

On the radar: Evolving workforce and aerospace and defense firm needs

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The Aerospace Industries Association (AIA) has represented the aerospace and defense industry since 1919. AIA serves as an advocate and leader to help shape policy, shed light on the industry's impact, and fortify its future. CEO-level officers from across AIA's more than 300 member companies guide these efforts, helping to strengthen the industry's ability to enable America's national security and economy. AIA works with its membership's representatives through councils and committees to advise the government on critical issues and cultivate a unified perspective on the many challenges and opportunities facing the industry.

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Introduction

The aerospace and defense (A&D) industry continues to grow on favorable tailwinds and transform in response to technology disruption and market forces. As the world emerges from the global pandemic, both commercial aerospace companies and defense organizations also face the dynamic of a workforce with changing demographics and shifting employee expectations. To remain competitive and deliver against growing demand, A&D firms should adapt their talent practices to solve both their customers' and workers' evolving needs.





Background

Recently we spoke with a dozen A&D business leaders and talent executives whose firms are members of the Aerospace Industries Association.

In these conversations, we explored the business and labor trends they see shaping their workforces today and the risks and opportunities on the horizon. Bringing these insights together with industry data and PwC's Workforce Transformation team's experience working with A&D organizations, we identified the following critical trends and associated opportunities that help address the needs of both employers and employees. By adopting these strategies, A&D firms can create a mutually beneficial environment that fosters innovation, growth, and long-term success.

Tailwinds: Growth and technology driving demand

Commercial aerospace and air travel have largely recovered from its pandemic lows, with industry predictions that demand will exceed 2019 pre-pandemic levels by the end of this year.¹ Commercial aircraft manufacturing coupled with ~11% growth in MRO spend has put the industry on the glide path to full recovery. In recent earnings reports, some executives have noted improvements in global supply chains, albeit slowly, especially concerning the commercial aviation industry's ability to build and procure engines.²

Book-to-bill metrics signal order growth in commercial and private aircraft space, augmenting demand for engines and components. Higher in the sky, the commercial space industry is rapidly growing and transforming due to factors such as increasing investments in space exploration and evolving public-private partnership models.

The defense industry continues to experience solid quarter-over-quarter growth in its core segments as the Russia-Ukraine war and emerging threats in the Asia Pacific region drive record growth in defense budgets globally.

In 2022, global military spending rose by approximately 3.7%, a reflection of the growing geopolitical unrest.³ An aging installed base of defense products requires ongoing maintenance and heightened investments in advanced technology to upgrade older platforms also continues to contribute to growth.

The combination of these factors has resulted in record backlogs across much of the A&D sector, and companies are likely eager to meet that demand.

1. "Air Travel Set to Soar to Pre-Pandemic Levels in 2023: Un Aviation Agency | UN News." United Nations, United Nations, <https://news.un.org/en/story/2023/02/1133347>.
2. "Airline Recovery Boosts Jet Engine Makers" <https://www.wsj.com/articles/general-electric-ge-q1-earnings-report-2023-625cd601>
3. Iacurci, Greg. "2022 Was the 'Real Year of the Great Resignation,' Says Economist." CNBC, CNBC, 1 Feb. 2023, <https://www.cnbc.com/2023/02/01/why-2022-was-the-real-year-of-the-great-resignation.html>.

Headwinds: Workforce challenges limiting supply

Rising interest rates, supply chain disruptions, and global instability represent some constraints on commercial aviation, defense, and space organizations. Despite this, one of the biggest risks executives face in the industry is finding enough qualified talent to support demand growth amid retirements.

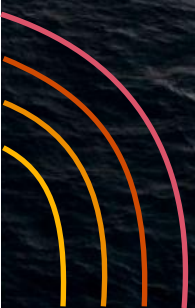
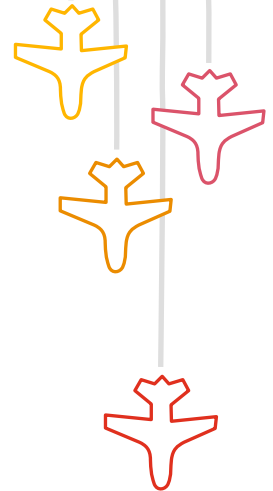
The labor markets' availability of workers with the right skills, clearances, and an interest in the industry is being reshaped by the evolving expectations of workers. Employees across varying stages of their lives and careers are likely looking for unprecedented levels of flexibility and well-being benefits. Expectations have also likely never been higher for jobs that offer career and development opportunities. And finally, workers are increasingly looking for jobs with fair compensation above all other factors, but also demonstrate a mission and purpose that aligns with their values. These expectations present unique challenges for employers who rely on touch labor, worksite security, and specialized skill sets.





It is worth noting that these workforce challenges do not affect all players equally. In our conversations, the impact of and reaction to each challenge, from hiring to compensation and retention, vary significantly between the industry giants and their smaller suppliers. In fact, some larger companies are facing pressure to reduce labor expenses and are developing headcount reduction plans. Given the symbiotic relationship between primes and their suppliers, it is critical for firms of all sizes to attract and retain talent in order to maintain the health of the A&D ecosystem and its ability to deliver against growing programs.

How can aerospace and defense companies attract, retain, and retire their employees successfully in the coming years? If faced with the need for layoffs due to an unstable economic environment, how should executives form strategic approaches when it comes down to workforce reduction? We explore the unprecedented and complex A&D environment and offer a perspective on effective talent strategies through five identified risk areas and associated opportunities below.



Risk Area 1: Attraction and retention of critical talent

Last year, quit rates were the highest on record, and our PwC 2022 Global Workforce Hopes and Fears Study indicated significant unevenness in retention.

College graduates aged 18-25 were three times more likely to quit their jobs than their Baby Boomer counterparts.⁵

