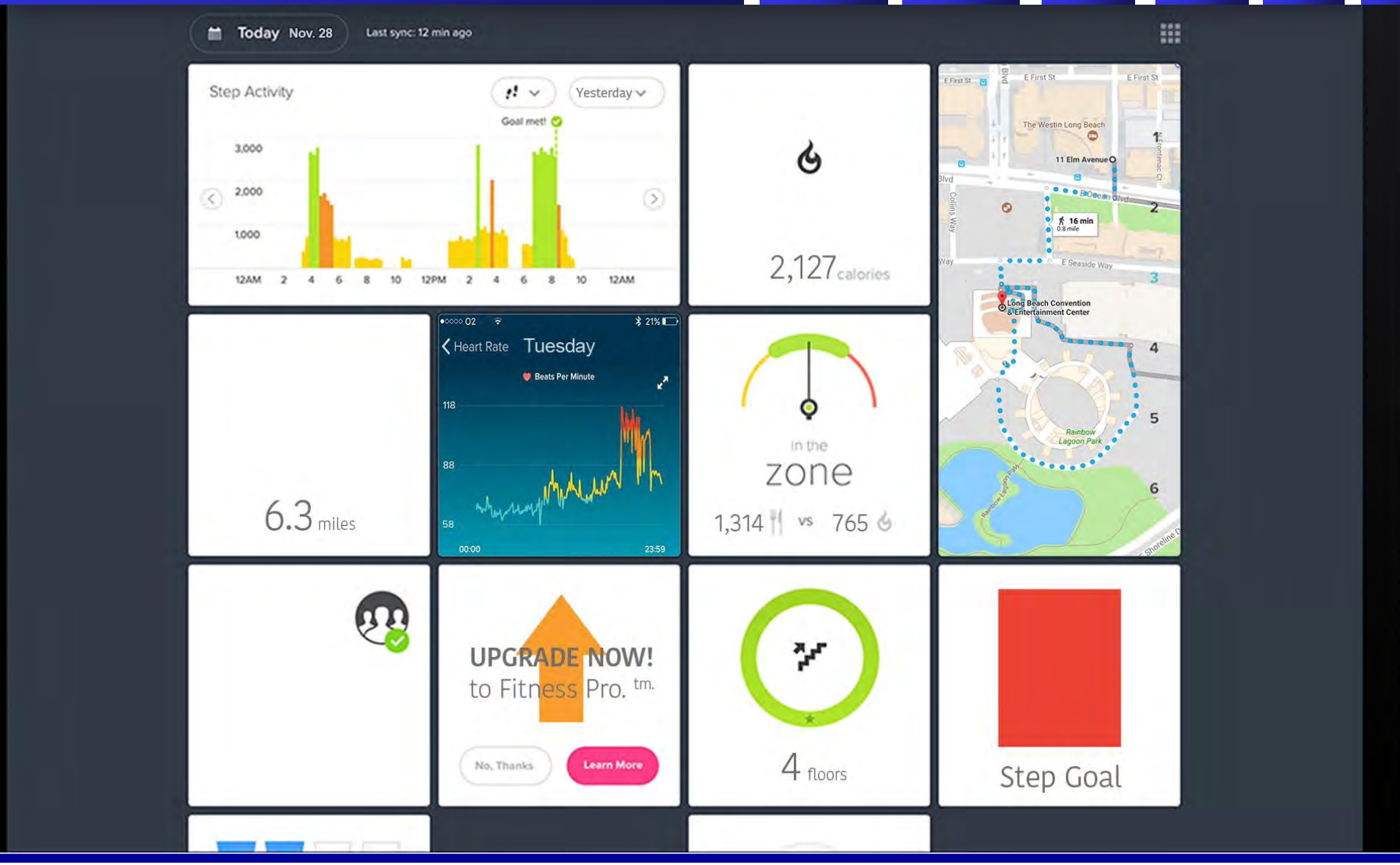
CB Mission: Lead DoD science and technology to anticipate, defend and safeguard against chemical and biological threats for the warfighter and the nation.

