The Combatant Commands (CCMDs)

Geographic

Functional
**THEORY OF SUCCESS:** By maintaining favorable global posture, sufficient transportation capacity, and the ability to C2 global mobility operations, DoD retains the ability to project immediate and surge forces required to compete, deter, respond and win in order to meet U.S. strategic objectives.
ON ANY GIVEN DAY

• 230 Railcars Enroute
• 33 Chartered/Organic Ships Underway
• 1500 Truck Cargo Shipments
• 1200 Household Goods Shipments
• 455 Airlift Sorties
• 47 Air Refueling Sorties
• 14 Patients in Air Evacuation
• 25 Defense Couriers Enroute
• Aircraft Take Off and Land Every 2.8 Minutes
Evolving global OPLANs, force design, and weapon systems investments are leading to increasing demands on military logistics.

**LOGISTICS DRIVERS**

- **1980s**
  - Time / Distance
  - Dynamic Basing
  - Rapid Aggregation / Deaggregation

- **2030**
  - Challenges to Access, Basing, Overflight
  - Positional Disadvantage
  - Degrades C2
  - Consumption (Fuel, Ammo, Food, H2O…)
  - Damage (Repair Parts & Technicians)
  - Destruction / Attrition (Reconstitution)

**Single Adversary**
- All-Domain Dominance
- Robust Forward Presence
- Asymmetric Advantage (PGMs / Stealth)
- Secure Lines of Communication

**Multiple Adversaries**
- All Domains Contested
- CONUS-Based Forces
- Technological Near-Peer
- Fight to get to the Fight

**Challenges to Access, Basing, Overflight**
- Positional Disadvantage
- Degrades C2

**CONUS**
- Based Forces

**Technological Near-Peer**
- Asymmetric Advantage (PGMs / Stealth)

**Secure Lines of Communication**
- Consumption (Fuel, Ammo, Food, H2O…)
- Damage (Repair Parts & Technicians)
- Destruction / Attrition (Reconstitution)
If T2 is the Answer—What Was the Question?

Should this be one of our future capabilities?

- How can we develop it without time or funding for a competition?
- How can we experiment without a budget?
- How can we work with the industry experts—now???
- What do we have to do to make it work?
- How and where does it fit here?
- How can we fairly let others use government facilities and cover the costs?

- What can we work with leading universities? What do they think?
- What are the risks? What is the ROI?
- What knowledge should we protect? What could we commercialize?
Spin-on—Non-Traditional “Transition” T2

TOGETHER, WE DELIVER.

UNCLASSIFIED

Federal Technologies

Federal End-Users

Commercialization Opportunities

Academia

Industry

New products, commercial technologies

Federal Labs

Future Capabilities

Federal End-Users

Requirements

Capability Development

Federal System Program Offices

START
Success Story—Hybrid Airship Concept Exploration

- **Desired findings:** Maturity of hybrid airship technology and business case for use as alternative air and surface transportation for heavy/direct lift
- **Method:** Two simultaneous, independent CRADAs with industry
- **Outcomes:**
  - Collaborators applied over 14,000 engineering/analysis support hours during CRADAs
  - Avoided $8M proposed for Joint Capabilities Technology Demonstration (JCTD) project
  - Received detailed technical reports on two distinct, proprietary designs
  - Concept of employment, costs, comparability to C-17 and C-130
  - Identification of risks and mitigation in development and ops
  - Direct 4-star/industry dialogue
  - Conclusion for user position on future capability: leave it to industry
Success Story—Predicting Wind Farm Effects on Radar

- **Desired findings:** Predict effect of new wind turbine construction on air traffic radar performance at Travis AFB, California
- **Method:** One CRADA with multiple collaborators (local government, utility companies, analysts, 60th Air Mobility Wing, AFRL); with follow-on CRADA for mitigation
- **Duration:** 1.5 years
- **Outcomes:**
  - Shared design data from wind farm developers submitted to analysis for impact prediction and verification
  - 90 days from CRADA inception: government conclusions and Solano County announcement of go-ahead for construction
  - At CRADA conclusion: validated analytic modeling technique
• **Desired findings:** Methods of improving probability of detection of ASR-11 radar at Travis AFB by use of standalone S-band radar for improved air traffic vision for controllers

• **Method:** One CRADA with one commercial collaborator, live field trials, followed by independent government technical review of findings

• **Duration:** 2.5 years

• **Outcomes:**
  - Demonstrated air traffic radar performance
  - Air Traffic Controller consultation on merged radar picture
  - Independent technical review by Volpe, AFRL, DARPA, FAA, AMC
  - Rationale for follow-on demonstration and scale-up by DOD Siting Clearinghouse
Success Story—Space Transportation for DOD

**Desired findings:** Feasibility, applications, and value of contracted space transportation as a new 4\(^{th}\) mode of DOD logistics for point-to-point (terrestrial) delivery

**Method:**
- Two (initial) CRADAs with industry to examine maturity of vertical launch vehicle technology and design features for terrestrial spaceports to support them
- Two additional CRADAs to examine two other launch technologies (including “space plane” horizontal launch and aircraft-launched rockets)
- Cooperative work with U.S. Space Force + Air Force Research Lab “Space Cargo” Vanguard project

**Duration:** Two-year CRADAs (ongoing)

**Outcomes (to be):**
- Evaluation of emerging space launch capabilities and applicability to DOD
- Spaceport construction features and siting criteria
- Senior leader direct collaboration with industry leaders
- Value of different launch strategies
Tech Leveling—Inappropriately sharing IP/proprietary information among competitors  
**Mitigation:** Identify, compartmentalize, limit distribution of all IP and proprietary materials (marked or unmarked)

Conflicts of Interest—Same party sets requirements/designs solutions  
**Mitigation:** For a given subject, managers of T2 should not participate in solicitation preparation or source selection for a subsequent acquisition

Unfair Advantage—Competitors not afforded equal access  
**Mitigation:** Consider building parallel T2 partnerships with equal access to critical information at outset; advertise opportunities to partner with government in FedBizOpps* and other public sites

Unintended Release—Spilling sensitive information such as IP, drawings, proprietary materials  
**Mitigation:** Pre-coordinate documentation/other media intended for release

*Now SAM.gov
• **Obtain in-depth knowledge**—impacting strategy and future capability
  • Informing the user
  • Adding innovation to operations

• **Agile tools for work with experts**
  • Examine processes, technologies, techniques
  • Immediate initiation for teamwork and building knowledge
  • Avoids lead time of annual budget cycles

• **Mutual benefit to government and its Collaborators**
  • Share resources and expertise...know what works, and how

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**Collaboration on Demand**