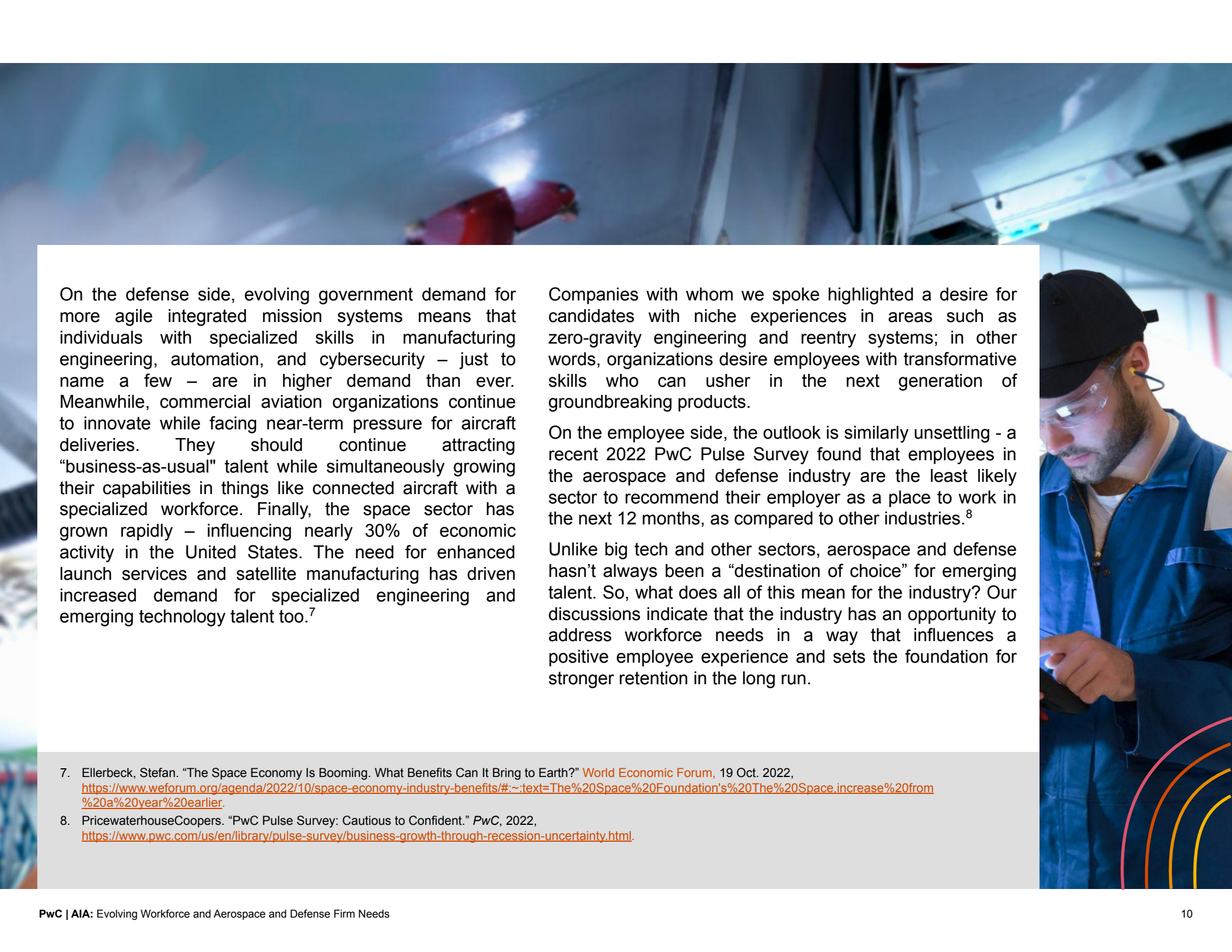
It goes without saying that the last few years have resulted in significant volatility in the talent market. Just twelve months ago, unprecedented demand for global talent and concerns over the “Great Resignation” fueled an “employee market,” in which over fifty million people left their jobs for higher-paying or more flexible roles.⁴

During this period, quit rates reached a record high, and our 2022 Global Workforce Hopes and Fears Survey indicated significant unevenness in retention. College graduates aged 18-25 were three times more likely to quit their jobs than their Baby Boomer counterparts.⁵ Today’s headlines of tech industry layoffs and return to office mandates reflect a shifting employer-employee dynamic, yet significant tightness still remains. Although job openings are beginning to tick down year-over-year and month-to-month, February 2023 data shows over ten million open jobs in

the United States or approximately two for every unemployed person.⁶

The macro challenges we laid forth have affected the commercial aviation, defense, and space industries in unique ways. While many of their high-tech counterparts are experiencing reductions in headcount and programmatic scale-backs, A&D firms continue to face unprecedented demand for talent with critical skill sets. Unlike last year when headcount needs were more widespread, the executives we spoke with pointed towards the need to focus efforts on growing a workforce that can meet their strategic and operational demands.

4. MacDonald, Alistair, and Doug Cameron. “Global Military Spending Hits Record amid Ukraine War, China Tensions.” *The Wall Street Journal*, Dow Jones & Company, 25 Apr. 2023, <https://www.wsj.com/articles/global-military-spending-hits-record-amid-ukraine-china-tensions-e8224262>.
5. “PwC’s Global Workforce Hopes and Fears Survey 2022.” PwC, <https://www.pwc.com/gx/en/issues/workforce/hopes-and-fears-2022.html>.
6. Mutikani, Lucia. “US Labor Market Loosening as Job Openings Approach Two-Year Low.” Reuters, Thomson Reuters, 4 Apr. 2023, <https://www.reuters.com/markets/us/us-job-openings-lowest-nearly-two-years-february-2023-04-04/>.



On the defense side, evolving government demand for more agile integrated mission systems means that individuals with specialized skills in manufacturing engineering, automation, and cybersecurity – just to name a few – are in higher demand than ever. Meanwhile, commercial aviation organizations continue to innovate while facing near-term pressure for aircraft deliveries. They should continue attracting “business-as-usual” talent while simultaneously growing their capabilities in things like connected aircraft with a specialized workforce. Finally, the space sector has grown rapidly – influencing nearly 30% of economic activity in the United States. The need for enhanced launch services and satellite manufacturing has driven increased demand for specialized engineering and emerging technology talent too.⁷

Companies with whom we spoke highlighted a desire for candidates with niche experiences in areas such as zero-gravity engineering and reentry systems; in other words, organizations desire employees with transformative skills who can usher in the next generation of groundbreaking products.

On the employee side, the outlook is similarly unsettling - a recent 2022 PwC Pulse Survey found that employees in the aerospace and defense industry are the least likely sector to recommend their employer as a place to work in the next 12 months, as compared to other industries.⁸

Unlike big tech and other sectors, aerospace and defense hasn’t always been a “destination of choice” for emerging talent. So, what does all of this mean for the industry? Our discussions indicate that the industry has an opportunity to address workforce needs in a way that influences a positive employee experience and sets the foundation for stronger retention in the long run.

