

# DEFENSE INNOVATION AND ACQUISITION REFORM

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## HEARING

BEFORE THE

## COMMITTEE ON ARMED SERVICES UNITED STATES SENATE

ONE HUNDRED NINETEENTH CONGRESS

FIRST SESSION

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JANUARY 28, 2025

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## DEFENSE INNOVATION AND ACQUISITION REFORM

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TUESDAY, JANUARY 28, 2025

UNITED STATES SENATE,  
COMMITTEE ON ARMED SERVICES,  
*Washington, DC.*

The Committee met, pursuant to notice, at 9:30 a.m. in room SD-G50, Dirksen Senate Office Building, Senator Roger Wicker (Chairman of the Committee) presiding.

Committee Members present: Senators Wicker, Fischer, Cotton, Rounds, Ernst, Sullivan, Cramer, Scott, Tuberville, Mullin, Budd, Schmitt, Banks, Sheehy, Reed, Shaheen, Gillibrand, Blumenthal, Hirono, Kaine, King, Warren, Rosen, Kelly, and Slotkin.

### OPENING STATEMENT OF SENATOR ROGER F. WICKER

Chairman WICKER. This hearing will come to order. Thank you-all for coming. The Committee meets this morning to discuss the topic that is of great interest to every member of this panel. We're here to talk about defense innovation. We must change the way the Pentagon does business, otherwise there's no way we can maintain deterrence particularly against China.

Today, we'll hear from three experts. Shyam Sankar serves as the Chief Technology Officer at Palantir, which has done important work for the military. Mr. Sankar has published widely on innovation, and we look forward to hearing his ideas today. We'll also hear from Nate Diller, who has worked at both the Department of Defense (DOD) and the House Appropriations Committee, where I previously worked in another life. Today, Mr. Diller is the CEO [Chief Executive Officer] of Divergent Technologies, which is seeking to make revolutionary changes in manufacturing, and we need revolutionary changes in DOD.

Finally, James Geurts, is with us today. In addition to having one of the coolest nicknames around, Hondo, he is ably and successfully served this country as the acquisition executive for both SOCOM and the Navy. So thank you-all for being here to talk about innovation.

The past few years have been marked by some success in innovation improvements, but we have much more work to do. Most of our work is actually ahead of us in this regard. I believe we're poised to go faster and further than we have thus far. I'm optimistic that many of my colleagues' ideas for improvements and reform will have an enthusiastic reception in this new Pentagon team.

I appreciate my friend, Ranking Member Reed, for holding a hearing in the previous Congress on the planning, programming, budgeting, and execution of the Reform Commission. I expect we can continue to make progress in this new Congress. As a matter of fact, Mr. Reed, and my colleagues, we need a game changer, and we need it right now.

The Committee took steps last year to remove unnecessary steps from the acquisition process and get defense innovators more powerful hiring authorities. We can and should continue on that positive trajectory. I recently released the FoRGED Act, and published this white paper entitled Restoring Freedom's Forge: America's Innovation Unleashed.

I must say, I appreciate the positive comments and response that we've heard from industry and from Government officials. The white paper lays out in specific detail my plan to implement smart spending practices at DOD. The FoRGED Act proposes the most comprehensive set of budgeting and acquisition reforms in decades.

It focuses on five areas. First, we must cut the red tape that burdens our defense workforce. Our regulations are full of outdated and excessive compliance requirements. Addressing this is exactly the type of work that DOGE [Department of Government Efficiency] is contemplating, and I hope we can make progress in this area. Contracting regulations total more than 6,000 pages. Financial regulations add up to more than 7,000 pages. I'm interested to hear our witnesses address how this Committee can reduce the statutory and regulatory burdens, even as we retain the core elements of good policy.

Second, we should harness one of our Nation's core advantages; our world class tech sector, which is built by American entrepreneurial spirit. Government unique requirements, have made it nearly impossible for commercial companies and startups to do business with the Department of Defense. We need to reward commercial innovation by making it possible for innovative companies to work with the Pentagon.

Third, we must create competitive pressure by rapidly qualifying new suppliers to help build our weapon systems. More than 20,000 suppliers have exited the Navy shipbuilding industrial base in the past 20 years, and that's just the Navy's industrial base. Twenty thousand suppliers gone. I hope our witnesses will address how we can lower barriers to second sources, and how we can adopt technologies like 3D printing, which can dramatically reduce costs and expedite production schedules.

Fourth, we must enable senior officials to manage programs by reducing the bureaucracy's ability to veto their decisions. A typical acquisition must satisfy nearly 50 documentation requirements and get 50 external sign-offs. We need to be careful about the taxpayer's money, but that is excessive. We need to give program managers all of the tools they need to success while retaining an appropriate level of checks and balances.

Finally, we should modernize the Defense budget process by allowing money to move as fast as technologies and threats change. It currently takes at least 2 years to request and receive funding. Meanwhile, the commercial sector deploys new generations of tech-

nologies in less than 2 years, and the Pentagon is continually lagging behind.

We cannot keep conducting business as usual. I repeat We need a game changer in this regard, and we need it now, because the United States is entering the most dangerous period we've faced since World War II. Our adversaries are rapidly innovating and leveraging commercial technologies. In response, we must expand our capacity to produce and sustain high-end weapons like ships, aircraft, and missiles. At the same time, we must adopt autonomous, adaptive, and networked or swarming systems.

This is not an either-or effort. We must produce traditional and innovative systems quickly, and at the scale of relevance. Doing so will ensure that we can deter our adversaries from taking action against us and our interest. In other words, peace through strength. I look forward to discussing those initiatives and more with our witnesses, and again, I welcome all three of them to our hearing, and I recognize my friend, Ranking Member Reed, for his remarks.

#### **STATEMENT OF SENATOR JACK REED**

Senator REED. Thank you very much, Mr. Chairman, and let me join you in welcoming our witnesses, Mr. James Geurts, Mr. Shyam Sankar, and Mr. Nathan Diller. Thank you, gentlemen. You bring unique and important perspectives to this discussion, and this is a very serious and important discussion.

For many years this Committee has examined various challenges for the defense acquisition system. Time and time again, we have heard the system is too slow, too rigid, and too outdated to keep pace with the changing world. As such, the Committee has worked hard and made progress toward streamlining the acquisition system.

Importantly, we have helped provide the Department of Defense with significant flexibility in the acquisition authorities, including initiatives like middle tier acquisition, rapid acquisition authority, and other transaction authority. These authorities are intended to enable the Department to tailor acquisition strategies and contracting approaches to fit the needs of each program.

Indeed, lengthy risky programs demand more rigor and oversight, whereas less risky non-development programs may move quicker with fewer bureaucratic checks on the process. I would ask our witnesses for their views on the successes and shortcomings of these acquisition authorities.

Responsible regulation is key to the success of the acquisition and innovation ecosystem. Decentralizing certain aspects of the system is beneficial, but going too far may result in poor coordination among officers, and could introduce duplication and waste. The lack of coordination among the services or stove piping is especially problematic for programs that are intended to improve jointness throughout the force.

Several years of legislation to reform stove piping has helped alleviate the issue, and further deregulation in some areas may be useful, but I would caution against quick decisions that could undercut the progress we have made. Many existing statutes and regulation exist because of past failures by the Department, or poor

behavior from industry, and it's important that we remain uncompromising stewards of taxpayers' dollars. I would ask for the witness's views on this issue, also.

Further, we must remember that our acquisition network is only as strong as our workforce. To meet growing demands, the acquisition workforce must grow accordingly to include contracting officers, subject matter experts, and skilled technicians in the defense industrial base. In this regard, I'm concerned that we have already begun to see attacks on the Department civilian workforce. The Trump administration has taken pride in the threat to slash the bureaucratic workforce, arguing a false equivalence between fewer personnel and greater efficiency.

Ironically, reducing the acquisition workforce is likely to increase the contracting timeline and eliminate positions that support acquisition professionals will inject new inefficiency into the network. I would appreciate our witness's thoughts on the interdependencies of the acquisition workforce and their recommendations to make sure that acquisition workforce is appropriately sized and trained.

Finally, I would like to point out that innovation is more than technology. Improving the Defense Department's innovation strategies will require more than overhauling systems or increasing funding. It will require bold thinking by leaders at every level of the enterprise. I'm reminded of a quote attributed to Winston Churchill, "Gentlemen, we have run out of money, now we have to think." Successful innovation requires creative people to not only adapt to new technologies, but to adapt processes to new situations where technology is not yet available. Now, we must think.

To help us do so, I look forward to hearing from this insightful panel of experts, and I hope we can work together to develop a better understanding of how the Department of Defense can adapt quickly to a changing world. Thank you again to our witnesses, and I look forward to your testimony. Thank you, Mr. Chairman.

Chairman WICKER. Thank you very much, Mr. Reed, and let me say, we're going to hear from our witnesses now, and we'll have a round of 5-minute question and answer. I'm going just so that this Senator will understand and be prepared. I'm going to yield my 5 minutes to Mr. Sheehy because he has to preside in a few moments. So, after the opening statements, Mr. Sheehy will ask questions and they'll be followed by the Ranking Member, and then we'll go forward with Senator Fischer and on down.

Mr. Sankar, we're delighted to have you and you are recognized for as much as 5 minutes.

**STATEMENT OF SHYAM SANKAR, CHIEF TECHNOLOGY OFFICER AND EXECUTIVE VICE PRESIDENT, PALANTIR TECHNOLOGIES**

Mr. SANKAR. Well, thank you, Chairman Wicker, Ranking Member Reed, Members of the Committee. Thank you for the opportunity to testify today. Mr. Chairman, I want to commend you on your proposal. I was fist pumping in the air when I was reading it, and this is exactly the kind of reform that we need to win.

I've spent nearly 2 decades at Palantir fighting the bureaucracy to deliver cutting edge technology to our war fighters. My message today is simple; that defense innovation and procurement are bro-



ken at precisely the moment. We need them to deter and defeat our adversaries, and for reasons that are profoundly un-American.

The root of the problem is that the Pentagon is a bad customer. It's also the only customer. The defense market is functionally a monopsony where a sole buyer shapes the market with prescriptive requirements, complex regulations in 5-year plans worthy of Stalin, the cold war is over, and everyone has given up on Communism except for Cuba, and seemingly, with the DOD.

The monopsony has created a divide between defense and commercial sectors. I call this the great schism, but you can think of it like the Berlin Wall. On the commercial side of the wall, companies are free to compete and to innovate. On the Defense side, a dwindling number of contractors toil away for the monopsony. More and more, they resemble state-owned enterprises instead of the innovative founder-driven companies that they were once were. The companies fit enough to climb the wall and defect to the free world did so long ago.

Mr. Chairman, if we're going to win again, we need to tear down this wall, and your report helps us do just that. First, cut the red tape. Defense procurement is constrained by mountains of regulations that paralyze leaders and punish creativity. This is not what was intended, but this is reality.

The road to hell is paved with good intentions. For example, the DOD 5,000 series, it was 7 pages when David Packard wrote it in the 1970s. It's now 2,000 pages. That's an 11 percent compounded growth rate. One of the few areas the Department outperforms the market. Eliminating burdensome regulation must be a priority because no amount of process can save us, but it can destroy us.

Second, unleash innovation. To do that, we need to reverse this great schism. During the cold war, 6 percent of Defense spending on major weapons went to defense specialists. Chrysler made cars and missiles. General Mills made cereal and torpedoes. That great schism, we need to turn it on its head. Today, that 6 percent has turned into 86 percent going to defense specialists. America needs our primes, and that's precisely why we need to ensure that they are subject to commercial incentives and to market pressure to keep them fit.

We can fix this by ending the cost-plus mentality, which makes us slower, poorer, and dumber. SpaceX reduced launch costs by 85 percent. That simply isn't possible in a cost-type domain. We also need to stress a commercial first mindset in procurement. FASA [Federal Acquisition Streamlining Act] is already the law of the land. Perhaps we should just enforce it.

Third, increased competition. Yes, please. But also, we need to increase competition inside of Government. During the early cold war, the services competed against each other to develop the best ballistic missiles. The Navy's Polaris, and the Air Force's Minuteman ultimately won, but not before the Regulus, Jupiter, Thor, Atlas, and Titan were developed in some form.

Today, the bureaucracy would disparage that that contest as duplication. I see a competitive market with multiple buyers' pressured to innovate and no single point of failure for the Department.

Fourth, enable decisive action. We are a Nation born of Founding Fathers. We understand the importance of great creative leader-

ship. In place of the cargo cult that worship's process. Let's empower our people. We wouldn't have ICBMs [Intercontinental Ballistic Missiles] without Schriever, the nuclear Navy without Rickover, the Apollo program without Gene Kranz. I challenge you to name a comparable figure overseeing most major programs today, and it's not for a lack of talent. But we need to stop rotating people like fungible cogs every 2 or 3 years, and give them the time and the space to create.

Fifth, modernize the budget process. A budget is a plan, and right now we are planning to fail. No private company could survive if it took 2 years to budget for projects internally. They would be completely outcompeted in the market. The fiscal OODA [Observe, Orient, Decide, Act] loop is not survivable, and that's what sets the pace for the industrial base.

Decision-makers in the building deserve to be treated like decisionmakers with a pot of money and the discretion to reprogram rapidly to meet new threats unless we actually do believe in central planning.

We shouldn't be under any illusions about how hard these changes will be. You have to mobilize talent around it and attack the problem again and again, and that's why I think this hearing and this proposal is so valuable.

Mr. Chairman, I look forward to taking your questions. Thank you.

[The prepared statement of Mr. Shyam Sankar follows:]

#### PREPARED STATEMENT BY MR. SHYAM SANKAR

Chairman Wicker, Ranking Member Reed, distinguished members of the committee, thank you for the opportunity to testify on one of the most important topics facing the U.S. Department of Defense and our Nation: defense innovation and acquisition reform.

Mr. Chairman, I want to commend your report on this subject, Restoring Freedom's Forge: American Innovation Unleashed. I also want to commend your bill, the FoRGE Act. Restoring defense innovation and fixing our acquisition system will require boldness, vision, and sustained attention. Your leadership is an important piece of the puzzle.

I want to assist your work by sharing insights gleaned from nearly two decades at Palantir, where I've worked to battle bureaucracy and deliver innovative technology for our Nation's warfighters.

My message today is simple: Defense innovation and procurement are broken. And they are broken at precisely the moment we need them to deter and defeat our enemies.

The Members of this Committee scarcely need to be reminded about the threats we face. President Xi Jinping has instructed the People's Liberation Army to be ready to invade Taiwan before the decade is through. Even now, Chinese shipyards are building large transport vessels that could be used in an amphibious invasion. Russia is continuing its bloody war of attrition against Ukraine, sustained by China's seemingly endless industrial base and fanatical North Korean troops. Iran is licking its wounds and reorganizing its proxy armies to continue their onslaught against Americans and allies in the region. Amid these threats, time and complacency are luxuries we cannot afford.

Our defense industrial base and defense innovation base are wholly ill-equipped for these challenges. More than ever, the United States needs mass production and speed to deter conflict. The stockpile is not the deterrent; the flow of mass production is the deterrent. There is little evidence our industrial base, as currently constituted, is delivering this deterrent capability.

I believe this problem is caused by perverse incentives embedded in our broken acquisitions process. Put simply, the Pentagon is a difficult customer. It is also the only customer. The defense market is functionally a monopsony, where the sole buyer shapes the market with overly prescriptive requirements, overly complex reg-

ulations, and 5-year plans more reminiscent of the countries we defeated in the last century than America's free, innovative, capitalist system.

This monopsony has created a vast gulf or "Great Schism" between the defense sector and the commercial sector. Innovative companies capable of competing in the larger, more lucrative commercial market have fled the defense market. Meanwhile, specialist defense contractors have been cutoff from the refining pressure of the marketplace and have consequently grown bloated and uncompetitive. Today, most defense contractors resemble their government customer more closely than the founder-driven, innovative companies they once were.

Bridging this divide and introducing greater competition and market pressure into the defense sector is the first step to sparking defense innovation and repairing defense acquisitions. These changes must be accompanied by a change in mindset. We need to overcome the complexity and bureaucracy of the present system and understand that winning is the only requirement that matters. If we can drive substantive reforms of the process and create a bias toward speed and decisive action, then I am confident the many patriots in government and industry will rise to meet this moment.

Appended to this statement is a copy of The Defense Reformation, a treatise I produced late last year that explores these issues in greater detail and provides actionable recommendations for reform. *(Please see page 60)*

I am honored that the Committee on Armed Services has invited me to share my views on these challenges and I look forward to taking your questions.

Chairman WICKER. Thank you very much, Mr. Sankar.  
Mr. Diller, you're recognized.

**STATEMENT OF NATHAN P. DILLER, CHIEF EXECUTIVE  
OFFICER DIVERGENT INDUSTRIES INC.**

Mr. DILLER. Chairman Wicker, Ranking Member Reed, and distinguished Members of the Committee, it is an honor to discuss defense innovation and acquisition reform with you today.

At the core of this discussion, we must focus on ensuring America's ability to deter aggression and create that overwhelming strength, while minimizing risk to human life, and reducing the burden on the taxpayer. Unfortunately, America's ability to deter is at its lowest point in many, many decades.

That said, the FoRGED Act coupled with a multitude of other successes, leaves me more optimistic today that America cannot only reverse this trend, but actually do it in a way that creates a renaissance in American manufacturing and actually unlocks human creativity. But we must act today.

I think the word forge provides some personal markers for me. America's manufacturing output tripled that of China during the time that I was pulling forged plows growing up on a farm. By the time I flew F-16s dropping forged bombs, we were at parity. Today as we discussed The FoRGED Act, China more than doubles our manufacturing output.

After years in defense innovation and acquisition, I'm convinced that a nation that does not manufacture technology cannot maintain a technological and military advantage. This is what led me to transitioning to Divergent Technologies today led by Kevin Czinger and his son Lucas, where they are truly revolutionizing the factory today. Bringing us an ability to actually turn great ideas into hardware for deterrence.

Daily, Divergent seemingly transforms a car factory into a weapons factory. It is operating at production scales, leveraging 700 patents driven by AI [artificial intelligence]. Right now, we are literally printing our 253 mile an hour hypercar in the morning and

cruise missiles in the afternoon. This can be done. It is all made in America.

We're in agreements with most defense primes and many of our great American startups. Delivering capabilities for air, land, sea, and space. The capital efficiency that comes from this agility can reduce taxpayer burden, increase war fighting capability, and quickly rebuild U.S. global innovation and manufacturing dominance.

What acquisition reform is needed to bolster defense innovation and attract companies like Divergent to create American military advantage? First, we have to be very clear of turning America's software advantage into a hardware advantage. We must foster competition for fully digital and AI-driven design and production systems so America can build.

We must scale innovation successes. New acquisition paths and organizations have created access to mobilize a broad industrial base with the ability to create a hedge portfolio of software-driven hardware. But it is not clear that we have the structure to scale this to success.

Three, we need to build a civil reserve manufacturing network so America can build. The factory is the weapon. The taxpayer buys billions of dollars of weapons every year solely for war. Why are we not buying some factories as a service? These factories distributed, could produce parts for legacy platforms to ensure we can fight tonight, can scale a hedge portfolio, or produce commercial goods in a way that bolsters competition, increases our military resiliency and capabilities, and saves billions of dollars to the taxpayer.

The term forge is fitting to express the gravity of this moment. This act of forging is literally defined eras in civilization going back to the Bronze Age as societies use the process to turn ideas into hardware. The title FoRGED Act is appropriately to communicate the emergency situation that we are in in America today as our eroded capacity of turning ideas into hardware is creating this national crisis.

Fortunately, visionaries mobilize a whole-of-nation effort in World War II. It is time for Freedom's Forge 2.0, and while we're in emergency State, I am optimistic because I believe the ingredients are present for a general generational shift in manufacturing and defense innovation that could be more notable than going from the Stone Age to the Bronze Age. I'm confident America will forge that peaceful and prosperous era together. Ladies and gentlemen, it's time to build.

[The prepared statement of Mr. Nathan Diller follows:]

#### PREPARED STATEMENT BY MR. NATHAN DILLER

Chairman Wicker, Ranking Member Reed, and Members of the Committee: It is an honor to address opportunities and challenges in Defense Innovation and Acquisition Reform. Today, we might discuss bureaucratic labyrinths, contracting wizardry, or appropriator obstinance. However, make no mistake, the purpose of this discussion is to advance America's ability to create controlled violence that strikes fear in the heart of the enemy to avoid war, deterring aggression, all while minimizing the risk to human life and reducing consumption of taxpayer treasure. Unfortunately, recent examples of enemy aggression, in some cases protracted aggression, suggests that America's military and industrial strength to deter and defeat, has grossly eroded, potentially to its lowest point since World War II. The FoRGED Act could reverse this trend.

The term forge has personal meaning to me on my journey in defense innovation. I grew up on a family farm pulling forged plows at a time when America's share of manufacturing was triple that of China. By the time I started dropping forged bombs from my F-16 as fighter pilot, the United States and China were at parity. As we sit here today considering the FoRGED Act, China's share of global manufacturing more than doubles that of the United States. A nation that does not manufacture technology cannot maintain an enduring lead in that technology sector. Reversing the decline of American manufacturing to support national security is what led me to Divergent, where founders and inventors Kevin and Lukas Czinger have truly revolutionized the factory.

#### MOBILIZING DUAL-USE MANUFACTURING FOR DOD

Divergent is doing something that has not been done in decades. Transforming a car factory into a weapons factory. The difference is that the agility of their 700 patent AI-driven factory of the future operating at scale today makes this transformation seamless and it happens daily. The digital design toolset, unmatched metallic 3D print speed, and fixtureless assembly has been radically reducing development time, assembly time, weight, part count, labor, tooling, and cost for the world's top auto manufacturers like Aston Martin, Bugatti, and McLaren as well as for our own hyper car, the Czinger 21C, the world's fastest production car on the road with the world's highest power density engine, all made in America. The agility of this AI factory is now giving us an opportunity to quickly pivot into aerospace and defense. Right now, we literally are printing hyper car frames in the morning and cruise missiles in the afternoon. We are in agreements with most of the defense primes and many startups, delivering capabilities for air, land, sea, and space during all phases of the life cycle (RDT&E, Procurement, Sustainment). The capital efficiency that comes from this agility can reduce taxpayer burden, increase warfighting capability, and quickly rebuild U.S. global manufacturing advantage.

How can the FoRGED Act unlock capabilities like Divergent's Adaptive Production System and so many other critical technologies to regain U.S. national security advantage?

1. Turn America's software advantage into a hardware manufacturing advantage.
2. Build on innovation successes to rapidly field a hedge portfolio of software-driven hardware.
3. Use DOD as an incubator to scale a new civil reserve manufacturing network model.

