Authority, Autonomy, and Accountability

Defense Fielding Principles for Innovation and Speed to Mission

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Authors:
Roger Thrasher
Eliahu Niewood
Dan Ward
Pete Modigliani

McLean, VA

MITRE

Abstract

Here's the bad news: the US defense fielding enterprise—the combined efforts of Congress and the Executive Branch to field relevant defense capabilities—is not meeting our Nation's needs. At a time when the Nation confronts a diverse set of military threats, the pace at which the United States fields relevant military capabilities continues to slow despite defense budgets that are near all-time inflation-adjusted highs. That might have been satisfactory when we massively outspent all other nations or when we had a lock on advanced technology development, but neither is true now, and our strategic competitors are fielding new capabilities faster than we are. If the current situation continues, we face a growing capability disadvantage.

Here's the good news: we can do something about it. Right now, the defense fielding environment plays by the rules Congress and the Department of Defense (DoD) have set up. If we're not satisfied with the results we're getting, we can change the environment, the culture, and the incentives—not by issuing more detailed policies or exhortations to "go faster" or "be agile," but by diagnosing and changing the fundamental elements that are holding us back.

There are no easy fixes and no silver bullets. Making fundamental changes is going to be uncomfortable. Fixing our current system will involve risk-taking and we should expect (and encourage) smart failure—in exchange for greater rewards, quicker learning, and sustained speed to mission over the long haul. This paper proposes principles and recommendations to help improve defense fielding fundamentally, primarily by **focusing authority, autonomy, and accountability at the point of execution in multiple mission-focused organizations.**

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Context

At a time when we confront an increasingly diverse set of military threats, ranging from resurgent near-peers to innovative terrorists and insurgents, **the pace at which the United States fields relevant military capabilities continues to slow.** In the post-World War II and Cold War years, the United States enjoyed huge economic and technological advantages due to the size and dynamism of its economy. This allowed the US military to maintain strategic advantage by making technology research advances and by outspending our strategic competitors, even as our fielding environment became increasingly inefficient and slow. We now rely on smaller and smaller numbers of (sometimes) more exquisite and complex systems that can take a decade or longer to deliver. That approach, mixed with occasional examples of more effective efforts such as the Global Positioning System (GPS), stealth, and precision munitions, has served the nation well for decades, but has become increasingly problematic.

We no longer have unmatched resource or technology advantages. World-wide adoption of market-type reforms, globalization, and technology diffusion have greatly narrowed our ability to outspend our strategic competitors or to rely on our ownership of advanced technology to protect our warfighting edge despite our slow fielding pace. By some measures, China has an economy as large as our own based on purchasing power parity. China is moving up the technology value chain due to a combination of technology adoption and organic technology development, while also acting rapidly to field multiple generations of systems in the same time it takes the United States to field a single comparable system.

The problems with the US fielding approach have been recognized for years. Countless "acquisition reform studies" and pages of laws and policies have failed to halt these adverse trends. Such studies and policies have not led to success because **the underlying fielding environment itself is the root cause of increasing inertia**. Without fundamental changes to the defense fielding environment, the risk to our geopolitical goals and to our military men and women will grow, especially as threat countries and organizations advance and field ever-improving capability faster than the United States does.

This challenge is *not* about rapidly fielding individual programs or setting up a few select offices with special rules and authorities—those approaches don't scale to the enterprise. It's also *not* about contract types, oversight bodies, DoD 5000 changes, agile approaches, acquisition workforce quality, etc. Those narrow topics would miss the forest for the trees and would likely result in only marginal improvements if the DoD does not address the larger environmental issues. **The challenge is to change the fielding environment, culture, and incentives so that speed becomes an inherent characteristic of our efforts**. This requires us to understand the causes of today's problems, identify key considerations for effective fielding, and develop an initial list of specific, actionable recommendations for strategic change. Implementing this kind of approach requires Congressional and Executive Branch leaders to take risks and embrace uncomfortable actions to truly drive fundamental change.[1]

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[1] Realizing the need for faster capability deliveries, Congress enacted rapid acquisition provisions in the Fiscal Year 2016 National Defense Authorization Act. It required DoD to establish streamlined rapid prototyping and rapid fielding processes and empowered the Secretary of Defense to waive some acquisition laws. While these are positive steps, the department has been slow to implement them, and these steps don't address the fundamental issues outlined in this paper to infuse autonomy, authority, and accountability into the defense fielding environment.

