



SPARK

JPEO-CBRND's idea incubator

FY22 SPARK KICK-OFF EVENT OPEN CALL FOR PROPOSALS

THANK YOU FOR JOINING US!

THE LIVE EVENT WILL BEGIN IN A FEW MINUTES

HOUSEKEEPING REMARKS

- Thank you for joining us for the FY22 SPARK kick-off and call for proposals!
- This is an MS Teams live event, if you have joined via phone please make sure you are muted at all times
- There will be time for Q&A at the end of this event, please type your questions in the Live Event Q&A sidebar during the kick-off
- If someone already asked your question or you would like to hear the answer to one, give it a thumbs up—we will address questions starting with the most liked

Live event Q&A ? ×

Featured My questions Most recent ▾

Welcome to the Live Event! Please type your questions here and we will answer them during the designated Q&A portion!

Anonymous 7:23 PM 1
Can you explain the SPARK process in more detail?

Anonymous 7:24 PM 1
What are the focus areas for SPARK this year?

Anonymous 7:25 PM 1
How many finalists are selected to do an oral pitch?

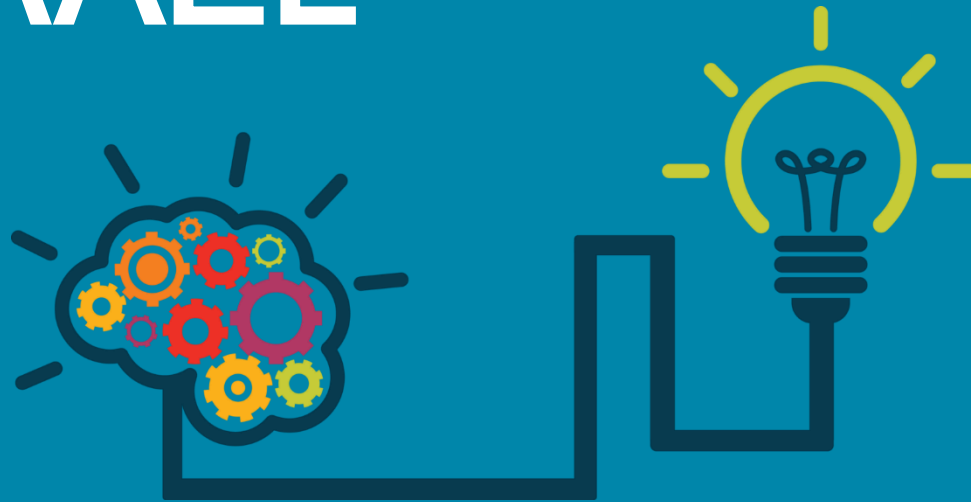
Anonymous 7:25 PM 1
How much funding can I receive through SPARK?

Ask a question



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MR. JOSH ISRAEL



JPEO-CBRND
DEPUTY CHIEF
TECHNOLOGY
OFFICER

AGENDA

1:00-2:00 EDT

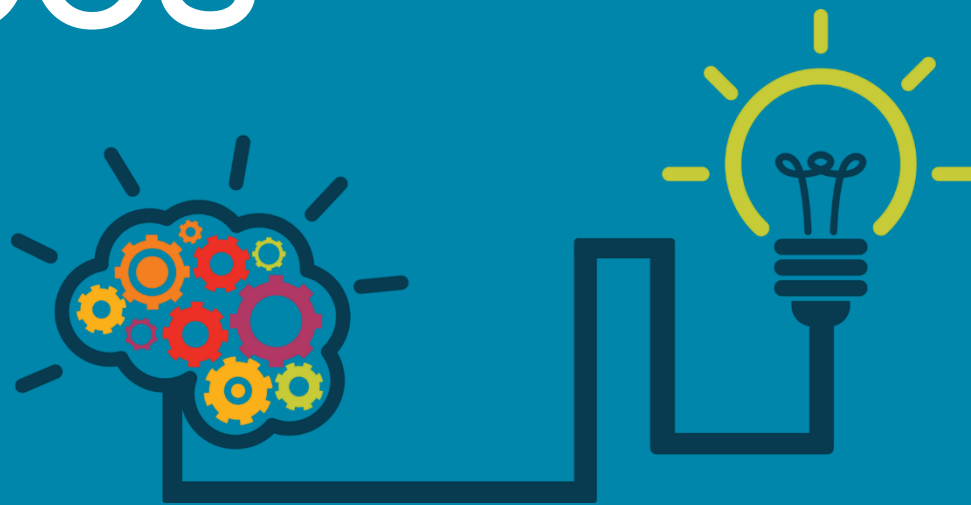
- 1:00: Housekeeping and Welcome from Mr. Josh Israel, JPEO-CBRND Deputy Chief Technology Officer
- 1:00-1:10: Opening Remarks from Dr. Jason Roos, Joint Program Executive Officer for CBRN Defense
- 1:10-1:25: Overview of SPARK by Dr. Julia Doohar, SPARK Lead
- 1:25-1:40: Featured Speaker: “Multidomain Operations” by Mr. Damon Yourchisin, Deputy Director, Maneuver Support - Capability Development Integration Directorate, Futures and Concepts Center, Army Futures Command
- 1:40-1:50: Workplace of Choice by Ms. Lorrie Chieffo, Deputy Director of Human Capital Management at JPEO-CBRND
- 1:50-2:00: Participant Q&A
 - Speakers will field questions entered in the Q&A window



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2022
SPARK
SPARK INNOVATOR

DR. JASON ROOS



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

THREE GOALS TO SHAPE OUR FUTURE

MISSION

Protect the Joint Force from weapons of mass destruction by generating affordable capabilities.

