



RDECOM
TECHNOLOGY DRIVEN. WARFIGHTER FOCUSED.



Edgewood Chemical Biological Center **NDIA Conference**

15-16 August 2017

Eric L. Moore, Ph.D.
ECBC Director (Acting)

What is ECBC?



Why We Exist:

To ensure operational readiness by protecting the Warfighter from chemical and biological threats



What We Do:

Combine research, development and engineering with testing, training and field operations to create new and effective chemical and biological defense solutions



Who We Are: For 100 years ECBC has been a unique national asset. We provide innovative and cost-effective chemical and biological defense technology solutions through our scientific and engineering expertise, coupled with our unique facilities and collaboration with partners.

ECBC Leadership Team



**Fred Berg,
Ph.D.**
Research &
Technology
Director
(Acting)

Dr. Berg leads the research and development of innovative technological solutions to solve chemical and biological defense threats to our nation—both abroad and at home.



Michael Abaie
Engineering
Director

Mr. Abaie leads engineering development, testing, and additive manufacturing efforts, and provides engineering support for acquisition and sustainment.



**Paul Tanenbaum,
Ph.D.**
Program
Integration Director

Dr. Tanenbaum leads Center-wide strategic and business planning, infrastructure support, deployable operations, financial systems integration and collaboration with industry and academia.