Culture: Precautionary or Empowered?

Organizational culture is the most important factor driving successful innovation and speed. Far too many DoD organizations have cultures defined by risk avoidance and a technocratic top-down style, manifesting a specific strain of the Precautionary Principle [1]. By contrast, leading commercial and government organizations—to include many operational warfighting organizations—avoid this artificial constraint by building a culture around empowered people who do what it takes to quickly deliver innovative solutions.

> ### *Precautionary Principle*
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> *The Precautionary Principle promotes a "better safe than sorry" mentality through regulation and oversight to reduce any potential risks until it can be proved that a given action is going to be safe and low risk, usually by considering the hypothetical worst-case scenarios.*

A Precautionary mindset[2] among leadership and the bureaucracy often produces a culture characterized by attempts to plan and manage in a top-down fashion, resulting in paralysis, loss of opportunity, substitution of other risks while trying to avoid program risk, a compliance orientation, and a great deal of regulatory drag in time and money. Organizations with a Precautionary culture adopt an expansive approach to budgets and schedules, driven by a belief that spending more time and money is a low-risk way to solve problems. This is often expressed as a determination to "spare no expense" and a strategy of "take our time to do it right" while acting as if time doesn't matter. The result tends to be endeavors that cost more, take longer, and achieve less than promised. The association among large budgets, long timelines, and Precautionary cultures is strong, with each factor reinforcing the other. When things go wrong in this environment, leaders take refuge in the knowledge that they spent as much time and money on the problem as possible, overlooking that spending too much time and money was a primary cause of the failure. ***Ironically, being risk averse may be the biggest risk of all.***

In the defense context, this usually manifests itself in detailed policies (very specific authorization bills, Congressional language, DoD 5000, Service regulations, FAR [Federal Acquisition Regulation] interpretations, budget rules, etc.), very specific centralized planning, over-specification, over-engineering, overly stringent operational testing, and multiple layers of official and unofficial oversight of dubious value. In essence, this results in a "Mother, may I?" situation [2] where each action or decision in a program or portfolio must comply with myriad rules and then be approved at every step by people who can say "no" and have little incentive or authority to say "yes." Needless to say, this permission-based approach is not a recipe for speed or innovation.

One example of this Precautionary mindset is the funding instability that is a major source of program difficulties. Given a budget situation where every funding decision is constantly revisited, there are multiple occasions per year when a program's funding may change. For money that has already been appropriated, the Services and the Office of the Secretary of Defense (OSD) can re-program during the year of execution so that funds serve other priorities. At the same time, Congress will be considering the President's Budget submission and adjusting funding for the coming year, which can invalidate a program plan or contract in an instant. Finally, the Services

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[2] To be fair, leaders and organizations fall into a Precautionary Principle approach for rational and sometimes laudable underlying motivations. This includes an intent to reduce public harm, a desire to be seen taking visible preventive action, aversion to press criticism, fear of public opinion, unwillingness to be associated with failures, etc.

and OSD are considering the future years' budgets, which can also invalidate the program plan. All three sources of budget churn occur constantly throughout the program lifecycle.

If funding instability weren't bad enough, funding is provided in very strict categories with relatively short expiration dates. This means DoD has very little flexibility to shift resources in response to changes in operations, threats, technologies, risks, and opportunities.

By contrast, the modern information technology revolution sprang from a largely unwritten, dynamic "Permissionless Innovation" culture, characterized by "constant creation, discovery, and competition" [3]—in short, an empowered approach. An empowered culture is most often found in situations and enterprises where managers are given great latitude on plans, requirements, resources, approaches, and schedules. In this environment, managers are free to embrace rapid learning, rapid evolution, and incremental fielding. An empowered culture reduces the precautionary pressures and increases the opportunity to experiment, explore, and innovate.