“Out-Sciencing” the Enemy

Evolving Weapons

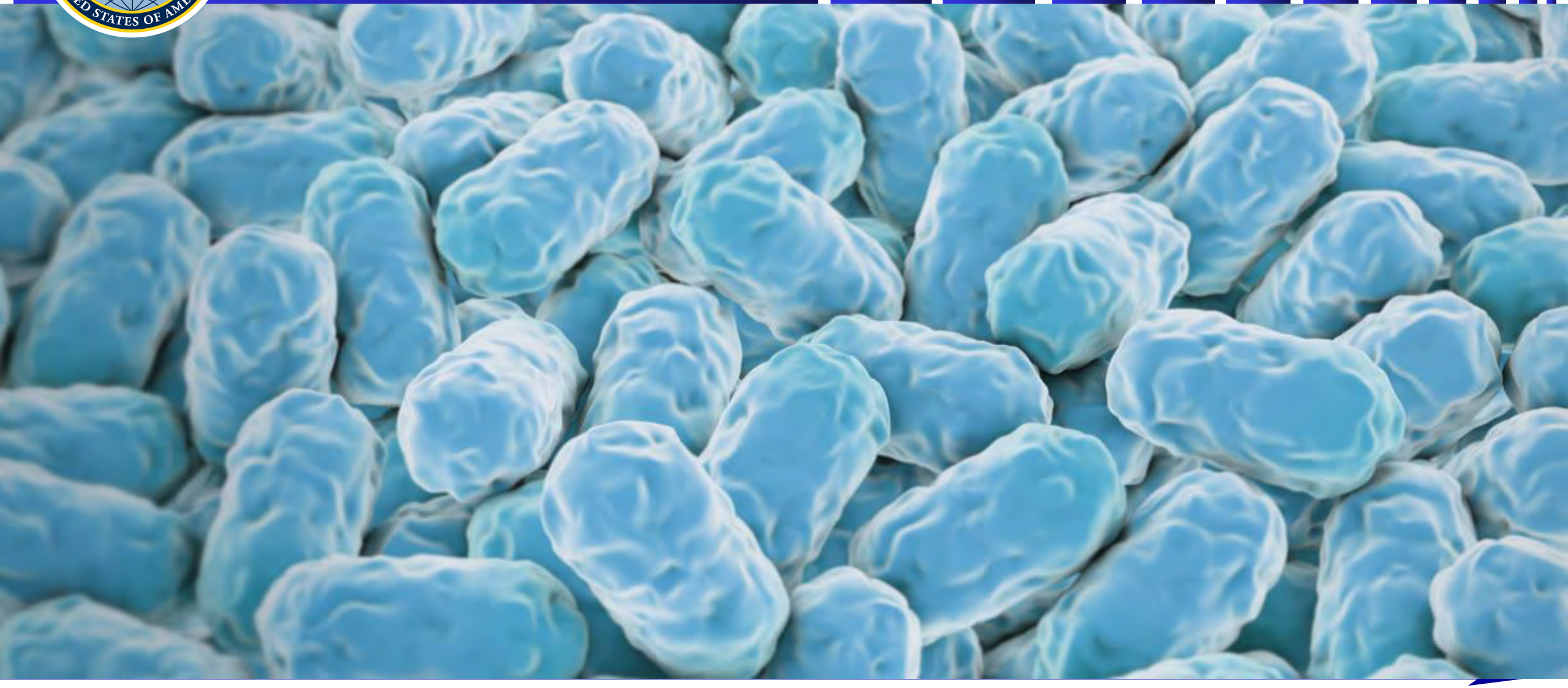


Wearable Technologies for Future Protection

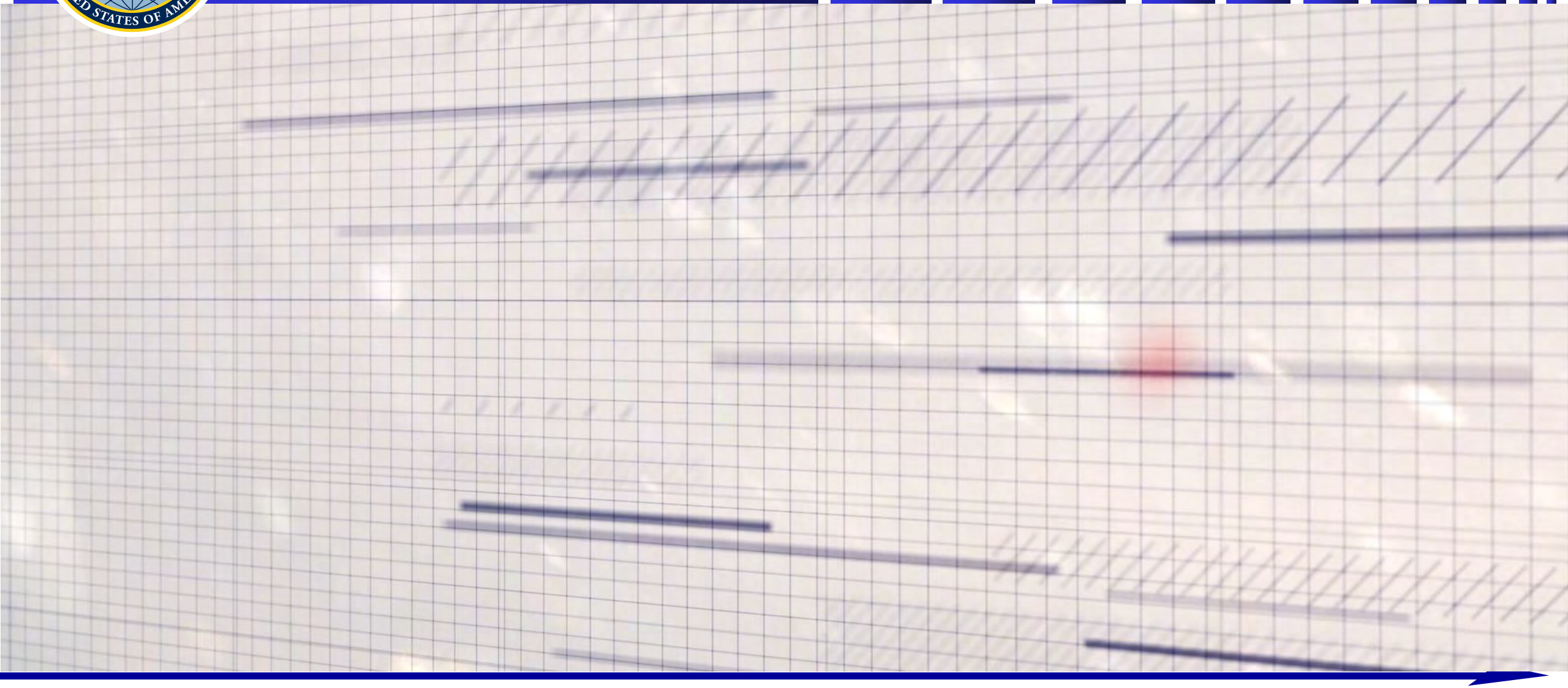


Enhancing Protective Suits

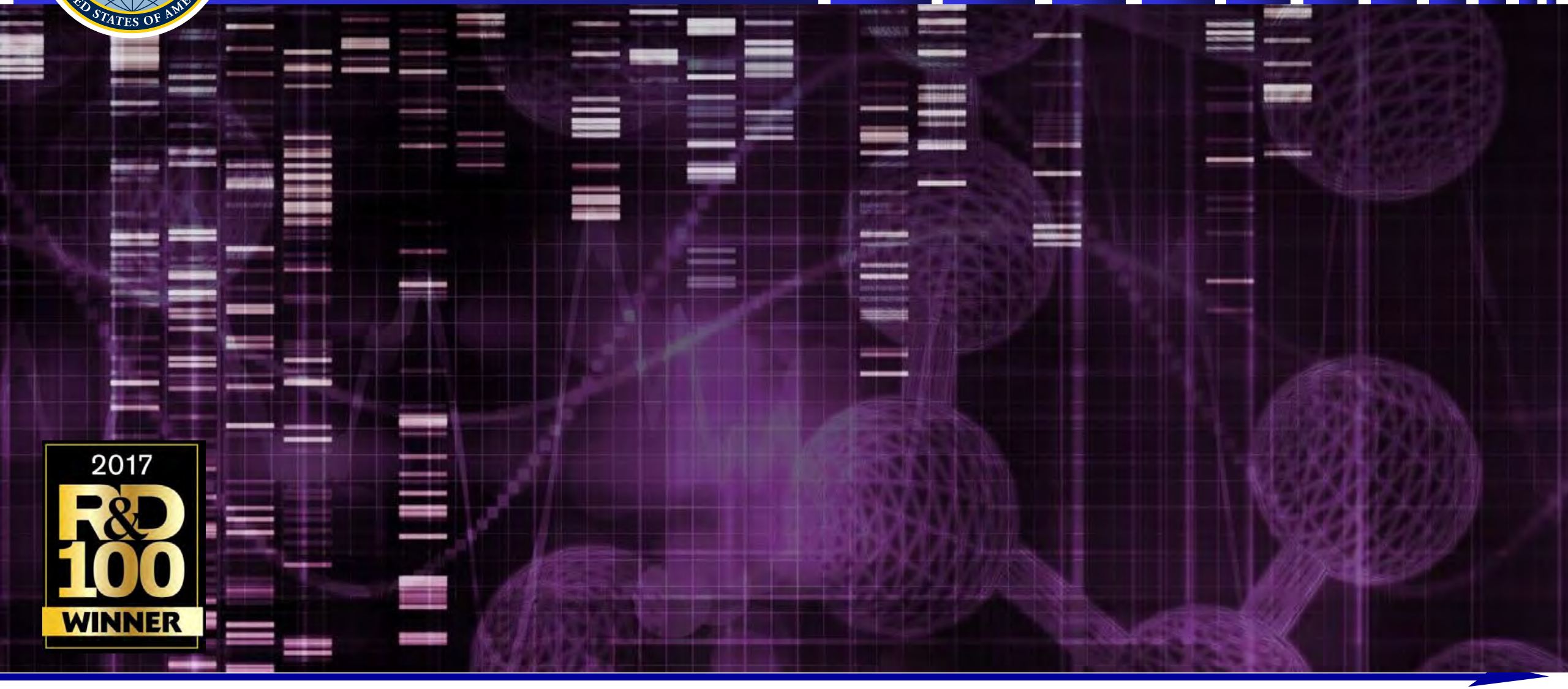
Opportunities with Synthetic Biology



The Promise of Big Data



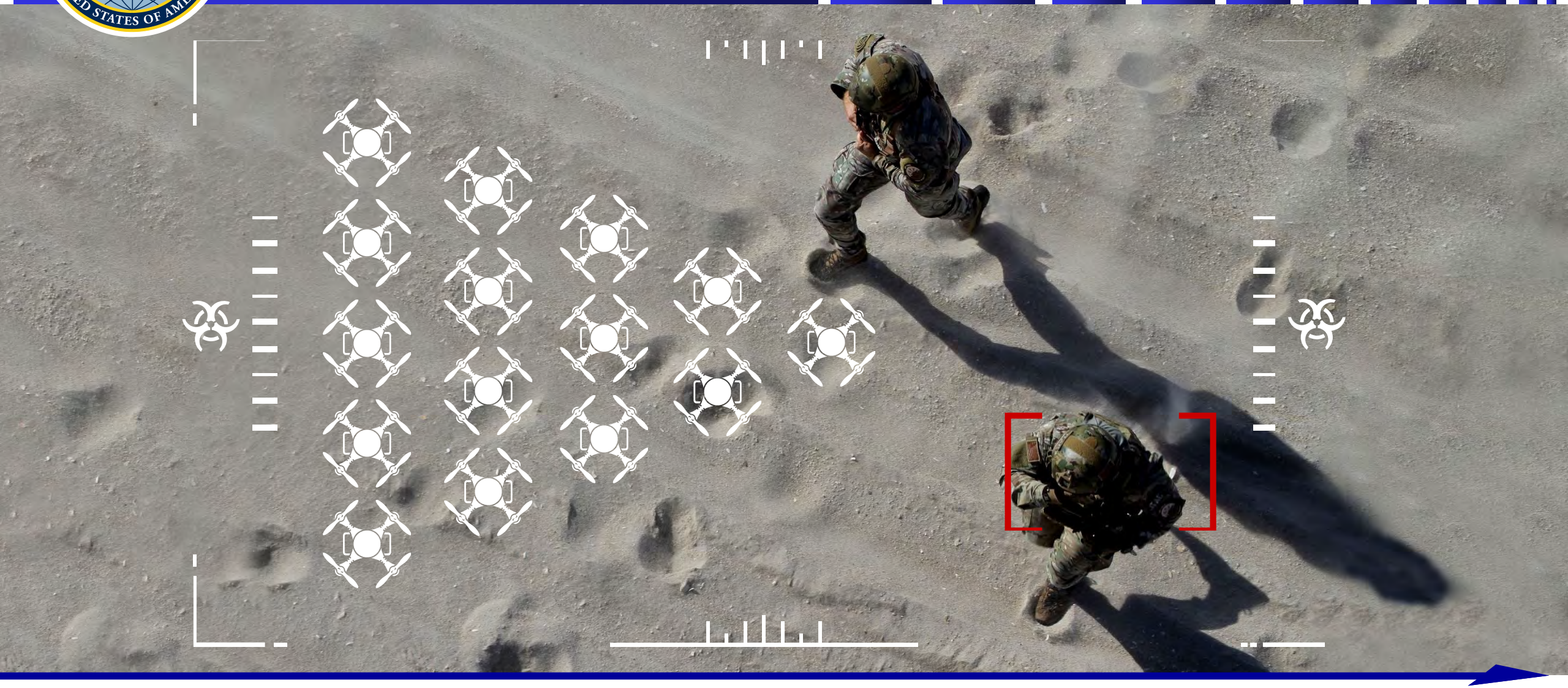
Transforming Industry



Adversaries at Work

Innovation Gone Rogue

Delivering at the Speed of Relevancy



Doing Business with DTRA

Grants.gov

- Fundamental Research BAA: HDTRA1-14-24-FRCWMD-BAA

FBO.gov

- S&T New Initiatives BAA: HDTRA1-17-S-0002-BAA
- Chem-Bio Technologies BAA: HDTRA1-18-S-0001

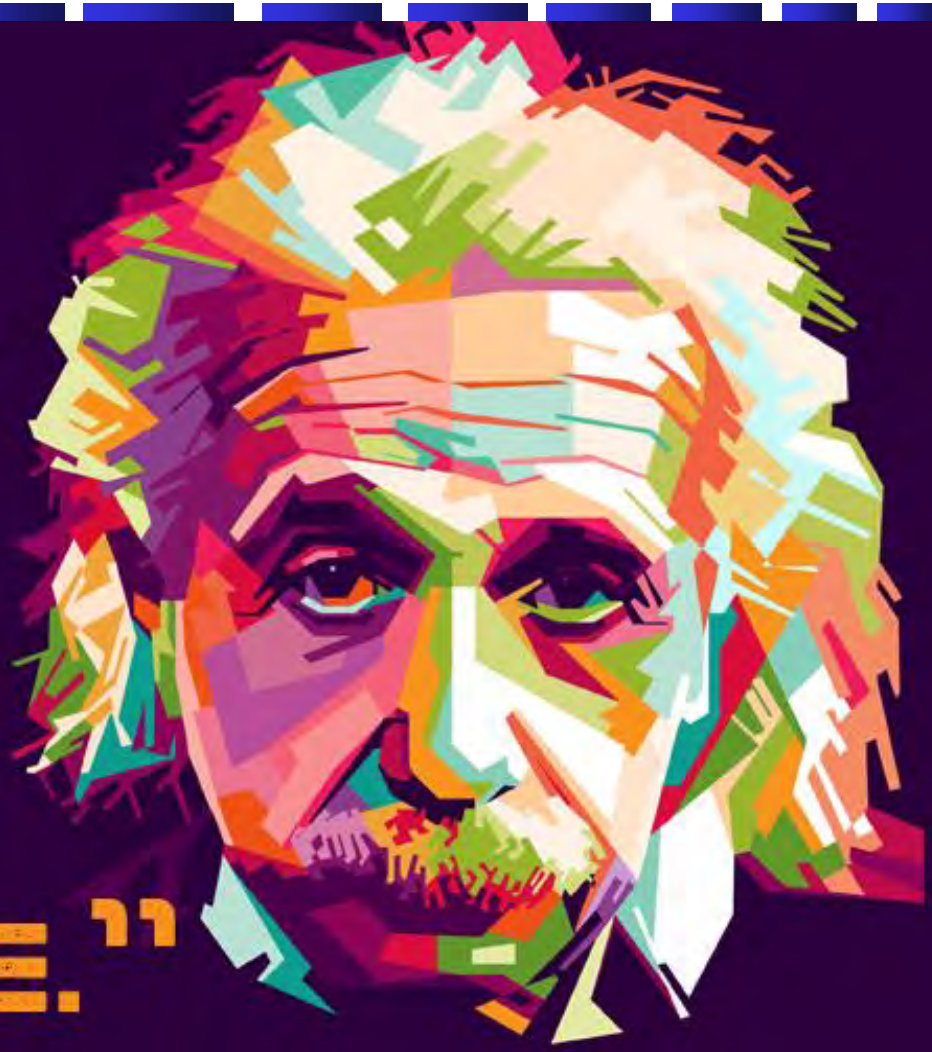
Submit to: www.dtrasubmission.net

Questions? Email: DTRAInnovation@mail.mil

Other Transaction Authority

Innovation and National Security

"IMAGINATION IS MORE IMPORTANT THAN KNOWLEDGE."



CBD S&T Conference

For more information, please visit us at

www.dtra.mil

Visit us
Keyword: DTRA

Download our ebook
Keyword: DTRA

NDIA CBRN Defense Update

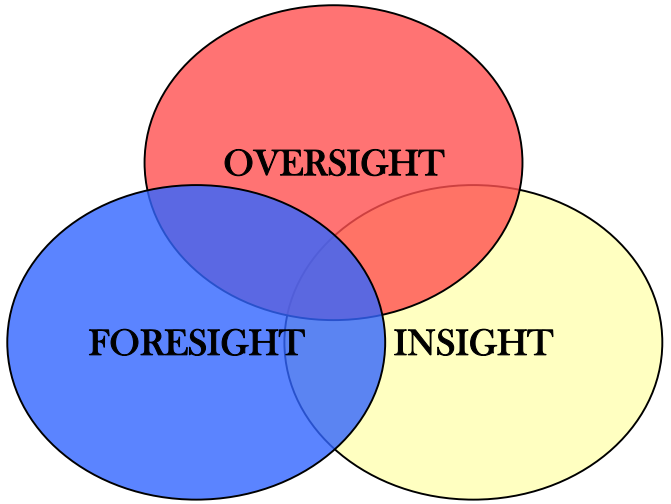
LTG Leslie Smith
The Inspector General

24 July 2018

Mission Statement

Provide impartial, objective, and unbiased advice and oversight to the Army through relevant, timely, and thorough inspections, assistance, investigations, and training. Promote and enable stewardship, accountability, integrity, efficiency, and good order and discipline to enhance total Army readiness.

Vision: Be the eyes, ears, voice, and conscience of the Army.

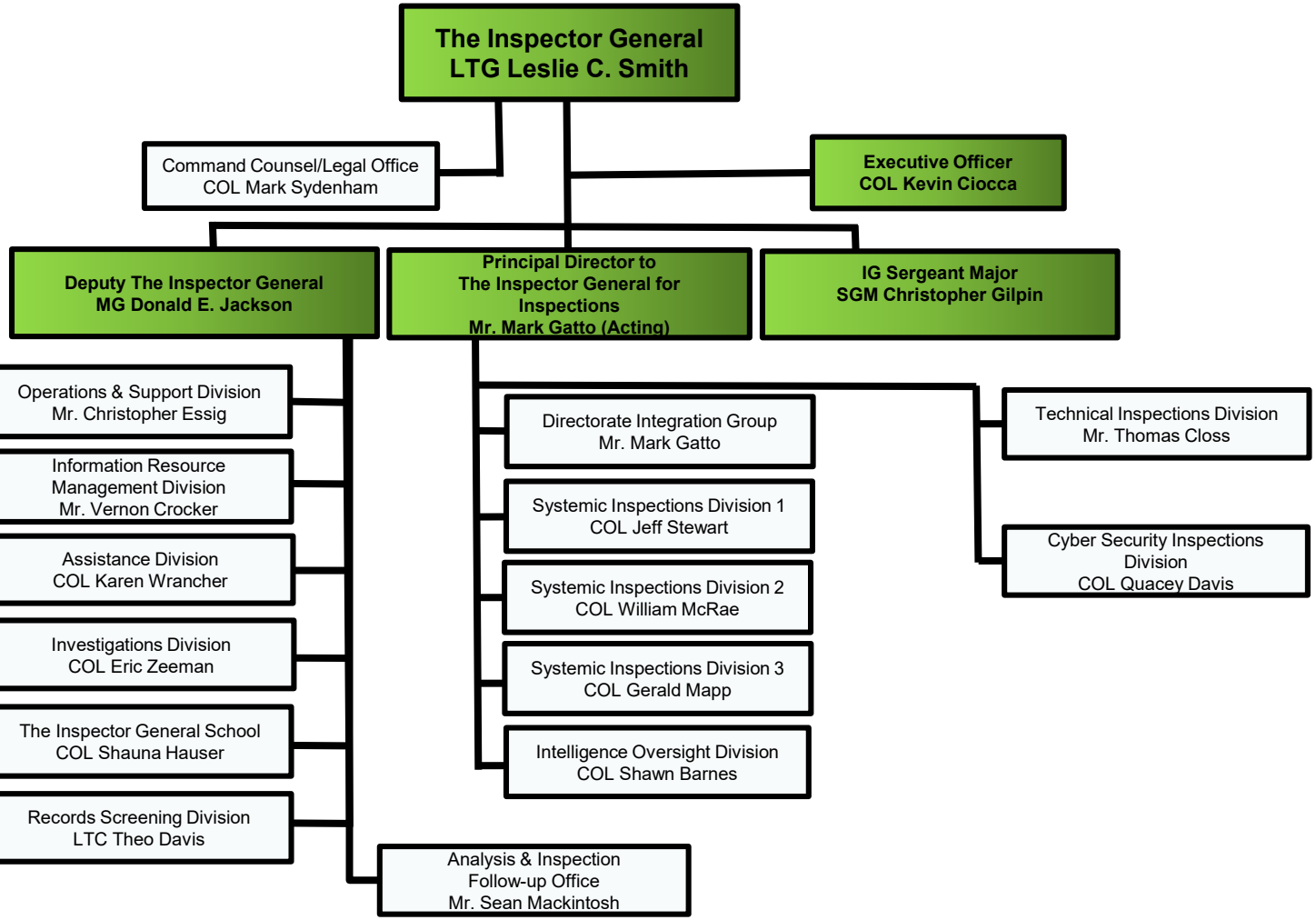


Department of the Army Inspector General Organizational Chart

OTIG =

USAIGA =

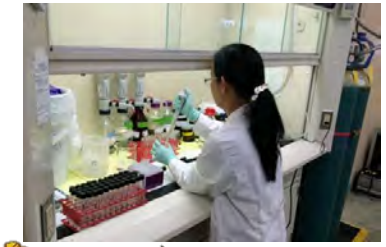
OTIG + USAIGA = DAIG



DAIG Technical Inspections Purpose

Technical compliance inspections are intended to:

- Ensure adherence to technical, health, safety, accountability, security, and reliability standards
- Determine adequacy of support and guidance
- Provide ACOMs/ASCCs/DRUs assistance with determining mission capabilities of surety facilities
- Keep Army leaders informed



Chemical and Biological Inspections

Trends:
1. Lack of understanding of standards, not following local SOPs.
2. Insufficient oversight and lack of attention to detail.
3. Lack of well established forums to share challenges and best practices.
4.Senior leader emphasis resulted in significant improvements in compliance.
5. Complacency when executing repetitive tasks.

Chemical and Biological Inspections

Ways to Improve:
1. Focus on standards-based training.
2. Leadership engagement at all levels and peer reviews in areas requiring specialization.
3. Use creative knowledge management and available technology.
4. Clearly articulate priorities and repeat them often.
5. Rotate and cross-train personnel, stress complacency awareness.

Radiation and Nuclear Inspections

Trends:
1. Inaccurate inventories of radioactive materials is a consistent theme at installations and with most units at those installations.
2. Consistent lack of command emphasis/attention on radiation safety.
3. Installations that are Joint Base(s) and OCONUS provide additional challenges affecting radiation safety compliance.
4. Difficulties obtaining and maintaining specialized and qualified personnel.
5. Non-compliance with required training (lapses in frequency, documentation errors, etc...).

Radiation and Nuclear Inspections

Ways to Improve:
1. Emphasize command supply discipline.
2. Delegate authority when other priorities do not allow leaders to personally oversee a particular area.
3. Clearly articulate standards and who they apply to.
4. Pre-screen personnel.
5. Conduct leader checks and stress attention to detail.