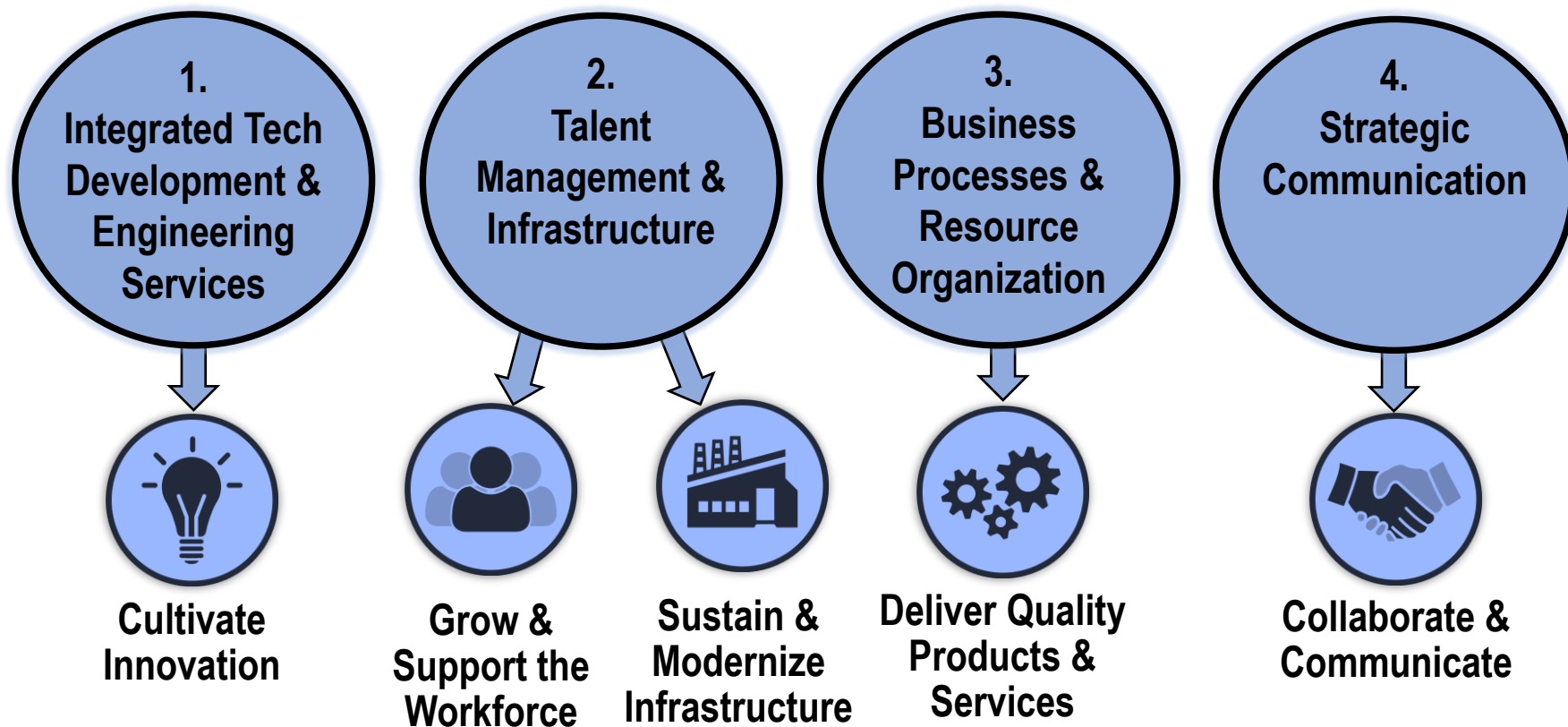
Supporting Readiness

“Our most valued assets...
are our Soldiers and our
solemn commitment must
always be to never send
them into harm’s way
untrained, poorly led,
undermanned, or with less
than the best equipment we
can provide.”

– GEN Mark A. Milley
Chief of Staff of the Army

ECBC operationalizes
chemical and biological
defense solutions to protect
our Nation’s Warfighters.

RDECOM Campaign Plan Lines of Effort



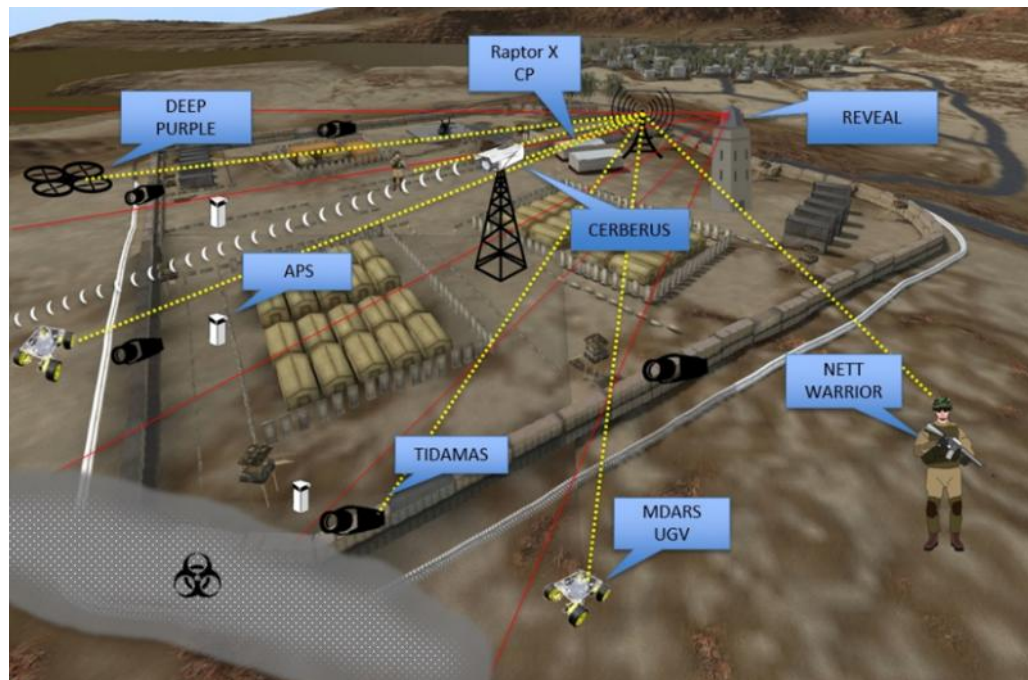
ECBC Strategic Goals

ECBC S&T Priorities

1. Integrated Early Warning / Warning & Reporting

Objective:

Compile and analyze multiple sensor data sources, situational/contextual intelligence and surveillance information, and expert signal processing algorithms to inform and advise force protection decisions



Layered Sensing Initiative

ECBC S&T Priorities (cont.)

2. CBRN Sensor Integration on Robotic and Weapon Platforms

Objective:

Develop a universal architecture for attaching CBRN sensors and support equipment to manned / unmanned vehicles and fixed point sites



*Deep Purple drone
carrying Array
Configurable of Network
Sensors (ACORNS)*

ECBC S&T Priorities (cont.)