VISION

A resilient Joint Force enabled to fight and win unencumbered by a chemical, biological, radiological, or nuclear environment; championed by innovative, agile, results-oriented acquisition professionals.



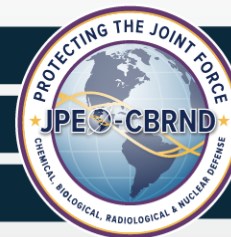
ACQUISITION EXCELLENCE



TRANSFORMATIONAL CAPABILITIES



WORKPLACE OF CHOICE



DELIVER CBRND CAPABILITY

Acquisition Excellence

- JPEO is committed to bringing the best business practices and tools into the JPEO (e.g., harnessing data for better decision making, technology tracking and transition, streamlining JPEO processes)

Transformational Capabilities

- Modernizing Biological Defense (including medical and non-medical approaches)
- Integrated Early Warning
- Unencumbering the Warfighter
- Approaches to countering emerging threats
- Integration with non-CBRN defense capabilities

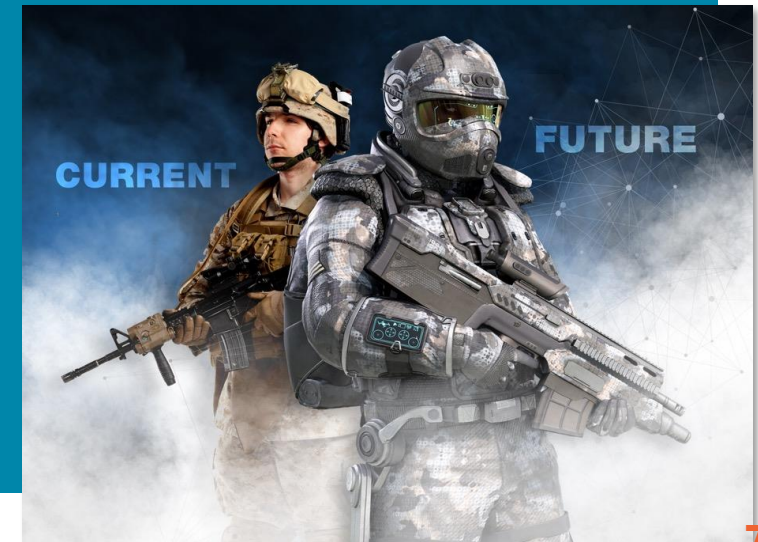


Workplace of Choice

- Efficiencies and workplace improvements that would support our vital workforce to the fullest extent

SPARK

MEETS THE 3 COMMITMENTS



**WE SEEK
FRESH IDEAS
FROM WITHIN
THE JPEO,
AS WELL
AS FROM
EXTERNAL
PARTNERS—
CURRENT
AND NEW!**



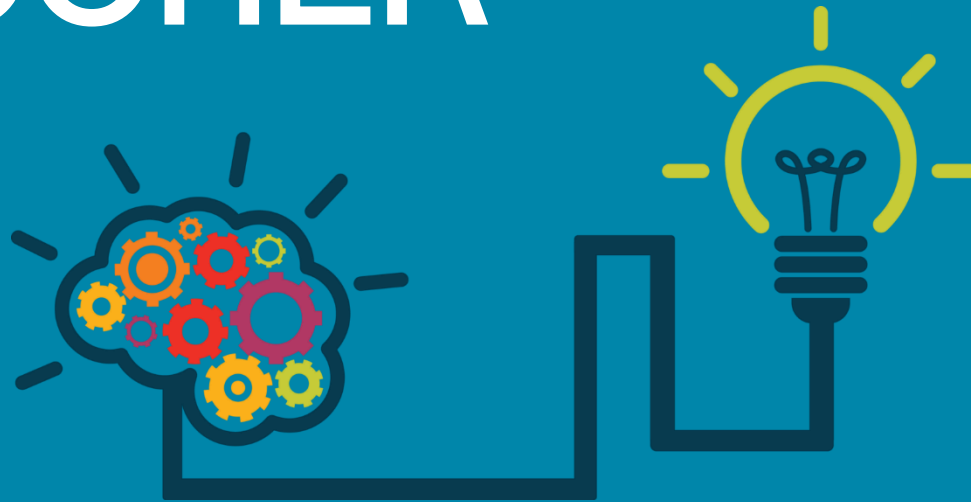
INGENUITY



CREATIVITY

SHARE YOUR IDEAS!

