



USTRANSCOM

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Module 1 - Lesson 102, RDT&E Activities





Overview/Objectives

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The intent of lesson 102 is to provide instruction on the Levels of RDT&E Activity, Activities used to conduct RDT&E, RDT&E as an Appropriation, Colors of Money, Joint Concept Technology Demonstrations (JCTD's), and Cooperative Research and Development Agreements (CRADA's)





Levels of RDT&E Activity

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- **Basic Research (Budget Activity 1/BA1)**
 - Systematic study directed toward a greater understanding of the fundamental aspects of phenomena and/or observable facts without specific applications toward processes or products
- **Applied Research (BA2)**
 - Systematic study to gain knowledge necessary to determine the means by which a recognized and specific need may be met
- **Advanced Technology Development (BA3)**
 - Includes all efforts that have moved into the development and integration of hardware for field experiments and tests
- **Demonstration and Validation (BA4)**
 - Includes all efforts to evaluate integrated technologies in a realistic operating environment to assess the performance or cost reduction potential of the advanced technology

USTRANSCOM RDT&E Can Fund BA3 Level Efforts



Levels of RDT&E Activity

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- **Engineering and Manufacturing Development (BA5)**
 - Includes projects in engineering and manufacturing development for Service use which have not received approval for full rate production
- **RDT&E Management Support (BA6)**
 - Includes R&D efforts directed toward support of installation operations required for general R&D use. This includes test ranges; military construction; maintenance support of laboratories; operations and maintenance of test aircraft and ships; and studies and analysis in support of a R&D program
- **Operational System Development (BA7)**
 - Includes projects in support of development acquisition programs or upgrades still in engineering and manufacturing development. These projects have received Defense Acquisition Board (DAB) or other approval for production or for which production funds have been included in the DOD budget submission for the budget or subsequent fiscal year





Activities Used to Conduct RDT&E

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- USTRANSCOM funded RDT&E projects address DPO Gaps with defined deliverables, close cost estimates, and schedule goals to serve a user
- Cooperative Research and Development Agreements (CRADA's)
 - Industry provides resources; government provides the development environment
 - Managed by Command's Office of Research and Technology Applications (ORTA)
- Joint Concept Technology Demonstrations (JCTD's) are demonstrations of mature technologies in a joint operational environment
 - DUSD Advanced Systems and Concepts (AS&C) managed program
 - Supported by >30% of annual RDT&E budget
- Advanced Technology Demonstrations (ATD's)
 - Mature lab projects, not typically joint, with close user oversight and plans for fielding and sustainment
 - Being phased out in favor of JCTD's
- Coalition Warfare Program (CWP)
 - Separately funded OSD program that relies on coalition partner contributions to mutually pursue technology development
 - Does not rely on USTC RDT&E funds for support



RDT&E is an Appropriation

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- Funded by the “Research, Development, Test and Evaluation” (RDT&E) Congressional appropriation
 - Air Force example: “3600 money”
- Distinct from Operations and Maintenance (O&M), Procurement, and Military Construction appropriations
 - Different purposes, lifespan, and management
- Other principal users of DoD RDT&E are Services’ “materiel commands”, laboratories, system program offices (SPOs), the Defense Advanced Research Projects Agency (DARPA), and the National Science Foundation (NSF)
- National Laboratories including *Oak Ridge, Sandia, Lawrence Livermore, and Los Alamos* are major users of RDT&E outside of DoD
- TWCF are revolving funds (used in some instances to transition Command IT-related RDT&E technologies)





Color of Money Explanation

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- **TWCF Capital:**
 - Source is fee charged to customers of the Defense Transportation System (DTS)
 - Capital is used for materiel purchases over \$250K (capital investments)
- **TWCF Operating:**
 - Source is fee charged to customers of the DTS
 - Operating is used for funding of management, oversight, consumable materials, or capital purchases under \$250K
- **Research, Development, Test and Evaluation (RDT&E)**
 - Source is Congressional appropriation
 - Used for investigation, scale-up, and integration of new capabilities
- **Operations and Maintenance (O&M)**
 - Source is Congressional appropriation
 - Funding of management, oversight, consumable materials, or capital purchases, at the operator level, to conduct daily operations





JCTD Structure

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- Addresses important military need with Mature Technology & Innovative Concepts
- Provides a technical solution with tailored, demonstrated ops concepts/TTPs
- Evaluates solution in field demonstrations by warfighters
- JOINT, often multi-service, often combined/coalition
- Multiple Players across DoD
 - Developer Military Service/Agency: Technical Manager (TM)
 - Sponsoring CoCom: Operational Manager (OM)
 - Lead Military Service/Agency: Transition Manager (XM)
- RAPID: 1 to 2 Years - or less - to Final Demonstration/Prototype
 - Up to 2 Years of Support for Residuals and Transition
- Multiple funding sources
 - DUSD(AS&C) typically provides 10-30% funding; new JCTD Funding Model
- Transformational joint and coalition enhancements emphasized



Cooperative Research and Development Agreement (CRADA)

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- Provides a flexible mechanism for the exchange of personnel, services, facilities, equipment or other resources toward the conduct of specific RDT&E consistent with the laboratory mission
- Authorizes parties to determine rights in inventions, patents, and other intellectual property
- Is not a procurement contract or grant (*no funding to company permitted*) and therefore is exempt from the FAR and DFARS
- Trade secret and commercial and financial information are protected from disclosure under the Freedom of Information Act (FOIA)
- Allows for a *quid pro quo* with industry



CRADA

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- Is a legally-binding agreement signed by a Federal laboratory director and a partner
- Partners can be:
 - Other Federal Agencies (with at least one non-Federal entity)
 - Units of State or Local Government
 - Public & private foundations
 - Industrial organizations
 - Nonprofit organizations
 - Other agencies
- CRADA's allow:
 - Federal lab to accept, retain, and use funds, personnel, services and property from partner
 - Federal lab to provide personnel, services, and use of property
 - Granting of patent licenses or options w/retention for government use
 - Waiving of rights to inventions except for government use
 - Former employees to participate in efforts to commercialize inventions
 - Partner to choose an exclusive license for a pre-negotiated field of use for any invention made under the agreement
 - The Office of Research and Technology Applications (ORTA) orchestrates the CRADA's



Summary

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- You should now have a fundamental understanding of:
 - Levels of RDT&E Activity
 - Activities used to Conduct RDT&E
 - RDT&E as an appropriation
 - Colors of Money
 - JCTD Structure
 - CRADA Fundamentals

Questions or Additional Information, Call the RDT&E Team
at #618-229-1109

