2021 Pacific Operational Science & Technology Conference

Workshop A: International S&T Cooperation

Mr. Joel Lane
Senior Analyst, Coalition Warfare Program

8 March 2021, 1310–1510 HST





Coalition Warfare Program

OUSD(A&S) International Cooperation

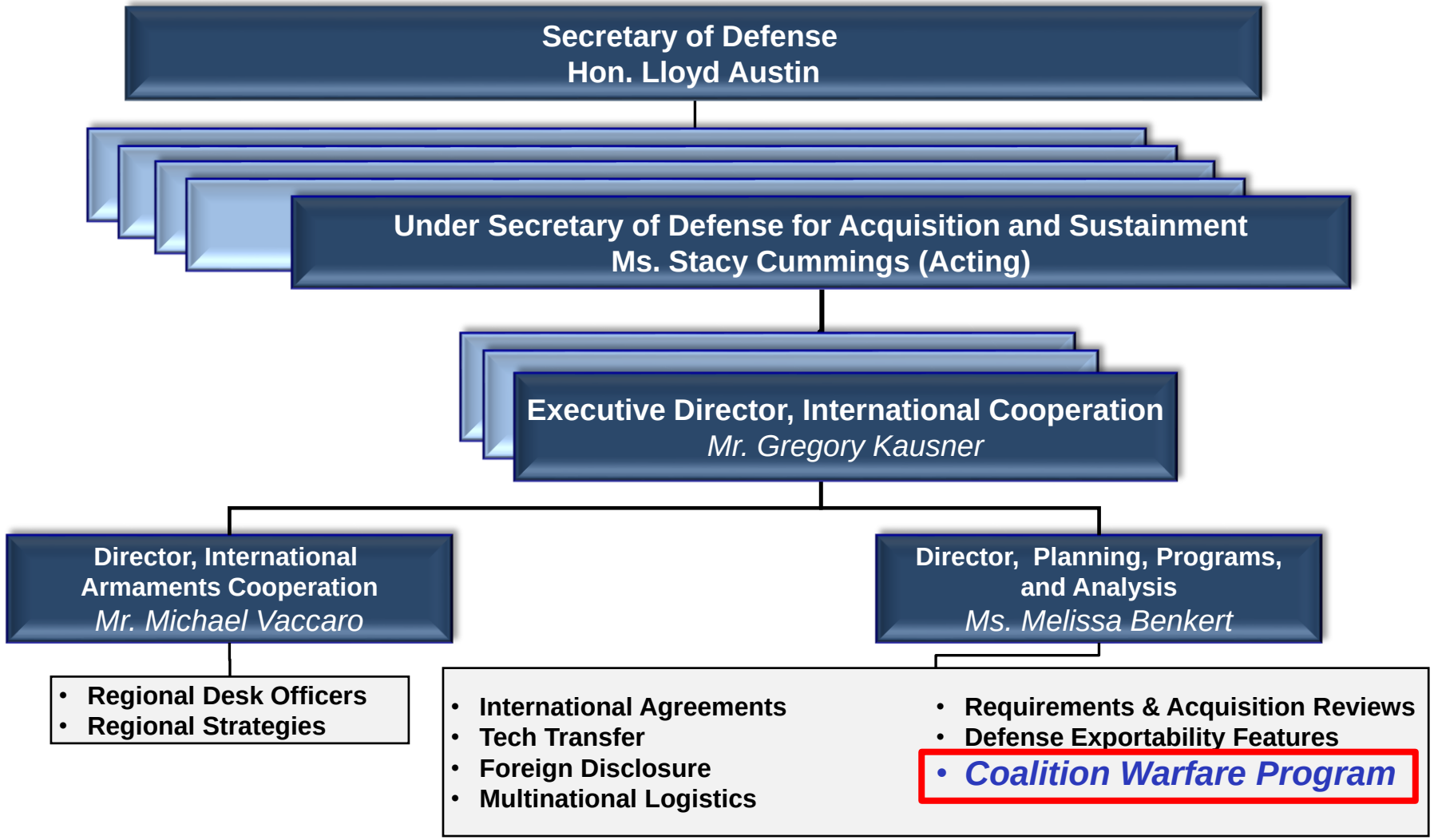
(1315-1340 HST)

Colonel Marcia Quigley
Deputy Director, Coalition Warfare Program

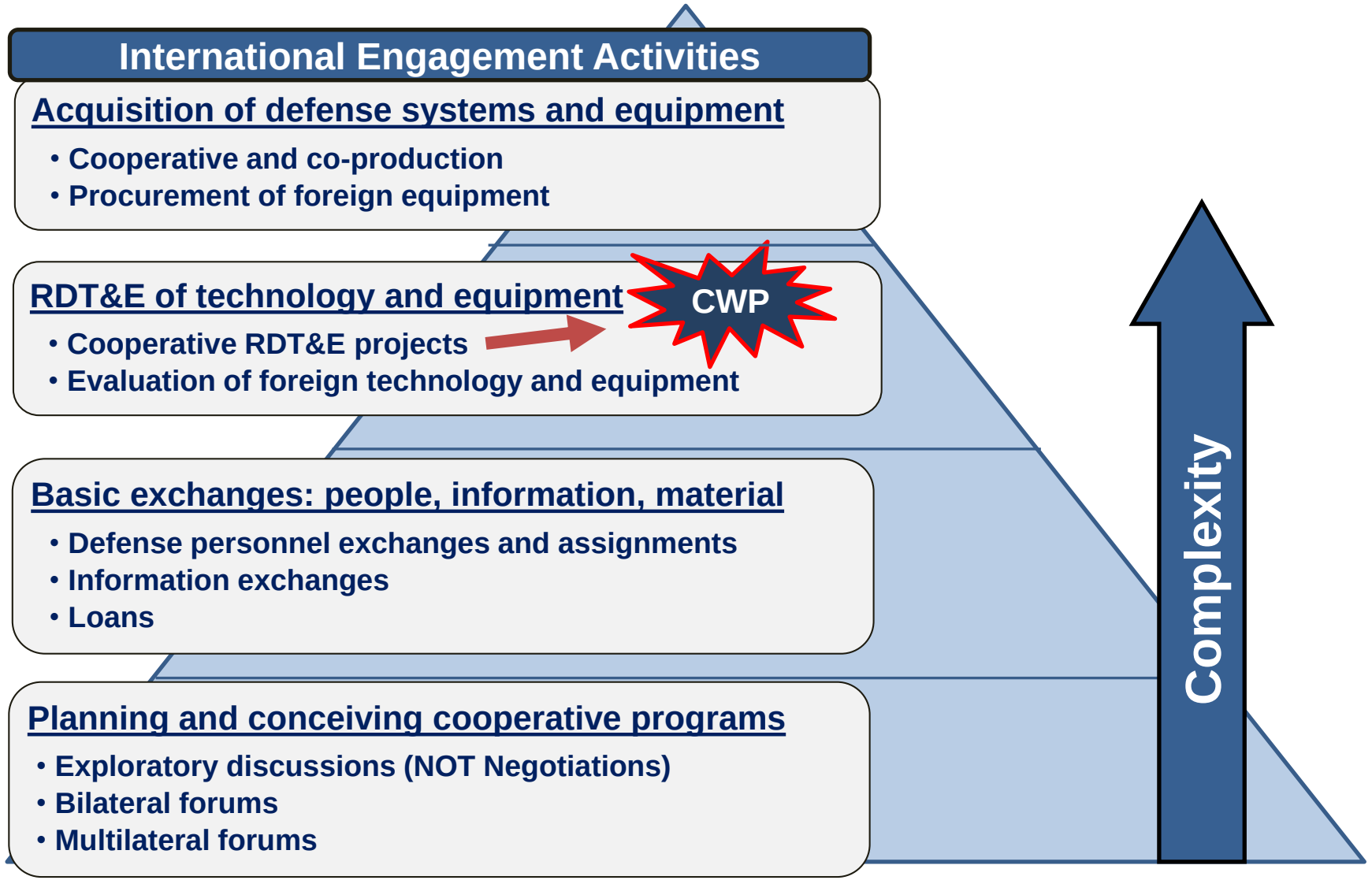
Coalition Warfare Program
International Partner Outreach Briefing

