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Mission 2030: Closing Tech Talent Gaps in Aerospace & Defense

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Introduction

Executive Summary

- **Global military spending surged to nearly 10% to a record $2.7 trillion in 2024,** the steepest annual rise in four decades. Meanwhile, the commercial aerospace sector is benefiting from longer fleet utilization, fleet expansion, and demand upticks in both the passenger and cargo arenas.

- The aerospace and defense industry continues to grapple with severe talent shortages and attrition rates. Efforts to improve recruitment and retention have yielded only modest gains, with employers reporting that **production, engineering, and AI development skills are the most difficult to find.**

- Meaningful action toward more effective recruitment and retention is difficult without first acknowledging the **real obstacles standing in the way of progress, including geopolitical volatility, contract backlogs and vacancy-stalled projects, cybersecurity concerns, the aging workforce and the demographic cliff, constantly shifting digital skillsets, and competition from Big Tech.**

- **Despite existing recruitment and retention challenges, the future of aerospace and defense employment is a bright one.** The ManpowerGroup Work Intelligence Lab recommends that leaders take immediate action to combat the manufacturing stigma, develop external partnerships, source specialized talent flexibly, leverage predictive analytics, upskill with certification programs and microcredentials, fill vacancies quickly to prevent team burnout, and redesign jobs to integrate AI and promote innovation.

"The greatest victory is that which requires no battle."
– Sun Tzu, The Art of War

Foreword: A Global Call to Arms

As we head into the second quarter of 2026, **the aerospace and defense sector remains in a period of major expansion, driven by increasing military defense budgets among the most powerful governments in the world.** Ongoing geopolitical conflicts in Europe and the Middle East, and massive development in Asia Pacific, are leading many countries to accelerate modernization efforts to protect themselves from uncertain threats.

These efforts include cutting-edge technology implementations across the land, the sea, and the space frontier. **At the forefront of so-called "defense tech" is artificial intelligence (AI),** the fingerprint of which is apparent in collaborative combat aircraft, unmanned drone systems, hypersonic weapons, and sophisticated communications, cybersecurity, and predictive maintenance and warfare decision systems.

All in all, **global military spending surged to nearly 10% to a record $2.7 trillion in 2024, the steepest annual rise in four decades,** according to a report by the Stockholm International Peace Research Institute (SIPRI).[1] The world's top 100 defense companies earned $679 billion in 2024, the highest level ever recorded by SIPRI. Europe's increase in defense spending is outpacing other regions, jumping 17% in a single year.

Alongside booming military spending is a major rebound in the commercial aerospace sphere. Still responding to manufacturing delays from the COVID-19 pandemic – Boeing and Airbus alone have reported backlogs of 14,000 aircraft – the commercial aerospace sector is benefiting from longer fleet utilization, fleet expansion, and demand upticks in both the passenger and cargo arenas. **A 2025 UHY market analysis[2] found that global revenue passenger kilometers (RPKs) have reached 99% of 2019 levels, with global operating profits for commercial carriers exceeding $75 billion.** Meanwhile, the commercial space industry has taken off, with companies like Blue Origin and SpaceX leading the field and bringing the costs of orbital travel down significantly.

In this report, the Work Intelligence Lab will **examine the current state of employment in the global aerospace and defense industry, focusing specifically on technical candidate recruitment and retention, challenges to the industry's longstanding approach to talent, and the strategies leaders must deploy today to ensure a healthy pipeline of technical talent through the second quarter of the 21st century.**

[1] *Stockholm International Peace Research Institute (SIPRI)* [2] *UHY Aerospace Industry Market Analysis*

The Aerospace and Defense World of Work

Aerospace and Defense Talent Acquisition Trends

Aerospace and defense employers in both North America and Europe face mounting employment challenges. According to the Aerospace Industries Association, in the U.S., the sector saw its workforce expand to 2.23 million employees in 2024, adding 100,000 workers throughout the year.[3] The European defense industry saw a substantial increase in employment in 2024, with the total number of jobs reaching 633,000. This is a 20% increase compared to 2021.[4] But despite this growth, the industry continues to grapple with severe talent shortages and attrition rates, which remain stubbornly higher than those in other U.S. industries.