This is the polar opposite of the current US defense fielding mindset and approach. DoD officials recognize that Silicon Valley is doing something different, but have yet to realize that one-off adoption of specific Silicon Valley tactics (mash-ups, experiments, non-traditional contracting vehicles, etc.) will not have a large impact unless DoD adopts major aspects of the empowered mindset prevalent in Silicon Valley.

> ### *Empowered Autonomy*
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> *An empowered culture prioritizes learning through trial and error, decentralized control, experimentation, spontaneity first, and embrace of risk and uncertainty* [4]*. This implies a certain degree of autonomy, to include the ability to make and correct mistakes.*

Capability Approach: Perfectionist or Evolutionary?

DoD should recognize the unpredictable nature of technology advances and changes to the combat environment when developing system concepts and requirements. That is one thesis stated by the Honorable Richard Danzig in his 2011 paper titled "Driving in the Dark" [5]. This represents a stark contrast to the DoD's tendency to launch decades-long development efforts in which programs try to require, specify, build, and test in a monolithic, single-step-to-capability effort—and then use those systems for years and decades. Such approaches tend to stem from a perfectionistic stance that assumes accurate predictions about future needs, requirements, threats, and technologies. It's exacerbated by the episodic nature of large programs, where a new system is burdened with exquisitely detailed requirements in an attempt to ensure incorporation of requirements into a once-in-a-generation program start. In an effort to field a perfect system, we instead get complicated plans, long cycle times, an inability to react to changing circumstances, and programs that are "too important to kill" because they're "the only game in town."

An evolutionary perspective acknowledges that the future is uncertain—and we need to leave room to learn, react, and evolve. In essence, the evolutionary approach is a development and fielding campaign of experiments, which require "a degree of adaptability and innovation to accommodate learning over time." [6] This means taking a number of smaller and shorter development steps leading to full capability over the long run. An evolutionary focus works best as a time-staged portfolio of projects, because ideas and capabilities that were not included in the immediate project can be inserted into subsequent projects. The idea is to anticipate and plan for

future increments by using open architectures and standards, but not to explicitly define future systems prematurely. Delivering a minimum viable product to the users as soon as possible is a proven technique to enable rapid learning and shape future increments. Launching an iterative series of related projects, each of which builds on the deliveries and discoveries of earlier increments, reduces the pressure to over-complicate the architecture or to delay delivery. An evolutionary mindset also uses testing not primarily as a graduation exercise, but as a way to quickly find problems and rapidly learn. It allows rapid reaction to technology advances, because there is always another incremental step coming soon.[3]

> ### *Getting Smarter Over Time*
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> *A bias toward evolutionary development mitigates against over-engineered solutions, requirements creep, and premature technology insertion. Over time, with quick learning, rapid course corrections, and more opportunities to insert evolving technology, a series of incremental projects fulfills the overall portfolio mission needs by following a step-wise path, instead of attempting large and risky episodic jumps in capability.*

In short, an evolutionary approach puts capability into the field faster and more often. Then the warfighter, in the current operational environment, can try, learn, fail, tactically innovate, and validate alignment between the users' original formal requirements and their current understanding. This learning quickly feeds back into the evolutionary development cycle, thus setting the stage for better future capability increments.[4]

Responsibility and Authority: Diffuse or Unified?

One aspect of defense fielding that makes the environment inefficient is diffusion of responsibility across the DoD and Congress. At the end of the day, it is no one person's or organization's fault if the DoD provides a sub-par product to our warfighters—or takes 20 years to deliver new capability. More important, no one person or organization has the ability to perform the research, development, and fielding of dramatic new capabilities for the warfighter.