Trust

Relationships Matter

Questions

Chemical Inspections

Functional Area	Failing Deficiencies	Deficiencies (not failing)	Minor Deficiencies	Observations	Positive Notes
Agent Accountability	0	1	14	6	0
Personnel Reliability	5	14	28	2	2
Safety	0	1	1	2	0
Medical	0	0	0	1	0
External Support	0	0	1	1	0
Other Matters	0	0	0	1	0
Totals:	5	16	44	12	2

Trends:	Ways to Improve:
Lack of understanding of standards	Focus on standards-based training
Insufficient oversight	Leadership engagement at all levels
No well established forum to share challenges and best practices	Use creative knowledge management
Army Senior Leader emphasis resulted in significant compliance improvements	Clearly articulate priorities and repeat them often

Biological Inspections

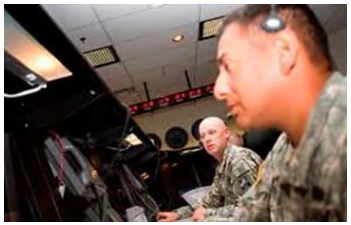
Trends:	Ways to Improve:
Complacency when executing repetitive tasks	Rotate and cross-train personnel, stress complacency awareness.
Lack of attention to detail	Peer reviews in areas requiring specialization.
Not following local SOPs	Performance oriented training and compliance checks.

Radiation Safety Inspections

Trends:	Ways to Improve:
Inaccurate inventories of radioactive materials is a consistent theme at installations and with most units at those installations.	Emphasize command supply discipline.
A consistent theme is the lack of command emphasis/attention on radiation safety.	Delegate authority when other priorities do not allow leaders to personally focus attention on a particular area.
Installations that are Joint Base(s) and OCONUS provide additional challenges affecting radiation safety compliance.	Clearly articulate standards and who they apply to.

Nuclear Inspections

Trends:	Ways to Improve:
Difficulties obtaining and maintaining specialized and qualified personnel.	Pre-screen personnel.
Non-compliance with required training - Lapses in training frequency - Documentation errors - Not training on all required tasks	Conduct leader and quality assurance checks.
Lack of common understanding of local procedures for emergency actions.	Exercise with all supporting entities.
Personnel reliability program inconsistencies.	Review processes from cradle to grave and initiate quality assurance checks.



U.S. ARMY RESEARCH, DEVELOPMENT AND ENGINEERING COMMAND

CBRNE Defense Conference and Exhibition

Eric L. Moore, Ph.D.

Director

RDECOM Chemical & Biological Center

A CENTURY OF CHEMICAL AND BIOLOGICAL EXPERTISE




- ECBC, now known as the **U.S. Army Research, Development and Engineering Command Chemical & Biological Center**, will join the Army Futures Command with the rest of RDECOM **to lead innovation and modernization of the Army**.

- The new name demonstrates RDECOM's **unified efforts to create innovative defense technologies for our Warfighters**.

- New name, with the **same passionate commitment to CB defense**.

MODERNIZING CB DEFENSE FOR THE FUTURE FIGHT

MODERNIZING CB DEFENSE FOR THE FUTURE FIGHT

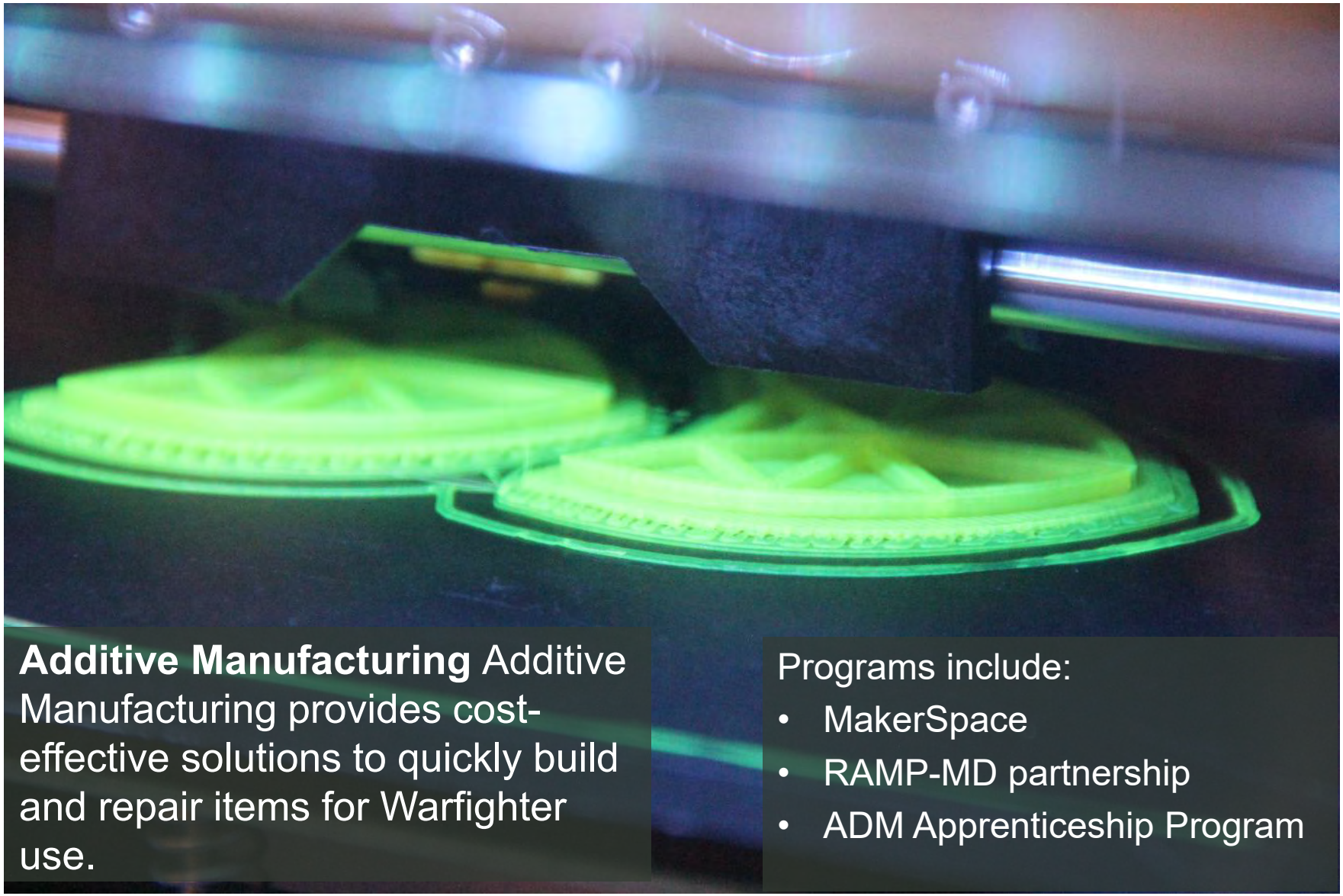
Integrated Early Warning Systems: Leaning forward with **detection, networking and artificial intelligence** to provide actionable information to Warfighters, and help commanders make real-time decisions.

- Perceptive Dragon 2 Demonstration

MODERNIZING CB DEFENSE FOR THE FUTURE FIGHT

Advanced Obscurants for protection of **next generation combat vehicle** and **spectral dominance** in future fights, allowing Warfighters to be better protected in maneuver.

MODERNIZING CB DEFENSE FOR THE FUTURE FIGHT



Additive Manufacturing Additive Manufacturing provides cost-effective solutions to quickly build and repair items for Warfighter use.

Programs include:

- MakerSpace
- RAMP-MD partnership
- ADM Apprenticeship Program

MODERNIZING CB DEFENSE FOR THE FUTURE FIGHT

Non-aqueous decontamination technologies, such as Metal Organic Frameworks, allow Warfighters and equipment to **return to the fight faster after exposure.**

MODERNIZING CB DEFENSE FOR THE FUTURE FIGHT

Increased collaboration with 20th CBRNE Command and CBRNE School provides opportunities to educate Warfighters on handling CB threats, and ensures that CB defense solutions address their needs.

MODERNIZING CB DEFENSE FOR THE FUTURE FIGHT

Synthetic Biology offers the potential to **unlock new** types of materials by **harnessing the natural abilities of living systems**, such as **self-assembly, sense-and-respond, and molecular-scale control and patterning**.

MODERNIZING CB DEFENSE FOR THE FUTURE FIGHT

2018 Today we are developing paper tickets embedded with cellular machinery that change color in response to a range of threats

---

2023 Syn Bio applications mature enough to transition to acquisition

---

2028 Novel syn bio systems to be incorporated into deployed systems

---

2038 Life-mimicking properties, such as sense-and-respond and self-healing, will start to be incorporated into deployed systems.

MODERNIZING CB DEFENSE FOR THE FUTURE FIGHT

Utilize **semi-autonomous systems** and **robotics** as a **force multiplier** for CB reconnaissance capabilities

- Array Configurable of Remote Network Sensors (ACORNS)
- Deep Purple

MODERNIZING CB DEFENSE FOR THE FUTURE FIGHT

INDUSTRY IS A KEY PARTNER

"Engineers and scientists at Aberdeen Proving Ground are developing **cutting-edge technology** that can be put to broader use, **benefiting our economy and our quality of life**."

- *Michael Gill, Maryland Commerce Secretary*

INDUSTRY IS A KEY PARTNER

- Advanced Manufacturing Division Apprenticeship Program
- TechLinks Innovation Discovery Events
- Maryland Defense Technology Commercialization Center (DefTech)
- **Cooperative Research & Development Agreement (CRADA)**
- Educational Partnership Agreements
- Technology Support Agreement
- Patent License Agreement
- **Army Small Business Innovation Research (SBIR)**
- Chemical Biological Defense SBIR
- **Army Small Business Technology Transfer (STTR)**
- ECBC Broad Agency Announcement (BAA)
- Rapid Innovation Fund BAA
- Memorandum of Understanding
- Memorandum of Agreement (MOA)
- Material Transfer Agreement (MTA)
- **Interagency Agreement – non-DoD (IAA)**
- **JE-RDEP**
- **CWD OTA**

THE NEXT CENTURY OF CHEMICAL AND BIOLOGICAL EXPERTISE

- "We are not trying to fight the last war better, **we are trying to win the next one"**
  –General James C. McConville, Vice Chief of Staff of the Army

- U.S. Army Research, Development, Engineering Command Chemical & Biological Center is focused on CB technologies that **deliver information faster, create equipment that is lighter, ruggedized, and can be applied quickly.**

CONTACT US

ECBC Communications Office:	**Donald Kennedy** **410-436-7118** **donald.n.kennedy3.civ@mail.mil**
ECBC Technology Transfer Office:	**Amanda Hess** **(410) 436-5406** **amanda.l.hess9.civ@mail.mil**
Follow us online:	**http://www.ecbc.army.mil/**

CWMD COUNTERING WEAPONS OF MASS DESTRUCTION

Countering Weapons of Mass Destruction Overview

Andre Watson

Principal Deputy Assistant Secretary

DHS at a Glance

- Approximately 240K personnel
- FY 2019 Budget Request: $74B

- Core Missions of the Department:
  - Securing Our Borders
  - Enforcing Our Immigration Laws
  - Maritime Security
  - Critical Infrastructure Security and Resilience
  - Transportation Security
  - Disaster Preparedness and Resilience
  - Executive Protection/Financial Crimes

Large Department with Broad Authorities and Mission

CWMD Office Creation

"As terrorism evolves, we must stay ahead of the enemy and the establishment of this office is an important part of our efforts to do so."
–Secretary Nielsen, December 2017

In December 2017, DHS established the Countering Weapons of Mass Destruction (CWMD) Office to elevate and streamline DHS efforts to prevent terrorists from using weapons of mass destruction against the United States.

CWMD Responsibilities

CWMD's primary objective is to support the President's National Security Strategy by leading the Department's efforts to develop and enhance programs and capabilities that defend against WMD, and to combat bio-threats and pandemics.

(President's 2019 Budget Request)

Specific Responsibilities:

- Deter, Detect and Disrupt WMD
- Enhance Counter-proliferation Measures
- Combat Biothreats and Pandemics
- Promote Resilience

Requirements Analysis –
R&D- Rapid Prototyping – T&E – Acquisition – Life Cycle Support

Primary Responsibilities

- **Operational Support**
  - Provide information, equipment, and expertise to frontline personnel who protect the Nation from WMD terrorism
  - Identify solutions for operational gaps and field capabilities that enhance detection and situational awareness
  - Provide medical expertise and support to front line operators/EMTs and for BioDefense Planning and Preparedness

Provide information/intelligence analysis and technology to operators

Primary Responsibilities

- **Close Capability Gaps**
  - Provide rapid solutions to emerging threats based on intelligence
  - Improve counter WMD information-sharing and integration to support coordination
  - Enhance security measures on and around critical pathways into the Nation in order to detect threats sooner

Intelligence based gap analysis and solutions development

Primary Responsibilities

- **Improve Technology**
  - Develop and deploy improved BioDetection technology: networked, digital system with near real time detection
  - Shift to streaming sensors, leverage Big Data capabilities and advanced computing algorithms improve anomaly detection
  - Support targeting and interdiction operations, integrate CWMD sensors with other targeting platforms

Deploy 21st Century Detection and Information Sharing Capabilities

What's Next?

- **The Future of DHS/CWMD**
  - Working closely with Congress on our authorizations
  - Integrating programs and capabilities to better support operators across the counter WMD mission space
  - Communicating about our mission and services
  - Engaging with the operator community to determine how we can best support their efforts

Homeland Security

ASPR 2018 - New Directions and Opportunities

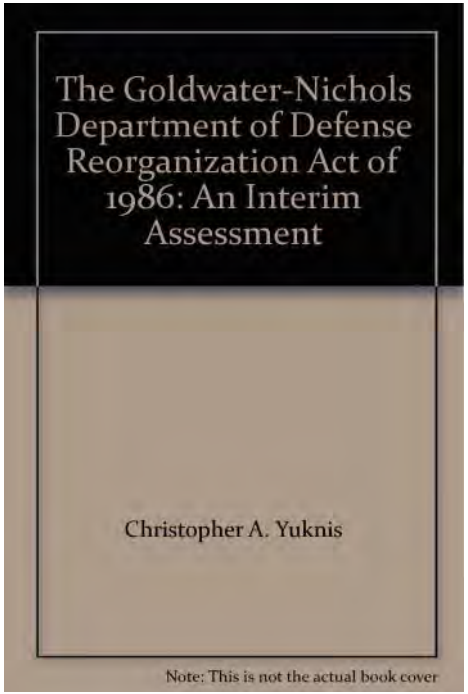
Assistant Secretary for Preparedness and Response

Dr. George W. Korch, Ph.D.

