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THE MODERN DEFENSE BUDGETING SYSTEM

by Matt MacGregor, Pete Modigliani, and Greg Grant

This paper is the final in a three-part series on creating a Modern Defense Budgeting System (MDBS). The [first paper](#) outlined four key challenges confronting the current system and proposed six pillars of a modern system. The [second paper](#) examined the perspectives of major stakeholder groups, outlined key areas for greater attention, and provided five first steps to an MDBS with 24 actionable recommendations. This final paper imagines what the MDBS—a mission- and concept-driven system with adaptive budgeting processes, digitally enabled and culturally aligned to the 21st-century goals for the U.S. military—would look like in execution with these recommendations (and likely others) fully implemented.

The year is 2030; the Pentagon and Congress finally completed the political and digital transformation of the defense budgeting system.

Five years earlier, China executed its long-anticipated move to forcibly unify Taiwan with the mainland, instituting a complete air and naval blockade of the island. At the time, U.S. and allied militaries suffered from overstretched deterrence capabilities, lack of inventory depth, fragile logistics, and constrained supply chains. These challenges led to an ineffective campaign to counter Chinese aggression and provide Taiwan with the support it needed. The U.S. military was able to bring forces to the area, but it struggled to sustain them in adequate numbers to break the Chinese blockade. Instead, China's fast-moving and innovative gray zone tactics and numerical superiority compelled Taiwan to capitulate and the U.S. to withdraw.

In the aftermath of this setback, the U.S. defense establishment scrambled to implement much needed but delayed reforms that would enable a more capable and integrated Joint Force. There was clear realization that reforms needed to be focused on quickly gaining the ability to defeat potential aggression by a peer adversary and restore deterrence credibility. Faced with the stark reality that the Department of Defense's (DoD) 64-year-old Planning Programming, Budgeting, and Execution (PPBE) system was at least partially, if not fully responsible, a series of reforms proposed years earlier by the PPBE



Commission were rapidly implemented by DoD and the congressional authorization and appropriation committees.

The legacy PPBE system was replaced with an MDBS that provides the speed and agility required to be responsive to a dynamic national security environment. It simultaneously provided sufficient analytical rigor, controls, and oversight required for the United States' trillion-dollar annual defense investment. This new process better integrates mission- and concept-driven strategies, more rapidly and adaptively incorporates technological advancements, provides relevant-level insights into DoD execution, and supports an innovative and mission-driven acquisition culture.

Mission- and Concept-Driven

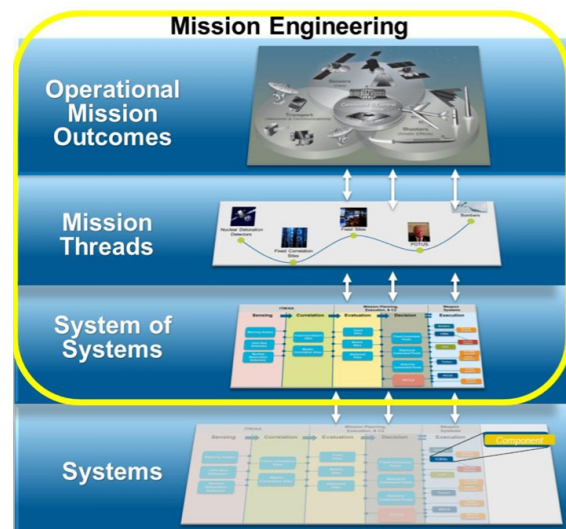
The new MDBS no longer relies on lengthy, static, and parochial planning and programming processes. Investments are driven not solely by extant war plans but also by new and innovative operational concepts. These concepts are proven and refined through extensive operational experimentation out in the field with industry and tapping into the latest commercial technology by units such as the Navy's [NavalX](#) and [Task Force 59](#), the U.S. Marine Corps [Warfighting Laboratory](#), the Army's [Rapid Capabilities and Critical Technologies Office](#) and the Air Force's [AFWERX](#) and [Task Force 99](#).

Programming is no longer a manual, somewhat arbitrary process where long-term programs of record are automatically funded, and the “sacred cows” of legacy platforms are preserved despite their increasing operational irrelevance. Instead, the Secretary of Defense (SECDEF) sets clear priorities, and the Chairman of the Joint Chiefs articulates detailed operational joint challenges that must be collaboratively solved by the Services. The SECDEF relies on an updated version of the [Advanced Capability and Deterrence Panel](#) (ACDP), comprising key personnel from across DoD to manage the challenges and hold the Services accountable for developing these joint solutions rather than attempting to meet an entire mission set with assets from a single Service. Congress is also a partner in monitoring the execution of these strategies and getting early reviews prior to the SECDEF's guidance being finalized. Major congressional concerns are addressed collaboratively and transparently, even if final outcomes are not always harmoniously received by all congressional stakeholders. Congress and the Department of Defense work collaboratively to drive development and delivery of the capabilities needed to achieve strategic outcomes, not to satisfy individual constituencies.