> ### *Who's Responsible?*
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> *If you sit in a Pentagon meeting and ask who's responsible for fielding capability for a given mission-focused area, you might get one of two responses. First, no one will raise their hand. Second, almost everyone will raise their hand. Why? Because decision rights and responsibility are diffuse. It takes requirements, resources, technology, engineering, and business management to field war-winning capabilities over a sustained period. All those areas are spread across multiple organizations, with no one person having full authority and thus everyone having involvement but not full accountability.*

For example, within the Air Force, multiple headquarters (HQ) elements, major commands, acquisition commands, resource organizations, research organizations, program executive officers, and program managers all play roles in fielding—none has control or ultimate

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[3] Note that an evolutionary approach may require development of a "platform" on which smaller improvement efforts can be hosted. Developing an initial platform, such as an aircraft, is a major effort that can take years. However, the evolutionary approach still applies since the platforms themselves should evolve in a step-wise fashion. The F-16 Fighting Falcon exemplifies this approach, where the original Block 10/20 platforms were incrementally improved until the time when new platforms (Block 30/40, Block 50/60) were required to make further rapid capability gains within the block.

[4] An added benefit to an incremental approach using open standards is that it opens the door to the use of non-traditional and smaller industry contributors.

responsibility. As the Government Accountability Office reported in 2015, when layers within OSD and the Services are added, decision rights become even more diffused (see figure below) [7]. Including the various Congressional actors adds even more dispersion of decision rights.

Office of the Secretary of Defense (OSD) Level

• Defense Acquisition Executive	• Assistant Secretary of Defense (Research & Engineering)
• Vice Chairman of the Joint Chiefs of Staff	• Deputy Assistant Secretary of Defense, Strategic & Tactical Systems
• Under Secretary of Defense (Policy)	• Deputy Assistant Secretary of Defense, Space & Intelligence
• Under Secretary of Defense (Comptroller)	• Deputy Assistant Secretary of Defense, Communication, Command, and Control Cyber
• Under Secretary of Defense (Personnel & Readiness)	• Director, National Geospatial-Intelligence Agency
• Under Secretary of Defense (Intelligence)	• Deputy Director, Cost Assessment
• Chief Information Officer	• Director, Defense Pricing
• Director, Operational Test & Evaluation	• Director, Systems Engineering
• Director, Cost Assessment and Program Evaluation	• Director, Developmental Test & Evaluation
• Director, Acquisition Resources & Analysis	• Deputy Assistant Secretary of Defense, Manufacturing & Industrial Base Policy
• Principal Deputy Under Secretary of Defense (Acquisition, Technology, & Logistics)	• Director, International Cooperation
• Assistant Secretary of Defense (Acquisition)	• Director, Performance Assessment and Root Cause Analysis
• Assistant Secretary of Defense (Logistics & Material Readiness)	• Assistant Secretary of Defense (Legislative Affairs)
• Deputy Under Secretary of Defense (Installations and Environment)	• Director, Defense Procurement and Acquisition Policy
• Deputy General Counsel (Acquisition & Logistics)	• Assistant Secretary of Defense (Operational Energy Plans and Programs)

Service Acquisition Executive (SAE) Office Level

• Assistant Secretary of the Air Force for Acquisition (Service Acquisition Executive)	• Assistant Secretary of the Air Force Installations & Environment (Logistics)
• Assistant Secretary of the Air Force Installations & Environment	• Air Force Intelligence, Surveillance, & Reconnaissance (Strategy, Plans, Doctrine & Force Development)
• Air Force Logistics, Installations, & Mission Support	
• Air Force Operations, Plans, & Requirements	• Assistant Secretary of the Air Force Chief Information Officer (Policy & Resources)
• Air Force Intelligence, Surveillance, & Reconnaissance	• Assistant Secretary of the Air Force Deputy General Counsel for Acquisition
• Air Force Financial Management & Comptroller	• Air Force Financial Management and Comptroller Deputy Assistant Secretary (Cost and Economics)
• Air Force Test & Evaluation	
• Assistant Secretary of the Air Force Small Business Programs	• Air Force Financial Management and Comptroller Deputy Assistant Secretary (Budget)
• Assistant Secretary of the Air Force Chief Information Officer	• Assistant Secretary of the Air Force Directorate of Science, Technology & Engineering
• Assistant Secretary of the Air Force Test & Evaluation (Policy and Programs)	• Assistant Secretary of the Air Force Directorate Management Policy & Program Integration
• Air Force Operations, Plans, & Requirements (Operational Capability Requirements)	• Assistant Secretary of the Air Force Directorate of Contracting
• Air Force Logistics, Installations & Mission Support (Logistics)	• Air Force Acquisition Capability Directorate