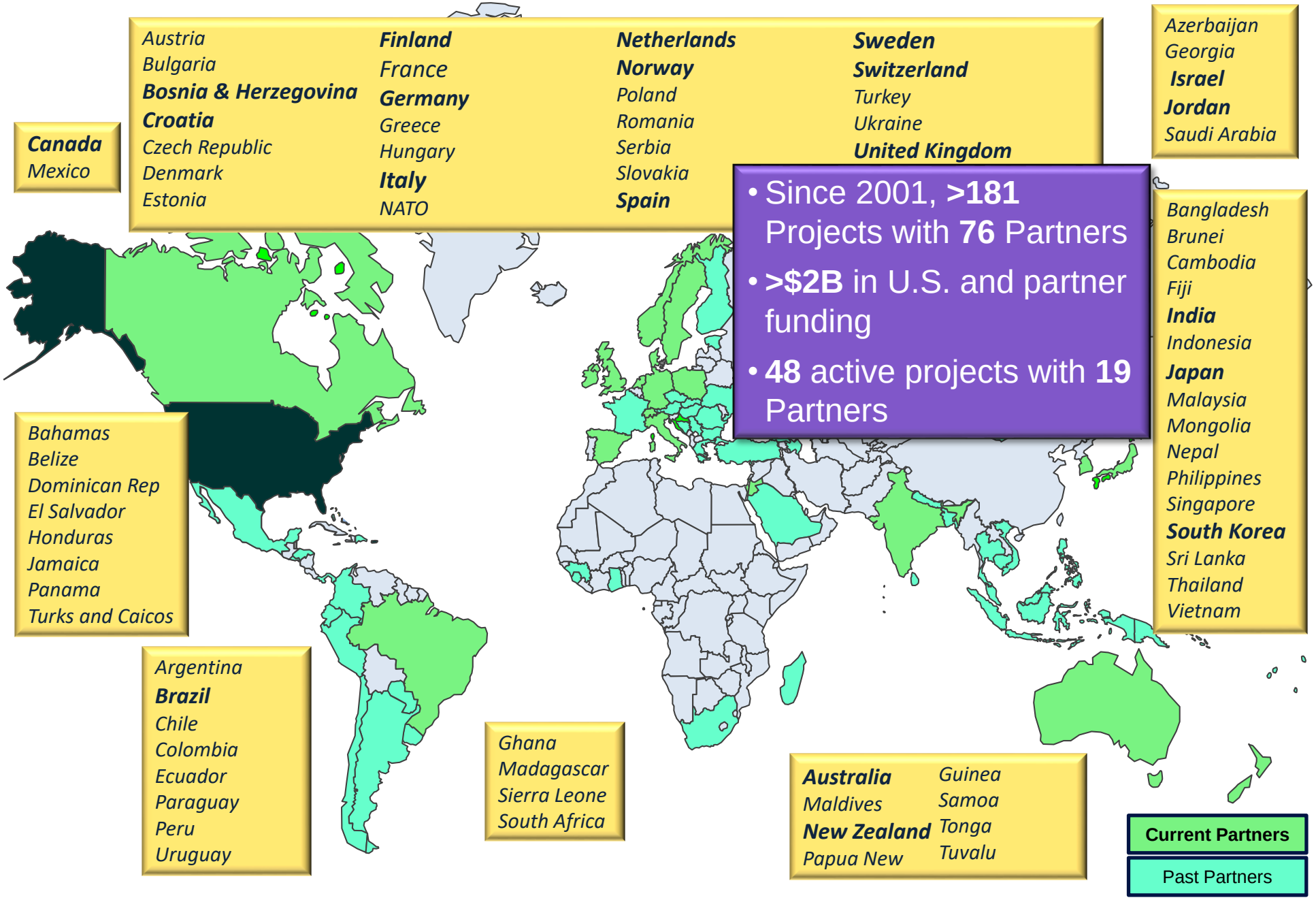
OUSD(A&S)
International Cooperation

International Cooperation (IC)



Building Blocks of Cooperation




Austria
Bulgaria
Bosnia & Herzegovina
Croatia
Czech Republic
Denmark
Estonia
Finland
France
Germany
Greece
Hungary
Italy
NATO
Netherlands
Norway
Poland
Romania
Serbia
Slovakia
Spain
Sweden
Switzerland
Turkey
Ukraine
United Kingdom
Azerbaijan
Georgia
Israel
Jordan
Saudi Arabia
Canada
Mexico
• Since 2001, >181 Projects with 76 Partners
• >$2B in U.S. and partner funding
• 48 active projects with 19 Partners
Bangladesh
Brunei
Cambodia
Fiji
India
Indonesia
Japan
Malaysia
Mongolia
Nepal
Philippines
Singapore
South Korea
Sri Lanka
Thailand
Vietnam
Bahamas
Belize
Dominican Rep
El Salvador
Honduras
Jamaica
Panama
Turks and Caicos
Argentina
Brazil
Chile
Colombia
Ecuador
Paraguay
Peru
Uruguay
Ghana
Madagascar
Sierra Leone
South Africa
Australia
Maldives
New Zealand
Papua New
Guinea
Samoa
Tonga
Tuvalu
Current Partners
Past Partners

Coalition Warfare Program Overview

CWP leverages U.S. and foreign investments to conduct cooperative research and development projects with foreign partners. Program supports Department's goals:

- **Collaboratively addressing *strategic technology gaps* for current and future missions**
- **Developing *interoperability* solutions for coalition operations**
- **Strengthening current defense *partnerships* and developing new relationships**

CWP supports all three of National Defense Strategy (NDS) priorities:

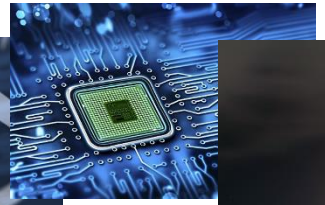
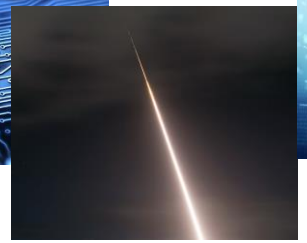
- ***Increasing Lethality*, by providing new, cutting-edge, technological capabilities to the warfighter**
- ***Strengthening Alliances and Partnerships*, by conducting international collaborative research, development, testing and engineering (RDT&E), developing interoperable systems, and providing foreign partners and U.S. regional Combatant Commands with leave-behind capabilities for coalition operations**
- ***Improving Business Practices*, by executing a rigorous, data-driven, project selection process that results in well-managed projects poised to execute CWP funding, and provide DoD with a high return on investment**

USD(R&E) Modernization Priorities

- **CWP project alignment**
  - **Supports coalition warfighter needs**
  - **Supports national strategies**
  - **Aligns with OUSD(R&E) Modernization Priorities*:**







- **Artificial Intelligence/ Machine Learning**
- **Biotechnology**
- **Autonomy**
- **Fully Networked C3**
- **Cyber**
- **Microelectronics**
- **Hypersonics**
- **5G**
- **Space**
- **Directed Energy**
- **Quantum Science**

*** https://www.cto.mil/modernization-priorities/***

There is no DoD commitment to pursue projects in the USD(R&E) Technology Modernization areas

CWP Project Requirements

- **DoD Submission**
  - DoD sponsorship & project management
  - DoD sponsor financial and non-financial contributions equal to request from CWP
- **Cooperative RDT&E**
  - Government-to-government partnership
  - Both U.S. and foreign partners contribute to the research & development elements
  - Equitable funding shown from each foreign partner
  - Written support from foreign partner(s) supporting project scope and funding
- **Combatant Command Support**
  - Advocacy from at least one CCMD
- **Clear Need**
  - Addresses warfighter challenge & documented DoD need
  - Demonstrates project does not duplicate other DoD or USG R&D efforts
- **Transition Plan**
  - Written commitment from Transition Manager(s) to take project deliverables to next stage in acquisition cycle
- **Strong Project Management**
  - Goals are technically achievable & project plan is realistic
  - CWP request based on project planning
  - International agreement & disclosure approval attainable