Senior Science Advisor to ASPR

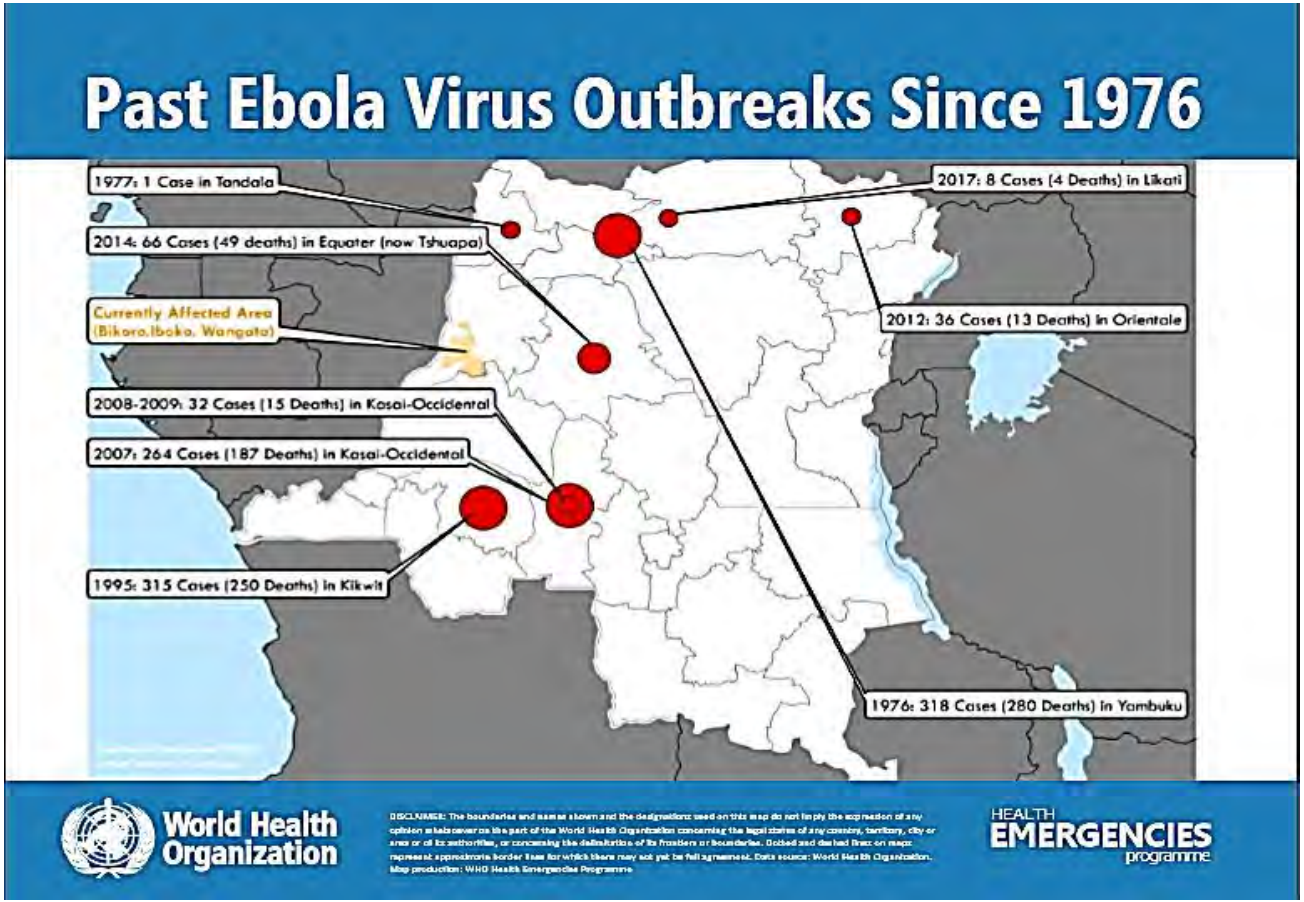
21st Century: An Increasingly Complex & Dangerous World

ASPR's Purpose: Unity of Command



ASPR's Mission

ASPR Priorities for Building Readiness for 21st Century Threats



Current Outbreak in DRC

- 38 Confirmed, 15 Probable, 29 dead
- CFR = 55%
- Locations: Iboko, Bikoro, Mbandaka
- Five healthcare workers (2 dead)
- Last detected case on 2 June
- Can be declared over after 42 days from last case
- Use of the rVSV-Ebola vaccine for ring vaccination for 1706 contacts, vaccine given to 3330 overall.

Other biodefense in the news

Global Biodefense Market Growing Threat of Bioterrorism
global biodefense market to grow at a CAGR of 5.41% during the period 2017-2021.
http://www.sbwire.com/press-releases/

The Synthesis of Horsepox Virus and the Failure of Dual-Use Research Oversight

This mock, bioengineered pandemic killed 150 million people. Next time it might not be a drill

LARRY CANNER / JOHNS HOPKINS CENTER FOR HEALTH SECURITY

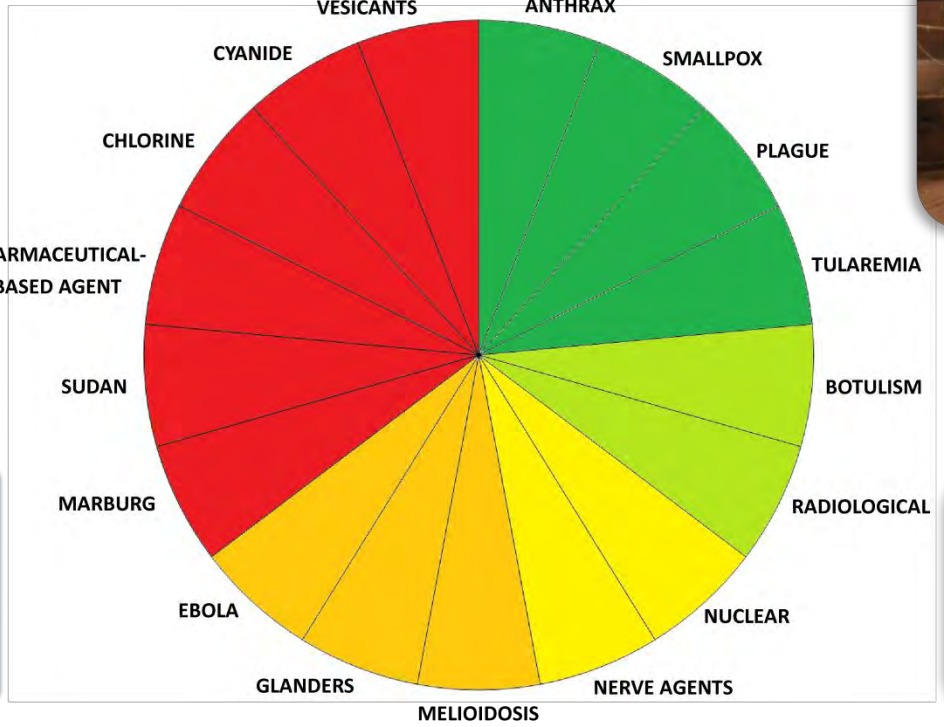
But New Advances As Well

CBS/AP *July 16, 2018, 5:34 PM*

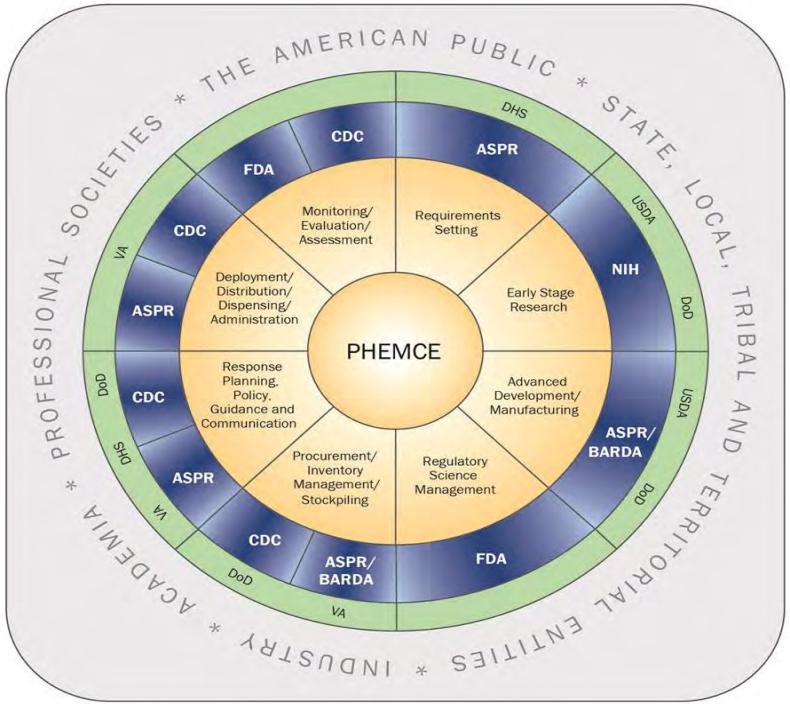
FDA approves first drug to treat smallpox, in case of terror attack

Capsules of the drug TPOXX, it was approved by the FDA in July 2018 as the first treatment for smallpox, a disease

21st Century: An Increasingly Complex & Dangerous World



Medical Countermeasures Enterprise



Key

- PHEMCE Mission Components
- HHS PHEMCE Agencies
- Non-HHS PHEMCE Agencies
- Non-Federal Stakeholders

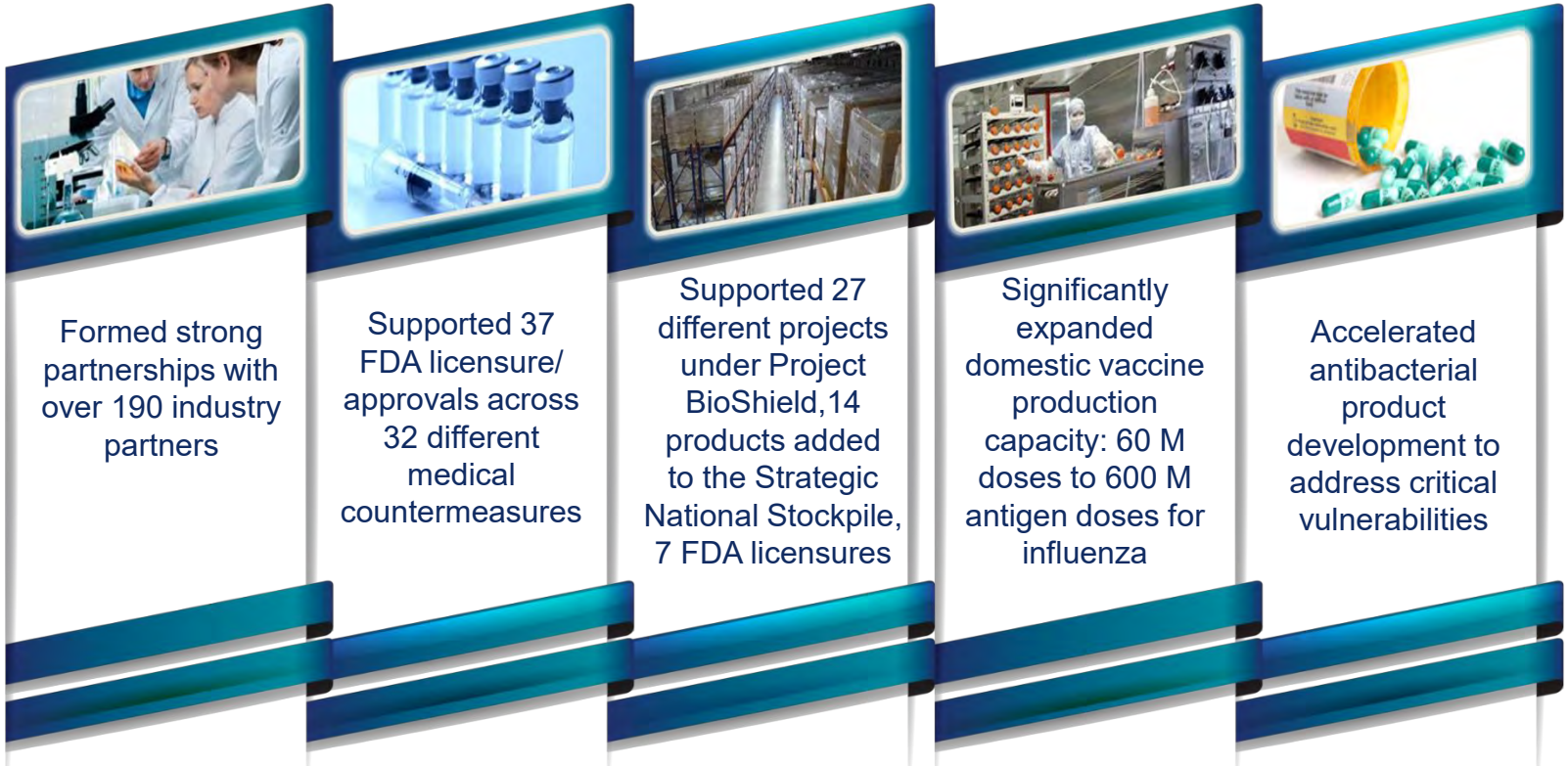
Acronyms

PHEMCE: Public Health Emergency Medical Countermeasures Enterprise
DHS: Department of Homeland Security
DoD: Department of Defense
USDA: U.S. Department of Agriculture
VA: Department of Veterans Affairs
HHS: Department of Health and Human Services
ASPR: Assistant Secretary for Preparedness and Response
BARDA: Biomedical Advanced Research & Development Authority
CDC: Centers for Disease Control and Prevention
FDA: Food and Drug Administration
NIH: National Institutes of Health