3. Advanced Obscuration

Objective: Develop obscurants that effectively and efficiently counter enemy targeting and acquisition of friendly forces over the electromagnetic spectrum including advanced weapons and sensors (“Spectral Dominance”)



*Advanced Visual
Smoke Grenade*

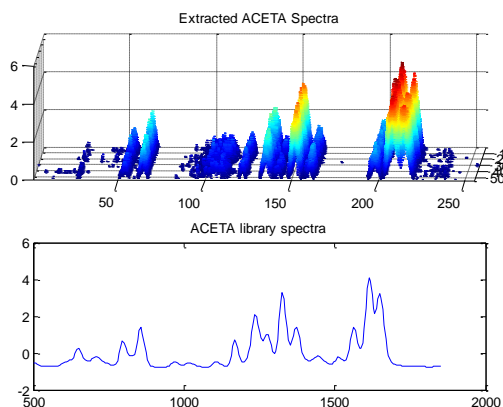
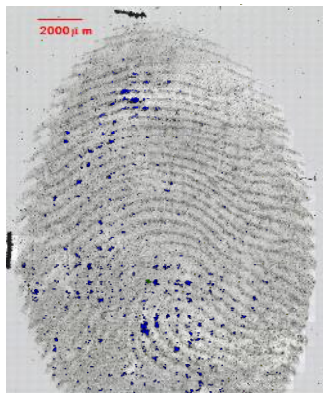


*Bispectral
Grenade*

ECBC S&T Priorities (cont.)

4. Chemical, and Explosives Screening Capabilities

Objective: Develop analytical methods for improved detection of military explosives, homemade explosives and forensic residue analysis



*Chemical Fingerprint
Identification System*



*Chemical Explosives
Detector*

ECBC S&T Priorities (cont.)

5. Future Threat Characterization

Objective: To fully characterize emerging chemical threats to inform decision making regarding protection systems, decontamination, detection and operational planning



Assessment of Opioid Drugs as Weapons

ECBC S&T Priorities (cont.)

6. Next Generation Warfighter Protection

Objective: Develop the next generation of materials to protect the Warfighter from existing and emerging chemical and biological threats



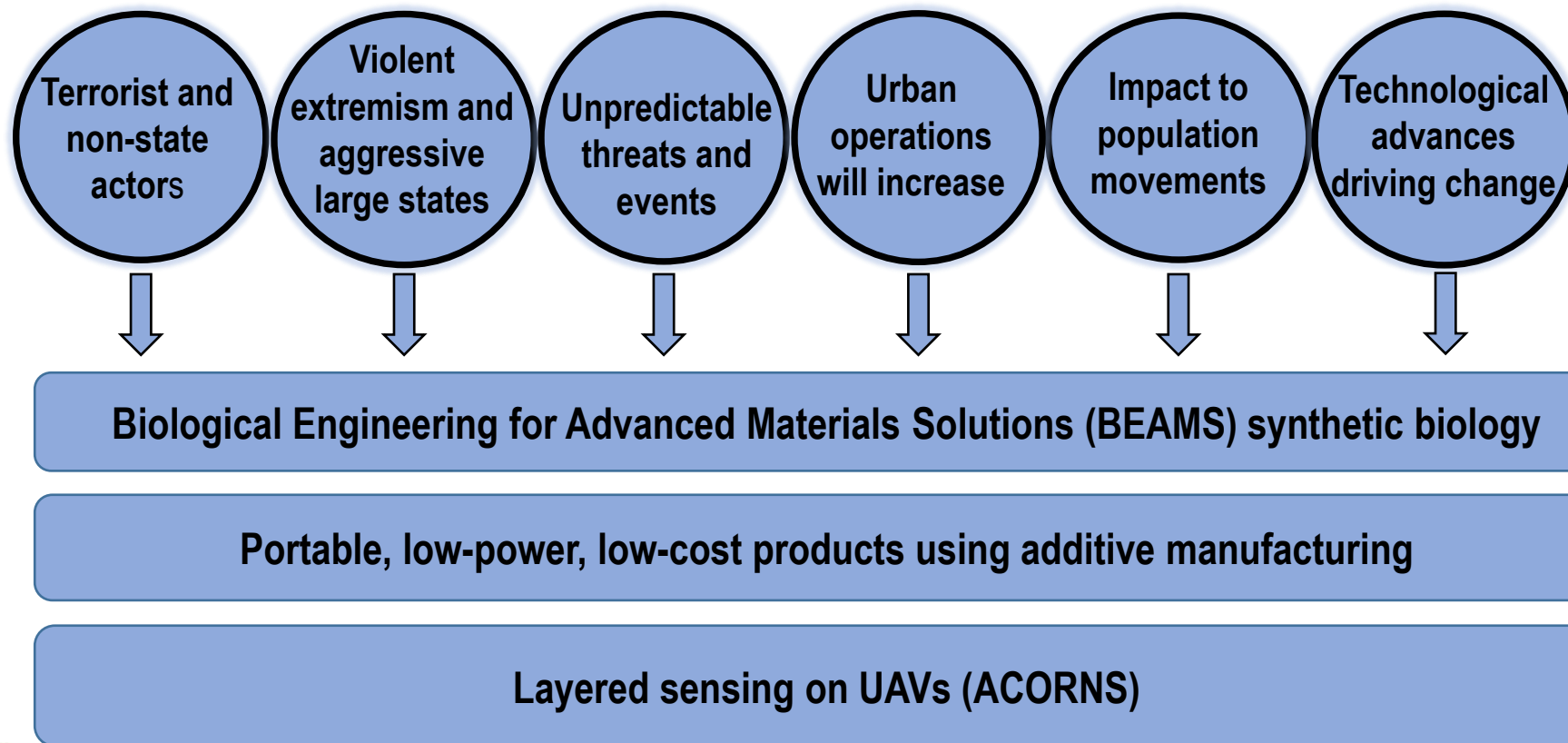
*Metal Organic Framework Fiber
Development*