Cooperative Research & Development

- **Projects managed by committed U.S. & foreign government partner project manager**
- **U.S. & foreign partners have <u>active participation</u> in Research & Development (R&D)**
  - **Each government gains <u>defense benefits</u> from engaging in the project**
  - **Each government <u>provides contributions</u> to execute the effort, to include: government labor, equipment, facility use, national industrial and academic participation**
  - **The more <u>novel work</u> each partner contributes, the better**
  - **Tests and demos to prove the overarching R&D efforts**
  - **Integration-only projects considered "R&D content - low" *unless fulfilling a critical operational interoperability shortfall***

Other programs and funding sources available for these

<u>IS NOT:</u>

- **Foreign Military Sales**
- **U.S.-only build for exportable solutions**
- **Test and mods to meet foreign-only or U.S.-only need**
- **Operational sharing ("Train and Equip")**
- **Operational exercise support**
- **Focused on demos/tests of technologies to select procurement options for U.S. or Partner**
- **System training for foreign partners**

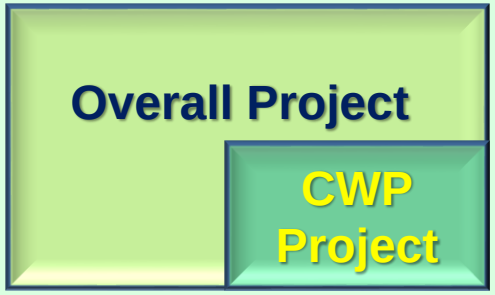
CWP Project Structure

CWP Projects are discrete projects – clearly definable outside of any other activities

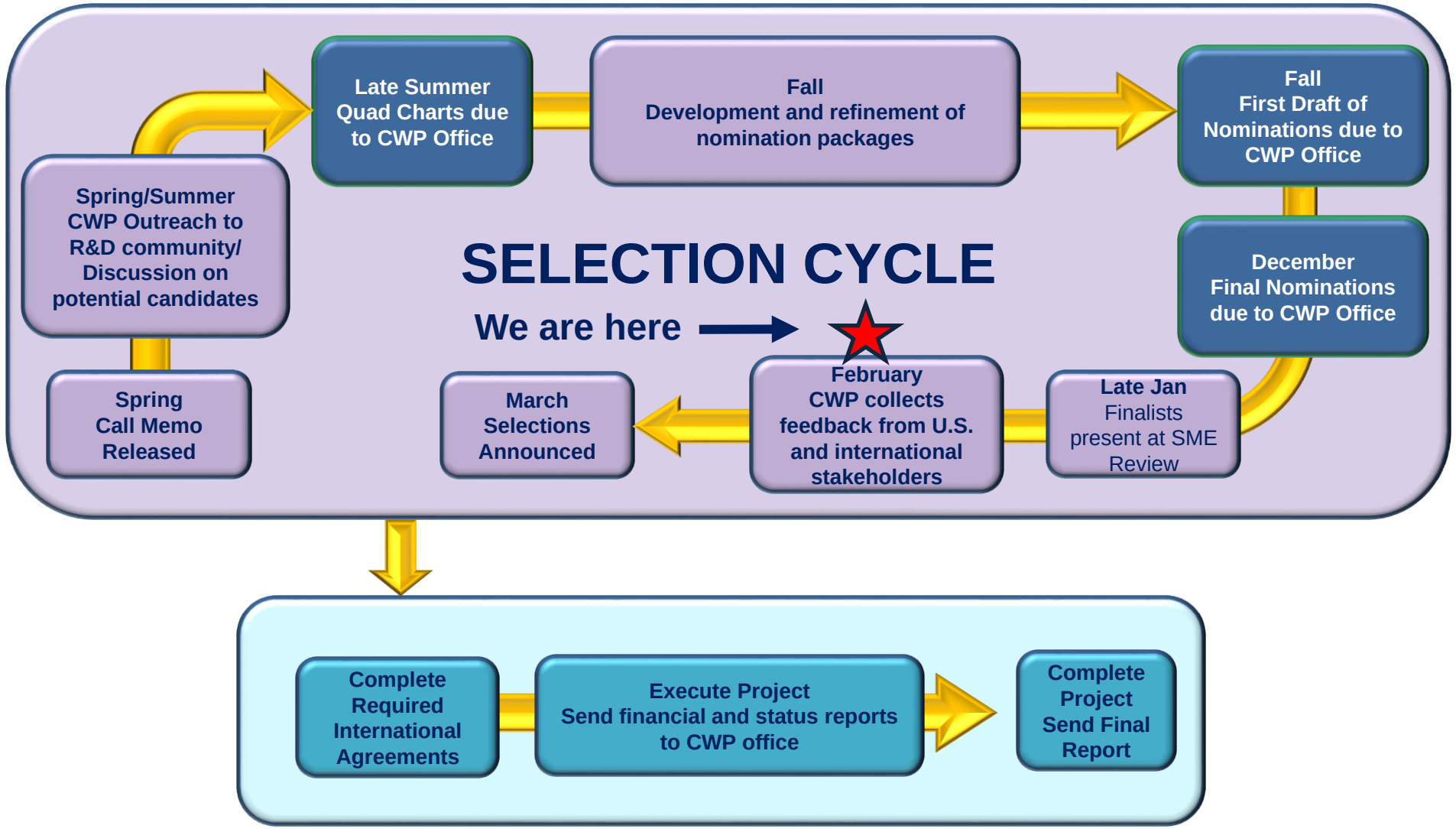
Stand-alone projects

A phase in a larger plan

A component within a larger project



CWP Nomination/Execution Cycle



Foreign Partner Roles in CWP

- **Help Generate Focus Areas for Potential Projects:**
  - Share defense priority information with U.S.
  - Identify & address interoperability or capability shortfalls
- **Assist with Communication & Matchmaking:**
  - Communicate CWP charter and mission in home country
  - Network with U.S. teams using standing bilateral & multilateral fora, the CWP annual meeting, international symposia, & technology conferences
- **Provide Support for Potential & Ongoing Projects:**
  - Receive & relay feedback from organizations ID'd in U.S. project proposals
  - Facilitate resolution if problems arise (e.g. schedule slip, logistics issues)

Summary

- **Why International Armaments Cooperation?**
  - **Aligns Common Areas of Interest**
  - **Creates Strategic Partnerships**
  - **Leverages Scarce Resources**
  - **Keeps Innovation Alive**
- **Coalition Warfare Program**
  - **Supports Coalition Warfighter Needs**
  - **Addresses Strategic Technology Gaps**
  - **Improves Interoperability**
  - **Strengthens Partnerships**
- **For More Details Please Visit:**
  - **CWP Website: *www.acq.osd.mil/ic/cwp.html***
  - **Email: *osd.coalition.warfare@mail.mil***

