Mr. Chairman, Vice Chairman Thornberry, Ranking Member Smith and Members of the Committee, thank you for the opportunity to appear before you this morning. The views I will share are framed by more than 25 years of experience in the private sector working with both large and small firms in the defense and intelligence markets, from technically advanced electronics firms, to those that produce body armor, to classified imagery, to crashworthy seats, to shipbuilding, to services. Over that time I have had the opportunity to work with nearly every type of goods and services the Department acquires. From 2009 until 2013 I also had the honor of serving as the Deputy Assistant Secretary of Defense for Manufacturing and Industrial Base Policy under three Secretaries of Defense and two Under Secretaries of Acquisition, Technology, and Logistics.

While I will discuss historic acquisition successes, I believe it is more useful to understand the underlying trends that produce success and failure on a broader scale. Singling out specific examples of program success or failure is problematic. Budgets, changing technologies, and emerging threats can make this year’s acquisition success story next year’s poster child for failure, and vice versa. Programs such as the M-1 and the MRAP are examples of programs that can be viewed through significantly different lenses over time, depending largely upon the threats we face at any given moment. Dr. Eugene Gholz, with whom I had the privilege of working while at the Department, has published on defense acquisition cycles, trends, and the specific issues of program success and failure. I agree with his finding that singling out specific programs or actions is not nearly as useful as understanding how the overall culture and body of policy affect the Defense Acquisition System.

Thus we should give tremendous credit and support to the efforts of Frank Kendall, the Under Secretary of Defense for Acquisition, Technology, and Logistics. Mr. Kendall has sought to quantify the effects of acquisition procedures in the aggregate over time. His recently released *Performance of the Defense Acquisition System: 2014 Annual Report* should serve as a touchstone for every effort to improve our acquisition policies. With his fact-based approach, Mr. Kendall is on the right path.
Likewise, this Committee continues to offer insightful guidance to the Department. During my four years in office, I believe this Committee worked extremely well with the Department in advancing constructive and enlightened policies which greatly benefited both the warfighter and the taxpayer, and for that I thank you.

My statement this morning will focus on looking forward. While the lessons of the past are useful in guiding the policies of the future, the pace of technological advancement and increasingly dynamic requirements of our warfighters demand that we lean forward and implement the systems and procedures that will deliver the most advanced and capable systems possible. Buying those systems will require removing many of the barriers to market entry that have steadily arisen over time. Metaphorically speaking, acquisition reform should focus less on individual “silver bullets” and focus more on creating and sustaining a “silver mine.” To enlighten and inform any change of acquisition policy, we should first understand our vendors, and those whom we want as vendors, therefore I will discuss the changing nature of the industrial base upon which the Department relies. I will then discuss the implications of this changing base for the Department, the Congress, and the industry itself.

**Today’s Evolving Industrial Base**

For over a decade now the nation has increased annual defense spending in support of our troops engaged in two active conflicts while, at the same time, investing in capabilities to prevent and deter future conflicts around the globe. Over that period, the Department, with the support of Congress, has sought to plan, train, fight, and win the ongoing conflicts – while simultaneously planning, training, preparing to fight and win numerous contingencies that could threaten our national interests.

As we executed that mission over the last decade, the industrial base has been with the Department every step of the way - responding to our immediate needs while also investing in our future requirements – albeit at lower rates among our traditional suppliers than one might expect.

The industrial base that supports the Department remains a vital component of our national security capability, second only to the troops themselves. To maintain the world’s finest military we need three things: high quality people, realistic and constant training, and cutting-edge technology and support from industry. If we have the first two, but not the last, we will lose our ability to protect our national security interests around the world.

In a permissive budget environment this was a difficult mission to execute. In an increasingly constrained budget environment, it is next to impossible. Fortunately for the nation, the military, and the industrial partners that support it, each continues to excel in achieving the “next to impossible.” Industry continues to respond to both the
current and emerging threats our nation faces. In return, the firms that serve our warfighters, at a fair price to the taxpayers, should reasonably expect fairness in treatment, rationality in our program decisions, and certainty in our spending plans which financially correspond to the market risks industry bears. For decades the United States has used our partnership with industry to command a decisive advantage when it comes to innovation and manufacturing of military goods and services.

However, the advantages that have enabled American preeminence are not a birthright, and key elements of the industrial base that are necessary to ensure dominance on future battlefields must be sustained and nurtured. We must foster and leverage an industrial base that keeps our troops from ever entering a fair fight. Our warfighters should never advance on an enemy only to find them better equipped due to less burdensome regulations or more reasonable audit policies. And make no mistake; while we focus on providing our forces with increasingly detailed and thorough audits, our adversaries gain ground on us technologically. If it is my daughter in harm’s way, I have less concern with the thoroughness of an incurred cost audit and more concern with the quality and technological superiority of her equipment. We cannot let our bureaucratic processes become our own most dangerous enemy. The Defense Acquisition System must get our warfighters what they need, when they need it, and it must be the absolute best the world has to offer.