Efforts to improve recruitment and retention have yielded only modest gains, with employers reporting that production, engineering, and AI development skills are the most difficult to find. An aging workforce, coupled with younger employees' propensity to seek new opportunities, further complicates the talent landscape and drives the need for novel approaches to workforce management and productivity enhancement.

Retention and Workforce Aging Challenges

42% *More than four in ten (42%) workers in the manufacturing sector say they want to find a new job in the next six months.[5]*

15% *The A&D attrition rate of 15% in the U.S. is 2x higher than the overall industry average.[3]*

55% *More than half (55%) of manufacturers believe workforce aging and retirements will have a significant impact on their hiring strategy.[6]*

[3] Aerospace Industries Association (AIA) [4] Council of the European Union [5] ManpowerGroup Global Talent Barometer, January 2026 [6] ManpowerGroup Employment Outlook Survey, Q3 2025

Across Europe, the aerospace and defense industry has demonstrated resilience and continued growth in the face of geopolitical instability and supply chain bottlenecks. In 2024, the sector employed 1.1 million people directly — an increase of nearly seven percent from the previous year — and supported nearly 4.2 million jobs when accounting for direct, indirect, and induced employment.[7]

However, the European aerospace and defense industry also faces constraints, including labor shortages and high energy costs. As a result, companies have limited ability to scale production and meet rising demand, emphasizing the urgent need for investment in workforce development and innovation.

Both North America and Europe are witnessing a shift in the skills required for future success. Employers responding to the ManpowerGroup 2026 Global Talent Shortage Survey[7] said that communication, teamwork, adaptability, and critical thinking are among the top skills needed for new hires, while technical roles such as engineering and skilled trades remain in high demand but are difficult to fill. Nearly nine in ten U.S. aerospace and defense employers increased compensation in the past year to attract talent, yet competition from high-tech sectors continues to siphon away skilled workers.[3]

Looking ahead, aerospace and defense employers must address the dual challenges of an aging workforce and the evolving demands of a rapidly changing geopolitical environment. In Europe, strategic autonomy and industrial resilience hinge on building a robust talent pipeline and fostering cross-border cooperation. This will be increasingly difficult as most employers (72%) already say they are struggling to find the skilled talent they need.[8]

The challenge is unlikely to go away as the overall population in these regions continues to age and governments curb immigration. Fortunately, employers in both North America and the European regions realize that investment in training, upskilling, and employee engagement will be crucial for navigating future uncertainties and maintaining their competitive edge.

Top Skills Global Manufacturers Want[7]

Technical Skills

1. *Frontline Production Skills*
2. *Engineering*
3. *AI Development*
4. *AI Literacy*
5. *Traditional IT & Tech Skills*

Soft Skills

1. *Communication, Collaboration & Teamwork*
2. *Adaptability & Willingness to Learn*
3. *Professionalism & Work Ethic*
4. *Critical Thinking & Problem Solving*
5. *Time Management*

[7] Aerospace, Security and Defense Industries Association of Europe [8] ManpowerGroup 2026 Global Talent Shortage Survey [9] PwC

"Digital transformation is a major driver of change in the aerospace and defense sectors. The adoption of digital twins — virtual replicas of physical assets — enables real-time monitoring and optimization of aircraft and defense systems. Furthermore, the use of blockchain technology enhances security and transparency in supply chains. However, this shift to digital platforms necessitates new skillsets among A&D workers."

– Marceline Beijer, Global Vertical Leader – Aerospace and Defense, ManpowerGroup

Stalled Engines: Challenges to the Status Quo

True change in mature industries is sometimes difficult to come by, and meaningful action toward more effective recruitment and retention is difficult without first acknowledging the real obstacles standing in the way of progress.

Supply chain volatility

Demand growth across the industry occurs alongside pervasive shortages of materials and skilled labor. Combined, these factors put ongoing pressure on the aerospace and defense supply chain. When supply chains are fragile, and organizations cannot rely on consistent capacity, they risk the delivery credibility essential to their customers. Aerospace and defense companies are doing their best to increase redundancies, build relationships with new suppliers, and invest in digital and AI-based technologies, but external factors beyond their control – like unpredictable tariffs – may mean that supply chains remain unstable for the near future.

