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For Open Publication

Mar 22, 2023

Department of Defense
OFFICE OF PREPUBLICATION AND SECURITY REVIEW

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NATIONAL DEFENSE INDUSTRIAL ASSOCIATION (NDIA) CBRN DIVISION QUARTERLY EVENT: ODASD(CBD) MEDICAL RDA PORTFOLIO OVERVIEW

April 2023

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STRATEGIC DRIVERS

The United States faces unprecedented WMD threats from China, Russia, Iran, North Korea, and violent extremist organizations.

- **Great Power Competition:** China as the pacing challenge, Russia as the acute threat.
- **Advanced Technologies and Bio-Convergence:** The threat has rapidly evolved due to the rapid advancement of technology and convergence of sciences and technologies applied to the life sciences.



China probably has the technical expertise to weaponize chemical and biological warfare agents and its conventional weapon systems can be adapted to deliver CB agents. China is engaging in chemical and biological research with dual-use applications.



Russia has an offensive biological weapons program and an undeclared chemical weapons program. It has used chemical weapons twice in recent years. Moscow depends heavily on non-conventional weapons and capabilities to compete with NATO.



Iran is not in compliance with the CWC and the U.S. assesses Iran has not abandoned its intention to conduct research and development of biological agents and toxins for offensive purposes.



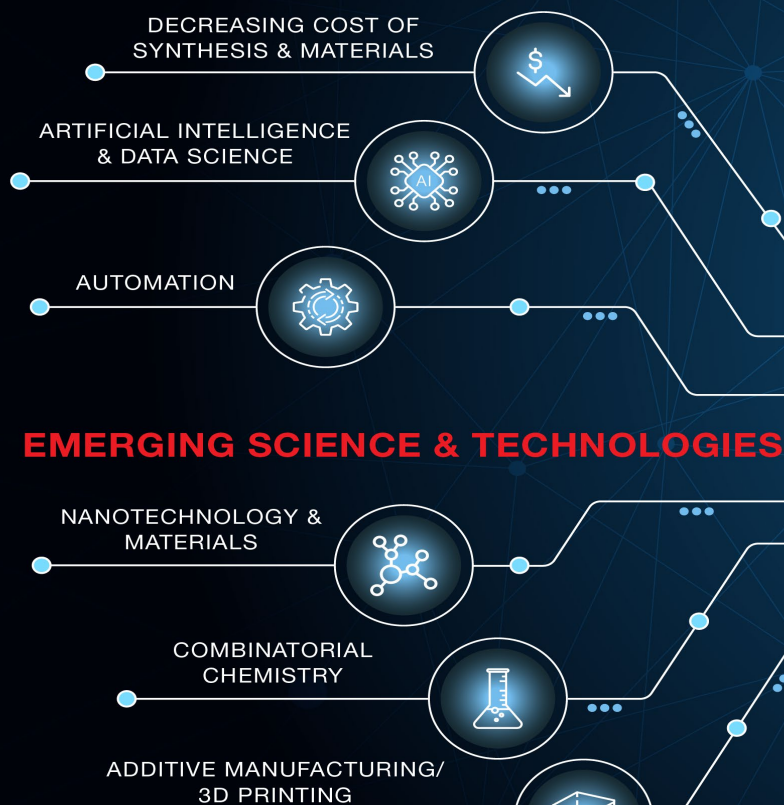
North Korea has an offensive biological weapons program and used chemical weapons to assassinate an individual as recently as 2018.



