



# Accelerating Readiness

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## *The Cost of O&S Modernization*

International Cost Estimating and  
Analysis Association (ICEAA)

2025

# Agenda

Check out our  
Long-Form Research Paper!



## Accelerating Readiness

The Cost of O&S Modernization

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Introduction

Current Acquisition and  
Sustainment Challenges

Budget Reform

Case Study #1: Depot  
Efficiency

Case Study #2: Modularity

Recommendations & Next Steps

# The Team



**Alex Bonich**

Senior Associate

Alex Bonich is a Senior Associate who joined Technomics, Inc in February 2021. His experience includes supporting both Army and Navy projects in cost estimating and analysis for Transportations Systems and next generation combat systems, with a primary focus in the development and Operations & Support phases. Alex graduated from the University of Michigan in 2019 with a B.S.E. in Mechanical Engineering and became an ICEAA Certified Cost Estimator/Analyst (CCEA) in 2023.



**Sean Wells**

Lead Analyst

Sean has been with Technomics, Inc since July 2023 and currently provides cost support to Navy Integrated Warfare Systems 6.0 and the Canadian National Shipbuilding Service. Sean has an MS in Contracts Acquisition and Management from the Florida Institute of Technology and has 3+ years of professional experience working Ford Class Carrier and Virginia Class Submarine estimates. He is an ICEAA Certified Cost Estimator/Analyst (CCEA).



**Donovan DeStefano**

Associate

Donovan has been with Technomics, Inc since June 2023 and has provided support to the Missile Defense Agency and the Chief Data and Artificial Intelligence Office. Donovan has provided Cost Analysis and Acquisition Support since joining Technomics, Inc. Donovan has a focus on software estimating and project management. Donovan graduated from Penn State University with a degree in Finance.



**Ronit Mukherjee**

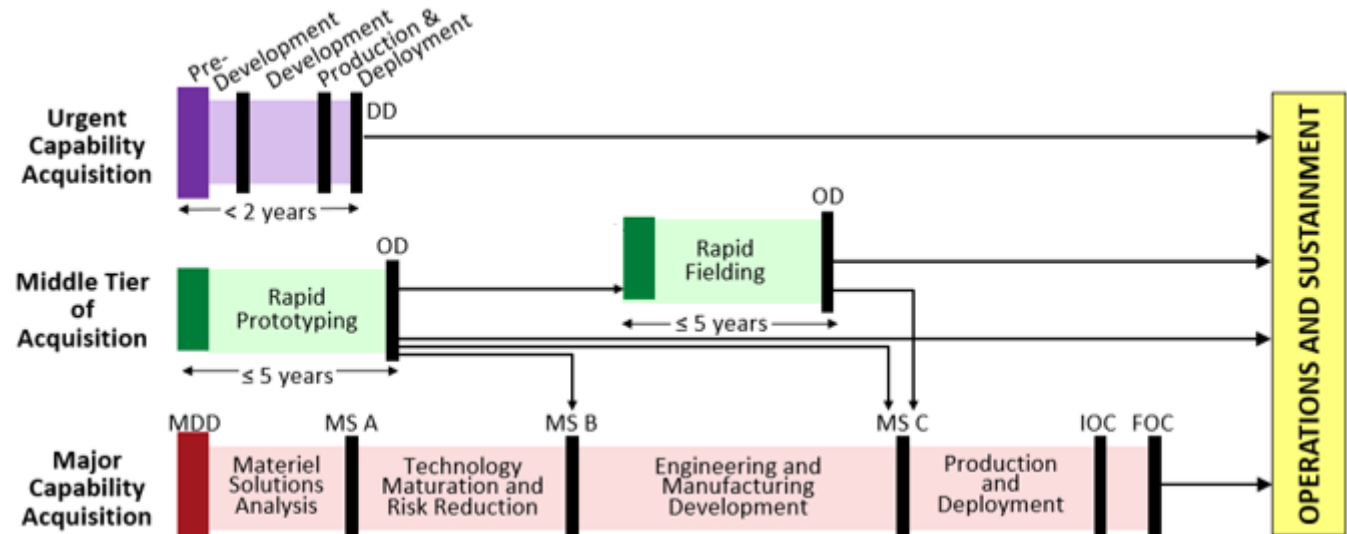
Associate

Ronit is an Associate at Technomics, Inc having joined the firm in early 2024. He brings expertise in cost analysis, data wrangling, and data analytics to support his federal clients. While assisting clients, he maintains a strong focus on delivering actionable insights and fostering collaborative solutions. Ronit holds a Bachelor of Science in Business Management and Information Systems from The Pennsylvania State University.