Anthrax

Smallpox

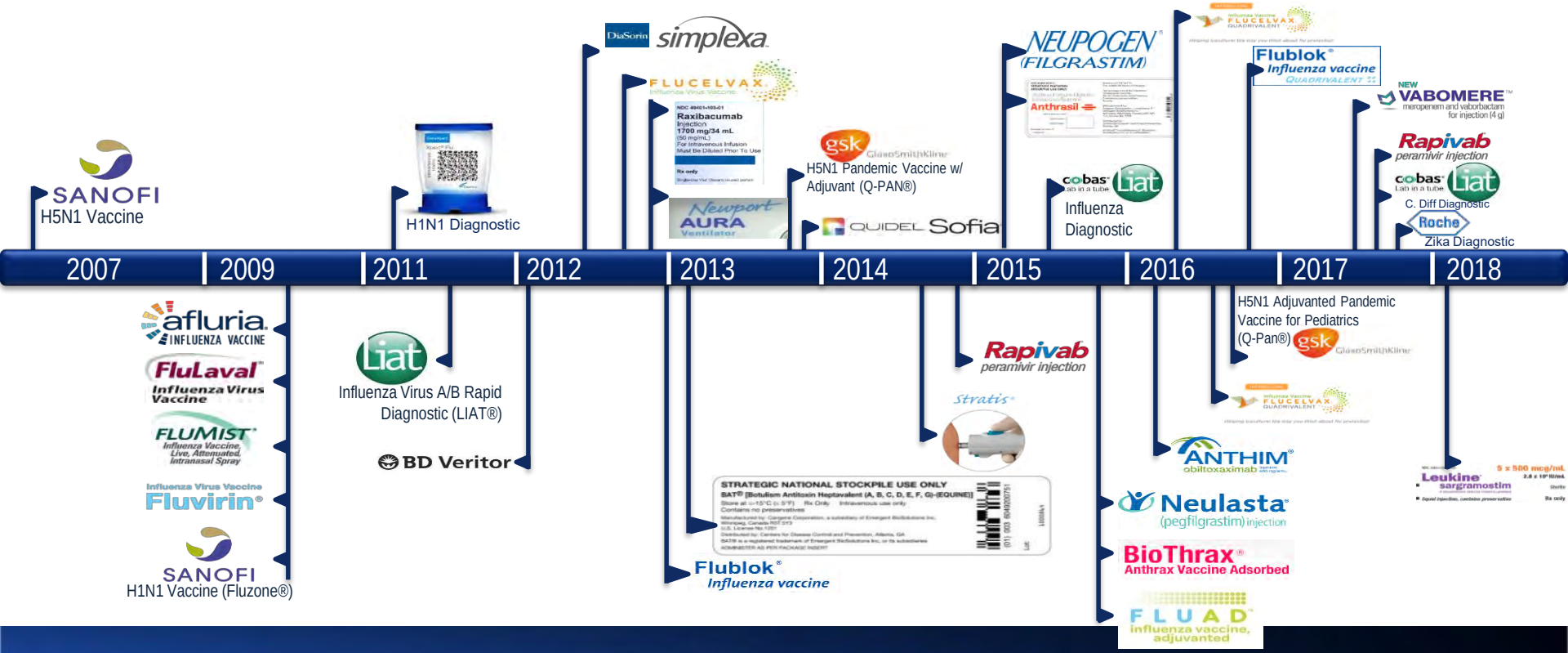
ASPR / BARDA Has Had a Successful Decade



BARDA Priorities

- Sustainment of products developed under PBS and re-establishing the market guarantee provided under the original SRF
- CBRN ARD – addressing gaps in preparedness; chemical agents, Sudan, Marburg, drug resistant pathogens
- CARB-X – to address all threats, CBRN, PI, and public health
- Better, faster, flu vaccines
- Maintaining and expanding domestic manufacturing capacity for non-egg based influenza vaccines (seasonal and pre-pandemic)
- Launch DRIVe

FDA Approvals, Licensures, and Clearances



The BARDA Model

BARDA develops and makes available medical countermeasures **(MCMs)** by forming unique public-private partnerships with industry partners

Our Industry Partners

Our Government Partners

HHS.gov
National Vaccine Program Office
Office of the Assistant Secretary for Health
Division of Veterinary Resources
Office of Intramural Research

Office of Infectious Diseases
Office of Public Health Preparedness and Response
National Center for Immunization and Respiratory Diseases (NCIRD)
CDC Immunization Safety Office
National Center for Environmental Health
National Center for Emerging and Zoonotic Infectious Diseases

National Heart
Lung and Blood Institute

NATIONAL CANCER INSTITUTE
Technology Transfer Center













National Institute
of Allergy and
Infectious Diseases

FEMA

Project BioShield

A commitment

27 products supported

14 products added to the Strategic National Stockpile

7 products taken to FDA approval/licensure/clearance

Project BioShield Successes

Anthrax Antitoxins

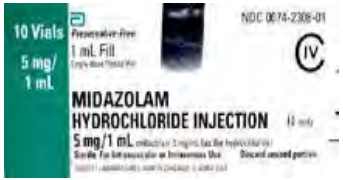
Anthrax Vaccines

Smallpox

Vaccine

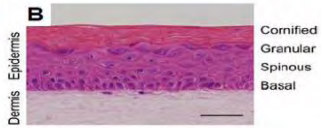
ST-246 Antiviral

Burn Products – Nuclear, Radiation



Chemical

Botulism



Stratatech
Excellence in Regenerative Medicine

BARDA Pandemic Influenza Preparedness

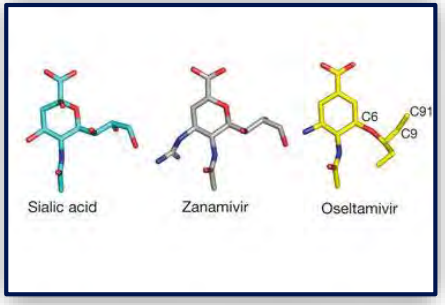
Early Detection → Early Response → Saving Lives

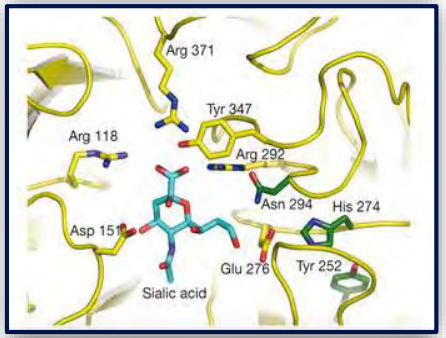
Best, Faster Flu Vaccines Now: Strategy

- Expand domestic capacity of cell and recombinant vaccines;
- Enhance their effectiveness, with the addition of adjuvants and higher doses;
- Conduct clinical trials to expand their use in all ages; and,
- Modernize vaccine production for speed and flexibility.

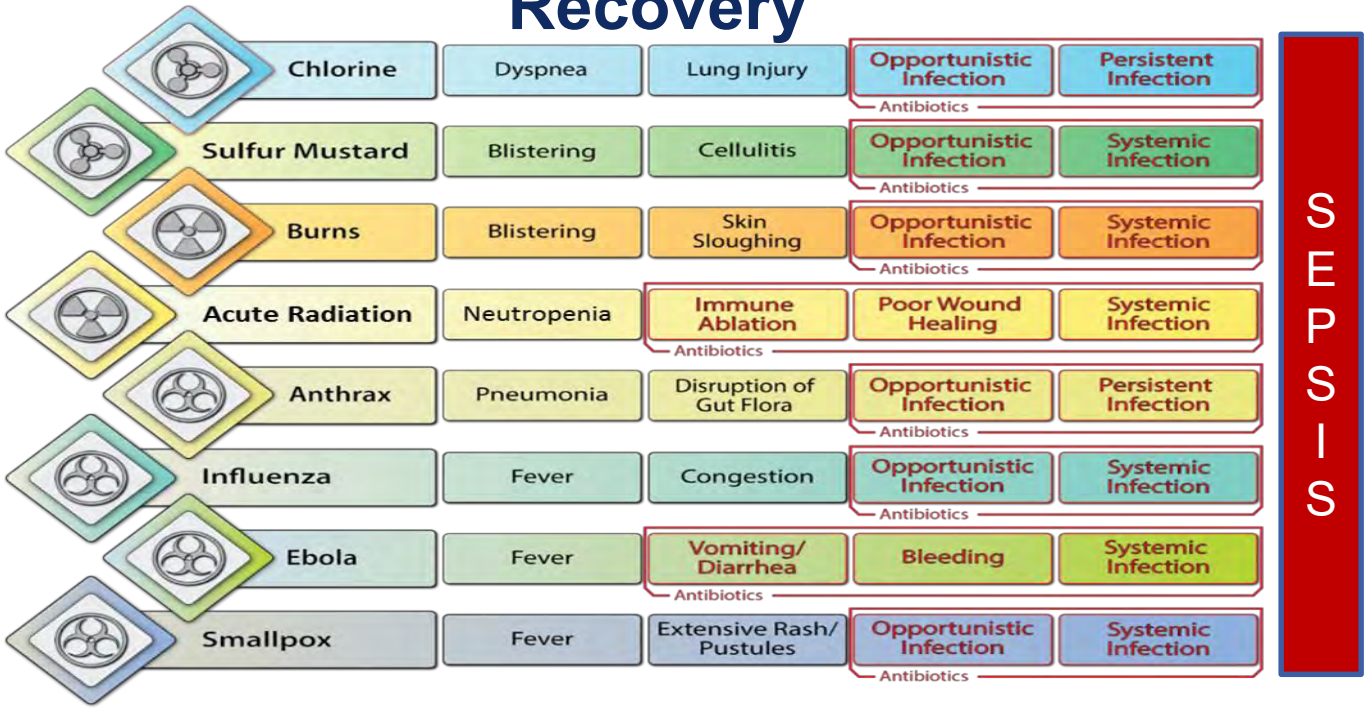
New Therapeutics

- Only one class of antivirals currently approved in the US
  - Significant public health risk if resistance develops
- Multiple BARDA funded clinical trials of new therapeutics ongoing
- Antiviral with novel mechanism of action recently approved in Japan
  - BARDA discussing how to support US licensure





Addressing the Continuum of Care from Exposure to Recovery



Novel antibiotics ensure that *no patient is left behind*

BARDA's Antibiotic AR&D Portfolio

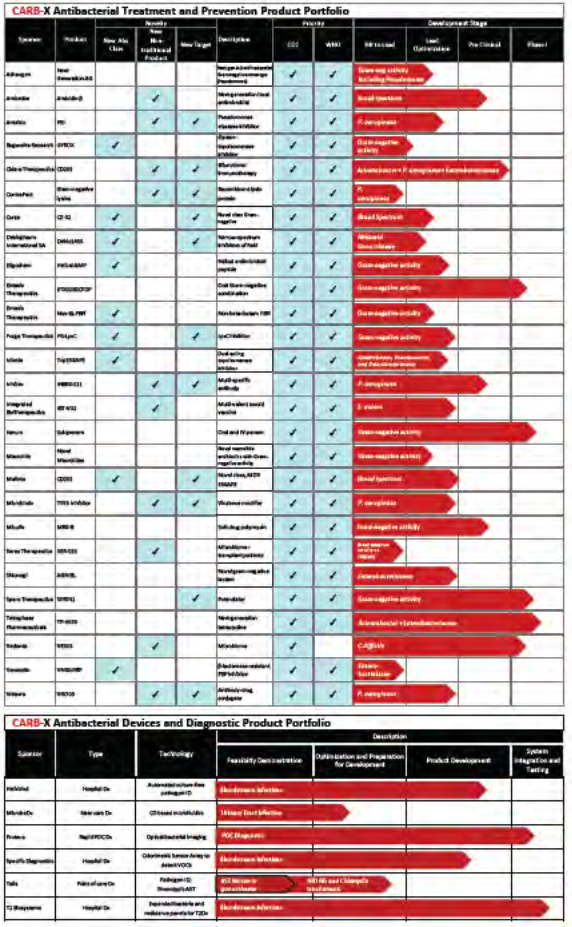
Sponsor	Antibacterial	Development Phase	Biodefense Profile	Commercial Indication
Medicines Company	**Vabomere**	Approved	Burkholderia	cUTI, CRE
Achaogen	**Plazomicin**	NDA Submitted	Plague, Tularemia, Anthrax	cUTI, CRE
CUBRC/Tetraphase	**Eravacycline**	NDA Submitted	Plague, Tularemia, Anthrax	cIAI, MDR bacteria
Basilea	**Ceftobiprole**	Phase 3	Plague, Tularemia	ABSSSI, SAB, CABP
Summit	**Ridinilazole**	Phase 3	Anthrax (adjunct)	C. diff
Pfizer	**Aztreonam-Avibactam**	Phase 3	Burkholderia, Plague	cIAI, HABP/VABP, cUTI, BSI
GlaxoSmithKline	**Gepotidacin**	Phase 3	Plague, Tularemia, Anthrax	CABP, GC, cUTI
GlaxoSmithKline	**GSK--680**	Phase 1	TBD	TBD
Hoffman-La Roche	**RG6080**	Phase 3	Burkholderia	cUTI, cIAI, HABP/VABP
Achaogen	**C-Scape**	Phase 3	Plague, Tularemia	cUTI

CARB-X Progress – 2 Years In

By the numbers:

- *28 projects targeting MDR bacteria*
- *$76.3M invested to date*
- *7 countries*
- *8 new classes of antibiotics*
- *11 new molecular targets*
- *10 non traditional candidates*
- *4 rapid diagnostics*
- *1 vaccine*
- *5 candidates advanced into clinic*
- *For every $1 CARB-X invested, $7.2 secured from private sector*
- *For every $1 BARDA invested, $11.9 secured from private sector*

As of April, 2018



BARDA Division of Research, Innovation, and Ventures (DRIVe)

DRIVe Mission: Transforming Health Security

Accelerate the research, development, and availability of transformative countermeasures to protect Americans from natural and intentional health security threats.

DRIVe Transforming Health Security

DRIVe-Ready

CAPTURE

Set targets & research agenda Coordinate with "deep thinkers" across USG, academia, industry, and other stakeholders.