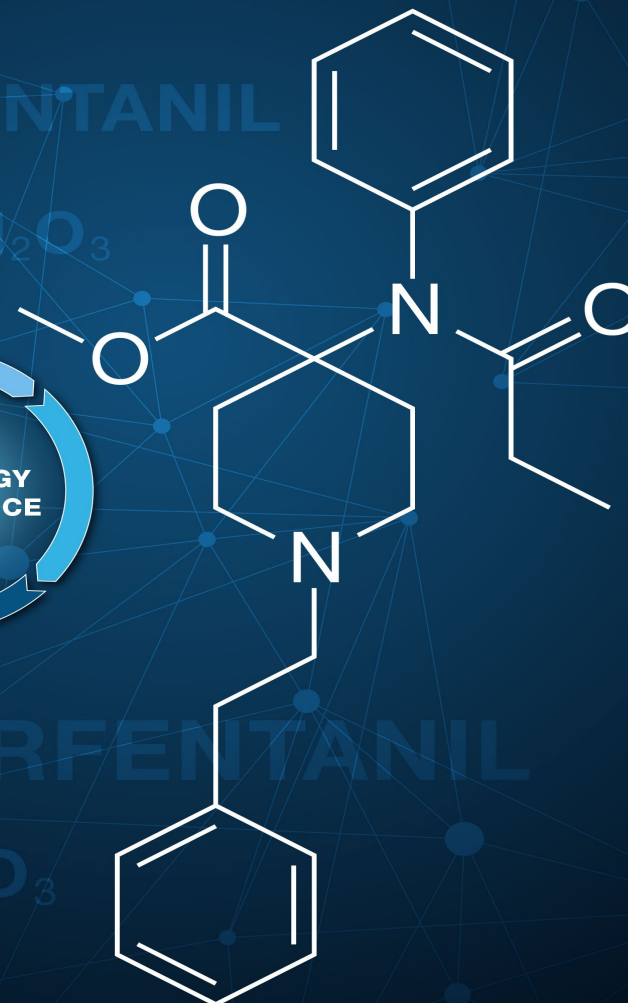
THE CHALLENGES OF EMERGING CHEMISTRY S&T

CONVERGING TECHNOLOGIES
AND SCIENTIFIC ADVANCEMENTS...

...ENABLE ACCELERATION OF NEW AND COMPLEX
THREATS IN AN ALREADY DYNAMIC THREAT LANDSCAPE



TECHNOLOGY
CONVERGENCE



**EMERGING DUAL USE
DEVELOPMENTS**

Increased discovery of
new chemical and
pharmaceutical
compounds

DIY & small scale production
methods (lab in a bag,
continuous flow reactors)

Enhanced delivery
capabilities (encapsulation;
timed release in body) and
more potent/toxic
compounds

