

Mission Critical Minds: Who will power the next generation of aerospace & defence?

AN ANALYSIS OF THE NOW, AN OUTLINE OF THE
FUTURE & A BLUEPRINT FOR HOW TO GET THERE



morson

The workforce flightpath

The UK's 2025 Strategic Defence Review (SDR) reset the expectations of what defence forces and their industries must deliver to keep the nation resilient and technologically competitive. Shaped by lessons from Ukraine, rapid advances in AI, automation, and quantum technologies, as well as stark new avenues of threat, the SDR signals an urgent pivot to "war-fighting readiness" and a whole-of-society approach to national security.

At its heart lies a recognition that skills, talent, and agility within the workforce are now mission-critical. The UK aerospace and defence industry is undergoing a seismic shift powered by AI, automation, and the urgent drive for sustainable flight. But while the technology is accelerating at Mach speed, the workforce isn't keeping pace.

Morson Edge isn't here to comment from the sidelines. We're supplying, developing, and futureproofing the specialist talent that keeps the sector airborne. From advanced propulsion to digital twin engineering, we're helping clients solve productivity challenges through people, not theory. Because the future of aerospace and defence won't wait for the workforce to catch up, it needs partners ready to lead from the sharp end.



Aerospace and defence has become a prime hunting ground for competitor industries.

30%

growth in headcount in the next 5 years

25%

of the workforce nearing retirement

76%

of employers report difficulty finding engineers

Context and challenge: A perfect talent storm

The aerospace and defence sector is experiencing an acute talent crisis as attrition rates rise and innovative, digitally driven industries aggressively recruit its most valuable employees. Recent data reveals that aerospace and defence must grow headcount by 30% in the next five years to keep pace with industry demands, yet the sector endures attrition rates of nearly 15% twice the U.S. average and significantly higher than comparable UK and European sectors.

Aerospace and defence remains a global powerhouse with a forecast pipeline of growth, but its long R&D cycles, risk-averse culture, and slower pace of digital transformation risk making it less attractive to ambitious, change-driven talent. Engineers, digital specialists, and project leaders are being “picked off” by tech giants, e-mobility innovators, and green energy disruptors industries offering faster career progression, agility, and more immediate impact.

The sector also faces a critical demographic crunch, with up to 25% of the workforce nearing retirement and insufficient pipelines to backfill digital, technical, and project management roles.

A closer look reveals a worrying paradox. While global aerospace and defence headcounts must rise dramatically, 76% of employers report persistent difficulty finding engineers, and over half can't fill skilled trades or digital project roles. Meanwhile, R&D investment often exceeding 8% of sales struggles to translate into talent attraction when weighed against the agility of adjacent industries.

The result? Aerospace and defence has become a prime hunting ground for competitors. Young engineers, data scientists, and experienced programme managers long the sector's backbone are being lured away by industries promising bold missions, digital-first cultures, and faster feedback loops.

Sources:

Aerospace Technology Institute (ATI) and Ernst & Young (EY) Reports, PricewaterhouseCoopers (PwC) and Aerospace Industries Association (AIA) Reports, Deloitte Aerospace & Defense Industry Outlook 2025, Institution of Engineering and Technology (IET) Engineering Skills Survey, Space Generation Advisory Council (SGAC) and Citigroup (Citi) Reports, Aerospace Talent Gap Reports.

A workforce outpaced

UK defence companies report that talent scarcity is now the single largest barrier to growth.

Shortages are particularly acute in:

- Digital, data, and AI engineering as predictive analytics, autonomy, and digital warfighting become operationally critical.
- Cybersecurity and quantum engineering with global defence investment in quantum-secure communications and navigation set to exceed \$25 billion by 2030. - Sources: Allied Market Research, NetworkX, Innovation News Network
- Traditional skilled trades from high-spec fabrication and naval architecture to electronic assembly where ageing workforces and underinvestment are eroding delivery capability.

Projects like Dreadnought submarines illustrate the cost: when experienced fabricators or systems integrators retire, capability gaps can take years and millions to rebuild.

Aerospace and defence now face a dual-front challenge competing for digital talent while protecting and modernising traditional engineering skills that underpin capability.

While the challenge is stark, the opportunity is immense. Digital twins, AI-driven design, and automation are creating new, hybrid roles at pace ones that fuse technical mastery with digital fluency.

Emerging in the next five years:

- Autonomous Systems Engineers designing AI-powered flight systems for both civilian and military applications.
- Sustainable Aviation Specialists scaling hydrogen, biofuel, and electric propulsion.
- Digital Twin and Predictive Maintenance Analysts optimising performance and lifespan through real-time data.
- Space Systems Engineers bridging aerospace and orbital logistics as the commercial space economy expands.

These roles demand cross-disciplinary fluency blending data analytics, mechanical systems, and sustainability principles and they're emerging faster than traditional training pipelines can adapt.

These are not distant prospects; they are here now. And they demand a new approach to workforce planning.