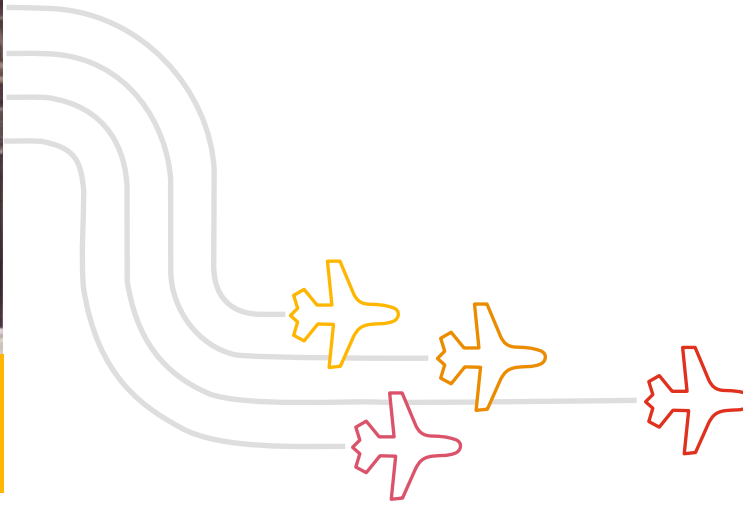
7. Ellerbeck, Stefan. “The Space Economy Is Booming. What Benefits Can It Bring to Earth?” *World Economic Forum*, 19 Oct. 2022, <https://www.weforum.org/agenda/2022/10/space-economy-industry-benefits/#:~:text=The%20Space%20Foundation's%20The%20Space,increase%20from%20a%20year%20earlier.>
8. PricewaterhouseCoopers. “PwC Pulse Survey: Cautious to Confident.” *PwC*, 2022, <https://www.pwc.com/us/en/library/pulse-survey/business-growth-through-recession-uncertainty.html>.

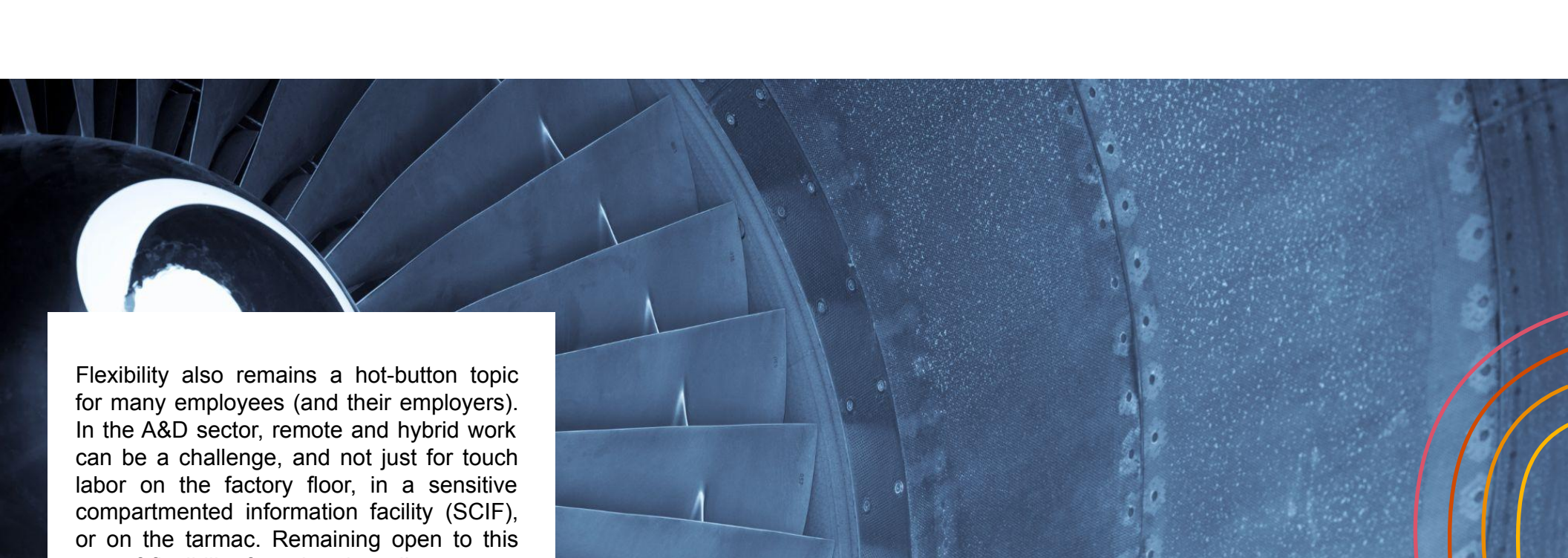


Opportunity 1a: Tailor HR programs to individuals' needs

To compete for leading talent, organizations need to foster a diverse workforce with vastly different skill sets and experiences working side-by-side. Employees no longer want a “one size fits all package,” but expect compensation, benefits, work arrangements, and other incentives such as educational support programs that take into consideration their unique experiential differences and individual needs. Addressing this begins with redefining the employee value proposition.

One executive noted “We’ve changed benefits to make them more attractive for employees at every life stage, rather than thinking they should be thankful to have a job” - this represents a meaningful shift from times when employers felt like they had the upper hand at the negotiating table.





Flexibility also remains a hot-button topic for many employees (and their employers). In the A&D sector, remote and hybrid work can be a challenge, and not just for touch labor on the factory floor, in a sensitive compartmented information facility (SCIF), or on the tarmac. Remaining open to this sort of flexibility for roles that allow remote work can go a long way when attracting talent such as technology workers who may have been impacted by recent layoffs. We see leading companies closely reviewing roles to understand if they can be re-engineered to allow for remote work, as well as providing a standardized framework for managers to apply which embraces productive, flexible work within their teams. Keep in mind that “flexibility” does not only apply to the place of work – flexibility of schedule and hours are key levers as well, and 4/10 and 9/80 schedules are already embraced by many A&D firms across both their frontlines and back offices.

Flexibility also has particular relevance to certain employee life stages. A defense leader shared,

The core wants and needs of the workforce vary significantly based on their life stages; the most successful businesses we’ve partnered with tailor their offerings to address those unique needs.

We’ve laid out some key generational considerations from our PwC Global Hopes and Fears Survey together with A&D-specific opportunities below.⁵




5. “PwC’s Global Workforce Hopes and Fears Survey 2022.” PwC, <https://www.pwc.com/gx/en/issues/workforce/hopes-and-fears-2022.html>.



“We are rolling out a formal phased return to work programs for new parents and phased retirement programs for our more tenured workers. We are being very deliberate. [In the past], it depended on managers getting creative with individual situations, but these are now programs we market and talk about as an organization.”

HR Executive, AIA Member Firm

Employers have an opportunity to curate the employee value proposition to meet each generation's unique desires

 Generation	 Desires	 Employer Opportunities
Gen Z	Flexibility, rapid career growth, recognition, work-life balance	<ul style="list-style-type: none"> • Implement flexible work arrangements, even for staff in SCIFs (e.g., 4/10 and 9/80 schedules) • Develop well-defined career pathways • Create mechanisms for formal and informal employer recognition
Millennials	Flexibility and benefits for family planning, competitive pay, career development	<ul style="list-style-type: none"> • Create mechanisms for formal and informal employer recognition • Benchmark and redesign pay scales against geography and industry • Design robust manager learning experiences • Develop well-defined career pathways
Gen X	Job security, competitive pay, robust healthcare offerings	<ul style="list-style-type: none"> • Provide visibility into business performance • Benchmark and redesign pay scales against geography and industry • Focus on well-being oriented benefits • Provide competitive retirement plans and benefits offerings
Baby Boomers	Retirement benefits, flexibility	<ul style="list-style-type: none"> • Provide competitive retirement/pension and benefits offerings • Create Alternative Work Arrangements (AWAs) where possible to enable staff to work reduced hours and retain benefits as they approach retirement • Consider “return” programs for those who left the workforce and are looking to re-engage for financial or other reasons