Contract backlogs and vacancy-stalled projects

At first, it seems like a good problem to have. Airline customers are modernizing fleets faster than aerospace companies can build planes. But when backlogs are high, customers grow ever unhappier with the gap between demand and supply. Longstanding vacancies in aerospace companies exacerbate this problem because every role is interconnected, and the right security clearances are scarce. While the aerospace and defense industry is benefiting from regulatory reform that impacts the way companies compete and contract for projects, the procurement and onboarding processes still cannot keep up with product demand.

Cybersecurity concerns

The number of cyberattacks in aviation continues to rise as the cybersecurity talent shortage continues. When digital vulnerabilities remain unaddressed, the whole system is at risk. And in the case of this industry, the system directly impacts classified data integral to the safety of our nations. Additionally, an organization lacking the right security certifications and oversight can lead to poor audit results and further damage to already-strained customer relationships.

The aging workforce and the demographic cliff

According to PwC[9], 25% of U.S. aerospace employees are over the age of 55, and the U.S. Bureau of Labor Statistics[10] has reported that America needs 3,800 new aerospace engineers every year through 2031. Deloitte's 2026 Aerospace and Defense Industry Outlook[11] also found that attrition rates of 15% far surpass the average, and nearly half of hourly hires leave their roles within the first four months. The forthcoming demographic cliff is an added problem. Generation Z (born 1997-2012) is already a small cohort globally, and when we consider the hard-to-access referral pipeline that currently allows young aerospace graduates to enter the industry, escalating talent shortages seem almost inevitable.

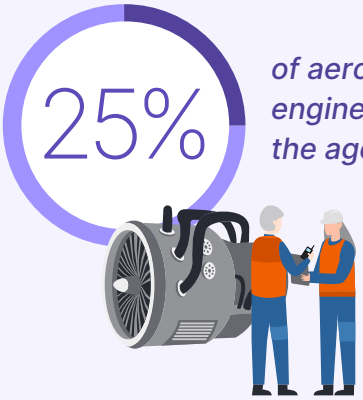
Constantly shifting digital skillsets

As is the case in many sectors, post-secondary aerospace education lags behind the shifting needs of the industry. Aerospace and defense graduates may be some of the smartest young people in the world, but they may lack preparedness for leveraging and integrating new AI-based technologies, and risk-averse middle managers are often not in a position to assist. Furthermore, aerospace and defense companies are often behind in building the internal training infrastructures necessary to upskill engineers in real time.

Competition from Big Tech

The Aerospace Industries Association[3] has reported that while 70,000 engineers graduate university annually in the U.S., only around 60% are qualified to work in the aerospace sector. These young people are hot commodities, and unfortunately, Big Tech firms like Alphabet, Amazon, Microsoft, and Tesla usually pay much higher entry-level salaries and offer better benefits than other aerospace and defense companies.

An Industry in Need of Skilled Reinforcements



of aerospace engineers are over the age of 55.[12]

The aerospace and defense industry has higher-than-average attrition rates of

and nearly half of hourly hires leave their roles within the first four months.[10]

In the UK,

10,000

vacancies remain across aerospace, defense, and space sectors.[11]

[10] U.S. Bureau of Labor and Statistics [11] Deloitte

As Big Tech continues to dominate, so will its ability to successfully recruit the most talented new engineers. Recruitment losses to Big Tech are especially evident in places like the UK, where over 10,000 vacancies remain unfilled across aerospace, defense, and space sectors.[12]

The opportunity for companies that can address these gaps is substantial. In fact, recent McKinsey research estimates closing the gap between talent supply and demand could be worth more than $300 million in potential cost avoidance and bottom-line impact for the average-sized A&D company.[13]

Spotlight: Babcock Overcomes Location Challenges Through Comprehensive Sourcing Strategy

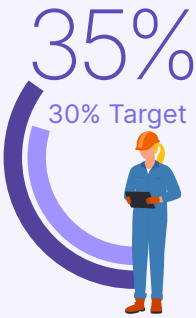
Babcock, a leading British aerospace, defense, and nuclear engineering services company, faced hiring challenges due to its remote locations, competition for niche skills, and reliance on traditional talent pools.

