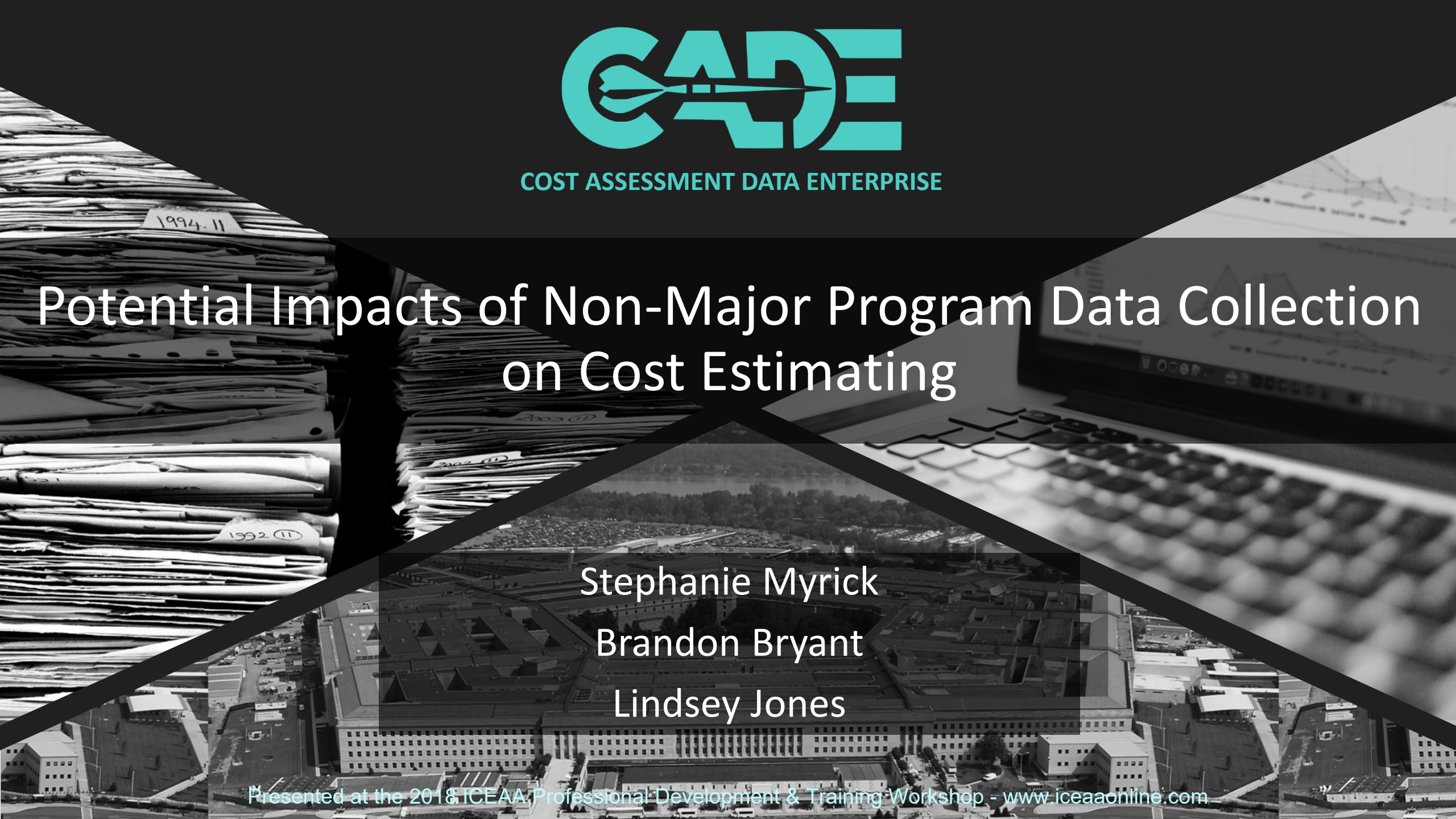

COST ASSESSMENT DATA ENTERPRISE

# Potential Impacts of Non-Major Program Data Collection on Cost Estimating

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# Presenting Today

## Stephanie Myrick

Stephanie Myrick is an analyst at Technomics, Inc. with experience in data collection, economic analysis, and project management. She supports the Office of the Secretary of Defense (OSD) Cost Assessment and Program Evaluation (CAPE) Defense Cost and Resource Center (DCARC). While supporting this client, she leads the Navy team, enforcing cost and software data reporting (CSDR) requirements, assisting stakeholders through the planning process, and validating contractor cost data.
Ms. Myrick has a BS and MS in Applied Economics from Virginia Tech.