Opportunity 1b: Adopt a skills-based approach to talent management

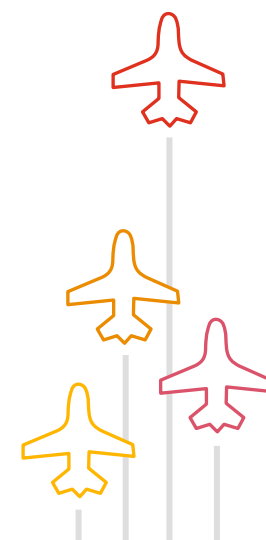
Think about some of your highest performing workers across different parts of your organization. Do they all have the same educational degree? Or the same prior work experience? We often find that companies (and their hiring managers) are over-reliant on minimum qualifications surrounding college degrees, fields of study, years of work experience, or other factors to select candidates. In the context of a tight labor market and the push across the A&D industry to increase workforce diversity, we see leading organizations refocusing away from these requirements to a skills-based talent management approach.

In practice, this starts with establishing a way of looking at roles and the work to be done in terms of the skills and capabilities required. At the heart of this skills-based talent management approach is a skills taxonomy (or ontology) and a job architecture that links specific skills to each position.

When our clients start down this path, they frequently find that their job descriptions need significant cleanup and that existing views of capabilities that are used in areas such as training are incomplete. But there are numerous benefits of building out this new view of your talent supply and demand across the employee lifecycle.

First, a skills-based approach can effectively expand your recruiting funnel. By hiring for specific skills versus legacy requirements of formal education or qualifications, companies open the aperture to a world of candidates who may be well-suited for a job but have a “non-traditional” background such as vocational experience, or who are self-taught. As one executive stated, “We are looking for folks who work on ships, folks who work on pianos. We’re looking completely outside of the box to figure out, really, does this person have to have a degree? Why? Do they have to speak fluent English? Why?” A number of the executives with whom we spoke are already working with community colleges, trade schools, or other certification programs to develop and source talent.

Having a clear view of the skills required for in-demand and emerging jobs can help provide a roadmap to inform the curricula of providers with whom you have relationships.



Second, a skills-based model can form the basis for effective learning and development (L&D) programs, allowing organizations to focus programs on upskilling or cross-skilling workers in specific areas that can drive a greater return on L&D investment. Employees also appreciate this approach, as it likely allows for transparency within career paths. Say someone is a program manager today and wants to become a quality engineer; a skills-based job architecture can help to clarify what skills they need to develop to position themselves for that role and link them to the right training and development resources to get there. Similarly, this skills-based view of jobs can allow for more effective performance management by providing a transparent framework to be used along with goal setting.

Finally, bringing a skills-based job architecture together with strategic workforce planning (see Risk Area 3 and associated opportunities) allows your company to understand what skills will be most critical to the organization to deliver on its programs and achieve its strategy. For individuals who have those skills, compensation may vary relative to the market.



**Compensation
and Incentives**


**Talent
Acquisition**

**Job & Skills
Architecture**

**Performance
Management**

**Learning and
Development**

Leading talent organizations use a job and skills architecture as an underlying framework to link hiring, development, performance management, and compensation. Our discussions with leaders highlight that organizations that can successfully message their talent strategy to staff and make the experience personal for them are less likely to experience attrition in critical roles.



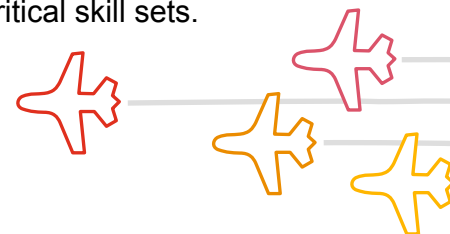
Opportunity 1c: Empower employees with a mission and purpose

Organizations serving commercial aviation, defense, and space markets have ample opportunities to establish a clear mission and purpose that can resonate with candidates and employees. With the resurgence of air travel, the concept of connection and exploration has been top of mind for many employers. On the defense side, emerging threats in the Asia-Pacific region alongside the ongoing Russia-Ukraine war have generated significant investment in global warfighter readiness. With the recent introduction of the Space Force and ongoing emphasis on space exploration, mission and purpose are top of mind for many employers. Translating core values and employer purpose can be paramount to generating excitement and keeping employees engaged. One caveat that we have heard is that how A&D firms articulate their mission may not appeal to all employees as much as it did in the past. This is a topic we plan to dive into more deeply in future research with labor market participants.

It can be easier for large organizations like the defense primes to define and demonstrate their mission to employees – after all, many touch

labor employees are directly involved in creating things like fighter jets, satellites, and unmanned vehicles – so they directly see the results of their work. Connection to the greater mission and purpose behind work can be more challenging for firms in the supply chain that are not creating an end product. One executive at a supplier highlighted, “Our customers use what we produce to build a satellite thirty minutes down the road, but in our facility, it just looks like a metal piece that goes in a box. If our people understand that it’s going into an extraordinarily complex satellite, they may be more engaged.” That executive was beginning to have his workers take field trips up the road to experience the impact of their work. Another executive emphasized that there is a lot more focus on practical, end-to-end learning experiences to connect employees to the end products they are building and upskill individuals to more effectively coordinate with other organizations in the supply chain.

Ultimately, critical labor is more likely to be retained when they can connect their work to a broader mission and purpose. Pairing this with growth opportunities to enhance their technical acumen creates incentives for employees to remain at their companies. Some suppliers have started coordinating with their customers to “bring the end product to life,” while others are proposing secondment programs that allow staff to spend time in other organizations to enhance their connection to the mission while also growing their critical skill sets.



Risk Area 2: Defense's need for cleared talent

As global threats emerge and investments in the defense and space industry surge, a significant opportunity exists to rethink how the industry recruits for cleared roles. Despite the federal government's ongoing efforts to streamline and simplify the clearance process via Trusted Workforce 2.0, significant numbers of unfilled cleared roles remain in the pipeline. Part of this can be attributed to the lack of flexibility for many cleared roles (i.e., SCIF requirements), making these roles less desirable for top talent, especially in the post-pandemic hybrid world.⁹

Another key challenge is that in many cases, roles that are even tangentially attached to a cleared program require clearances, even if the people in those positions are not actively interfacing with government proprietary materials, information, or processes.