Integrated Respiratory and Eye Protective Scarf

Innovation for Future Readiness

Future Army Environment



ECBC Innovates for the Future

Collaborative Culture

Collaborative Efforts with Army Partners:

- NFL Head Health Challenge collaboration with Army Research Lab
- Layered Sensing Initiative collaboration with Communications-Electronics Research, Development and Engineering Center
- Foot injury prevention collaboration with U.S. Army Research Institute of Environmental Medicine

Edgewood Chemical Biological Center

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ECBC leverages the power of collaboration with our government partners at Aberdeen Proving Ground and across the DoD to generate innovative solutions in support of the Warfighter.

Collaboration Opportunities

Let's Collaborate!

Technology Transfer @ ECBC

We offer a wide range of chemical and biological expertise, cutting-edge facilities and innovative technology solutions to our partners.

Our partners include:

- Government agencies
- Private-sector companies
- Academic institutions

Scan the code or visit <http://go.usa.gov/x9FTt>

Edgewood Chemical Biological Center
Aberdeen Proving Ground, MD
<https://www.ecbc.army.mil>

Technology Transfer Collaborations:

- Enable accomplishment of technology transition objectives for the Warfighter while benefiting U.S. industry
- Enable industry, academia and other organizations to leverage ECBC's unique assets: intellectual property portfolio, science and engineering expertise, and infrastructure

ECBC serves as a valuable partner to industry, academia and other government agencies. Partnering occurs across the life cycle.

Collaboration Mechanisms

- Cooperative Research & Development Agreement (CRADA)
- Educational Partnership Agreements (EPA)
- Technology Support Agreement (TSA)
- Patent License Agreement (PLA)
- Army Small Business Innovation Research (SBIR)
 - Chemical Biological Defense (CBD) SBIR
- Army Small Business Technology Transfer (STTR)
 - ECBC Broad Agency Announcement (BAA)
 - Rapid Innovation Fund BAA
- Memorandum of Understanding (MOU)
- Memorandum of Agreement (MOA)
- Material Transfer Agreement (MTA)
- Interagency Agreement – non-DoD (IAA)

ECBC partners with industry in support of Chemical and Biological Defense opportunities on [FedBizOpss.gov](https://www.fedbizopps.gov) and [Grants.gov](https://www.grants.gov).

Questions?

Technology Transfer Office 410-436-4438

Communications Office 410-436-7118

www.ecbc.army.mil