SOLUTION MAPPING

Establish Integrated Solutions for Intelligent Acceleration

DRIVe-X

ACCELERATE

Investors: BARDA, DoD

DRIVe-Launch

INITIAL SUSTAINMENT

(1-18 Months)

Investors: BARDA, MCIP

DRIVe VENTURES

STRATEGIC SUSTAINMENT

Corporate Venture Capital Model Investment in Products

PHEMCE 2.0 Industry DoD

Response Framework

Situational Awareness/Recognize
How do we know something is happening, an agent has entered the community ENACT, Opioids

Design
How do we stop the spread of the disease? Drugs, vaccines, PPE, social distancing? UniRx

Produce
On demand manufacturing of X PoD

Administration
everyone who needs X is provided X Opioids, Solving Sepsis

Identification/Characterize
What is it, is it drug resistant, are certain subpopulations more susceptible, will it become an epidemic? ENACT, Opioids

Validate
Methods under design are evaluated, clinical trials, non-clinical trials, epidemiology, surveillance eRAT

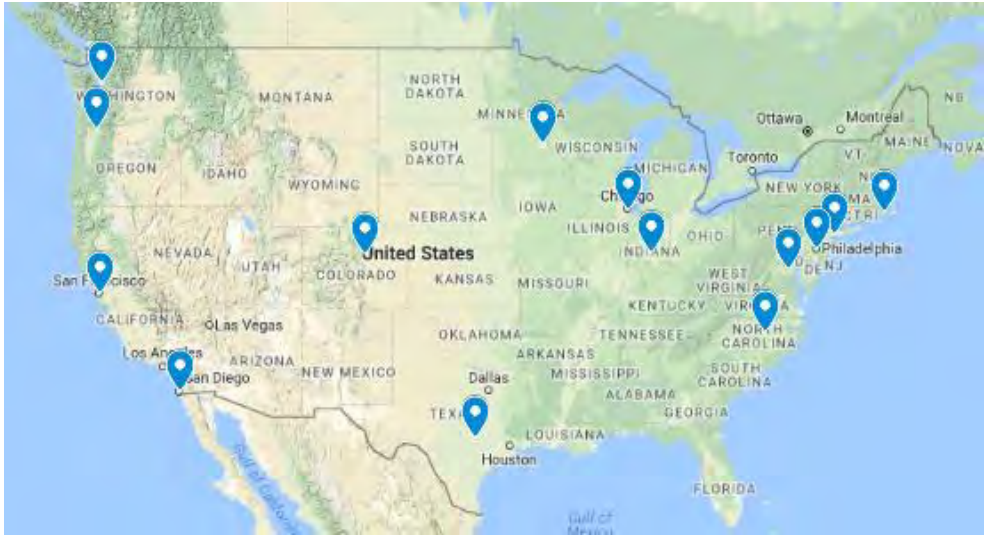
Distribute
novel ways to get product/information to those who need it. PoD

DRIVe-Ready

Capture
- Sets research agenda
- Coordinates across USG, academia, industry and other stakeholders

Solution Mapping
- Accelerator network across the US has been awarded

US Hubs of Innovation



DRIVe-X

Initial Emphasis:

- Prevent illness from infectious exposures through early identification and action
- Save lives by solving sepsis

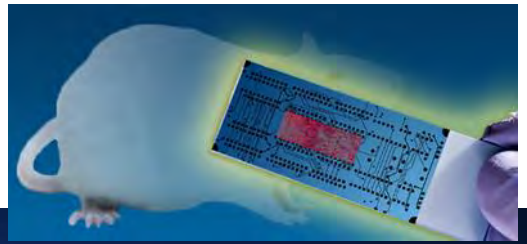
SOLVING SePSIS

ENACT
Early Notification to Act, Control, and Treat

Future Areas:

- *Create universal treatment options for broad classes of pathogens*
- *Ensure access to life-saving medical countermeasures for all Americans*
- *Transform the process by which medical countermeasures are developed (non-animal testing)*

- Viral
- Bacterial
- Fungal



The General Problem

Enormous healthcare impact to the US public and growing each year…

Lives Lost

- **Morbidity - 1.5 Million people each year in US**
- **Mortality - >250,000 people die each year**
  - **~80,000 are discharged to hospice**
- **Management - 1:3 patients who die in hospital have sepsis** CDC

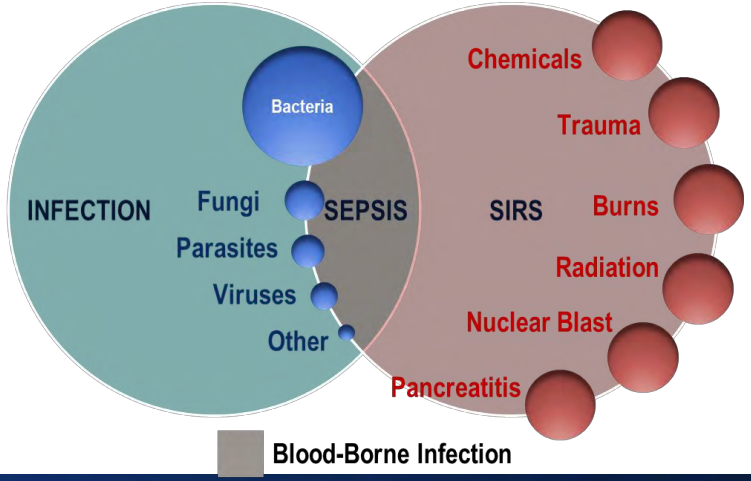
Growing Cost

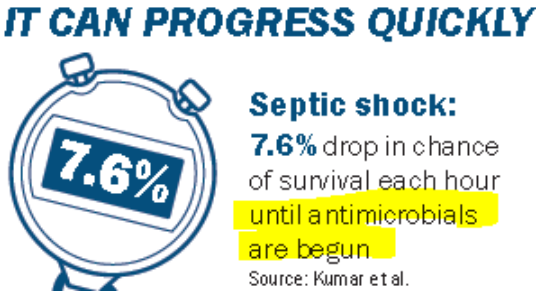
Responsible for nearly $24 billion annually
(6.2% of hospital costs)

https://www.hcup-us.ahrq.gov/reports/statbriefs/sb204-Most-Expensive-Hospital-Conditions.pdf
(2016 report, 2013 data)

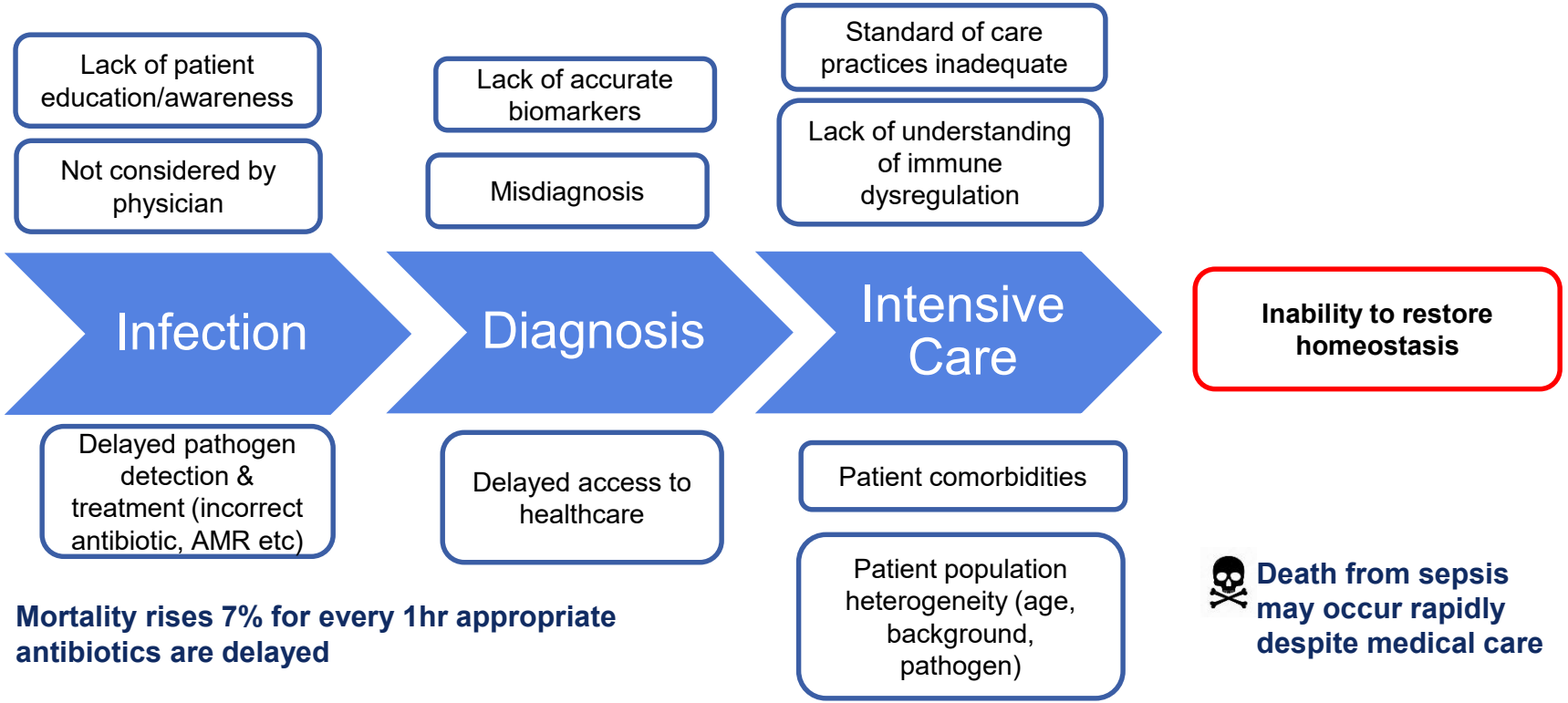
Solving Sepsis in Our Lifetime

- **The problem:** The downstream effects of a Chemical, Biologic, Radiologic or Nuclear (CBRN) attack will create a major surge in sepsis cases overwhelming critical care centers and hospitals.
- **The solution:** Multi-disciplinary, comprehensive approach for a breakthrough in decreasing mortality and improving post-sepsis outcomes, including:



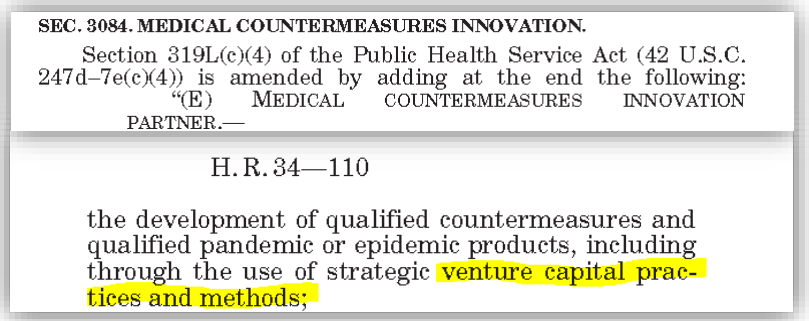


Failure Points in Current Practices



DRIVe-Launch

- **Model:** Angel/Early Investor
  - Seed funding [3rd Party Entity]
  - Accelerator, Capture and Sprint
- **Investment Horizon:** 18 months to Next Phase



SEC. 3084. MEDICAL COUNTERMEASURES INNOVATION.

Section 319L(c)(4) of the Public Health Service Act (42 U.S.C. 247d–7e(c)(4)) is amended by adding at the end the following:

"(E) MEDICAL COUNTERMEASURES INNOVATION PARTNER.—

H. R. 34—110

the development of qualified countermeasures and qualified pandemic or epidemic products, including through the use of strategic venture capital practices and methods;

MCIP

Medical Countermeasure Innovation Partnership

DRIVe VENTURES

Investing in National Health Security

- **Model:** Product specific investments leveraging corporate venture practices
- **Investment Horizon:** Evolve to Evergreen
  - Re-prioritize and sustain investments across the BARDA portfolio in performance-based fashion;
  - Cull what does not make the cut and re-invest

What the future holds…

DRIVe VENTURES Portfolio Overview

Panacea Clinic · Emerge · pharmaSTRATEGIES · calematix · iba · CASAMED · Hospital Veterinário das Travessas · RajeshMahara · Angel MedFlight · PROMISES

Pharmacy on Demand (PoD)

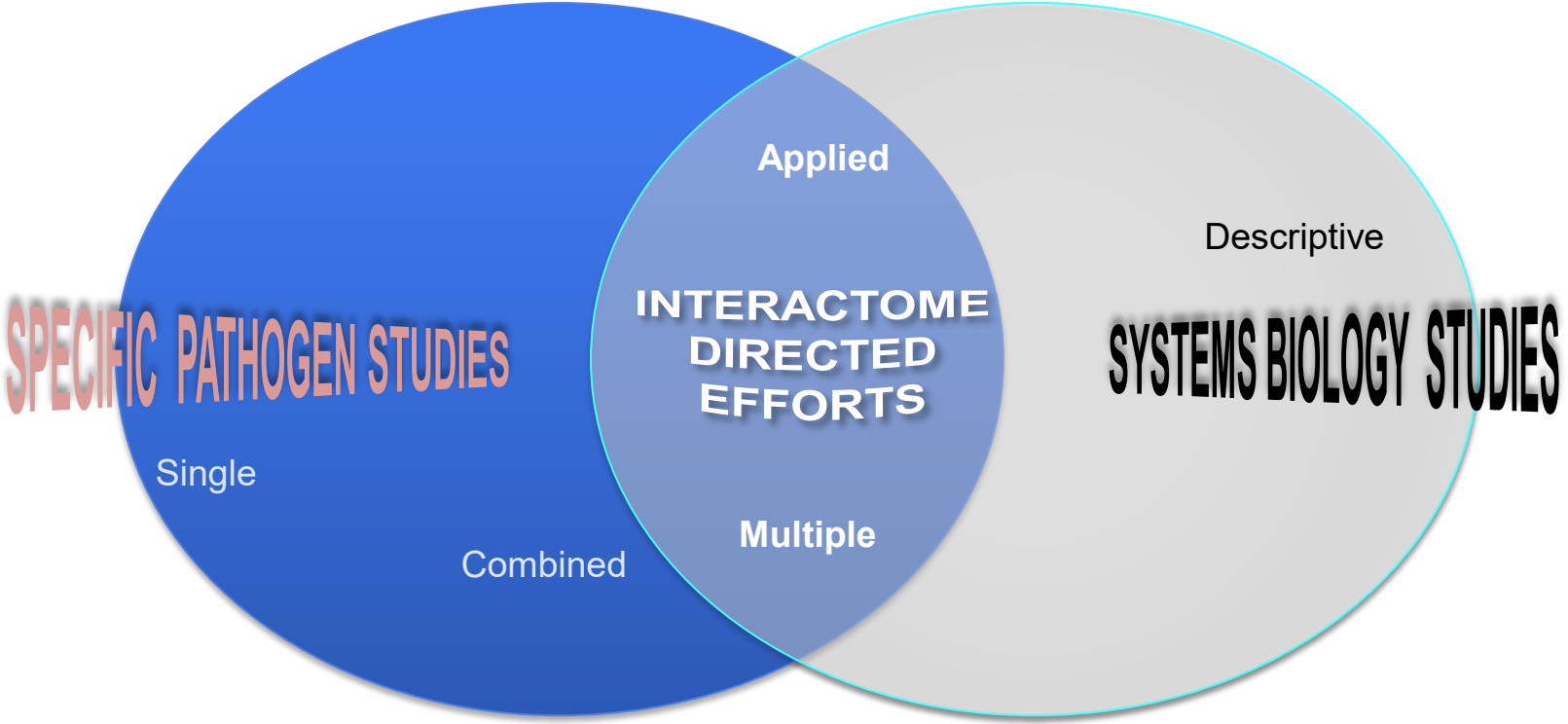
- **The Problem:** Access to medicines requires visits to health care professionals, stocks of drugs in pharmacies, and delays in receiving therapies especially in events where healthcare infrastructure is limited or under peak demand (e.g., influenza outbreaks).
- **The Solution:** Medicines are available in areas frequented by all and/or can be shipped rapidly through emerging technologies. On demand production and supply.