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years and millions to
rebuild.



AI, automation, and quantum: Workforce implications

AI, automation, and quantum technologies are already reshaping defence operations and, crucially, workforce demands. The SDR mandates the rapid adoption of these technologies, calling for:

- “Digital warfighter” and AI operation skills, to leverage autonomous systems, predictive analytics, and digital targeting webs.
- Training in quantum-enabled capabilities, such as ultra-secure communications, quantum navigation, and advanced cryptography, areas where global defence investment will exceed \$25 billion by 2030.
- Upskilling at scale: traditional classroom approaches are giving way to modular, simulation-based, and just-in-time digital learning solutions that can be deployed across regular, reserve, and industrial workforces.

This upskilling imperative is compounded by the “whole force” approach outlined in the SDR: reservists are to grow by 20%, career and education pathways are being reformed for military, civil service, and industry staff alike, and Defence Skills Passports will facilitate skilled mobility as roles evolve rapidly. – Source: Strategic Defence Review 2025

Sources: UK Research and Innovation (UKRI) / National Quantum Technologies Programme (NQTP), Quantum Security and Defence, Defence Contracts International (DCI) – UK National Quantum Strategy, UK Government (Gov.uk), McKinsey & Company.

Resourcing a new generation

Solving the aerospace and defence talent crunch requires more than incremental recruitment. It calls for radical resourcing strategies that diversify and expand the talent pool. The UK's aerospace and defence and defence workforce is ageing fast. Nearly 30% of the sector's engineers are over 55, according to the Royal Aeronautical Society. At the same time, we're seeing competition from automotive, renewables, and tech is pulling digital specialists away from defence programmes.

The challenge now isn't just hiring, it's reimagining where talent comes from. The next generation of skilled workers and leaders may come from non-traditional backgrounds, new geographies, or mid-career switchers.

Morson Edge's own experience supports this trend, helping clients reframe their hiring models combining adjacent-skill analysis, inclusive recruitment practices, and local partnerships to connect untapped talent to mission-critical roles. We're supporting progressive employers to cast the net wider: tapping career changers, veterans, STEM returners and cross-sector specialists with transferable skills. The Civil Aviation Authority recently reported that 35% of early-career hires in aerospace and defence now come from outside traditional engineering disciplines, a shift fuelled by automation, sustainability, and data-led design.

Diversity and inclusion aren't just ethical imperatives; they are performance multipliers. ADS Group data shows organisations with gender-diverse leadership in aerospace and defence experience 15% higher innovation output and stronger retention rates. By connecting aerospace primes, defence OEMs and Tier 2 suppliers with diverse and adjacent talent pools, we've seen inclusion and innovation rise together. Because diversity isn't a tick box it's an engine of resilience.





Democratising engineering recruitment: Unlocking hidden potential

For too long, engineering recruitment has been constrained by convention. Aerospace and defence industries have historically prized red-brick degrees, linear career paths, and legacy qualification frameworks unintentionally filtering out capable, creative people whose potential didn't fit the mould.

That model no longer fits the mission.

The technologies now defining aerospace and defence from AI-driven propulsion to quantum-secure systems demand adaptability, curiosity, and continuous learning more than conventional credentials. In this new era, aptitude is the advantage.

Democratising engineering recruitment means redefining what "qualified" really means. It's about valuing capability, potential, and purpose alongside education. It's about creating entry pathways for self-taught coders, career changers, veterans, STEM returners, and technicians who've developed expertise outside traditional academia. At Morson Edge, we see this shift happening first-hand. We're working with aerospace and defence organisations to replace rigid CV filters with skills-based assessment frameworks, map adjacent-skill pipelines, and use data-led profiling to identify talent that might otherwise be overlooked.

The results speak for themselves. Expanding hiring criteria to include aptitude and skills adjacency can increase candidate diversity by up to 30%, while reducing time-to-hire by 25%. That's not social engineering, that's smart engineering.

As the sector faces a generation-defining skills shortfall, democratising recruitment isn't just fairer it's a competitive imperative. The future of aerospace and defence won't be built solely by those who followed the traditional path. It will be built by those who had the drive, ingenuity, and mindset to take flight another way.

30%

increase in candidate diversity by including aptitude and skills adjacency - Sources: LinkedIn Skills-Based Report, Oxera, EU Skills

25%

reduction in time to hire by including aptitude and skills adjacency - Source: LinkedIn

Passing the baton: Knowledge transfer and continuous learning

The sector's skills base isn't just thinning; it's at risk of eroding. With almost a third of experienced engineers nearing retirement, the loss of institutional knowledge is real and immediate. As experienced engineers retire, critical expertise in safety, systems, and complex programme management risks evaporating unless captured and shared effectively.

The answer isn't just succession planning, it's knowledge acceleration. Digital tools, immersive learning, and AI-driven mentorship platforms are enabling aerospace and defence businesses to compress decades of expertise into accessible, on-demand learning.