Program Executive Office

• Program Executive Officer	• Functional Staff: contracting, logistics, finance, and engineering
• Deputy Program Executive Officer	• Program Executive Officer Execution Group

Source: GAO presentation of DOD data. | GAO-15-192

> ### *Authority and Accountability*
>
> *Unity of Command is a classic military principle of war. For the same reasons that warfighting requires unified decision rights, defense fielding would benefit from unifying authority and accountability of required elements needed to successfully field capability over time.*

Of course, the alternative approach is to unify decision rights. This does not imply *centralizing* such decision rights at the highest levels of the DoD, which is the typical approach when trying to make decisions in situations where everyone has only partial authority. It does imply **investing a leader with the requirements, resources, technology, engineering, and business**

management authorities needed to enable full and singular accountability within a short and narrow chain of command.

Currently full unified decision rights do not exist anywhere in the defense fielding environment. A few organizations come close, to include the Special Operations Command (USSOCOM) acquisition organization. [8] With special funding rules, small teams, close proximity of acquisition personnel and warfighters, empowered milestone decision authorities, and an organizational mindset that prioritizes rapid incremental fielding, USSOCOM has realized most of the essential benefits of unified decision rights.

Another example is the Air Force classified acquisition community, including SAF/AQL, the AF Rapid Capability Office, special test elements, certain parts of the AF science and technology (S&T) community, and select program offices. This community has long been seen as a haven for better acquisition and fielding performance. This came about largely because, even though classified acquisition also separates requirements development, research, acquisition, resourcing, and Pentagon oversight, it is a much smaller community with much tighter integration across the different functions described above. Officers on the classified side of acquisition move frequently among the different elements of the system and most have worked together in the past, enabling closer communication and coordination. Reduced oversight on the classified side also means more freedom for forward-leaning civilians and officers to adapt program goals and make smart decisions without unending debate. Unfortunately, the separation of the acquisition effort into two different pieces—unclassified and classified—only further accentuates the diffusion of responsibility for delivering new capabilities in a given mission area. In addition, there are troubling signs that classified acquisition efforts are starting to suffer from some of the same problems as their regular program acquisition counterparts.

Positive Deviant:
The Air Force Rapid Capability Office

The Air Force Rapid Capabilities Office (AF RCO) is one organization that has managed to effectively and quickly develop and deliver advanced technology to the operator since its inception in 2003. A number of critical elements in AF RCO have enabled this success. The office has a can-do culture, with small and lean teams empowered by leadership to take initiative and risk in order to achieve mission success. AF RCO has its own embedded contracting, financial management, security, and IT teams who are full partners in the Office's programs and are committed to program success, rather than functioning as rule monitors focused on implementing process for process's sake. AF RCO flexibly controls requirements to achieve mission success and collaborates closely with warfighters who are empowered to quickly concur on requirements adjustments. It relies on its deep technical expertise at all levels of the organization, additional subject matter experts from Federally Funded Research and Development Centers (FFRDCs) as needed, and mission analysis capabilities through organic systems analysis teams. It focuses on efforts that are of high importance to the senior DoD leaders, providing AF RCO leadership with direct connectivity to those DoD leaders and ensuring minimal oversight from Service and DoD staffs. All these elements combine to result in quicker decisions, faster learning, and ultimately more rapid fielding.

Recommendations for a Better Defense Fielding Environment

A key assertion of this paper is that tactical changes to the US defense fielding approach will not yield the desired improvements in cycle time or innovation. Likewise, Congressional or OSD policy mandates to "encourage innovation" or "go faster" have time and time again failed to bring about desired results. More disruptive changes to the defense fielding environment are needed. MITRE offers the following specific initial recommendations to Congressional and DoD senior leadership to improve the defense fielding environment, while acknowledging that these recommendations require further development before full implementation.