Patient engagement via telehealth

Meds delivered to home

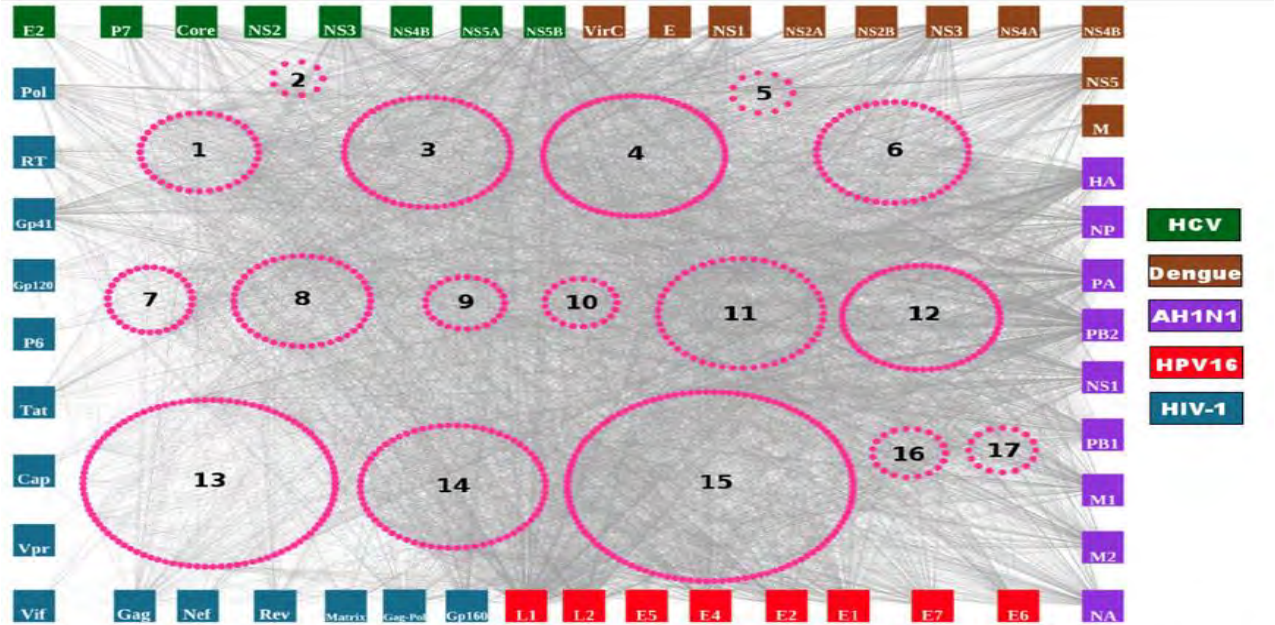
Booth that dispenses meds via smartphone eScript

CURRENT INVESTMENT MODELS IN INFECTIOUS DISEASES



Example of the Interactome

Functional Human Host Domains Targeted by Diverse Viruses –



Examples - Broad Spectrum Approaches (host-based and pathogen-based)

- Apoptosis Induction Domains
  - Rider et al 2011 – Double Stranded RNA Activated Caspase Oligomerizer (NIAID funded)
- Innate Defense Regulator Peptides
  - Soligenix – Dusquetide (anti-inflammatory)
- Sirtuins - Host cell metabolic regulators
  - Forge Life Sciences
- Histidine Kinase Targets (fungal)
  - UW-Madison – WARF
- Inflammasome Inhibitors
  - Olatec
- AR-12 antiviral, antifungal

2018 Priorities

Sustain
- Industry Partnerships
- Capabilities
- Capacity

Streamline
- Single BARDA BAA
- BARDA Contracting
- Communications

Foster Consortia & Partnerships
- Other Transaction Agreements
- Strengthen alignment with DoD

Promote Innovation
- End-to-End Focus
- Last Mile

Find Us Online

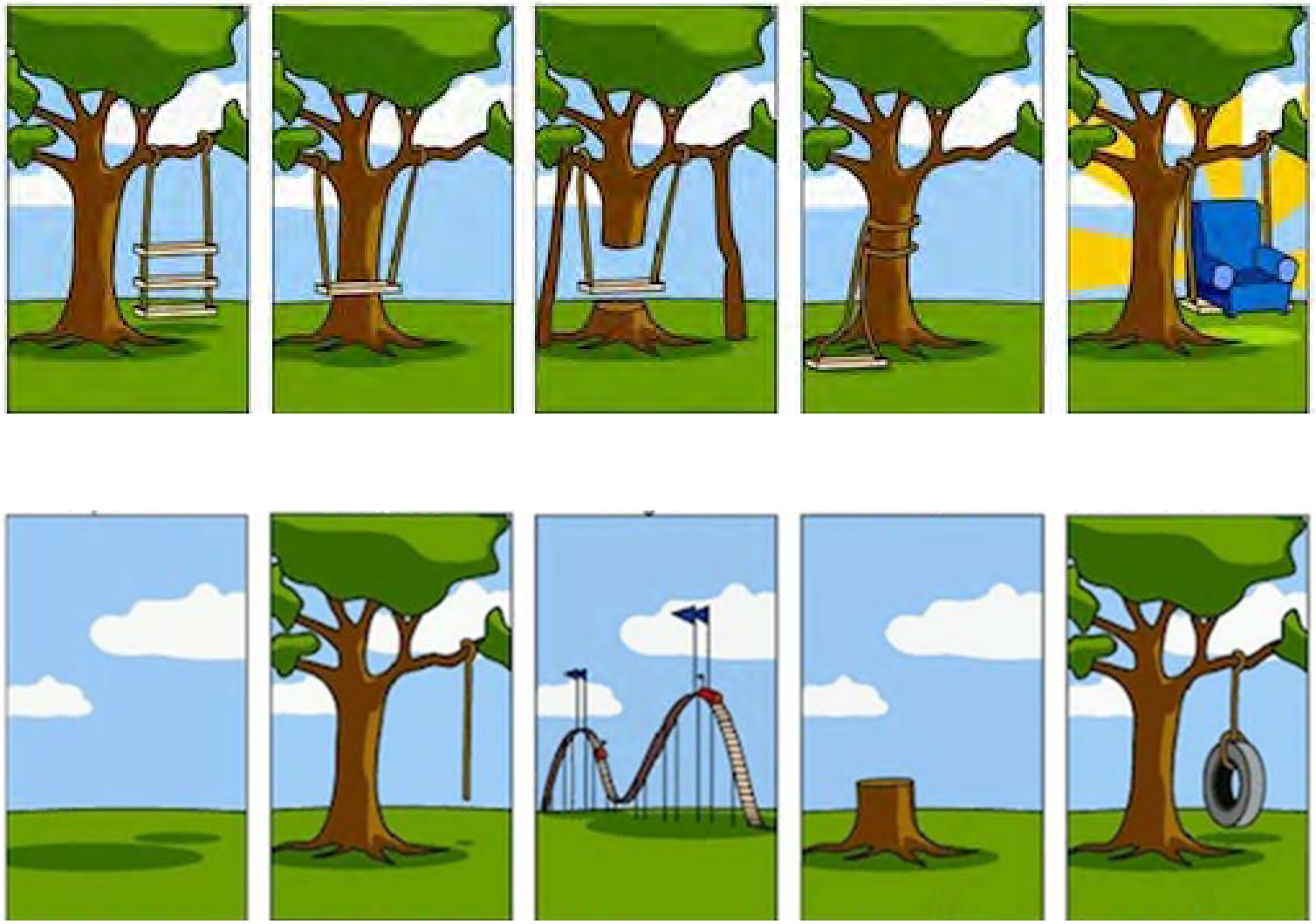
	PHE.gov: **www.phe.gov** **www.Drive.hhs.gov**		**Facebook:** **www.facebook.com/phegov**
	PHE.gov Newsroom: www.phe.gov/newsroom		YouTube: www.youtube.com/phegov
	Flickr: www.flickr.com/phegov		Twitter: www.twitter.com/phegov

The Joint Requirements Office for CBRN Defense

Developing Joint CBRND Capabilities

COL Daryl Hood, USA
Deputy Director, JRO-CBRND
Joint Staff J8
25 July 2018

Why Get Requirements Right?



http://www.tamingdata.com/2010/07/08/the-project-management-tree-swing-cartoon-past-and-present/

JRO Mission & Functions

Identify, assess and prioritize joint CBRND operational capability requirements to further advance DoD's abilities to counter WMD

- Lead joint CBRN defense equipment (CDE) and medical CDE operational capability requirements
- Represent the Services and Combatant Commanders in Joint Capabilities Integration Development System (JCIDS) and act as their proponent for coordinating and integrating CBRND operational capabilities
- Identify, coordinate, and approve the CBRN defense operational concepts
- Lead development of Chem-Bio Defense Program Objective Memorandum (POM)
- Develop the CBRND Modernization Plan
- Conduct CBRN Operational Risk Assessment
- Maintain visibility of CBRND-related demonstration activities of the Military Services, Combatant Commands, and relevant Defense Agencies
- Facilitate development of joint CBRN defense doctrine, training, senior leader education, and sponsor development of multi-service doctrine

DoDD 5160.05E, 8 September 2017

The Process…Decision Support Systems

PPBE: ASD(NCB) and DASD(CBD) Oversight & Mgt
- JRO, w/ PAIO support, leads POM development – vice versa for Budget Reviews

DAS: JPEO-CBD Develops, Acquires and Fields CBD Equipment
- JSTO conducts basic & applied research; transitions technologies
- T&E ensures outcomes of testing are credible and useful

JCIDS: JRO-CBRND leads capabilities development; represents & advocates on behalf of Services and COCOMs

Requirements – Efforts of Interest

- Next generation chemical detection
  - AVCAD: aerosol/vapor monitor for detection
  - PCAD: liquid/solid surface area sensor
  - MPCAD: analytical sensor identifies/quantifies state of matter samples
  - WCAD: wearable detector technology provides warning of CWAs, TICs, and oxygen levels
- PBA MCM CONOPS and CDD
- CBRN IEW CBA and follow on Joint DCR
- CBDP FY 20-24 POM
- Joint Publication 3-11
- SOCOM CWMD Coordination Conference

- Aerosol and Vapor Chemical Agent Detector (AVCAD)
- Capability Based Assessment (CBA)
- Capability Development Document (CDD)
- Chemical Warfare Agents (CWA)
- Concept of Operations (CONOPS)
- Doctrine, Organization, Training, Materiel, Leadership and Education, Personnel, Facilities and Policy (DOTmLPF-P) Change Recommendation (DCR)
- Integrated Early Warning (IEW)
- Medical Countermeasures (MCM)
- Multi-Phase Chemical Agent Detector (MPCAD)
- Pharmaceutical Based Agents (PBA)
- Program Objective Memorandum (POM)
- Proximate Chemical Agent Detector (PCAD)
- Toxic Industrial Chemicals (TIC)
- Wearable Chemical Agent Detector (WCAD)

CBRND In Support of CWMD

Pathway Defeat

Response

CWMD Strategy

Prepare

Prevent Acquisition

Contain and Reduce Threats

Respond to Crises

CBRND Non-Materiel Approaches

JP 3-40 Countering WMD

Joint Concept for Preventing the Use or Transfer of WMD Transition Plan

WMD Disablement ICD

WMD Deterrence

Control WMD Study

Prevent WMD Transfer

IEW CBA

CWMD LDT&E DCR

JP 3-11 Ops in CBRN Env

JP 3-41 CBRN Response

JP 3-27 Homeland Defense

JP 3-28 Def Spt of Civil Auth

Training & Exercises

CBRND Materiel Capabilities

Prophylaxis

VAC Filo
VAC BOT

VAC PLG
VAC ANTHRAX

TaCDS

Warn / Rpt

JWARN

JEM

Reconnaissance

Individual Protection

JSLIST / UIPE

ColPro

CBPS

Decon

RSDL
JSTDS-SS

Surveillance

BSP

Detection

JCAD

JBTDS

Diagnostics

JBAIDS
NGDS

Therapeutics

AAS

INATS

AutoInj

Summary

- **The requirements process is one piece of the CBD program**
- **JCIDS is the specific decision-making process used to develop required capabilities**
- **JRO-CBRND represents the Services in the JCIDS process and is the Joint Staff focal point for CBRN issues**

JCIDS along with the Defense Acquisition System and the Planning, Programming, Budgeting, and Execution processes form the principal DoD decision support processes for developing capabilities required by the military forces to support the national military strategy and the defense strategy

Questions

COL Daryl Hood (703) 571-3050
Dr. Ralph Kerr (703) 571-3086
Ms. Dee Morris (703) 571-3052

NDIA CBRN DEFENSE

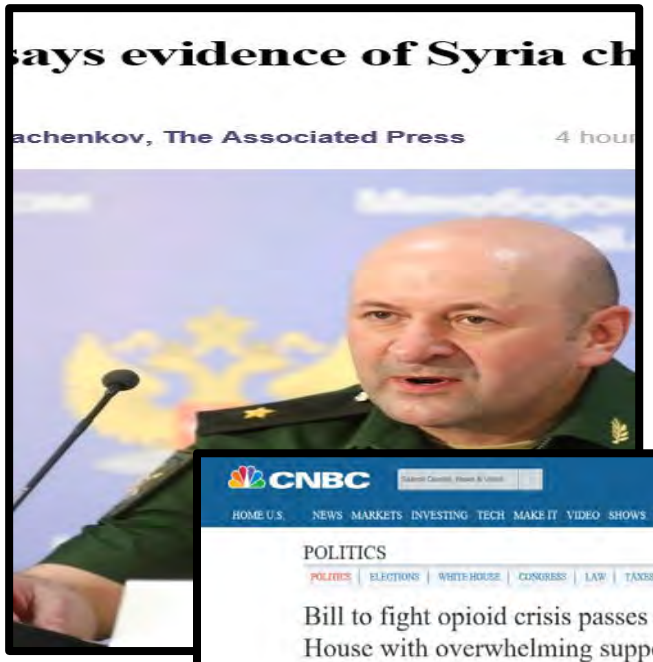
Conference and Exhibition

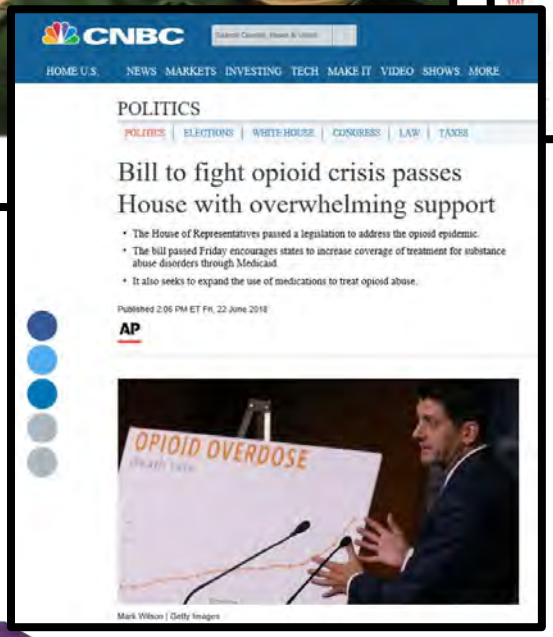
July 25, 2018

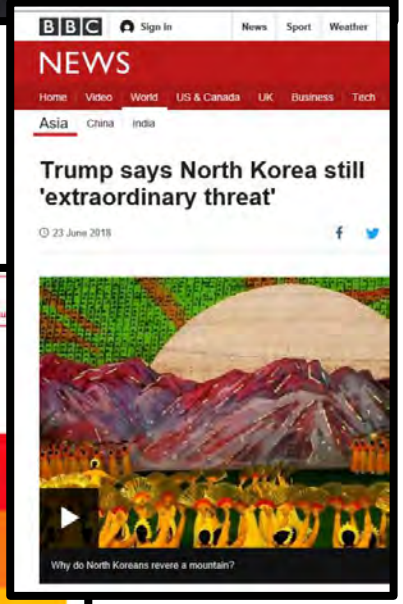
Mr. Douglas Bryce
Joint Program Executive Officer
for Chemical, Biological, Radiological
and Nuclear Defense