#### USE AMERICA'S SOFTWARE ADVANTAGE FOR A HARDWARE ADVANTAGE

I have had the chance to work in some of the world's most innovative organizations: DARPA, Strategic Capabilities Office, Air Force Rapid Capabilities Office, White House Office of Science and Technology Policy. I led classified flight test, Joint Staff air and space requirements, and AFWERX where we funded thousands of startups with billions of dollars. Throughout my career, I have seen the military value in adopting commercial technologies at pace. However, I believe the concept that the U.S. can simply be an "idea factory" while outsourcing manufacturing for short-term financial gain has proved short-sighted. Provisions in the FoRGED Act could reverse that trend. The United States has purged jobs, eroded our capacity to turn ideas into hardware and—some might even suggest—undermined the American spirit of building. We have lost our hardware advantage. One result of that is an erosion of our military advantage. That could change if the U.S. can turn our software advantage into a hardware advantage with a fully digital adaptive production system, driven by advances in artificial intelligence.

#### SCALE INNOVATION SUCCESSES

To effectively leverage and scale America's innovation ecosystem, DOD must build on successes in innovation. Work has been done first through Innovation 1.0 launching the conversation with the establishment of In-Q-Tel, DIU, and SOFWERX. Innovation 2.0 advanced thousands of contracts per year with Army Futures, Task Force 59, and AFWERX. Innovation 3.0, advanced capability with Chairman Calvert's hedge portfolio, the Office of Strategic Capital, and DIU leveraging flexible funding traded for transparency, loans for deep tech, and funding Replicator. Given complexity and cost, scaling quantities of legacy systems will not be possible in a relevant timeline. The urgency for deterrence has led some to suggest a need to field small, low-cost mass, or a hedge force to augment the legacy force. These acquisition reforms have enabled DOD to mobilize incredible entrepreneurs across America to build that force, but it still is not clear that DOD has established the right structure to scale these successes. Talent management will be critical to the restructuring.

## CIVIL RESERVE MANUFACTURING NETWORK

While a hedge portfolio is necessary, if America goes to war tonight it will fight with the multi-trillion-dollar legacy portfolio it has purchased over recent decades. Unfortunately, the offshoring of manufacturing has created a crisis, as many industrial base companies that were once the backbone of weapons system sustainment—and local economies—have gone bankrupt leaving the legacy portfolio without parts. Every year taxpayers buy billions of dollars of weapons that are only used during war. It seems that there needs to be a clearer understanding that the factory is the weapon, and if we might need more factories for sustainment and war we should be buying that capacity now. However, to be affordable and useful into the future, those factories must be incredibly agile so they can pivot to different types of production during different phases. This industrial resiliency and fiscal responsibility is only possible if we can turn America's software advantage into a hardware advantage and create an agile civil reserve manufacturing network of distributed factories. Many provisions of the FoRGED Act could enable a future with a digital adaptive production system that, on one hand, is capable of surging to build a hedge force, sustaining a legacy force, or if peace is secure, produce commercial goods. This is possible today with AI-driven manufacturing. DOD has an opportunity to lead the way—driving adoption of dual-use technology and with it a resurgence in US manufacturing, while reducing taxpayer burden for defense. If we miss this opportunity, however, there is a very high risk that in less than 4 years China will have consumed this market in the same way it consumed the global small drone market and many others. We will all be measured by the effort we took to avoid that potential tragic future.

## FORGING AHEAD

The term “forge” is fitting to express the gravity of this moment. The act of forging has literally defined entire eras in civilization going back to the bronze age, as societies used the process to turn ideas into hardware, often the hardware necessary to deter and defeat enemies. To this day, forging remains core to building weapons of war. It is worth noting that, today, China's share of the global forging market eclipses that of the United States. The title FoRGED Act is appropriate to communicate the national security emergency we face as a result of America's eroded capacity to turn ideas into hardware. Fortunately, visionaries mobilized a whole-of-nation effort before we entered World War II. That mobilization led to victory on the battlefield, and that scale of mobilization is needed again. The State of manufacturing and national security is troubling, but I am optimistic because I believe the ingredients are present for a generational shift in manufacturing and defense innovation that could be more notable than going from the stone age to the bronze age. I am confident America will forge that peaceful and prosperous era together. It starts today!

Chairman WICKER. Thank you very, very much, Mr. Diller.  
Mr. Geurts.

**STATEMENT OF THE HONORABLE JAMES F. GEURTS, FORMER  
ASSISTANT SECRETARY OF THE NAVY, RESEARCH, DEVELOPMENT  
AND ACQUISITION**

Mr. GEURTS. Chairman Wicker, Ranking Member Reed, distinguished Members of the Committee, it's good to be back here with you, again. It's quite an honor to be here for this discussion. Having spent the last almost 40 years of my career trying to drive innovation in acquisition as a person in uniform, as a civilian, as an appointee, and now in the private sector, it's a subject that's near and dear to my heart, and I think critically important for our Nation.

I've had the honor to lead some of the Nation's finest acquisition teams in time of war and global competition. I've seen what's possible when there's a clear understanding of intent, a sense of urgency at all levels of the organization, a close connection between the acquirer and the operator, a robust and diverse network of in-

dustry partners, transparency to all the stakeholders, and an empowered and accountable acquisition workforce.

Unfortunately, over the last several decades, our ability to do this at scale across the Department has decayed. The industrial base that service so well after World War II is not up to the challenges right now that we need as a nation alone. The accumulation of decades of statutes, regulations, processes, special interests, all well-intentioned about which permeate the bureaucracy, have hobbled our ability to adapt and change.

The risk-averse culture that that's driven has diffused accountability across multiple organizations, departments, and the workforce so that it's unclear who's actually accountable to deliver, and they are not empowered to actually deliver the results we need from them.

The challenges facing the Department and Nation are many. The Nation needs to be innovative, productive, and agile; while also ensuring they're relentless stewards of the taxpayer dollar. Rather than trying to rebuild the industrial base we once had, I believe we need to focus on building the future industrial network that we need that gives us the ability to scale and the ability to be agile in this time of global competition.

Harnessing our collective capabilities, talents, and innovations into such a dynamic and aligned network will help overcome the limitations, and linear thinking, risk-averse approaches that have been impairing the Nation's competitive capability since.

I'm thankful that this Committee is placing such an emphasis on this issue and am optimistic with the tenets of the FoRGED Act. We have a systematic issue and we've got to attack it systematically. We've tried over the last couple of decades tweaking, making some changes here, making some changes there. But if we're really going to act at the scale and with the speed, we need as a Nation, we need to overhaul both our approach to the industrial base, focusing on this industrial network, as well as leveraging a clearly accountable and empowered acquisition workforce.

Thanks for the opportunity to appear before you, and I look forward to your questions.

[The prepared statement of The Honorable Geurts follows:]

PREPARED STATEMENT BY THE HONORABLE JAMES F. GEURTS

Chairman Wicker, Ranking Member Reed, and distinguished Members of this Committee, I am honored to appear before you today in this hearing on defense innovation and acquisition reform.

Having spent my entire career of nearly 40 years driving innovation in defense acquisition, whether in uniform, as a government civilian, as a senate confirmed appointee, or now in the private sector, it's a subject that is of great importance to me and to the security of our Nation. I have had the honor to lead some of the Nation's finest acquisition teams in times of both war and global competition, and I have seen that it is possible to execute an operationally responsive acquisition system when there is clear understanding of intent, a sense of urgency at all levels of the organization, a close connection between acquirer and operator, a robust and diverse network of industry partners, transparency to all stakeholders, and an empowered and accountable acquisition workforce.

Unfortunately, over the last several decades, our ability to achieve that level of acquisition performance across the entire Department has decayed. The industrial base which has served us so well since WWII is struggling to adapt at scale to the changing global conditions. The accumulation of decades of statutes, regulations, processes, special interests, and outdated systems have further hobbled the ability

of the Department to rapidly field new capability at operationally relevant timelines. The risk averse culture which permeates much of the existing bureaucracy, with unclear and overlapping responsibilities across numerous departments and organizations, clouds accountability and cripples timely and effective decision-making at all levels. It is clear just making piecemeal incremental changes to the existing system, as we have attempted over the last several decades, will not be sufficient to achieve the speed and scale we now need as a Nation.

The challenges facing the Department of Defense and Nation are many. The Department needs to be innovative, productive and agile while also ensuring they are relentless stewards of the taxpayers' money. Rather than trying to rebuild the defense industrial base America once had, the Department should forge the future industrial network the nation needs while at the same time making fundamental changes in how the government effectively leverages this future industrial network. Harnessing our collective capabilities, talents, and innovations into such a dynamic and aligned network will help overcome the limitations of linear thinking and risk averse approaches that have impaired the Nation's competitive position in an increasingly challenging world. It will improve the revitalization of conventional defense-industrial capacity, while also more fully integrating the creative, productive, and dual-use commercial capabilities of the broader economies of the United States and its allies. Attracting and scaling a larger number of more varied performers into this industrial network will enable the United States to accelerate growth, dramatically increase agility, and substantially enhance resiliency. By building a flexible industrial network more powerful than the sum of its individual parts, the United States will create a system capable of outperforming more authoritarian, centrally planned competitors such as China.

I am thankful for the focus this Committee is placing on this issue and the hard work underway through initiatives such as the FoRGED Act to enable substantive positive changes to our current approach. Recognizing that we have a systemic issue which cannot be fixed through incremental tweaks, I am optimistic a systematic focus on cutting red tape, creating competitive pressure, enabling decisive action, modernizing defense budgeting and unleashing American innovation will improve the readiness and lethality of the DOD while simultaneously growing the ability of the industrial network to deliver capability at scale and with speed. Equally critical, but often forgotten, will be the need to rapidly implement these measures across the Department, train the workforce, and incentivize and measure their effective adoption. Doing so will ensure positive change is solidified, transforming the historically risk averse culture into one focused on delivering speed, scale, and war winning outcomes.

Thank you for the opportunity to appear before you and I look forward to answering your questions.

Chairman WICKER. Thanks to all three of you. I'm going to add for the benefit of the listening public and those in the audience. Typically, in a hearing like this, where there are three witnesses, the majority suggests two of the witnesses, the minority suggests one. It would be hard for the listening public to know which witness today was a majority witness and which witness was a minority witness. So, I do appreciate your thoughtful testimony. At this point for it to begin our questioning, Senator Sheehy, you were recognized for 5 minutes.

Senator SHEEHY. Thank you, Chairman.

Everything you guys said, of course is, I think, pretty blatantly accurate for everybody. The word innovation is thrown around a lot for defense acquisition and systems development. I don't think we really have an innovation problem. Private companies innovate. We have all these fusion labs within the military that innovate actually pretty well. The challenge is adopting the innovation on a programmatic level and then fielding it quickly.

I think, Hondo, when you and I were in together, I served as a SEAL team leader and we'd have IED threats that would—the enemy would watch with the binoculars how we would disarm an IED [improvised explosive device] or what technology we'd use, and the next day they would change their design. Literally, the next



day. I mean, they go back to their garage, they'd rewire it, and then come out the next day, and our policies for fielding equipment to counter those IEDs were stuck at the pace of our defense acquisition system. We'd send that feedback back home, and maybe a year or two later, we'd get a new jammer or a new tactic out and God bless the guys out there doing it which is me a lot of the time.

Unfortunately, our ability to innovate, we didn't innovate at the speed of the threat. We innovated at the speed of bureaucracy, and we can innovate, but adopting that quickly is the biggest challenge. So, it's open to anybody, especially you, Hondo, coming from a career in that acquisition system. What's the single biggest change we can make as a legislative body quickly to encourage adoption of the innovation that already exists?

Mr. GEURTS. Yes, sir. Thank you for the question. I concur. Many of our roadblocks are self-inflicted and culturally reinforced, and it's for a lot of different reasons. I think the number one thing you can do is that you can empower the program manager and hold them accountable. Right now, program managers answer to a—you know, dozens and dozens of folks they have to go get permission to move a dollar to a better priority. If they see a new technology that comes out, they have to spend years creating a program to adopt. I think that's one.

Then, two, breaking down this barrier so that—listen, we need defense primes. As Shyam said, we need new entrants, we need commercial providers. We need program managers that have the authority to actually pick, have visibility of all those things, and then rapidly be able to choose the best performer.

Then, finally, we've got to break down the barrier that we've created between the person buying the equipment and the person using the equipment. Again, well-intentioned headquarters staffs that have accumulated over time, reviewing that reviewer to doer ratio. So get the doers doing, get them aligned with the operational needs, give them the flexibility to make the best decisions and then hold them accountable to deliver.

Senator SHEEHY. Mr. Sankar, a question for you. I love your writeup, by the way, agree 100 percent. When I got out, I actually started a defense company myself. We ended up having to split the company in two largely for investment purposes, because what you refer to as, you know, that wall, which is very accurately portrayed.

But in addition to the acquisition regulations and the DCAA accounting requirements and all that, there's also a restriction, of you can innovate something commercially and to bring that innovation back in and have a cross-feed valve where the defense technology benefits from commercial innovation is almost not allowed. Therefore, we're missing out on a massive pool of—especially as we move into machine learning models and AI, we can't benefit from commercial.

In your experience, how can the DOD better leverage commercial innovations to make sure that the defense innovation is adopted at the speed that private sector innovation is?

Mr. SANKAR. Well, thank you. I think Congress and its wisdom saw this in the 1990s, right? This is why we have the Federal Acquisition Streamlining Act, which is that the commercial, you have a much broader market around which you can amortize your R&D

[research and development] in the commercial world, and you can bring that stuff at a lower risk and with much greater speed to the DOD.

We were able to deliver the operation warp speed supply chain in 2 weeks during Operation War Seed, because actually 2 years before that, we had built very similar solution in oil and gas. You can't connect those dots prospectively. I didn't make that investment in oil and gas because I knew it would pay off when the Nation needed it for a Covid vaccine distribution.

But really, if you're going after these hard problems, you can benefit whole-of-nation. At some point in time, every car, camera, and cereal box that Americans bought actually subsidized our national security. I think I would attack this systematically by thinking about what are the barriers that have meant that we have developed a defense industrial base and lost our American industrial base.

Now, I think the real issue here, to your point, we don't have an innovation problem. You know, innovation doesn't need capital. America's capital markets are the deepest and richest in the world. Dare I say, if you're unable to finance your idea, that probably tells you something about your idea in this country.

But innovation does need customers, and so, shortening that OODA loop, the fiscal OODA loop. I think we'd be better off spending half the money twice as quickly. It's really time, speed has a quality all of its own here. That's how we drive up commercial adoption. It will pull these folks into the industrial base in a way that we really need.

Yes, we need to cut the red tape. We need to get rid of some of these regulations. But I think the biggest barrier is encouraging adoption, empowering our people. So much of this, I couldn't agree more with Senator Reed's comments that technology is—it's not a technology problem. It's actually a people problem, a leadership problem. You can't chop off a lot of our regulations. You know, something goes wrong, we come up with a new rule. We're trying to chop off one end of the distribution of all the things that can go wrong. You can't do that without making sure nothing can go right either.

Chairman WICKER. Thank you, Mr. Sankar. Mr. Reed.

Senator REED. Thank you very much, Mr. Chairman.

Mr. Geurts, we all recognize how critical a workforce is to get anything done, and this is particularly a case in acquisition. What's your assessment of the Department's acquisition workforce today in terms of its capacity and capability?

Mr. GEURTS. I think it is mixed. We have a very talented workforce that's been hobbled for a bunch of years. But they're also not fully informed on the full market that's available to them. As a Committee here makes all of these, what it looks like, very value-added changes, we've got to make sure we handle the implementation step. Because right now we have lots of great authorities in the Department. We have not implemented them to their full extent, nor trained the workforce to be able to leverage them to their full extent.

So, part in part with change in the authorities and rules needs to be rapid implementation guidance, and then rapid training, and then hold everybody accountable after you've done those two steps.

Senator REED. One of the observations that I made, particularly in regard to submarine construction, is Covid sort of triggered a premature retirement of a lot of Government supervisors, workforce acquisition specialists, et cetera. We're lacking in those people, their experience, frankly, and it comes down to people, as Mr. Sankar said. Do we have to make a special effort to rebuild that workforce?

Mr. GEURTS. Sir, I would do two things. One, we've got to review the reviewer to doer ratio. So we have a lot of the workforce tied up in multiple levels of review that could be deployed to help immediately, and get those assets doing work, not reviewing other people's work they're doing.

Second, we need to create a training pipeline, which fully informs them of how commercial markets work, how venture capital markets work, how traditional manufacturing works, how new advance manufacturing works. So they're exposed to all of these opportunities, and then hold them accountable for creating a strategy that bets leverages all of those capabilities.

Senator REED. Thank you, Mr. Sankar, thank you for your testimony. One of the approaches we took was trying to attract the non-traditional defense contractor. That was a term that's sort of changed over time because now many of these non-traditional defense contractors are actually defense contractors. In addition, they also have access to and involved with governments in many different capacities. Would you recommend any changes to this approach of the non-traditional defense contractor?

Mr. SANKAR. Thank you. I think what we seek with non-traditionals is the same power of the American economy, which is that people will take their private capital and put it at risk to build new things and offer it to the Government, not at the taxpayer's expense. If it works, that's great, and if it doesn't, no harm to the taxpayer.

That's what you see with the non-traditionals, that they're going and raising private capital. They're putting their balance sheet at risk, they're delivering these innovations. If I was to contrast that to the traditional market, what the monopsonist prefers is I will pay you by the hour. I will control everything you're doing. I will own what you ultimately create. Then we are surprised that that category of traditional player isn't investing more in R&D. Well, I think, literally, we've gotten the industrial base that we've incentivized getting. So, my hope is actually we could find more ways of turning what we today view as the traditionals into non-traditional, that would be the alchemy that really powers our national security.

Senator REED. One other aspect. Just observation and we all understand that the defense industrial base has shrunk dramatically from 20 years ago. A lot of that was through mergers, acquisitions. In some cases, looking at a threatening young competitive company and buying it for reasons that might not be appropriate. How can we sort of stop that?

Mr. SANKAR. Well, I'm spending my time personally on that. So, I think the antidote to the Last Supper, this consolidation wave that happened is what we should call a first breakfast. How do you know as Palantir has blazed a trail, survive the valley of death? I want to now lower the ladder and make it possible for many more new entrants to get there.

How do I reduce the time it takes to get accreditation? How do I enable it to field, yourself, not in an exercise that's not real, but in the actual war fighting needs. Get more feedback and more scale as a consequence. We need a positive-sum mindset here, and the big shrinking that happened during the Last Supper encourages a zero-sum thinking, which we need to get out of.

Senator REED. Thank you.

Chairman WICKER. Thank you very much, Mr. Reed. Before I turn to Senator Fischer, Mr. Geurts, this changing the reviewer to doer ratio we could do that without a changing the statute, could we not?

Mr. GEURTS. In some cases, yes, in some cases, no. So, there are certain parts of the statute that require, you know, different offices review things. I think over time, we've let the functional side, get the contracting folks have to review it independently, independent flight test authority. So many of those are internal, but a lot of those are driven by either statute or intent from external stakeholders.

Chairman WICKER. Thank you very much. Senator Fischer. You're recognized.

Senator FISCHER. Thank you, Mr. Chairman.

Mr. Geurts, the impact of CRs on the Department, it's well documented whether limiting new starts or the challenges of increasing production rates. While CRs [Continuing Resolutions] result in concrete negative impacts, the Department has little influence over whether a CR actually occurs since appropriations are the purview of Congress. Based on your experience, are there any specific recommendations you have that would enable the Department to continue to make progress on certain programs, even through a CR?

Mr. GEURTS. Thank you. Yes, CRs are very damaging to a rapid and agile workforce. One of the reasons is you have to—if you're applying an award of contract for the year and now the CRs occurring, you're doing it in, 3-month increments or 2-month increments, and it ties up both sides. So, I think anywhere we can create authorities, if it's small programs, if it's programs that we're know—

Senator FISCHER. Sir, is there any place right now that the Department can continue its progress or does it, do you know of anything or it's all shut down?

Mr. GEURTS. It's really challenging because of the specificity of the CR and the challenges. I think some of the Services have asked for special authorities in areas that are very dynamic. I know the Army has asked for authorities to be able to rapidly reprogram and be flexible in like electronic warfare, and UASs [unmanned aircraft systems], counter-UASs. So I think there's areas where it's really a dynamic environment that I think we could work together to build a trust to be able to have more flexibility in the CR period.

Senator FISCHER. Okay. Thank you. Mr. Diller, do you have anything to add from a private sector perspective on this?

Mr. DILLER. Yes, Senator, I think there have been some notable changes just over starting with the Fiscal Year 2024 Defense Appropriations Bill, that provided some of that agility that is key. If we look at how quickly our acquisition model works, where we're budgeting, and in instances, it's taking 4 years for something to actually come available.

That certainly is not the case from a private sector. If we look at the pace that large language models in artificial intelligence have occurred right there. Those budgets were being built two to 4 years ago. I would commend the work of the appropriators that have looked to see what type of flexibility allows the speed of innovation that is actually happening in the private sector.

It gets to this question of adoption, of innovation, and so, I think really great pilots have happened. When we look at the ability to scale, it certainly—at some point the measure needs to be, how can we get the funding that actually allows that production and the movement?

I think there's been increased abilities. We look at digital approaches to actually creating trust across the Potomac River, where the Pentagon and the Congress can actually get a higher degree of assurance that the money is being spent quickly. This is being piloted right now with DIU [digital interface unit] and I think that is going well. It's good for industry, it's good for trust across the legislative and executive branch.

Senator FISCHER. Thank you. Mr. Sankar, in your work with the Department, what are some of the key factors that limit your company's ability to innovate?

Mr. SANKAR. I think really if you think about our—when we first started the business, I thought our competition was going to be the primes. That the primes would be threatened by the innovation of what we were creating. But actually, the entity that was most threatened was the existing program of record. So, it's our inability to tolerate heterogeneous innovation coming from a number of places.

All innovation starts off as something that is heterodox. It's going to challenge the status quo; it's going to upset the apple cart. So, we need to enable more flowers to bloom, and to recognize that innovation is fundamentally messy and chaotic. Any attempt to put process around it and make it clean destroys the innovation.

Senator FISCHER. Mr. Geurts, as a former acquisition official, what do you think are DODs most promising initiatives to be able to take advantage of that commercial innovation?

Mr. GEURTS. If I look back 10 to 15 years ago, I think there was a divide between the commercial industry's interest in national security and the Government's trust that they could actually deliver something relevant to national security. If you look over the last 5 years in particular, that has, that element is broken down. So, the conversations are starting to occur, the trust is starting to occur, the demonstrated success is starting to occur. Now, we have to do that at scale as a matter of business, not as an exception.

Senator FISCHER. Thank you. Thank you, Mr. Chair.

Chairman WICKER. Thank you, Senator Fischer. Senator Shaheen.

Senator SHAHEEN. Thank you, Mr. Chairman, and thank you to each of our witnesses for being here today.

I recently took over as the Ranking Member of the Senate Foreign Relations Committee. One area that comes up over and over again is ensuring that our foreign military sales process works not just for us, but for our allies, for our military, and for our industries. To ensure that we maximize the capabilities of our alliances, we need to focus on being able to fight in an interoperable and coordinated way with our allies and partners. I assume that you would each agree with that. You're nodding.

Mr. Geurts, how should industry and Government think about and be working to ensure that American businesses can work with our counterparts, with our allies in Australia and Japan and South Korea, to ensure that systems are built on compatible architectures that allow coordination between our forces in combat?