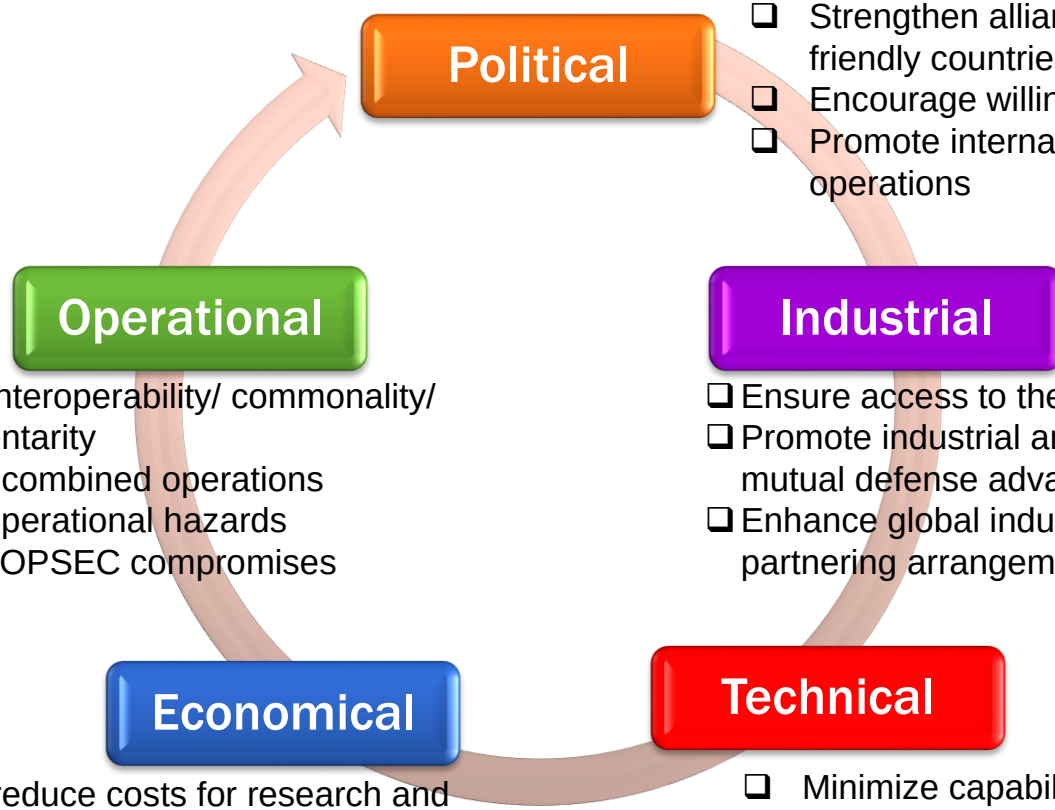
International Armaments Cooperation

OUSD(A&S) International Cooperation

(1315-1340 HST)

Ms. Merry Lutz
Country Programs Manager, International Armaments Cooperation

Objectives of International Cooperation



- ❑ Strengthen alliances and other relationships with friendly countries
- ❑ Encourage willingness to act collectively
- ❑ Promote international legitimacy in coalition operations

- ❑ Ensure access to the best global technologies/research
- ❑ Promote industrial and technology security to ensure mutual defense advantages
- ❑ Enhance global industrial base through future sales and partnering arrangements

- ❑ Minimize capabilities gaps with allies and partners
- ❑ Assist and Bolster global supply chain – both domestic and shared defense industrial base
- ❑ Prepare for exportability/interoperability

- ❑ Share and reduce costs for research and new system development
- ❑ Share and reduce costs for short and long-term support of fielded systems

- ❑ Achieve interoperability/ commonality/ complimentarity
- ❑ Facilitate combined operations
- ❑ Reduce operational hazards
- ❑ Minimize OPSEC compromises

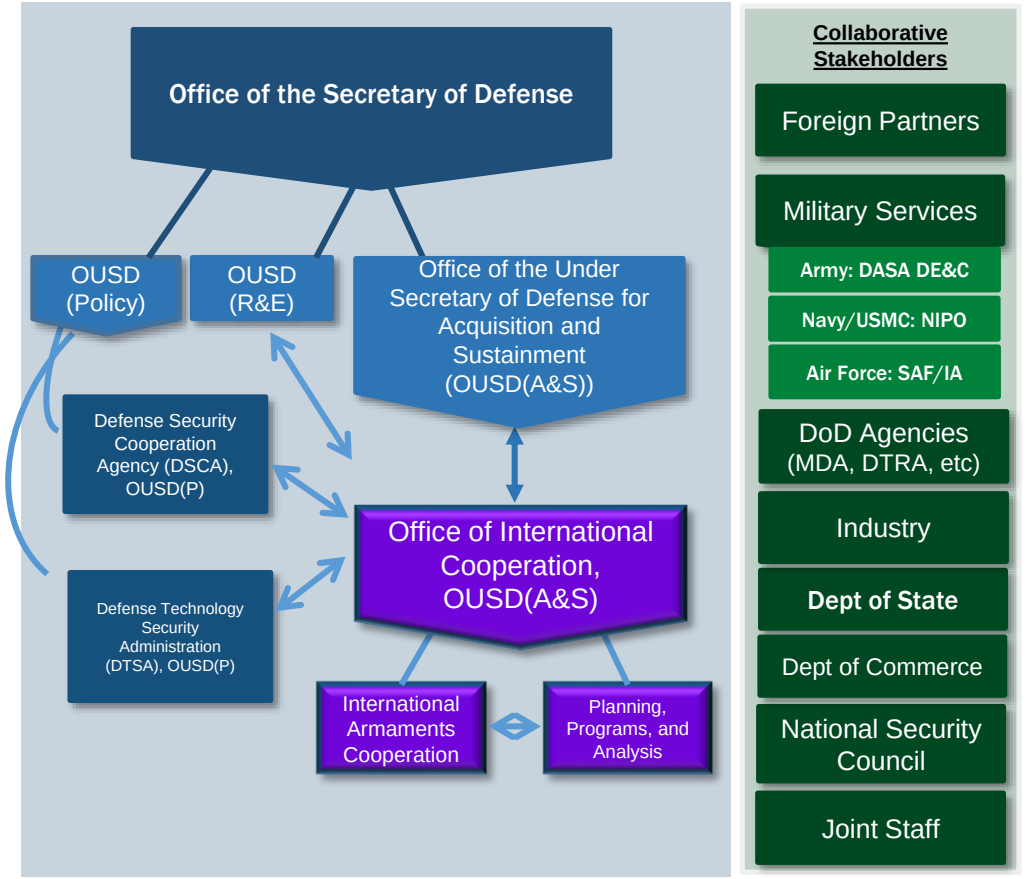
Vision:
Enable a lethal, secure, and networked constellation of allies and partners

Fundamentals

- Strengthen international partnerships through Acquisition & Sustainment initiatives
- Ensure DoD and A&S international equities are addressed in DoD pol/mil plans

Inform/Lead/Ensure:

- "Front Door" for international acquisition-related matters
- Organize meetings and develop correspondence
- Facilitate connections between stakeholders
- Develop international cooperation strategies and priorities
- Lead activities to promote cooperation and greater engagement with foreign partners
- Integrate international aspects to DoD activities and processes







United States Space Force & United States Space Command International Programs

(1340-1410 HST)

Lieutenant Colonel Brian Fredrickson
Chief, INDOPACOM/Asia-Pacific Branch, Space & Missile Center
Mr. Jeffrey Todd
USSPACECOM Science & Technology and Advanced Concepts Advisor

Space and Missile Systems Center
Chief Partnership Office

- *Space is a contested environment and warfighting domain*
- *Peer competitors challenge our freedom to operate in space*
- *Partnerships enable aggressive delivery of interoperable warfighter capability for a resilient enterprise*
- *Deliver war-winning capabilities*
- *Drive innovation*

CPO HQ LA AFB

CPO East/ Americas Wash DC

CPO Europe/ Africa

CPO Indo-Pacific/ Mid East

People assigned

Future location

CPO builds the enterprise from a worldwide presence

Through Partnerships…

- Build the Coalition Space Enterprise
- Achieve Integrated Warfighting Capability
- Create a Deterrent to Competitor Aggression

Note: Pictures, graphs, and diagrams shown on the briefing charts are notional items, not exact

*Partnership **and** Innovation to Expand Space Capabilities*

Mission Areas

- SATCOM
- Command and Control
- Space Domain Awareness
- Positioning, Navigation & Timing
- Enterprise Ground
- Remote Sensing
- Launch
- Cross Mission Considerations

Partnership Opportunities

- Data Sharing
- Capability Development
- Join CPO staff as Foreign Liaison Officer
- Foreign Military Sales
- Technology Demos
- Hosted Payloads
- Rideshare
- Science & Technology

Pervasive Technologies

- Satellite Survivability
- Improved Satellite Size, Weight and Power (SWaP)
- Power and Energetics
- Propulsion
- Electronics
- Structures

Chief Partnership Office Mission Threads

Create a seamless enterprise for Allied space ops through joint space acquisition

Maximize efficiency and capability through Interagency cooperation

Infuse partnerships with disruptive technologies and innovative acquisition

For more information on how to partner with us:

Deanna Ryals (deanna.ryals.1@spaceforce.mil) – Chief Partnership Officer Dr.

