

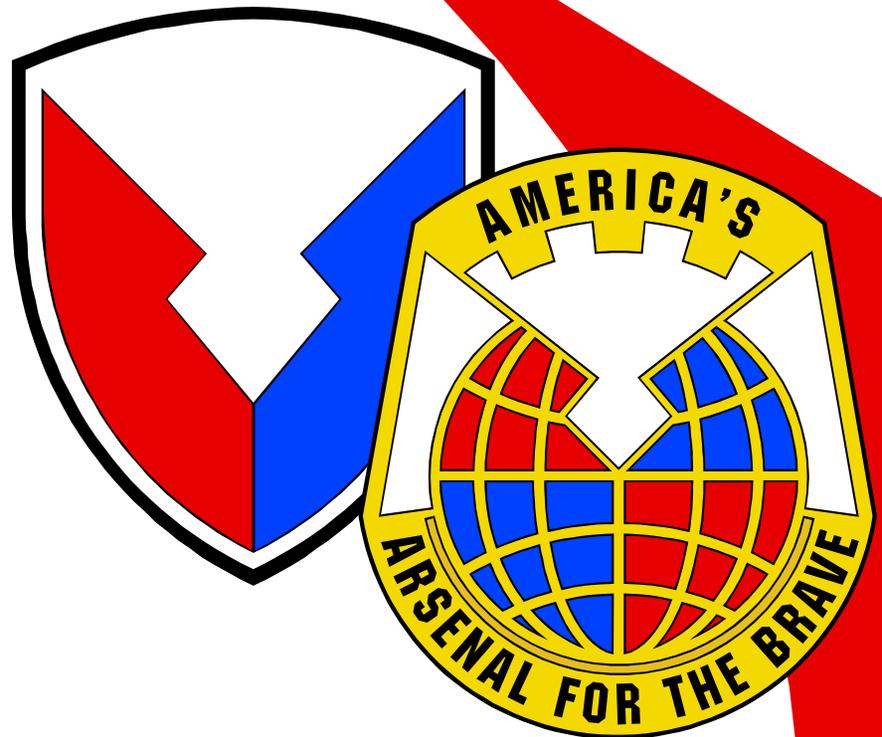
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Army

Materiel

Command

ENGINEERING AND TECHNICAL DATA
LAYDOWN
FOR
LTG LINK
18 AUG 99, 0900-1100 HOURS, 10N09



AMC – Relevant, Responsive & Ready!



PURPOSE

**TO RESPOND TO LTG LINK'S
REQUEST FOR A LAYDOWN OF
ENGINEERING AND TECHNICAL
DATA**



ENGINEERING AND TECHNICAL DATA OUTLINE

- **DOD 5000.2-R, MANDATORY PROCEDURES FOR MAJOR DEFENSE ACQUISITION PROGRAMS (MDAPS) AND MAJOR AUTOMATED INFORMATION SYSTEM (MAIS) ACQUISITION PROGRAMS**
- **ORGANIZATION**
- **BASIC ENGINEERING AND TECHNICAL DATA POPULATION**
 - ❖ **DATA MANAGEMENT (DATA ITEM DESCRIPTIONS (DIDs))**
 - ❖ **STANDARDIZATION**
 - ❖ **CONFIGURATION**
 - ❖ **REPOSITORIES**
- **DIGITAL CONVERSIONS**
- **IMPACT/ PROBLEM(S)**
- **SOLUTIONS**
- **STRATEGIC PLAN**
- **RECOMMENDATIONS**



ENGINEERING AND TECHNICAL DATA

DoD 5000.2-R, Mandatory Procedures for Major Defense Acquisition Programs (MDAPs) and Major Automated Information System (MAIS) Acquisition Programs