Importantly, DoD's force design has moved away from striving for a “balanced force” and instead is

developed and designed against the pacing threats identified in the Department's National Defense Strategy (NDS). Organizations at the Service and Joint-Staff level no longer rely on untimely intelligence assessments and [stale requirements](#) from decade-old documents. Instead, they are continuously mapping mission threads, [infusing current threat intelligence](#), generating real-time tailored assessments, building and incorporating digital models of key capabilities, updating more detailed operational needs, scouting the technology sector for new disruptive capabilities, and operating as a collaborative partner with acquisition program offices. With the specific mission- and campaign-level metrics provided in the NDS, the ACDP can assess whether the components are developing the right capabilities and the extent to which the Joint Force can successfully meet a campaign's overall objectives as well as how potential cross-Service tradeoffs would impact a specific campaign. The ACDP continually pushes the Services to consider alternative solutions to the most challenging operational problems based on new technologies and capabilities.

In the past, mastery of DoD bureaucratic processes was the desired skill set of the Joint Staff and Service requirement communities. Now, it is the ability to conduct mission engineering (ME), operational analysis, red teaming, wargaming, and modeling and simulation



as well as build cross-community collaboration that is the predominant experience and expertise demanded of personnel in these roles. ME provides a data-driven approach that [helps key stakeholders](#) “identify enhanced capabilities, technologies, system interdependencies, and architectures to guide development, prototypes, experiments and systems of systems to achieve reference missions and close mission capability gaps.” The understanding and application of ME is now combined with a collaborative approach to arbitrating users’ dynamic needs, as the defense acquisition community is more successful with a supporting team than a surplus of referees. As a subset of the “art of ME,” there is also greater recognition among the larger requirements community that [commercial technology](#) should influence requirements more since “technology innovation in many areas now falls to commercial companies.”

Adaptive Budgeting Processes



The new MDDBS is no longer constrained by thousands of [discrete budget lines](#), each broken down into dozens of appropriations and even more different budget activities. DoD investments are no longer managed according to outrageously lengthy and often ambiguous [financial management guidance](#). Congressional reformers determined this overly micromanaged approach to defense budgeting failed to produce positive outcomes for national security. Instead, the focus moved from a desire to control fund allocation at the lowest level to one where clear

strategic alignment is understood and full execution transparency is provided both to senior DoD leaders and to the congressional defense committees.

These changes shifted the reprogramming process from one where a low threshold prevented the ability to maximize value across accounts or where discrete reprogramming packages required thousands of staff-hours across DoD and Congress to execute common sense transfers. Instead, congressional staffers now have access to financial systems to monitor funding movements and can engage at their discretion on areas of concern.

Congress also no longer waits for bloated budget documents that provide minimal information, but instead focuses on allocating the correct amount of funds to established budget groups that can deliver integrated suites of capabilities, groups like those listed in Table 1. DoD and Congress have shifted from a program-centric approach and now recognize that most joint capabilities are not so easily contained. Execution rules now provide flexibility to allocate funds to research and development or procurement accounts depending on the opportunity space. The rules recognize the ubiquitous nature of software throughout every program and platform and expand the application of operations and maintenance funds for digital upgrades. They appreciate that development of software and data-centric capabilities like Joint All Domain Command and Control requires flexibility to conduct continuous prototyping and operational fielding, with the ability to make full use of industry, [federally funded research and development centers](#), [university-affiliated research centers](#), and government-provided solutions. They provide acquisition executives flexibility to allocate funds for key infrastructure efforts that are needed to establish enterprise-level services or bolster the defense industrial base. To ensure appropriate insight and transparency, all funds are tagged with metadata to clearly distinguish what budget group the funds are assigned against, the efforts within the budget

group, and the type of investment being funded. This also helps establish more clear connections between budget allocations and specific contracts or activities.

The Office of the Secretary of Defense (OSD) and the Services still conduct investment prioritization and trade-offs for specific funding requests and ensure there is an executable strategy for those funds. Yet time is no longer wasted on whether funding for a specific program needs to be adjusted by one percent or whether procurement profiles should be set at a quantity of nine or ten. Those are now recognized as decisions that can be worked out in the year of execution or shortly before as part of a collaborative process with Congress. Discussions about long-lead procurements, block buys, or multiyear procurements are continuous, and a business case can be made whenever the conditions warrant without waiting for an entire budget cycle. As the dynamic commercial sector plays a larger role in the defense industrial base, this will become more important. This collaborative approach to the budget ensures that acquisition situations are evaluated when

maximum information is available, and a decision needs to be made. This helps DoD make more timely decisions that are not completely reliant on a single appropriations bill. It also potentially shortens internal DoD decision making because it eliminates the need for DoD to have a perfect budget proposal, with every disagreement worked out in the Program Budget Review process. Instead, it gives DoD leaders some flexibility to revisit decisions in the year of execution in collaboration with Congress. This is now possible because funds are allocated into a select number of budget groups rather than thousands of discrete budget line items.