Mr. GEURTS. I think a couple things. One would be anywhere we can reduce the FMS [flexible manufacturing system] burden in terms of regulation, and statute, and things that make it hard to do FMS sales, and things that disincentivize our allies and partners wanting to use the FMS system.

Second, I think as commercial——

Senator SHAHEEN. Are there specifics that you would point to?

Mr. GEURTS. I think there's been a number of studies on areas that we can break down. A lot of it's the review timeline. A lot of it's the external authorities. I think there's work to be done there. Then, I think as commercial is global, there are areas where we can leverage commercial capabilities that do span many of our allies and partners that are already interoperable from the start and leverage those versus trying to back in interoperability from a custom DOD-made area. We've got to differentiate it. It's not one or the other. We need both.

Senator SHAHEEN. I certainly agree with that. Mr. Diller, one of the things that has happened as the result of the war in Ukraine is that we've watched how creative the Ukrainians have been with many of their responses to that war. Do you think that there are lessons that we should be taking from what the Ukrainians have been able to do?

Mr. DILLER. Yes, ma'am. Unfortunately, I don't know that our defense primes or our startups responded in the way that we necessarily would want to that type of crisis. I do think, fundamentally, as has been discussed with my colleagues, this is an industrial-based problem in America, not just a defense industrial-based problem.

So how do we look at taking the next leap that allows the factory to be part of that war system, that war fighting system? You see agility in Ukraine that you are actually getting hardware to evolve at the speed of software.

On your previous question about FMS, if we can actually have 21st century manufacturing system that is digitally driven. It allows us to actually have that factory evolving at the pace of the war to close that OODA loop, as it's called, and to create both

interoperability between nations, and to be able to scale and remain agile in warfare.

Senator SHAHEEN. Thank you. Mr. Sankar, I'm a big proponent of small business. They create 16 times more patents than large businesses. One of the ways that we try and take advantage of that innovation is through the Small Business Innovation Research (SBIR) Program, which has been very successful. I know it's a program that Palantir has worked with extensively.

I am very concerned about the order that just came out from the acting director of the Office of Management and Budget (OMB) that essentially puts on hold any financial assistance that's dedicated to any programs like SBIR [Small Business Innovation Research]. There are 82 of those programs within the Department of Defense. What does it do to the research that's going on in our small businesses when there's that kind of a halt on the program, and we don't know how long it's going to last, and we don't know whether it's going to be forever, or if they're going to be able to resume what they're doing?

Mr. SANKAR. Well, what I can certainly speak to is the value of small business. So, if we think about the American system. This is about David versus Goliath, and you know, we need the small business program to continue to encourage many more Davids to get out there. But we should be clear that we want David to get big. You know, where, where the small business program may be failing our existing entrepreneurs is it's just enough to keep them small. A class of indentured servants living as small businesses. But that's not what we aspire for them. We want the small guy to have an opportunity to become the next king.

So, if there were ways of continuing to evolve that program so that we were holding ourselves collectively more accountable to how many of our small businesses were able to get big, how many of them are now defining the next frontiers of what we're doing in defense innovation, I think the Nation would be much better off.

Senator SHAHEEN. I certainly agree with that, and hope that we can look at the next stages of the SBIR Program to do that.

Chairman WICKER. Thank you, Senator Shaheen. Senator Rounds.

Senator ROUNDS. Thank you, Mr. Chairman. First of all, let me thank all of you for being here today and helping us in this project.

Albert Einstein, in a letter to President Roosevelt, identified the risk of losing to Nazi Germany with regard to the possibility of a nuclear bomb. He talked about the need the United States to take lead role and basically begin that project. At the same time, once that occurred, the Manhattan Project was ordered, we started a process within our industrial base and within the scientific community that was unbelievable at the time. Part of it had to do with a whole lot of really, really bright people talking to one another, both from within the Department of Defense, within the National Laboratories as they had existed back then, and he universities, but also the military, and the political leaders.

Today, I guess my question, to begin with, we face a very similar situation right now with the implementation of AI, and with adversaries who are moving very, very rapidly. This tool that we have, this AI tool, the countries that are best able to incorporate it and

to move it forward as quickly as possible, are going to win the race militarily and economically as well.

Mr. Geurts, in the time that you were within the Department of Defense, how often did you actually have a round table or a visit with some of the key thought leaders, industrial base leaders, innovators? Did you ever sit down and just have a round table with them, or is that restricted?

Mr. GEURTS. Yes, sir, I did. Both of my time in special ops and in the Navy, we would create the forum for those kinds of discussions, and I would concur. Having those kinds of discussions is fully available within the statute and critically important to understanding the opportunities that are in front of us and how to leverage the full ecosystem.

Senator ROUNDS. Mr. Sankar, Palantir is recognized as an innovative organization, a thought leader, a proven facilitator in many cases with regard to AI implementation. How often are you invited into the Pentagon to sit down and to visit, to talk about how you can coordinate with our purchasing organizers, the acquisition people, in terms of actually acquiring the best and coordinating it with the weapon systems that we have today?

Mr. SANKAR. I'd say it's a mixed bag. There are certain parts of the community that are very proactive in seeking advice and interest from outsiders, actually even seeking help and pulling together the right groups of folks who would be completely non-traditional and very far away from defense. There are others that have a more captive sort of approach to this.

Senator ROUNDS. You ever been invited in to sit down and talk?

Mr. SANKAR. A few times I have, yes.

Senator ROUNDS. Mr. Diller?

Mr. DILLER. If we look at the innovation progress that's happened over the last decade or so, you see three different eras of this starting with the conversation with the launch of DIU. Eventually, though, that conversation needed to move into something more meaningful, which I think started where we got to contracts, where notable civil reform allowed those conversations to happen against sometimes large inertial hurdles that thought that conversation couldn't happen.

I think we need to get to this third era that actually is how do we turn this into capability? How do we actually scale to get hardware and software so that this is not an episodic conversation, but this is the way we conduct war in America, this is how we mobilize America for war. That is still a gap that I think is needing to be filled. But I'm optimistic that we're on a path building on these successes and these pilots that is possible.

Senator ROUNDS. Look, I agree with you that that's the path forward. I'm just questioning whether or not our acquisition process today will allow that to happen.

Mr. Geurts, we have a rapid acquisitions process that some of the branches are able to access. Is there any reason why all of our acquisitions shouldn't be based upon a rapid acquisitions approach?

Mr. GEURTS. Sure. I couldn't agree more. I get a little frustrated when we have the rapid acquisition community and then everybody else. We should all be rapid. To your previous point, I'm a huge believer in the networks, and we do have a culture of lawyers that



look to everything bad about having conversations versus what's appropriate. I think that's an area where we can do much, much better as a community. In fact, we have to.

Senator ROUNDS. Mr. Sankar, rapid acquisitions.

Mr. SANKAR. I could not agree more that everything should be rapid. Speed is our greatest strength. The American entrepreneurial spirit of, essentially, when everything is on the line, we throw away the rule book and we execute.

Senator ROUNDS. Mr. Diller, you agree?

Mr. DILLER. One hundred percent.

Senator ROUNDS. Thank you. Thank you, Mr. Chairman,

Chairman WICKER. Mr. Sankar, if there were a round table and your competitors were invited and not you, you'd have a problem with that?

Mr. SANKAR. Well, arguably that's what's happening today. I mean, it happens. People need to get the best counsel they can. We need to move together. There are going to be lots of opportunities to keep competing. What we need to move away from is a big monolithic approach where you had one chance to get involved to actually every quarter we are adapting new technologies, and there's a constant kind of reshuffling of who are the performers on the work.

Chairman WICKER. Very helpful. Senator Hirono.

Senator HIRONO. Thank you, Mr. Chairman. Mr. Diller, as one of the authors of the recently released Blueprint for Breakthroughs in Defense Innovation report, you recommend giving the combatant commanders, including INDOPACOM [United States Indo Pacific Command], the largest AOR [area of responsibility], specific funding to accelerate the rapid fielding of new technologies to solve theater-specific problems.

What advantages would such a change inject into the defense acquisition system, and how would you address concerns from those who argue the combatant commanders already have a say in how DOD prioritizes and procures emerging technologies?

Mr. DILLER. Yes, Senator, those recommendations were specifically building on the success that Chairman Calvert on the House Appropriations Committee championed when he added \$220 million of colorless funding to ADIU [Advanced Digital Interface Unit], agile, and enterprise fielding capability.

There's been incredible success in being able to provide that flexibility directly to the combatant command, who right now is urgently developing capabilities to ensure the potential 2027 risk, is deterred and to make sure that there is proper balance. This was specifically how do we move into 21st century acquisitions of making sure that there's a digital thread. There's digital accountability between the appropriators, making sure that that is tied back into a resourcing approach that is institutionalized in the Pentagon and is tied directly to that war fighter capability.

So, it's not necessarily acquisition, it's not acquisition authority, but it is something that's much more stronger than just the combatant command, asking to actually have a say of where dollars go.

Senator HIRONO. I think that is an important kind of we looking at who gets to make these kinds of decisions and who gets to weigh in. I agree with you that I think the combatant commanders should have a greater say.

For Mr. Geurts, everyone agrees that DODs acquisition workforce must manage complex requirements pathways and extensive reporting structures, which does create a risk-averse culture. It's been acknowledged that the DOD has a risk-averse culture. What kind of training or tools do acquisition professionals need to better leverage the existing innovative procurement pathways like OTA? It's the other transaction authorities or the middle tier acquisition pathway. So we've tried to create innovative ways for faster acquisition, but not if people do not take advantage of these pathways.

Mr. GEURTS. Yes, Senator. There are plenty of pathways. At SOCOM, I think we created 17 different ways to buy things, and then we empowered program managers to pick the right one and held them accountable to deliver.

I think we have to get away from the idea that we're efficient if we pick one way to do everything, and then train everybody to one standard as opposed to exposing them to all the different opportunities and then training them what's the right tool to pick for what's the right job. Part of that is empowering the program manager so they have the authority to pick that tool, and it's not spread out between what legal thinks, what contracts thinks, what the operator thinks. I think that will go a long way.

Senator HIRONO. Do the other panelists agree with Mr. Geurts' approach?

Mr. SANKAR. Yes, I do agree. If I was to add one thing on top of that is it's really bringing acquisition closer to the operators, to the war fighters. There's a way in which, where we divide these things up so cleanly and expect that acquisition can deliver on its own.

Another way of thinking about your question on combat commanders is it's the answer to the monopsony. We have 13 SOCOMs, we can introduce a lot more demand signal. We should be celebrating the heterogeneity and the needs across our SOCOMs rather than having a unitary solution driven by the services that that needs to be universal.

Senator HIRONO. Before I run out of time, I wanted to mention the importance of SBIR, and this is a way for us to really support and encourage particularly small companies to be innovative and creative. We should be supporting it. But now, apparently, there's a pause on the, these initiatives, SBIR. Mr. Sankar mentioned, I think that you understand the importance of SBIR. I'd like to know if the other two panel members agree. Mr. Miller?

Mr. DILLER. Yes, ma'am. I, as the director of AFWERX, I issued thousands of them a year. There are reforms that should happen, but it has done incredible things to help mobilize the American industrial base.

Senator HIRONO. Mr. Geurts, you agree?

Mr. GEURTS. Yes, ma'am.

Senator HIRONO. Thank you.

Chairman WICKER. Thank you, Senator Hirono. Senator Ernst.

Senator ERNST. Thank you, Mr. Chair, and gentlemen, thank you for being here today. I am particularly excited about the discussion today, and I hope that we can take this information and your thoughts, and actually act on it.

So I'll start with you Mr. Diller. I serve as the chair of the Senate Committee on Small Business and Entrepreneurship, and I'm working on a bill to actually reform SBIR. While it's important, I agree, it needs to be reformed. So what I'd like to do is revamp phase 3 acquisitions, and a number of the efforts you've helped create have been very successful in scaling technologies from innovative small businesses to the war fighter.

Mr. Diller, how can we reform SBIR and expand on this work across the DOD innovative ecosystem?

Mr. DILLER. Yes, ma'am. First, thank you for your leadership and being a champion for small businesses. We talk about mobilizing America. This particular capability with SBIR is key. When we picked it up in AFWERX, it was not a perfect program, but it was a tool that we had, and thanks to the help here on Capitol Hill, it has been better year after year.

I think there are three important things that we need to do in the SBIR program. One, I think expanding the number of companies who can get in. This frustrates to sometimes the venture capitalists because they can't pick easily. But this is a venue, the conversation about how do we bring in many companies for the conversation. This is the venue for that conversation. So, actually, more SBIRs with lower dollar amounts initially, but we also need to be very deliberate about scaling, and scaling quickly.

Those best companies, we need to be better at judicious reviewers of which companies to scale. Then building on things like the stratify program that can literally take a company from a \$50,000 program in 1 year to a \$50 million program the next year through proper due diligence internal to the Department of Defense.

The last piece of that is that due diligence. Making sure that the dollars that are going through the SBIR Program are actually going to American companies and are not feeding the adversary. That piece is making sure that that is consistent and rigorous across the Department with clarity for those companies that want to make sure they have clean capital. How is that conversation happening? There's more opportunity to build the proper relationship with industry to get everyone on board with that mobilization.

Senator ERNST. That's fantastic, and making sure the dollars go to American companies is extremely important as well. I have focused on that.

Mr. Sankar, as chair of the Senate DOGE Caucus, I couldn't agree more with your Defense Reformation paper where you State that small business program should not be welfare. I agree wholeheartedly. In the past decade, 25 companies they're notoriously known in my circles as "SBIR Mills" received 18 percent of all award dollars at DOD amounting to about \$2.3 billion. That's a \$92 million windfall per company in a program meant for small businesses.

GAO [Government Accountability Office] reports that these frequent flyers have lower sales and investments and fewer resulting patents. We have a problem here. So, Mr. Sankar, how can we eliminate this waste of taxpayer dollars, and reorient the SBIR program to its original purpose as a source of merit-based seed funding?

Mr. SANKAR. I could not agree more. That's clearly an abuse of the intent here. One thing we could think about is time limiting; how long a company is eligible. It's not just about the size and staying below some sort of threshold. But look, we aspire for this small company to get big, and I don't know if the right threshold is 5 years or 10 years, but there's some amount of time that we would expect you to have the opportunity to get big. We're going to bet on other entrepreneurs in the future.

The other part is more of a top down. As we measure the efficacy of the SBIR Programs, we should really be thinking about how many big companies were we able to create. I think that will help us have a clear head as we think about the next rounds of investments that we're going to make.

Senator ERNST. Yes, I agree, and if you go back and you look at the companies that are benefiting from these programs right now, most of them exist on the East and West Coast. Very few of those dollars are actually getting spread into Middle America, and I do think that that this will change in the future and provide opportunity for more small businesses.

Mr. Geurts, I will get back with you on questions for the record, but I appreciate your service to our Nation.

Mr. GEURTS. Thank you, ma'am.

Senator ERNST. Thank you. Thank you, Mr. Chair.

Chairman WICKER. Thank you very much, Senator Ernst. A few of our Members of the Committee have referred to a paper written by Mr. Sankar, entitled The Defense Reformation, consisting of 19 Pages. Some of them are just title pages, but I ask unanimous consent that we enter that into the record right after Mr. Sankar's testimony. Without objection, it is so ordered.

Chairman WICKER. Senator Kaine, you are recognized.

Senator KAINE. Thank you, Mr. Chair, and thanks to our witnesses. I appreciate this hearing. I think it's really important that we dig into this.

If I could, Mr. Chairman, I'd like to recommend, as we're looking at this topic, that we also think about a hearing on workforce, because I think acquisition reform is needed. I think a lot of our challenges are also around inadequate workforce in the defense industrial base. I'd love to have a committee hearing on that topic as well. This is something Mr. Geurts and I have talked about before.

Mr. Diller, you mentioned DIU, the Defense Innovation Unit, and I want to ask you, and then the others, if you care to comment. How would you assess? I've been impressed with their mission, and I've been impressed with some of what they've done, but I haven't been involved with it in a day-to-day way. Maybe you-all have. How would you assess both the performance of DIU, but maybe more importantly, the promise of DIU?

Mr. DILLER. Certainly, from a performance perspective, this is a startup inside a very, very complex bureaucracy. For years, those startups internal to the bureaucracy largely get eaten by the bureaucracy. You can look at the rate of hiring to actually be able to build the organization. Even when the top leadership in the Pentagon says go higher, the frozen middle certainly makes that a challenge. I saw the same thing when I was in AFWERX.

So given those headwinds that they must address, I think it provides—they've been making great progress. There have been great companies that are getting built because of the collaboration. Real contracts are now turning into capability that is actually deterring an adversary.

Senator KAINE. What advice would you give to the Pentagon today about DIU and the way they should sort of position DIU within the DOD?

Mr. DILLER. I think the NDAA that had been passed over the last couple of years of elevating specifically—the challenge that we've had with innovation in the past is when these new technologies come to the forefront. It does not necessarily fit in with our traditional program executive officers. It doesn't necessarily fit in with our training and adoption pipelines. Many times, it doesn't necessarily have an obvious fit in one of the services, and this is nothing pejorative to the service. It's just new, and we don't have a home for it.

So, DIU is fit that place of actually identifying joint capabilities to support the joint war fighter. I think that elevation as it is being reported directly to the Secretary of Defense, so that the conversation with great companies in this ecosystem can be free and open, so that it is encouraging actual use of existing authorities. Right? Is a culture change that is using existing authorities to create the speed so that we can actually move in in a relevant pace?

I think that structure is there. There's a lot still to build out in that structure. DIU is the small acquisition piece of this. There's an adoption piece on the back end that might not quite be there, and there's some questions of what specific problems are these organizations solving that doesn't fit into the beginning either. So, there's room.

Senator KAINE. Let me switch gears. A lot of the testimony this morning has been about encouraging innovation and emerging technologies that, as you say, might not fit directly within the silo mentality. I want to talk about acquisition innovation in an ongoing area that we've had a lot of problems in that shipbuilding and subs.

We had to put \$5.7 billion at the end of the year into the *Virginia*-class sub program to try to move it more into on-time, on-budget. That was after we did a supplemental bill in April, putting money into the program on top of the base budget. Mr. Geurts and I have dealt with this. What would be a way to think of acquisition reform in the context of like ship and sub building? How should we look at different contract vehicles? What would your thoughts be on that?

Mr. GEURTS. Yes, sir. I think we should look at innovation acquisition reform in all phases. There's great technology. We spend over \$10 billion a year on ship repair. There's state of art technology that could enhance that today, reduce those bills, get throughput up.

I go back to this. We need a network of performers. We need a big ship building—you know, capital-intensive shipyards, but we need to have them connected to a whole network. Whether it's commercial service providers that's got digital data, whether it's Nate's

rapid manufacturing and adaptable things. That's a piece I think we're missing.

We have these kinds of pockets of old legacy things, new commercial things we haven't yet tied that together into a well-performing network where people can come in and out of that network as their performance merits.

Senator Kaine. Others have thoughts on shipbuilding in particular in my last 17 seconds?

Mr. Diller. Just briefly, if you go look at—

Mr. Geurts. Take the whole 30 seconds. I'm

Mr. Diller. We are living in an industrial age that does not match the talent pool that we have out there. We really must think about what the next leap is in manufacturing.

Senator King. So back to the workforce question. I appreciate that. Thank you, Mr. Chair.

Chairman Wicker. Thank you very much, Senator King. Senator Budd.

Senator Budd. Mr. Geurts, thanks for your service at the SOCOM. So, what are some of the takeaways that you've had from SOCOMs approach to rapid acquisition? Do you think it's realistic to apply those lessons learned to military services?

Mr. Geurts. Absolutely. I think a couple of those key things are rapid decisionmaking, creating venues to get exposed to all the technical capabilities and performance that are out there, like soft works. I think it is having the trust of Congress and the relationship to be flexible. I think it's empowering the program executive officers to manage a portfolio, not manage individual programs.

Senator Budd. Appreciate that. Mr. Sankar, Mr. Diller. Mr. Sankar, we'll start with you first. So, what's been your company's experience having navigated the Pentagon's accounting and invoicing standards regulatory requirements terms of payment, all that. How has that affected your ability to do business with the DOD, and you said you've been there, I believe, a couple of decades, Mr. Sankar, so maybe in the early days as a smaller company, maybe much more intimidating at that point. So, if you want to go back in history a little bit, what was it like as a startup trying to do business with DOD?

Mr. Sankar. It was quite complicated. I can't tell you the number of times we submitted invoices and somehow didn't fill out the right tick box somewhere. That meant the invoices would get kicked back. People always say you can count on the government to pay its bills. I think you can in the end, but perhaps not always on time, just given how byzantine the process is.

So, I think it's not commercial. That's kind of the reality of it. We should be thinking about where the divergence from commercial standards helps the taxpayer, helps the Government, and where is a vestige of how we've built the system over time. I think it does act as a deterrent and to new entrants coming in.

Senator Budd. So, as for the small business folks that are out there listening, what would payment terms be like for a small business perhaps in the early days? What would be expected?

Mr. Sankar. Well, everything is paid in arrears, of course. So, you can't structure it any other way. Maybe the payment terms are quite reasonable, net 30, something like this.

Senator BUDD. Then what's the difference between that and reality?

Mr. SANKAR. You could probably add a couple months on that.

Senator BUDD. Ouch. Well, I'm glad you survived. Mr. Diller?

Mr. DILLER. Sure. We have one contract right now with the Government that is a cost accounting. If we can avoid it, we will not do that again. It does not serve—I don't think the Government well for this type of work, and it certainly does not serve the small business well. Going back to this question of the reviewer versus the doer, we still have failed to get the Department of Defense into the 21st century to digitize the reviewer part at a pace of relevance so that there can be more doers.

That work still is lacking significantly. It's slowing down the Government. It is creating waste, and it is keeping us from getting the best technologies in the hands of our war fighter.

Senator BUDD. Thank you. Mr. Geurts, acquisition professionals, they often cite the high costs, the robust penalties, and disincentives to taking programmatic risks. I think it results in a culture of compliance over innovation. You've mentioned that a little bit this morning.

So, in contrast, in the non-DOD world, many industry-leading companies, they celebrate failure and they adopt an iterative approach to learning quickly. How might program managers be able to achieve rapid iteration while minimizing the risks of failure?

It seems to me, if you want to address the cultural issue here, and I don't know if it's a class or a—I've heard somebody ask, what tools do you need? I think it's more than that.

Mr. GEURTS. I think it's a cultural issue. So, if you agree or disagree, please weigh in on that a little bit, too. It is absolutely a cultural issue. There's training you can do to expose people to the tools.

Senator BUDD. Yes.

Mr. GEURTS. But if they're in the wrong culture, they won't take advantage of the tools. I think it goes back to being outcome-focused, having unity of command, who's in charge, and then holding that person accountable. In the SOCOM world, there was more of that than there was, and there was flexibility.

