

**Written Testimony of Dr. Michael J. Reed**

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**Before the House Appropriations Defense Subcommittee**

**Field Hearing: Industrial Base and Workforce Development for Skilled Trades**

College of the Canyons Performing Arts Center, Santa Clarita, California

Chairman Calvert, Mr. Case and distinguished members of the House Appropriations Defense Subcommittee, thank you for the opportunity to address you today regarding the critical importance of workforce development and skilled trades education to America's defense industrial base.

I am Dr. Michael J. Reed, President of Pennsylvania College of Technology.

Penn College educates and trains nearly 10,000 students annually across degree, certificate, apprenticeship, dual enrollment and short-term training programs. We prepare tomorrow's workforce through a hands-on, industry-driven education model. We are in our 113<sup>th</sup> year of adapting quickly to industry needs and serving our nation by developing an advanced, highly skilled workforce. Our story began when veterans returned from World War I and required new workforce skills for civilian life.

Penn College is a nationally recognized applied technology education institution and special mission affiliate of The Pennsylvania State University. This collaborative partnership is closely aligned with Penn State's land-grant mission. With respect to our nation's defense, Penn State conducts \$1.45 billion in research annually and is ranked among the top three universities in its category for Department of War-funded research and development. Together, Penn State and Penn College create a powerful combination of innovation and workforce development.

Penn College graduates enter careers in advanced manufacturing, welding, automation, mechatronics, aviation, heavy equipment, electrical, electronics, information technology, construction and other essential fields that power America's economy and national security. Equally important, our technical programs focus on durable skills: our programs and our state-of-the-art labs encourage and teach collaboration, communication, adaptability, problem-solving, critical thinking and confidence. Employers regularly tell us that we produce their troubleshooters, employees who know how to figure things out when faced with obstacles.

We are a veteran- and military-friendly campus, as evidenced by hundreds of veterans earning degrees after serving our nation, by an established Reserve Officer's Training Corps (ROTC) program that is training future military leaders, and by earning the #1 ranking as the best

institution for veterans, the past two consecutive years, by U.S. News and World Report, Regional Colleges North Division.

In response to the needs being articulated by our Department of War, most of my remarks focus on the manufacturing sector and how to increase the volume of skilled labor in defense-focused careers. We also train and graduate students who work in many careers that power our nation in a variety of ways.

**Today, I urge the Subcommittee to recognize workforce education, particularly investments in skilled trades, as a strategic imperative for our national defense.**

Twenty million U.S. jobs, representing 9% of the nation's workforce, fall within 135 skilled trade occupations. That number is at risk of declining as one in four skilled trade workers is age 55 or older and as social pressures and misconceptions steer young people away from skilled trade careers. Sixty percent of these jobs are in construction and manufacturing. Skilled trades programs, which include all apprenticeships, certifications, and two-year degrees, have just 800,000 annual completions. The result is three job openings for every person completing a skilled trade program, creating an annual talent gap of 1.3 million workers.<sup>1</sup> At a time when our nation is calling for greater manufacturing capacity and defense readiness, we simply are not producing technical talent at the rate required to meet demand.

America has the most advanced military systems in the world, and those systems ultimately depend on skilled workers who can build them, maintain them, troubleshoot them and deploy them. Aircraft, submarines, armored vehicles and weapons systems cannot exist without welders, machinists, electricians, electronics technicians, heating, ventilation, and air conditioning (HVAC) technicians, automation specialists, diesel and automotive mechanics and countless other highly trained technicians.

In Pennsylvania, the defense workforce includes approximately 190,000 employees across 8,939 companies. More than 288,000 parts for the defense industry are sourced in Pennsylvania.<sup>2</sup>

Today, I would like to highlight four key points.

**First, workforce demand continues to outpace supply.**

The demand for skilled trades workers is substantial and growing. Across manufacturing and technical occupations, employers are competing for a limited talent pool while simultaneously confronting workforce retirements and increasing production demands.

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<sup>1</sup> Lightcast. (2026). *Defining the Skilled Trades, A Data-Driven Blueprint for the Future*. [Lightcast.io](https://lightcast.io).

<sup>2</sup> Exiger. (2026). *The Defense Industrial Base in Pennsylvania: Current State, Challenges, and Opportunities*. [Exiger.com](https://exiger.com).

Manufacturers throughout the defense supply chain consistently report difficulty filling positions requiring technical skills and industry credentials. This challenge extends beyond prime defense contractors to the thousands of small and mid-sized manufacturers that comprise the nation's industrial base.