✿ AUTHORIZES

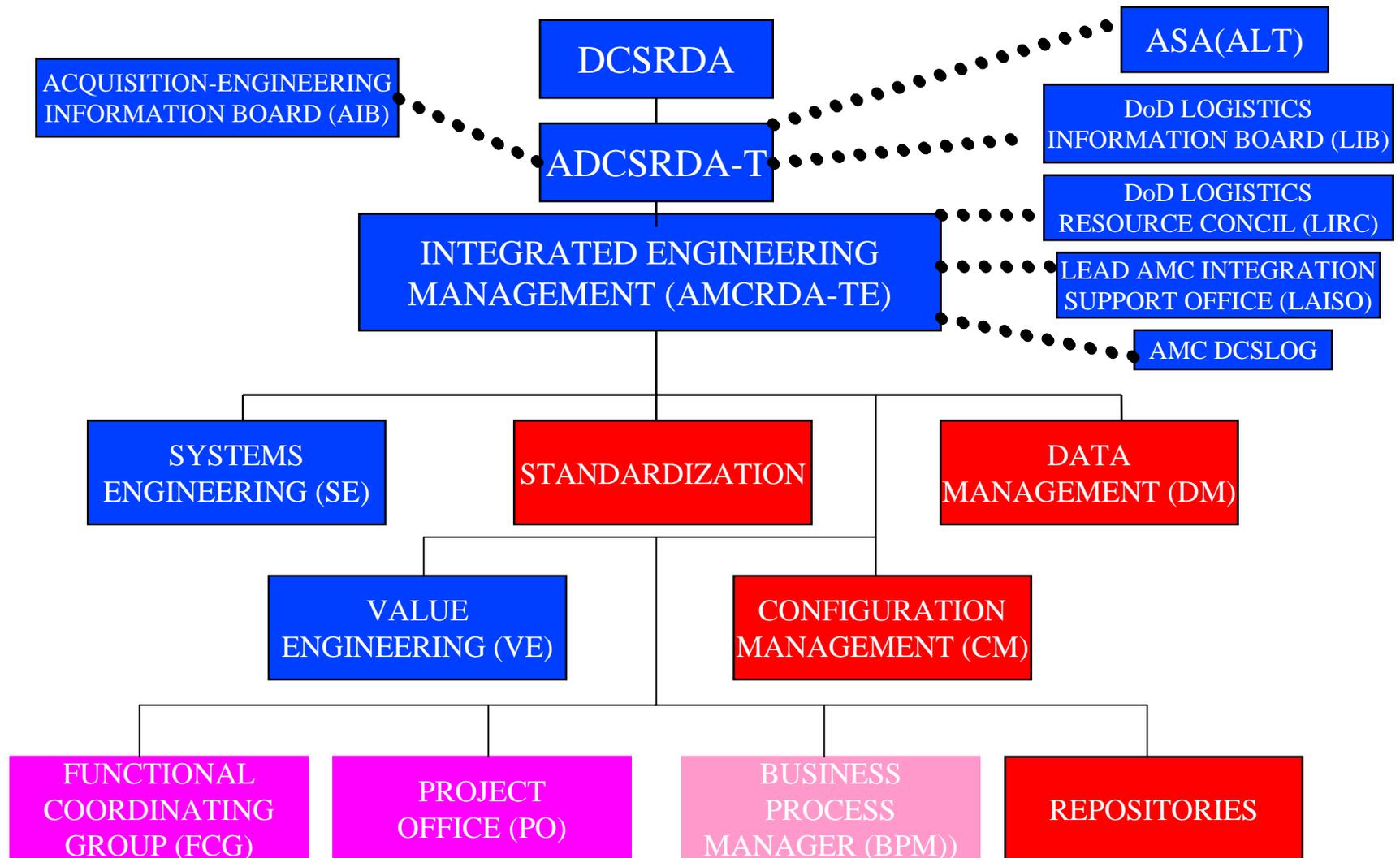
- ❖ DOD 5010.12-M, DoD Technical Data Management Program, and DOD 5010.12-L, AMSDL**
- ❖ DoD 4120.3-M, Defense Standardization Program (DSP), Policies and Procedures**