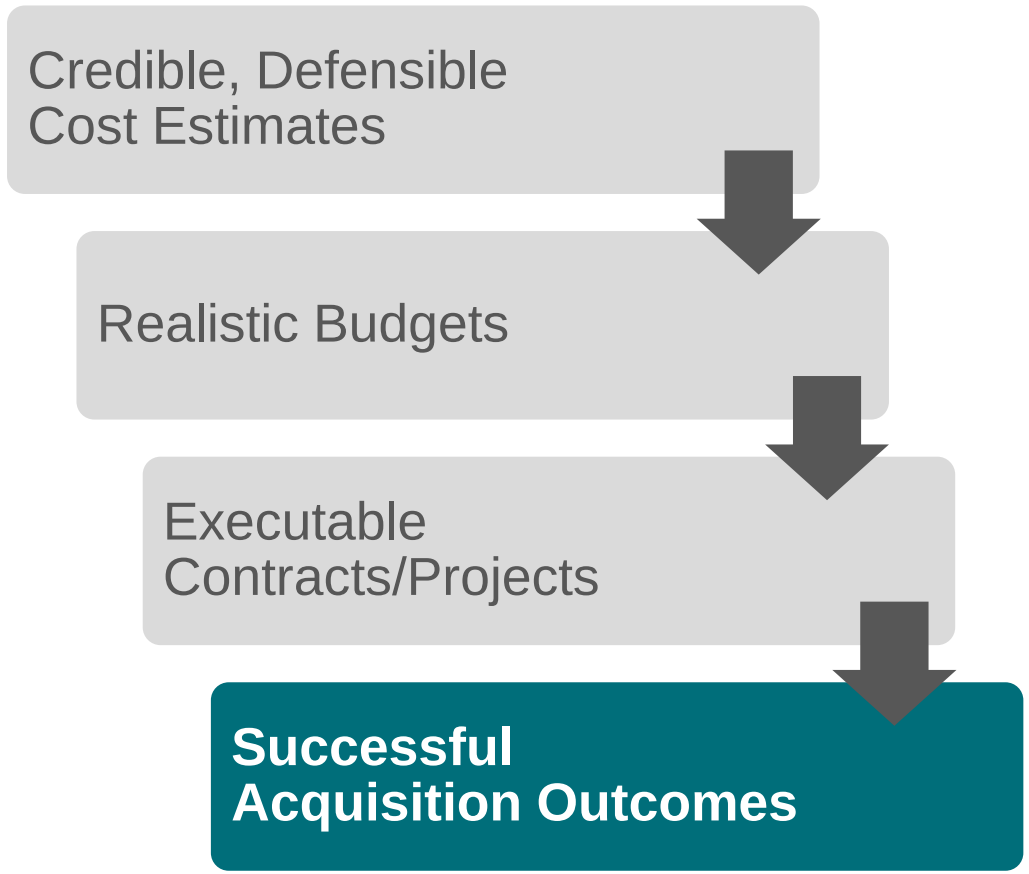
# Summary

- The statutory requirement in the National Defense Authorization Act 2017 mandates cost data collection for acquisition programs over $100 million. Mr. Daigle, CAPE Director, signed a memo on February 16, 2018, establishing the working group and pilot list. The working group will create the detailed policies and procedures required by Section 2334 G Title 10.

- Cost and Software Data Reporting (CSDRs) is a standardized and trusted process for cost data collection. Current pilots are leveraging CSDRs, but the exact execution is still to be determined.

- Trustworthy data is the backbone to credible, defensible cost estimates. It is incumbent of cost analysts to play a role in ensuring high quality-data is collected.