At Penn College, we see this demand firsthand. Employers regularly recruit our students before graduation, and industry partners consistently tell us they would hire significantly more graduates if they were available.

The challenge is not job availability. The challenge is talent availability.

The skilled labor issue becomes even more acute within defense manufacturing, where employers compete against the broader manufacturing sector for workers with the same highly specialized skills. Every unfilled technician position represents not only an economic loss, but also a potential constraint on national readiness.

Penn College has a 98% placement rate, with many graduates having a range of opportunities to choose from. According to the U.S. Department of Education's College Scorecard, the median earnings of Penn College graduates who received federal aid are 36% higher than those of federal aid recipients graduating from colleges nationwide.<sup>3</sup>

## **Second, education and industry partnerships are essential.**

Addressing workforce shortages requires strong partnerships between education and industry.

Effective workforce development occurs when employers actively invest in the educational pipeline through scholarships, equipment donations, curriculum input, work-based learning opportunities, apprenticeships and internships. These partnerships ensure students develop skills aligned with current workforce requirements while providing employers with direct access to future talent.

Programs such as the mikeroweWORKS Foundation help reduce financial barriers for students pursuing high-demand technical careers and reinforce the message that skilled trades are essential professions worthy of investment, respect and recognition. Nearly 50 Penn College students have earned mikeroweWORKS Foundation scholarships. Several of our students and alumni have been featured on Mike Rowe's social media feeds to increase awareness of the rewarding opportunities within applied technologies. Expanding scholarship opportunities and reducing the cost of education help attract and retain more individuals in occupations that are vital to our economy and national security.

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<sup>3</sup> U.S. Department of Education. *College Scorecard: Pennsylvania College of Technology*. <https://collegescorecard.ed.gov/school/?366252-Pennsylvania-College-of-Technology> (accessed Aug. 27, 2026).

At Penn College, industry partnerships are foundational to our mission. Over 4,000 employers help shape what we teach, how we teach and the technologies students use in our labs. Most of our 150+ labs on campus feature materials and equipment investments made by industry, and every program has an industry advisory committee to ensure we are developing a relevant workforce. The result is graduates who can contribute immediately upon entering the workforce and are “billable” for companies from day one. We adapt quickly to industry needs and are positioned for growth. Last year alone, Penn College made over 200 curriculum changes to ensure students are best prepared to contribute and solve challenges of today and tomorrow.

As Congress considers investments to strengthen the defense workforce, I strongly encourage support for institutions and programs with demonstrated success and capacity for growth. Across the country, colleges, training centers and apprenticeship programs have already built the foundation, including specialized facilities, equipment, power infrastructure, faculty expertise, employer relationships and student pipelines needed to produce highly skilled workers. Scaling up and expanding the capacity of proven programs often delivers results more quickly and cost-effectively than creating entirely new initiatives.

The type of high-quality applied technology education we provide is an expensive endeavor, yet it is critical to building and maintaining the skilled workforce needed to carry our nation forward. Unlike traditional classroom instruction, applied technology education requires substantial investments in laboratories, equipment, maintenance and hands-on training environments that mirror industry settings.

By investing in and enabling expansion of proven, existing programs, the country can more rapidly address workforce shortages by providing the hands-on education necessary to develop the skilled talent needed to bolster our manufacturing and defense industrial base.

The Department of War has made clear the urgency of expanding munitions production and strengthening the defense industrial base. We hear the call and are positioned to take action. Strategic investments in existing aligned education programs can rapidly increase the number of skilled workers available to strengthen the defense industrial base. Recruiting and retaining technical experts to develop and teach programs, building and sustaining a wide network of industry partners, and remaining current and relevant amid rapid technological advancements while controlling costs are incredibly complex challenges. Institutions like Penn College, with strategic sustained investments, are well-positioned to accelerate the development of the skilled workforce necessary for our nation’s defense interests.

Federal investments that encourage collaboration between defense-related employers and workforce education providers can significantly strengthen the nation's talent pipeline, both quickly and effectively. Such investments help institutions acquire industry-standard equipment, expand training capacity and reduce financial barriers for students pursuing high-demand technical careers.

As co-owner, Executive Vice President and Director of Engineering at PMF Industries, Ken Healy leads a Pennsylvania-based advanced manufacturer that produces mission-critical components for the aerospace, defense, space and energy sectors. PMF serves many of the nation's leading aerospace and defense contractors, including GE Aerospace, Pratt & Whitney, Rolls-Royce, Aerojet, General Dynamics, Cobham Mission Systems and East/West Industries. A proud Penn College alum, Ken understands the importance of developing a highly skilled workforce to advance these critical industries. Through partnerships with Penn College, PMF employs graduates and interns in a variety of engineering, manufacturing, quality and business roles, helping strengthen both the company's talent pipeline and our nation's advanced manufacturing economy.