✿ REQUIRES

- ❖ Programs electing not to use the data management processes described in DOD 5010.12-M must find other ways to comply with Public Law 104-13, The Paperwork Reduction Act of 1995 (PRA).**
- ❖ Only those requirements that are essential and cost-effective**
- ❖ A configuration management process to control the system products, processes and related documentation**
- ❖ An integrated data management system to capture and control the technical baseline (configuration documentation, technical data, and technical manuals)**
- ❖ Data requirements shall be consistent with the planned support concept and represent the minimum essential to effectively support the fielded system**
- ❖ Preference shall be given to specifications and standards developed under the Defense Standardization Program**



ENGINEERING AND TECHNICAL DATA AMC ORGANIZATION





ENGINEERING AND TECHNICAL DATA

DATA MANAGEMENT (DATA ITEM DESCRIPTIONS (DIDs))

TOTAL DIDs 163 AMC 154 OTHER ARMY 9

STANDARDIZATION

Document Type	TOTAL	AMC	OTHER	Document Type	TOTAL	AMC	OTHER
NGS	1,365	1,363	2	CIDS	386	357	29
Performance Specs	251	247	4	Detail Specs	869	868	1
Perf Spec Sheets	252	252	0	Specification Sheets	305	305	0
Interface Stds	18	16	2	Test Methods Stds	25	25	0
Mfg Process Stds	3	3	0	Design Criteria Stds	7	7	0
Standard Practices	16	16	0	Other Documents	4,870	3,218	1,652
TOTALS:	8,367	6,677	1,690				

CONFIGURATION MANAGEMENT

CONFIGURATION MANAGED ITEMS+	547,065
END ITEMS/SPARE PARTS+	547,065
TDPLS FOR SPARE PARTS	15,801
IMAGES, CURRENT**	9,613,683
DRAWING REQUESTS/MTH**	435,820
DRAWINGS LAST YEAR**	9,013,811
DATA YEARLY GROWTH**	599,872



ENGINEERING AND TECHNICAL DATA

DIGITAL REPOSITORIES - 1998

REPOSITOY USERS (PER LOGINS)	8,866
END ITEMS/SPARE PARTS	547,065
DRAWINGS LAST YEAR	9,013,811
IMAGES, CURRENT	9,613,683
TDPS FOR SPARE PARTS	15,801
MASTER COMPACT DISCs (CDs)	
AVERAGE/MONTH	457
DRAWING REQUESTS/MONTH	435,820

APPROXIMATELY 6 MILLION ADDITIONAL HARDCOPY DRAWING

DIGITAL CONVERSIONS

Total All Reporting Sites

Drawing Types	No of Drawings	Conversion Costs
Level 1	3,875,117	\$ 3,875,117
Level 2	2,407,774	\$ 9,631,096
Level 3	384,764	\$ 1,923,820
Level 4	212,363	\$ 2,123,630
Level 5	83,026	\$ 20,756,500
Level 6	857,819	\$ 428,909,500
Total	7,820,863	\$ 467,219,663



ENGINEERING AND TECHNICAL DATA

- ✱ **DATA MANAGEMENT - ACQUIRES THE DATA**
- ✱ **STANDARDIZATION - PROCUREMENT DOCUMENTS WHICH PROVIDES:**
 - ❖ **THE PERFORMANCE REQUIREMENTS**
 - ❖ **DETAILED REQUIREMENTS**
 - ❖ **EVALUATION REQUIREMENTS**
- ✱ **CONFIGURATION MANAGEMENT - PROVIDES BASELINE/ CHANGE CONTROL AND TECHNICAL DATA PACKAGE (TDP) COMPOSITION**
- ✱ **REPOSITORY - PROVIDES STORAGE OF ALL TYPES OF DATA**
- ✱ **DIGITAL CONVERSION - PROVIDES ENGINEERING IMAGES IN A FORMAT USABLE BY STATE-OF-THE-ART AUTOMATION TOOLS**

- ◆ **ALL ARE CLOSELY RELATED**
- ◆ **ALL DIRECTLY IMPACT THE READINESS OF THE FIGHTING FORCE, ALTHOUGH THE FIGHTING FORCE PROBABLY NEVER HEARD OF THEM**