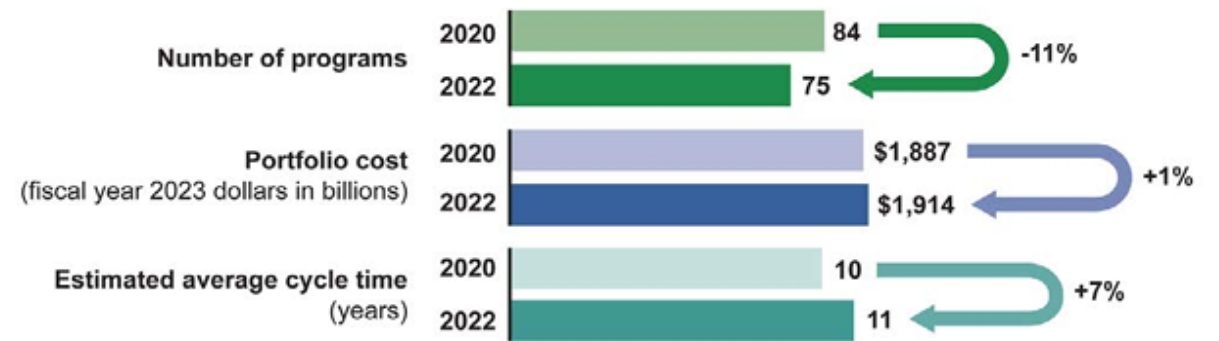
# Hardware Capability Acquisition & Sustainment

## Current Landscape

- Department of Defense (DoD) over recent years have implemented steps to improve hardware (HW) acquisition and sustainment processes:
  - Adaptive Acquisition Framework (AAF)<sup>1</sup>: Capability acquisition available through acquisition pathways to reach Operations and Sustainment (O&S).
  - Modular Open Systems Approach (MOSA)<sup>2</sup>: Design for major defense acquisition programs (MDAP) prioritizing adaptability, interoperability, and modularity.
  - Sustainment Reviews<sup>3</sup>: Congressional requirement for recurring program reviews of system strategy, performance, and cost with mitigation steps.



Adaptive Acquisition Framework HW Pathways<sup>1</sup>



GOA Study on Capability Delivery of Major Defense Acquisition<sup>4</sup>

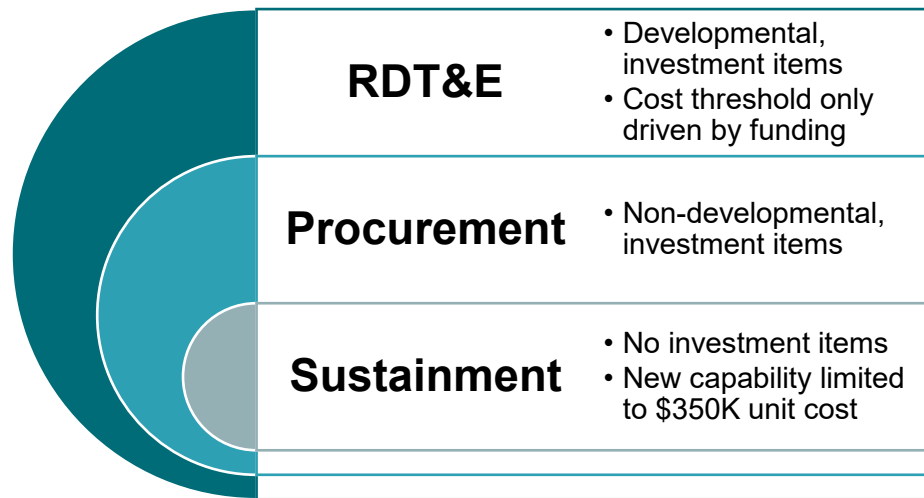
These policies have not translated to clear improvements in reducing costs and delivering capabilities.