ClearanceJobs estimates that firms can lose an average of \$20,640 per month for a single cleared role that remains unfilled.¹⁰ As of 2022, the number of cleared jobs in the United States has risen almost 1,000% since 2014, while the number of candidates for those roles rose less than 10%. As of June 2022, there were approximately 73,000 unfilled cleared roles in the United States.¹¹

While many organizations recognize that unfilled positions mean unrealized revenue on program-facing roles, many leaders we've spoken with acknowledge their organizations experience challenges filling these positions. This is not a novel challenge, as organizations have struggled with the supply of cleared individuals against the demand for their talent for decades.

9. "Trusted Workforce 2.0 and Continuous Vetting." Defense Counterintelligence and Security Agency, <https://www.dcsa.mil/mc/pv/cv/>.

10. Keller, Katie. "How Much Does an Unfilled Position Cost Your Company?" ClearanceJobs, 24 Apr. 2023, <https://news.clearancejobs.com/2023/03/30/how-much-does-an-unfilled-position-cost-your-company/>.

11. Kyzer, Lindy. "Security-Cleared Worker Shortage Delays Air Force One Production." ClearanceJobs, 14 June 2022, <https://news.clearancejobs.com/2022/06/13/security-cleared-worker-shorter-delays-air-force-one-production/>.

Opportunity 2a: Reevaluate your talent sourcing strategy

Traditional recruiting efforts have been limited in their ability to identify, attract, and hire sufficient cleared candidates or those willing to go through a clearance process. Leveraging cleared job fairs, job boards, and specialized staffing agencies are common “must dos” for organizations to source candidates with the right clearance levels. Another rich source is veteran recruiting given that 37% of clearances are held by active-duty military staff.¹² Coordination with military bases, government agencies, and affinity groups can help organizations source candidates who are retiring from active duty and already hold clearances.

12. Kyzer, Lindy. “How Many People Have a Top Secret Security Clearance?” *ClearanceJobs*, 17 Aug. 2022, <https://news.clearancejobs.com/2022/08/16/how-many-people-have-a-top-secret-security-clearance/>.

Some additional approaches that we have seen companies with clearance needs adopt include:

Leverage social media

Using social media platforms to reach out to individuals who work in the defense or intelligence community to see if they are open to new opportunities; if these individuals are not currently looking, consider tracking them in a candidate relationship management system for follow-up in the future

Offer enhanced referral bonuses

Offering referral bonuses to current employees who refer their contacts with clearances who may be a good fit with the company; if you have existing referral bonuses, consider offering higher payouts for successful sourcing of cleared workers

Deploy targeted advertisements

Deploying targeted advertising to reach potential candidates with clearances, including advertising on websites or forums that are frequented by individuals in the defense or intelligence community

Onboard staff early

Providing internships or apprenticeships to individuals who are in the process of obtaining clearances to get them into the pipeline and onboarded in advance; combining this approach with outreach at community colleges and vocational programs/trade schools could create even more talent supply





Opportunity 2b: Reimagine cleared work

If you have a significant recruiting gap for cleared roles, the solution likely needs to be bigger than enhanced hiring efforts. We heard from one executive at a defense company who shared how they were digging into the point at which clearances are required in a given new work effort; in the past, a work package that had a cleared component might be handled end-to-end by someone with a clearance, but by getting more precise on when in the process the work product passed the threshold of, say, top secret they can delineate the activities over time into clear and non-cleared.

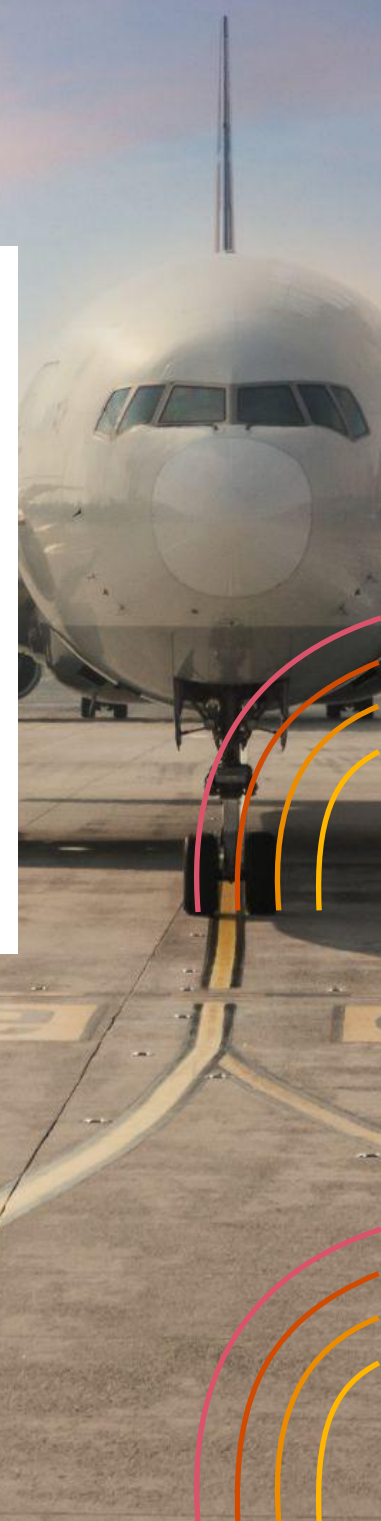
This type of work package delineation is the result of coordination between human resources (HR), the business, and the customer to decompose and resize work efforts into cleared and uncleared activities.

This process requires the active engagement of these stakeholders starting with the RFP process. The result of these discussions can not only lead to better scoping of clearance needs but also more effective workforce planning overall.

An AIA member firm executive shared, “The challenge is less about the clearance itself. It’s more about being in a Sensitive Compartmented Information Facility (SCIF). It’s hard to find people who are okay being locked away from their phones and the rest of the world for 40 hours a week.”

The opportunities discussed above under Risk Area 1 on embedding flexibility in the form of 4/10 or 9/80 schedules have helped this company in making these roles more attractive to candidates.

Finally, as the federal government continues to transform its personnel vetting process, government contractors should continue to lobby for new methods of engagement that ameliorate the cleared talent shortage. Ultimately, customer requirements dictate much of the progress that can be made around redefining clear work. Further discussions regarding how to decompose work packages into cleared and non-cleared components will likely require active participation between customers, contractors, and industry alliances to revisit the view on cleared work.





Risk Area 3: Emerging retirements across manufacturing

High rates of retirement-aged workers pose another significant challenge on the horizon for the aerospace and defense industry. Employees with specialized skills, long tenures, and deep institutional knowledge may be preparing to leave the workforce. Research shows that over 29% of the industry's workforce is over the age of 55, creating waves of retirement impact that will last 10-20 years into the future.¹³ These retirements will create a projected gap of 3.5 million workers by 2026,¹³ increasing the pressure to hire in an already competitive marketplace.