You can create strategies where you'll have rivalries and multiple performers because you can act very efficiently. Then if a company performs well and has a product, the operator wants you buy more of them. If they don't, you buy less and go to a different product. That doesn't align well with a centrally planned, you know, 30 percent of our program elements are less than \$10 million a year where you send 47,000 pages of budget documentations, and then you get hauled up in front of a staffer if you make a decision that's the right decision, but doesn't align with that bureaucracy. We've got to get to a better spot in that regard.

Senator BUDD. Thank you.

Chairman WICKER. Thank you, Senator Budd. Senator King.

Senator KING. Thank you, Mr. Chairman. I'd like to go back to Senator Reed's opening statement at the end where he talked about Churchill and the necessity of thinking fast. The first step, it seems to me in this process is to have a better focus on what we need in the future and not what we needed in the past.

The prime examples to me are hypersonics and directed energy. The ground-based interceptor program. Those missiles up in Alaska that are designed to hit a bullet with a bullet are \$70 million apiece. By the way, I got that number from an AI app on my phone. But the point is, we have been fighting the last war. Instead of talking about directed energy, which costs 50 cents a shot rather than \$70 million the focus has been on missiles and missiles. And by the way, those missiles won't do anything with hypersonics. That's another technology that we were late on.

So, this process has to start with acquiring the right things. New technologies win wars. Genghis Khan conquered the world because of the invention of the stirrup. The Battle of Agincourt was won by the longbow. World War I, the tank, World War II, the atomic weapon. So I think this discussion has to start before we get to all the processes that we're going after the right products.

Mr. SANKAR, do you have any thoughts on that?

Mr. SANKAR. Yes, I do. I love the tank example in particular because it was the Royal Navy that built the tank. It was widely—

Senator KING. They were called tanks because the code name was tankers for the Eastern front or something like that.

Mr. SANKAR. I think this shows you, I think, even before the tank, there was the land boat, which Churchill—you know, this seems to be a hearing about Churchill in many ways. But the reason I think that's really important is it was a heterodox approach. If you had asked the British Army to think of what they were going to need to win World War I, they would've been wrong. In fact, they were wrong.

Senator KING. They would have said more troops and deeper trenches.

Mr. SANKAR. We have to recognize that the innovation to fight and win the next war will come from the edges of our military. The people who are closest to those problems. It's very unlikely to come from this city.

Senator KING. We wouldn't have had a nuclear navy, but for Admiral Rickover.

Mr. SANKAR. As Zumwalt said, the Navy had three enemies; the Soviet Union, the Air Force, and Hyman Rickover. So he was not widely loved, but I think we need more tolerance for the heretics, because these heretics end up being our heroes.

Senator KING. Well, I hope that—and I don't know how you inject creativity into the process. Mr. Geurts, do you have any thoughts on that?

Mr. GEURTS. I also think, sir, that we need to invest in the capacity to act quickly. So back to Mr. Diller's comment, even if we plan much better, if we don't have the industrial network that can react quickly, then we're going to—if we have to wait to create that to decide the perfect thing we want. So, I'm also a fan of the plan for the unplanned, create the capacity to rebuild. We've lost the middle of our industrial base. We've got very big performers, a lot of little small performers, and that's where I think the commercial marketplace venture scaling into that middle becomes really important.

Senator KING. Speaking of acting quickly, this is a chart that derived from our dear departed Chairman, Jim Inhofe. It compares



the time it takes from concept to a new product starting back in 1945. The dark line is military aircraft. The light blue line is a commercial aircraft, and the red line is an automobile.

So back around in the 1960s and 1970s, those three things took about the same time to get to prototype and actually going. But something happened, and now, a military aircraft is like 25 or 30 years from concept to development. Commercial aircraft much, much faster, and an automobile has gone down. So, I believe that a lot of this is because of the bureaucratic things that we've been talking about today, the impediments to actually getting some of these products to market.

The other thing that bothers me is the proclivity of the Pentagon to have its own product. It can't buy something off the shelf. Senator Tillis used to bring the spec for the handgun which was I don't know how many thousand pages. Instead of going to commercially available handgun, all of that would require—requirements creep as another problem. The definition of requirements and then requirements keep stacking up. Mr. Diller, do you have any thoughts on those ideas?

Mr. DILLER. Sure. The Air Force has emptied the museums and the boneyards for C130 hub caps. This took us days to build. It will take months to get it certified. It finally was to fly. It took months to certify. Nothing changed. The data was available on day one. The hardware was available on day one. It did not change. We have to change the pace of adoption. We must digitize our industrial base. We must digitize our bureaucracy.

Senator KING. With your indulgence, Mr. Chairman, one of the problems is the risk-averse, which has been discussed. As I've observed the development of hypersonics, for example, the Chinese seem willing to fail. They do tests and fail. We have to have every test work, and that has dramatically, in my view, slowed down our development of some of these important technologies. Mr. Sankar, you're nodding your head. Is that correct?

Mr. SANKAR. I mean, just like the Starship. Elon learns more from the Starship breaking up than he does from an inherently waiting and slowing down to get the right perfect launch one time around.

You know, the value, the rate of learning. The first derivable learning is our competitive weapon. It's how quickly we are adapting, not what are we capable of doing today. It's how much are we changing tomorrow? I could not agree more.

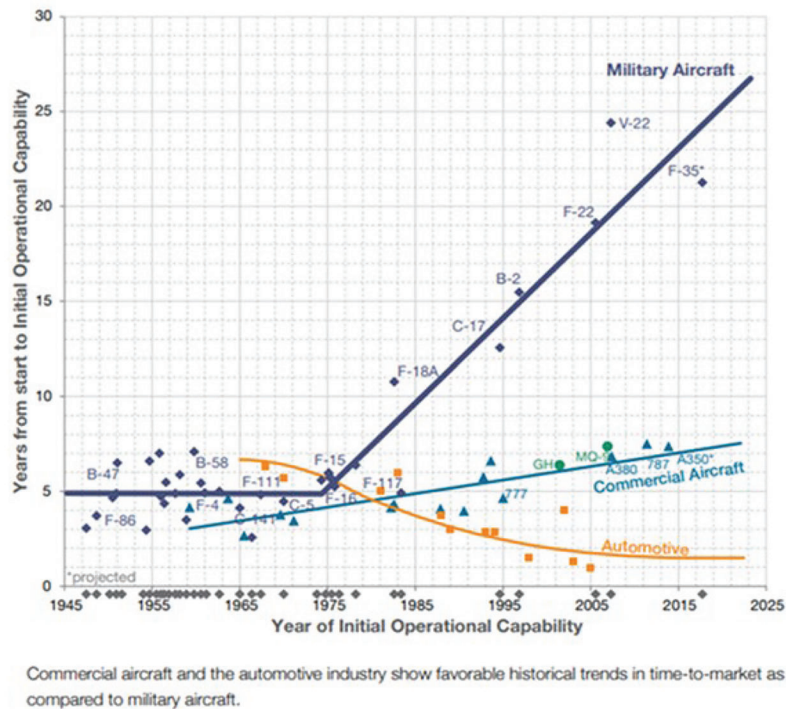
Senator KING. Thank you. Thank you, Mr. Chairman.

Chairman WICKER. Well, thank you very much. Now, before I recognize Senator Banks, I think we need to add to the record a smaller copy of that chart.

Senator KING. I'll provide it to the Committee.

[The information referred to follows:]

## Commercial vs. military time-to-market trends



Chairman WICKER. Provide it. I find it very interesting, and also, Mr. Diller, if you don't mind, Senator Banks, what is the object that you just picked up? Tell us a little more about that.

Mr. DILLER. So, Senator Wicker, going to your first point. If America goes to war tonight, we will go to war with the multi-trillion-dollar legacy force that we have today. When we talk about innovation, while there are great third offsets, hedge forces, replicators of autonomous robots, we must make sure that innovation is supporting the multi-trillion dollar force that we have today.

The C-130, as the Air Forces said, did not have a supply chain for hubcaps. They had emptied the museums; they had emptied the boneyards. This is available to be 3D printed, literally designed by Kevin Czinger and his team at Divergent Technologies, and he did it in days digitally designed. You know, there was a degree of data available that is unprecedented with legacy approaches.

But the challenge of getting this adopted into the DOD bureaucracy is one that—it goes back to this risk aversion; it goes back to how do we digitize this entire system? How do we use digital engineering and digital manufacturing because this saves the taxpayer billions of dollars, and it allows aircraft that are available today in a legacy force to fly tonight. Many of them cannot do that today because of the horrific, horrific debt that we have at our depots and

in our sustainment enterprise. This means innovation. It is there and available.

Chairman WICKER. Be a little more specific about what the hold-up is.

Mr. DILLER. The holdup is the risk-aversion. Look, there are things that fail. It goes through our airworthiness processes as you look at this, right? In some instances, there are some parts that if they fail, it is a loss of human life. How is it that we make sure that we're using digital approaches to identify where are those safety critical things? How do I consume data in a 21st century manner that is a digitized touch to that engineering design, that is taking a degree of data, when we are certifying cars parts for Aston Martin, Bugatti, McLaren, we are doing that with data sets that are unprecedented and unconsumable today by the Department of Defense.

Those companies, the highest brand name companies in the world, would not be offering those safety critical parts on their vehicles if they did not have assurance of those data sets.

When we look at the Department of Defense, that's going to take years unless there is encouragement, and thanks to your team, this initial language started with the 25 NDAA, we must build on it. We must drive that adoption. There are incredible innovators in the Department of the Air Force that want to do this, but it is going to take a nudge to actually digitize and to make sure that that massive risk aversion is saving dollars for the taxpayer and providing war fighting capability.

Chairman WICKER. Thank you very much. Senator Banks, you've been indulgent, and the chair will be indulgent with you on your questions.

[Laughter.]

Senator BANKS. Thank you, Mr. Chairman.

Mr. Sankar, what kind of a difference would it make if we gave the combatant commands their own acquisition authority?

Mr. SANKAR. I think it is the single biggest difference that we can make here. You know, the Department of Defense is the only institution I know of that divides up supply and demand. The integration of supply and demand is the beating heart of any company, that consensus driving process.

The COCOMs handle the demand, real world events, the services, man train equipped, they provide the supply. That would work if we really thought every COCOM and all needs were perfectly knowable and unitary across space and time here. But actually, all of our advantage comes from the fact that we might need slightly different things and the signal for where that comes from is the combatant commander.

So how do we give the people closest to the fight, the ability to express a little bit of competitive demand signal? Ninety percent of what you want is probably coming from the services, but that 10 percent gap is what's going to make or break us in that fight.

How do we give them a little bit of budget, a little bit of authority and ability to break the monopsony and introduce something like a free market where there's multiple demand signals coming?

If we go back to world war, like how did we have a world where every service was competing to build an ICBM? Well, maybe a

COCOM commander should decide whether the Navy or the Air Force has the better idea and concept for their specific force employment or the emergent needs that they're actually seeing. I think that competition will get us all to be better.

Senator BANKS. It seems like common sense. Why aren't we doing that already?

Mr. SANKAR. I think having the luxury of having won the cold war, is we view that as duplication. We view that as wasteful. Why can't we just pick the right answer upfront? I think our system is exquisitely designed to solve all problems that can be solved, deductively, top down, we can think our way through it.

But the promise of America, is that there's so much messiness, it's all inductive, and our system is very, very bad. It's poorly set up currently. To find the things you got to reason your way through. You got to experience it, roll up your sleeves, get dirty and realize new insights as a consequence of doing that. I think we solve that by giving a little bit of strategic autonomy to the COCOM commanders to buy what they need and to build what they need.

Senator BANKS. So, play that out. How would the services and the defense agencies react if they had to compete with another buyer?

Mr. SANKAR. Well, I think, you know, like most people don't really like competition. Of course, a part of that's going to be a threat. But I think if you get past the initial hysteresis, you'll have the next step from that is, okay, well, how do I actually change what I'm building so that the COCOM commander wants what I'm building? That's where we're going to start to get the leverage from that.

I can think about it as this is also the idea around competing programs and competing program managers that I saw in the FoRGE deck, where if we have—what is the incentive for a program manager to adopt new commercial approaches that actually disrupts their existing program? So, I think today's incentive with a unitary effort is deny, deny, deny, pretend it doesn't exist, block it. Versus actually I'm competing against another great American one corridor down. I want to be the first person to adopt the disruptive technology so that I can win.

Senator BANKS. Do you have a good example where the combatant command's, lack of acquisition authority caused delays, or even hurt the mission?

Mr. SANKAR. Well, I think you could look at the success of Project Maven, which really didn't come from the services. You know, people love to derive OSD level efforts as bureaucratic or not sustainable. But that innovation really came from the 18th Airborne. It came from CENTCOM. It came from EUCOM, it came from the Afghan NEO. It came from the emerging demand signal in the world, the crisis that had to be responded to, the learning that could only happen there, folded in capabilities that ultimately scaled to the Force.

Senator BANKS. Mr. Geurts, program managers in the private sector are obviously paid more than Government employees. They also get bonuses and stock options for good performance. But in DOD, the uniform military personnel and civilians managing our critical weapons programs get paid the same whether they deliver

or not. Do you think the limited pay for performance system that the DOD has tried, has worked?

Mr. GEURTS. My experience both personally and professionally, is it's not a pay issue. The high majority of program managers want to deliver an operationally relevant capability for the war fighter. They are just mired in a bunch of distractions, a bunch of outside stakeholders. Many more people can say no than can say yes, and so, they spend 90 percent of their time managing your bureaucracy, not managing the effort.

Then I think the other piece is we've got to also get to the point to be innovative, you have to start things quickly, we also have to be able to kill things quickly. For lots of different reasons and I think that's one of the challenges. If you give COCOMs acquisition authority, we'll start a lot of things. But if we can't kill the things that aren't performing for whatever reason, then you won't have a highly functioning adaptive system.

Senator BANKS. Well put. I yield back.

Chairman WICKER. Thank you very much. Senator Cramer.

Senator CRAMER. Thank you, Chairman Wicker, Senator Reed, thank all three of you for being here.

I've stayed the whole time because this, frankly, this is why I'm here—is what you're talking about. I'm not sure of all the solutions, but so far, I like what I'm hearing. This is exactly why by the way, Senator Kelly and I stood up the Defense Modernization Caucus. So, thank you for your comments today.

I'm going to go a completely different direction than I was planning to, or that my staff was planning me to. I was thinking back to my first days in the Senate. It was at that time when DOD was looking for somebody to win a contract for cloud computing, and the Jedi, remember the Jedi competition? I remember they chose Microsoft and Amazon early 2019 to compete, late in 2019, they awarded Microsoft. What resulted in that was, of course an immediate protest.

Then they went on a while longer, flipped the script, chose, Amazon, then Microsoft protested, and then NSA [National Security Agency] took over. Anyway, about 5 years later, we finally have companies doing cloud computing. I was very frustrated by the ability for a company who didn't win the contract, regardless who the company is, to protest the company who did, and then hold up modernization by 5 years. Now a lot of things were happening in the meantime.

But then we fast forward to today, where we read about now what I believe to be the most innovative agency within the DOD, the Space Development Agency. Which has been under attacks since the day we stood it up by, swamp creatures and legacy space operators and legacy acquisition of procurement officials, and a protest that I almost guarantee you, will slow up the proliferated war fighter space architecture. Which is the worst thing that could happen.

It's even led as, you know, to a PIA claim that looks more political than it does real to me, quite honestly. I would just like each of your comments or opinions about the protest regime, and whether there's more that can be done there. Don't get me wrong, competition requires the ability to challenge, but it shouldn't provide

the opportunity to make the country less safe. I'll just start with you Mr. Geurts, we can just go down from there.

Mr. GEURTS. Yes, sure. I do agree there needs to be an avenue, but that avenue over time has gotten abused. One thing I suggested early on, was you get one bite at the apple; you could protest the GAO or court of Federal claims you couldn't protest twice. I also think there should be some look at behavior over time and some disincentive for what I would call chronic protesting, particular by incumbents.

Mr. SANKAR. I agree. It's also been abused that I think it's a hard problem for the reasons that you've already articulated. But I think one way that we could really buy this down is by doing more bakeoffs, more things in parallel, getting more things fielded, because anyone can win a fiction writing contest. It has no correlation to your ability to perform.

But when we have the satellites in space, we'll be able to tell one way or another, maybe we'll decide, actually, we should have 50-50. Maybe we should have multiple performers. Maybe we're working bad decisions because we're evaluating you through a fiction writing contest instead of empirically in the field.

Senator CRAMER. I thought, by the way, the examples one of you used a little bit ago, Elon Musk learning more from blowing up. I was at the Starship launch with President Trump, and it was very confusing for several of the business people there to hear Elon speak so positively about the booster that didn't come back, and they had to put in the water and like, but we learned so much.

That's a tough culture in our business and in government but it's one we have to foster. Mr. Diller, your comments on the protest.

Mr. DILLER. Sure. It gets to that risk. I went to the French test pilot school and the speed that my 5-year-old was able to learn French compared to me, he didn't care. Right. He did not have this risk averse culture. It's the same with Elon Musk. When we look at these protests, if we take this approach or chairman of the joint chiefs of staff use this phrase, 'acquire to require?', and it's exactly what Sean was saying, how do we slowly build trust? Because it's at the core, it's a trust issue. If we actually work together at the beginning in ways that OTs allow us to, that trust can be billed.

Chairman WICKER. Thank you very much, Senator Cramer. Mr. Sankar, before I go to Senator Warren, do we have the statutory authority in place to have the type of bake off that you described? [Laughter.]

Mr. SANKAR. We absolutely do, and we have participated in just those sorts of down select processes.

Chairman WICKER. Okay. So it's just a matter of the, folks in charge doing that. Senator Warren

Senator WARREN. Thank you, Mr. Chairman, and thank you for holding this hearing. DOD buys a lot of stuff from defense contractors and to protect the military and taxpayers, it's long been the law that defense contractors must give DOD contracting officers certified cost and pricing data, to help verify that a price that's being charged is fair and reasonable.

One of the big exceptions to this though, is for 'commercial goods and services' based on the principle that the market will make sure it's a fair price. If you could buy it on Amazon, that's a fair

price. You don't have to go into all the background on how you got there. I get that, and I am all for commercial buying.

But the fact is, this is turned into a massive loophole where big defense contractors withhold data, even though there's no market and DOD effectively, the only customer, doesn't have this information so that these giant companies can price gouge the military.

So I want to give you an example here. For years, the Army was buying Chinook helicopter engines from Honeywell, and Honeywell successfully lobbied Congress so its engines would be treated as commercial, and Honeywell wouldn't have to turn over the certified cost and pricing data. Now, Mr. Sankar, you're the CTO of Palantir, a billion-dollar tech company that contracts with DOD. Once Honeywell got the engine moved to a commercial engine, what do you think happened to the price?

Mr. SANKAR. I'm not familiar, Senator.

Senator WARREN. Well, it went up, not down by a hundred percent, and that's the problem we've got here. Too often, DOD is outgunned when it is negotiating with these giant defense contractors, which is exactly why it needs the cost and pricing data to avoid being ripped off. Now, Mr. Sankar, your company Palantir, is looking to create a consortium with another defense tax company Anduril, is that right?

Mr. SANKAR. Yes.

Senator WARREN. To jointly bid for something called 'other transactions agreements', or since we have to give everything initials OTAs, where the Government also waives taxpayer protections on how to get pricing information. I'm sure it's not your intent to team up with another organization in order to price gouge the military. So, this next question should probably be easy here.

DOD's Inspector General recommended requiring bid contractors to alert military contracting offices when the price of a good or service goes up by 25 percent. In other words, move it up so other people—and can get eyes on it. Mr. Sankar, do you agree with the IG's [Inspector General's] recommendation?

Mr. SANKAR. I do agree. I think the price signal is part of the competitive market and encouraging more entrants and capital to efficiently be allocated to improve things.

Senator WARREN. Excellent, and will Palantir agree to do that voluntarily?

Mr. SANKAR. I would defer to my team here, but I don't think we would've any conceptual disagreement with that approach. Okay.

Senator WARREN. So, can I treat that as a yes?

Mr. SANKAR. I would defer to my team.

Senator WARREN. Well, I want to be clear here, because—

Mr. SANKAR. As the CTO [Chief Technology Officer] we don't speak on the business side.

Senator WARREN. We only know about most of these overcharges because of the work that the Department of Defense Inspector General has done. This is the person who President Trump just illegally fired on Friday night, along with at least 16 other IGs. I am deeply concerned that this Administration is removing exactly the cops on the beat, that we need to identify waste and to prevent these kinds of increases.

Mr. Sankar, do you think it helps or hurts national security to have Senate confirmed watchdog who can be there on pricing questions like this to call balls and strikes?

Mr. SANKAR. As a technologist, what I can speak to is, when you look at Intel in the late 1960s, 96 percent of the market for integrated circuits was the Apollo program and the DOD, but Bob Noyce says the co-founder of Intel, the co-inventor of the transistor, always envisioned a bigger commercial market. Our ability to deliver a salt breaker and ultimately have an asymmetric threat against Soviets—

Senator WARREN. I'm sorry, can you relate that to the question I just asked?

Mr. SANKAR. Yes, I promise it'll get there. Our ability to deliver a salt breaker was because actually he could create integrated circuits that were thousands of times cheaper than when we were building Apollo. That was only possible because he had an eye toward the commercial market.

I completely agree that if you have a fake commercial item that doesn't actually have commercial applicability, if the company is not able to leverage a diversified R&D base that goes beyond the government, that that is the promise that should lead to price performance improvements for the Government, then you're not getting the value of the commercial item.

But when we look at space, for example, I grew up in the shadow of the Space Coast. The cost to get a kilogram into orbit for the shuttle was \$50,000 a kilogram. So the cost with Starship heavy reuse will be 10 bucks. So,

Senator WARREN. Mr. Sankar, I very much appreciate that you're trying to push here on cost, I am too. The question I had asked you is whether or not we need IGs, who are the whistleblowers, who say people are cheating on the cost, for example, on the definition of commercial, are somebody who can help us bring these costs down.

Pentagon is spending \$440 billion this year on contracts. It's important for us to get better procedures in place to get some eyes on what they're doing, and IGs help us do that. Thank you.

Chairman WICKER. Thank you very much, Senator. Perhaps Mr. Sankar would like to respond on the record to that last matter. With regard to deferring to your team, once you've had a chance to do that, perhaps, Mr. Sankar, you could supplement your question on the record along with other things.

Chairman WICKER. Senator Schmitt.

Senator SCHMITT. Thank you, Mr. Chairman.

I'll start where Mr. Sankar left off and ask a question, and all three of you feel free to chime in. I also serve on the Commerce Committee, and to my surprise, in my first year, I was named the ranking member of the Space and Science Subcommittee. I would not have put that on my Bingo card in coming into the Senate in my first 2 years. But I found it fascinating because of the innovation that's happening in space, driven by the commercial private sector, right?

One of the things that we were able to do was to extend the learning period which is kind of essentially allowing these compa-



nies to innovate and any regulations that would come really sort of follow the path of what has worked.

So not to artificially constrain the innovation on the front end with a bunch of bureaucrats who are just sort of making it up, not really knowing where the rules of the road really should be. I'm wondering is there a scenario or how would we construct something similar? I mean, we're all getting at this challenge of innovation, and how do you unlock it in what seems to be a Pentagon that has just sort of been captured by centralized planning.