Novel pharmaceutical
mixtures

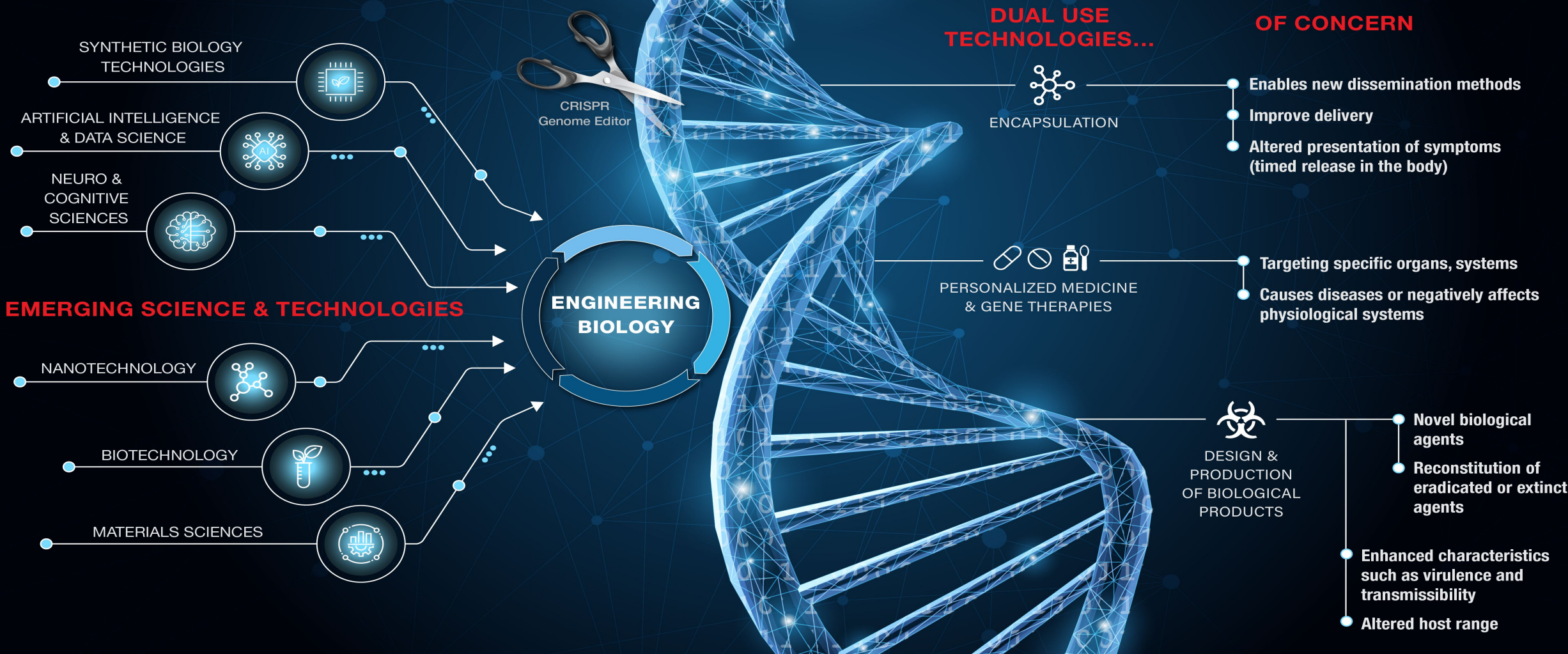


THE DARK PROMISE OF

BIOTECHNOLOGY

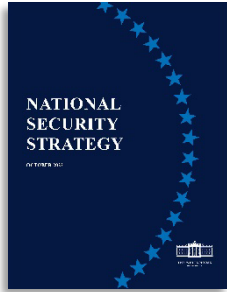
**CONVERGING TECHNOLOGIES
AND SCIENTIFIC ADVANCEMENTS...**

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STRATEGIC GUIDANCE



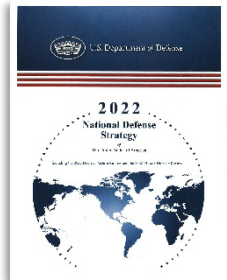
2022 NATIONAL SECURITY STRATEGY

- “We will also tackle the **increasing risk** posed by **deliberate and accidental biological risks**, including through our ability to **rapidly detect, identify**, and attribute agents, and to **develop medical countermeasures**.”



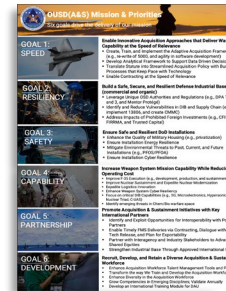
SECRETARY OF DEFENSE BIODEFENSE VISION MEMO

- “The Department of Defense (DoD) will **prioritize biodefense** across the full spectrum of biological threats, from naturally occurring to **accidental and deliberate biological incidents**.”



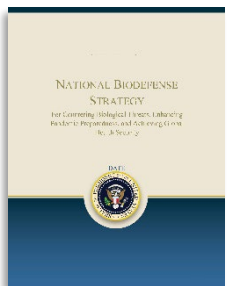
2022 NATIONAL DEFENSE STRATEGY

- “The PRC and Russia also likely possess capabilities relevant to chemical and biological warfare.”
- “It is critically important that the **Joint Force can fight and win** in a chemical, biological, radiological, and nuclear **(CBRN)- contaminated environment**.”