Stephen Pluntze (stephen.pluntze.2@spaceforce.mil) – Executive Director Lt Col

Brian Fredrickson (brian.fredrickson@spaceforce.mil) – Engagement

Lt Col James Tobin (james.tobin.1@spaceforce.mil) – Capabilities Development

Jamie Dronen (jamie.m.dronen@aero.org) – Aerospace Corp, Director of Global Partnerships

Wayne Sullens (wayne.d.sullens@aero.org) – Aerospace Corp, Chief Engineer

Contribute to the Coalition Space Enterprise

Distribution A. Approved for public release: distribution unlimited

US Space Force Organization

LT. GEN. NINA M. ARMAGNO
DIRECTOR OF STAFF

LT. GEN. B. CHANCE SALTZMAN
CHIEF OPERATIONS OFFICER

MAJ. GEN. KIMBERLY A. CRIDER
CHIEF TECHNOLOGY AND INNOVATION OFFICER





PENTAGON

MS. PATRICIA MULCAHY
CHIEF HUMAN CAPITAL OFFICER

LT. GEN. WILLIAM J. LIQUORI
CHIEF STRATEGY AND RESOURCING OFFICER

SPACE OPERATIONS COMMAND

SPACE AND MISSILE SYSTEMS CENTER

SPACE TRAINING AND READINESS DELTA (PROVISIONAL)

Distribution A. Approved for public release: distribution unlimited

Our Aimpoint – Space Vision 2030

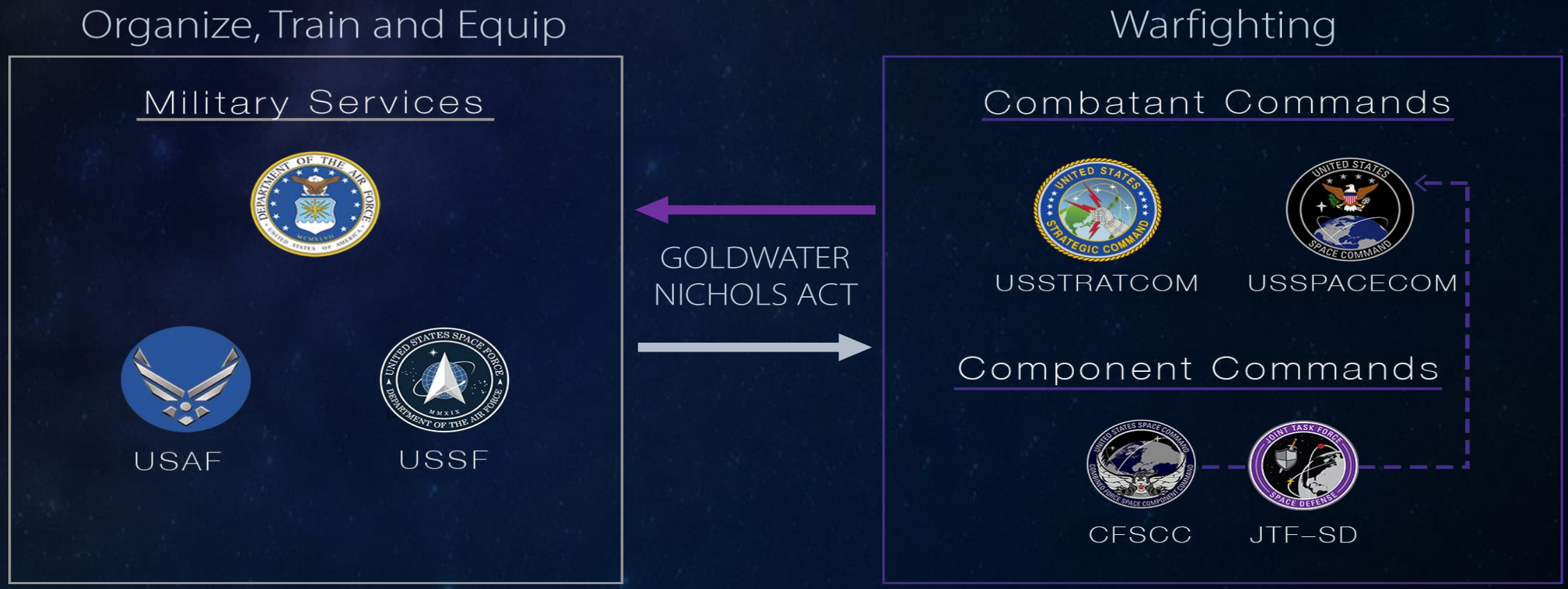
USSPACECOM Science, Technology, & Advanced Concepts

"Regional Security Through Operationalizing Innovation"

Mr. Jeffrey N. Todd **1-402-912-3520**
STAC Advisor **jeffrey.n.todd.civ@mail.mil**
USSPACECOM J8
POST CWP - 9 Mar 2021

"Our most pressing challenge will be to field [and integrate] new capabilities faster than our adversaries." – Mike Griffin

Elevating Space



Goldwater Nichols Act assigned separate Warfighting and Organize, Train and Equip roles in the DoD

United States SPACE Command

Service Components

Joint Task Force Space Defense

Combined Force Space Component Command

Integrated Planning Elements

National Space Defense Center

Combined Space Operations Center

Joint Navigation Warfare Center

Joint OPIR Center

Missile Warning Center

Joint TACON Units

Mission

USSPACECOM conducts operations in, from, and to space to deter conflict, and if necessary, defeat aggression, deliver space combat power for the Joint/Combined force, and defend U.S. vital interests with allies and partners.

- **Deter Aggression: USSPACECOM strengthens our national deterrence through the provision of space warfighting options that preserve the U.S. and Allied competitive advantage while promoting security and stability to ensure conflict does not begin or migrate into the space domain.**

- **Defeat our Nation's Enemies through Posture and Preparedness: Should deterrence fail, USSPACECOM is postured to rapidly transition from competition to conflict and achieve space superiority with the world's premier joint space warfighters to defeat our nation's enemies.**

- **Deliver Space Combat Power: USSPACECOM enhances warfighting readiness and lethality through the integration of space capabilities with the joint force, allies, and inter-agency partners in all domains.**

- **Defend U.S., Allied and Partner Interests: USSPACECOM, in coordination with Allies, the joint force, and inter-agency partners, conduct combined space operations to protect our combined interests and secure critical capabilities.**

Regional Security Through Operationalizing Innovation

From A Combatant Command Space Domain S&T Perspective…

- Non-Material
  - Policy, Agreements, and Other Venues (USSPACECOM J5)
  - Experimentation (USSPACECOM J8 STAC)
    - Demonstration
    - Space Lift - Rideshare
- Material – Technology Development (USSPACECOM J8 STAC)
  - Capability Development Concepts
  - Accelerated Technology Maturation
    - Coalition Warfare Program
    - Allied Prototyping Initiative
    - USSF
    - International Space Challenge
  - Areas of Interest
    - Interoperability
    - Open Architectures
    - JADC2 and Communications
    - Mission Assurance
      - Augmentation
      - Resiliency
    - Domain Awareness & Defense

Questions and Comments

- At 2021 Pacific Operational Science & Technology Forum all Week
- Follow-up Information Below:

Mr. Jeffrey N. Todd 1-402-912-3520
S&T/AC Advisor jeffrey.n.todd.civ@mail.mil
USSPACECOM J8

POST CWP - 9 Mar 2021

If in doubt where to start, Call Joel! - Coalition Warfare Program

Defense Threat Reduction Agency International Programs

(1410-1420 HST)

Dr. Juliette Petersen
DTRA International R&D Specialist

DTRA RD International S&T Engagements

CWP Workshop - INDOPACOM S&T Conference

Dr. Juliette Petersen

Defense Threat Reduction Agency

March 8, 2021

Agency Mission

The Defense Threat Reduction Agency enables DoD, the U.S. Government, and International Partners to counter and deter Weapons of Mass Destruction and Improvised Threat Networks

Countering Weapons of Mass Destruction and Improvised Threats

DTRA addresses high consequence, highly uncertain risks to the achievement of U.S. national objectives

WMD and improvised threats are unique due to their potentially non-linear, asymmetric effect

These threats develop as the result of the convergence at critical nodes across a complex network