# Challenges in Acquisition

**What's the problem?** – DoD faces the daunting challenge of improving warfighter capabilities while effectively managing resource allocations and executing to acquisition timelines.

**Potential solution?** – Hardware upgrades during sustainment; incorporating readily available components and new technologies to reduce costs and enhance capability of deployed systems.

**How do we get there?** – Budget reform to fully realize hardware upgrade potential on DoD systems.



**Appropriation Limitations on Investment HW**

**FY24 Funding Appropriation Requested in DoD<sup>1</sup>**

Appropriation	FY24 Request (\$B)	% of FY24 Budget Request
RDT&E	\$145.0	17.6%
Procurement	\$170.1	20.6%
MILPERS	\$178.9	21.7%
<b>O&amp;M</b>	<b>\$329.8</b>	<b>40.0%</b>
Other	\$1.7	0.2%
<b>Total</b>	<b>\$825.3</b>	<b>100.0%</b>

# Budget Reform History



The history of budgetary and acquisition reform has shifted between centralization and decentralization over the decades



Notable centralized oversight efforts include McNamara's reforms, the Goldwater-Nichols Act, and The Weapon Systems Acquisition Reform Act

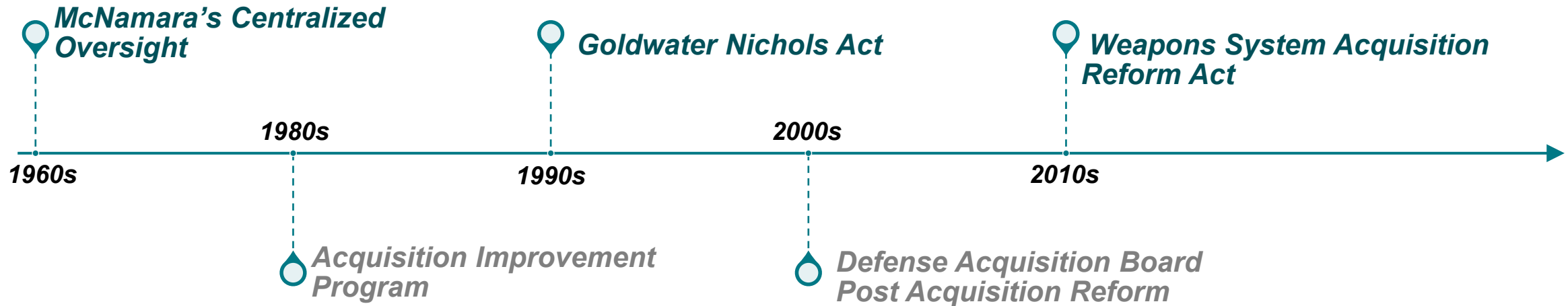


Key decentralization efforts include the Acquisition Improvement Program and the Defense Acquisition Board Post Acquisition Reform



Current state of budget reform is moving toward decentralization with deregulatory efforts

## Centralized vs Decentralized



# FY24 PPBE Reform

**Budget Reform Recommendation #11B:** *“it is in the DoD’s interest to remove barriers to incorporation of up-to-date parts / current tech into weapon systems in the sustainment phase”* by *“enabling the use of O&M funds for Hardware Continuing Improvements”*<sup>1</sup>