Adopt Capability-Centric Portfolio Management

Create smaller, capability-centric fielding organizations run by new and more empowered **Capability Area Providers** (CAPs). The intent is to create a nexus of authority and accountability over resources, technology, requirements, engineering, and business management where one leader is responsible for delivering operational capability over time in a specific capability area. Example capability areas might include aerial communications, battle management, air-air effects, air-ground effects, surface-surface effects, ground communications, etc.[5] This construct would execute this approach through a product *portfolio* instead of a series of episodic programs. These new portfolios would not simply be acquisition organizations; they would have expanded autonomy and authority for requirements and resources.[6] Within these focused and empowered organizations:

- Give the CAPs milestone decision authorities and contracting authorities for their respective portfolios to ensure decisions are made by those closest to portfolio execution.

- Hold CAPs accountable via a small Board of Directors (similar to the commercial CEO-Board construct) consisting of an acquisition executive, a requirements lead, and a resourcing lead.

- Implement "command by negation" that empowers the CAPs to make all decisions within their portfolio without prior approval unless countermanded by the Board of Directors.

- Ensure CAPs have strong organic analytic capabilities to make continuous trade-offs within their portfolios.

- Give CAPs direct connectivity to the operators and warfighters who will use the systems they provide, which enables tight coordination on how mission-level requirements will be met over time within a portfolio construct.

- Since some capability areas will be inherently multi-Service (for example, command and control), develop mechanisms to hold the relevant Service CAPs jointly accountable for product interoperability. More thinking is warranted on this topic.

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[5] Setting the scope and size of the capability area portfolios will be key. The portfolio must be large enough to achieve economy of scale and mass of impact—but not so large that it becomes unmanageable for a CAP.

[6] While the CAP construct could be built upon current Program Executive Officer (PEO) acquisition authorities, it would require also giving significant requirements and resource authorities.

- Since some capability areas will be inherently multi-mission, develop mechanisms to hold the relevant CAPs jointly accountable for product interoperability. Again, more thinking is needed to develop the proper governance structures.

- Make CAPs the source for all research and development budget requests within their portfolio (as distinguished from S&T or Production budget requests).

- Allow CAPs to initiate projects on their own within their portfolio requirements and budgets, to include starting current year projects via notification to Congress.

- Let CAPs build their own lean and small teams via more flexible hiring and assignment practices.

- Vest CAPs with flexibility and authority for their portfolio resources (specific ideas below).

Use Mission-Level Requirements

Instead of detailed and inflexible program-specific requirements, CAPs would be given "mission order" need statements that offer broad guidance within a capability area.

- In lieu of program-specific Initial Capabilities Documents (ICDs) and Capability Development Documents (CDDs), write need statements that include enduring capstone capability portfolio requirements and very short need statements for given classes of systems within a portfolio.

- Approve enduring capability portfolio-level requirements at the Service level where appropriate or at the Joint level for cross-Service systems—re-vector the Joint Capabilities Integration and Development System (JCIDS) to focus on approving joint higher level need statements.

- Continually assess capability portfolio mission area options and alternatives—led by the capability area portfolio.

- Constrain programs' initial requirements set to rapidly deliver a minimum viable product to users. After the first delivery, iterate via regular releases per a prioritized backlog of requirements based on user feedback, initial system performance, maturing technology, and operational priorities.

- Enable the evolutionary approach by stronger use of non-proprietary and often government-controlled standards, interfaces, and reference architectures.

Revert to Simpler Financial Rules

While there are good accounting reasons for imposing very specific financial rules on "color of money," short expiration timelines, and detailed program element allocation, such rules substantially inhibit reaction to the fast learning and rapid innovation that MITRE proposes in a mission portfolio approach. DoD should propose, and Congress should adopt, simpler money rules to promote stability, flexibility, and accountability. Specific actions should include:

- Appropriate capability portfolio-level resources in only one Program Element for each portfolio to allow flexible and timely application of resources within the control of the CAP.