DTRA's Strategic Imperatives

Enable a Safe, Secure, and Effective Nuclear Deterrent

Strengthen and Expand Interagency and International Partnerships

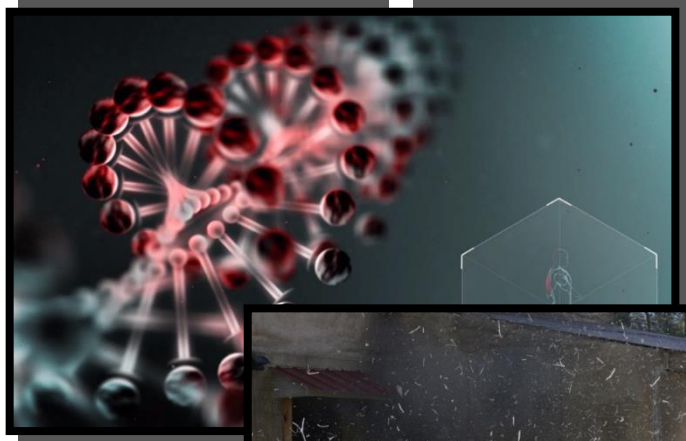
Counter Threat Networks

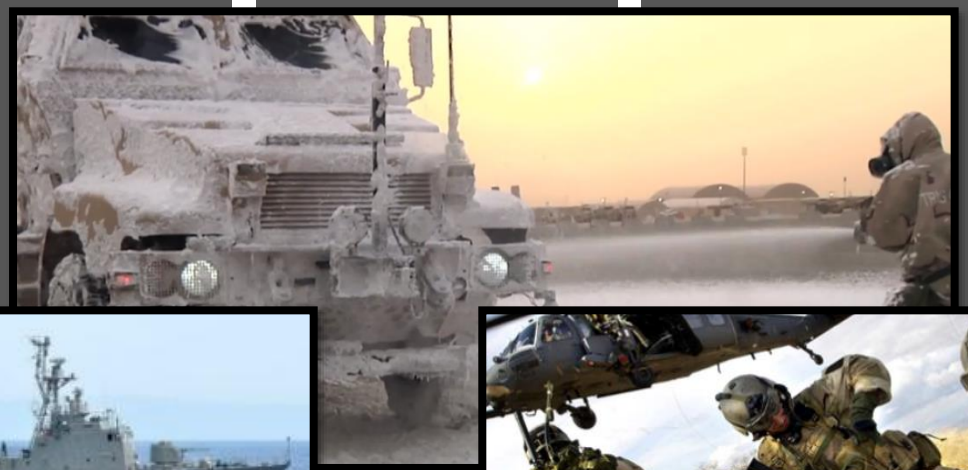
Develop Capabilities in Support of Combatant Commanders' Requirements

Provide Situational Awareness and Share Information Across the Enterprise

DTRA Functions - Across the Threat Continuum

Anticipate & understand future threats and identify proactive measures to counter them	Provide situational understanding of current and emerging threats and all measures that can be brought to bear to defeat them	Enable a Safe, Secure, & Effective Nuclear Deterrent	Support DoD and USG efforts to counter the facilitation, proliferation, and use of WMD and improvised threats	Provide innovative solutions to protect against and combat WMD and improvised threats	Prepare for and enable responses to crises involving WMD and improvised weapons of strategic influence






CWP Example – US DTRA with Australia Biosurveillance Application Development

Objective: Develop regional specific biosurveillance analytical applications and demonstrate enhanced decision making for biological agent outbreak rapid response.

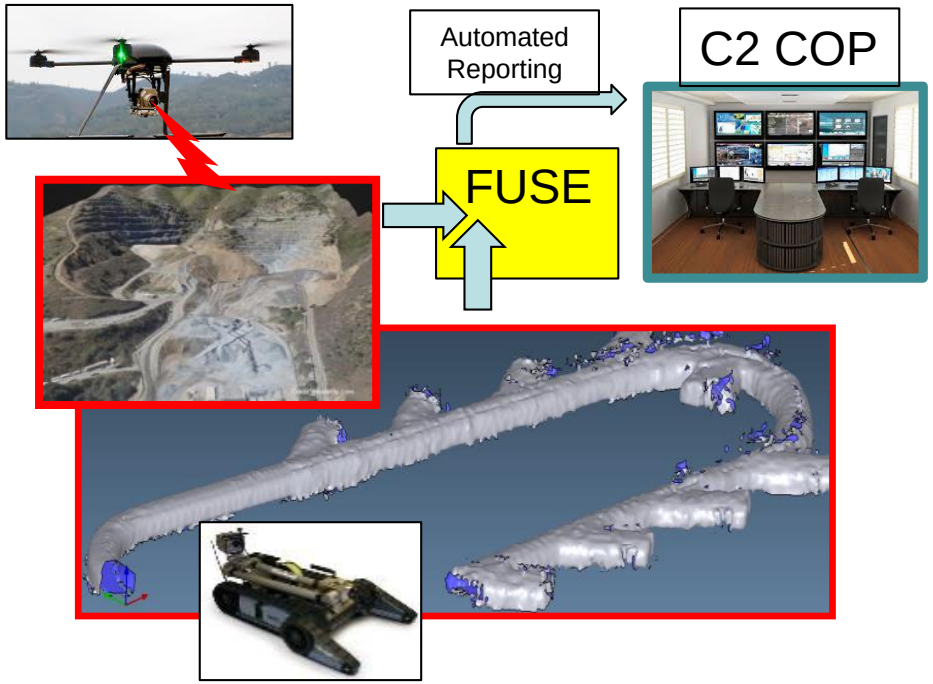
Project Status:

- Kicked off 07/13/2017 – Exp: 07/13/2020
- Completed - Exceeded expectations
- Decision support tools and applications published
- Response to the COVID-19 pandemic – Australian public health office
- Capable to be integrated and implemented in a real world disease surveillance and mitigation application

Deliverables: Biosurveillance analytical tool capable of predictive calculations and modeling capabilities with region specific data-sharing enhancements.

CWP Example – US DTRA with ROK Autonomous Tunnel Exploitation (ATE)

Objective: Develop and demonstrate advanced robotics for rapidly characterization and exploitation of underground facilities (UGFs), which may hold weapons of mass destruction.



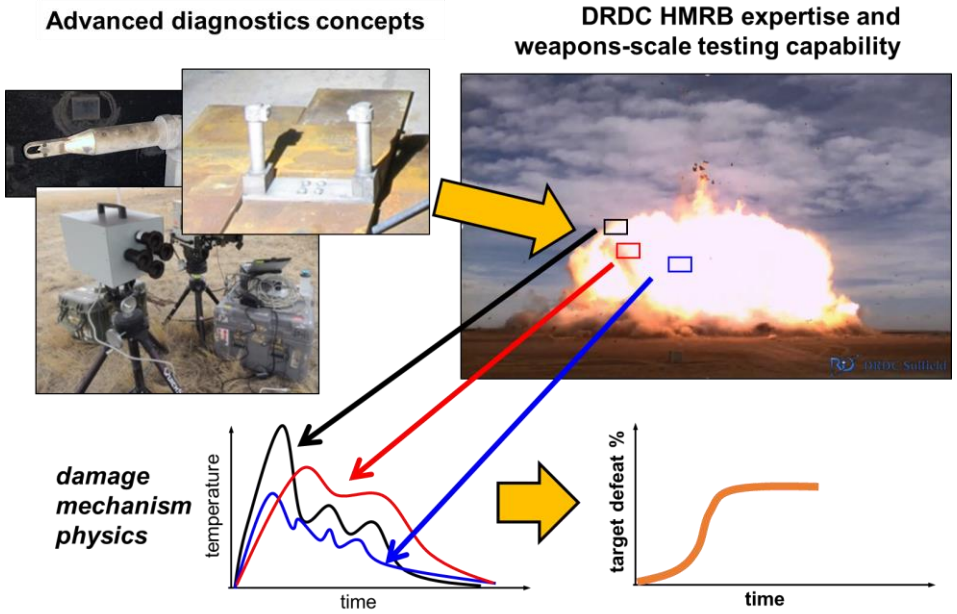
Project Status:

- Kicked off 05/01/2019 – Exp: 07/29/2022
- Year 2 Demonstration on 12/10/2020
  Attendees/Observers: ROK ADD USFK S&T and JUSMAG-K for DTRA
  – US Y2 Demonstration 3QFY21
  – ROK Y3 Demonstration 4Q2021

Deliverables: System architecture for autonomous site exploitation of UGFs; Annual demonstrations; Test data; Technical reports; Interoperable Profiles; and Interface Control Documents.