# Decision-makers Must Trust Our Work




- We are asking decision-makers to place their trust in our analysis and resulting estimates
- The principal means to establish trust is to explain in very specific terms the path from *data/facts* to *methods/models* to *estimates*
  - Clarity of this path is paramount
  - Clarity breeds confidence and trust
- Authoritative data is the foundation for estimate credibility and defensibility
- Estimates not grounded in data can be viewed a guess or, at best, analyst opinion/judgement

***Quality cost estimates facilitate authoritative knowledge and informed decision making.***

# Cost Data Sources

- In the case of work performed by industry, the most authoritative data is the actual cost to the government at completion of a given contract
  - Represents what actually happened (i.e., is closest to truth)
  - And not what should have happened (i.e., a contract value)
  - And not what could have happened (i.e., a bid)
- The best sources for this contract data are
  - Internal contractor accounting system records
  - Deliverable (i.e., contractually required) cost reports
    - Cost and Software Data Reporting (CSDR)
    - Earned Value Management (EVM) reporting
- In the absence of these sources, the next 'best' sources (in descending order) are
  - Contract line item (CLIN) price data (i.e., contract values)
  - Government finance/accounting system data (i.e., expenditure records)
  - Government budget data (i.e., obligations)

***The best cost data is actuals for completed contracts***

# Cost Data Quality

- Best characterized in terms of how the data is reported and what data is reported
- A product-oriented WBS enables cross-program/contract comparisons
- Recurring vs. non-recurring cost visibility is critical to identifying hardware build cost vs. hardware design cost; this distinction is essential to proper understanding and application of development contract data

***CSDR is the only source that systematically & routinely provides this quality***

**Reporting Structure (How)**

- **Hierarchical, product oriented work breakdown structure (WBS)***
- Hardware, software, services, data & facilities cost reported at multiple levels of indenture

**Reporting Visibility (What)**

- **Recurring vs non-recurring cost***
- Labor vs. material cost
- Direct vs. indirect cost
- Functional cost (engr, mfg, QC & tooling)
- Prime vs. subcontractor cost

# GAO Criticism of Cost Data of ACAT II and III Programs (March 2015)

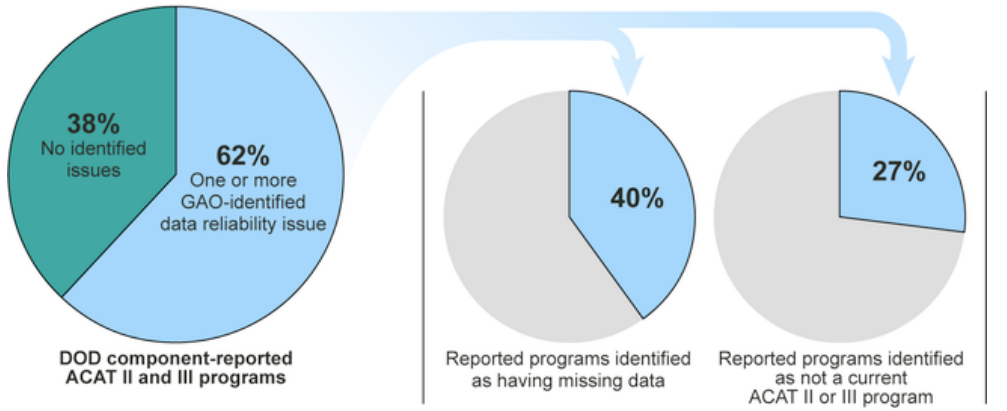
GAO identifies that many ACAT II and III programs have incorrect and missing data

Limits the ability of Congress, the DOD, program managers, and other decision makers to evaluate and monitor programs as they mature

Key GAO Recommendation: To improve DOD's ability to collect and maintain reliable data on its acquisitions, the Secretary of Defense should direct the Secretaries of the Air Force, Army, and Navy and the Commander of SOCOM to develop implementation plans to coordinate and execute component initiatives to improve data on ACAT II and III programs.

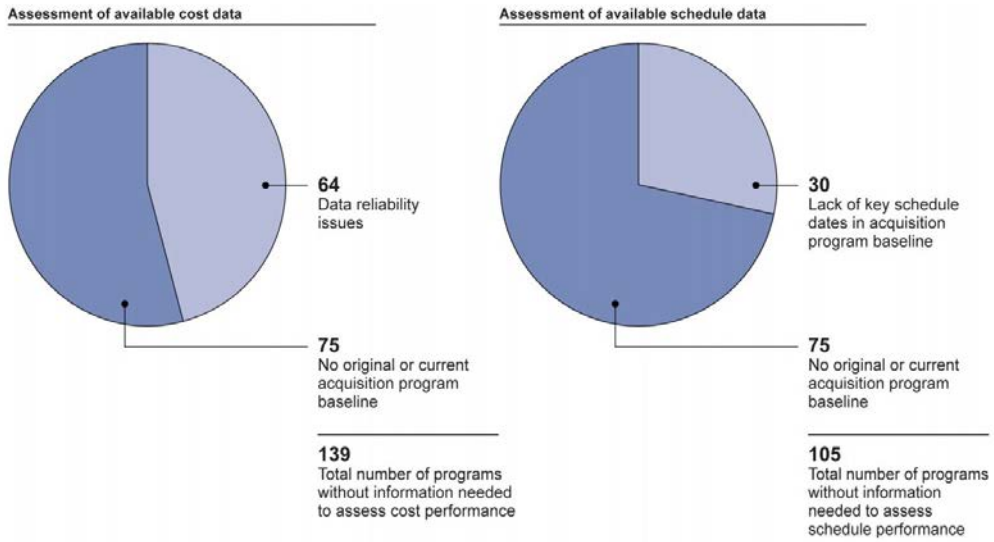
Thresholds for :