The industrial base that makes this possible is comprised of an extremely diverse set of companies that provide both products and services, directly and indirectly, to national security agencies including the military. References to “The Defense Industrial Base” that imply a monolithic entity are no longer analytically useful. The defense industrial base includes companies of all shapes and sizes around the globe, from some of the world’s largest public companies to sole proprietorships to garage start-ups. Some companies deal directly with the federal government, but the vast majority act as suppliers, subcontractors, and service-providers in a value chain that leads to prime contractors and is often based far away or, increasingly, in “the cloud.” Companies at any tier, and of any size, may supply hard-to-make products that are critical to the systems used by our warfighters.

Some products and services sold by companies in the defense industrial base are unique to defense applications, but most have substantial levels of non-defense demand or are even sold exclusively on commercial terms such that the supplier may not even know that the product is used in military systems, and likewise, the Department may not know it depends upon a primarily commercial component. Finally, while the pace of innovation is extremely rapid in some segments of the defense industrial base, other segments are based on very mature technologies where dynamic innovation is less important to the Department than long-term sustainment.
In sum, there is not a single defense industrial base. There is a defense market serviced by a diverse selection of companies which span, and often reflect, the greater global economy for goods and services.

With declining and uncertain future capital as a result of sequestration, the Department continues to struggle with “filling the shelves” with the goods and services our warfighters need today, and has increasing difficulty planning for and stocking future products. Given the current budget environment, the Department, with the help of this Committee, continues to strive to better align available resources while ensuring we have access to the best innovation and products in the world. Yet none of the efforts to better align available resources to our current and future needs will succeed if we do not have a financially robust and technologically advanced industrial base supporting our warfighters. Without that base, all the acquisition policies, both good and bad, are meaningless. The simple fact is the Defense Department builds very little. Our industrial partners and their supply chains develop, build, and sustain the goods and services upon which the Department relies.

In the coming years, the Department of Defense will increasingly purchase from what I call the “millennial industrial base.” As defense budgets flatten or even decrease, our base will become more global, more commercial, and more financially complex. This reality is truer today than it was yesterday, and will be truer tomorrow than it is today. The defense industry and the suppliers that comprise it are constantly adapting to the Department’s requirements, the conditions of the marketplace, and rules imposed by an overly bloated and bureaucratic acquisition system.

Outdated acquisition policies where the U.S. Government dictates inflexible rules reflect the flawed notion that if the Department simply wrote a large enough check, industry would magically provide for its every need. But today, the goods and services the Department relies upon reach far deeper into the overall U.S. and global economy than most appreciate. While industry does produce defense-unique items, these items often rely upon a complex and integrated supply chain of product providers, which, if restricted at the second, third, and even fourth tiers, would jeopardize even the seemingly pure-play defense businesses.

The Millennial Industrial Base

The Millennial Industrial Base is more global, more commercial, and more financially complex than the traditional “defense industrial base” and it will be marked moving forward more by its disposability than its continuity of service.

The Millennial Industrial Base in which we now find ourselves is evolutionary, where Moore’s Law is more important than Milestones, and Metcalfe’s Law is more vital to our national security than MilSpec.
Increasingly, the millennial industrial base will rely on the technologies that were not developed in the United States. Also, like the commercial marketplace, our supply chain, particularly at the lower tiers and in information technology, will include firms from countries that are not our closest allies.

Yet buying from a more global Millennial Industrial Base can offer many benefits – if done wisely. It increases competition and thus reduces costs. It introduces new technologies and concepts. It often supports coalition warfighting efforts, or at least makes them less difficult to execute. And it teaches us lessons from other nations who have faced difficult financial circumstances and enforced their own “Better Buying Power” efforts. There is also the simple fact that a globalized Millennial Industrial Base is not an option to choose, it is an inescapable reality we must embrace and exploit.

Along with the benefits come risks. These risks include, but are not limited to, the threat of counterfeit or inferior parts entering the supply chain, the potential for undue reliance on components whose origin or actual configuration may not be fully understood, and the theft of intellectual property by foreign businesses and governments.

The Millennial Industrial Base upon which we must rely will be more commercially focused. This reality is particularly acute in the area of information technology (IT) goods and services which are an ever-increasing segment of our national defense spending. The commercial trend is one the Department has recognized more in policy than in practice. While decades ago the majority of the goods and services the Department procured were defense-unique, today the ratio is reversed, and the majority of goods and services are either produced for commercial consumption or originally developed with commercial applications in mind, and a concomitant commercial supply chain.

This change is profound and disruptive, and our acquisition practices have not yet effectively adapted to it. When it comes to acquisition, the Department continues to assume it is the dog, not the tail of a market. Increasingly that is the wrong assumption.

