

# ***Defense Threat Reduction Agency***

## ***Research Opportunities***

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***Date: June 15, 2021***





# Who We Are: DTRA's Mission

The Defense Threat Reduction Agency enables Department of Defense (DoD), the U.S. Government, and International Partners to counter and deter Weapons of Mass Destruction (WMD) and Emerging Threats.



## Combatant Command Customers





# Research & Development: Mission and Vision



## Mission

Provide science, technology and capability development investments that maintain the U.S. military's technological superiority in countering weapons of mass destruction & asymmetric threats, mitigate the risks of technical surprise and respond to the warfighter's urgent technical requirements.

## Vision

Be the recognized leader for technical innovation to counter weapon of mass destruction & asymmetric threats – responding to urgent warfighter needs while investing in R&D to shape the Nation's counter-threat capabilities.



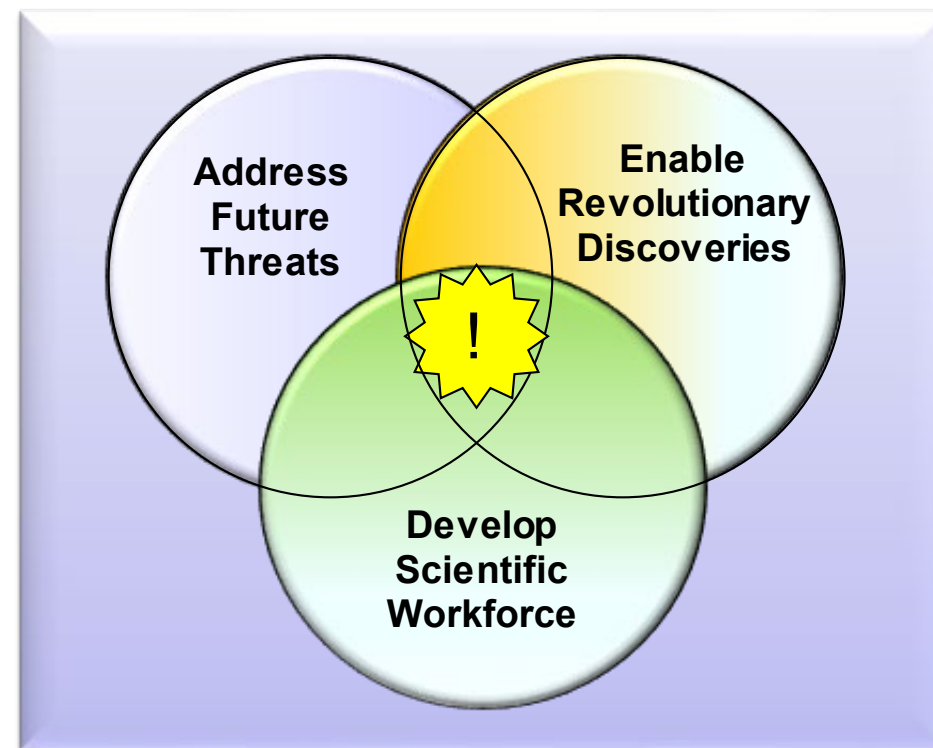
# Core DTRA Basic Research Program



## VISION

Forward-looking fundamental research program targeting strategic, mission-focused, basic research with high potential impact for counter WMD

- **Train the next-generation workforce**
- **Advance the fundamental knowledge** and understanding in the sciences
- **Promote university research** to support WMD threat reduction
- **Facilitate transition** of research that enable new capabilities for the warfighter



