The Role of the Communities of Interest (CoIs)

Mr. Dale Ormond, Principal Director, Research

Office of the Under Secretary of Defense (Research and Engineering)
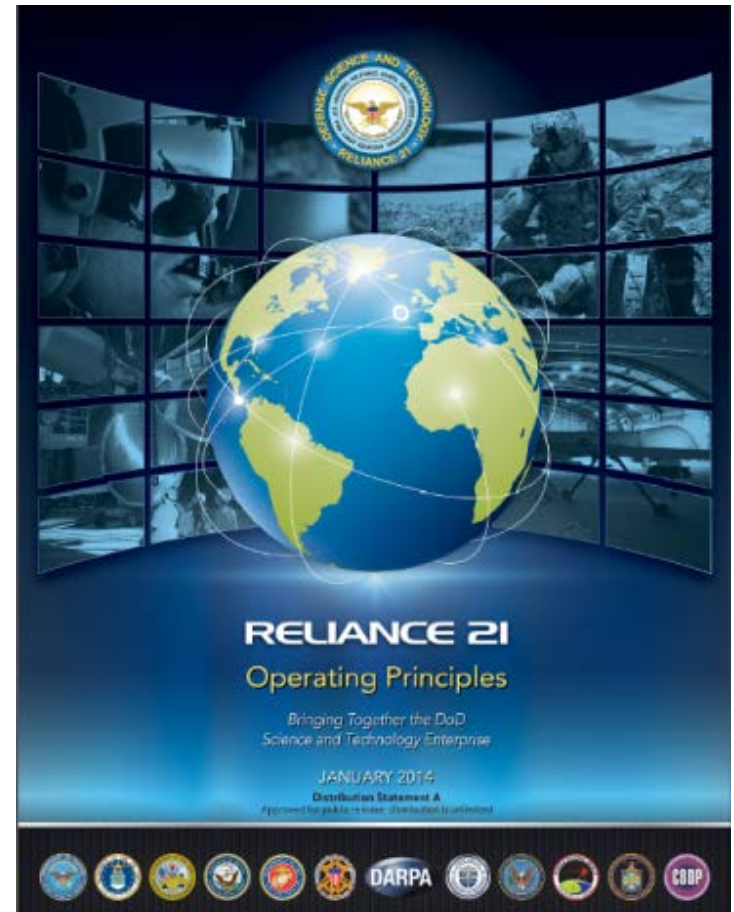
Reliance 21

Reliance 21 is the overarching framework of the DOD's S&T joint planning and coordination process

Joint Planning - S&T Oversight

- Mitigate existing or emerging threats

- Generate affordability in the systems the Department acquires and operates

- Develop technology based surprise for our adversaries

Joint Coordination - S&T Delivery

- 17 Communities of Interest (CoIs)

- CoI S&T Roadmap Reviews

- CoI Information Exchange Meetings

- CoI Steering Groups
  - All Services and DoD Agencies Represented

RELIANCE 21

Operating Principles

Bringing Together the DoD
Science and Technology Enterprise

JANUARY 2014
Distribution Statement A
Approved for public release; distribution is unlimited

Reliance 21 Overview

Reliance 21 is led by the S&T Executive Committee (S&T ExCom)

- Comprised of the major Department Components (Services, Agencies, Commands)

- Provides executive oversight and overarching guidance on S&T investments

- Ensures a collective understanding of the priorities, capability gaps, and opportunities of the DoD organizations that manage critical S&T resources

Reliance 21 is implemented through the Communities of Interest (CoIs)

- Established in 2009 as a mechanism for multi-agency coordination and collaboration

- Comprised of S&E subject matter experts in specific technology areas where there is substantial investment across multiple components

- Produces S&T Roadmaps and Reports in their technical area detailing program goals and objectives, capability gaps, and leveraging opportunities

U.S. Communities of Interest

CoIs lead the innovation and the acceleration of advanced concepts and prototypes across three main focus areas:

Mission Focus
Capabilities enabled by advanced technologies & systems

ASBREM: Armed Services Biomedical Research Evaluation and Management

Systems / Capability Focus
Multiple technologies are integrated into complex systems to achieve mission impact

Human Systems

Sensors

Space

Ground and Sea Platforms

Electronic Warfare

Weapon Technologies

Autonomy

Cyber

Command, Control, Communication, Computers and Intelligence (C4I)

Air Platforms

Technology Focus
Technology goals with multiple applications

Energy and Power Technologies

Advanced Electronics

Materials and Manufacturing Processes

Alumni CoIs: Engineered Resilient Systems; Counter-Improvised Explosive Devices (C-IED); Counter-Weapons of Mass Destruction (C-WMD)