USD ACQUISITION & SUSTAINMENT GUIDANCE

- “**Identify emerging threats** in Chem/Bio warfare space.”
- “Enable **Innovative Acquisition** Approaches that Deliver Warfighting Capability **at the Speed of Relevance**”
- “Build a **Safe, Secure, and Resilient Defense Industrial Base** (commercial and organic)”



2022 NATIONAL BIODEFENSE STRATEGY

- “The United States will use all appropriate means to **assess, prevent, prepare for, respond to, and recover from biological incidents**—whatever their origin—that threaten health and national or economic security.”

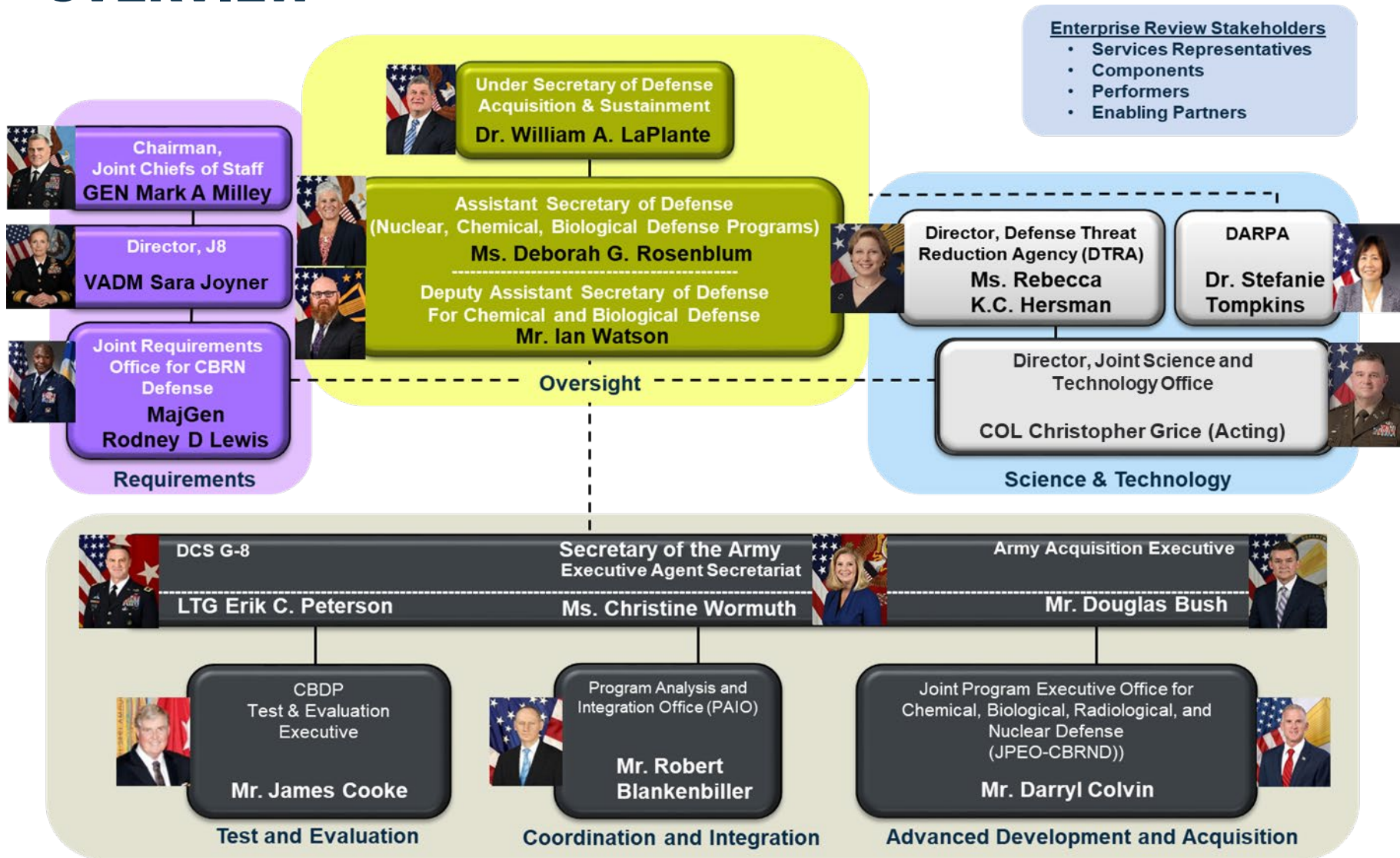


OASD (NCB/CBD) STRATEGIES

- “The CBDP needs a **research, development, and acquisition model** that can **quickly identify** novel, converging, and potential threats and then, **rapidly develop, procure, and field capabilities** to mitigate these threats.”



DOD CHEMICAL AND BIOLOGICAL DEFENSE PROGRAM (CBDP) OVERVIEW



MISSION: Anticipate future threats and deliver capabilities that enable the Joint Force to fight and win in a chemical and biological (CB) threat-contested environment.

PUBLIC LAW (50 USC 1522) and DoDD 5160.05E:

- Directs the CBDP defense-wide account with oversight in a single OSD office and the Army as the Executive Agent to coordinate and integrate Research, Development, and Acquisition (RDA), including procurement, for all Services' chemical and biological defense capabilities.