BUILDING THE FOUNDATION FOR TOMORROW'S CWMD



# DTRA Grants to Academia

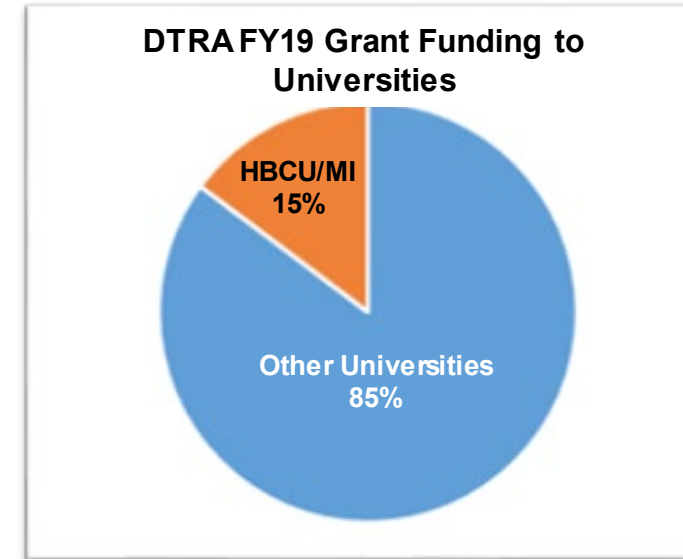


- FY19 Grants to Universities

- \$59.9M in Total
- \$10.4M went to HBCU/MIs

- FY21 Appropriations

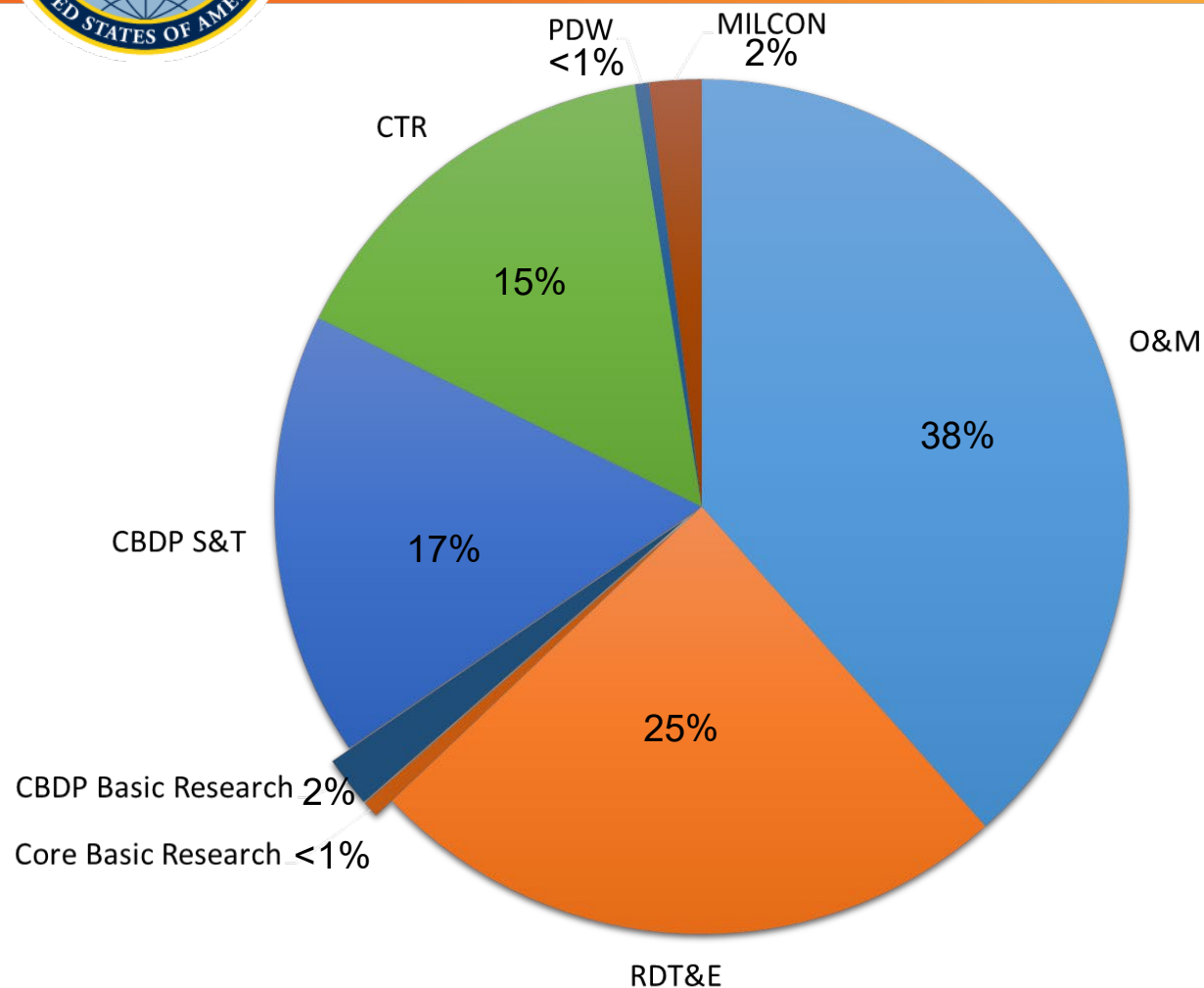
- Core Basic Research appropriation: \$14.6M (of \$545.847M total S&T)
- FY21 Chemical Biological Defense Program basic research appropriation: \$45.3M (of \$443.1M total CBDP S&T)







