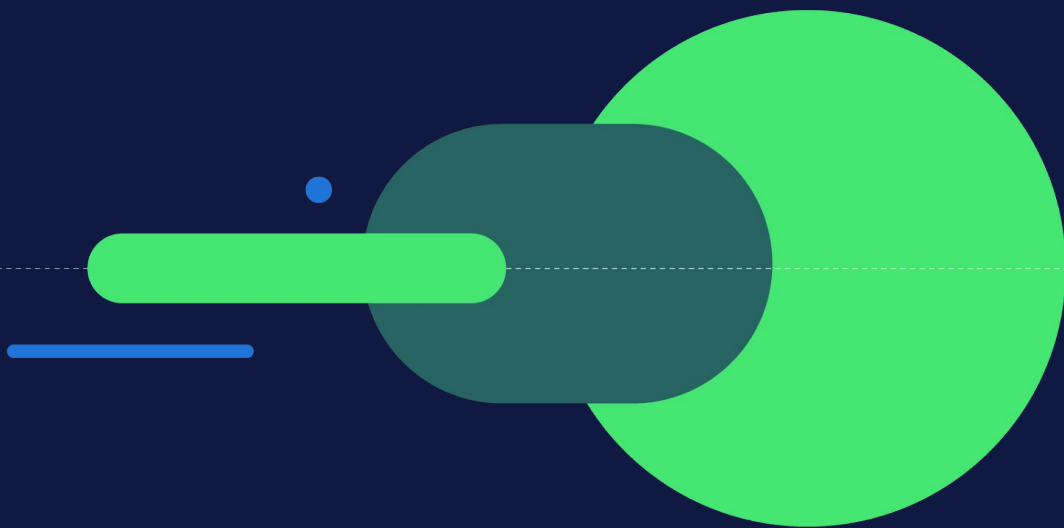


defence industry

market & talent landscape - Australia



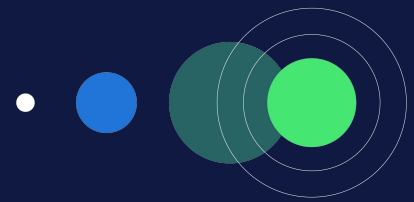
June 2025



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executive summary.



01

understanding
the Australian
defence &
Defence Industry



Australia's defence expansion, propelled by AUKUS and the Integrated Investment Program, includes the A\$268–368B AUKUS Pillar I Submarine Program (acquiring up to five Virginia-class submarines and building SSN-AUKUS submarines in South Australia from the early 2040s), A\$18B for domestic missile manufacturing aiming to produce 4,000 guided weapons annually by 2029, and A\$11.1B in naval shipbuilding and fleet upgrades expected to create up to 20,000 defence roles over 30 years—collectively redefining Australia's strategic posture, industrial strength, and workforce landscape.

02

employment
growth



Defence workforce demand is accelerating. To meet strategic needs, the sector must add 20,000 roles over the next 30 years. However, the workforce has already declined by 6% over the past year, leaving ~7,000 roles unfilled. High-demand occupations include shipbuilders, technicians, cybersecurity specialists, and engineers. Without a coordinated national skills strategy, this employment gap may widen, risking delays to critical programs.

03

talent
shortages and
skill gaps



Australia faces significant capability gaps across critical defence domains, including a national shortfall of over 25,000 cybersecurity roles, a shortage of systems engineers and technicians affecting 53% of key ADF categories, and limited training coverage in space and software engineering, with only 28% of providers offering programs in 86 high-intensity space skills; compounding this, just 25% of engineering students graduate on time, and workforce pipelines remain too slow to meet defence project timelines.

04

blue-collar trade
shortages



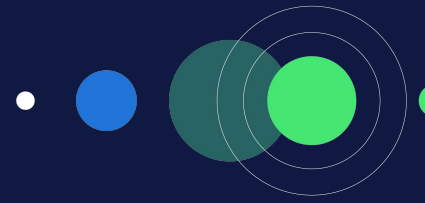
Skilled trades and blue-collar roles face critical shortages across Australia's defence sector. A projected shortfall of 70,000 welders by 2030 is compounded by the fact that fewer than 5,000 currently meet defence-grade standards, and less than 10% are qualified for submarine and naval fabrication. Shipbuilding and sustainment programs are expected to require a threefold increase in the trade workforce by 2035, yet technician shortages in key areas—such as electrical, mechanical, and composite fabrication—pose significant risks to delivery timelines, especially for submarine and naval vessel construction.

05

migration
constraints and
talent access



Migration has historically filled critical labour gaps in defence-adjacent sectors, with over 56% of Australia's 67,000 welders born overseas—mainly from the Philippines, India, and the UK. These workers have been essential to shipbuilding, infrastructure, and fabrication. However, post-pandemic migration limits and strict citizenship/security clearance requirements—especially for AUKUS-aligned programs—have sharply reduced access to overseas workers. This bottleneck worsens domestic shortages in regions with limited local talent, risking delays to major defence projects. Submarine and naval programs alone will require up to 20,000 workers over 30 years, including 4,000–5,500 for submarines, further stretching local pipeline.