I mean, I think our great advantage against Communist China is our ability to innovate, they're really good at copying. We're really good at innovating, but if we hamstring our ability to innovate, we lose our advantage, right?

So, this example of a learning period as it relates to commercial space, what would be a version in your mind that, that we could sort of replicate in the NDAA?

Mr. SANKAR. Well, I think the commercial SpaceX is a great example where SpaceX wasn't given the monopoly. They had to earn it. We had multiple competing approaches to get to space, and they thought that they could do that at a price performance level, no one else could. That's clearly been proven to be true. I think if we applied that more generally, which is like the inductive bottoms up innovation is the American spirit, that is our competitive advantage. How do we get more shots on goal for all the efforts we're going to? Less certainty in the top-down centralized planning, more space to have new performers, new entrants, present the heterodox ideas.

I think for that to really take hold, you either need to have competitive program offices within the services or you need to empower the COCOMs to create that sort of demand signal that varies, that pushes the adoption of innovation.

If I look at our own company, the history, all of our adoption came from the field. It came from Iraq; it came from Afghanistan. It didn't come from the program offices. It actually came despite the program offices. They were resistant to this as something that was going to screw up their cost schedule performance.

I think the kiss of death would be trying to create some sort of smooth process to go from new ideas that are innovative to scaling them. I promise you that is always going to be hard, that is always going to be messy, it's going to be interpersonally friction full. If we wrap that in process, we will kill it and smother it. But if we enable ourselves to lean into that friction, we will be able to field the cutting-edge technologies we need.

Senator SCHMITT. So, in addition—I want the other, two to chime in too. In our meeting, prior to this hearing, we talked a little bit about having the competition among services is an idea. Combatant commanders having some flexibility to adjust so whether it's sort of a separate pot of money dedicated for that, we've talked about in this committee about having a separate pot for smaller players, the disruptors, who might come into the marketplace, what other concrete ideas exist?

I guess, because I won't have time to ask the second question, but in the context of, if we were at war right now, like, let's say

we're at war with China tomorrow. What would we do differently? What would we do differently that we're not doing now?

Mr. GEURTS. Yes. Just quickly and happy to do a followup, but I think we leveraged the full, I go back to this industrial network. We have tremendous commercial capacity we aren't tapping into and leveraging. We have to rebuild manufacturing, but not rebuild what we used to have, rebuild it with modern technology that's flexible. We have to think about, let's take contested logistics, leveraging electric vehicles, things that already exist, rather than trying to recreate this giant purpose-built force, become really fast adopters, integrators, and not try and be the inventors of everything.

There's plenty of invention around. We need to be super-fast at importing it, integrating it, and then getting it into the hands of our women and men in service.

Mr. DILLER. I think there are models that exist. They have been practiced over the last few years. They were not scaled. I don't know that we have the structure to actually scale those currently. We have done incredible work; the Department should be commended on incredible work of these multiple pilot projects. Eventually, that must turn into, without becoming overly bureaucratic, right? This is the risk, build on those successes of reaching out to thousands of companies.

Speed is everything. How do you scale them in a relevant timeline? It's possible. It does require some flexibility. It requires transparency from the Department that's going to create the trust for speed. Thank you.

Chairman WICKER. Thank you, Senator Schmidt. Mr. Sankar, I'm so glad Senator Schmidt asked that question. If we found ourselves at war immediately, go ahead and be the third response to that question.

Mr. SANKAR. I think we would lean in heavily into the primacy of people. Do you have the right person in charge of these programs? You'd stop rotating them immediately. You'd go deep on focus. You'd probably do a lot more with vertical integration of the capabilities, not reliant on thin horizontal supply chains.

But I think we would organize around the most credible people and humans we have and limit the number of programs we have, concentrate our arrows behind those things. Today, we kind of have this bingo card approach to rotating our general officers around making sure in the spirit of jointness, that they have this array of experiences. I think that probably helps you in peace time, but I think it strictly hurts you.

You haven't even been in the role long enough to learn from the mistakes you've made. You don't even know their mistakes yet. It takes a long time for these programs to get to the point where you're up the learning curve. I don't think you could just randomly replace Elon or Glenn Shotwell and expect these rockets to keep working. They have accumulated this knowledge over 20 plus years of building them.

Chairman WICKER. Are we in peace time now?

Mr. SANKAR. In my opinion? No. but I think we got to get the whole country to realize that.

Chairman WICKER. Thank you very much. Senator Rosen.

Senator ROSEN. Well, thank you, Chairman Wicker and of course, Ranking Member Reed. Really an important hearing. I'd like to thank each of you for being here to and testifying today. I want to build upon a little bit about what Senator Warren brought up on competitive pricing, because consolidation of our defense industrial base is concerning, to say the least. Because since the 1990s, the number of U.S. aerospace and defense prime contractors have shrunk from 51 down to 5, 51 to 5.

As a result, the Department of Defense is increasingly dependent on a small number of contractors for critical defense capabilities. This constrains us in many ways and I hope for a bigger conversation on the value of early stage research and what it can teach us. You've been speaking to that, but that's a much larger conversation we can't have in 5 minutes.

Mr. Diller, how should DOD help support advanced technology?

Our small businesses that do that, especially those who struggle to find private capital, we want them to be more attractive for investments so they can survive the infamous valley of death stage, accomplish technology transition, and become part of our defense industrial base.

For Secretary Geurts, I'm going to ask you a followup. For those defense-focused small businesses who can't find the private capital, they don't make it across the valley of death. How might public private partnerships incentivize domestic investors to help support them? So, Mr. Diller and then Mr. Geurts?

Mr. DILLER. Yes, ma'am. Thank you. When we launched what we called AFWERX 2.0 in 2020, we created this process called AFWERX Prime Process. You can say what you want the particular marketing around that. But what it did is, it recognized that there are many technologies, emerging technologies, that DOD can actually become an incredible incubator to: one, reduce the technical risk, two, reduce the regulatory risk, and three, reduce the re adoption risk.

We were able in a few instances to actually, I think establish a dual set of technologies to some degree, an actual market in America, because of that approach. Because very quickly, some of those companies at the beginning came in on a \$50,000 small business contract that we've been talking about, but were given authorities to turn that \$50,000 contract into a \$50 million contract over the course of a year.

So speed is everything. Getting the Department to understand the critical nature of speed, and as we are in a wartime footing, that is yet ever more critical. Those things have been piloted. There have been initial moves by the Department to create the flexible funding to actually get them to scale. We must double down and make sure that that success can scale.

Senator ROSEN. Mr. Geurts, what do we do if they don't make it across? How do we incentivize these public-private partnerships—

Mr. GEURTS. I think we need to be careful that I don't think every company is going to make it across. We want to make sure we don't over rotate the other way, so that if you don't have a product that meets a need at a price that's affordable and reasonable, then you may not make it across.

Where I do think we have to focus more is how to quickly scale the products and services that we need, and in many cases, these small businesses have a piece of the solution, but aren't the whole solution. That's where I think there's opportunity to create a network where either they get together or they band together with either commercial or another company that can help get them across.

Senator ROSEN. You can connect them; they can potentiate their value together. Well, I want to keep a little bit on this potentiation, because technology supply dependent a fragile global supply chain from critical minerals to semiconductors. Nevada, of course, my home State, we mine lithium, magnesium, and other critical minerals.

Well, we have a role to play in these technologies too, but only if we make a concerted effort to strategically leverage our resources, leverage our advantages to overcome our global supply chain challenges. So again, Secretary Geurts, what specific strategies can the U.S. employ to mitigate these vulnerabilities, investing in domestic industry to help it strengthen our supply chain resilience?

Mr. GEURTS. Yes, I'm really optimistic on the focus of not only owning our supply chain, but adding multiple sources of supply to build resilience, and I think, you know, 5 years ago, that wasn't part of the conversation. It's part of every conversation now, and looking at all the resources we have, and then how do we incentivize that is going to be critically important. Whether it's the rare earth and minerals all the way to being able to remanufacture a part that's been out of production for 30 years.

Senator ROSEN. Thank you, and I'll submit this question for the record, but as the only former software developer here in the U.S. Senate, I want to talk a little bit about high quality systems and software and how we prioritize across the enterprise DODs management of technical debt, which cost of choosing speed over quality, and when we develop software systems. I'll submit that for the record for you. Thank you.

Chairman WICKER. Thank you, Senator Rosen. Senator Scott.

Senator SCOTT. Thank you, Chairman. Thank you for holding this hearing. Mr. Geurts, when I was in business, I had a written purpose for everything we spent money on. When I went to Wall Street to raise money, they wanted to get a return on their investment. When I became Governor of Florida, there's 4,000 lines to the budget, what we did was we had a written purpose for every line. If they didn't meet the purpose, we didn't continue to fund them. Is that how DOD works?

Mr. GEURTS. I would say yes and no. I would say there's a written purpose in about a stack of budget docs this thick, where there's a purpose against every budget line. Are those looked across and are they scrubbed the way they need to be? No. Is return on investment looked at as close as it needs to be? No, and are we good at stopping things we started, we're horrible at that. That's one of our biggest inhibitors to innovation, is we can't stop things that aren't adding value to fund things that we need to be working on.

Senator SCOTT. Can you give me an example where it didn't hit a purpose and there was some accountability? Like, did they stop

a program? Did somebody lose their job? Can you gimme one example of, you know, there was a written purpose for something, it didn't happen, and some where there was change made?

Mr. GEURTS. Not sure I have a clear example of that as much as many times we are issued sometimes through congressional budget changes, activities to go work on that were not in our original plan. Some of that can be value added. Some of that may not be value added. I can't give an example of where there was a purpose for funding that and somebody didn't execute the purpose. You could argue whether the purpose was the right purpose but I can't give an example.

Senator SCOTT. So you don't have an example where anybody was ever held accountable for not fulfilling their purpose?

Mr. GEURTS. Well, I think there's plenty of examples of that. You can look at what I did as a Navy secretary and the Ford Program manager.

Senator SCOTT. So, what happened? Did somebody get fired?

Mr. GEURTS. Yes, he did.

Senator SCOTT. Why? What didn't he do?

Mr. GEURTS. Didn't execute the outcomes I expected as a program manager.

Senator SCOTT. Good. Mr. Sankar, Mr. Dillard, do you guys like to compete?

Mr. SANKAR. I love it.

Senator SCOTT. How about you?

Mr. DILLER. Absolutely.

Senator SCOTT. Okay. So, to compete, does it make you better?

Mr. SANKAR. One hundred percent. Without exception.

Senator SCOTT. So, have you lost?

Mr. SANKAR. Yes.

Mr. DILLER. Often.

Senator SCOTT. Okay, and when you did, what'd you do?

Mr. SANKAR. Get better.

Mr. DILLER. Try harder.

Senator SCOTT. Okay. So do you feel like that's the way DOD operates, where they're out trying to get people to go compete, to find out the best product service, things like that?

Mr. SANKAR. I think it attempts to, but sometimes the nature of the competition can be a fiction writing contest, like an RFP. Sometimes the competition is so constrained and not real world enough that it doesn't provide a long enough runway. Sometimes the competitions are just too short, where actually what you want is, you want to be able to get a bunch of people in continuous competition that just because you're winning today, I want to have an incentive to invest my private capital into R&D and show up next month with a better mousetrap, and try to win with that, and show up the month after that and do that again.

Senator SCOTT. Are you rewarded for that?

Mr. SANKAR. Spiritually, right now we are, but I think we're at the beginning of a broader transition with DOD. Where I think that can result in the sort of rewards that make this sustainable.

Senator SCOTT. Okay. For both of you, if you had three things you're going to do to, to force big change at DOD, what would you do?

Mr. SANKAR. I feel like I'm starting to sound like a broken record, but my two core suggestions, the first would be have competing programs. Do not give a program a monopoly on a certain capability area. Let multiple departments, organizations, units, programs within the government compete with each other. That's why SpaceX is so innovative right now, is because it is a food fight between various different agencies. We should embrace that when we were winning that's what it looked like.

The second one is, push more authority to the combatant commanders to decide what they need. Use that to drive signal and reformation to the services and the Department broadly.

Senator SCOTT. Mr. Diller.

Mr. DILLER. Digitize. The future is digital, and we are not there yet. Second, be clear that there are different types of portfolios that attract different types of companies that need a different culture, and make sure that there is a path of doing that.

Last, make sure that we actually have the ability to manufacture in America. DOD could be the catalyst to actually shift American manufacturing. Manufacturing is not a DOD problem; this is an American problem. It must be solved to avoid the crisis that we have in building, turning ideas into hardware.

Senator SCOTT. Thank you, Chairman.

Chairman WICKER. Very good. Senator Scott. Senator Kelly.

Senator KELLY. Thank you, Mr. Chairman. Thank you, all of you for being here today. As the Ranking Member of the Airland Subcommittee and the co-chair of the Defense Modernization Caucus, along with Senator Cramer, I'm focused on maintaining our competitive edge over our adversaries. To achieve this, we've got to ensure that our military is not only equipped with cutting edge technology, but also as the infrastructure to remain effective in contested environments, where supply chains and sustainment could be disruptive.

I don't know if the three of you saw an order from OMB from the White House last night or yesterday, an expansive order with repercussions across the country. It's unprecedented in this order and I'll explain here in a second where I think the defense impact could be. But this is cutting, pausing Medicaid health plans, Pell Grants, Meals for Kids, nutrition programs for pregnant mothers, programs to help homeless veterans.

It appears that it also may freeze Federal funding and grants for Department of Defense Research in manufacturing technology and other small business innovation programs.

So, I want to ask each of you, starting with Mr. Geurts, have you looked at this memo that was issued last night? Are you concerned that a blanket freezing of these funds—how would it impact our readiness and ability to compete with China and other adversaries? I want to start with Mr. Geurts.

Mr. GEURTS. Sir, I have not seen the exact memo you referenced. But more globally, one of the challenges with the DOD as a customer is there's lack of trust that they'll be there and they will start, stop, start, stop. I think that could send a bad signal to business, and then also, if we stop a bunch of research and are not staying on the technical edge, that could be detrimental to the force.

Senator KELLY. Mr. Sankar, for Palantir specifically, let's just say in a couple days, you find out that that contract payment that you were about to receive, you're not going to receive it, and you're not going to receive it next month or the month after that. Could you talk specifically about how it would impact your company?

Mr. SANKAR. I think you can imagine that it causes quite a bit of heartburn, particularly for services already rendered. But it's a difficult environment.

Senator KELLY. Where are your employees?

Mr. SANKAR. All over.

Senator KELLY. All over how many?

Mr. SANKAR. Four thousand total.

Senator KELLY. If you didn't get paid by the Federal Government for the next 3 months, how many of them do you think you'd have to lay off?

Mr. SANKAR. I would rather not think about it.

Senator KELLY. You'd rather not think about it. Okay. Mr. Diller, for Divergent, what would be the impacts if your Federal dollars contract payments were to stop?

Mr. DILLER. As a dual use company that really is just starting into the defense space, certainly, it would deter us from continuing that. I think, you know, we've seen this over the years, and this is one of the many things that creates risk for companies. In some instances when I was a director of AFWERX, you simply could not convince some commercial companies to go do business with the Department of Defense. So obviously, trust is key on these things, and understanding continuity of agreements made is important.

Senator KELLY. Yes. So you're going to find out in the next probably 24 hours if it's going to impact you and your company and your employees and people who live in those communities. But this is an unprecedented overreach from the White House, with a directive from OMB to freeze programs that folks on this Committee, in the U.S. Senate authorized money to be appropriated for very specific programs.

Programs—I'll get back to, that help homeless vets, nutrition programs for moms, but also programs that affect our safety, our readiness, and our troops to make sure that they have the combat power that they need to win, win in a very tough environment.

So I'm very concerned about this action that the White House took without, I guess they notified us. They say it goes into effect at 5 p.m., I suggest when you get back to your companies that you take a close look and see what the impact is going to be to you and your employees and our readiness. Thank you, Mr. Chairman.

Chairman WICKER. Thank you. Senator Kelly. Senator Sullivan.

Senator SULLIVAN. Thank you, Mr. Chairman. I'll comment on followup on Senator Rosen comment about critical minerals, I'll actually comment on a really good executive order. The critical mineral issue, the good news is Biden's out Trumps in, especially for my State. We have incredible resources of critical minerals for our military.

Joe Biden spent 4 years shutting down Alaska because radical environmental groups said, don't mine in Alaska, get it from China. So that's what we did for 4 years, and Donald Trump is changing that on day one.

Senator Rosen asked about critical minerals, the good news, the most important news for critical minerals for America is, Biden's gone and Trump's in. That is really good for the people in my State who have been sanctioned more than fricking Iran and Venezuela by the last Administration.

But let me, I'm venting here a little bit, Mr. Chairman. Sorry. Let me get to the point of the hearing. Thank you for holding this hearing. This is really something all three of you're going to have experience on. So I really want to get a sense of it. Mr. Sankar, you might remember at the lunch that you and I were at recently, where Admiral Paparo was talking about contracting officers who are in the middle of their careers, don't want to rock the boat. This idea of a frozen middle in the Pentagon.

We all love our military, I think Mr. Diller, you actually served as a contracting officer, acquisition officer. What are some of the ways that we can best incentivize contracting officers in the Pentagon to take risks on newer companies as opposed to always default to Lockheed and Raytheon and, you know, take the easy route.

Because I think the culture in the Pentagon is one thing we got to work on, and you all have experience on that so I'd love to get your sense quickly, because I have some other questions, but culture contracting officers, how do we incentivize risk taking without people being scared in the big bureaucracy of the Pentagon? Go ahead. All three of you take a crack at it.

Mr. SANKAR. I'll offer a thought here. First is get them out of the Pentagon. Maybe we need to have our contracting officers or acquisition folks forward deployed closer to where the problems are, understanding the ways viscerally, there's a reason SpaceX locates their R&D engineers on the production floor. That is a heterodox approach that we certainly would not see in the defense industrial base. But that's where you observe the problems, you change your design, you're able to close those loops very quickly.

Chairman WICKER. We could do that now. Could we?

Mr. SANKAR. We could. The second part is, have another American, one corridor down that they're competing against. Yes, you know, that the risk of disrupting your schedule is outweighed by the fact that that person's going to win, and you're going to lose that.

Senator SULLIVAN. I love that idea. Anyone else, Mr. Diller?

Mr. DILLER. Incentivize speed. In AFWERX, we went from no contracting shop, and we deliberately were saying we are establishing a different culture. There are people in the Department of Defense, I would say most of them actually, that want to move at speed. As Mr. Geurts mentioned, this is not necessarily about money. It is a mission that they actually want to engage in.

When leadership actually takes on the risk themselves and unlocks the people working for them, you can attract incredible contracting officers. There are so many of them out there, and they're ready to move with speed to buy the right things.

Senator SULLIVAN. But they need to be told from the top-down percent, Hey, it's okay to contract with this up and coming upstart versus the big guy who's going to take 15 years to get his product out. Correct? Yes.



Mr. GEURTS. Yes, sir. One, you got to get them aligned with the program manager so that they're not on an island of their own. Then that team puts together the strategy and is held accountable for looking across the entire thing. The second thing, which the— is helping, the burden we put on a contract officer to award a contract, the number of things they have to sign, the number of certifications is ungodly. Yes, and so, this Committee could really help by scrubbing a bunch of that underbrush—

Senator SULLIVAN. Is that not in statute, is it?

Mr. GEURTS. Yes, sir. I mean its statute, which then we propagate in implementation and processes, and then well—

Senator SULLIVAN. Maybe for the record, if you have some ideas on that real quick, I want to just ask one final question.

Mr. SANKAR, you did a great job on your Defense Reformation piece published in October, but there's and I love the idea of competition between programs. But how do you envision the acquisition system working when the services have a lot of, you're very focused on the combatant commands, and I get that, that makes a lot of sense, but the services also have a lot of skin in the game and is there a challenge that if you're moving it to combatant commands, the services are going to be, hey, that's my piece of the territory. What do we need to do and how do you make them work together better?

Mr. SANKAR. Well, I think if we thought about it at the margin, a little bit of overlap is actually what gets them to rise to the occasion.

Senator SULLIVAN. That's your competition thesis.

Mr. SANKAR. Yes, and so I think, you know, I'm not sure you'd say Air Force, please go build me an aircraft carrier, you know, but it's really like, where are we on the margin? One example, when we were trying to build JADC2, we have Overmatch, we have a BMS and we had Project convergence, but each of those was just trying to build software or JADC2 within their service, which you could argue is a little bit of a contradiction on the concept of JADC2 to begin with.

Maybe a more productive frame would've been, each of them is actually seeking to field software and capabilities to the combatant commanders across components, across services, and that's going to create the productive tension to win. That would also force interoperability, it would force a lot of the things that we aspire for. It would be MOA in practice instead of MOA on paper, and so I think we forget that first you have to be effective before you can focus on efficiency.

Chairman WICKER. Members can supplement their answers. Thank you. Thank you very much. Senator Slotkin.

Senator SLOTKIN. Thank you, Chairman. Thank you for holding this hearing. I was glad that our first official hearing beyond a confirmation hearing was on something where we should have very bipartisan approach to this issue. I'm a former CIA [Central Intelligence Agency] officer and Pentagon official, so I feel like I saw a lot of this up close.

I think the most important stat for me that I think about, that I measure our success or failure at is someone told me that to go for the Chinese Government, to go from concept to fielding a pro-

gram in their military is a 1-year string. For the United States, it's a 3-year string, right? I can't imagine all the man hours in between those, those 3 years.

To me, I mean, we hope we never have a conflict with China or anybody else, but we have to have the speed of decisionmaking to change on a dime.

I have seen in three tours in Iraq, particularly with some special authorities the special forces have, to really innovate in the field. The most exciting stuff I've ever seen was just where the flash to bang was like, boom, we got a problem, we have authority to go do it, let's go do it.

So I would describe, I did 6 years on the House Armed Services Committee, that our Committee in a bipartisan way was ready to hurl authorities at the Pentagon if we thought it would actually help move things.

You have an open you know, sort of door, I think with Democrats and Republicans. I have come to believe that culture is critical. The idea that a mid-level contracting officer is going to break out and do something new when they're not getting their pressure in a chain of command organization is like saying that, Senator Wicker's mid-level staff should be doing something on his behalf. At the end of the day, the buck stops with him.

So I think a Reform-minded Secretary of Defense, again, I'm not talking about party, is the most important thing to taking this on and prioritizing it. I hope that the Secretary of Defense again, gets through what I see as really sort of side issues and gets back as he says, he wants to, war fighting. Which is the speed of decision-making and taking a home hold of that acquisition system and changing it.

But to me, this is about culture, and until we get that right, we're just going to be spinning our wheels. I would also note that you guys in the private sector, you get to gamble with your shareholders or with your investors', money, gambling with taxpayer dollars is just a higher threshold, right? It's going to be a higher threshold. It's never going to be like the private sector. We all complain when the F-35 goes over budget and all these things because they're wasting taxpayer dollars.

So there's a conundrum there that doesn't make DOD perfect as an analogy for the private sector. But we're in violent agreement that we need to do something to speed things up. I just think it has to be top down. I hope we can push that agenda in a bipartisan way together.