# Appropriations Executed by DTRA



Operations and Maintenance (O&M)  
Research Development Test and Evaluation (RDT&E)  
Chemical Biological Defense Program (CBDP)  
Cooperative Threat Reduction (CTR)  
Procurement, Defense-Wide (PDW)  
Military Construction (MILCON)

- \$2,367M executed by DTRA in FY21 -



# Core Basic Research Program



- Transitioning to University Research Alliances (URAs)
  - Cooperative Agreements with Large teams of universities and research institutions
    - Five-year base with 2 x two-year options—total of nine years
  - Two URAs awarded May 2020, each ~\$5M/yr
    - Materials Science in Extreme Environments (MSEE)
    - Interactions of Ionizing Radiation with Matter (IIRM)
    - URAs have funded participation by HBCUs and MIs → *proposal evaluation criterion*
- Establish a close, collaborative relationship with the academic community
- Promote STEM Workforce Development
  - Support up to 79 principal investigators, 22 post-doctoral scholars, and 60 graduate students – annually
  - Graduate 28 individuals in STEM majors – annually
- Conduct high-risk high-payoff revolutionary research in DTRA relevant areas
  - Address basic research gaps and warfighter's emerging technical needs
  - Up to 220 peer-reviewed journal articles – annually



# Research Opportunities



- Fundamental Research Broad Agency Announcement (BAA)
  - HDTRA1-14-24-FRCWMD-BAA, Grants.Gov and SAM.Gov
  - General Thrust Areas continuously open for submissions
  - Chem Bio Defense Program Releases Specific Topics Annually
  - Basic and exploratory Applied Research (6.1 & 6.2), TRL 1-4
  - Questions? Email: [HDTRA1-FRCWMD-A@mail.mil](mailto:HDTRA1-FRCWMD-A@mail.mil)
- Science & Technology New Initiatives BAA
  - HDTRA1-17-S-0002, SAM.Gov
  - General Thrust Areas continuously open for submissions
  - Applied research and technology development
  - Questions? Email: [DTRAIInnovation@mail.mil](mailto:DTRAIInnovation@mail.mil)
- Consortia executed through Other Transaction Authority (OTA) agreements
  - Countering Weapons of Mass Destruction - 377 members – new members can be added at any time
    - Consortium page: <https://www.cwmdconsortium.org/>
  - Medical CBRN Defense Consortium, 293 members – new members can be added at any time
    - Consortium page: <https://www.medcbrn.org/>





# DTRA Outreach Events

*includes HBCU/MI participation*



- DTRA University Day – Feb 2019
- DTRA Chem/Bio Defense Program hosts University Engagement webinars
  - The 2020 outreach events included, in aggregate, 26 MSIs.
  - Upcoming University Engagement Webinar: DoD Workforce Opportunities (*Sept 2021*)
- DTRA engages with various outreach events via in-person and virtual platforms, campus visits and hiring events