- Directs DARPA to coordinate with Director, DTRA, DASD(CBD), and the Military Departments in order to avoid unnecessary duplication of the chemical and biological warfare defense activities.

VISION



A Joint Force ready to fight & win in CB-contested environments through a coordinated effort designed to neutralize adversarial CB threats.

MISSION



Anticipate future threats & deliver capabilities that enable the Joint Force to fight & win in chemical and biological (CB)-contested environments.

STRATEGIC GOAL 1

Plan for the Future Fight
Enhance the Demand Signal into the Capability Requirements Process to provide timely solutions for the future JOE

STRATEGIC GOAL 2

Deliver at Speed
Build agile & flexible CBDP acquisition approaches to deliver the right Warfighter solutions on time

CROSSCUTTING GOAL

Drive Innovation
Enhance & leverage relationships to drive CBDP innovation

MANAGEMENT GOAL

Optimize the Enterprise
Optimize CBDP Business Practices to enable Enterprise transformation

BEHIND THE WARFIGHTER. AHEAD OF THE THREAT.



INTRODUCTION

VISION

Eliminate or mitigate the effects of known and unknown high-consequence chemical and biological threats to the Warfighter through the innovation of medical technologies and development of medical countermeasure (MCM) and test products that deliver a spectrum of protection.

PATH FORWARD

- View the MCM response as a spectrum
- Prioritize and tailor RDA investments and activities
- Adapt and scale products and capabilities