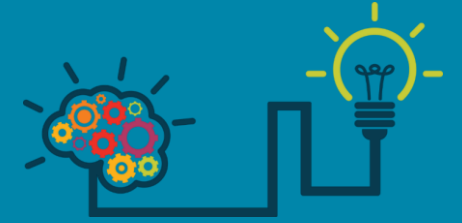
DR. JULIA DOOHER



JPEO-CBRND
CHIEF TECHNOLOGY
OFFICE

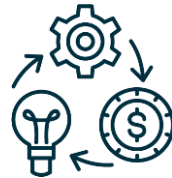
CHIEF
SCIENCE
COORDINATOR

WE WANT TO BRING YOUR IDEAS TO LIFE



Who We Are

- 6th Year of **SPARK**
- SPARK funds innovative concepts for **\$1-\$100,000**
- Initial Proposals are just **3 pages**
- Projects are generally **6-9 months** duration
- A **JPEO Sponsor** is required
- **Hundreds** of proposals received since 2017
- Significant **success stories** across all JPEO areas



Where We're Going

- **Unique, innovative proposals** in technology and beyond to improve business practices, efficiencies, and logistics
- JPEO-CBRNDs **three commitments** and their focus in SPARK this year
- **You know best:** how to innovate, improve processes, and create solutions

We want your ideas!



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WHY SPARK ?

Empower JPEO Staff

- Technical and Programmatic
- Their idea, or they bring it to life as sponsor
- Trust and support our people and their initiative

Reduce barriers to good ideas being shared and considered.

- Non-traditional, relatively quick submission

Scout for new performers (orgs or teams)

- JPEO Staff may identify the performer, or performer steps forward and we see if a match

- The SPARK Innovation Initiative is like “Venture Capital” for emerging JPEO program areas, before they become free-standing funded programs
- Seedling investments in innovative tech approaches & in potentially better ways of doing things

Invest in gray areas around (or before) a POR

- Not “wheelhouse” POR activities, but chance to address important problems or opportunities not being tackled

Embrace new ways of doing things

- Try out an engineering hypothesis or prototype
- Try out a workplace tool or process
- Thoroughly reviewed, but risk friendly

Through SPARK, provide **funding back** to areas deemed to benefit the JPMs and JPLs, the warfighter, and bill payers



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WHAT DO I NEED TO INCLUDE IN A PROPOSAL?

-
- Title of Proposed SPARK Project
 - Proposer Name, Organization, and Contact Info
 - Proposed Amount
 - Expected Project Duration
 - Challenge Statement
 - What is the *SPARK* here?
 - What's the benefit?
 - What are the risks?
 - List stakeholder partners
 - Other, if necessary
 - If applicable, do you have a current contracting vehicle for the performer, or not yet?
 - Name and signature of sponsoring JPEO government personnel if proposer is external to JPEO



Kick-Off and Call for Proposals

June 2021

- SPARK Kick-Off provides potential performers additional information regarding proposal requirements and a project life cycle.
- SPARK Projects should be six to nine months in duration, and may receive funding up to \$100,000.
- If an applicant is not internal JPEO staff, they will need to identify a JPEO sponsor to partner with them on the project.



31 July 2021

- Submission deadline for proposals. Call for proposals opens 15 June, and runs through 31 July.

Funding Selections and Notifications

~September 2021

- Notifications will be made to applicants whose proposals were selected for funding.



Project Close Out

End of 6-9 mos. PoP

- Performers will provide a final technical summary report and deliver a short out-brief to stakeholders to conclude their projects, including project transition information (relevance and support to current or potential future programs).



Panel Review and Finalist Selection

August - September 2021

- Each proposal will be reviewed by a panel of experts.
- Proposals are evaluated for technical, operational, and programmatic merit and innovation by multiple reviewers to ensure robust and balanced assessment.
- Finalist selections will be announced.
- Once selected as a finalist, applicants will prepare an oral presentation describing their proposal in greater detail, to be delivered virtually to a panel of experts.



Projects Begin Work

Q1, FY22

- Project work begins on the 6-9 month PoP.
- Monthly check-ins with your sponsor are the minimum requirement. Semi-monthly check-ins are optional.
- Performers are required to update the JPEO SPARK team monthly on their project's progress through:
 - One-page quad summary updates.
 - A progress update and any challenges encountered.
 - Financial snapshot (obligation and expenditure status).

FAQs



Q: I am new to working with the JPEO. What if I have an idea, but I don't have a government sponsor?

A: Please reach out to the SPARK mailbox/team contacts, and we can assist by inquiring if a civilian member of JPEO may have particular interest in your idea and becoming your sponsor.

Q: What happens after I submit my proposal?

A: A review panel will be convened (including JPEO HQ leadership and other invited individuals) to assess written proposals. The teams from the highest-ranking proposals will be asked to give a short, oral presentation of their idea, which allows for Q&A. Following that, winning proposals will be determined and all will be notified. The JPEO SPARK team is working to streamline the process for all!

Q: How will the review process be conducted?