- Questions? -



- Back Up-



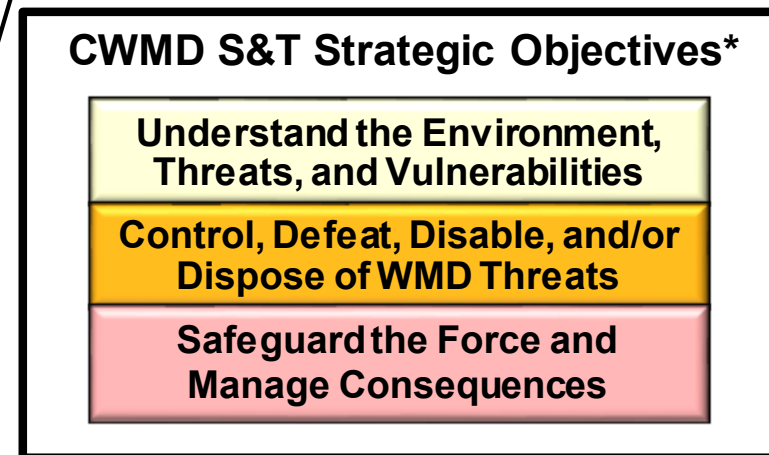
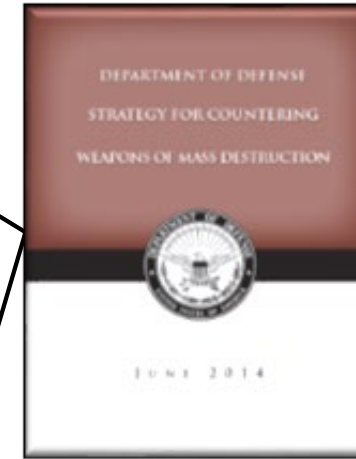
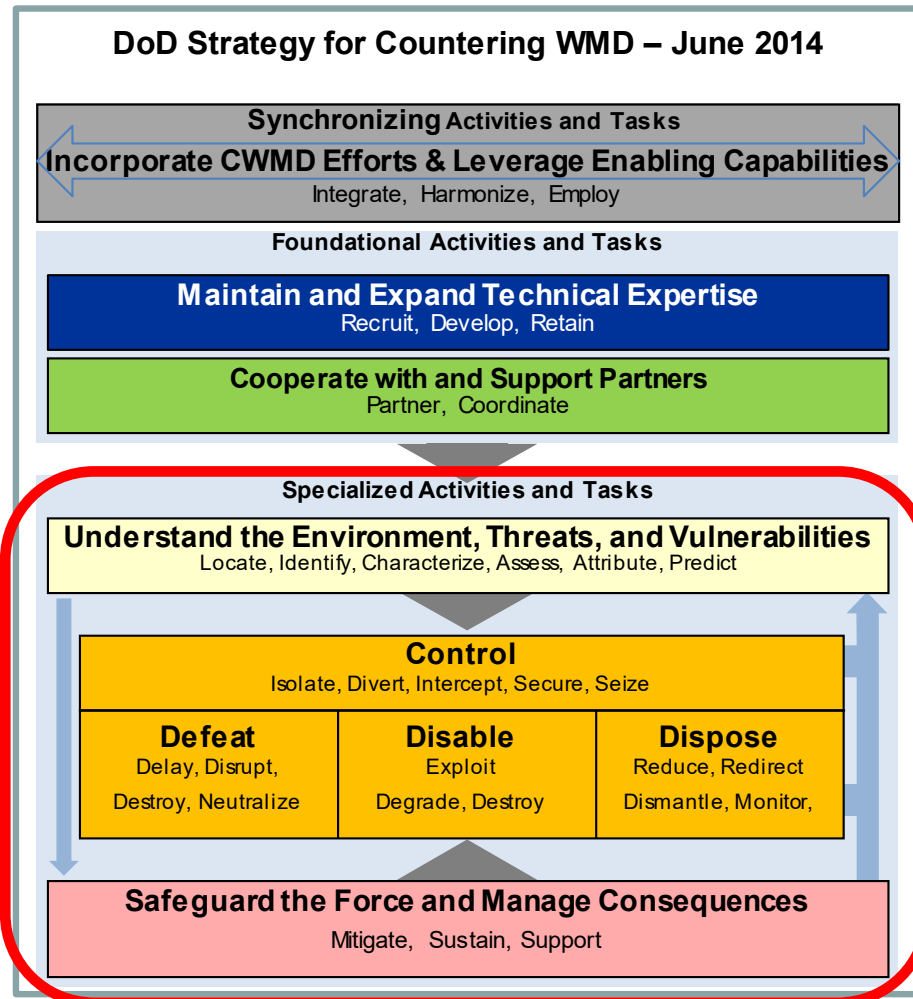
# Attributes of Successful Proposals



- Write to the specific topic, and help the reviewer understand the relevance
  - Proposals deemed not relevant to the topic are rejected outright
- Pay attention to the evaluation criteria and weights
  - Two principal criteria will always be Scientific Merit and Relevance to the Mission
  - Understand the DTRA mission and provide insight into the DTRA relevance
- Provide clear description of experimental apparatus and procedures
- Describe why the research is innovative and revolutionary
- Provide supporting preliminary data and references
- Show evidence of prior success
- Outline detailed research plan
- Follow the BAA guidelines closely
- Plan ahead, late proposals are not accepted
- Applicant should have a record of successful collaborations



# DTRA R&D Portfolio Aligns with DoD Strategy for CWMD



\* S&T for Strategic Deterrent is included in these objectives





# DTRA Core Functions

DTRA leverages the breadth of our core functions to provide tailored and agile solutions.