In the meantime, I do have to say, following on what Senator Kelly just said, Senator Wicker, we have a constitutional issue going on right now, where this body has appropriated money for defense programs and a million other things. The Trump administration has come in and contravened your own and all of our guidance on programs in the past, I'm not talking about programs in the future, every president gets to decide how they want to create programs that they want to implement.

But for things that have already been appropriated, right now, the military health system as, research projects are all on hold. Talk about servicemembers safety and health, funding for the Fisher House, wounded Warriors on hold, all Army contracts on hold.

Okay. I don't see how this isn't just purely throwing the baby out with the bath water.

I get that Mr. Trump is going to make change. I won on the same ballot as Mr. Trump. I understand that, but this is to me breaking the constitutional rules that we have set up here. So, I would assume we're going to see some serious action from this body, I hope, on a bipartisan basis.

I've filibustered my entire time but all this to say Mr. Chairman, you have a friend in this cause. I want to make it a top-down cause so we actually move the needle, otherwise, we're just giving scraps at the margins for contract officers who are going to do what their boss says, If their boss demands action. I'll leave it at that.

Chairman WICKER. Thank you, Senator Slotkin. Let me just respond very briefly. I think all three of these witnesses have not had a chance to read the memo to which you and Senator Kelly referred and questions are being asked around Capitol Hill at this very moment about that and they'll be more visiting about that issue.

So it is almost the end of the first round, and I'm the last questioner. Let me ask a thing or two.

Mr. Sankar, you said the stockpile is not the deterrent, the flow of mass production is the deterrent, and Mr. Diller, you say the factory is the weapon, and if we need more factories for sustainment and war, we should be buying that capacity. Now you're both saying the same thing there, are you not nodding?

Now, Mr. Diller, when you say we should be buying that capacity now, you're not talking about ownership of the factory, are you?

Mr. DILLER. No, Senator. But what I'm suggesting is that today we have a crisis in sustainment. There is an instance because of the—both from a national industrial based perspective and because of some of the challenges in defense innovation, we have locked our depots and our sustainment out of being able to actually create the parts that are needed today to fill the multi-trillion-dollar portfolio we have. Those depots could actually field today, factories as a service, that would have incredible agility to ensure that the legacy force that we must have, that we've invested trillions of dollars in, is ready to fight tonight. That needs to be a wildly agile factory as a service.

That same factory, as honorable Geurts had mentioned, becomes this network then, so that small companies are able to go build entirely new things. If we call these hedge portfolios, right? The autonomous light, a charitable mass, the agility of these factories that are available in an entirely new step of American manufacturing, that is possible today.

Our depots could be an incubator for that type of thing to actually go through digital certification processes for tools like this to be able to save the taxpayer dollars, to be able to drive information.

Chairman WICKER. As Mr. Diller holds up the hubcap.

Mr. DILLER. Yes, sir. Yes.

Chairman WICKER. Now, Mr. Geurts, shall we make it unanimous on that point?

Mr. GEURTS. Yes, sir, and I'd also add we are really enthusiastic about prototyping and we're completely underperforming in production. We are actually not producing much new capability, and in the cases in replicator we have, we may spin up a production and

then shut it down 6 months later. So I do think a focus on production, both in terms of capacity, how to network that production, how to digitize that production and get to producing more and getting our iteration speed up, would do two things.

One, it would allow us to grow this manufacturing capacity. That in itself is deterrence. Second, it would allow us to field new things to the field versus just doing one-off prototypes and doing one-sie two-sies.

Chairman WICKER. Mr. Sankar, in your white paper, you say on page 9, that our centralized predictive program budgeting management and oversight process values time spent rather than time saved. Will you elaborate on that? And then we'll let our other two witnesses give their views.

Mr. SANKAR. The way that we want to provide resource is based on how expensive is it to do something. But that is a complete disincentive for reimagining things. My critique around production versus stockpile is really that we do not have the necessary incentive to design for manufacturability.

You know, we are so proud of the exquisite weapon that we made as a prototype to honor this point here, but we didn't think through, can I make 10,000 of these? How long will it take, if it takes 2 years to build a single munition, that's not going to scare sheep, so really, we need to be thinking about manufacturability from the very beginning here.

That I think then leads us to thinking about entirely different classes of weapon systems and different ways of organizing ourselves and our industrial base to go accomplish that.

Chairman WICKER. Mr. Hondo Geurts, time spent versus time saved.

Mr. GEURTS. I would agree with that. I do think we have to differentiate the market. So the DOD buys a lot of stuff. We need lots of different ways to do things, not try and pick one that's, you know, we'll do everything well. I think that's an opportunity. I think the second piece is, we need to get to continuous competition on many of our products, so that we can bring in new entrants and continually drive the system.

Because right now, because of the time to budget for a program and the rigidity of all the planning, it's kind of a big bang theory. We have one big contract award, and then you're stuck with that for 15 or 20 years versus what I would say, continuous competition, which then incentivizes all the kind of behaviors we're looking for.

Chairman WICKER. Mr. Diller, anything to add?

Mr. DILLER. The technology is there. It is available to rapidly transform our Department of Defense today. It's adoption, adoption, adoption. We have to engage with this bureaucracy, accelerate this at bureaucracy, so that we are actually mobilizing that entire industrial base because it is urgent. This is a critical time and I am very, very optimistic that America is going to be able to build together.

Chairman WICKER. Thank you very much. Senator Slotkin, do you have other questions? I do. We'll begin round two, and its only Senator Wicker participating.

Gentlemen, Mr. Sankar thinks it's a shame that companies that used to make other products, non-defense related, are no longer in

that business, only 6 percent. Chrysler used to make cars and missiles. Ford made cars and satellites. General Mills made cereal and artillery and guidance systems. Does he have a point there, Mr. Geurts?

Mr. GEURTS. Absolutely. The second I would add to that is that we've also systematically lost the middle of our industrial base. This is where I think a lot of the venture backed companies, we need to scale him quickly so that we've got companies that are agile enough to move quickly, right? But big enough to move at scale, and that's one of the things I think as we build this industrial network of the future, we've got to build back the middle of the industrial base.

Chairman WICKER. Mr. Sankar, there's a reason that happened, and can it be reversed?

Mr. SANKAR. Yes, it can be reversed. I think we have to remember the industrial base we had today; we think of it as Northrop Grumman, but it was Jack Northrop. It was Leroy Grumman, it was Glen Martin, not Lockheed Martin. You had these difficult founders. We would recognize them as Elon Musk type personalities who were interested in doing something big.

It was not about this quarter's results. It was actually, they were dual purpose, not just dual use. You know, it wasn't about the cereal. It was everything I learned building machinery to process cereal, I could turn into artillery to defend the Nation.

We have those founders back, \$120 billion of private capital has been deployed into national security companies. That's funding founders. It's funding the Palmer Luckys of the world, the Sang brothers of the world. We need to empower them. I think that's how we get back this long-term commitment to the problems and challenges our Nation actually face, the reindustrialization of the Nation.

We can't have an anodyne view of capital. Europe has created zero companies worth a hundred billion dollars or more in the last 50 years. We created all of our trillion-dollar companies in America in the last 50 years, with founders.

Chairman WICKER. Is that a mindset or a statute that needs to be changed?

Mr. SANKAR. I think it's a mindset. It's, recognizing that within our buyers in the Pentagon as well. Why did these people leave the industrial base? As much as we want to point at the Last Supper, as the moment, it actually, those conversations started in the boardrooms of America in the 1970s and the 1980s.

What was slowly building up, is where I started with my oral, is that the Pentagon is a bad customer. It doesn't actually—if you just look at it purely financially, it makes more sense for Ball to sell aluminum cans than to build satellite buses. As a monopolist, the Pentagon needs to look at that and say, how do we fix that? I want Ball building satellite buses. I want the American industrial base, not a group of yes men in the defense industrial base who have permuted their businesses to serve just me.

Chairman WICKER. On that issue, Mr. Diller, do you wish to weigh in?

Mr. DILLER. Certainly, look for all the pejorative things that we've said about the Department of Defense. It has done incredible

things, and it has actually an opportunity to do something that I don't know that any other institution can. It has created incredible things. I was a program manager in the global positioning system. It drove adoption of one of the most incredible networks in the world.

There are instances where DOD has been the catalyst for wild change. With all the great things that we've said about commercial, you cannot look at a downward trend for many decades now, of the loss of not defense industrial manufacturing, but of American industrial manufacturing.

Now, Chairman, is the time for DOD to be that catalyst again. It is possible to do exactly what Shyam has said. Divergent is today manufacturing cars. We are today printing missiles. We are today printing satellite buses in the same exact factory floor.

If we look to a future that is going to actually counter an adversary, there are people who dislike change. There are three groups of people that very much dislike change. One, they're the bureaucrats. They like to continue doing what they have done in the past. I would say industry to some degree, doesn't like change, because we have built ourselves on legacy approaches to manufacturing. They, look at this and they don't want the uncertainty.

The last group that doesn't like change is the enemy. The enemy hates change. If we want to deter, we must be agile. We must force the bureaucracy to be agile. We must force the industry to be agile. That can happen today, but America cannot afford \$200 million facilitation cost for every new munitions factory, especially when it's a legacy munitions factory.

It is possible today to create a network of 21st century AI-driven industry 5.0, pick your buzzword, but it does not look like anything that has ever been manufactured in the history. It is a step change. It literally is going from the stone age to the bronze age. It could happen today. It's the only way that you can afford real deterrence. Where you have a dual use factory, you have dual use capabilities that come out of that factory. You have dual use capital that is coming from an incredible source of American strength, and most importantly, it is dual use talent.

We can't talk about a workforce problem; we're telling our sons and daughters to go back and pound rivets and weld in the same way that their great grandparents did. Children have grown up playing Lego robotics, playing in AI [artificial intelligence]. That is not what our factories look like today.

It could be, this Committee could be the catalyst for that change, and is the only way that we are going to create real deterrence in a timely manner that must happen for America to remain in its lead. Both from a manufacturing perspective, from an economic perspective, from a technological perspective, and from a military perspective.

Chairman WICKER. By the same token, Mr. Diller, we hate it when our enemies engage in change.

Mr. DILLER. One hundred percent.

Chairman WICKER. Yes, absolutely. Well, a couple more questions and you've been most helpful to us. Mr. Geurts, let's talk about the requirements process. Does it often overly specify solution that then gets turned over to industry? Should programs be

able to develop multiple capabilities within a requirements portfolio broadening the scope of the acquisition management?

Mr. GEURTS. Yes, sir. I think we need to transform our thinking into—we've got a problem statements, not requirement statements. Then you empower a portfolio acquisition executive to go tackle those problems with close association to their operator.

Back to your previous question, we have program managers that want to go out and meet need, right? They want to go drive change. They have not been incentivized or rewarded for moving outside the system. With the top cover of this Committee is putting forth in the FoRGE Act, with those actions, I think you'll see that culture Senator Slotkin talked about. That's what we've got to go off and attack.

Chairman WICKER. Thank you, and, finally, Mr. Sankar, do you sometimes find yourself competing not with other businesses, but with the Government itself?

Mr. SANKAR. I would say quite often. More often do we find ourselves competing with the Government than with other industries. Sometimes that takes the form of FFRDCs, where they have a privileged position. You could say there's maybe even a conflict of interest where they're deciding what needs to be built and then specifying how it's going to be built in a way that is structurally anti-commercial.

I'd say the very beginning of our company, we were a threat to certain programs of record. The way that they were doing it. I don't think the industrial players were resisting us so much as the acquisition community was resisting us, despite the signal from the war fighter. I think we solved these problems by embracing the fact that there were going to be heterogeneous approaches. There was going to be constant new technology insertion, and that actually you as a program of record, don't have a monopoly. There's someone, a corridor down who could move faster on this new capability, and that provides you the incentive to move faster.

Chairman WICKER. Thank you, gentlemen. This has been one of the most informative, 2½ hours that I've ever had as a Member of this Committee. Also, I'm proud of the Members of this Committee, and I hope you are. There's a lot of talent and a lot of brain power and a lot of thought that has gone into this hearing, and I appreciate the participation. We had a 100 percent attendance today, and I appreciate that.

Now, let me check and see if I need to make an announcement with regard to the record remaining open or anything of that nature. There will be questions for record, and we'll notify the witnesses as to the time constraints, and with that, the hearing is adjourned.

[Whereupon, at 12 p.m., the Committee adjourned.]

[Questions for the record with answers supplied follow:]

#### QUESTIONS SUBMITTED BY SENATOR TOM COTTON

##### ACQUISITION REFORM

1. Senator COTTON. Mr. Sankar, what Department of Defense (DOD) regulations or processes have you seen block nontraditional contractors from engaging with DOD?

Mr. SANKAR. The defense procurement process is a byzantine system that intimidates nontraditional contractors and imposes immense administrative burdens on them. A major problem is DOD's reluctance to purchase commercial items, which it is required to prioritize over custom products under the Federal Acquisitions Streamlining Act of 1994. DOD acting more like a commercial customer would go a long way to attracting commercial vendors. A related problem is the proliferation of requirements for contracted items, which dictate what contractors must build instead of letting contractors use their considerable domain expertise to determine how best to build the item in question. Inability to quickly attain security clearances and access SCIFs and classified networks is another hurdle. Delays in receiving payment can damage nontraditional contractors, particularly small businesses that often live hand to mouth. Finally, CPFF contracts reward companies or overruns, while boxing out risk takers that are willing to bet on their solutions via FFP.

#### LEVERAGING ARTIFICIAL INTELLIGENCE

2. Senator COTTON. Mr. Sankar, how can DOD leverage battlefield data acquired through artificial intelligence (AI) tools, like those provided by Palantir, to improve its acquisition processes?

Mr. SANKAR. The proliferation of sensors on the battlefield has created a goldmine of data that DOD could use to improve its acquisition processes. In particular, data about the accuracy, lethality, and reliability of weapons systems could be used to drive timely shifts in procurement toward weapons that perform well and away from weapons that perform poorly. Such data could also inform, in real time, the design and manufacture of weapons systems and munitions by suggesting design improvements and enabling rapid iteration to stay ahead of enemy countermeasures. AI tools equipped with this data can effectively create an integrated view from the foxhole to the factory floor, giving decisionmakers in DOD and warfighters in the field greater awareness, for example, of which munitions are most effective, how many are being expended, how many are in the stockpile, and how quickly they are being produced. Decisionmakers could then use this system to remove blockers and mobilize resources to the highest-value use.

#### CHINA

3. Senator COTTON. Mr. Sankar, the current administration has committed to investing in American jobs and industry to grow our defense industrial base. How can DOD ensure that American technology does not end up in China?

Mr. SANKAR. DOD must modernize its IT infrastructure to prevent espionage and technology transfer to China and other hostile State actors. The DOD is a patchwork of different systems, with varying levels of security and sophistication. Rectifying this serious problem, and ensuring IT modernization is a priority not just in government but in the DIB and DIB sub-base, is essential so that hackers and spies cannot exploit weak links to access government networks. Relatedly, DOD must modernize its personnel processes so that individuals with extraordinary abilities in software engineering and cybersecurity are aggressively recruited, hired, and retained.

#### PRIVATE CAPITAL

4. Senator COTTON. Mr. Sankar, we know that one of the reasons we risk falling behind China is its ability to leverage all areas of domestic spending to meet its defense needs. Given this, can you explain the importance of private capital in driving innovation at DOD?

Mr. SANKAR. China's Military-Civil Fusion strategy allows it to tap the considerable resources and talents of its commercial companies for defense purposes. The United States, by contrast, does not adequately integrate commercial companies into the DIB.

Private capital is a force multiplier that the United States can use to facilitate R&D and innovation in defense technology. Palantir alone has invested over \$2 billion in our platform to provide the best suite of software for our clients, including DOD. The platform we've developed today would not be what it is if we relied on incremental upgrades via CPFF contracts and IRAD. We invested where we saw gaps, before those gaps were readily apparent to the rest of DOD, because of our conviction that such investment creates the best software.

Right now, DOD often pays for R&D performed by traditional contractors. This cost-reimbursed independent R&D is a poor use of scarce public funds, because it creates little incentive for the recipients to conserve money or innovate. If their experiments fail, they do not pay the cost—the taxpayer does. Private capital is a better source for R&D because it aligns the incentives of funders and researchers.



5. Senator COTTON. Mr. Sankar, why does private capital drive innovation in a way that money spent by Congress does not?

Mr. SANKAR. Generally speaking, a company that invests its own money in R&D will be more motivated to ensure its experiments succeed than a company performing R&D with public funds. Private R&D also gives companies maximum control of their technology roadmap, which is critical to success in the commercial market. Intel's Bob Noyce, for instance, rejected most government-funded R&D precisely so he could stay in control of Intel's technology roadmap. This decision was far sighted and allowed Intel to be the dominant chipmaker for both commercial and defense applications in the 20th century.

6. Senator COTTON. Mr. Sankar, what policies can DOD implement to attract private capital to the defense space?

Mr. SANKAR. The most important thing DOD can do to attract private capital is to ensure private funders and companies can achieve an adequate return on their investment when performing work for DOD. Cost-plus contracting is an impediment to this goal. Venture-backed companies, in particular, cannot succeed in a cost-plus domain; they need outsized returns, justified by outsized growth and innovation. Cost-plus contracts cannot provide such returns by definition. Shifting to fixed-fee and other alternative models that reward innovation is essential to getting sustained commitments of private capital in the defense space.

Second, DOD must make it easier for new entrants to obtain clearances, SCIFs, and network access. Right now the process for obtaining such things is opaque and time consuming. This process serves as a barrier to entry for new entrants and an undeserved boon for incumbents. If you want to attract private capital and commercial companies, the process for doing business with DOD must be intuitive and inviting.

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#### QUESTIONS SUBMITTED BY SENATOR DAN SULLIVAN

##### FIRM FIXED PRICE VS. COST PLUS CONTRACTS SOFTWARE

7. Senator SULLIVAN. Mr. Sankar, can you please explain why firm fixed price contracts are better than cost-plus contracts for software acquisition with special emphasis on the economics behind it?

Mr. SANKAR. The business model of a technology company is to invest R&D dollars to produce new and innovative products, such as software. These R&D costs are amortized across a large number of customers to create affordability and scale. The customer benefits by paying a small fraction of the actual cost of development and operations rather than covering the company's entire development costs. The company benefits from economies of scale and higher margins as its user base expands, allowing the company to re-invest in R&D.

Cost-plus contracts make it impossible for technology companies to establish this virtuous cycle. No matter how large their user base, their profit margin is fixed. This ends up limiting the companies' ability and incentive to reinvest in R&D to drive future innovation. It also harms the customer (in this case, the government and by extension the taxpayer) by eliminating incentives for cost control.

##### INCENTIVIZING CONTRACT OFFICERS IN THE DEPARTMENT OF DEFENSE

8. Senator SULLIVAN. Mr. Sankar, can you please explain at least two ways in which you believe we can better incentivize contracting officers at the Pentagon to take risks and shorten procurement timelines to help companies avoid the "valley of death" where they run out of money while waiting on the process to play out?

Mr. SANKAR. First, we should encourage competition within government so that contracting officers have a visible and immediate incentive to move faster, procure a better product, and beat their competitor down the hall. Giving combatant commands a purchasing budget would be one way to introduce healthy competition; creating multiple, competing program offices for each capability would be another way.

Second, we need to reorient small business programs like SBIR so they are judged by how many of their small businesses get big, not how many get follow-on funding in perpetuity.

##### GETTING AHEAD OF TECHNOLOGY EVOLUTION WITH SLOW PLANNING CYCLES

9. Senator SULLIVAN. Mr. Sankar, right now, our planning cycles for acquisition programs run roughly 2 years, with DOD likely already beginning to plan for fiscal year 2027. However, the speed of innovation in the world has contracted significantly. For example, just a week before your hearing, we thought China was 2 or

3 years behind us in AI development, and now many are questioning that assumption given the evolution of the AI app Deepseek.

By the time DOD has planned years ahead, found the money in the budget to fund a program, and fielded the program, the technology used for that program could be years or even decades behind the latest and greatest.

Can you talk about how DOD's long lead times differ from the planning and budgeting cycles you've seen in the private sector?

Mr. SANKAR. Planning and budgeting cycles in the private sector have gotten much shorter and faster in response to competitive pressure in the market. Most companies do not act in terms of one-or 2-year budgets, they act from quarter to quarter, by necessity. Technology has accelerated the pace of change and made it possible to reprogram funds to meet opportunities with astonishing rapidity. The government's planning and budget cycle is excessive by comparison. No company could survive if it took 2 years to POM budget for projects internally, yet that is the norm in government.

10. Senator SULLIVAN. Mr. Sankar, what is the private sector doing to keep up with the pace of technology change in terms of how companies organize themselves and what does DOD have to do to emulate those cycles?

Mr. SANKAR. Increasingly, companies are recognizing the importance of founders, or leaders with considerable control over the company's technology roadmap and direction. The DOD must identify "founder-like" figures and give them meaningful, long-term ownership of important programs, instead of cycling program managers every few years. DOD must also empower the subordinates under these leaders so they, too, act as "founders" on a smaller scale within their domain. Risk taking and initiative should be encouraged rather than forbidden or punished. Speed and agility in procurement are the only ways to prevent obsolescence.

#### FLEXIBLE BUDGETING CYCLES

11. Senator SULLIVAN. Mr. Sankar, do you believe that creating a system for agile budgeting whereby budget line items are consolidated into capabilities portfolios and the Department of Defense has the ability to shift funds around within a capability portfolio to support separate capabilities is the right way to gain flexibility in budgeting? Please explain.

Mr. SANKAR. Yes, I think that would be an improvement on the current, inflexible system. Funds should be tied to capabilities instead of discrete projects and reprogrammed within those categories as projects succeed or fail. PPBE favors incumbency, even for programs that manifestly are not working. Flexibility and competition are essential to fixing this problem.

12. Senator SULLIVAN. Mr. Sankar, how would you change the current way we budget for software cycles in DOD to aid in faster software development?

Mr. SANKAR. First, the government must appropriately value software. The DOD currently spends less than 1 percent of its budget on software, including AI. The United States has a massive qualitative edge in software that DOD simply is not tapping. Beyond dollars spent, DOD needs to stop budgeting based on billable hours and engineer head count and start budgeting for capability. At its best, software eliminates complexity and integrates systems with a minimum of manpower. DOD should alter its purchasing practices for software to play to the unique strengths of the technology.

#### STOCKPILING TECHNOLOGY

13. Mr. Sankar, do you believe that the U.S. Government should consider stockpiling high-end graphics processing units (GPU) in the short to medium term until chip fabrication and GPU assembly can be done here in country? Please explain.

Mr. SANKAR. The U.S. Government should consider stockpiling many things, including GPUs, but should exercise caution before doing so. Stockpiles are not the deterrent. Industrial capacity—the ability to make materiel in sufficient quantities on a relevant timeline—is the deterrent. DOD's first priority must be increasing industrial capacity, including surge capacity. This is perhaps especially true for microelectronics that quickly become obsolete. A stockpile of such microelectronics would depreciate in value quickly, and could be put to better use (whether in business or government) during their lifespan. DOD must consider these factors when determining what to stockpile, and in what quantities.