A: Proposals are evaluated for technical, operational, and programmatic merit and innovation. All proposals are reviewed by multiple reviewers to ensure robust and balanced assessment. Cost realism is also assessed. Invited reviewers participate with an open mind and all proposals will be reviewed in accordance with legal considerations (e.g., regulations, conflict of interest / proprietary considerations).



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FAQs



Q: What is the role of a sponsor?

A: The sponsor is a critical member of the team. They provide important execution help, and their insight can shape the direction of a SPARK and thereby ensure its relevance and impact. If the SPARK performer is an external entity, the sponsor interfaces with the JPEO SPARK office and JPEO financial office to keep the effort on track. Usually, the program office under which the SPARK falls handles contracting actions or downstream funding actions. The sponsor continues to check in with the performer team throughout the duration of the project.

Q: I'm a JPEO staff member; I have ideas on how to improve acquisition processes under the JPEO roof, or workplace matters, but not sure how I would go about turning it into a SPARK.

A: Please contact us. We want to hear your ideas across Dr. Roos' three priority areas. Perhaps some help is needed to shape your improvement concept.

Q: When is the SPARK proposal window open?

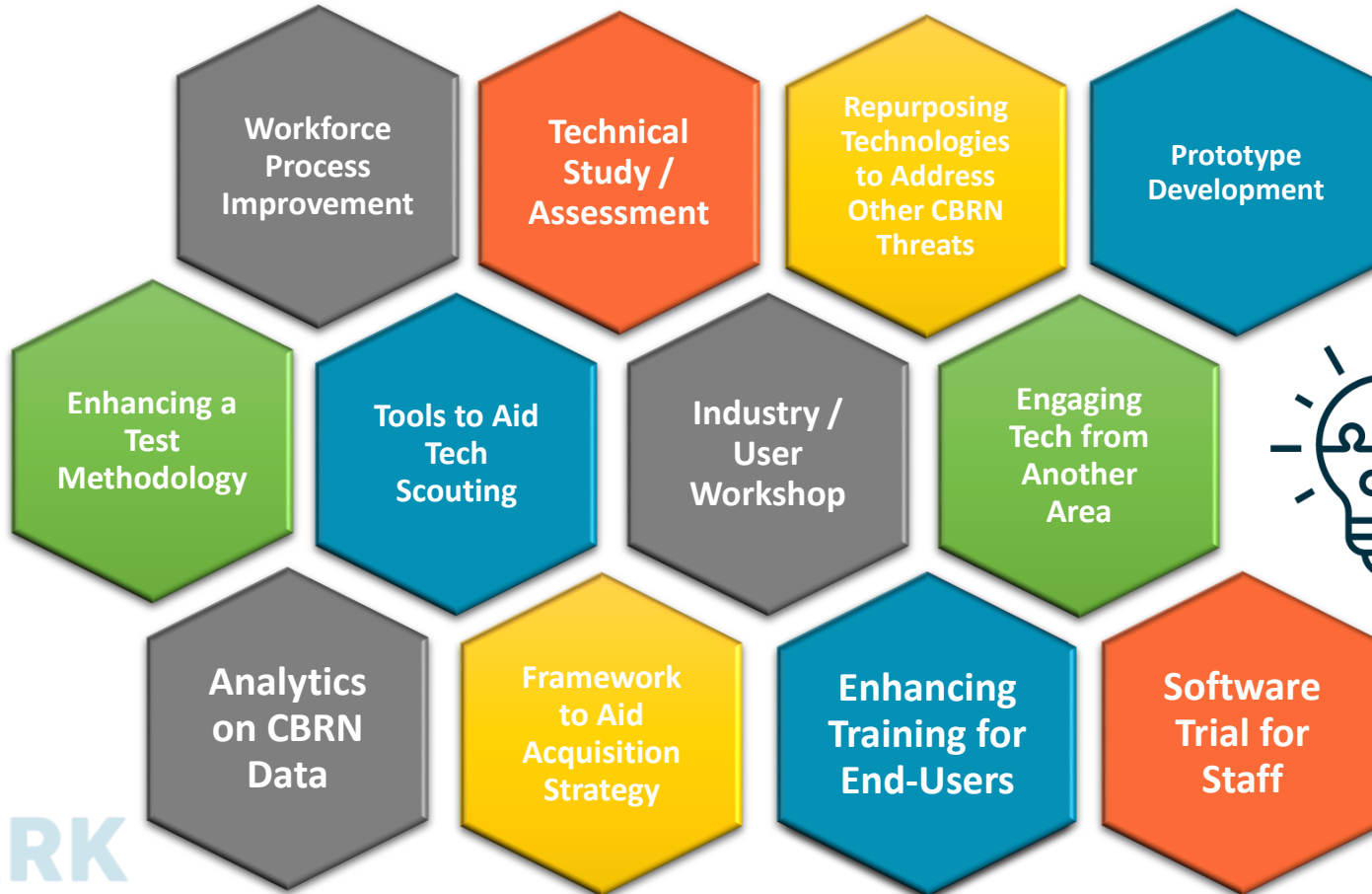
A: We will start accepting proposals 15 June, and the submission window will stay open until 31 July. Check the SPARK website for the proposal template or reach out to the SPARK mailbox!