These solutions are integrated with DoD, the U.S. interagency, and global partners to meet today's and tomorrow's WMD and emerging threats and challenges.



**Enable Strategic Deterrence**



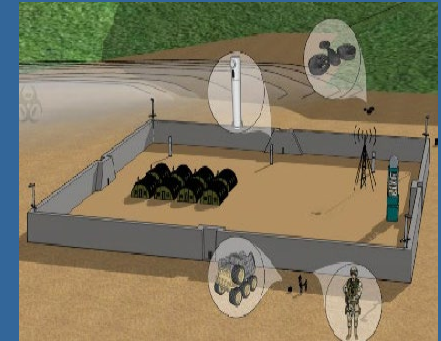
**Support U.S. Treaty Implementation and Verification Activities**



**Partner to Reduce Global WMD Threats**



**Identify Vulnerabilities and Mitigation Strategies**



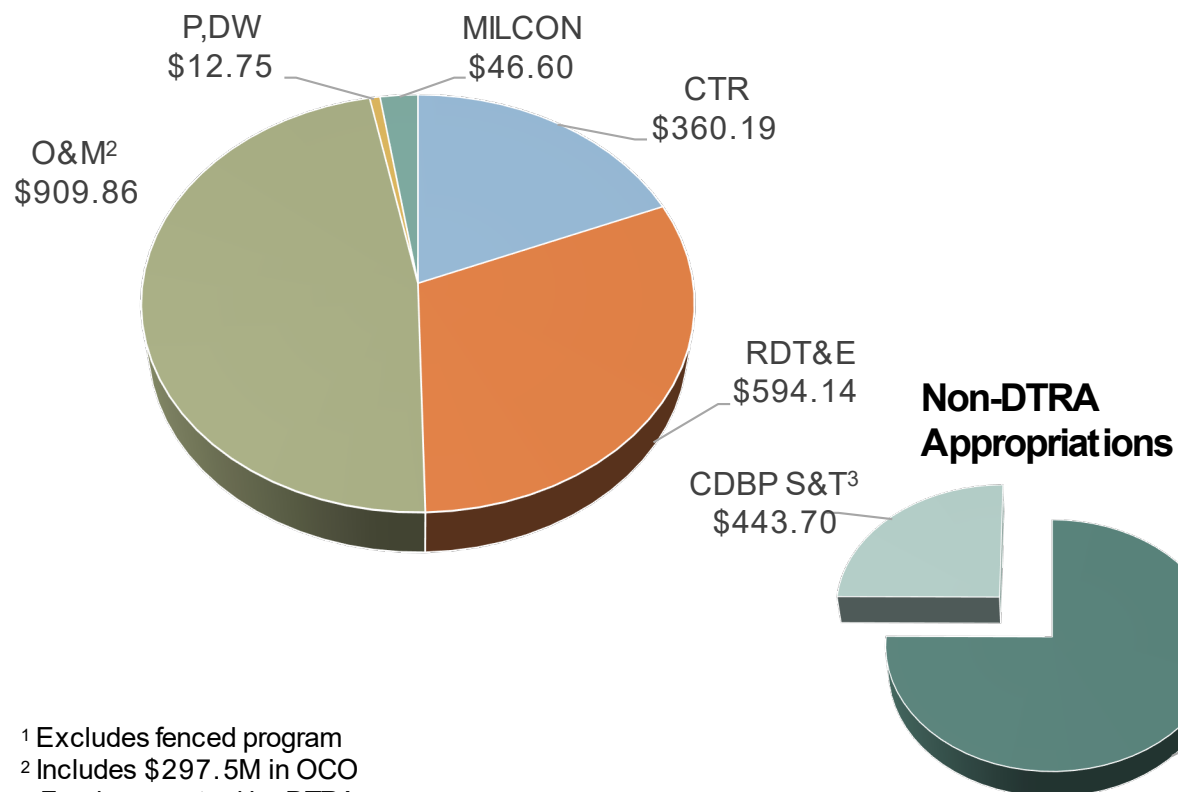
**Develop and Deliver Rapid Capabilities**