14. Senator SULLIVAN. Mr. Sankar, other than munitions or weapons systems, are there any particular technology you believe the United States should consider stock-

piling that allow for design and construction of higher end technology in the United States?

Mr. SANKAR. Denied, Degraded, Intermittent or limited communication environment hardware is critical to prepare for potential conflict with near peer or peer adversaries. We should be investing in this type of hardware to host software in the event our SIPR/NIPR/JWICS environments aren't available due to interference.

#### TRAINING

15. Senator SULLIVAN. Mr. Sankar, what skill sets do you think we should most be incentivizing or prioritizing for people to learn to reinvigorate the defense industrial base?

Mr. SANKAR. DOD and DIB personnel should be strongly encouraged to learn the fundamentals of coding so that they understand the full extent and limits of what software can accomplish. Software plays a central role in cutting-edge industrial production, helping manage supply chains, reduce down time, and increase throughput. Knowing whether a feature request will take 1 hour, 1 day, 1 week, or 1 year to implement is critical. Software in the right hands is a weapon, so our warfighters, particularly officers, should train on it just like they do their rifles. Expertise is not necessary, nor would attaining it likely be a good use of scarce time. But learning the fundamentals of the craft would make DOD personnel more effective.

The acquisition workforce should also be encouraged to learn about the economics and business models of the companies with which they interact. Learning, for example, why markets value commercial technology companies more highly than traditional defense companies, or why commercial technology companies command high margins by delivering outsized value to their customers, could make the acquisition workforce more amenable to working with nontraditional contractors.

#### QUESTIONS SUBMITTED BY SENATOR TED BUDD

##### BARRIERS TO SMALL BUSINESSES WORKING WITH THE DEPARTMENT OF DEFENSE

16. Senator BUDD. Mr. Sankar, how was Palantir able to make it across the "valley of death" and what specific recommendations would you have for small businesses seeking to do the same?

Mr. SANKAR. Palantir crossed the Valley of Death in part by creating a commercial business that ensured we were not wholly reliant on government customers to stay alive. That commercial business started small in 2010, but grew into roughly half our business today. I encourage small businesses to adopt a similar, hybrid model. Creating commercially viable products is a sign that a company is on the right track, and provides revenue to help the company scale as it learns how to do business with the government. DOD policy should encourage startups to establish a presence in the commercial market.

17. Senator BUDD. Mr. Sankar, once a small business bids on its first contract with the Department of Defense, what is DOD's notification process to the small business?

Mr. SANKAR. When small businesses submit bids, DOD acknowledges receipt, evaluates the contractor and its bid, and, when the evaluation concludes, announces the award. This process is simple on paper but painful in practice. The evaluation process can last anywhere from a few months to well over a year, during which time the company is trapped in bureaucratic limbo. Often, companies are not adequately notified of business opportunities, compliance requirements, and obstacles to winning a given contract. Deals do not take this long to execute in the private sector. If they did, many companies would fail. Deals shouldn't take this long in government, either, if we want small business contractors to succeed. Deregulation, digitization, and simplification of requirements are necessary to solve this problem.

18. Senator BUDD. Mr. Sankar, how can DOD modernize, digitize, and leverage artificial intelligence to improve DOD's notification process to businesses on contract, contract awards, and payment status?

Mr. SANKAR. DOD can use AI as a sherpa for small businesses so they can navigate the incredible complexity of government programs, systems, and requirements. To do this, DOD should create a unified repository of relevant data for small businesses, connecting stovepiped government systems and programs. Working within this data base, an LLM (or LLMs) can automate workflows, identify blockers, and keep small businesses informed about opportunities and requirements. Just as small businesses have human points of contact at DOD, they should have access to a suite

of AI tools that unearth opportunities, demystify complexity, and help them achieve compliance and mission success.

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QUESTIONS SUBMITTED BY SENATOR MAZIE K. HIRONO

FAST FOLLOWER MODEL

19. Senator HIRONO. Mr. Sankar, the 2022 National Defense Strategy stated that DOD will be a “fast follower” where market forces are driving the commercialization of military-relevant technology. In a rapidly changing market environment, how can DOD more effectively act as a “fast follower” to leverage commercial innovation while still meeting unique and often complex military requirements?

Mr. SANKAR. DOD can act as a “fast follower” by increasing its purchasing of commercial technology, instead of defaulting to custom products with onerous requirements. DOD can perform an important function by issuing a steady and credible demand signal to industry about the types of systems it is looking to buy. Industry will respond to such signals, potentially in surprising and novel ways that DOD would never have specified in a requirements document. In furtherance of this goal, DOD should rely more heavily on Other Transaction Agreements (OTAs) and Commercial Solutions Openings (CSOs), which are more rapid, flexible, and friendly to nontraditional contractors than typical contracting vehicles.

20. Senator HIRONO. Mr. Sankar, what role does industry play in supporting DOD in meeting these requirements?

Mr. SANKAR. Industry can support DOD’s “fast follower” mission by serving as a font of specialized knowledge and private risk capital. If DOD indicates the types of systems it is willing and ready to buy, using streamlined methods like OTAs and CSOs, commercial industry will respond with privately funded R&D and proposals to win those contracts. Commercial companies have the added advantage of moving quickly, as speed is a precondition of success if not survival in the commercial market.

ALLIES/PARTNERS AND INNOVATION

21. Senator HIRONO. Mr. Sankar, the Department of Defense’s 2024 National Defense Industrial Strategy states DOD “must work with allies and partners . . . to boost defense production, innovation, and overall capability.” How should DOD be optimizing its own procurement and acquisition reform to improve our ability to scale and field capabilities with our allies and partners, particularly in the Indo-Pacific?

Mr. SANKAR. Coordination starts with communication. DOD should invest in tools to facilitate communication and data sharing with allies and partners in the Indo-Pacific. These systems must be secure, interoperable, and capable of functioning in DDIL environments. The United States should also reform its stringent ITAR requirements to make it easier for U.S. defense companies to rapidly equip allies and partners in the Indo-Pacific.

Security partnerships focusing on technological exchange and manufacturing hold great promise in facilitating greater coordination between the United States and pivotal allies. AUKUS’s Pillar 2, for instance, focuses on advanced capabilities and DIB coordination, and could generate productive cooperation between high-technology firms in the United States, United Kingdom, and Australia if it is given adequate attention and funding.

INDUSTRY AND INDO-PACIFIC STRATEGY

22. Mr. Sankar, as outlined in the last National Defense Strategy, maintaining a free and open Indo-Pacific requires strategic investments in advanced capabilities that deter aggression and pursue regional security and stability. How can U.S. industry better align with DOD’s strategic goals to ensure technological superiority in the Indo-Pacific, and what DOD policies do you think would encourage deeper industry engagement?

Mr. SANKAR. DOD should invest far more in advanced capabilities like AI, which currently account for a fraction of a percent of the overall DOD budget. It should also expand the use of alternative acquisitions processes, which give DOD greater flexibility and freedom to acquire technology that is advancing at a faster clip than the traditional PPBE process can accommodate. Finally and perhaps most important, DOD needs to deliver a clear signal about what advanced capabilities it wishes to purchase, and follow through on those commitments. Industry can contribute to

this effort by investing private capital in R&D of capabilities that respond to DOD's guidance.

#### FAIR FEDERAL CONTRACTING FOR COMMERCIAL

23. Senator HIRONO. Mr. Sankar, Federal contracting practices have implications not only for how efficiently agencies are spending taxpayer dollars but also for how the United States can acquire cutting-edge technologies, maintain a healthy industrial base, and address national security objectives. DOD is responsible for negotiating the best deal for the Government when contracting for goods and services. How do we know DOD is getting the best price when contracting with nontraditional contractors?

Mr. SANKAR. Because commercial companies are exempt from the requirement to provide certified cost and pricing data, DOD must assess alternative metrics to determine if they are paying a fair price for commercial items. For example, the government can identify identical or comparable products sold to commercial customers and assess the price paid for such products. Government can also determine whether commercial contractors are delivering products at commercial scale and speed, which of course is the point of doing business with such contractors. Finally, the government can assess the performance of commercial products and user satisfaction to determine if the price paid is worth the value received.

24. Senator HIRONO. Mr. Sankar, would this sector be willing to share with DOD cost data and certify your costs are current, accurate, and complete?

Mr. SANKAR. Palantir is not required to have, and does not have, a cost-accounting system that would allow us to adhere to this request. As a commercial company, Palantir is exempt in accordance with FAR 15.403-1(b)(3).

#### QUESTIONS SUBMITTED BY SENATOR ELIZABETH WARREN

##### OVERPAYMENTS

25. Senator WARREN. Mr. Sankar, in order to avoid paying unreasonable prices, an October Department of Defense Inspector General report recommended the Air Force require companies to notify contracting officers "of price increases of 25 percent or higher than the proposed price." Do you agree with this recommendation?

Mr. SANKAR. Yes. It is difficult to think of a scenario where a commercial company could increase pricing 25 percent without an increase in contract scope or a dramatic change in market conditions that warranted an equitable adjustment.

26. Senator WARREN. Mr. Sankar, if you do not agree with that recommendation, do you think companies should be required to notify contracting officers of price increases that are 100 percent or higher than the proposed price?

Mr. SANKAR. Yes.

27. Senator WARREN. Mr. Sankar, should companies doing business with the Government be able to provide certified cost and pricing data to justify to the Department of Defense price increases that are significantly higher than the proposed price?

Mr. SANKAR. Companies should be able to provide some form of justification for cost and pricing, but the systems that support the ability to produce certified cost and pricing data are not typically present in the commercial marketplace and providing such data is not possible or appropriate for every contract. If a company bids FFP, for instance, it should be prepared to honor its bid. The risk is on the vendor in FFP, and while vendors may submit requests for equitable adjustment, those requests must be reviewed by the government and deemed reasonable to be approved. If they are not reasonable, the government should not pay for overages in an FFP arrangement.

28. Senator WARREN. Mr. Sankar, you said that you "don't think we would have any conceptual disagreement" with Palantir voluntarily disclosing to Department of Defense contracting officers when there's a price increase of 25 percent or higher than the proposed price. Will Palantir voluntarily disclose this information for any contract or agreement it receives from DOD? Please expand on your answer.

Mr. SANKAR. Palantir will always adhere to all DOD requirements, including any requirement to report price increases above a certain threshold. However, as a matter of fairness, we cannot agree to unilaterally disclose sensitive financial information that our competitors for government work do not disclose. Reporting of this in-

formation by a single or several firms, but not all firms, would give DOD contracting officers an incomplete and skewed picture of industry performance.

29. Senator WARREN. Mr. Sankar, what performance metrics and oversight measures should the Department of Defense have in place to assess the performance of nontraditional contractors?

Mr. SANKAR. The relevant metric for nontraditional contractors is whether they deliver promised goods and services on a fast enough timeline to serve the warfighter. DOD's contracting problems stem, in large part, from a lack of emphasis on speed. Centering oversight and performance metrics around speed, both to deliver and update products, is therefore essential to reform.

Another highly relevant metric is user experience and satisfaction. Some of DOD's highest profile custom-development failures, like DCGS-A, continued for years despite widespread user dissatisfaction and a clear preference for commercial alternatives (in this case, Palantir). DOD should create a feedback loop that takes into account the views of users, who are best positioned to provide relevant information about the success or failure of various offerings.

30. Senator WARREN. Mr. Sankar, you suggested that cost-plus contracts make the Nation "dumber, slower, and poorer". Will Palantir and Divergent Technologies commit not to use cost-plus contracts?

Mr. SANKAR. Yes. We've been committed to this for more than two decades. It's our ethos.

#### RIGHT-TO-REPAIR

31. Senator WARREN. Mr. Sankar, do you believe providing DOD with technical data rights needed to repair products and services could advance the military's readiness?

Mr. SANKAR. Yes. As a SaaS software company at our core, this doesn't apply to the vast majority of our work. However, as we take the lead in software primed hardware procurements, we do think technical data rights are critical to reduce the total cost of ownership for our hardware and weapon systems.

32. Senator WARREN. Mr. Sankar, do you believe providing DOD with technical data rights needed to repair products and services could help reduce sustainment costs?

Mr. SANKAR. Yes.

33. Senator WARREN. Mr. Sankar, will your company commit to delivering technical data rights to the military when the contract requires or allows it?

Mr. SANKAR. Yes.

34. Senator WARREN. Mr. Sankar, what do you believe is the best method for servicemembers to repair or conduct modifications on a product or service when in a contested logistics environment?

Mr. SANKAR. In contested logistics environments, particularly in the heat of battle, servicemembers should be empowered to repair and modify their equipment quickly, efficiently, and, when necessary, independently. "Right to repair" does not apply neatly to SaaS, given the nature of software and how it is modified and distributed, but Palantir is committed to giving warfighters the tools and flexibility they need to succeed, including in DDIL and contested environments.

35. Senator WARREN. Mr. Sankar, if DOD had the technical data rights to repair or conduct modifications on a product or service when servicemembers are in a contested logistics environment, could that make it easier and less costly for DOD to repair or modify its equipment and services?

Mr. SANKAR. Potentially yes, though I will refrain from speculating on a question that principally concerns hardware and is of limited applicability to software, which is Palantir's business and area of expertise.

#### OTHER TRANSACTION AGREEMENTS

36. Senator WARREN. Mr. Sankar, under what circumstances would your companies seek to contract with DOD using Other Transaction Agreements (OTAs) rather than a typical procurement contract?

Mr. SANKAR. Palantir will contract with DOD using Other Transaction Agreements (OTAs) in any case where DOD deems them to be the appropriate contracting vehicle.

37. Senator WARREN. Mr. Sankar, please provide a full list of all OTAs your company has entered into with DOD in the last 10 years. For each OTA, please provide the purpose of the agreement, the estimated cost to DOD provided by your company at the initiation of the agreement, and the actual cost to DOD at the completion of the agreement. Please also provide the text of any provisions related to intellectual property rights included in each OTA.

Mr. SANKAR. A full list of Palantir's publicly available OTA awards is available in real time on <https://www.defense.gov/News/Contracts/>.

38. Senator WARREN. Mr. Sankar, last year Palantir received a \$178 million OTA with the Army for the next phase of its Tactical Intelligence Targeting Access Node (TITAN) ground station program. Could this agreement have been reached using DOD's typical procurement processes, rather than an OTA?

Mr. SANKAR. It is possible that this agreement could have been reached using typical procurement processes, but it certainly would have required more time and pain. Typical procurement processes are only possible for commercial technology providers like Palantir if they do not include requirements (such as the requirement to have a cost accounting system for eligibility) that are incompatible with our business model.

39. Senator WARREN. Mr. Sankar, last month Palantir announced the formation of a consortium with Anduril and other technology companies to jointly bid for DOD contracts. What protections is Palantir putting in place to ensure that the arrangement does not violate Federal antitrust law, including the Sherman Act?

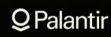
Mr. SANKAR. All of Palantir's partnerships undergo a thorough review for a number of factors, including potential antitrust violations. Palantir's announcement of an intention to partner with Anduril when appropriate based on the opportunity does not constrain the market or competition in any way.

40. Senator WARREN. Mr. Sankar, will companies that are not members of the consortium have the opportunity to see requirements for upcoming consortium projects Palantir participates in?

Mr. SANKAR. Neither Palantir nor this consortium have any control or power over the dissemination of requirements by the Government.

41. Senator WARREN. Mr. Sankar, will the products developed by Palantir's consortium limit the ability of other technology companies to interoperate with DOD systems?

Mr. SANKAR. No.



# The Defense Reformation

WRITTEN BY Shyam Sankar / Palantir CTO

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# As a nation, we are in an undeclared state of emergency.

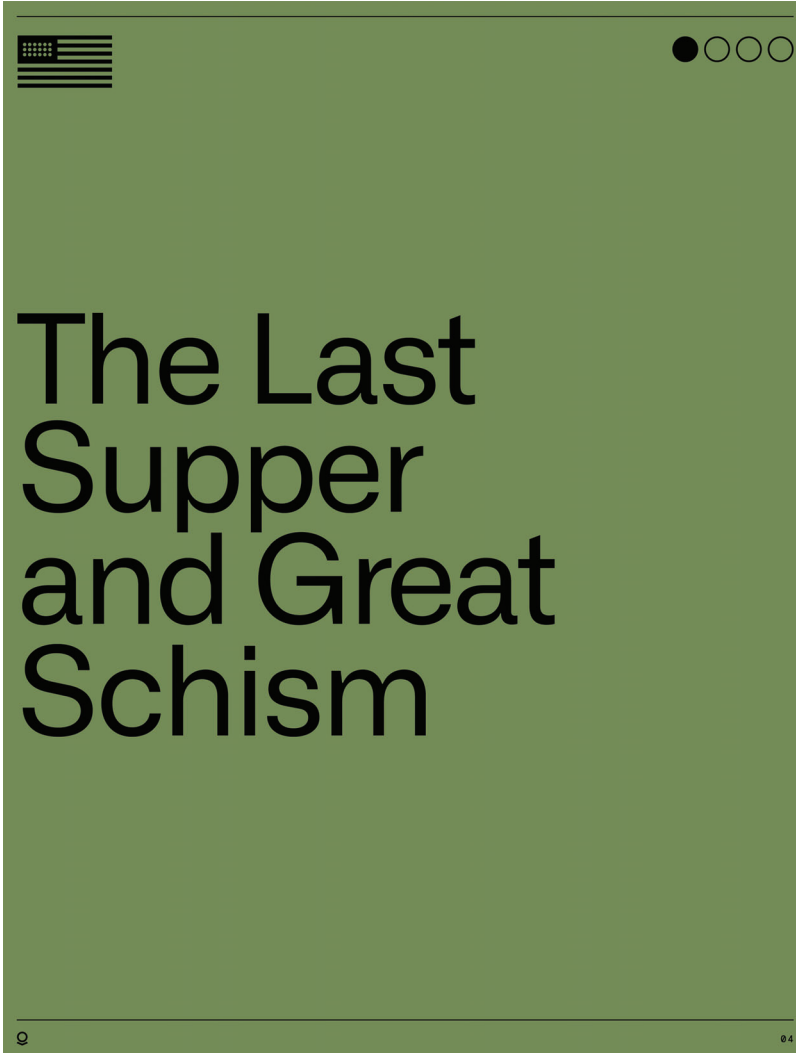
Around 2014, Russia annexed Crimea, China militarized the Spratly Islands in the South China Sea, and Iran was allowed to pursue the bomb. A decade later, we have had more than 300 attacks on U.S. bases by Iran, 1,200 people slaughtered in a pogrom in Israel, an estimated 1 million casualties in brutal combat in Ukraine, and an unprecedented tempo of CCP phase zero operations in the Taiwan Straits.

This is a hot Cold War II. The West has empirically lost deterrence. We must respond to this emergency to regain it.

We have a peer adversary: China. “Near-Peer” is a shibboleth, a euphemism to avoid the embarrassment of acknowledging we have peers when we were once peerless. In World War II, America was the best at mass production. Today that distinction belongs to our adversary. America’s national security requires a robust industrial base, or it will lose the next war and plunge the world into darkness under authoritarian regimes. In the current environment, American industries can’t produce a minimum line of ships, subs, munitions, aircraft, and more. It takes a decade or two to deliver new major weapon systems at scale. If we’re in a hot war, we would only have days worth of ammunition and weapons on hand. Even more alarming is our lack of capacity and capability to rapidly repair and regenerate our weapon systems.

Given the vast sums we have spent on defense in these decades of Pax Americana, it would be reasonable to wonder: what went wrong?

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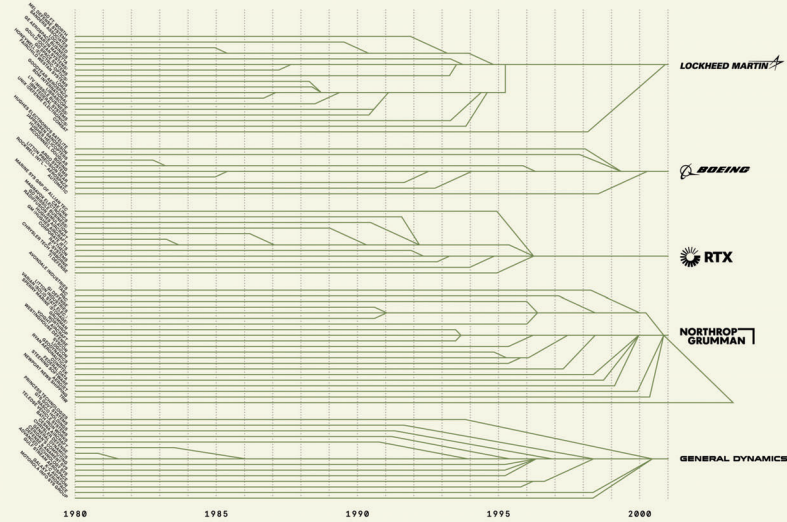


## SECTION 1

In 1993, after the end of the Cold War, America wanted a Peace Dividend and defense spending was slashed by 67%. The Secretary of Defense held a dinner at the Pentagon — the so-called “Last Supper” — to tell the 51 primes they would not all survive. Today, there are 5.

FIG 01

## Corporate consolidation in the defense sector



Source: Department of Defense Report on the State of Competition within the Defense Industrial Base, February 2022

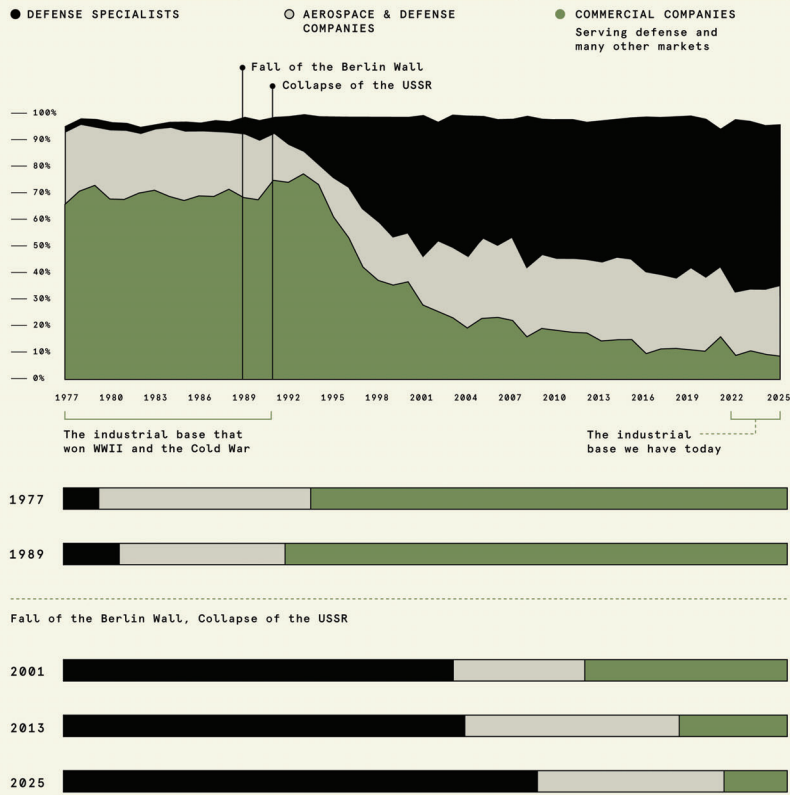
The most important consequence of the Last Supper wasn't a reduction in competition in the Defense Industrial Base, but the decoupling of commercial innovation from defense and the rise of the government Monopsony. Consolidation bred conformity and pushed out the crazy Founders and innovative engineers.