## Investment (I) v. Expense (E) Criteria

**Cost:** Above \$350K (I); below \$350K (E)

**Purpose:** Day-to-Day (E) v. New Capability (I)

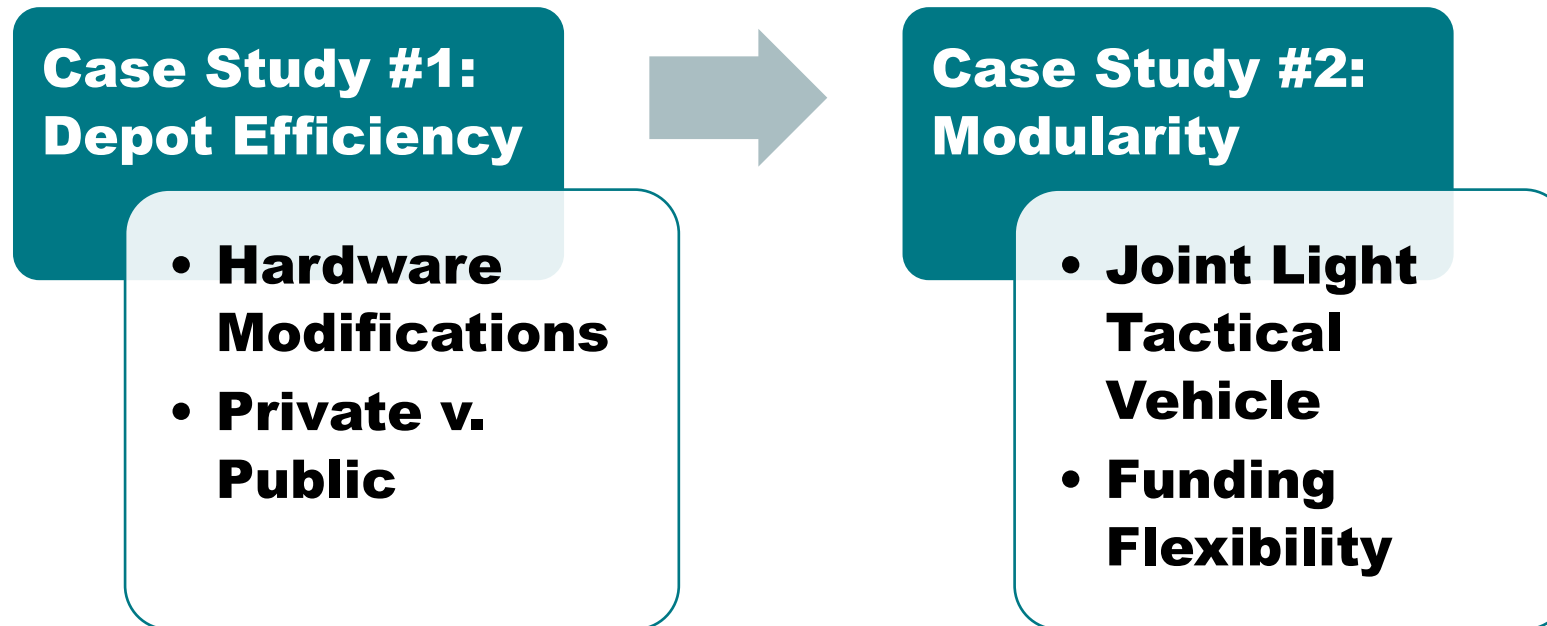
**Control:** Central Management (I), Disparate Management (E)

## PPBE Reform Decomposition

Reform Benefit Language	Category
Reduced Reprogramming / Contract Administration	Budget Process
Reduced Delays from Fiscal/Legal Interpretation of Congressional Language	Budget Process
Streamlined Acquisition Planning	Sustainment Process
Improved Execution Schedules/Maintenance Timelines	Sustainment Process
New Industry Partners bringing Capability to Systems	Innovation
Emergent Technology through Sustainment Process	Innovation

# Establishing Our Approach

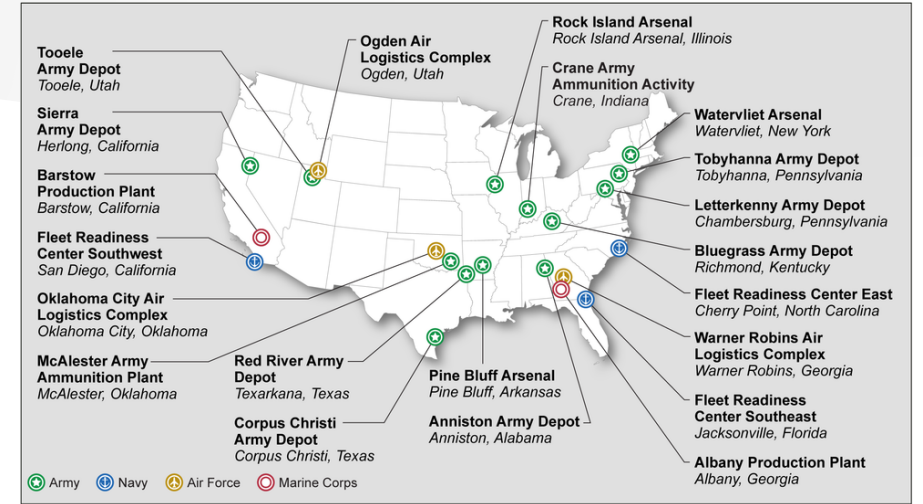
**Thesis:** *Expansion of O&M funding to support hardware modernizations may drive cost benefits through increased inclusion of acquisition contractors in the depot process and increased ability to leverage modular designs. To assess these potential cost benefits of this proposal, we completed two case studies:*



