

# CURRENT BIOLOGICAL WEAPONS THREATS

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# AGENDA

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Nation State Offensive BW Programs

BW Pursuit by Terrorist Organizations

Mirror Biology

Complex Interplay

Recommendations

OFFENSIVE BW PROGRAMS  
NATION STATES

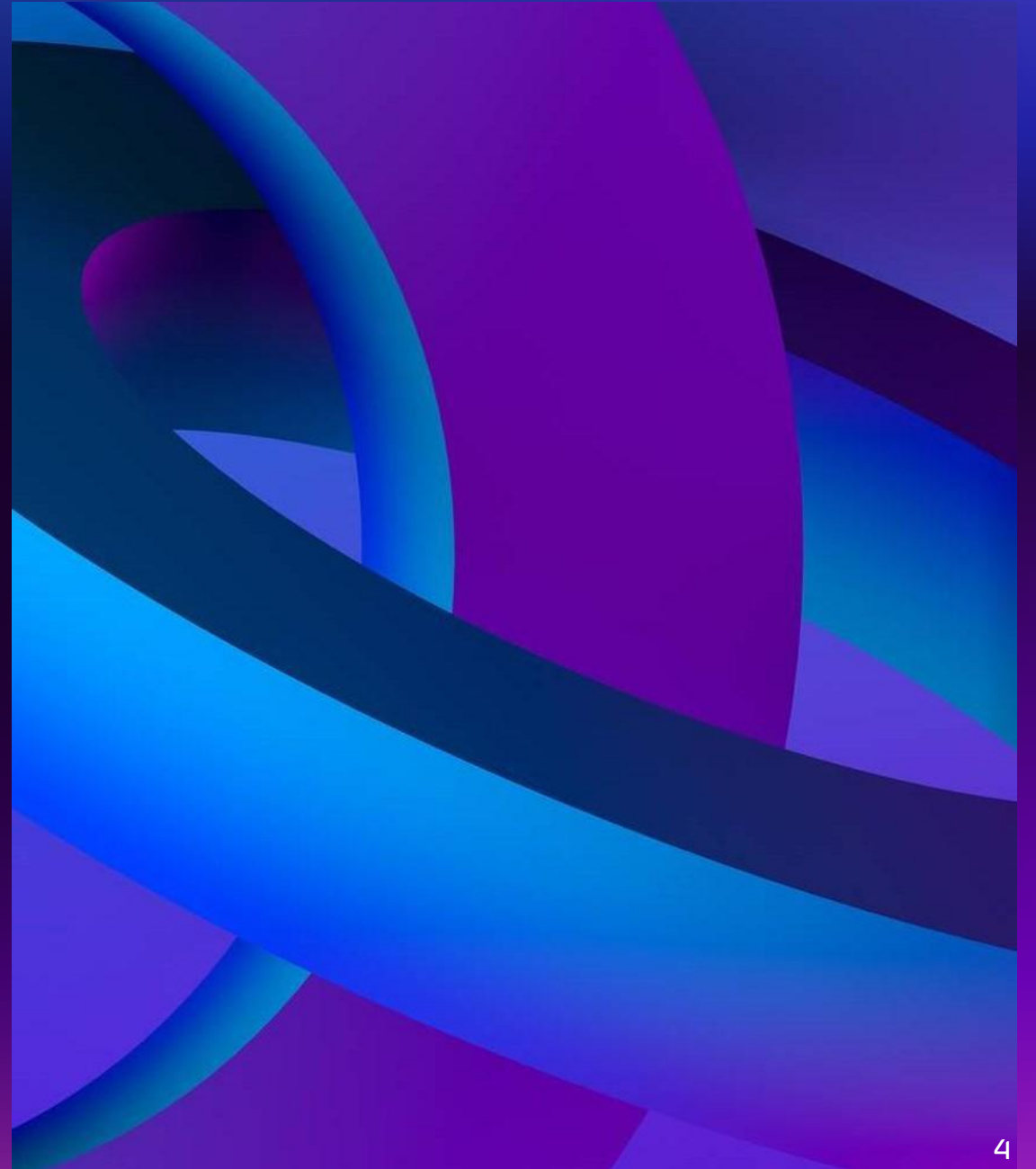
COUNTRIES OF CONCERN

RUSSIA

NORTH KOREA

CHINA

IRAN



# SUSPECTED NATION STATE BW PURSUITS

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Synthetic biology

Genetic engineering

Altering human physiology

Reducing immune response

Rendering attribution impossible

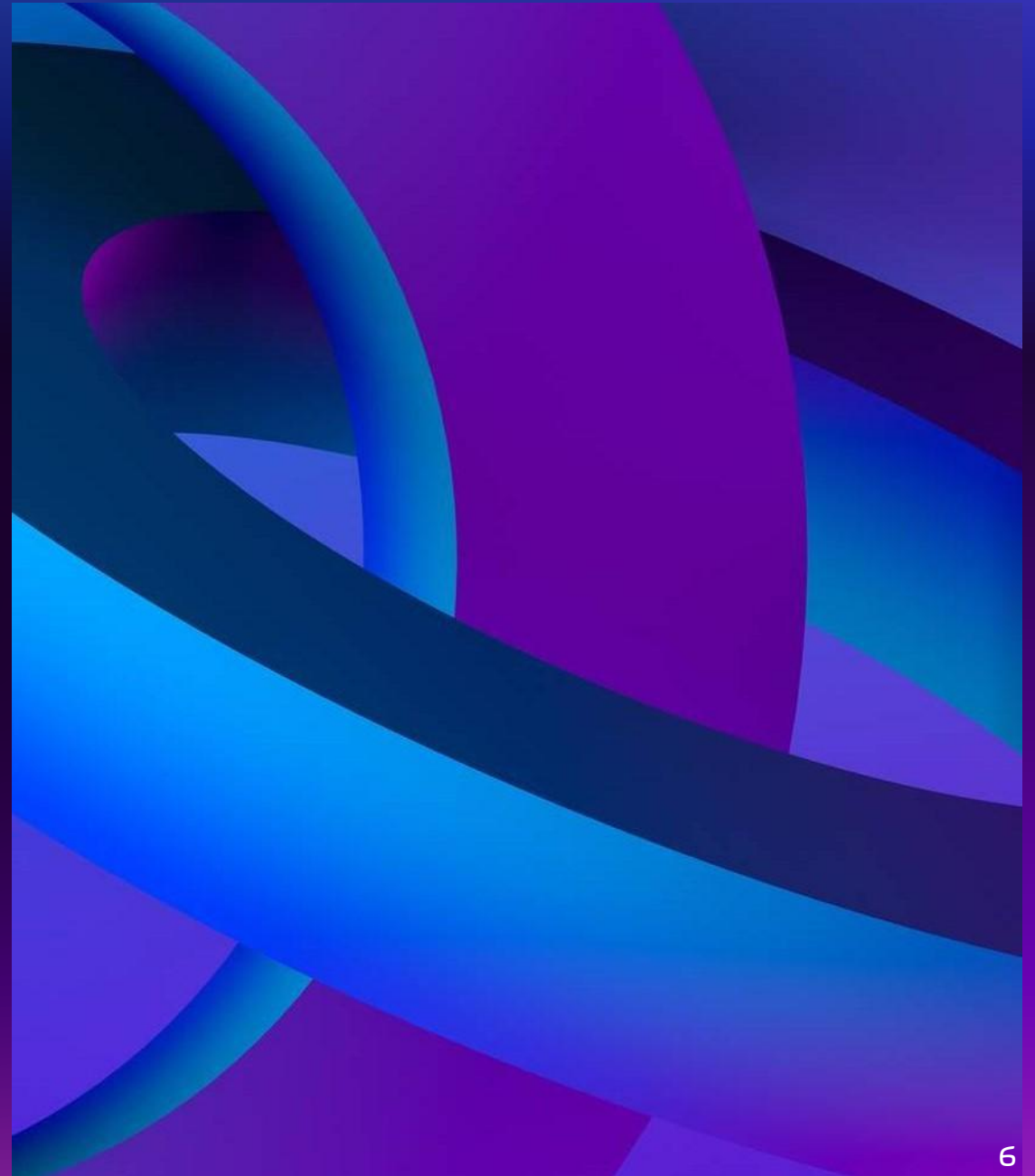


TERRORIST ORGANIZATIONS  
OF CONCERN

AL QAEDA

ISIL/ISIS

DOMESTIC  
VIOLENT  
EXTREMISTS



# SUSPECTED TERRORIST BW PURSUITS

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- Biological agents that spread easily
- Toxins
- Disrupting food and other supply chains
- Serving as a proxy for nation states

# MIRROR BIOLOGY

APOCALYPTIC SCENARIO

# MIRROR BIOLOGY DEBATE

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Mirror biology DNA would have reverse handedness.

- Would defeat recognition by immune system
- Would spread unimpeded
- Would kill everyone and everything on Earth
- Calling for total ban

We have already used mirror biology to create organisms with reverse-handed DNA

- Uses the ability to evade immune system to achieve beneficial purposes
- Could provide an excuse to engage in mirror biology

# COMPLEX INTERPLAY

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1. Russia with/against China
2. State-sponsored terrorism
3. Asymmetric advantage
4. Weapon of near-last resort

The BW situation is complicated

- Russia responding to China's investing so much in its bioeconomy
- Russia can use previously weaponized biological agents quickly
- North Korea maintains offensive BW so it can retaliate against use of other weapons
- Unclear what Iran will do

# BATTLE RATTLE

FAST MOVERS FOR  
MILITARY BIODEFENSE

A REPORT BY THE  
BIPARTISAN COMMISSION ON BIODEFENSE

May 2025



## 15<sup>TH</sup> REPORT OF THE BIPARTISAN COMMISSION ON BIODEFENSE

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Biological attacks on the United States and biological events that affect national security will require action by the Department of Defense/War.

# RECOMMENDATIONS

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Strengthen military  
biodefense leadership

Integrate S&T for national  
biodefense

Produce biological  
intelligence

Review biodefense posture  
quadrennially

Budget for biodefense

Reduce risk to the DIB

Reduce indoor pathogen  
transmission

Strengthen biological threat  
reduction

Transition PPE technology

Transition medics

# CONCLUSION

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In an era marked by escalating biological threats, the Department of Defense/War must safeguard the Nation and its warfighters.



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