LAYERED DEFENSE FOR THE FUTURE CB THREAT LANDSCAPE



EXPOSURE TO CHEMICAL OR BIOLOGICAL AGENT



UNDERSTAND



PROTECT



MITIGATE



Use of broad spectrum/non-specific MCM products

MITIGATE AGENT EFFECTS/REMAIN OPERATIONAL



Develop narrow spectrum/specific MCM products

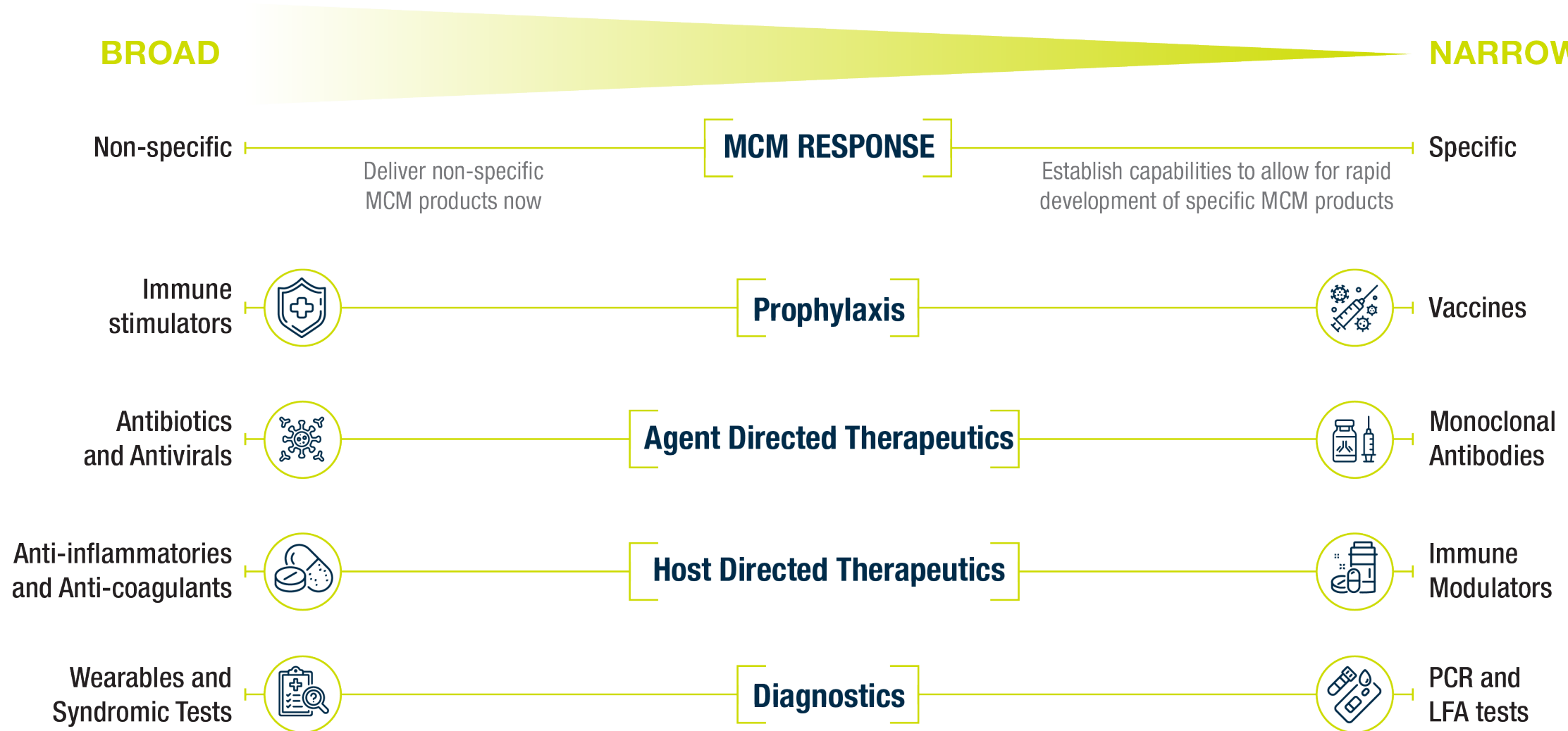
PROTECT AGAINST/ELIMATE AGENT EFFECTS





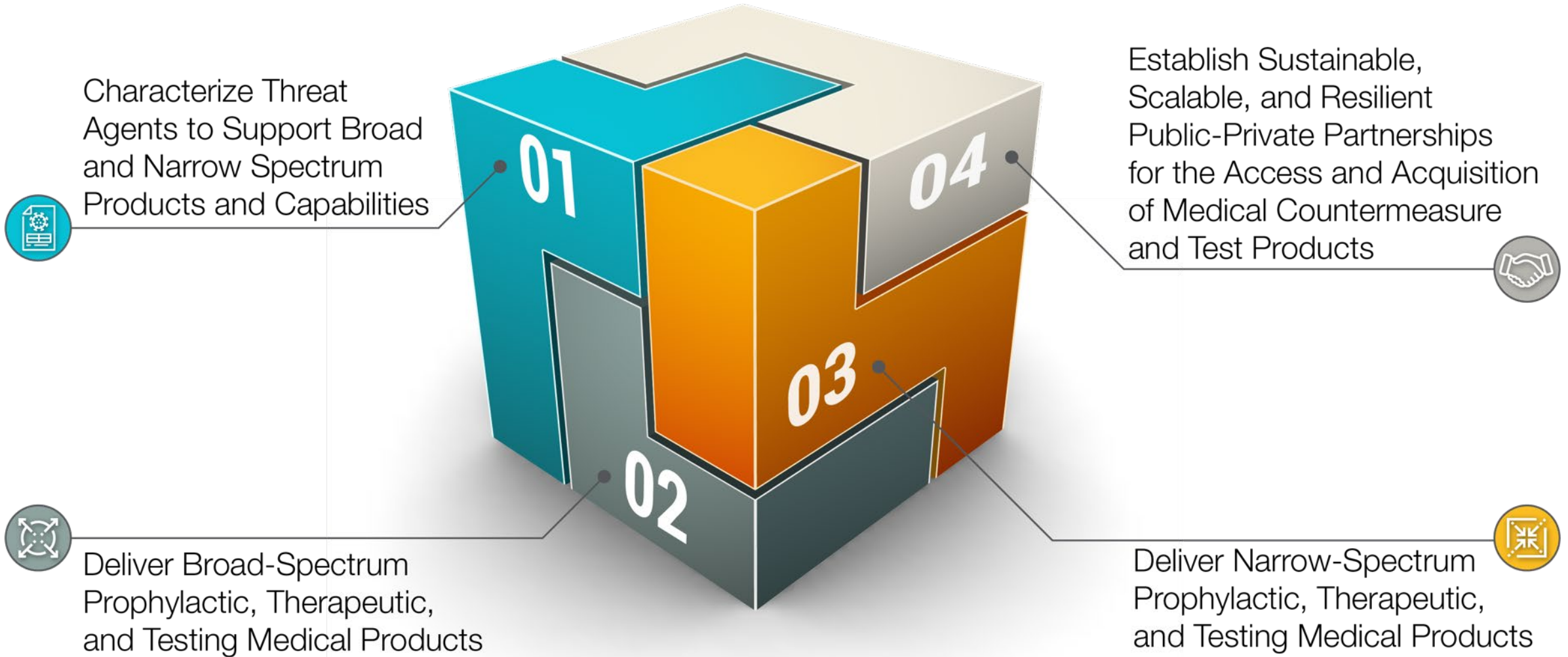
MEDICAL THREAT RESPONSE SPECTRUM

CBDP research, development, and acquisition broad- and narrow-spectrum paradigm





INTER-RELATIONSHIP OF THE 4 GOALS



MEDICAL PORTFOLIO BREAKDOWN, FY24-28 (37% CBDP RDT&E)

- **Understand** (13% of Medical Portfolio)
 - Science and Technology: 95% Bio, 5% Chem
 - Advanced Development: 66% Bio, 34% Chem
- **Protect** (35% of Medical Portfolio)
 - Science and Technology: 86% Bio, 14% Chem
 - Advanced Development: 94% Bio, 6% Chem
- **Mitigate** (35% of Medical Portfolio)
 - Science and Technology: 61% Bio, 39% Chem
 - Advanced Development: 46% Bio, 54% Chem
- **Enabling** (17% of Medical Portfolio)
 - Science and Technology
 - Advanced Development

FYDP Deliveries:

- OP diagnostic
- Portable Dx systems
- 5 transitions



FYDP Deliveries:

- Botulinum mAB
- 10 IND bio prophylactics
- 5 transitions



FYDP Deliveries:

- 10 repurposed drugs
- 1 broad spectrum antiviral
- 2 nerve agent antidotes
- 4 med chem decon
- 8 transitions



FYDP Deliveries:

- Rapid response architecture
- Prototype adaptive tools



DHA



DHS



HHS



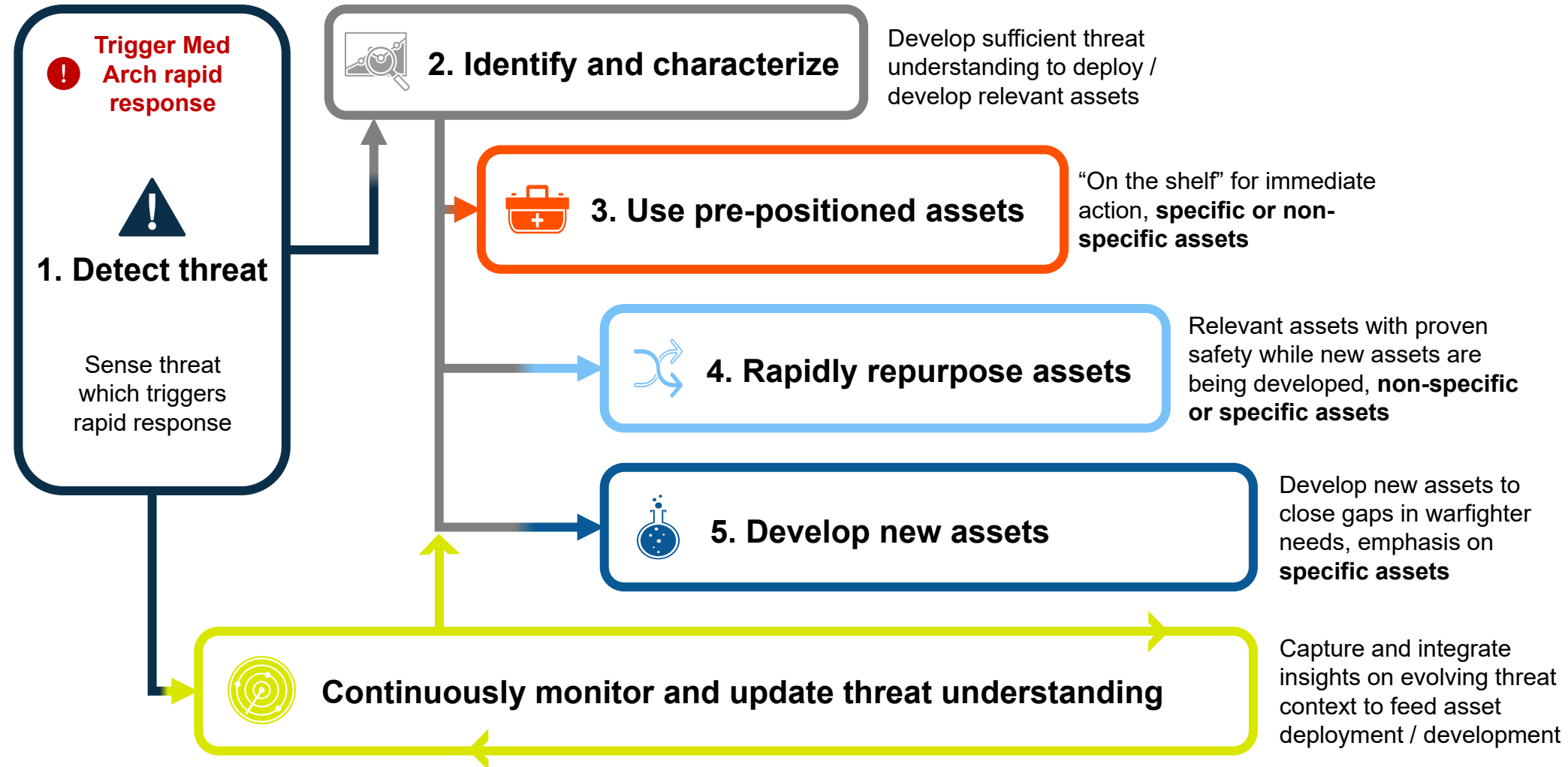
DOE





CBDP MEDICAL RAPID RDA RESPONSE SYSTEM

Rapid response system



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