# Case Study #1: Depot Efficiency

# Depot Groundwork – Case Study #1

- **Responsibilities:** Maintenance, Repair, and Overhaul of systems
- **Investment Rule:** Each military department must annually invest a percentage of total depot workload over prior years into depot's capital budget – *critical organic capability.*
- **50/50 Rule:** No more than 50% of total depot maintenance can be performed by private sector.
- **Depot Decline?:** 2022 GAO report found government depots are “hindered by outdated facilities, inefficient processes, and underfunded budgets.”



DoD Depot Facility Locations<sup>1</sup>



Navy Depot Aerial View<sup>2</sup>

# Depot Groundwork – *Case Study #1*

## Pros of Private Depots

- Supplement depot capacity (increase readiness)
- Leverage expertise/flexibility

## Cons of Private Depots

- Reduced readiness
- Higher fees
- Security concerns

## Sustainment Funding Impact

- HW mods are more similar to traditional acquisition work
- Sustainment funding tends to be stable

DoD Depot Rule

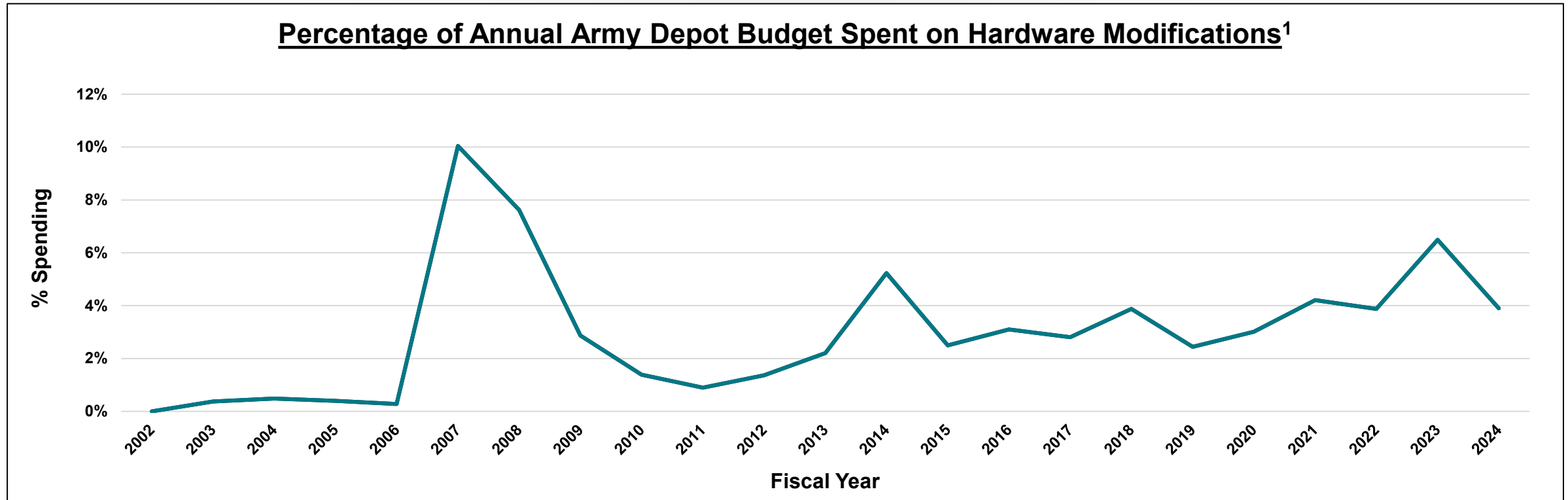
