# The Role of the Communities of Interest (CoIs)

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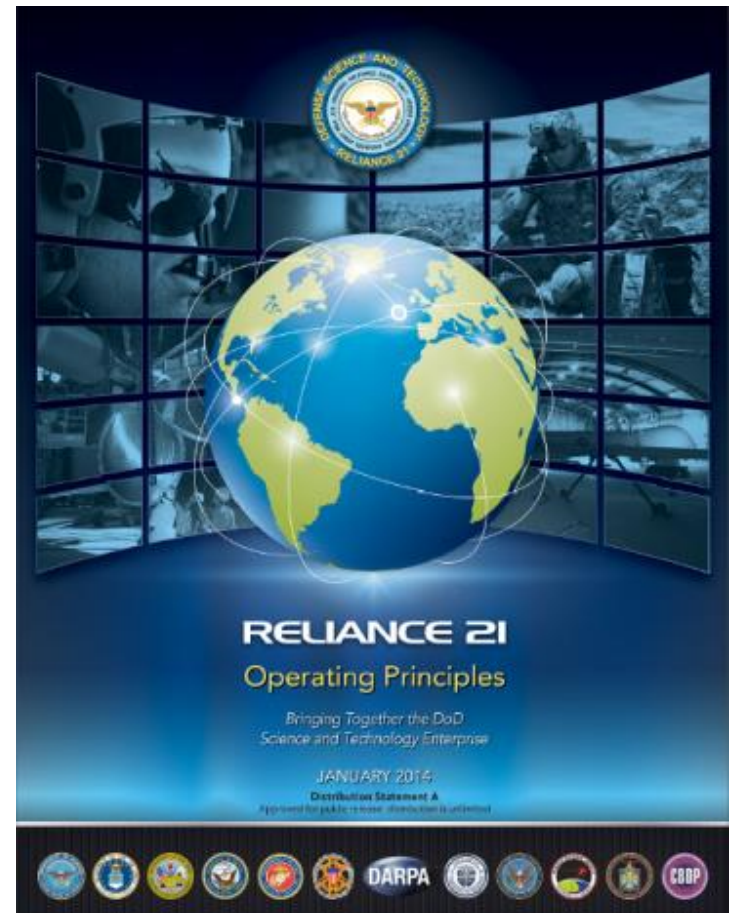
# Reliance 21

*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)

- 16 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
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# 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

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# Communities of Interest (CoI)

**16 cross-cutting, S&T areas staffed with senior leaders and subject matter experts from the Services and Defense Agencies**

**Mission focus**

*Capabilities enabled by advanced technologies and systems*

| Counter-IED | Counter-WMD | Biomedical (ASBREM) |

**Systems/ Capability focus**

*Multiple technologies are integrated into complex systems to achieve mission impact*

| Command, Control, Comms, Computers, and Intelligence (C4I) | Human Systems | Sensors | Space |
| Autonomy | Ground & Sea Platforms | Electronic Warfare | Weapons Technologies |
| Air Platforms | Cyber | | |

**Technology focus**

*Technology goals with multiple applications*

| Advanced Electronics | Energy & Power Technology | Materials & Manufacturing Processes |

*Alumni CoIs*

| Engineered Resilient Systems |

# 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
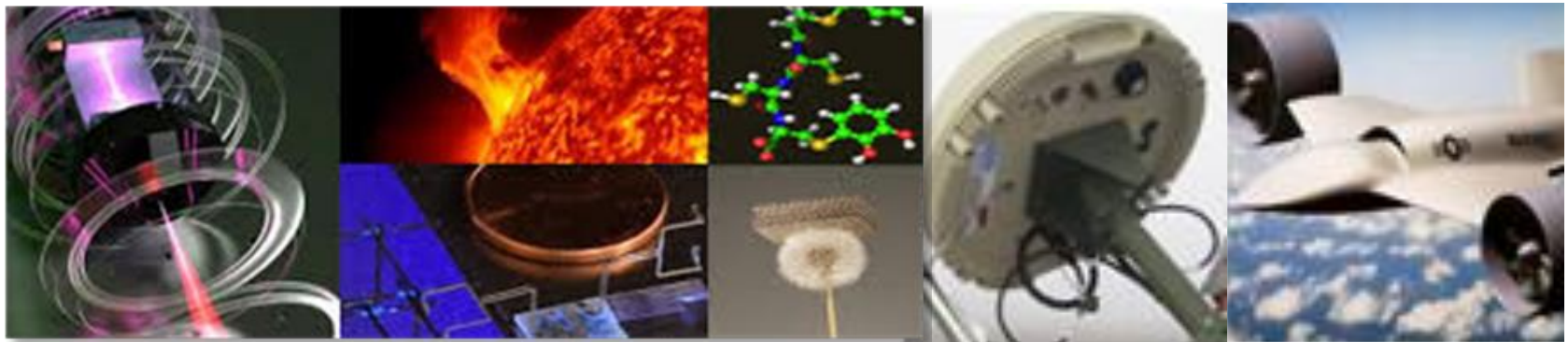
# Create Collaborative Opportunities to Mitigate Unnecessary Duplication