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SPARK PROJECTS

PREVIOUSLY FUNDED AND FUTURE INTEREST



What are
YOUR
ideas?



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SPARK PROJECTS

PREVIOUSLY FUNDED AND FUTURE INTEREST

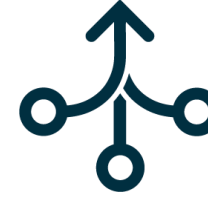
Contact SPARK team for additional
past-funded project details



Expanded Threat Detection



Product Enhancement for Mature Technologies



Maximizing Extractable Signals & Integrating Sensor Systems



Enhancing Biodetection



Supporting Acquisition Strategies



UAS-Enabled CBRN Detection



Optimizing Medical Countermeasures



Individual Protection, Decon, & Disablement



Workforce & Analysis



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Modernized User Training



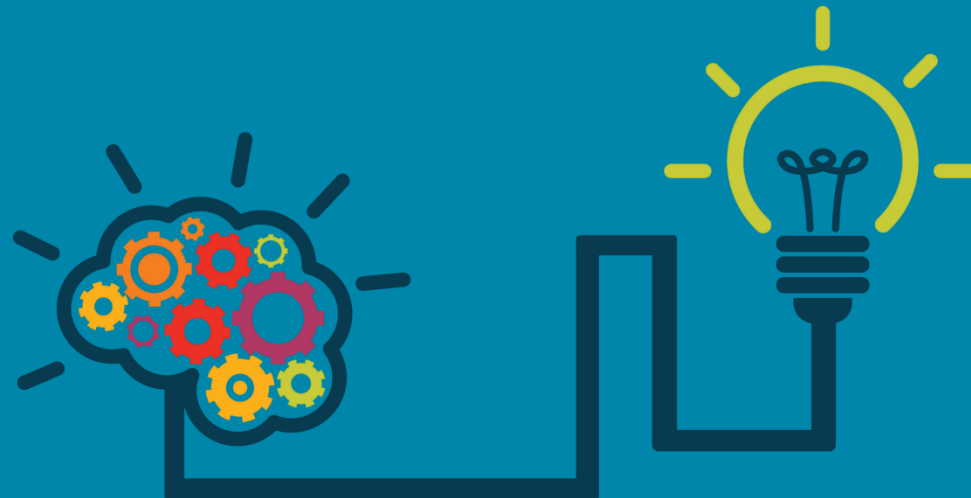
IT Improvements for Industry/Users



Artificial Intelligence

*Featured Speaker:
Multidomain Operations*

MR. DAMON YOURCHISIN



DEPUTY
DIRECTOR

MANEUVER
SUPPORT -
CAPABILITIES
DEVELOPMENT AND
INTEGRATION
DIRECTORATE

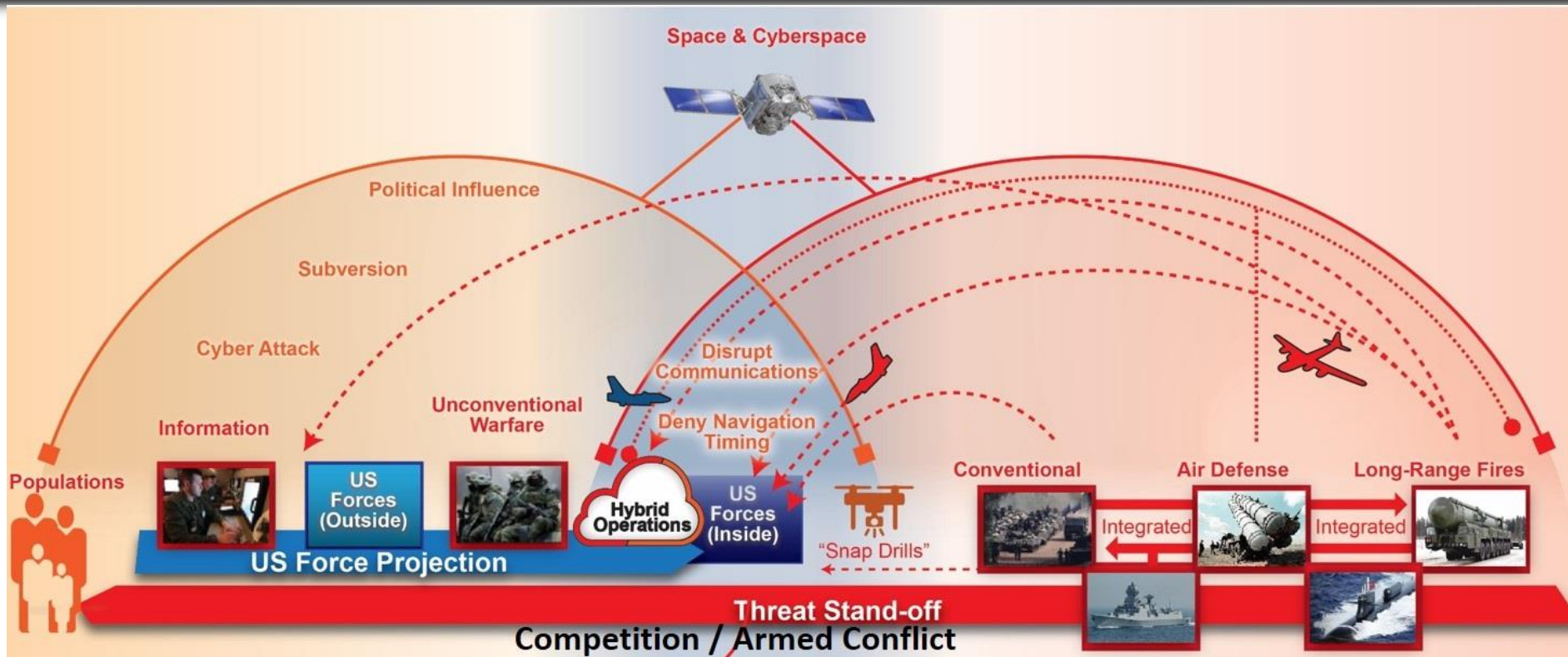
FUTURES AND CONCEPTS
CENTER, ARMY FUTURES
COMMAND

All-Domain Protection



MS-CDID, FCC, Army Futures Command

- **The Problem**
- **Frame the Past**
- **Illustrate Change**
- **11th AHR Vignette – 2003 vs 2035**
- **Protection Functional Concept**



Threat seeks to separate friendly forces politically by fracturing alliances and partnerships through the integration of:

- Diplomatic and economic actions
- Unconventional warfare
- Information warfare
- Conventional forces

Threat creates stand-off by reducing speed of recognition, decision, and reaction

Threat seeks to separate friendly forces over time, space, and function through the integration of:

- Long-range fires
- Unconventional warfare
- Ground-based air defense systems
- Electronic warfare, space, and cyber

Threat creates stand-off by separating friendly forces over time, space, and function