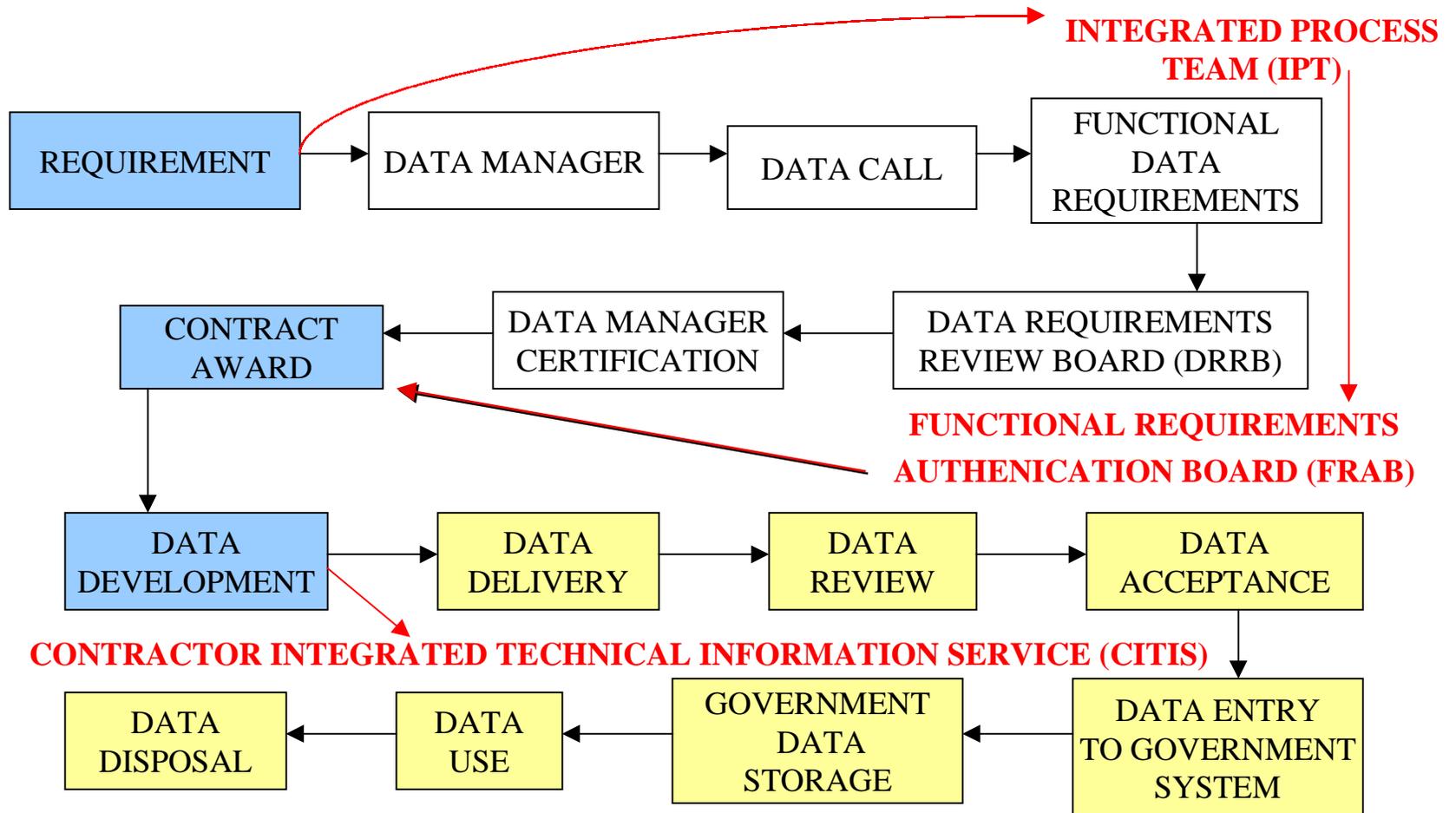


ENGINEERING AND TECHNICAL DATA IMPACTS/PROBLEM

- ✱ **DATA MANAGEMENT (DIDs)**
 - ❖ **IMPACTS**
 - **AVAILABILITY OF DATA FOR USE BY THE GOVERNMENT**
 - ▲ **PROCUREMENTS - REBUYS, SPARES, REPAIR & REPLENISHMENT PARTS**
 - ▲ **MAINTENANCE, REPAIR & REBUILD**
 - ▲ **TRAINING**
 - ▲ **ETC.**
 - **READINESS**
 - ❖ **PROBLEM**
 - ❖ **PROCESS NEEDS IMPROVEMENT**
 - ❖ **CONTRACTOR INTEGRATED TECHNICAL INFORMATION SERVICES (CITISs) REQUIRE NEW VIEWS AND PERSPECTIVES**



ENGINEERING AND TECHNICAL DATA DATA MANAGEMENT PROCESS



DATA MANAGEMENT PROCESS IS A SIGNIFICANT PROBLEM



ENGINEERING AND TECHNICAL DATA IMPACTS/PROBLEM

- **STANDARDIZATION DOCUMENTS**
 - ❖ **IMPACTS**
 - **USED IN PROCUREMENT ACTIONS**
 - ▲ **QUALITY CONTROL**
 - ▲ **SYSTEMS PERFORMANCE**
 - ▲ **OPERABILITY**
 - **READINESS**
 - ❖ **PROBLEM - PROGRAM IS UNDER FUNDED**



ENGINEERING AND TECHNICAL DATA IMPACTS/PROBLEM(S)

❖ CONFIGURATION MANAGEMENT

❖ IMPACTS

- **PROCUREMENT - PROVIDES LISTING OF ALL TECHNICAL DOCUMENTATION REQUIRED FOR PROCUREMENT PACKAGE**
- **EQUIPMENT BASELINES, EQUIPMENT CHANGES**
- **MAINTENANCE, REPAIR & REBUILD**
- **TRAINING**
- **ETC.**