To address these challenges, **Experis expanded its reach across diverse talent pools for Experis Academy programs** in Plymouth, Bristol, and Clyde (UK). The team partnered with local organizations like the Career Transition Partnership to engage military leavers and targeted candidates with transferable skills from other industries, ensuring a sustainable and inclusive talent pipeline.

The comprehensive sourcing strategy **enabled the team to tap into non-traditional talent pools, including individuals from scientific, logistics, education, and public administration backgrounds**, from which Babcock would usually not recruit. Key outcomes included:

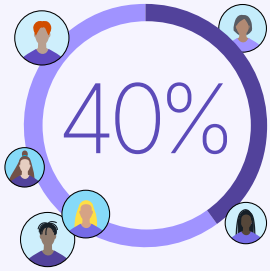
Diversity & Inclusion:

Achieved a 35% female representation in cohorts, exceeding the 30% target.



Social Mobility:

Over 40% of participants came from socially mobile backgrounds; 42% in the recent Systems Engineers cohort.



Recognition:

Won the 2023 Project Controls Expo Social Impact of the Year Award for the first Project Controls cohort.

[12] Owen Daniels [13] McKinsey

Mission 2030

Course Corrections for A&D Leaders

Despite existing recruitment and retention challenges, the future of aerospace and defense employment is a bright one. The ManpowerGroup Work Intelligence Lab recommends that leaders take the following actions to ensure they have the right talent in place:

Combat the manufacturing stigma

Although aerospace and defense careers are literally "rocket science," the manufacturing sector still suffers from an image problem. Students and their parents tend to think of low-level, get-your-hands-dirty factory jobs and may hesitate to plan and train for these careers. Capture Gen Z's attention by publicizing your cooler projects – think atmospheric travel and cybersecurity – where younger talent hangs out online. Since aerospace and defense tend to have opaque job descriptions, make sure you have a vehicle to clearly explain what the work entails on a daily basis.

Develop external partnerships

While a handful of the larger aerospace and defense companies and some government agencies have instant name recognition among candidates, many organizations do not, and this makes it difficult to recruit at scale. Instead of trying to build a large network of engineering talent on your own, consider teaming up with existing initiatives such as the U.S. Space Force University Partnership Program (UPP) and the Defense Civilian Training Corps (DCTC). Similar programs in Europe include the European Space University for Earth and Humanity (UNIVERSEH), EU Space Academy, and TUM Security and Defense Alliance (led by the Technical University of Munich). Efforts like these provide a bridge for talented engineering students from highly regarded degree programs to pipeline into companies by way of internships, research, and direct employment.

Source specialized talent flexibly

Recruitment and onboarding speed is a current weakness of the aerospace and defense sector. Full-time employees will remain essential, but smart leaders will expand their horizons by staffing projects with a combination of FTEs, contractors with niche expertise, consultants, and retired industry veterans. At a time when organizational priorities can shift from day to day, and no two projects are exactly alike, being able to call upon the right specialists at the right time can make all the difference. This is particularly challenging when employers must also clear security clearance hurdles.

Leverage predictive analytics to keep up with the market

Amidst all the hype around generative and agentic AI, predictive analytics remains quietly in the background. However, don't underestimate the power of these tools in helping you forecast labor shortages and stay one step ahead of competitors in sourcing talent. Workforce analytics takes awide range of data inputs into account – from general labor market statistics and skills adjacencies to internal attrition rates and security clearance processing times – and provides insights about where and how to focus recruiting and training efforts.

Upskill with certification programs and microcredentials

Aerospace and defense leaders understand that hiring candidates who possess both current and future-ready skills is a heavy lift. Instead of recruiting solely from the outside, build an internal infrastructure for existing employees to skill up using custom badging and certification programs. These advanced training options, which are typically shorter and less disruptive than a full degree program, achieve several benefits at once: they allow your workforce to keep pace with evolving technology requirements, they aid in employee engagement and retention, and they provide an objective measurement of skill mastery.

Best of all, you don't have to develop microcredentials as a solo endeavor. Manufacturing, information technology, and engineering third-party organizations are increasingly offering these in partnership with universities, and contract partners can be a good source for them as well. Examples include programs such as the Experis Academy, which recently partnered with a space technology client to create a program to rapidly train candidates in the latest Satellite Communications (SatCOM) skills.