- In the interim, before capability portfolio budgets are implemented, give full reprogramming authority to the CAPs.

- Revisit the value of separate "colors of money" and the resultant rules and burdens: consider less restrictive funding categories and funding expiration rules.

- Cancel yearly funding execution reviews and remove rules requiring inflexible and straight-line obligations and expenditures.

- For major programs, consider use of milestone appropriations, where all money for a program phase is appropriated (not budgeted) up front.

Streamline Management Oversight

With requirements, resources, and business management handled at mission-centric portfolio levels, many current oversight mechanisms would become irrelevant. Lighter oversight methods should be adopted that empower the mission-centric portfolio construct while enabling sufficient oversight by senior leaders.

- Have the CAP conduct periodic portfolio reviews with a steering group of senior leaders from the warfighting, resourcing, and acquisition communities. This would in essence become the "Board of Directors" for a given mission-centric portfolio.

- Revamp the current program-focused Acquisition Category (ACAT) structure in favor of a portfolio-level structure where review and decisions are made for the overall portfolio, not program by program.

Obviously, Congress must execute its Constitutionally mandated oversight role—that would not change. What could occur is a move to more flexible and stable Congressional appropriation and authorization approaches within a capability portfolio construct.

Allow Internal Customers to Vote

Within the DoD, the warfighting commands are the ultimate customers for a capability-centric portfolio of products. Likewise, the CAPs are the ultimate customers for S&T research and for the acquisition personnel provided by the acquisition centers. Giving these internal customers a bigger voice and vote will help align resources to the customers' interests.

- Allow warfighting commands to vote on CAP performance by deciding what CAP products the Service will or will not budget for and how much of that product to buy.

- Give CAPs direct influence over Service S&T efforts, with the ability to direct some portion of the research lab 6.2 and 6.3 budget in areas relevant to their capability-centric portfolio.

- Allow CAPs more authority to "hire" functional talent (engineers, project managers, legal, business operations, contracting, etc.) from the supporting acquisition centers based on need, quality, and performance. This may require a move to a reimbursable model where the CAP pays for the number and type of personnel it needs from the acquisition centers.

Conclusion

Over time, the United States ecosystem for fielding defense capability has become increasingly complex, slow and inefficient. The diffusion of responsibility, proliferation of micro-management and oversight, spread of a precautionary culture, and a perfectionist approach have left the United States with a system that is comfortable with 20-year timelines for moving from technology to capability. In a world in which both the commercial sector and adversaries are evolving ever faster, staying the current course chances growing capability gaps. National leadership must decide if the outputs of the current fielding environment put long-term freedom of action at risk as the United States pursues national strategic goals—or, worse yet, puts battlefield success in question should the Nation have to engage in armed conflict.

To reverse this situation and take advantage of the innovation and technological creativity that are the Nation's great strengths, the defense fielding environment must undergo revolutionary change. The alternative is to continue tinkering around the margins of the current approach, which has not proven a successful strategy.

The initial recommendations MITRE proposes, centered around a theme of **concentrating authority, autonomy, and accountability within capability-focused nodes**, could provide part of that needed revolutionary change. By creating capability-centric organizations with authority and autonomy, and by holding them accountable through the need to incrementally deliver and "sell" systems to their customers within the warfighting commands, the Congress and DoD can create a defense fielding culture that rewards innovation, risk-taking, and speed.

To start, **MITRE suggests piloting the above recommendations in a select number of newly constituted capability area portfolios** with experienced and visionary leaders. If these CAPs are given enough of the recommended authorities—and at least 5 years to test this approach—Congressional and DoD leaders will have the information they need to decide if this approach merits spreading across the defense fielding environment.

Fully implementing these changes—and even just piloting such changes—requires courage, determination, risk-taking, and political capital from Congressional and DoD leaders—to include engaging the public and the media on why the old approach does not work and why a new approach is warranted. Given the stakes, we owe our Nation nothing less.

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