- **READINESS**

❖ PROBLEM

- **HISTORICAL SYSTEM - TECHNICAL DATA/CONFIGURATION MANAGEMENT SYSTEM (TD/CMS) - OBSOLETE**
- **NO CENTRALIZED DIRECTION/FUNDING**
- **SITES BEGAN INDEPENDENT MITIGATION EFFORTS**
 - **CECOM MOVED TO A PRODUCT DATA MANAGEMENT (PDM) SYSTEM (CENTRA 2000)**
 - **SBCCOM MOVED TO A PDM SYSTEM (Workgroup Technologies Corp.'s CMS)**



ENGINEERING AND TECHNICAL DATA IMPACTS/PROBLEM(S)

REPOSITORIES

❖ IMPACTS

- **PROCUREMENT - PROVIDES ENGINEERING AND TECHNICAL DATA REQUIRED FOR PROCUREMENT PACKAGE**
- **EQUIPMENT BASELINES, CHANGES**
- **MAINTENANCE, REPAIR & REBUILD**
- **TRAINING**
- **ETC.**
- **READINESS**

❖ PROBLEM(S)

- **JOINT ENGINEERING DATA MANAGEMENT INFORMATION CONTROL SYSTEM(JEDMICS)**
 - ▲ **WAS THE 1ST TRULY SUCCESSFUL JOINT PROGRAM**
 - ▲ **STANDARDIZED DATA ELEMENTS**
 - ▲ **OBSOLETE**
- **PRODUCT DATA MANAGEMENT (PDM) SYSTEMS**
 - ▲ **CECOM - CENTRA 2000**
 - ◆ **REPLACE JEDMICS IN 13 MONTHS,**
 - ▲ **TACOM - ACMS SPECIFICATION ALLOWS FOR JEDMICS REPLACEMENT**
 - ▲ **DOD LIB DEVELOPING A PDM STRATEGY**
 - ◆ **REPLACE JEDMICS AND JOINT COMPUTER-AIDED LOGISTICS SUPPORT (JCALS)**
- **NO CENTRALIZED DIRECTION/FUNDING**