Morson Edge's training delivery partner Morson Nexus is seeing increased demand for a new generation of digital learning, powered by AI, simulation, and micro-credential platforms to enable organisations to compress decades of know-how into immersive, scalable training.

Morson Edge supports this evolution through partnerships that blend human mentoring with tech-enabled learning to accelerate knowledge transfer and readiness.

The UK Aerospace Growth Partnership estimates that adopting such digital learning strategies could reduce training time for new technical hires by up to 40%, while improving retention by aligning skills development with clear career pathways.

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40%

reduction in training time
for new technical hires
using digital learning
strategies - Sources: IBM,
Deloitte, and the Journal of
Workplace Learning



From “secure and stable” to “meaningful and transformative.”

Purpose as a magnet: Redefining the aerospace and defence EVP

For a generation raised on purpose, flexibility and innovation, salary isn't the dealmaker it used to be. Millennials and Gen Z engineers want to know why their work matters and how it contributes to sustainability, safety and progress.

The Employee Value Proposition (EVP) for aerospace and defence must evolve accordingly from “secure and stable” to “meaningful and transformative.” Linking daily work to global missions from decarbonising flight, safeguarding national security to enabling space exploration is key to retaining and inspiring talent.

Those that succeed will become talent magnets. Those that don't risk losing the race before the runway.



The future workforce: From shortfall to strategy

Defence and aerospace stand at a crossroads.
The SDR has made one thing clear: capability without talent is
strategy without traction.

Top 5 actions for aerospace and defence companies to stay ahead

To meet the moment, industry must act decisively:

- **Implement dynamic skills forecasting and AI-driven workforce analytics** to monitor and react quickly to shifting project and technology demands.
- **Transform training delivery:** invest in digital, simulation-based training, and modular upskilling frameworks to ensure readiness and flexibility across both legacy and emerging roles.
- **Create whole-ecosystem talent partnerships** spanning industry, government, academia, and reserves. Adopt skills clearinghouses and Defence Skills Passports to smooth talent flow and upskill mid-career professionals.
- **Promote inclusion and STEM engagement:** embed diversity, accessibility, and proactive outreach to ensure the defence sector better reflects the workforce it needs, especially in underrepresented communities and regions.
- **Champion agile, skills-based recruitment and internal mobility:** prioritise learning agility and hybrid STEM skills above static job titles, deploying talent wherever the emerging battlefield requires.

These actions aren't abstract. They're the blueprint for
resilience, competitiveness, and national readiness.





The Morson Edge perspective

The future of the UK's aerospace and defence sector will depend as much on who powers it as what powers it. A digitally fluent, purpose-driven, and inclusive workforce is no longer a strategic aspiration, it's a competitive necessity.

The aerospace and defence workforce crisis isn't inevitable, it's a design challenge. And like any good engineering problem, it can be solved with the right systems thinking.

As digital engineering, autonomy, and clean propulsion redefine what's possible, Morson Edge is shaping the workforce that will make it happen. We're delivering specialist workforce solutions that combine strategic workforce planning with digital upskilling, statements of work, inclusive recruitment, and data-led forecasting, to help clients meet SDR objectives and commercial targets alike. From digital warfighter capability to quantum systems design, we're building the teams and training pipelines that turn strategic ambition into operational capability.

We're not spectators in this transformation; we're the link between bold vision and skilled execution connecting the next generation of engineers, analysts, and innovators to the programmes that will define the UK's industrial future. Because the UK's future security in the skies, at sea, and online depends on the people who can think sharper, adapt faster, and act smarter.

Data Sources

All data and findings in this article draw directly from:

- UK Strategic Defence Review 2025 (GOV.UK)
- The Strategic Defence Review: 10 Key Takeaways (British Foreign Policy Group)
- The UK Defence Industry Has a Skills Shortage (Business Insider)
- Major skills boost at the heart of transformative new Defence Industrial Strategy (GOV.UK)
- Assessment of priority skills to 2030 (Skills England, GOV.UK)
- AI and Defence: Insights from the Strategic Defence Review 2025 (Burgess Salmon)
- Quantum AI in Defence: Applications & Challenges (LinkedIn)
- A "War-fighting Ready" Workforce? Tackling UK Defence Skills Shortages in the 2025 SDR (Policy Connect)

This comprehensive evidence base highlights that the UK's warfighting capacity and industrial advantage in 2026 and beyond will be determined less by physical assets, and more by the nation's resolve and capacity to continually invest in, adapt, and mobilise the high-skill, tech-enabled workforce now driving the new era of defence.



About Morson Edge.

For over 55 years, Morson has supplied the specialist skills that power the UK's most critical aerospace and defence programmes from Tempest and Type 26 to Dreadnought.

We're the UK's #1 aerospace and defence recruiter but we don't just supply talent. With integrated capability of specialist talent supply, statements of work, project delivery and training solutions, we design and deliver the workforce architectures that make national capability possible.

www.morson-edge.com

Supplying specialist talent.