The Role of the CoIs

- **Enable the defense of the Department's S&T investments**

- **Create multi-Service / Agency collaborative efforts to reduce duplication**

- **Develop joint S&T roadmaps**

- **Monitor key technology developments and engagement opportunities**

- **Provide technology options and advice to DoD S&T senior leadership**
  - Provide recommendations to Service S&T Executives regarding opportunities to leverage other Services' investments

- **Facilitate engagement across the spectrum of stakeholders**
  - Combatant Command (CCMD), Intel Community, Academia, Industry

Defend the Department's S&T Investments

- Describes the Department's **S&T** investment in detail

- Identifies opportunities and efficiencies that allow the Department to achieve maximum return on investment

- Provides data that confirms that the Warfighters are receiving the greatest benefit from **DoD S&T** resources and efforts
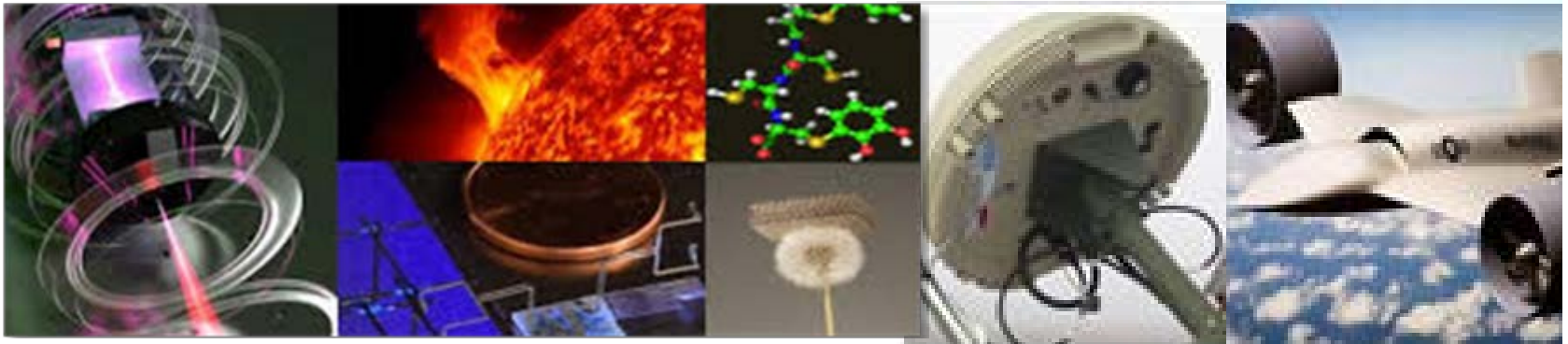
Create Collaborative Opportunities to Mitigate Unnecessary Duplication

- Examine, comprehend, and quantify Service operational needs and explore multi-Service/ Agency collaborative opportunities

- Organize working groups across different organizations to investigate and understand inner connections and/or overlaps within the technology areas

- Create clear multi-Service/ Agency program dependencies - identified by 'Lead, Shape, or Follow' roles

Distribution Statement A: Approved for public release; distribution is unlimited.