Data Sources Used

Congressional Mandates

Limitations in Scope

Assumptions

# Depot Overview – *Case Study #1*

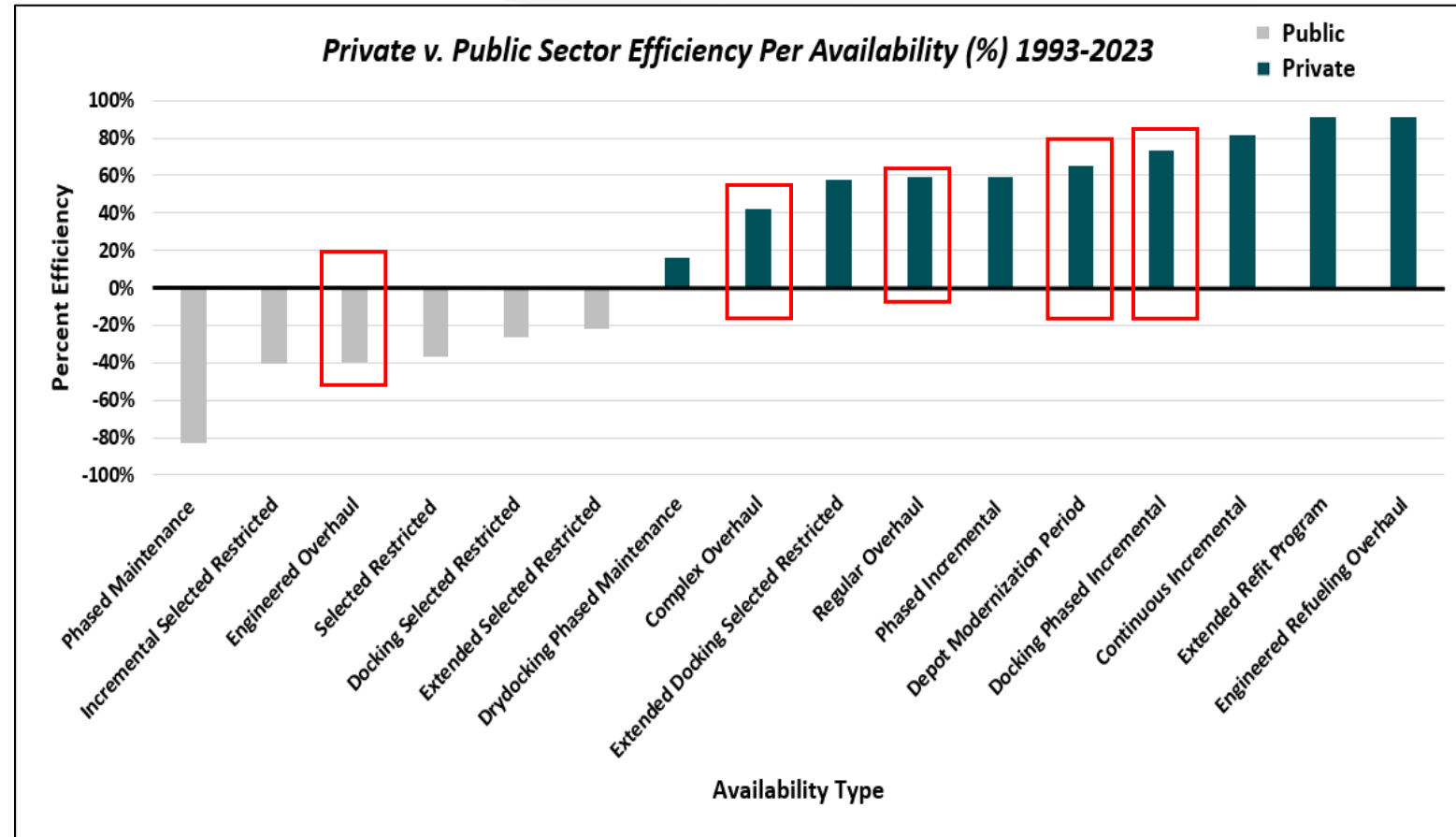


- Sudden spikes in funding for HW modifications align to urgent, near-term events.
  - Indicates of a need for improvements in readiness planning
  - Accomplish through long-term, proactive measures, including maintenance activity responsibilities, to reduce reactionary steps.

# VAMOSOC Data – Case Study #1

## Public v. Private Shipyard Efficiency

- Complex Overhauls: Public shipyards costs ~\$29.5M vs ~\$17M at private yards – 75% higher cost for public
- Phased Incremental Availabilities: ~\$40M at public vs ~\$16M at private yards - ~\$100%+ cost difference
- Engineering Overhauls: Private yards spend ~65M vs ~47M at public yards – private exceeded public
- On average, public yards cost **1.5x to 2x** more than private yards, after exemptions removed.
- Efficiency is driven by differences in labor structures, oversight, and competitive bidding in the private sector.