- ACAT I: Total expenditure for RDT&E of more than $480 million in FY 2014 constant dollars, or for procurement of more than $2.79 billion in FY 2014 constant dollars
- ACAT II: Total expenditure for RDT&E of more than $185 million in FY 2014 constant dollars, or for procurement of more than $835 million in FY 2014 constant dollars
- ACAT III: Acquisition programs that do not meet the criteria for ACAT II or above




Source: GAO analysis of DOD component data. | GAO-15-188

**Figure 2: Assessment of Data Available to Measure Acquisition Category (ACAT) II and III Cost and Schedule Performance for Non-generalizable Sample of 170 Programs**




Source: GAO analysis of component-reported ACAT II and III data and acquisition program baselines for a non-generalizable sample of 170 ACAT II and III programs. | GAO-15-188

# Section 2334 G of Title 10 & Working Group

(g) GUIDELINES AND COLLECTION OF COST DATA.
SEC. 842. AMENDMENTS RELATING TO INDEPENDENT COST ESTIMATION AND COST ANALYSIS.
(a) AMENDMENTS.—Section 2334 of title 10, United States Code, is amended—
(g) GUIDELINES AND COLLECTION of COST DATA
(1) The Director of Cost Assessment and Program Evaluation shall, in consultation with the Under Secretary of Defense for Acquisition, Technology, and Logistics, **develop policies, procedures, guidance and a collection method to ensure that quality acquisition cost data are collected to facilitate cost estimation and comparison across acquisition programs**
(2) The program manager and contracting officer for **each acquisition program in an amount greater than $100,000,000**, in consultation with the cost estimating component of the relevant military department or defense Agency, shall ensure that cost data are collected in accordance with the requirements of paragraph (1).
(3) The requirement under paragraph (1) may be waived only by the Director of Cost Assessment and Program Evaluation
(b) CONFORMING AMENDMENTS TO ADD SUBPROGRAMS. Section 2334 of such title is further amended
Major Defense Acquisition Programs and Major Automated Information System Programs replaced with
Major Defense Acquisition Programs and Major Subprograms

**Currently, OSD CAPE and the Component Cost Centers are part of a working group to discuss courses of action for cost reporting policy that will provide greater clarity than what is currently provided in Title 10 Section 2334 G.**

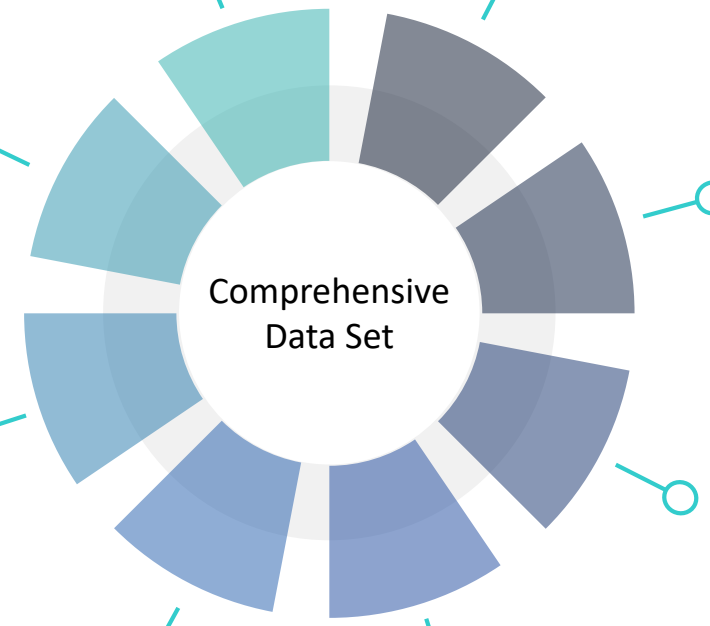
# Cost Community Response to Section 2334 G Title 10

| Service | # of ACAT I Programs | # of ACAT II-IV Programs |
|---|---|---|
| Air Force | 50 | ~180 |
| Army | 35 | ~315 |
| Navy | 49 | ~85 |