7

Develop Joint S&T Roadmaps

Roadmaps project a shared vision of DoD's S&T Portfolio

- Describe program objectives and key technical challenges

- Assess and address capability gaps and operational impact

- Indicate the capability gap timeline and threat development

- Propose potential Prototypes/Experiments to address the most challenging technology development needs
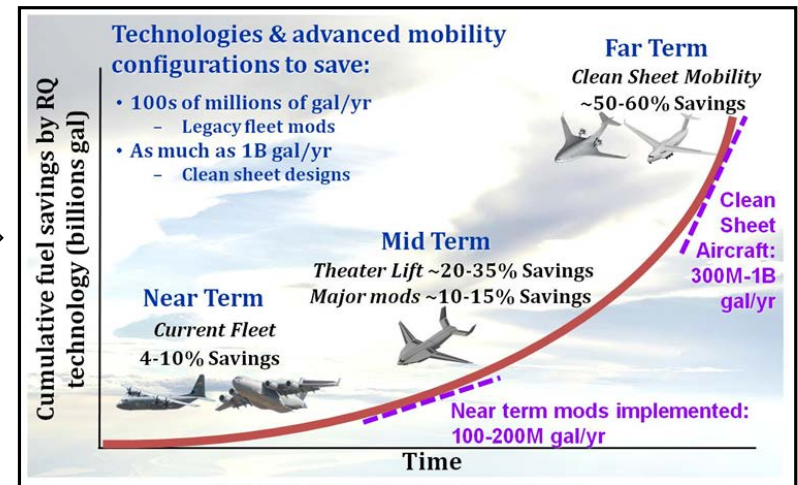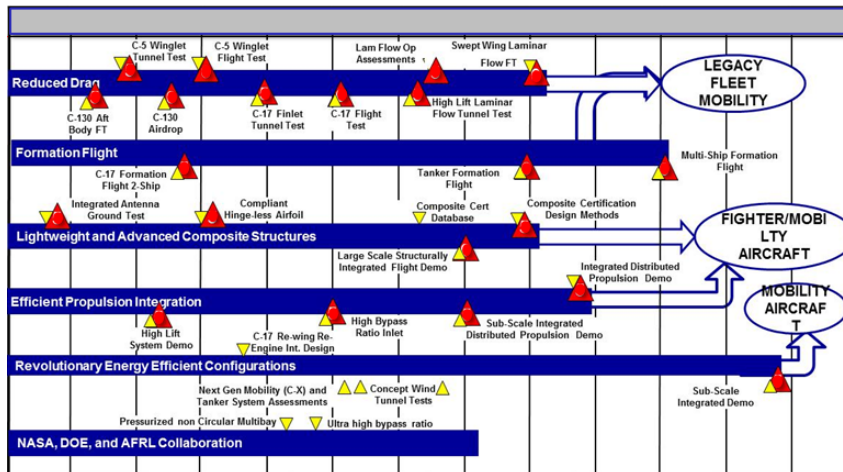
S&T Priorities Program

- **Program is executed out of the USD(R&E) - Research**

- **S&T Priorities program exists to:**

  - Enable high-payoff, cross-Component technology efforts

  - Develop integrated program execution plans (roadmaps) across the DoD

  - Execute Applied Research for Advancement of Priorities (ARAP) programs

    - Three-year programs, $10M-$15M/yr; two or three in each budget year

  - Fund seedlings to buy down risk in integrated plans

  - Allow fast start-ups in other areas

- **Augment Reliance 21 to foster increased collaboration**

- **Grow workforce in emerging technology areas**

- **Major program decisions involve all Components**

Applied Research for the Advancement of Priorities (ARAP)

- ARAP enables high-payoff, cross-Component technology efforts
  - Three-year programs, $10M-$15M/year; two or three in each budget year
  - Allows for fast start-ups in other areas
- Fosters Joint-Service research focused on common elements of cross-cutting S&T areas
- Facilitates concept exploration efforts and studies of alternative concepts
- Strengthens in-house laboratory research efforts and workforce

ARAP Portfolio

- **NEW: Defense Optical Channel Program (DOC-P)**
- **Synthetic Biology for Military Environments (SBME)**
- **Quantum Science and Engineering Program (QSEP)**
- **Data To Decision (D2D)***
- **Autonomy Research Pilot Initiative (ARPI)***
- **Engineered Resilient Systems (ERS)***

*Completed program

A Winning ARAP Proposal

- Meets the definition of Budget Activity 2 (Applied Research) funded work

- A new, emerging area of science and/or engineering where the potential exists to develop future capabilities that will give the joint warfare a technological edge in the fight

- Technically sound but pushes the leading edge(s) of science/engineering with reasonable risk to achieve success

- Multiple Services/Labs working together

- Majority of the work will be performed by DoD scientists and engineers

Quantum Science and Engineering (QSEP)
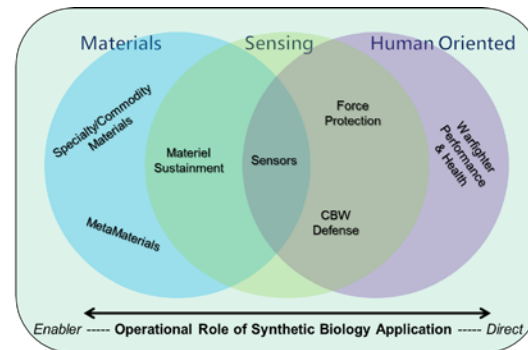
Synthetic Biology for Military Environments (SBME)

Defense Optical Channel Program (DOC-P)

Announcement of this year's selected proposal expected May 2018

Maintain Vital Engagements to Maximize Capability Development

CoI engagements are vital to addressing wide-ranging S&T needs

- **Combatant Command (CCMD) S&T Advisors (Operator Community)**
  - Provide a forum to articulate S&T priorities and investments with the potential to address CCMD capability gaps
- **Intelligence Community**
  - Evaluate intelligence information regarding current and future threats as well as emerging technologies to best align research and acquisition priorities
- **Basic Research Community (Academia, DoD Labs and Centers)**
  - Review Basic Research priorities and identify opportunities to engage future scientists and engineers
- **Industry Independent Research and Development**
  - Industry can use CoI Roadmaps to identify technical challenges

Basic Research Community Engagement (Academia, DoD Labs and Centers)

- Ensure an understanding of DoD's Basic Research investment priority in basic science

- Maintain awareness of emerging opportunities for transition to applied research and the CoIs

- Inform Basic Research of potential areas for investment that could resolve technical challenges in capability development (e.g., materials and hypersonics)

Defense Innovation Marketplace

Provides Industry:

- DoD R&E Strategic Guidance

- Service-specific S&T priorities, Virtual Technology Interchanges, events and solicitations are posted.