Designed to capitalize on the predictability of the Joint Force, partners and allies

Fortifications



Great Wall



Washington D.C. Civil War Defenses



WWII Normandy Beach Bunkers

Equipment

Corinthian Helmet



WWI German Gas Masks



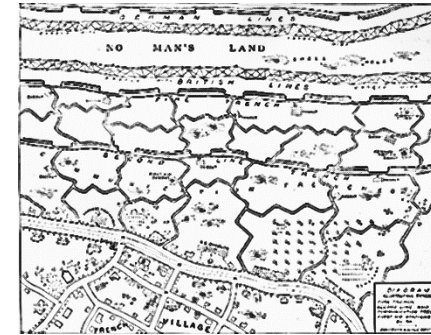
Vietnam era Flak Jacket



M60A1 with Israeli Blazer Reactive Armor

Tactics

Greek Phalanx



Defense in Depth: WWI British Trenches



WWII Deception: M4 Sherman Tank Decoy



WWII Obscuration: Crossing the Rhine

Army Protection Across the Domains



2020
Azerbaijan combines drones, artillery, and SOF to defeat Armenian forces.



IOC 2024*
Lockheed IFPC-HEL provides an all-new countermeasure against rockets, drones, and artillery.

Land



2020
The U.S. would face a 770 ship Chinese navy in a Pacific fight.



IOC 2025*
Army begins acquisition of land based Precision Strike Missile with maritime targeting capability.

Maritime



2018
Russia's Khmeimim air base in Syria is attacked by drones.



IOC 2024-26*
The layered AMD concept proposes to use new radars, laser, and missile interception systems.

Air



2019
Russia conducts GPS jamming and spoofing in Syria and the Middle East.

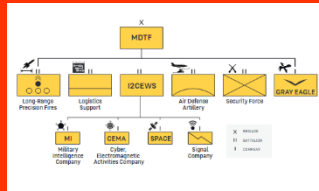


Army Multi-Domain Task Force
The MDTF 2k design improves cyber and space capabilities from the current IOC 383 design by increasing the I2CEWS BN from 194 to 523 Soldiers. One each proposed for EUCOM and INDOPACOM.

Space



2019
U.S. military satellites likely cyber attacked by China, Russia or both.



Cyberspace

2003

Endstate:

- Destruction of the Artillery and Armor of the 14th, 2nd, and 10th Brigades

BDA

Enemy:

- 6 armored vehicles

Friendly:

- 31/32 A/C damaged
- 2 captured aviators

Operational Impact:

Loss of confidence in deep operations

“The Army should restrict the Apache to close air support—or, if it must go deep, hand it over for joint tasking.”