### **Third, the talent pipeline challenge is growing.**

While workforce demand continues to increase, the pool of traditional college-aged students is shrinking.

Pennsylvania and many other states are experiencing demographic trends that will reduce the number of high school graduates available to enter the workforce pipeline. National projections indicate that high school graduate counts peaked around 2025 and will decline steadily in the years ahead due largely to demographic changes and lower birth rates. My home state, Pennsylvania, is expected to see a 17% decline in high school graduates between 2023-2041.<sup>4</sup> This is not a temporary challenge. It is a long-term structural issue that will affect our workforce for decades.

As fewer students graduate from high school, talent competition will intensify. The defense sector and other critical sectors will increasingly compete for the same limited population of skilled workers.

To meet this challenge, we must expand pathways into technical careers, strengthen career and technical education programs, invest in apprenticeships, strengthen workforce development initiatives and increase awareness among students and families about the tremendous opportunities available in the skilled trades. We cannot afford to miss opportunities to align people with workforce and education pathways to available careers.

### **Fourth, workforce reskilling and support for displaced workers must remain a priority.**

Meeting the workforce needs of the defense industrial base will require more than attracting the next generation of workers. We must also create effective pathways for adults seeking new careers and displaced workers whose industries, employers or occupations have changed due

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<sup>4</sup> Western Interstate Commission for Higher Education (2024), *Knocking at the College Door*. [www.wiche.edu/knocking](http://www.wiche.edu/knocking).

to economic shifts, technological advancements such as artificial intelligence or global competition.

Many displaced workers possess valuable skills, a strong work ethic and real-world experience that can translate into advanced manufacturing, welding, automation, machining, transportation and other skilled trades. However, transitioning into these fields often requires access to affordable training, flexible scheduling, career navigation services and support systems that enable adults to complete workforce programs.

At Penn College, we have seen firsthand that short-term training and apprenticeships, paired with industry-recognized credentials, can help individuals transition into high-demand careers and quickly contribute to the workforce. For many adult learners, these opportunities provide not only economic mobility, but also a renewed sense of purpose and stability.

Supporting displaced workers presents unique challenges. Many are balancing unstable employment, family responsibilities, transportation needs or financial pressures while pursuing additional education and training. Workforce development investments should recognize these realities and provide the resources necessary for individuals to persist and succeed while raising families, paying mortgages and navigating periods of income disruption. These are short-term investments with long-term economic and workforce impacts.

Cost is often one of the greatest barriers to completing workforce training programs. Financial assistance that helps individuals enroll in and complete training can make the difference between pursuing a new career pathway and remaining disconnected from employment opportunities. Investing in proven, employer-aligned programs that are already established and capable of serving additional learners is a practical and effective strategy. Expanding access to flexible financial aid and workforce development funding would help more adults earn industry-recognized credentials, enter high-demand careers and build the skilled workforce needed to advance the defense industrial base.

## **Conclusion**

America's military strength depends upon America's workforce strength.

The defense industrial base cannot grow without people. It cannot innovate without people. It cannot meet national security demands and produce critical defense products without people.

Investments in workforce education, technical training, apprenticeships, scholarships, reskilling programs and skilled trades development should be viewed not simply as educational expenditures, but instead as strategic investments in national security. By supporting students entering the workforce, incumbent workers seeking new skills, military veterans and displaced workers pursuing new opportunities, Congress can help ensure that America's defense industrial base has the workforce necessary to meet current demands and future challenges.

To address our workforce challenges at the speed required to meet national security demands, we should build upon what already works. Expanding proven, successful workforce development programs and institutions can produce results faster than creating new systems from the ground up. Do not just fund new programs. Invest in existing facilities, programs, equipment and partnerships that are already producing positive workforce outcomes and positioned to succeed. Where we invest in expanded capacity, our programs grow. Penn College also traditionally maintains waitlists for programs that align most closely with defense industry workforce needs. Strategic federal investments in successful programs can augment that growth to support the country's defense industrial base and beyond.

On behalf of Pennsylvania College of Technology and our many industry partners, I thank the Subcommittee for its leadership and attention to this issue. I respectfully urge continued federal investment in programs and initiatives that strengthen the skilled trades workforce and ensure America maintains the industrial capacity necessary to sustain our defense mission.

Thank you for the opportunity to provide this testimony.