- Service Cost Centers are piloting the planning, validating and compliance of the data for 26 programs
  - For the pilot programs, each Service will leverage and tailor well-established ACAT I CSDR processes and procedures to meet their data collection needs
- The services will have to consider the additional time, effort, and cost collecting the data will incur
  - Implementation requires staffing to execute these processes and procedures
  - This requirement is above and beyond industry's price to deliver the data

***Acquisition programs that meet threshold will be required to deliver CSDRs in accordance with OSD CAPE policy.***

# CSDR Overview




**CSDR Plan (DD 2794)**
Defines WBS Structure and Schedule for reporting

**Functional Cost-Hour Report (DD 1921-1)**
Cost and hour data for specific elements broken down by functional category

**Contract Work Breakdown Structure Dictionary (CWBS)**
Lists all contract data reporting elements with definitions of technical, work, and cost content (recurring vs. nonrecurring by functional category)

**Progress Curve Report (DD 1921-2)**
Lot or Unit reporting of direct recurring costs to date for specific hardware elements

**Software Resource Data Reports (SRDRs)**
Size, schedule & effort on data on software development

**Contractor Business Data Report (DD 1921-3)**
Direct & Indirect cost, hour & employee data by functional category for a Contractor Business Unit

**Cost Data Summary Report (DD 1921)**
Summary cost data for all elements on approved contract CSDR plan

**Sustainment Report (DD 1921-5)**
Nonrecurring & recurring costs and hours reported against a sustainment cost element structure & functional categories

***An institutional and trusted approach to cost data collection***

# Well Established CSDR Processes/ Procedures

**Pre-RFP**

- Identify the RFP
- Create the CSDR Plan
- Share CSDR plan with CWIPT and hold CWIPT working meeting

**CSDR Plan Approval**

- Edit the CSDR plan based on CWIPT feedback
- Place CSDR plan in vote and gather votes
- Received Service Cost Center Director approval

**Post Award**

- Place approved CSDR on contract
- Hold post award meeting and discuss cost reporting
- Edit CSDR plan as necessary and go through plan revision approval process

**Contractor Reporting**

- Contractor starts reporting
- Validate the cost reports and ask contractors any questions
- Approve the cost report
- Monitor CSDR compliance for new RFPs and contractor cost reporting

# AAV-SU Case Study

- US Marine Corp  ACAT III program managed at PEO Land Systems under PM Advanced Amphibious Assault.
- Existed since 1972 providing Marines sea to land transport to conduct ashore operations.
- Planned to serve the Marines until at least 2035 until the ACV is fully operational and can replace the AAV-P7/A1.
- PM cost analyst recognized that AAV-SU actuals are critical to estimating the next generation.
- AAV-SU program took the initiative to implement CSDR requirement.

***AAV-SU successfully implemented CSDRs prior to the NDAA 17 requirement***

# CSDR Benefits and Challenges from AAV-SU

## Benefits

Forces Industry into a rubric that ensures standardization

Has supported several cost estimates for the AAV-SU program

Serves as a source to validate other cost CDRLs

Provides data that will be leveraged for other weapons systems in PM AAA portfolio

## Challenges

Assisting reporting contractors

Identifying data issues and requesting changes to reports

Resources necessary to conduct in depth validation and verification

***CSDRs present the opportunity to have standardized cost data that can be compared to other resources and programs.***

# Bottom Line

1. The cost community has a tremendous opportunity to positively influence the quantity & quality of return cost data for ACAT II/III programs, thereby enabling:

   - Better cost estimates
   - More realistic budgets
   - More executable contracts
   - Improved acquisition program outcomes (i.e., less cost & schedule growth)

2. The Services can leverage well established ACAT I program CSDR processes, procedures and associated training materials.

3. It is incumbent upon cost analysts to be proactive advocates and participants in the data collection process
   - Data is the backbone of your analysis, so should be tireless about getting the best data possible