CWP Example – US DTRA with Canada Diagnostics Applied to Heterogeneous Multiphase Reactive Blast (HMRB)

Objective: Develop and deploy advanced diagnostics in multiphase blast tests for Countering Weapons of Mass Destruction (C-WMD analysis).



Project Status:

- Kicked off 12/04/2020 – Exp: 12/04/2022
- Test Bed Planning
- Refinement of algorithms for temperature determination by diagnostics

Deliverables: Field proven advanced HMRB diagnostics for C-WMD modeling validation and weapons performance C-WMD testing.

OUSD(R&E) RDT&E Program Panel

(1420-1435 HST)

Colonel Colby "Lite'nin" Beaverson
Director, Global Capabilities Programs

International Partnership - Prototyping

Strategic Opportunity

- US and Allies orienting toward peer competition in contested environments, modernizing forces
- USD(R&E) identified 11 modernization priorities for dominant US military capabilities
- Allies devoting R&D resources to modernize their military capabilities in similar priority areas
- Cooperative, structured US and partner nation R&D will maximize modernization, increase interoperability, and reduce vulnerabilities

Solutions

International Partnerships:

- Identify high-impact operational prototyping projects; US/PN share R&D funding, technology, and industry participation for transition to operational capability

Foreign Comparative Testing (FCT):

- Find, assess, and field already developed foreign technologies to deliver affordable, near-term solutions to satisfy capability gaps, enhance lethality, and increase readiness
- US Gov -to- Foreign Industry technology evaluation executed under a contract

Strengthening Partnerships with Allies to deliver operational capability

Focus Areas

Readiness and Joint Lethality in Contested Environments

- Improve the ability to strike the enemy, across the spectrum from close combat in complex terrain to mobile targets inside adversary air and missile defense networks.

- Improve the ability to deploy, survive, operate, maneuver, and regenerate in all domains while under attack, to include active and passive defenses as well as distributed logistics and maintenance technologies

Technologies to Support Modernization in

- Fully Networked Command Control and Communications
- Quantum Science and Computing
- Machine Learning, Artificial Intelligence
- Space
- Hypersonics
- Microelectronics
- Directed Energy
- 5G
- Biotechnology
- Cyber Strategy
- Autonomy

Technologies satisfying urgent operational needs on a relevant fielding schedule

Technologies providing significant life-cycle cost savings

International Partnerships

- **Identify each country's shared operational challenges, core technical competencies and transition path to an operational capability**

- **Support SECDEF's National Defense Strategy (NDS) to maintain a military competitive advantage in all three Lines of Effort:**
  - ✓ ***Build a more lethal force*** **through rapid prototyping in modernization technology areas**
  - ✓ ***Strengthen alliances*** *and attract new partners* **through cooperative development of equipment to inherently deepen interoperability with participating allies & partners**
  - ✓ ***Reform the department for greater performance and affordability*** **through leveraging and coordinating allied R&D funding towards shared defense capability needs**

Deliver important operational capabilities to US and PN warfighters

International Partnership Goals

- **Build on existing int'l cooperation in basic and early-stage research**
- **Build on existing legal frameworks for technology security, industrial partnership, int'l cooperation in technology development/prototyping**
- **Design, build, and test operational prototypes that meet shared operational needs using disruptive technologies, faster, at shared cost**

Leading to…

Co-production opportunities that arm each nation's warfighters and boosts each nation's industrial base

✓ **Shares:**

- **Funding**
- **Technology/Subject Matter Expertise**
- **Our Respective Countries Industrial Strengths**

✓ **Results In:**

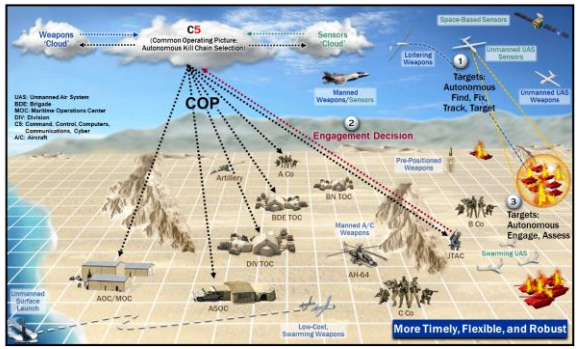
- **Maximizing Modernization - together we have better ideas**
- **Increasing Interoperability – we build it from the same specification**
- **Reducing Vulnerabilities – project tackles our respective shared challenges**

Project Development

- Expand/build on previous cooperative work
- Take planned U.S. prototyping efforts and propose to Partners
- New concepts initiated by OUSD (R&E) organizations and developed into projects in cooperation with Allied counterpart organizations

Examples

Hypersonics



Fully Networked C3

Foreign Comparative Testing

Mission: Find, Assess & Field World-Class Technologies to Enhance Military Capabilities and Provide Long-Term Value

- ***Technologies should present:***
  - ***Significant cost savings resulting in positive ROI***
  - ***Significant performance enhancements***
  - ***Significant schedule savings resulting in earlier fielded capability***
  - ***Novel, Innovative approaches***
- ***Connects Foreign Technologies to U.S. DoD Development and Acquisition Programs***
- ***Strengthens Alliances by sourcing world-class solutions to shared defense problems through "2-way street" of defense procurement***

OSD Selects & Funds Projects. Military Services & USSOCOM Execute Projects.

FCT Progress - Last 40 Years

- *OSD investment: $1.42 Billion (constant FY20 $)*
  - *Led to procurements of 281 projects worth over $11B*

- *Accelerates Fielding an Average of 2 - 4 Years*
  - *Vice starting a new U.S. defense Research & Development program*

- *Enhances U.S. Industrial Base*
  - *Foreign vendors teaming with U.S. industry*
  - *34 states & 1/3 of projects procured*

- *Average project – $500-700K/year, 18-24 months*
  - *Review 100's of technologies*
  - *10 – 15 new starts/year*

FCT Evaluation Options

FCT projects may be side-by-side comparative evaluations

FCT Process

Selection Year

Selection Criteria:

OSD (Top Down)

- OSD Priorities/Focus Areas
- Joint Application
- Cost Avoidance
- Long Term Value

Services (Bottom-Up)

- Mission Need
- Sponsor Support/Endorsement
- Risk (Cost/Schedule/Performance)
- Procurement Strategy

Project Execution Years 1 & 2

Expedited process available to respond to Emerging Operational Needs

Summary

- International partnerships identify, develop, and execute cooperative prototyping projects to meet US and PN needs with US and PN resources
  - Builds on, but does not replace, cooperation in basic S&T
- FCT finds, assesses, and supports the fielding of allied and partner nation technology to the US Warfighter
- Promote interoperable capabilities and stronger ties between our Innovation and Industrial bases

SUBMITTED TO DOPSR
FOR PUBLIC RELEASE APPROVAL

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Director, Global Capabilities Office

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Portal: https:// ac.cto.mil/gcp

Pacific International Programs Panel Discussion

(1435-1505 HST)

Dr. Jermont Chen,
Chief, Asian Office of Aerospace Research and Development
Dr. Benjamin Knott
Science Director, Office of Naval Research Global-Tokyo
Ms. Katherine Magnum
International Technology Center-Pacific

https://afresearchlab.com/

AIR FORCE RESEARCH LABORATORY
DEVELOPING TOMORROW'S TECHNOLOGY

D. DISCOVER. DEVELOP. DELIVER.

Air Force Research Laboratory: Leads the discovery, development an very of warfight echnologies for our air, space and cyberspace forc
"One AFRL, two services" - Force ***an*** e Force

Work w A
archla m/p with-

Government | igher E tion | Business

Air Force Office of S fic Resea Disc shape, champion ***basic science*** that profoundly impacts the future US Force and US Space Force

Opportunities for ***basic rch*** su : research and conference support via grant award at ***US and overseas institutions***
/afresearchlab.com/technology/basic-research/

Specific areas of interest listed in the Broad Agency Announcements on https://www.grants.gov/ *keyword search*: **AFOSR**