2035+

Cyberspace Domain

1. Cyberattacks against critical infrastructure and networks to destroy (C2).
2. Deny / co-opt / spoof friendly AI (wingman or autonomous)

Information Domain

1. Negative propaganda
2. IW to target US soldier, leaders, families

Human Domain

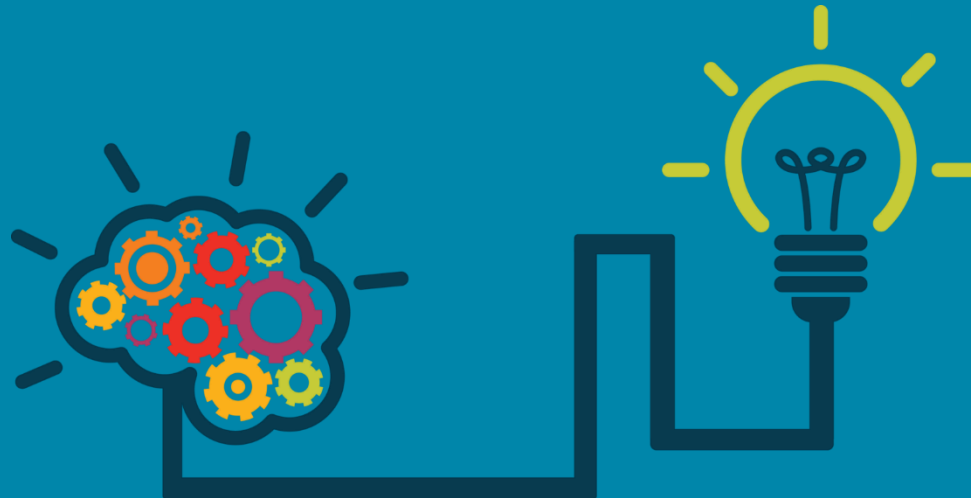
1. HN “double agents”
2. Proxies, surrogates warn and attacks of opportunity

Space Domain

1. Attacks on SATCOM
2. Deny space based ISR
3. Deny PNT
4. Use of threat space based ISR to locate and strike staging areas.

*Featured Speaker:
Workplace of Choice*

MS. LORRIE CHIEFFO



DEPUTY
DIRECTOR OF
HUMAN
CAPITAL
MANAGEMENT

JPEO-CBRND

IDEAS START WITH YOU



WHY AM I
HERE



A NEW WAY TO
APPROACH SPARK
PROPOSALS



IDEAS OF ALL
SCOPE AND SIZE



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THE NEXT CHAPTER INITIATIVES