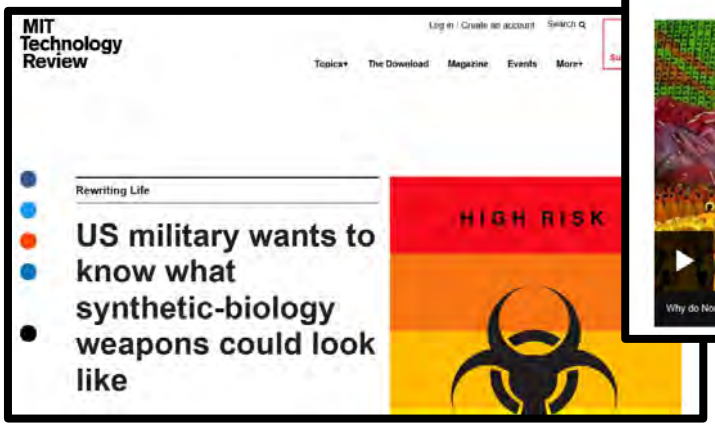
JPEO-CBRND – WHO WE ARE AND WHERE WE ARE HEADED

WE FACE A COMPLEX THREAT ENVIRONMENT



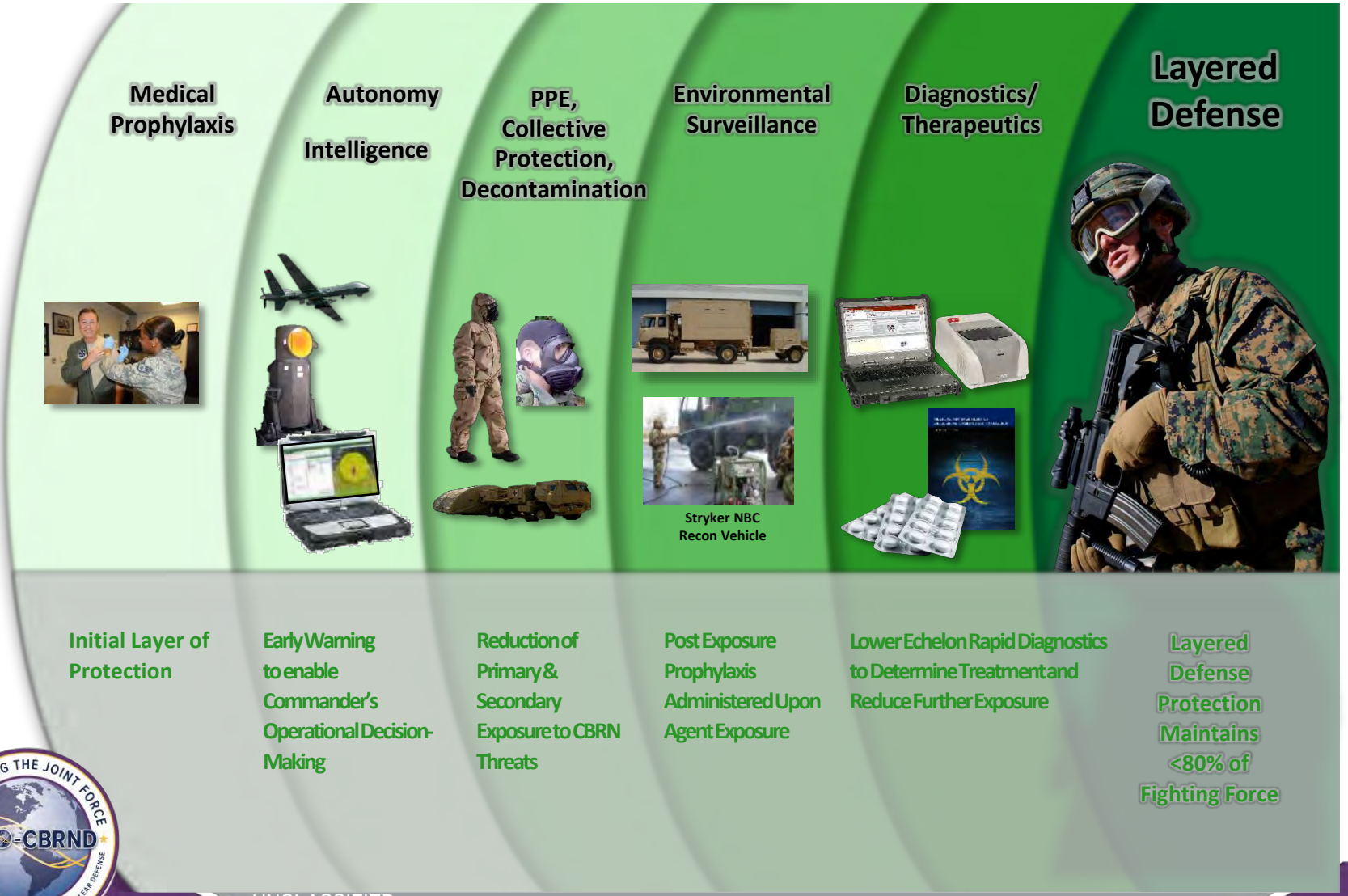




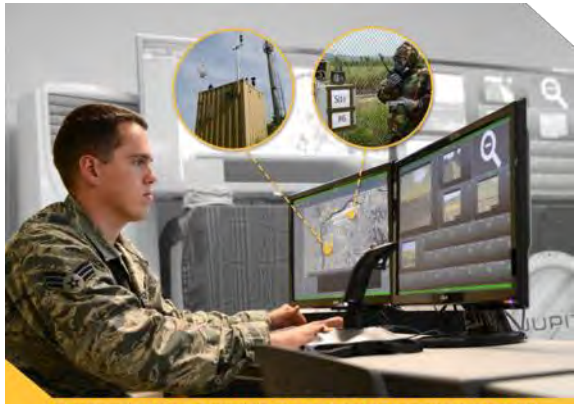



PROTECTING THE JOINT FORCE
JPEO-CBRND
CHEMICAL, BIOLOGICAL, RADIOLOGICAL & NUCLEAR DEFENSE

A GLIMPSE AT LAYERED, INTEGRATED DEFENSE



REALIZING INTEGRATED LAYERED DEFENSE
TODAY'S MODERNIZATION IS TOMORROW'S READINESS



INTEGRATED SITUATIONAL UNDERSTANDING

- Machine Learning and Artificial Intelligence
- Next generation CBRN sensing and detection
- Wearable technologies

PROTECTION AND MITIGATION

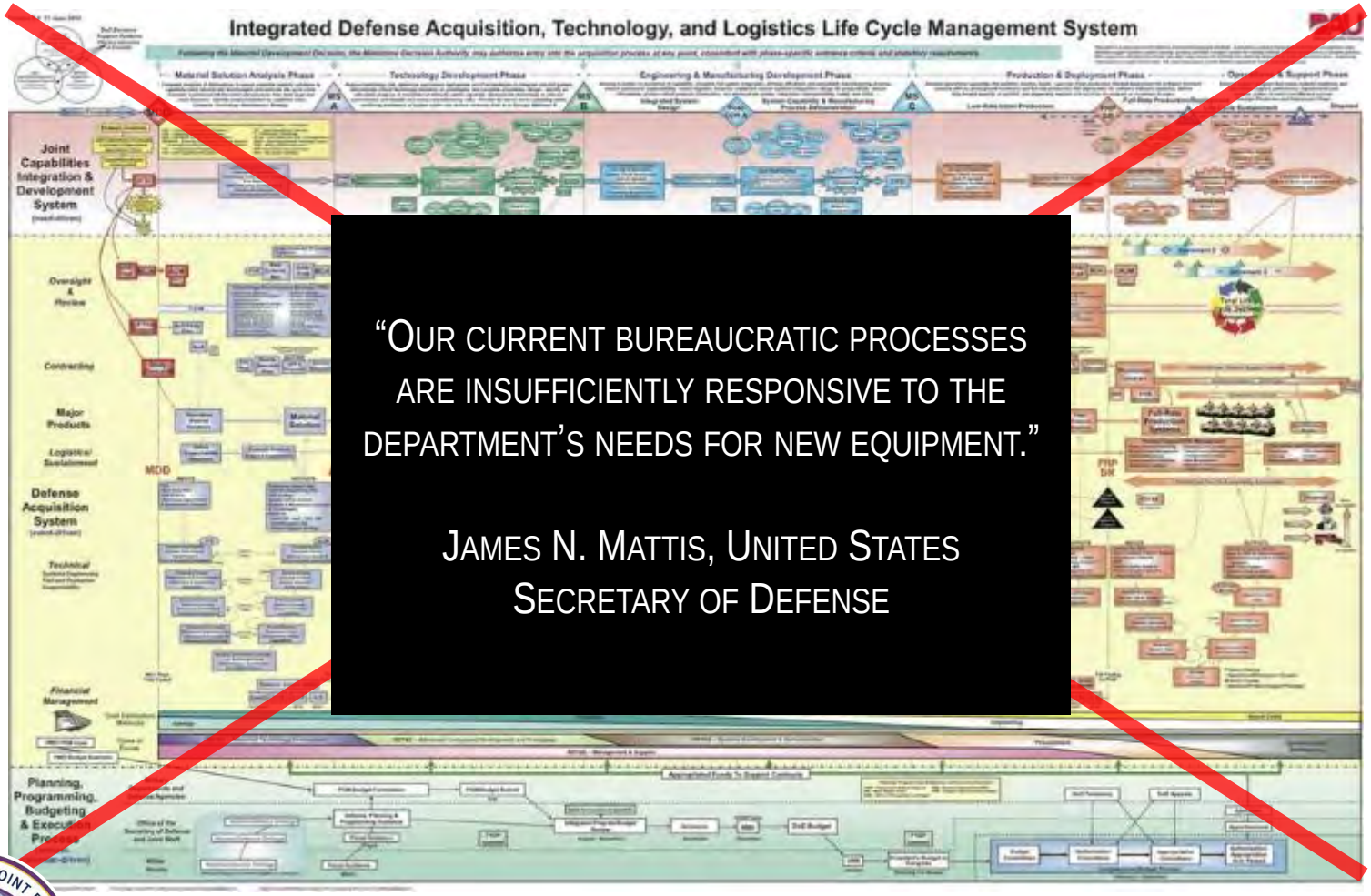
- Next generation protective ensemble
- DECON family of systems
- Coatings/Barriers
- Collective Protection

MEDICAL PROTECTION AND MITIGATION

- Agile medical paradigm
- Platform/proven technologies
- Next generation diagnostics
- Advanced development manufacturing capabilities

PROTECTING THE JOINT FORCE
JPEO-CBRND
CHEMICAL, BIOLOGICAL, RADIOLOGICAL & NUCLEAR DEFENSE

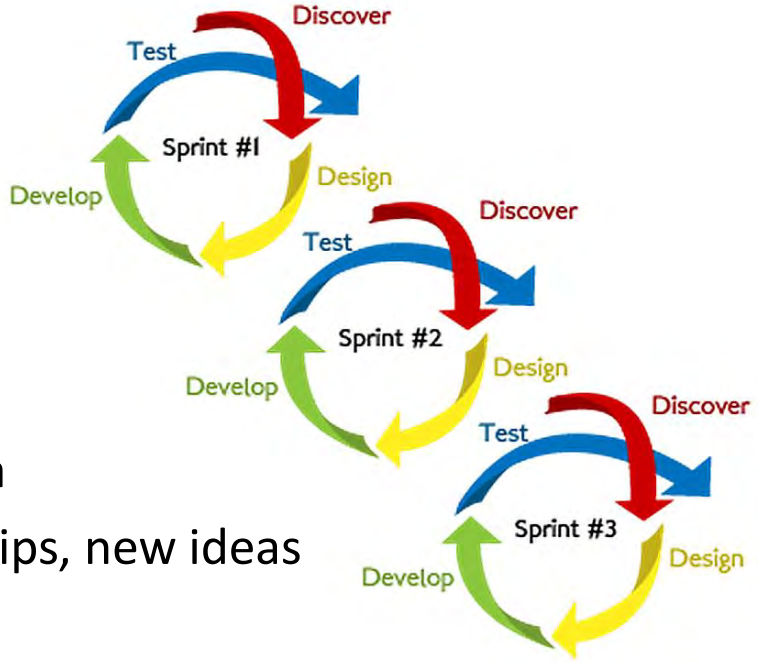
WINTER IS COMING!



GETTING TO AGILE:
PRODUCT VS. PROCESS

Ways the JPEO-CBRND is speeding the delivery of innovative solutions:

- Leveraging new legislation
  - Middle Tier Acquisition (Section 804/806/*809)
  - Other Transaction Authority (OTA)
  - Enhanced FDA / DoD engagement (PL115-92)
- Experimentation / Prototyping
- Early user involvement
- Renewed engagement with industry / academia
- Focus on innovation - new performer partnerships, new ideas



JPEO-CBRND

CWMD Countering Weapons of Mass Destruction CONSORTIUM

MCDC Medical CBRN Defense Consortium
Prevent | Diagnose | Treat

SPARK
JPEO-CBRND's idea incubator

THINKING BIG TOGETHER

Bold Vision

Ingenuity

Execution

What's it going to take for CBRN defense?

"Creativity is thinking up new things. Innovation is doing new things." **- Theodore Levitt, American Economist**

The Right Technology, at the Right Time, in the Right Place and for the Right Cost

Douglas W. Bryce

Joint Program Executive Officer *for*
Chemical, Biological, Radiological and Nuclear Defense

410-436-9000
www.jpeocbd.osd.mil