We've already seen these retirements begin to materialize during the pandemic. Specifically, shipbuilding has experienced significant retirement-based attrition.¹⁴ Other munitions organizations, especially ones with a presence outside of large metroplexes, have struggled to replace retiring talent as some individuals may not find living in remote areas as attractive. Finding skilled talent to serve as a one-for-one replacement for these retirees can be daunting. On one hand, tech and biotech organizations are vying for top engineering talent with promises of flexibility, high salaries, and career development opportunities. In parallel, other manufacturing and touch labor industries are also competing for the same skilled labor in many major markets.



Retirements will create a projected gap of 3.5 million workers by 2026, increasing the pressure to hire in a competitive marketplace.¹³



13. Flynn, Dan. "Whitepaper – Digital Transformation Solutions: The Key to Solving Critical Workforce Challenges in Aerospace & Defense." [Librestream](https://librestream.com/form-confirmations/whitepaper-digital-transformation-solutions-the-key-to-solving-critical-workforce-challenges-in-aerospace-defense/), <https://librestream.com/form-confirmations/whitepaper-digital-transformation-solutions-the-key-to-solving-critical-workforce-challenges-in-aerospace-defense/>.

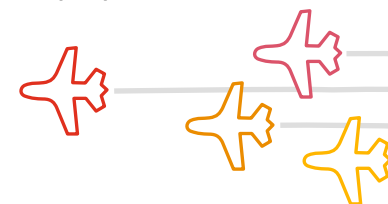
14. MacDonald, Alistair, and Doug Cameron. "Weapons Makers Can't Hire Enough Workers as Ukraine War Drives Demand." The Wall Street Journal, Dow Jones & Company, 24 Apr. 2023, <https://www.wsj.com/articles/weapons-makers-cant-hire-enough-workers-as-ukraine-war-drives-demand-d1b74bee>.

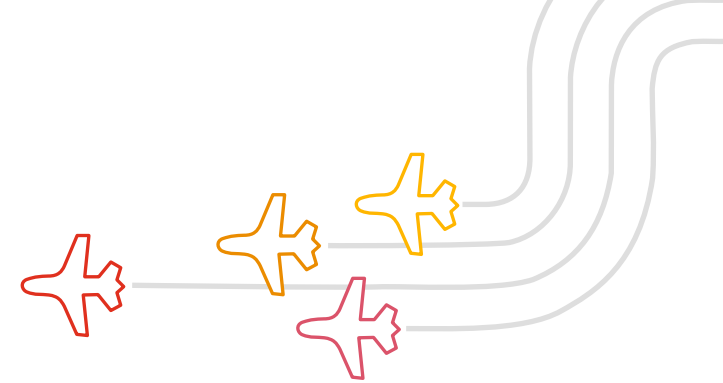


Opportunity 3a: Reengineer roles through strategic workforce planning

However challenging, this pending retirement gap can create an opportunity. Effective workforce planning is likely more important than ever in today's marketplace. Traditional roles, operating models, and work arrangements likely won't be enough to drive progress. Rather than seeing a need for direct replacement of the skills and experience of retirees and recycling their job description back onto hiring platforms, take a moment to reassess. Start by understanding the employee's job profile – are they what we consider “touch labor,” or are they in a functional / back-office role? Then, evaluate the role more holistically. For example, could this employee's responsibilities be allocated to multiple existing employees? Are parts of their job description no longer necessary? Could this role be performed effectively with a part-time arrangement? Could a contractor or outsourcer be able to do some activities at a competitive price point? Could some of their responsibilities be automated or replaced with artificial intelligence? By reassessing roles and responsibilities within these organizations, qualified talent across the board can see aerospace and defense as a fresh option.

Armed with a vision for talent, vacancies resulting from retirements can present a great opportunity to make a strategic and intentional play. Assess the need for full-time replacements versus re-engineering job activities to be delivered in alternative ways. Identify opportunities for automation, as well as flexibility in hours and location for specific roles. Monitoring the impact of these changes along the way will help identify risk areas and success stories as companies prepare for the next wave of retirees.





Tying business strategy to workforce planning

Step 6

- Identify key metrics
- Identify dashboard technology platform
- Launch monitoring effort
- Provide regular updates to the business

Step 5

- Implement plan and governance structure
- Identify risks or issues as they arise and mitigate where possible
- Prepare for the next regularly-planned cycle or trigger-based occurrence

Step 4

- Develop talent acquisition strategy and plan for remediation
- Conduct scenario planning
- Validate talent strategy and action plans with business leaders



Step 1

- Analyze business strategy to identify talent needs
- Diagnose the organizational genome-the attitude, ethos, and culture of the organization

Step 2

- Identify the inventory skill and competency requirements necessary to support the business strategy
- Project future need for talent, timing, expertise, and location

Step 3

- Access talent pool against competency models
- Analyze market trends
- Compare your compensation strategy and value proposition to the market and competitors
- Conduct talent gap analysis

Continual monitoring of progress helps keep the action plan on target with the business strategy.

Re-engineered roles don't only benefit new talent; they can also offer growth opportunities for existing employees. If the job responsibilities of a departing senior engineer can be divided into smaller components and distributed across the department, less-tenured employees can take on new challenges and bring fresh perspectives to the table. They can be given additional leadership opportunities, upskilling, ownership of critical activities, and room for advancement.


When companies effectively distribute responsibilities in this way, employees can have a greater sense of ownership over the broader business strategy, as well as their careers. As the executive at another AIA member organization told us, "If you, [the employee], are going to be here in 10 years, what do you want to be making? What do you want to be fabricating? It is also important that you are engaged in that roadmap. It is part of your leadership development, whether it is intentional or not, doing those types of things."

Not only can these stretch activities be good for employees, but they can also be a boon to the business. A study of nearly 18,000 companies in 28 countries found that task agility, or the ability to switch tasks among coworkers to effectively meet business needs, is positively correlated with process innovation.¹⁷ In an industry that focuses on innovation as its north star, introducing flexibility and creativity in workforce planning can be mission-critical. As responsibilities are spread to existing employees, hiring costs are likely reduced as well. The average cost of losing a frontline worker is \$12,876, with the cost of skilled roles topping \$45,000, according to a survey of 150 manufacturing companies.¹⁸ With aerospace and defense vacancies in the millions, the cost of hiring can be enormous. Re-engineering the traditional operating model could offer significant cost savings in an already pressed economic environment.



15. Franco, Chiara, and Fabio Landini. "Organizational Drivers of Innovation: The Role of Workforce Agility." *Research Policy*, vol. 51, no. 2, 2022, p. 104423., <https://doi.org/10.1016/j.respol.2021.104423>.

16. Schwantes, Marcel. "Why Are Frontline Workers Really Quitting? You Can Boil It down to 1 Simple Fact." *Inc.com*, 20 Apr. 2022, <https://www.inc.com/marcel-schwantes/why-are-frontline-workers-really-quitting-you-can-boil-it-down-to-1-simple-fact.html>.