Fill role vacancies quickly to prevent team burnout

As we've discussed, long-term vacancies can have a damaging effect on both contracted projects and the well-being of your current technical staff. When a key employee leaves the organization – especially one with a rare security clearance – the time to hire a replacement is often so long that remaining team members are overworked, overburdened, and more likely to resign themselves. Prioritize filling vacancies more quickly by updating and approving job descriptions and associated compensation in advance and encouraging lower-level managers to be creative in using flexible talent to plug gaps.

Redesign jobs to integrate AI and promote business transformation

Aerospace and defense organizations are sometimes attached to legacy systems and workflows that no longer serve the current environment. Consider starting with a blank slate and examine every role in your organization task by task, determining where and how it's most logical to integrate AI-based technologies. Once your AI tools are in a position to manage more routine work, your technical talent can focus on overseeing their output and devoting more time to innovation and problem-solving. Tenured engineers are a precious and highly informed resource, so leverage their assistance during the job redesign process and encourage them to experiment with different models of human and AI collaboration.

Spotlight: QinetiQ Plugs Engineering Skills Gaps Through Talent Intelligence and Custom Training

QinetiQ, a British defense technology company with approximately 8,500 employees, required an innovative workforce solution to support rapid headcount growth in the niche talent market of systems engineering. Due to high demand for combat and systems engineering architects exceeding candidate availability and a small pipeline of new candidates entering systems engineering, the organization found it increasingly difficult to recruit top technical talent. QinetiQ also lacked sufficient internal training resources to upskill existing engineers into a new sector.

Experis leveraged recruitment and talent intelligence experience to map transferable skills across the market and identify high-potential candidates with the right aptitude, attitude, and cultural fit.

Then, QinetiQ partnered with Experis to design and deliver three tailored Train-to-Fit programs for combat systems engineers, ISTAR systems architects, and combat systems architects. **The plan included defining learning objectives, developing bespoke training schedules, and collaborating with expert providers to deliver customized courses**. Each program combined classroom instruction with on-the-job mentoring and hands-on experience.

QinetiQ employees also took part in the external training courses that Experis provided through trusted training partners. This allowed QinetiQ to bridge skills gaps within their existing permanent workforce at no cost while supporting internal learning and development goals.

"The Experis Academy program has been excellent in helping me achieve a talent pipeline for difficult-to-hire Systems Engineering skills. We hired 100% of the Consultants Experis provided and helped to train. These individuals are now all contributing successfully to customer projects and we are now working on our next program." - David Venn, Head of Systems Engineering, QinetiQ

Recruiting the Right Tech Talent

Experis Global Capabilities

Aerospace and defense industry tech leaders are under more pressure than ever before to bolster core operations, foster innovation, and achieve scalable digital transformation. Experis offers global tech talent expertise, agility, and a proven track record in driving measurable results for clients across industries. Backed by ManpowerGroup, Experis is uniquely positioned to deliver proven solutions that simplify IT and accelerate business value.

Comprehensive Services

Experis finds the right talent for your cybersecurity, software and cloud engineering, architecture, application development, IT modernization, cloud migration, microservices, and more.

Security Clearance Support

Leveraging decades of experience sourcing talent for governments throughout the North Atlantic Treaty Organization (NATO) and beyond, we help make the security clearance process easy.

Data, Analytics, and AI Leadership

Teams experienced in advanced data integration, modernization, governance, AI modeling, and automation equip businesses for intelligent decision-making.

Flexible Delivery Models

Onshore and hybrid/multi-shore options allow optimization of quality and costs for each client.

Global Reach

More than 900K associates on assignment in 70 countries.

Proven Results

A trusted tech talent partner for more than 80% of Fortune 500 brands.

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Experis® is the global leader in IT Professional Resourcing and IT Services. Experis accelerates growth for organizations by attracting, assessing, and placing specialized technology talent into in-demand roles, delivering mission-critical projects that enhance the competitiveness of the organizations and the people we serve. Through Experis Academy, we provide intensive "business-ready" training and coaching to new graduates, as well as customized skills development to prepare existing employees for high-demand tech roles. Experis is part of the ManpowerGroup® (NYSE: MAN) family of brands, which also includes Manpower and Talent Solutions. For more information, visit www.experis.com.

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