***Agency capabilities applied to a single objective:  
Detect, Deter, and Defeat WMD and Emerging Threats***



# How We Do It: FY21 Budget

## DTRA FY21 Appropriations



<sup>1</sup> Excludes fenced program

<sup>2</sup> Includes \$297.5M in OCO

<sup>3</sup> Funds executed by DTRA

<sup>4</sup> Funds managed by DTRA

<sup>5</sup> Increase from FY 2021 Request to FY 2021 Enacted reflects congressional increases to Global Nuclear Security, Biological Threat Reduction Program, and Proliferation Prevention

**Total DTRA Appropriations<sup>1</sup>: \$1,924M**

**Total Executed by DTRA: \$2,367M**

In \$M	Total FY 2021 Request	Total FY 2021 Enacted
CTR <sup>5</sup>	238.490	360.190
RDT&E	604.488	594.138
O&M	913.901	909.860
PDW	12.749	12.749
MILCON	46.600	46.600
Total DTRA	1,816.228	1,923.537

## Non-DTRA Appropriations

USD (A&S)

CBDP<sup>4</sup>

\$1,336.00

Chemical, Biological Defense Program (CBDP)

Operation and Maintenance (O&M)

Research, Development, Test and Evaluation (RDT&E)

Cooperative Threat Reduction (CTR)

Procurement, Defense Wide (P,DW)

Military Construction (MILCON)



# Fundamental Research BAA



## HDTRA1-14-24-FRCWMD-BAA

- General Thrust Areas continuously open for submissions
- Basic and exploratory Applied Research (6.1 & 6.2), TRL 1-4
- Required: 250 word abstract to Thrust Area email address in BAA
  - White paper may or may not be invited
- Majority of awards will be grants; other award types permissible

### **Chem Bio Defense Program Releases Specific Topics Annually**

- Responses to these topics must address only basic research (6.1)
- These topics do not require abstract pre-coordination
- Deadline for white paper submission provided in topic description
  - Full proposal may or may not be invited
- Predominance of awards will be grants

### **All applications must be submitted to Grants.Gov**

- Use application packages posted with the opportunity

**Questions? Email: [HDTRA1-FRCWMD-A@mail.mil](mailto:HDTRA1-FRCWMD-A@mail.mil)**



# Science & Technology New Initiatives BAA (STNI)



## HDTRA1-17-S-0002

- STNI BAA located on beta SAM.gov—Amendment #4 is current
  - <https://beta.sam.gov/opp/464f429e053a895c3741257b3577a951/view#general>
- Fundamental and Applied Research – TRL 2-6
- Funding vehicle is NOT Grant
- Submissions to are either to a 1) broad technical area or 2) STM-sponsored topic
- Two-Phased Solicitation Process
  - Phase I - White papers
  - Phase II – Full proposal – must be invited



# Countering Weapons of Mass Destruction (CWMD) Consortium OTA



Develops innovative and effective solutions to counter weapons of mass destruction.

- Consortium page: <https://www.cwmdconsortium.org/>
  - 377 members – new members can be added at any time
- Technology Areas:
  - WMD Consequence management and hazard mitigation
  - Threats and vulnerabilities awareness, counter-proliferation technologies and capabilities
  - Arms control technologies
  - Chemical, biological, radiological and nuclear
  - Fundamental science, research & development, and experimentation of emerging technologies
- The Process – two possible routes: Enhanced White Paper (EWP) or white paper
  - Solicitation released to the OTA members calling for EWP or white paper
  - Selected offerors are notified
    - If EWP was chosen, the next step is pre-award
    - If proposal route chosen, the offeror is invited to prepare a full proposal.





# Medical CBRN Defense Consortium (MCDC) OTA



Advanced development efforts to support the DoDs medical countermeasure requirements (pharmaceutical/diagnostic) to enhance the mission effectiveness of military personnel

- Consortium page: <https://www.medcbrn.org/>
  - Currently has 293 members – new members can be added at any time

## The Process

- Solicitation released to the OTA members calling for Enhanced White Paper (EWP) or white paper (depending on route)
- Interested members will submit EWP or White Paper
- Those selected are notified
  - If EWP was chosen, the next step will be pre-award
  - If proposal route was chosen, the offeror is invited to prepare a full proposal.