# Tailored Allocation – *Case Study #1*

## *Problem*

- O&M Funds can't be used for hardware upgrades
- Procurement delays = slower fleet readiness

## *Key Insights*

- Private depots are ~50% more cost efficient
- Shifting 50% of tasks = ~\$2.5B in annual flexibility

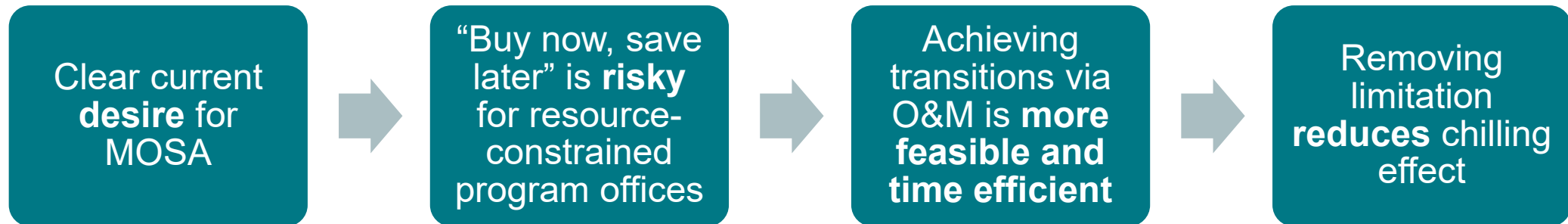
## *Recommendation*

- Expand O&M use for hardware modifications to improve readiness
- Balance public-private workload under 50/50 rule