ENGINEERING AND TECHNICAL DATA IMPACTS/PROBLEM(S)

★ **DIGITAL CONVERSIONS (required for Electronic Commerce/Contracting/Paperless PEO Environment)**

❖ **IMPACTS**

- **ENGINEERING IMAGES NOT USABLE BY CURRENT TECHNOLOGIES**
- **ENGINEERING IMAGES NOT INTEROPERABLE**
- **READINESS**

❖ **PROBLEMS**

- **LIMITED FUNDING FY 96 - 00**
- **PERFORMANCE SPECIFICATION REQUIRED**
 - ▲ **FY 99 - CONGRESSIONALLY FUNDED AUTOMATED DRAWING CONVERSION SERVICE (ADCS) #1 PROJECT - PD FCG**
- **AMC LEAD FOR ARMY (REQUIREMENT INCLUDE COE, etc.)**
- **POM REQUIREMENTS UNFUNDED**



ENGINEERING AND TECHNICAL DATA SOLUTIONS IN PROCESS

- ✱ **ACQUISITION-ENGINEERING INFORMATION BOARD (AIB)**
- ✱ **SENIOR ENGINEERS MEETING**
- ✱ **DATA MANAGEMENT**
 - ❖ **INTEGRATED DATA EXCHANGE AND ACQUISITION (IDEA)**
 - ❖ **OVERARCHING INTEGRATED PROCESS TEAM (OIPT)**
 - ❖ **PRODUCT DATA MANAGEMENT (PDM) FUNCTIONAL COORDINATING GROUP (FCG)**
- ✱ **STANDARDIZATION**
 - ❖ **STANDARDIZATION 2000 OIPT**
 - ❖ **STANDARDIZATION BUSINESS PLAN**



ENGINEERING AND TECHNICAL DATA SOLUTIONS IN PROCESS

❖ CONFIGURATION MANAGEMENT

❖ PDM FCG

➤ **PERFORMANCE SPECIFICATION FOR CONFIGURATION MANAGEMENT (AUTOMATED CONFIGURATION MANAGEMENT SYSTEM (ACMS)) - CECOM NOMINATED CENTRA 2000 AS STANDARD SYSTEM - REJECTED BY PD FCG**

➤ **TACOM VOLUNTEERED TO BE TEST CASE FOR THE PERFORMANCE SPECIFICATION**

➤ **TACOM FUNDING AS AVAILABLE**

➤ **TACOM ATTEMPTING TO CONTRACT FOR A SYSTEMS INTEGRATOR (NO SINGLE VENDOR CAPABLE) FROM GSA SCHEDULE**

❖ **ENGINEERING DATA MANAGEMENT SYSTEM (EDMS) PROJECT OFFICE**

❖ **ACMS EVALUATION IPT**



ENGINEERING AND TECHNICAL DATA SOLUTIONS IN PROCESS

- **REPOSITORY**
 - ❖ **PDM FCG**
 - ❖ **EDMS PROJECT OFFICE**
 - ❖ **OSD LOGISTICS INFORMATION BOARD (LIB) HAS INITIATED A PDM STRATEGY WHICH WILL EVENTUALLY REPLACE JEDMICS AND JCALS**
- **DIGITAL CONVERSIONS**



ENGINEERING AND TECHNICAL DATA OVERALL REQUIREMENTS

- ★ EMPHASIS ON ALL AREAS OF ENGINEERING AND TECHNICAL DATA
- ★ EMPHASIS ON STANDARDIZED INTERFACES/INTEROPERABILITY
- ★ CENTER OF EXCELLENCE FOR FUNCTIONAL REQUIREMENT
 - ❖ PDM FCG
- ★ CENTER OF EXCELLENCE FOR TECHNICAL EXPERTISE
 - ❖ EDMS PO
- ★ CENTRALIZED DIRECTION
 - ❖ AIB
 - ❖ SENIOR ENGINEERS MEETING
- ★ CENTRALIZED FUNDING
- ★ CENTRALIZED EXECUTION OF STANDARD REQUIREMENTS
- ★ DE-CENTRALIZED SITE EXECUTION