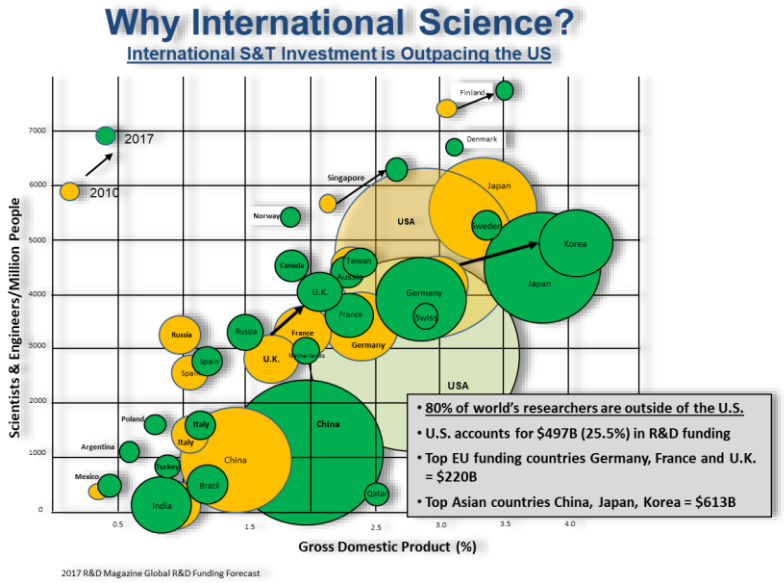
Office of Naval Research Global International Science Portfolio (ISP)

ONR Global Mission

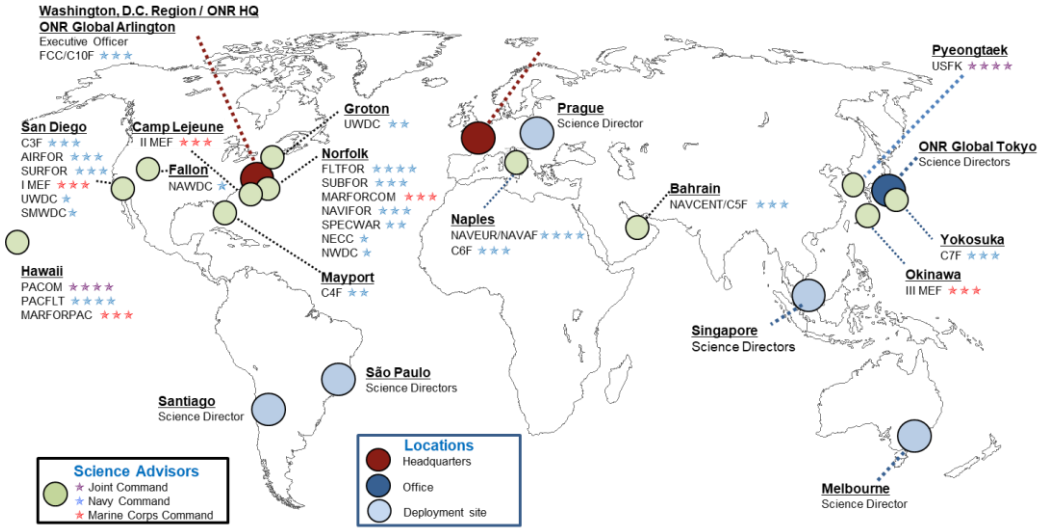
To serve as the enduring Navy and Marine Corps global presence in technical and operational communities, investing in trusted partnerships to discover and connect science and technology leaders for sustained maritime security

ONR Global Vision

The partner of choice for science and technology leaders



Investing in Trusted Partnerships Around the World

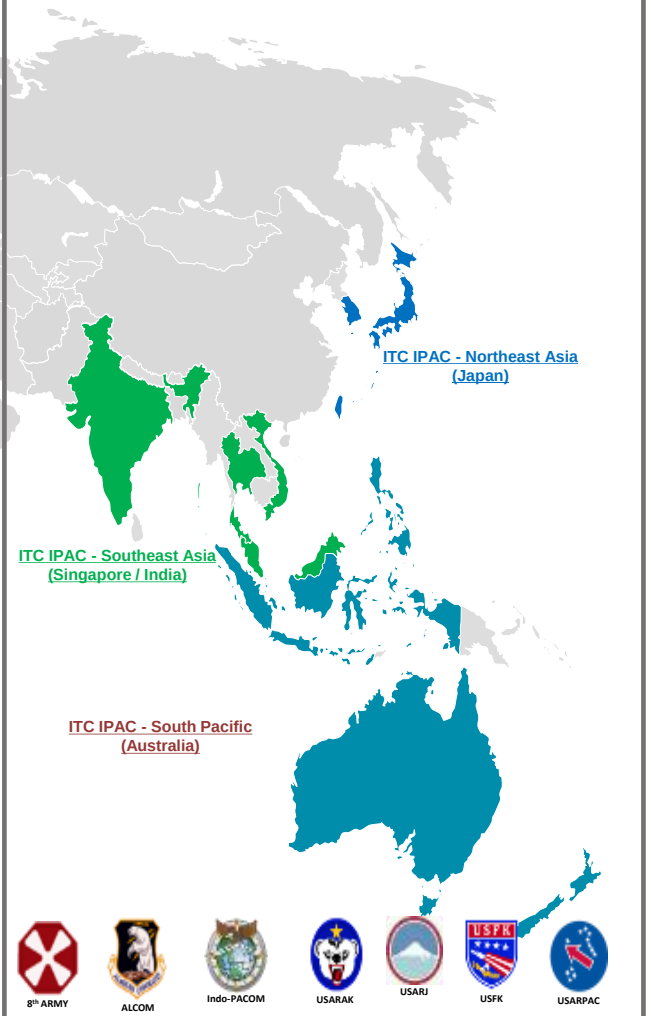


Global-X -- *Accelerate Revolutionary Research.*

Accelerate: *Only nine-months to demonstrate concept.*
Revolutionary: *Previously un-imagined technology through a multi-disciplinary approach.*
Research: International researchers to collaborate, generate revolutionary ideas, and demonstrate these ideas can succeed.

INTERNATIONAL S&T ENGAGEMENT WITH ITC INDO-PACIFIC

DEVCOM Indo-Pacific
USINDOPACOM/USARPAC, Oahu HI



RESEARCH SEED PROJECTS

- Topic Areas: Must align to an Army priority research area with US Army S&T customer co-funding
- General Process: Whitepaper Submission, Technical Review, Military-relevance Assessment, Determination of Co-funding, Approval Determination
- Project Duration: Up to 3-year effort
- Funding Amount: $20K-$300K per project

SCIENCE WORKSHOP SPONSORSHIP

- Funding Amount: $3K-$15K per event

LIASION VISIT SUPPORT

- Bring a foreign scientist to a U.S. lab/center for a collaboration visit

TECHNICAL DISCUSSION FACILITATION

- Bring U.S. and partner nation SMEs together for technical discussions in areas of shared interest.

WORKING WITH THE US ARMY: UPCOMING EVENT

ARO Information Sciences Division:
16 MAR 2021 | 00:30-03:30 UTC (09:30-12:30 JST)

Computing, Network, and Mathematical Science programs
Join the meeting in MS Teams: https://teams.microsoft.com/l/meetup-join/19%3ameeting_NzVkOTAzMDQtYzZkOC00YjQ2LTk5MWMtYTJmMzQwZDlmMzQ5%40thread.v2/0?context=%7b%22Tid%22%3a%2221acfbb3-32be-4715-9025-1e2f015cbbe9%22%2c%22Oid%22%3a%224457749b-d7da-48d1-aa8e-29ace55db213%22%7d **-OR-** email usarmy.hardy.futures-cmd.mbx.itc-pac@mail.mil

TRI-SERVICE CONTACT INFORMATION

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  https://afresearchlab.com/technology/basic-research/

- **Office of Naval Research Global**

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  https://www.onr.navy.mil/Science-Technology/ONR-Global

  https://www.onr.navy.mil/Global-X/About

- **U.S. Army DEVCOM International Technology Center Indo-Pacific**

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  https://www.army.mil/devcom

All services have a Broad Agency Announcement located on *https://www.grants.gov/*

Thank you for your interest & participation