# Case Study #2: Modularity

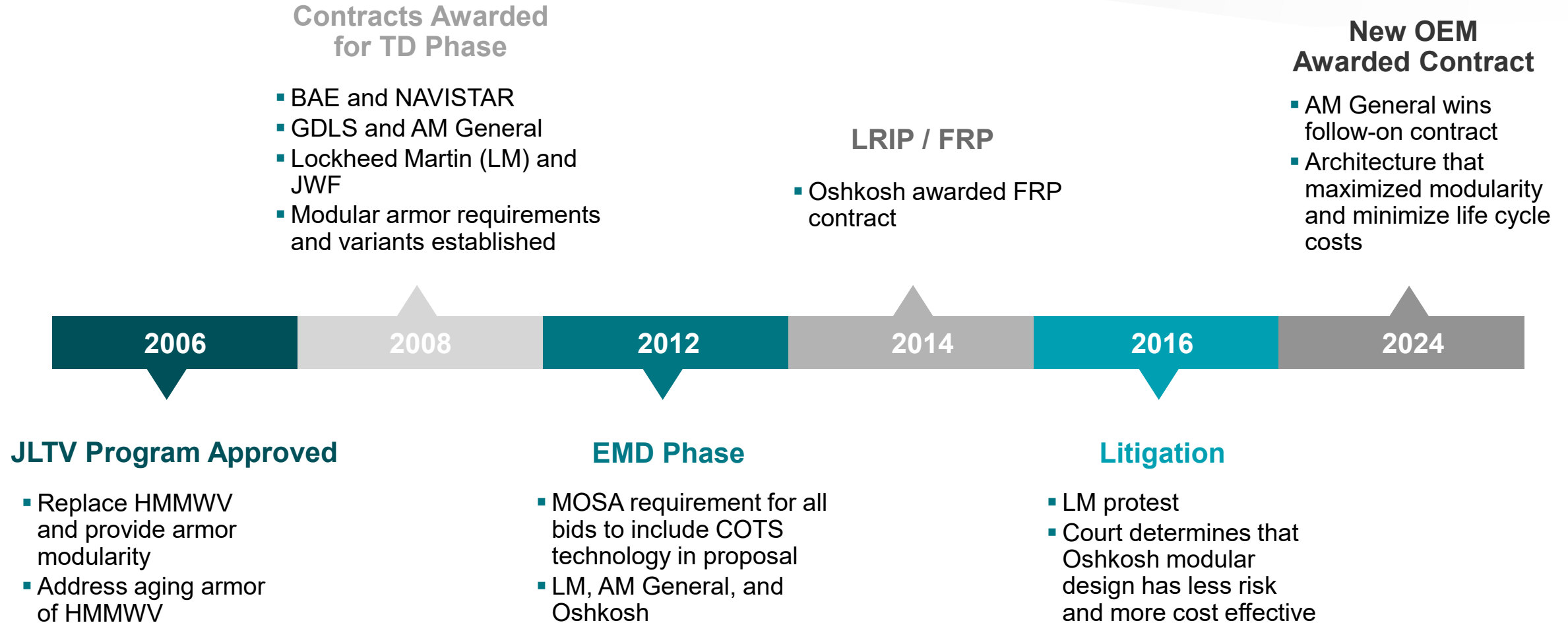
# MOSA Overview – *Case Study #2*

- MOSA requires **higher initial investment** but provides **long-term savings and benefits** in maintenance, upgrades, and adaptability.
- MOSA implementation limited by funding avenues available, making it a less desirable pursuit to begin with (i.e. chilling effect).



Joint Light Tactical Vehicle (JLTV) program leverages MOSA and serves as a real-time example

# JLTV Acquisition History – *Case Study #2*



# Modularity Considerations – *Case Study #2*

- **Short term v. long term consideration**
  - Up front investment in modular design development results in lower, compounding developmental costs per variant
    - Science Applications International Corporation (SAIC) Modularity cost study<sup>1</sup>:
      - **50-100%** more cost in up front cost of base variant vehicle than unique vehicle in RDT&E
      - Each variant development only **7.6%** of unique vehicle cost
  - Sustainment experiences greater economies of scale for purchased parts and maintenance reductions because of component commonality
    - Advanced Vehicle Testing Activity (ATVA) study on Armored Family of Vehicles (1988)<sup>1</sup>:
      - Estimated **15-30%** cost savings across entire life cycle

# JLTV Modularity Assessment – *Case Study #2*

## ▪ Short term O&S evaluation

- JLTV O&S Costs<sup>1</sup>
  - Current O&S cost estimate surpassed FY20 APB Objective and Threshold
- JLTV Operational availability<sup>2,3</sup>
  - Not all operationally suitable due to maintenance deficiencies
  - More, longer maintenance activities than HMMWV due to system complexity of armor

## ▪ Long term O&S projection

- JLTV Capability<sup>2</sup>
  - Met all current tactical needs of the soldier and position to protect against future conflicts
- JLTV Operational availability<sup>1,3</sup>
  - Less burdensome maintenance activities
  - Number of problems from testing addressed through improvements in techniques and procedures
  - Met operational and material availability thresholds
- JLTV O&S Costs
  - More operational and material availability → mitigation of sustainment cost growth

# Tailwinds

## Contractor Maintenance Support

- **Benefit:** Contractor expertise and data rights.
- **Reform Impact:** Increased acquisition contractor involvement improving efficiency and readiness.

01

02

## Modular Open Systems

### Approach (MOSA)

- **Benefit:** Easier and faster to upgrade → Maintain operational readiness, less design rework
- **Reform Impact:** Easier to execute HW upgrade on MOSA system. MOSA more appealing for new program.

## PPBE Reform Impact

*Summary of PPBE Reform  
Recommendation #11B impact*

04

03

## Sustainment Reviews

- **Benefit:** Increase transparency into sustainment phase; identify root cause problems and mitigation strategies
- **Reform Impact:** More paths to mitigation strategy solutions.

## Adaptive Acquisition Framework (AAF)

- **Benefit:** Tailor acquisition approach to product and user needs.
- **Reform Impact:** Further increase in custom acquisition pathways to facility HW upgrades at speed of relevance

# Final Thoughts & Next Steps

- Epilogue
  - Reform #11B not in the 2025 Commission Report, potential future item
  - Increased focus on shipbuilding capacity (e.g., Executive Order 14269) = strong need for efficient O&S system
- Future Analysis
  - Program-Specific hardware modification data
  - Successful v. unsuccessful requests for procurement funding
- Advocacy
  - Understand tailwinds, derive data-driven problem statements, leverage cost data and literature review to drive conclusions
  - Budget reform can start at executive and grassroots level



## Questions?

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