Opportunity 3b: Proactive succession planning

High levels of retirement can not only pose a headcount challenge, but a significant knowledge exodus as well. Industry knowledge can be an essential pillar of a successful employee, and the depth of industry knowledge that is accumulated over a 30+ year tenure is almost irreplicable. Unfortunately, much of the touch-labor performed has never been formalized, which can create huge gaps of information loss. The routines A&D employees have found themselves replicating every day for the past 20 years may not seem so self-explanatory to a college graduate whose knowledge may be based on a mechanical engineering class they took junior year. This poses the question of how to cascade this type of niche knowledge onto future employees.

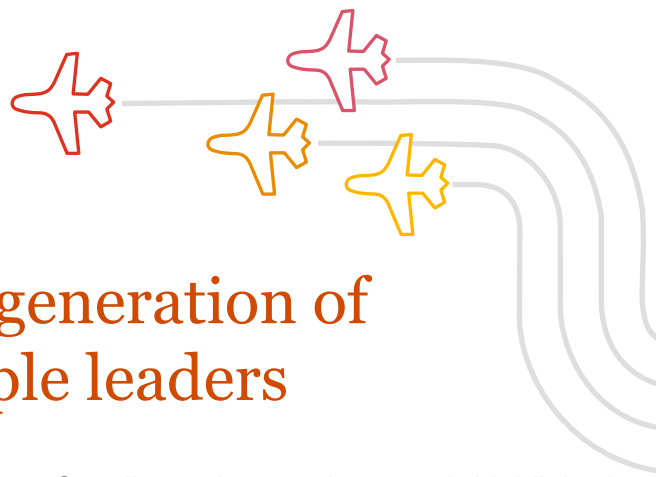
Mentorship and on-the-job training programs are a tried-and-true way of educating employees about the ins and outs of the industry. Succession planning should be heavily emphasized through formal skills development programs and the early identification of high-potential individuals. This type of planning can lean into the employee's desire for career progression by showing them the roles they will likely eventually grow into. Succession planning can also allow organizations to be agile when it comes to change, as the right leaders will likely be in place if a change happens quickly or unexpectedly. It fosters workforce continuity by priming candidates for roles they may fill in the future and helps establish loyalty to the company as employees likely feel confident in their career progression. As we heard from an AIA Member Executive, "Adaptability and coachability are more important today than ever. I'm teaming seasoned individuals with less experienced individuals to get that dynamic and knowledge transfer to work. No online training can do that [knowledge transfer], they need to be with them at the desk." These mentorship programs can be formal and structured, but even minor changes can have big results. As one AIA member HR executive stated, "I'm a big fan of sharing offices. Have an experienced employee and a less experienced worker share an office." By placing a higher emphasis on mentorship and career development programs, companies can capture the tacit knowledge of their retiring workers and build leadership skills within successors.

Opportunity 3c: Next generation knowledge transfer

Using recent technological advancements is another way to combat issues surrounding knowledge transfer. In an interview with an AIA Member Executive, he explained, “New employees likely don’t want to look at a three-ring binder. They want to watch videos on their smartphones to learn what they need to do.” This opens the door for an array of new and exciting technology, whether it be virtual reality (VR), augmented reality (AR), or bite-sized online videos. VR headsets displaying content that mirrors the shop floor and maps out the daily tasks of employees can help immerse new trainees as well as test their current level of knowledge using embedded checkpoints and questions. AR can be deployed using “digital twins” of the manufacturing environment, giving workers a digital overlay to understand the operations, safety considerations, and maintenance needs of equipment.

Artificial intelligence is another growing technology asset that can benefit the business. AI-supported advanced analytics can be used to identify roles that may not require backfill because the job activities can be done via automation. Generative AI is also rapidly emerging as a tool that can help with knowledge transfer through applications such as chatbots and tailored training, as well as offering the potential to improve productivity, particularly in middle-office and back-office roles.

Back on the human side, think about retirees as a force multiplier to intelligently prepare and shape the workforce of the future. Whether as coaches and mentors or part-time workers, companies can use those who are considering leaving the labor force to relieve headcount pressures, develop their people, and propel themselves into the future of aerospace and defense.



Risk Area 4: A new generation of post-pandemic people leaders

While the pandemic offered newfound flexibility and technology-enabled ways of working, the lack of in-person collaboration and engagement resulted in significant gaps in people management and development across the entire workforce.¹⁹ Many executives we spoke to highlight the critical need to upskill managers on everything from giving and receiving feedback to revisiting fundamental functional skills that may have fallen off within the virtual world. In fact, only 14% of CEOs believe they have the leadership talent they need to grow their businesses.¹⁹

One executive we spoke with mentioned that "with the amount of hiring and turnover we've had, there's a lot of new managers. During the pandemic, there was a lot of "click and learn" on how to be a leader – we are pivoting to more experiential learning, like role-playing scenarios, and restarting our focus on teaching them the basics."

Our discussions and research highlight that the attraction, engagement, and retention of talented leaders can be critical to long-term business resilience. The ability to develop leaders effectively has become very important.

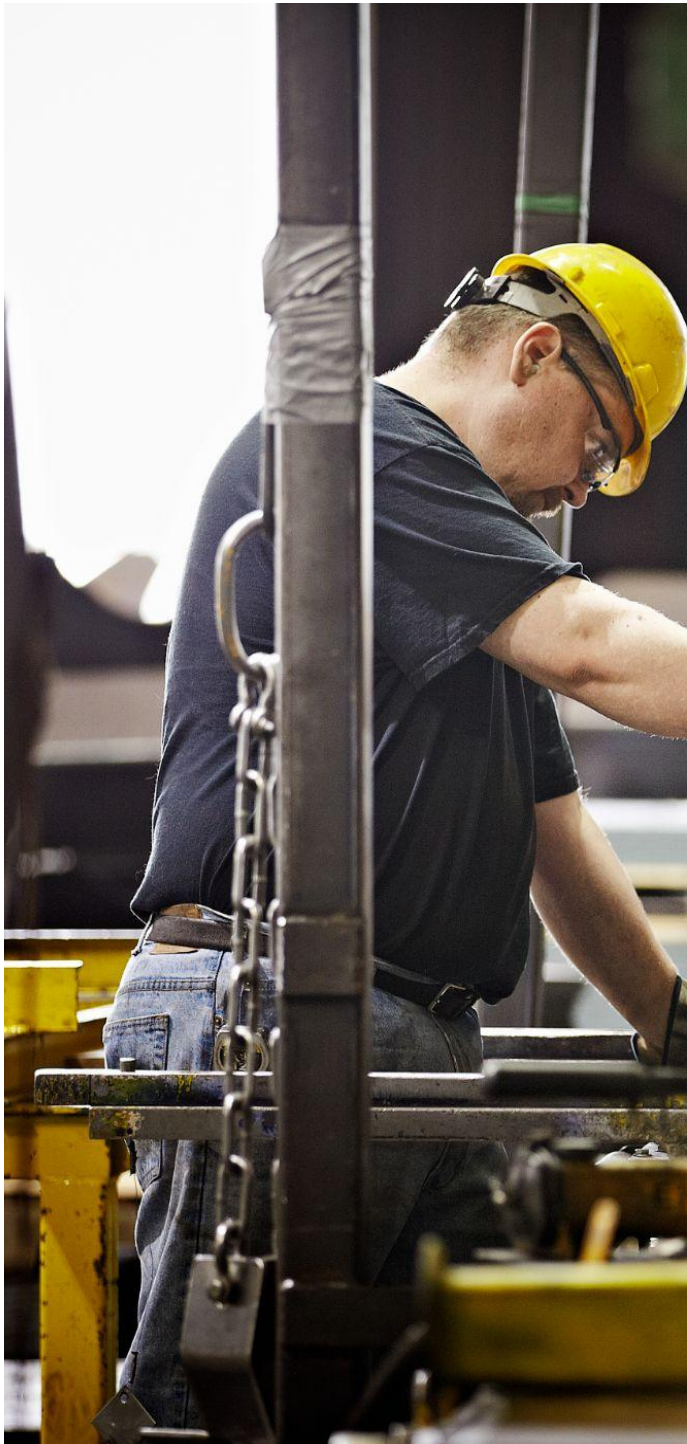
Opportunity 4: Build learning experiences that keep leaders engaged