The flexibility to shift funds to where they can deliver the highest value effectively resolved concerns over technology transition and the “[valley of death](#)” that left promising commercial or laboratory advances in limbo for years. There is no longer a need for “[bridge funds](#)” or special accounts that pull funds away from the larger enterprise. Now those technology transition projects are initiated immediately by the responsible office with full transparency to key stakeholders. Congress maintains the authority to veto certain

Conceptual Budget Group	Potential Budget Sub-Groups
Air	JSF (J), Aviation (A), Air ASW (N), Aviation Common Mission Sys (N), TACAIR (N), Unmanned Aviation (N), Fighters (AF), Bombers (AF), Mobility (AF), Executive (AF), Fixed Wing (SO), Rotary Wing (SO)
Maritime	Carriers (N), Ships (N), Subs (N), Unmanned Small Combat (N), Maritime (SO)
Ground	Ground Combat Systems (A), Soldier (A), Land Systems (USMC), SOF Warrior (SO)
Space	Space (A), C4I/Space (N), Space Access (SF), SDA (SF), Comm/PNT (SF), Space Sensing (SF)
C4ISR/Cyber/EW	C3T (A), C4I/Space (A), Intel/EW/Sensor (A), Digital (N), Digital (AF), C3I&N (AF), ISR (AF), NC3 (AF), BMC3 (SF), C4 (SO), Digital Apps (SO), Special Recon (SO), Info Ops (DLA), DISA
Nuclear/Chem/Bio	Chem/Bio/Rad/Nuclear (A), Chem Weapons Alt. (A)
Munitions and Missile Defense	Armaments/Ammo (A), Missiles (A), Strategic Sys (A), Integrated Warfare Sys (N), Weapons (AF), MDA (J)
Health	Defense Health Management Systems (J)
Business Systems	Enterprise Info Sys (A), Manpower Log Business (N), Business Ent Serv (AF), Services (SO)
Mission Support	Combat Support (A), Simulation/Training (A), Agile Combat Systems (AF), RCO (AF), RCO (SF), RSO (AF), SOF Support (SO)
(A) Army, (N) Navy, (AF) Air Force, (SF) Space Force, (USMC) Marines, (SO) Special Operations Command, (J) Joint	

Table 1: Conceptual Budget Groups and Sub-Groupings

movements if it deems them inconsistent with the spirit of the budget group allocations, but tighter collaboration between DoD and Congress makes this less necessary than in previous years. With the focus on budget groups rather than discrete line items, congressional staffers have more time to conduct staff delegations and gain critical hands-on insight that provides them a more complete picture that was not possible with legacy processes.

Finally, as a more adaptive process, the new MDBS is also more permissive of external partnerships that maximize return on investment for DoD. Among corporate partners, it better leverages investments made by venture capital and private equity sources to scale critical defense solutions. Specifically, DoD promotes partnerships between defense primes and innovative startups and offers loan guarantees for technology areas. Funds allocated toward a budget group capability can now be used in more creative ways to ensure a balance of operational system readiness with modernization of new systems. Internationally, DoD now regularly engages allies and partners in collaborative research and development efforts or scaling procurement with the recognition that collective global security requires a more open approach to technology and bilateral information sharing. There are still rational restrictions on transfer of weapons to certain countries, but the International Traffic and Arms Regulation process is dramatically streamlined, and more discretion is provided for countries designated as an ally or partner. This allows for an expansion of Foreign Military Sales and makes them a central component of affordability in acquisition strategies. Most major programs now have at least 30 percent funding from international partners, which greatly increases DoD's buying power, improves the defense industrial business, and enhances coalition interoperability.

Digitally Enabled

The new MDBS is implemented in an era where DoD is already undergoing a digital transformation. This combined with the new principles of the MDBS system results in DoD being able to retire many legacy Information Technology budget systems (some from the 1970s) and move to a modernized architecture that can better exploit diverse forms of data and new artificial intelligence algorithms. DoD vastly reduces the thousands of disparate documents, PowerPoint charts, and Excel files that flooded the Pentagon and DoD email networks in lieu of a common, secure cloud-based digital platform hosting curated, searchable data lakes.

Now all major enterprises in the digital age operate with robust digital platforms that provide extensive data analytics, harnessing artificial intelligence (AI) to enable rapid, informed decisions. DoD, Office of Management and Budget (OMB), and Congress have invested heavily in a modern joint platform to plan, develop, and execute the vast defense budgets. This included investments in the technology, process reengineering, and digital training across the budget and stakeholder organizations.