ENGINEERING AND TECHNICAL DATA STRATEGIC PLAN (GENERAL MANAGEMENT PLAN)

FUNCTIONAL VISION

**AN INTEGRATED E&T DATA ENVIRONMENT THAT IS NON -
SYSTEM/HARDWARE/SOFTWARE DEPENDENT AND CAN PROVIDE THE
REQUIRED DATA WHEN REQUIRED, WHERE REQUIRED AND IN THE
REQUIRED STATE.**

- **AMCRDA CENTRALIZED DIRECTION AND MANAGEMENT**
 - ❖ **ACQUISITION-ENGINEERING INFORMATION BOARD (AIB) & SENIOR ENGINEERS (SE) MEETINGS**
 - **PRIORITIES**
 - **FUNDING REQUIREMENTS**
 - **FORMAL MSC AGREEMENT (REQUIREMENTS, SOLUTIONS)**
- **IDENTIFY AMC/ARMY WIDE FUNCTION REQUIREMENTS**
 - ❖ **PD FCG**
 - **IDENTIFY REQUIREMENTS**
 - **IDENTIFY ALTERNATIVE/SOLUTIONS**
 - **DEVELOP PERFORMANCE SPECIFICATIONS, AS REQUIRED**
 - ❖ **ENGINEERING DATA MANAGEMENT SYSTEMS (EDMS) OFFICE**
 - **SYSTEMS/PERFORMANCE SPECIFICATION EVALUATION**
 - **SYSTEMS COORDINATOR**
 - **SYSTEMS INTEGRATION**
 - **FUNDING REQUIREMENTS**
 - **PROJECT ACCOMPLISHMENT, AS REQUIRED**



ENGINEERING AND TECHNICAL DATA STRATEGIC PLAN (GENERAL MANAGEMENT PLAN)

- ✱ **DCG SUPPORT OF AIB AND SE POSITIONS AND REQUIREMENTS**
- ✱ **AIB AND SE EXECUTION OF APPROVED AND FUNDED EFFORTS**
 - ❖ **AMCRDA**
 - ❖ **PD FCG**
 - ❖ **EDMS PO**
 - ❖ **MSCs**
- ✱ **AIB AND SE OVERSIGHT AND REVIEW**



ENGINEERING AND TECHNICAL DATA STRATEGIC PLAN (FUNDING APPROVAL STRATEGY)

- ✱ **FUNDING REQUIREMENTS**
 - ❖ **ESTIMATED BY INDIVIDUAL SITES**
 - ❖ **CONSOLIDATED/REVIEWED/VALIDATED BY EDMS OFFICE**
 - ❖ **REVIEWED AND APPROVED**
 - **AIB**
 - **SEMs**
 - ❖ **SPONSORED BY DCSRDA**
 - ❖ **PRESENTED AT ARB BY AMCDCG-A**
- ✱ **FUNDING APPROVAL**
- ✱ **FUNDING MANAGED BY AMCRDA**
- ✱ **FUNDING EXECUTION**
 - ❖ **PD FCG**
 - ❖ **EDMS OFFICE**
 - ❖ **MSCs/SITE**
 - ❖ **PROJECT LEADS**
- ✱ **MONITORED**
 - ❖ **DCSRDA**
 - ❖ **AIB**
 - ❖ **SEs**



ENGINEERING AND TECHNICAL DATA RECOMMENDATIONS

- **AMCDCG**
 - ❖ **APPROVE GENERAL MANAGEMENT AND EXECUTION CONCEPT**
 - **GENERAL MANAGEMENT PLAN**
 - **FUNDING APPROVAL STRATEGY**
 - ❖ **APPROVE CONCEPT OF PRESENTATION OF FUNDING REQUIREMENTS AT ARB BY AMCDCG**

- **PROVIDE SUPPORT OF STANDARDIZATION OF AMC/ARMY WIDE ENGINEERING AND TECHNICAL DATA POLICIES, PROCEDURES AND PRACTICES**