Meaningful learning experiences improve employee engagement while providing an opportunity for workers to grow both their leadership and functional skills. Manager learning pathways that are tailored to an organization's mission, purpose, and values can accelerate leadership readiness and help usher in a new era of people leaders who are focused on more than just tactics.

At PwC, we coach organizations to look at leadership development through multiple lenses to confirm that emerging leaders demonstrate agility, a growth mindset, and technical excellence.



17. Caprino, Kathy. "The Changing Face of Leadership: 10 New Research Findings All Leaders Need to Understand." *Forbes*, Forbes Magazine, 12 Oct. 2022, <https://www.forbes.com/sites/kathycaprino/2018/02/28/the-changing-face-of-leadership-10-new-research-findings-all-leaders-need-to-understand/>.



We also work with our clients to develop immersive learning experiences using emerging technologies. In building diversity, equity, and inclusion training, we've found that virtual reality-based programs can upskill employees in soft skills 4x faster than traditional learning approaches and that learners are almost 3x more confident in applying their learnings in a real-life setting.²⁰ In this example, the goal was to develop executive-level leaders who can communicate with diverse audiences. Implementing VR learning as part of a blended learning curriculum can create more competent and confident leaders who have experience in problem-solving and managing complex challenges.

Transforming manager learning experiences

Innovation

Proactively seek opportunities to continuously reimagine how we can create more value.
Innovation/Creativity/Optimism/Reframing/Rapid Experimentation

Service excellence

Deliver excellence by understanding the requirements of the organization, needs of others, generating insights & providing meaningful value.
Corporate Governance/Board Interactions/Investor Relations

Communications

Drive engagement with others by sharing vision, insights and value creation.
Influencing/Value Articulation/Listening/Storytelling



Emotional intelligence

Use empathy, self-awareness and emotional management to effectively navigate and shape interactions with others.
Self-awareness/Empathy/Emotion Management

Agility

Adapt quickly and effectively to change, complexity and uncertainty, always looking for new learning and experiences.
Agility/Learning Agility/Change Resilience

Collaboration

Working with other to achieve shared outcomes by inspiring and fostering inclusion, trust-based relationships, personal growth and sustainable high performance.
Inclusion & Belonging/Relationship & Team Building/Coaching & Feedback/Well Being

18. PricewaterhouseCoopers. "What does virtual reality and the metaverse mean for training?" PwC
<https://www.pwc.com/us/en/tech-effect/emerging-tech/virtual-reality-study.html>

Risk Area 5: Emerging cost-takeout requirements

While the A&D industry is benefitting from a return to commercial air travel and global investment in defense capabilities in the face of overseas conflict, our discussions with some executives highlighted a heightened shareholder desire for cost optimization where possible, including within the workforce. However, the traditional approach to headcount reduction based on blanket metrics for staff reduction across the board ignores a business imperative: critical workforce skills and differential growth of some sub-sectors within A&D firms. Strategic workforce planning provides a valuable lens to evaluate cost savings plans.

“To keep resources in the industry, the larger companies are going to have to help the smaller companies. In some cases, if we can’t make the parts, we shut down their lines. If rotations are planned, it’ll be a lot less disruptive.”

Business Executive, AIA Member Firm

Opportunity 5: Consider talent exchange programs

The aerospace and defense industry is a vast ecosystem, with a diversity of skills and a sweeping supply chain. Organizations facing layoffs should think outside of the box. When industry giants consider headcount reduction just as suppliers and other small players are thirsty for talent, the secondment of employees from one firm to another can provide short-term solutions to often short-term problems.

Programs like externships allow companies to lend their talent to non-competitors for a set timeframe, helping to provide employees with flexibility and exposure to different parts of the value chain. Smaller organizations can gain the skills of experienced employees, while larger companies can retain key talent, even in times of low production need. A business executive and AIA member from a supplier explained, “To keep resources in the industry, the larger companies are going to have to help the smaller companies. In some cases, if we can’t make the parts, we shut down their lines. If rotations are planned, it’ll be a lot less disruptive.”

Not only can these solutions help reduce program risk, but they can improve the employee experience. Workers become more well-rounded, gaining skills and knowledge that they can carry back to their original employer, likely with higher eligibility for advancement and leadership. These opportunities for employees to take on stretch assignments, gain exposure, and develop unique skill sets can offer the flexibility and career development needed to stay engaged.

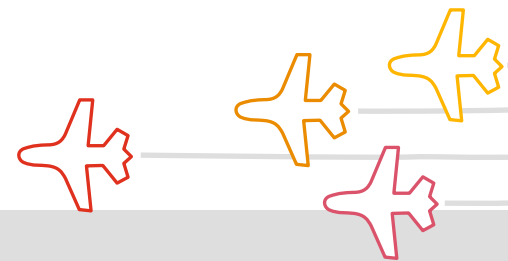


In closing

From our conversations with AIA's members, other A&D leaders, and in-depth research, we have identified several key areas in which the relationship between employer needs and employee wants is a continuous balancing act.

A&D firms can begin to address the risks of talent attraction and turnover, specialized skills needs, clearance delays, and rapid retirement through reimagined total rewards, creative workforce planning, externships, and training with advanced technology – all while striking the right working balance that can fuel growth and innovation for sustainable success.

In the coming months, we will benchmark workforce KPIs with AIA members and conduct an in-depth survey of the aerospace and defense labor force to understand their hopes, wants, needs, and fears. With this data, we will develop recommendations for the industry as it continues to grow and transform.



Authors' note

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