Last, the Millennial Industrial Base is financially complex. From ships to shoestrings, the capital required to support the Millennial Base is more global and commercial. Wall Street matters, and the uncertainty of the current political and budget environment will become a threat to national security if investors shy away from the firms our warfighters depend on for next generation technology. From small technology start-ups which seek venture funding to the debt markets which support our base through access to capital as programs mature, the Millennial Industrial Base simply cannot survive without access to capital on a competitive basis. And, as with our supply chain, the financial sector is becoming more complex and more global by the day.
Implications for the Department

As I have noted, the Department relies on Industrial Age policies and procedures that often hinder it from acquiring the best Information Age technologies. This phenomenon results more from culture than from policy. Part 12 of the Federal Acquisition Regulation (FAR) already enables the Department to buy advanced commercial systems and services but is far too often bypassed in favor of the more established and comfortable government-unique source selection policies of FAR Part 15. The only barrier to entry for many IT firms seeking to offer their best technology is the acquisition skill set of informed government customers.

The Millennial Industrial Base fully embraces the Department’s pursuit of Better Buying Power. Nowhere is the Department more likely to find improved productivity, innovation, capability, efficiency, cost control, competition, and reductions in process and bureaucracy than in a base that leverages a global, commercial, and financially complex supply chain. The Better Buying Power initiative, as policy if not in practice, accentuates and leverages all of the best aspects of the Millennial Industrial Base. It must be continued and encouraged at all levels of government.

As our marketplace becomes more global, our export control regimes must keep pace. Export controls are an important weapon in our national security arsenal, but they can cause harm to the defense industrial base when employed immoderately. The clearest example of this damage is the U.S. space industry. In the 1990s, after a U.S. company transferred data about failed rocket launches to the Chinese government, Congress placed commercial satellites on the U.S. Munitions List. This addition meant that each of the satellite’s individual parts was also regulated. The move caused a 40 percent decrease in the United States’ market share for space technology and a reported loss of $21 billion in satellite manufacturing revenue. In 2012 the Congress moved classes of satellites to the Commerce Control List, which is less strict and complicated. This was an example of American technological dominance ceded to foreign powers out of our belief that we can control and confine technology. We cannot, and in this case, our industrial partners suffered and therefore had less capital to invest in next generation technologies.

One can easily see why a commercial firm would avoid the complication of export control regulations by shying away from opportunities with the Department. Commercial firms also increasingly invest in research and development overseas to avoid the reach of U.S. export control laws. If our nation wishes to retain our edge in innovation and technology, export controls need to be written with the Millennial Industrial Base firmly in mind, or else U.S. companies will increasingly forfeit the global market. Nowhere is this threat more acute than in the once U.S.-dominated unmanned aerial vehicle (UAV) industry. If our export controls do not adapt, American UAV
suppliers may suffer the same fate as our satellite producers did and allow history to repeat itself where the U.S. innovates and foreign nations replicate.

An advantage of the Millennial Industrial Base to the Department is burden sharing in research and development. Today debates rage over the role of “IRAD” in defense innovation. But this single acronym conflates Independent Research and Development (IR&D) and Internal R&D (unfortunately also known as IR&D). Independent R&D are funds provided by the taxpayer to defense companies at a rate of roughly $4.5 billion a year, well over half of which goes to the major prime contractors. To be eligible for these funds, a firm must have an existing contract. There are many good reasons for these expenditures, and I support them all. It is a good program.

Internal R&D, as every other U.S. company defines it, is self-directed and unreimbursed with the goal of investing in capabilities that have a clearly articulated return on the R&D investment. As the Department increasingly leverages the commercial market, Internal R&D may likely become a greater source of innovation than Independent R&D. It may be helpful, moving forward, to simply distinguish the two pools of resources and refer to “Independent R&D” as “Reimbursable R&D” which is in effect what it is. The Department would then be better able to distinguish, as will shareholders of public companies, the dramatic increases in IR&D driven by the Millennial Industrial Base that are not taxpayer funded yet may yield significant results for the warfighter if private investments are able to develop into goods and services the warfighter requires.

Conclusion

There is not, nor has there ever been, a silver bullet for the real and perceived shortcomings of the Defense Acquisition System. I credit this Committee for its pursuit of improvements, and particularly your focus on taking a modest approach with narrower changes. The Department and the over $1.2 billion it spends every day is simply too large and too diverse for a monolithic solution.

In my opinion, it ultimately comes back to people. How talented are they? How well are they trained? How empowered are they to make the necessary call on any one procurement action, and are they rewarded for thinking? And how supported will they be when they get it wrong – which will occur in any human endeavor?

That workforce must accept that the Millennial Industrial Base is the future of defense acquisition. How we can enable our people to recognize and leverage this reality is the challenge both this Committee and Department must address in the coming years. As I have said, our daughters and sons should never enter a fair fight. To that end, the efforts of the Department and this Committee are a very good start.