- 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

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# 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

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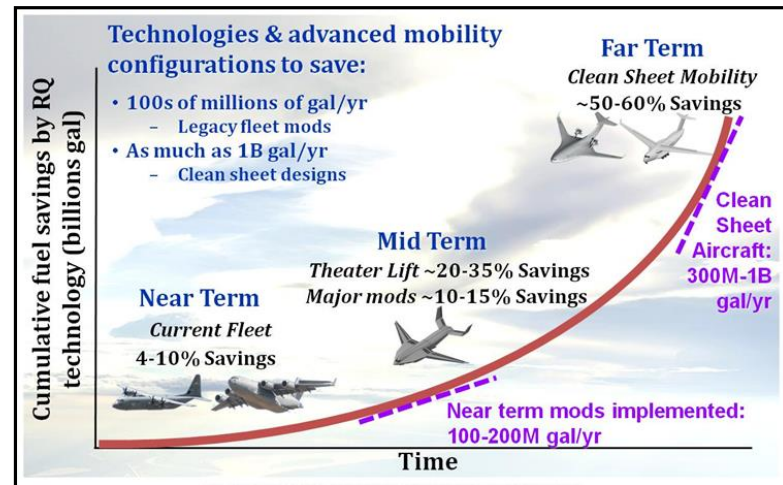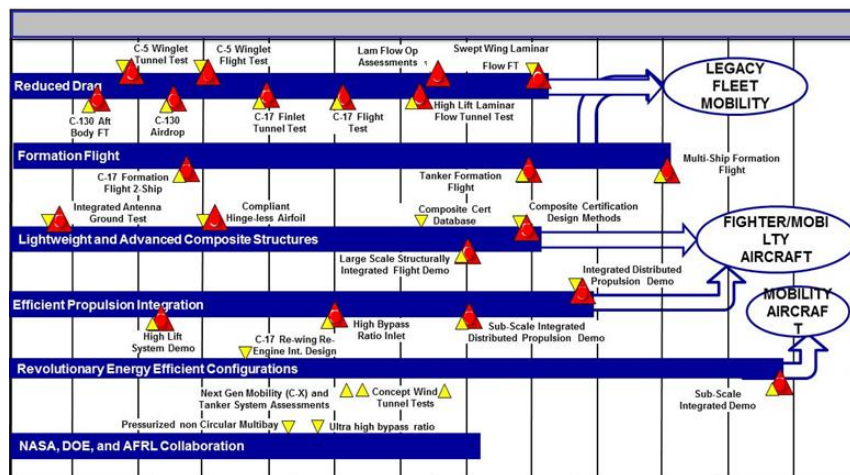
# Maintain Vital Engagements to Maximize Capability Development

**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

*External inputs influence DoD Technology Strategy and goals*

# 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)

# Industry Engagement

*Defense Innovation Marketplace is a key communication resource between DoD and Industry*

**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

# Industry Engagement

## *National Defense Industrial Association (NDIA)*

- **"Creating Innovative DoD S&T Partnerships"**

- **CoIs present joint S&T Roadmaps to promote communication and collaboration with industry**

- **Unique opportunity for industry to discuss roadmaps with CoIs and share new ideas and related work that may help fill capability gaps**
  - One-on-one sessions with members of CoI Steering Groups to review on-going IR&D efforts, innovative ideas, and rapid commercial sector work