- DoD Investment Strategies and Technology Roadmaps

- Secure Portal to share IR&D Project Summaries

Provides DoD:

- Research for approved DoD S&T, R&D and Acquisition professionals

- >19,000 IR&D Project Summaries on Portal

- Technical Maturity and Surveillance

- Guide DoD R&E investments

- Potential for risk / cost reduction

- Opportunity to grow and expand new relationships and partnerships

Communities of Interest (CoI) (Distro A) pages available at:
http://www.defenseinnovationmarketplace.mil/coi.html.

Access to DoD

One of the great strengths of DoD is our distributed network of program managers across various different Components

- **All DoD funding opportunities are posted to: https://www.grants.gov/**
  - Each opportunity will have the name and contact information of a person associated with the program.

- **OSD and all of the Components have websites that detail their programs and all of the pertinent information including topics of interest, funding cycles, calls for proposals, etc.**
  - OSD: http://basicresearch.defense.gov
  - AFOSR: http://afrl.dodlive.mil/funding
  - ARO: https://www.arl.army.mil/www/default.cfm?page=29
  - ONR: https://www.onr.navy.mil/en/Contracts-Grants
  - DARPA: https://www.darpa.mil/work-with-us/opportunities

- **OSD Basic Research office communication strategy aims to improve access and navigation in these various websites to make the most of community engagement.**

- **Program officers are afforded the flexibility to develop outreach strategies to identify scientific communities of interest and broadcast their program goals**

- **DoD has representation at many of the professional societies and symposia and is eager to engage**

Finding Grant and Cooperative Agreement Funding Opportunities

Grants.gov is the common website for Department of Defense (DoD) and the other 25 federal grant-awarding agencies to post discretionary funding opportunities and for entities to search and apply for them.

Searching for Funding Opportunities on Grants.gov

- Any member of the public may search for funding opportunities at Grants.gov.

- Users who register with Grants.gov also have the ability to save their searches, and have updated search results emailed to them by signing up for subscriptions. Registered users may also subscribe to receive notifications about Grants.gov news, all new funding opportunities, and when changes are made to specific funding opportunities they identify.

Applying for Funding Opportunities

- Registered users must be associated with an organization and be assigned the proper applicant roles in order to apply for a funding opportunity. Users should contact their organization's business office to determine the process used in their organization.

DoD Grants.gov Manager:

- Ms. Evelyn Kent, evelyn.w.kent.civ@mail.mil, 571-372-6546

https://blog.grants.gov/

@grantsdotgov   *https://www.youtube.com/user/GrantsGovUS*

Summary

- **Established in 2009, CoIs have grown from mechanisms of information sharing and multi-agency coordination to an infrastructure that identifies opportunities for collaboration to reduce duplication**

- **CoIs enable the S&T ExCom to deliver maximum S&T impact with reduced risk:**
  - Coordinate S&T strategies
  - Share new ideas, technical directions, and technology opportunities
  - Jointly plan programs
  - Measure technical progress
  - Report on the general state of health of technology areas

- **Joint S&T Roadmaps project a shared vision of the Department's S&T portfolio, showcase joint activities, and enable defense of investments**

- **CoIs are in a unique position to engage with industry through NDIA to promote innovation in DoD and maintain awareness of the rapid technology development taking place in the commercial sector**

DoD R&E Enterprise
Solving Problems Today – Designing Solutions for Tomorrow

DoD Research Enterprise
https://www.acq.osd.mil/rd/

Twitter
@DoDInnovation

CoI Wiki Pages

DoD Defense Communities wiki is open to DoD Civilians and their contractors, allowing CoIs to share and contribute content, facilitating cross-CoI collaboration.

Communities of Interest CAC-enabled home page URL:
https://www.dodtechipedia.mil/dodc/x/ZIAaB

For additional information about the ASD(R&E) Communities of Interests (CoIs), please send email to: osd.pentagon.ousd-atl.mbx.communities-of-interest@mail.mil

Seedling and ARAP Wiki Page

Coming soon...