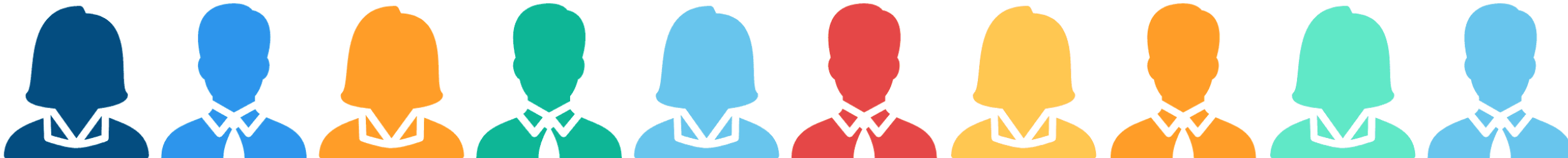


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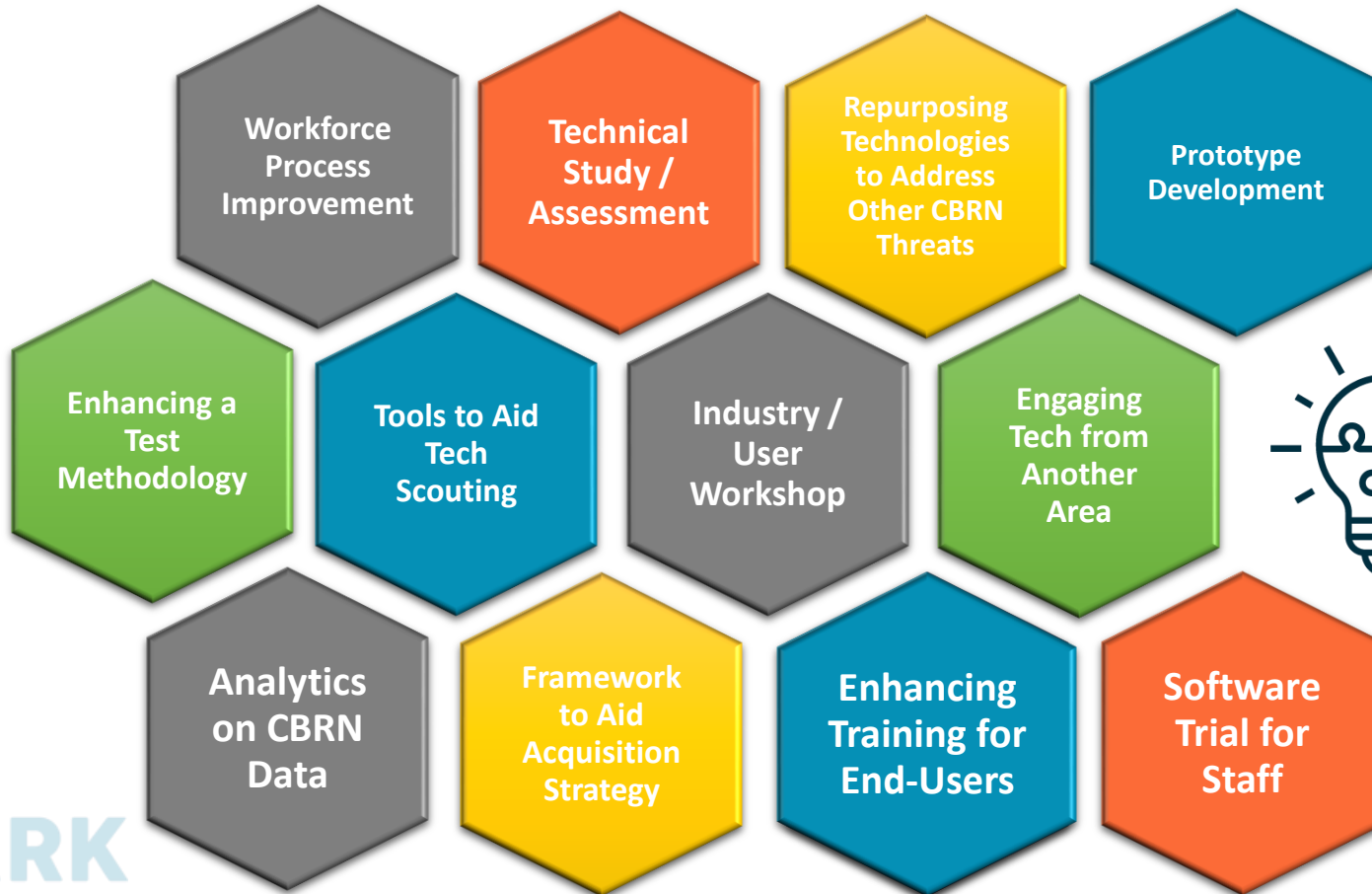
A REFRESHER ON ACTIONS TO TAKE

- Improve transparency and trust with our External Stakeholders
- Improve transparency and trust internal to the JPEO-CBRND
- Increase transparency and improve connection between HQ and JPM/JPL staffs
- Education for the workforce to improve data proficiency
- Find ways to improve work/life balance and strengthen mental health
- Tackle discrimination head on
- Invest in Internal Communications
- Make additional Tools and Trainings available
- Offer more tools to the workforce
- Improve flexibility in the work environment



QUESTIONS?

ASK & VOTE IN THE Q&A SIDEBAR



What are
YOUR
ideas?



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BRING YOUR QUESTIONS TO THE AMA SESSIONS!

ASK

ME

ANYTHING

AMA Sessions via
Microsoft Teams on:
24 June, 2:00 EDT
13 July, 10:00 EDT



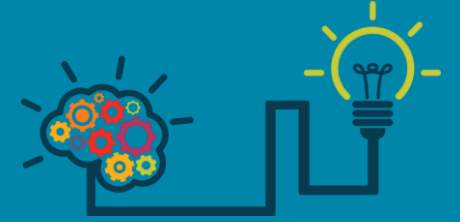
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THANK YOU!



TO ALL OUR TALENTED REVIEWERS AND SUBJECT MATTER EXPERTS
FOR DEDICATING THEIR TIME TO SPARK

THE JPEO-CBRND SPARK TEAM IS HERE TO HELP



Government Lead: CTO Dave Restione, david.m.restione.civ@mail.mil



SPARK Lead: Dr. Julia Doohar, julia.e.dooher.ctr@mail.mil

SPARK Support: Jessica Parker, jessica.m.parker46.ctr@mail.mil

JPEO CBRND SPARK Mailbox: usarmy.apg.dod-jpeo-cbrnd.mbx.spark@mail.mil



SPARK Website: <https://www.jpeocbrnd.osd.mil/Work-With-Us/SPARK/>



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SELECTED EXAMPLES OF WHAT SPARK HAS FUNDED SO FAR

- Seedling investments in innovative, emerging tech approaches - paper study, site visit, laboratory assessment, prototyping/demonstration
- Analysis involving using mature and COTS systems to determine if we can detect other threats
- Employing synthetic biology to develop safe bioproducts
- Modernized training (e.g., augmented reality)
- Support of sensor standards optimization and modernized approaches to software development
- Laboratory-based testing optimization
- Initial efforts in applying artificial intelligence practice to CBRN defense advanced developer challenges
- Workshop convening medical academic and industry stakeholders to exchange insight, refine planning
- Exploration into repurposing medical countermeasures
- Review of regulatory and policy guidance to enhance acquisition planning
- Workflow tools for the acquisition staff
- Staff-oriented skills development activity to enhance operational understanding



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**The above are only a subset of prior SPARKs, and in FY22 we are keen on concepts and solutions across the range of Acquisition Excellence, Transformational Capabilities, and Workplace of Choice!*