# 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 Research Directorate:
## Pursuing Sustained Technical Advantage



| Technologies | Basic Research | Laboratories | DMEA |

**DoD Research Directorate:**
*http://www.acq.osd.mil/rd/*
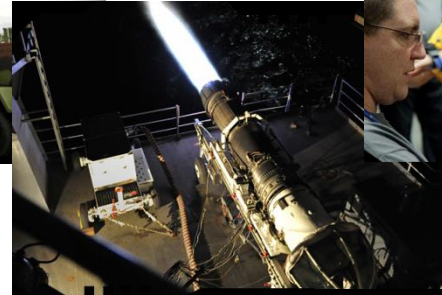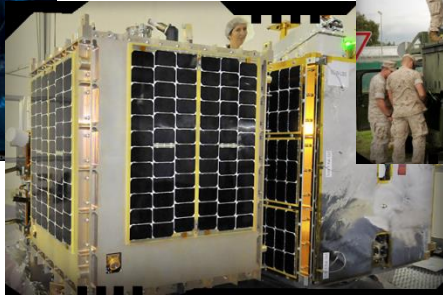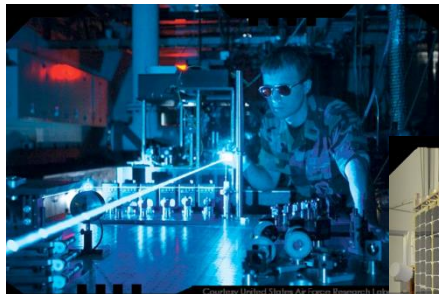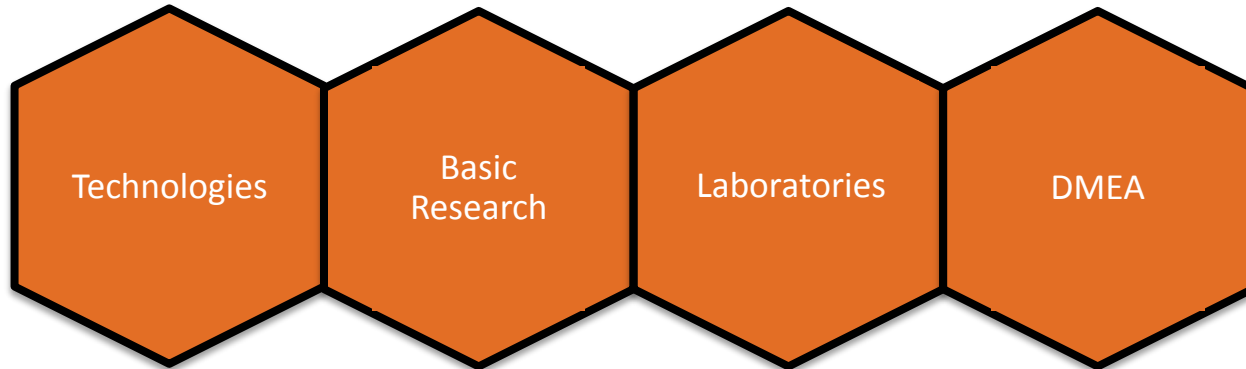
*Twitter:  @DoDInnovation*

# CCMD S&T Advisor Engagement

- Gain an understanding of the Operational Environment, strategic objectives, current and projected threats

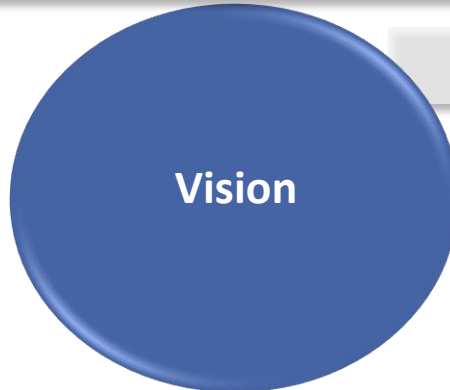- Raise the CCMD S&T Advisor's awareness of the technologies that are currently addressing their needs

# Intelligence Community Engagement

- Maintain awareness of the fast-moving global environment, the wide array of threats, and the innovative technologies being developed around the world

- Focus on the development of US capabilities, while maintaining awareness of our adversary's capabilities to ensure continued US technological advantage

- Leverage Intelligence Community activities, global threat reports and insights to inform a strategic S&T investments

# Continuously Refine our Strategic Thinking and Planning

**Mission**

"Where we are and who we are now"

**Vision**

"Where we're going and who we will be"

**Strategic Plan**

"How we get there"



- Refine our Mission, Strategic Plan, and Vision
for _Technical_ and _Enterprise_ Priorities
- Continuous look at the _Technology_, _Focus Areas_, _CoIs_, and _Partnering_
**Are we addressing the right problems?**

# 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

- Counter-Improvised Explosive Devices (IED)
- Counter-Weapons of Mass Destruction (WMD)
- Biomedical (ASBREM*)

## 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          *ASBREM: Armed Services Biomedical Research Evaluation and Management