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Top Challenges Facing the Future Aerospace & Defense Workforce

- An aging workforce, talent acquisition and a growing skills gap are just a few of the many challenges that face the aerospace and defense industry.



A skilled and strong workforce is crucial to an organization's survival and financial prosperity. Presently, the aerospace and defense industries face retirements and a lack of qualified technical graduates. Additionally, as the pace of technological advancements quickens, the work and skill qualification levels grow increasingly advanced. These challenges were in play even before the disruptions of 2020; however, they have been complicated further by drastically altered business practices like social distancing. Collectively these conditions have created the difficult circumstances that the aerospace and defense industries find themselves in today and these conditions are only expected to worsen.¹

Technology Skill Gap

The aerospace and defense industries both face a significant technology skill gap; where a generation of workers are operating from knowledge gained through years of on-the-job experience. The next generation of talent has grown up with technology, and while they are comfortable with emerging technologies like virtual reality, they often lack the industry acumen that comes from experience in the workplace.

The Commission on the Future of the U.S. Aerospace Industry [recommended](#) the industry, "immediately reverse the decline in and promote the growth of a scientifically and technologically trained U.S. aerospace workforce."

Aging Workforce

Data from the Bureau of Labor Statistics shows more adults age 65 and older left the labor force in 2020 than in any year since the U.S. began tracking such information in 1948. As the aerospace and defense workforce approaches retirement, each organization needs a plan for supplementing the knowledge that will be lost.

Holding on to implicit on-the-job knowledge and information can be critical to any organization's success. Highly technical industries are grappling with how to replace the knowledge one gains through age and experience with knowledge that can be acquired with the assistance of emerging technologies, training techniques, and modernized mentorship programs.

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The World Economic Forum estimates that more than half (54%) of all employees will require significant re-skilling by 2022.”



Talent Acquisition Difficulties

Leaders in the scientific and technology communities are urging government, educational institutions, and other stakeholders to notice the demand for technological skills. According to the National Academy of Sciences, international enrollment in U.S. science and engineering degree programs dropped 6 percent between 2016 and 2017.

One bright spot is that COVID-19 has prompted 52 percent of children to consider a career in engineering after witnessing the agility of engineers to deliver ventilators and temporary critical care to hospitals. How will this translate to the future of aerospace and defense? Time will tell, but a larger pool of potential workers on the horizon is one positive sign.

It is also difficult to acquire talent for other positions, not just technical and engineering jobs. Young people are often steered away from jobs where a robot could easily take their place in the future or manufacturing jobs that sometimes come with the stigma of being confining or boring. In an age when more and more young people value originality, individuality, and passion over financial gain, it is a must for aerospace and defense organizations to showcase how their organizations reward creativity and innovative ideas, and can create change within their community.

An Opportunity for Inclusion?

African American and Hispanic workers continue to be underrepresented in the technology workforce. African Americans make up 11 percent of the overall U.S. workforce but represent just 9 percent of Science, Technology, Engineering, and Math (STEM) workers. Hispanic workers comprise 16 percent of the U.S. workforce but only 7 percent of all STEM workers.³

Patrick Gallagher, chancellor of the University of Pittsburgh and former director of the National Institute of Standards and Technology, also sounded the alarm saying, “We have not yet found ways to link industry’s workforce needs effectively and efficiently to the rate at which federal R&D investments can or should change. We risk severe oversupply or shortages in science and technology workforce.”⁴

One way that aerospace and defense companies can combat some of these issues is by offering scholarships or internships to individuals interested in desired or highly technical majors. There have also been efforts to raise awareness about the industry’s skills gap, though limits on social gatherings like job fairs have certainly set back those efforts.





Digital Transformation

As technology allows additional shifts from manuals and paper-based processes to digital solutions, more aerospace and defense companies are choosing to undergo a digital transformation. According to Industry Week, a survey of 110 Senior Executives and Managers at aerospace and defense companies found that nearly 100 percent believed their digital transformation investments were creating positive results. Some of the solutions being deployed include 3D printing for prototypes, using artificial intelligence to analyze large amounts of data, and implementing augmented reality for their engineering and repair workforces.

Digital transformation goes beyond technical and learning operations. Employing the power of digital solutions to create an omni-channel sales strategy is also a game changer. Artificial intelligence and next-generation data are allowing organizations to better market and sell to their customers, as well as manage inventory and predict maintenance needs.

Increased Automation

The COVID-19 pandemic has stressed organizational workforces in nearly every industry. However, in factories that have shifted their reliance on manpower to robotics, production lines were able to keep running. While automation may solve one problem by increasing productivity and powering growth, it creates another by potentially eliminating jobs and creating an impression of limited opportunities. This is occurring at a time when the workforce pool is already declining.

One unknown is the wave of new opportunities likely to come from increased automation and reliance on technology. From steam engines to electricity, computers to robotic automation, and ultimately artificial intelligence, society is often transformed by technology. Each time the workforce must adjust. How will aerospace and defense handle this transformation of both society and their workforce? Not every organization will undergo this transformation smoothly or successfully, but those that begin preparing their workforce now will have a competitive advantage.

Partnering to Conquer These Challenges

As your organization begins to evaluate fundamental aspects of your business, such as the way you recruit and train talent, or the way you serve your customers, it is important to consider working with a partner that brings experience in workforce transformation.

Ready to get started on building a highly effective and future-ready **aerospace and defense workforce**? Contact GP Strategies® to learn more.

••• Contact us at 1.888.843.4784 | info@gpstrategies.com

About the Author

Andy Reagan

Andy Reagan has been with GP Strategies for nearly 25 years. He has helped clients across many industries solve their workforce transformation issues and the past 5 years he has focused on the aerospace and defense industry. A graduate of the University of Cincinnati's engineering program, Andy still resides in Cincinnati, Ohio USA today.

Resources:

1. The National Academies Press: Review of the Future of the U.S. Aerospace Infrastructure and Aerospace Engineering Disciplines to Meet the Needs of the Air Force and the Department of Defense. <https://www.nap.edu/read/10201/chapter/5>
2. <https://www.weforum.org/reports/the-future-of-jobs-report-2018>
3. <https://www.pewresearch.org/social-trends/2018/01/09/diversity-in-the-stem-workforce-varies-widely-across-jobs/>
4. <https://www.aip.org/fyi/2019/panel-warns-us-faces-stem-workforce-supply-challenges>

About GP Strategies

GP Strategies is a leading workforce transformation partner—one of the few truly dedicated global providers in the marketplace providing custom solutions. We believe our transformation focus, when paired with deep listening, a customer-centric approach, and innovative expertise, enables our clients to routinely achieve superior business and operational results from our evidence-driven and technology agnostic recommendations.

Whether your business success requires a change in employee performance and mindsets, learning technologies, or critical processes, GP Strategies is the transformation partner you can trust.



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