This was the Great Schism of the American Industrial Base.

Before the fall of the Berlin Wall, only 6% of defense spending went to defense specialists — so called traditionals. The vast majority of the spend went to companies that had both defense and commercial businesses. Chrysler made cars and missiles. Ford made satellites until 1990. General Mills — the cereal company — made artillery and inertial guidance systems.

FIG 02

### Major weapon systems acquisition budget: share by industrial base category



Note: "Major weapon systems" includes MDAPs and some additional spending, not the entire procurement and research, development, test, and evaluation budget  
Source: Martin Bollinger, based on the DOD's Annual Report to the Congress and Program Acquisition Cost by Weapon System, fiscal years 1977 through 2025

## SECTION 1








But today that 6% has ballooned to 86%. The Monopsony's fixation on cost-plus contracting, control, and tedious regulation has made working in the national interest bad business, suitable only to risk-averse investors who are addicted to dividends and buybacks — a luxury only affordable at the end of history. That is not what the most dynamic parts of the American economy do — only the dying parts.

Working with the Monopsony as a defense contractor is so unappealing that Ball would rather make beer cans than satellite buses. That is depressing.

The S&P 500 last added a defense company 46 years ago — until Palantir's addition in September 2024. That resembles Europe's sclerotic capital markets, not America's.

FIG 03

## Defense companies by market cap

| COMPANY   | MARKET CAP        | EMPLOYEES | FOUNDED |
|---|-------------------|-----------|---------|
|  Palantir                        | \$173,827,400,000 | 3,892     | 2003    |
|  RTX                             | \$157,046,600,000 | 185,000   | 1934    |
|  LOCKHEED MARTIN                 | \$121,606,200,000 | 122,000   | 1912    |
|  BOEING                          | \$115,012,000,000 | 171,000   | 1934    |
| <b>GENERAL DYNAMICS</b>   | \$74,736,470,000  | 111,600   | 1952    |
|  NORTHROP GRUMMAN               | \$69,008,600,000  | 101,000   | 1939    |
|  L3HARRIS                      | \$44,503,790,000  | 50,000    | 1926    |
|  Huntington Ingalls Industries | \$7,354,361,000   | 44,000    | 1886    |

Note: Data as of December 2024 from public sources

But Palantir's addition will not be the last. Because today the Founders are back — in the hundreds — and they are backed by hundreds of billions of dollars of private capital to build in the national interest.

However, their effort and capital alone is not enough to resurrect the American Industrial Base.

We need a defense Reformation to upend the Monopsony and transform the way the government does business. Here is my treatise on how to get that done.



## SECTION 2

Everyone, including the Russians and the Chinese, have given up on communism except for Cuba and the DOD. The only problem is that we are bad commies.

We run a centrally unplanned process that neither has the supposed advantages of a planned economy nor the (far superior) advantages of a free market. Bill Greenwalt explains the sins of our poor attempts at copying the Communists:

66

This [ideology and management] approach, now deeply engrained in defense management culture, process, law, and regulation, is based on the concepts of scientific management that were once fashionable in the Soviet Union and at the vanguard of the 1950s U.S. auto industry before it was outcompeted by Japan in the 1970s. Centralized, predictive program budgeting, management, and oversight were then thought to be superior to the trial and error and messiness of time-constrained, decentralized experimentation and the seemingly wastefulness of having multiple sources rapidly prototyping potential solutions.

BILL GREENWALT

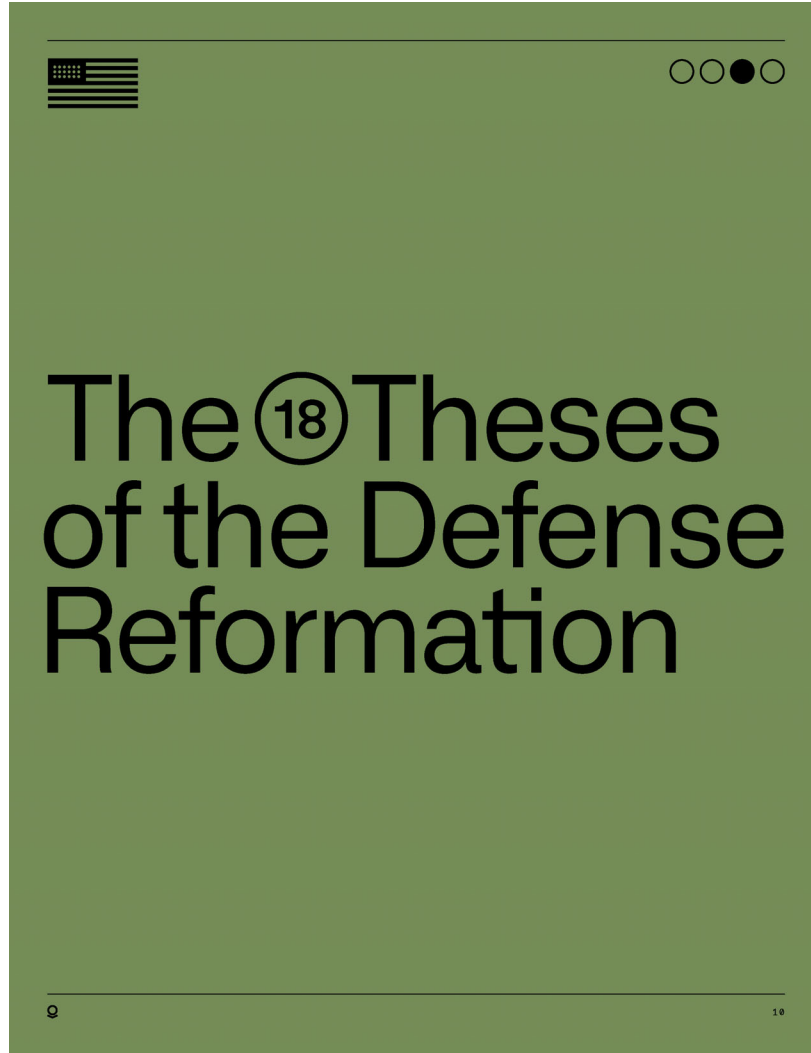
There is no process that can save us. Reform will be painful. We must be very careful not to conflate pain with error. As world champion cyclist Greg LeMond said, "It doesn't get easier, you just go faster." Just as there is no pain-free world class cycling performance, innovation will always be painful, messy, and subject to retrospective bureaucratic critiques from those not in the arena.

Our centralized, predictive program budgeting, management, and oversight process values time spent, not time saved. It values costs and effort, not value and outcomes.

The Great Schism has created a religion in government that is unaware or dismissive of power-law outcomes from power-law talent. In Silicon Valley we call them 10x or 100x engineers, meaning they are 10x to 100x as valuable and productive as normal engineers.

We once understood this in defense, too: Rickover, Kelly Johnson, Ed Hall and countless legendary talents fought the bureaucracy and got stuff done. We seem to generally appreciate that Usain Bolt is more than a generational talent — even the gold medalist at Paris 2024 was not faster than him. But this is also true for Tom Mueller, Elon Musk, Palmer Luckey, Brian Schimpf, Ryan Tseng, and the Founders at the First Breakfast. Reforming the system means renouncing the communist conformity that's slowing us down and unleashing the charismatic leaders who can drive outcomes — in the boardroom and on the battlefield.





## SECTION 3

## ① Monopsony is the root of what ails us.

The root of our pathology is a lack of competition inside of Defense. Avoid a monopsonistic buyer at all costs by approximating market mechanisms and dynamics as a key principle of the design of the DOD (e.g., the newly created Space Force is a worthy competitor to the NRO). What looks like duplication is insurance against complacency and unpredictability — there is nothing more costly than losing. When only Monopsony persists, things will not work, they will be expensive, and they will make us weaker. The last great Monopsony was Walmart. In the 90s their TV advertisements promoted everyday, low prices. The strategy was to squeeze suppliers on prices rather than encourage innovation. They never saw Amazon coming, and are now  $\frac{1}{3}$  of the size. Will we let that happen to America?

## ② Cost-plus contracting makes the nation dumber, slower, and poorer.

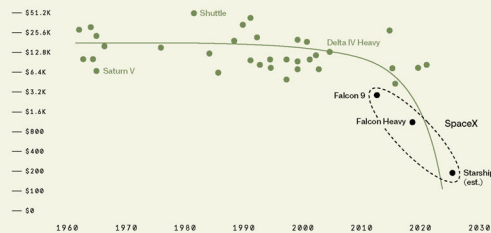
Maybe it is the right way to buy an aircraft carrier, but it is the wrong way for 95% of things. It robs any reward for going faster or developing innovative approaches, institutionalizing a lack of incentive to compete on price by valuing time spent over time saved. SpaceX reduced launch costs by 85% — that simply isn't possible in a cost-type domain. In fact, NASA estimated the cost of developing the SpaceX rocket at \$4 billion when SpaceX did it for \$400 million. Cost-plus is the reason that defense costs grow faster than inflation and don't result in compounding price performance decreases. In the commercial world, people are viewed as expensive, and technology is considered cheap. In government, there is a perversion where people are viewed as abundant, and technology is viewed as unaffordable. Meanwhile, Starship will reduce launch costs 100x over Falcon 9 and 1,000x over the progeny of cost-plus approaches in a timeline that is well inside the development loop of the \$2 trillion, 30% available F-35.

Cost-plus launch kept costs in the stratosphere. Commercial drove costs into the ground.

- ③ Falcon 9 was 10% of the cost of legacy
- ④ Starship Heavy will be 1% of the cost of Falcon 9 at \$10-20 per kg (no, that's not missing any zeros)
- ⑤ In short, commercial innovation made launch costs 1,000x cheaper

FIG 04

### Launch cost per kilogram



Source: CSIS Aerospace Security Project, PayloadResearch estimates (2024)

## SECTION 3

③

**A budget is a plan,  
and no plan survives  
first contact.**

Military doctrine states plans are useless, even if planning is invaluable. "I support the President's budget" is an evasion. No company could survive if it took two years to POM budget for projects internally (DOD's Program Objective Memorandum, or POM, process). They would be outcompeted. And that is what our adversaries are doing to us now. We must invest in closing the Cash Chain to close the Kill Chain. The fiscal OODA loop to move money around is not survivable. We must be able to reprogram money inside of 2 months, not 2 years. Messy and imperfect discretion is required. We require DevSecOps for budgets.

④

**The person is  
the program:  
the primacy of  
people.**

The Defense Officer Personnel Management Act (the rules that apply to how military officer careers and promotions are governed) must be reformed. There is a reason that Rickover was the Director of Naval Reactors for over thirty years and that all great programs had a leader who saw them to completion (Schriever and Intercontinental Ballistic Missiles, Groves and the atomic bomb, Boyd and the F-16, Bierbauer and the Predator). Talent is not fungible. Talent-Problem fit is rare and hard and determinative. Rotations for officers every 2-3 years only ensures they haven't had enough time to learn anything beyond surface-level platitudes. Knowledge and know-how compound. We need to care more about winning than about providing experiences to fill out a bingo card. Additionally, Congressional oversight can't end with Program Element numbers. Which heretical individuals are Congress protecting and holding in place against the will of their service?

⑤

**The only  
requirement is  
winning.**

The most important projects don't come from requirements. America's cultural strengths are fundamentally creative and improvisational. The requirements process ensures we play to our weaknesses. In a fight, no one cares about the requirements document. The only requirement is winning. And winning requires engaging in the messy, overlapping, seemingly wasteful but actually efficient process of being better. Validating requirements leads to solving yesterday's problem without today's context. We have countless validated problems.

⑥

**Put the pebble  
in the right shoe.**

You can't separate the roles of creating requirements and delivering capabilities. All value accretes in the seams between teams — this is an unnecessary seam between requirement and solution. No company could compete commercially today under such a structure. Instead we need more competition inside of government across programs with overlapping mandates. Rickover built and operated the subs. He constructed many of the safety standards he would then enforce, and he was "often forced to send letters to himself to request certain things." Innovation is a consequence of productivity. If you don't produce, you can't innovate. The LLM revolution was inspired by Google's attempt to improve Google Translate 3% — not by blue sky thinking disconnected from reality.

## SECTION 3

⑦

**Conway's Law:  
you ship your  
org chart.**

Conway's Law reveals the connection between an organization's internal structure and the results it delivers to end users. The core idea is that the way members of an organization communicate and collaborate will shape the design and character of the systems and projects it produces. The problem with Goldwater Nichols is that it didn't go far enough. You can't have a joint Department if Services have monopolies on their Title 10 equipping responsibilities. We need more competition amongst the services or you can say "joint" until you are purple in the face — it won't make you joint. Conway's Law leads to the profane conclusion that that CJADC2 (Combined Joint All Domain Command and Control, the Department's vision for machine-to-machine connection across services and allies to close kill chains) isn't possible inside the Military Departments as currently conceived, with each developing its own set of capabilities for its service, and must be delivered either by the Office of the Secretary of Defense (OSD), the combatant commands (CCMDs), or by all the services competing for COCOM and component adoption of their solution (approximating a market mechanism). This is how we built ICBMs — with Army, Air Force, and Navy all competing. No Joint Program Offices. No Monopoly. Creative, fast, and ultimately cheaper results.

⑧

**CCMDs need  
budget to  
introduce strategic  
competition.**

Enabling CCMDs as the buyers approximates market forces. Programs will have to respond to the needs and feedback not of a captive service alone but also the folks that must employ these capabilities in anger. Even a budgetary reallocation of 5% would enable this market mechanism. With a modicum of economic power, CCMDs can harness the defiant and creative American spirit by creating situations for Service PEOs to respond to. This is how free markets work.

⑨

**National security  
is economic  
prosperity.**

DJI should not exist. The drone was an American birthright. But bad policy from the FAA, which prohibited beyond line of sight operations, and DOD's rigid ITAR restrictions deprived America of untold economic prosperity. We got it right with the Jeep, GPS, and semiconductors — technologies where the government was the initial customer but not the most important in the final calculus. We must counter the Monopsonist's desire for control. RAND thought Lockheed would dominate integrated circuits because it had fifty PhDs and Intel only had two. But Bob Noyce understood that military and intelligence customers were just a pit stop on the way to Moore's Law. For another example, there has never been a dominant naval power that was not also a dominant commercial shipping power. China understands this. Do we?

## SECTION 3

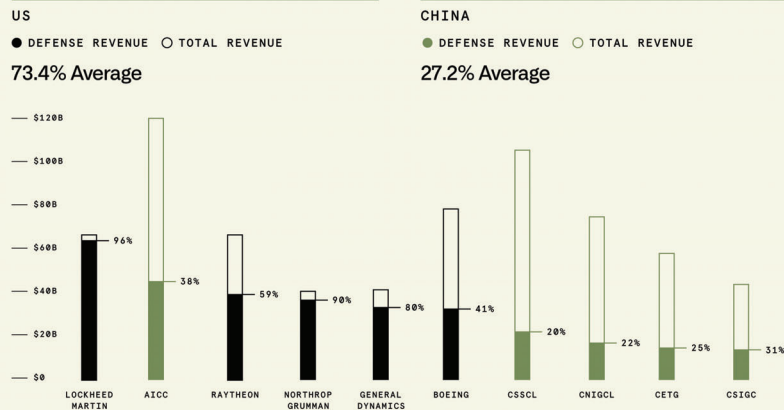
10

## Make the primes business-worthy.

America should demand that its primes have commercial businesses to subsidize taxpayer R&D and to prove they are competitive. Most of the primes today do not have commercial businesses. When they do, we are reminded that they are not competitive (see: Boeing and Starliner). In the 1980s, Raytheon tried to diversify by entering the commercial construction industry. Harvey Sapolsky notes "this proved to be an expensive mistake because defense is like no other business in its forgiveness of cost overruns and time slippages: Raytheon could not manage construction and environmental cleanup projects, even for government customers, the way it was used to managing defense projects." If GDIT is so good, why don't they serve the commercial IT market? Because they can't compete, having developed a business as far from the commercial market as the Galapagos Islands are from the mainland. Chinese primes only earn 30-40% of their revenue from the PLA; the remainder is commercial. Those cheap products your neighbor is buying on Amazon are subsidizing lethality which could be used against our men and women in uniform, much the same way that during the Cold War your purchase of an American car, camera, and cereal subsidized America's lethality against her enemies.

FIG 05

### Defense revenue as a percentage of total revenue for 2023



Source: DefenseNews Top 100 Defense Companies (2024)

## SECTION 3

11

**Risk capital,  
not taxpayer capital.**

Cost-reimbursed independent research and development (IRAD) is an indulgence. It isn't real R&D. Cost-type contracting enables contractors to play with house money (reimbursed by taxpayers). Private R&D in the commercial world far outstrips government R&D. The 1960s are gone. Companies must invest their own capital — their asses must be in the hot seat if we want innovation. Apple didn't charge you for their failed self-driving car in your last iPhone purchase. Contractors shouldn't be able to charge you when their lab experiments run amok, either.

12

**Small business  
programs should  
not be welfare.**

The goal of our founder-driven, creatively destructive market system is for small business to get big, not to remain indentured servants. The Department should judge its small business efforts through the lens of market cap creation: wealth for Americans. The point of national security is to underwrite freedom and economic prosperity. Small Business Innovation Research (SBIR) programs should measure how many of their small business got big, not how many programs received follow-on funding. We want to have a vibrant, dynamic group of companies with many new entrants. In the last 50 years, Europe has created zero companies worth more than \$100 billion. America created all of her \$1 trillion companies in that time period. Our Defense Industrial Base and the bureaucracy that demanded it is European.

13

**DOD and its proxy  
forces must stop  
competing  
with industry.**

Federally funded research and development centers (FFRDCs) have the false moral certitude of being "non-profits," which is about as believable as America's hospitals being non-profits. FASA's Commercial Item Preference is the most violated law in the land. Government often seeks to recreate products industry has already developed. This is not a pathology unique to government — it's in the commercial world, too. But in the commercial world the market is a harsh and quick judge of custom development. No such feedback mechanism exists in government (yet another strong argument for increasing competition inside of government). No Program Manager will recreate the wheel if a competing Program Manager is going to move faster than them by adopting something that works today. Also, it's the law.

## SECTION 3

14

### Productivity is more lethal than weapon stockpiles.

We obsess about stockpiles, but stockpiles are irrelevant. Our munition deliveries to Ukraine were Cold War-era kit sitting on shelves collecting dust while decades of innovation occurred. The consumption of 10 years of production in 10 weeks of fighting in Ukraine demonstrated that the rate of production was the actual weapon all along. We must be able to produce everything at speed and scale, we must design requirements and incentives for manufacturability, and we must never stop producing. No more participation trophies for having a weapon sitting on a shelf — it only counts if you can make it. Pontiac didn't have a stockpile of anti-aircraft guns they sold to the government during World War II, but they became the leading manufacturer of the 20mm Oerlikon and dramatically decreased production time per gun.

15

### Reference architectures can't be created, they emerge.

Government attempts to avoid pain and vendor lock-in upfront will fail in the most drawn-out ways possible. For any interesting class of problem (i.e. non-trivial innovation) it isn't possible to deductively design a reference architecture. Instead you must build and let the architecture emerge. You maximize the chance of getting it right by having multiple competing companies and programs with interoperability requirements at inception. Government Reference Architectures are the 21st century equivalent of Robert McNamara's notorious Total Package Procurement (TPP), which produced failures like the F-111 and C-5A. TPP fell into the trap of trying to eliminate uncertainty and predict the chaos of the universe by inflexibly defining every program requirement and dollar spent, from R&D through production, before any work had actually been done. Chaos won.

16

### Rule of law works.

Contractual agreements enable the government to get the protections it wants. Fearmongering that companies will turn off their capabilities when war starts is a tired excuse to exclude commercial companies, protect the legacy Defense Industrial Base, and justify violating FASA. The only companies that have ever tried to own the government's data are in fact the legacy platform providers whose R&D was financed by the government in the first place. Why does this concern not exist in the commercial market but does in government? Because it isn't real — there are simple contractual mechanisms to ensure the government has continuity of operations and desired flexibility. Let's remove the excuse for why Mass must be in Latin with only the Monopsony's priests delivering the sermon.



## SECTION 3

17

**Let the people  
speak to the  
mission.**

Martin Luther taught that the people could ascertain God's truth directly from the Bible — they didn't need priests to interpret His meaning. Today, we are told companies building for Defense cannot possibly understand the warfighter and that even the warfighter can't understand what he really needs, that his needs must be intermediated through the Acquisition's priestly class. The result is countless Kafkaesque causality dilemmas. You can't get clearances unless you have a classified contract, but you can't get clearance unless you are part of the existing class of cleared people. The same is true for SCIF sponsorship and access to classified networks. The priestly class alone decides the timeline and schedule to let a company access the top secret network from its offices (Palantir has been waiting twenty years). There are too many monopolies, and we have long since passed the point where they resembled legitimate security concerns. It is time the church holds itself to SLAs and creates a transparent process to enable the industrial base. The Cardinals from the legacy primes have enriched themselves because they are the only ones with access behind the SAP door. Private industry will pay its own way here for this enabler. It does not require the government to front these funds. Enable American capital to show up and purchase network, SCIF, classified cloud compute, and clearances — all governed by investor confidence that the company and team can credibly turn that investment into value.

18

**Warriors fight with  
guns and git.**

Warfighters need to know how to code, not because they will build industrial strength platforms that industry is delivering (they won't, not without \$10 billion and the nation's top computer scientists), but because software is the most important and malleable weapon system. Software is a unique American strength and our warriors must develop fluency to understand how to wield the software industrial base to maximize lethality. Knowing if your feature request will take 1 hour, 1 day, 1 week, or 1 year to implement is critical. Knowing how to bend the software to your will is how you will bend the enemy to your will. Software and its malleability will define the clock speed of the OODA loop.





# The Resurrection of the American Industrial Base

## CONCLUSION

66

**I hold it that a little rebellion now and then is a good thing, and as necessary in the political world as storms in the physical.**

THOMAS JEFFERSON in a letter to James Madison

I nail these theses to the Pentagon Metro entrance not because I hate the Department and my nation, but because I love them profoundly.

We are in a state of undeclared emergency. For more than three decades, we've accepted a stagnant Defense Industrial Base born from a complacent Monopsony with no great power competition. We have prayed at the altar of process for too long. Change is now possible because we all realize there is something worse than change: irrelevance and obsolescence. We have no time to waste in resurrecting the American Industrial Base we depended on in the depths of the Cold War.

It was the American Industrial Base that underwrote American victory and Pax Americana. It can once again if we embrace it as our savior.

*Shyam Sankar*

SHYAM SANKAR / Palantir CTO