With multilayer controls, users are provided role-based, real-time access to budget data with personalized alerts and reports. This enables subordinate organizations to collaboratively develop budget submissions directly in the system before oversight reviews. Oversight organizations review budget line items with greater speed and ease using dynamic tagging of budget line items, which enables views by budget group, mission, or technology areas. They leverage the digital platform to gain deeper insights into programs and organizations, prompt questions for timely responses, and establish alerts when tagged accounts change. Congress and the Government Accountability Office (GAO) are given controlled access to the digital budget platform to offer greater transparency of budget execution and phased access of budget planning and programming.

The data generated from past fiscal years, along with the enterprise analytics of system development, performance, and operations, are invaluable to fuel the platform's AI engine. The digital platform identifies strategic and specific investment risks and opportunities with AI-informed recommendations to optimize investments for mission impact. Department investments are made by data-driven decisions instead of gut feeling and long-held institutional biases. The digital platforms also enable DoD for the first time in almost 20 years to regularly pass financial audits.

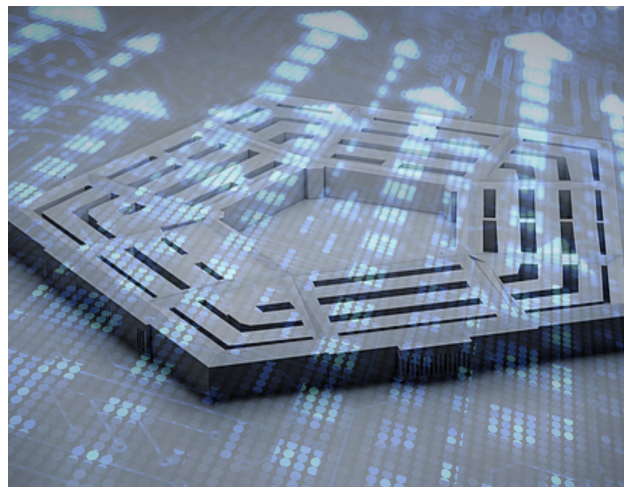
Controls and alerts are built into the system whereby DoD and congressional officials are notified of changes, and major movements are reviewed and approved rapidly in the digital platform. The robust insight into defense budget plans and execution rebuilt trust between DoD and Congress that continues to offer profound benefits in aligning the executive and legislative branches toward executing common national defense goals.

Culturally Aligned

With the introduction of the MDBS, a shift occurred in the defense acquisition culture that addressed many of the challenges noted in [acquisition literature](#) the previous 40 years. Not surprisingly, program managers and program executive officers that no longer had to wait for new start approval to initiate a much-needed capability now feel much more empowered to be as responsive to user needs as they always desired to be. With the decreased focus on discrete programs of record, acquisition leaders have become more willing to pivot from a project that was not on track to achieve its goals and more attuned to the benefits of continuous market research. With an improved ability to allocate funds where they can achieve maximum effect,

innovators at multiple levels throughout the military can compete for funds to advance a powerful idea. Accountability and risk tolerance have also improved since more levers of control are now in the hands of an experienced acquisition executive who knows the technology space well enough to know where risk is prudent to take. This results in overall increased morale for the acquisition workforce, and imposing tenure is less of a problem because professionals in the business can more actively guide their projects and are empowered to shift course when needed.

The shift in acquisition culture leads to a broader change in the culture of the defense industry as a whole. With the broader flexibilities and focus on suites of capability, there are more opportunities for members of the defense industrial base regardless of size. This now enables more robust competition for each contract but also expands the number of research and procurement efforts that might be underway. This helps build a more vibrant and responsive innovation base from the defense research community and industry. It has also contributed to an expansion in commercial companies that are excited to support defense projects.



Conclusion

Throughout history, major events have forced systemic changes. World War II drove greater integration between the military and academia for technology advancements, [spurring the creation of Silicon Valley](#). The Cold War competition drove the creation of the Defense Advanced Research Projects Agency (DARPA) and heightened military and intelligence community cooperation. Inter-Service challenges during the Vietnam War and Invasion of Grenada drove the passing of the Goldwater-Nichols Act. The attacks of 9/11 drove the creation of the Department of Homeland Security. The best approach to managing unexpected or anticipated events is to [optimize the system](#) that handles the consequences in advance of a contingency. In 2023, DoD is not optimized. Many reforms are needed but the most pressing of all is the modernization of the PPBE system and its attendant processes. Implementing an MDBS will provide a solid foundation for transforming the U.S. military into an adaptive and energized ecosystem that can handle the military challenges posted by an advanced peer rival such as China and others that might come after it.

About the Authors

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