06

submarine
industry workforce
demand



Australia's submarine program alone will require over 4,000 highly skilled workers in Adelaide over the next two decades, demanding a dramatic expansion in fabrication, nuclear systems, propulsion, and systems engineering capabilities; long-term pipelines for welders, pipefitters, reactor technicians, and marine systems engineers are essential, yet current workforce supply remains under 10% of projected need—posing a serious risk of significant delays to SSN-AUKUS timelines without immediate investment in training and relocation incentives.

07

workforce
transferability and
mobility



Australia's defence sector faces significant talent leakage due to high skill transferability to better-paying sectors like mining and energy, where salaries for similar roles can exceed A\$150,000. At the same time, 48% of defence roles are based in regional areas, but only 21% of professionals are willing to relocate—limiting internal redeployment and straining project delivery. This dual challenge of external mobility and geographic immobility hampers workforce retention and flexibility across critical defence programs.

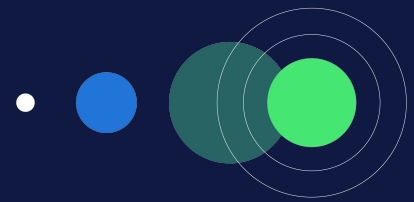
08

talent attrition
and demand



Australia's defence sector reports an estimated attrition rate of 9%, significantly higher than that of the U.S. 3%. For every worker redeployed within defence, another exits the sector entirely—creating a zero-sum challenge that erodes workforce continuity. Wage disparities of up to 30% compared to private sectors, limited regional mobility, and an aging workforce are key drivers. Without aggressive retention efforts—especially in submarine and cyber domains—Australia risks systemic delivery bottlenecks across its defence priorities.





barriers to talent supply



aging workforce: 48 is the average age for engineers; up to 25,000 nearing retirement within 5 years



negative perception: 1 in 3 young professionals plan to exit defence within 6 months



skills mismatch & digital illiteracy: 75% of firms can't find qualified tech talent; 40% of adults lack digital fluency



security clearance delays: PV clearance takes up to 180 business days



competition from civil sectors: Tech/mining offer 20–30% higher pay; defence loses talent to faster-moving industries



strengths and future prospects of Australian defence.

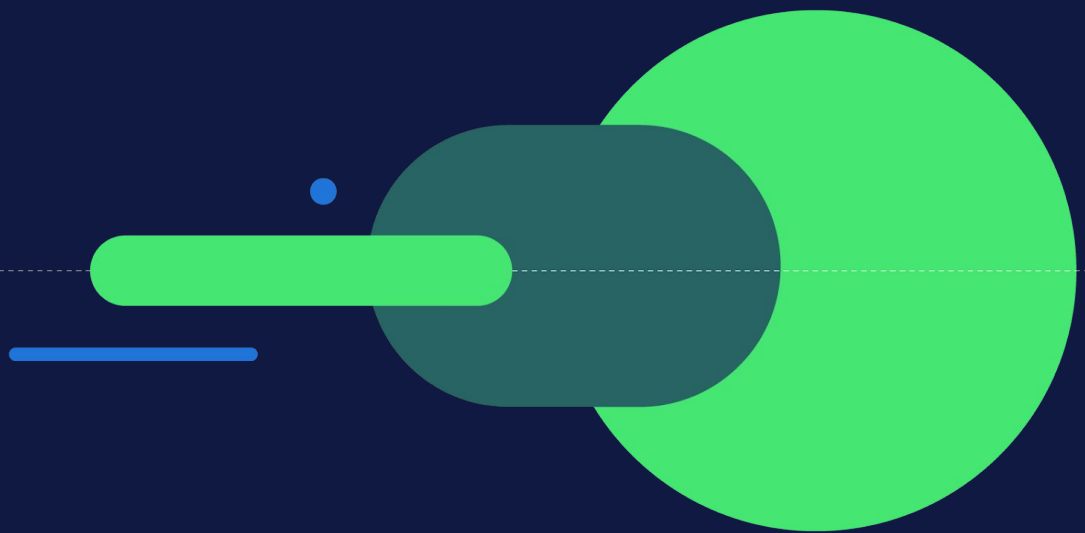
Submarine and shipbuilding programs expected to create 20,000 jobs across South Australia and Western Australia by 2050

A\$159B to be invested in naval construction and sustainment, supporting 8,500 jobs by 2030

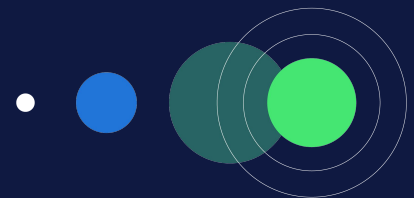
REDSPICE and Guided Weapons Strategy provide a foundation for sovereign high-tech defence manufacturing

SA, NT, and WA forecasted to lead regional defence employment growth by 40% over next 10 years

understanding the talent market of defence/defence sector.



understanding the defence industry of Australia.



current state and performance of the Australian defence industry.

In 2024, Australia allocated **AUD 37.8 billion** to its Aerospace & Defence (A&D) budget, with projections reaching **AUD 54 billion by 2029**, reflecting a **5.25% CAGR**. The sector contributed **\$11.9 billion** in Gross Value Added (GVA), representing **0.47% of national GVA** and a **12.4% year-on-year** increase.

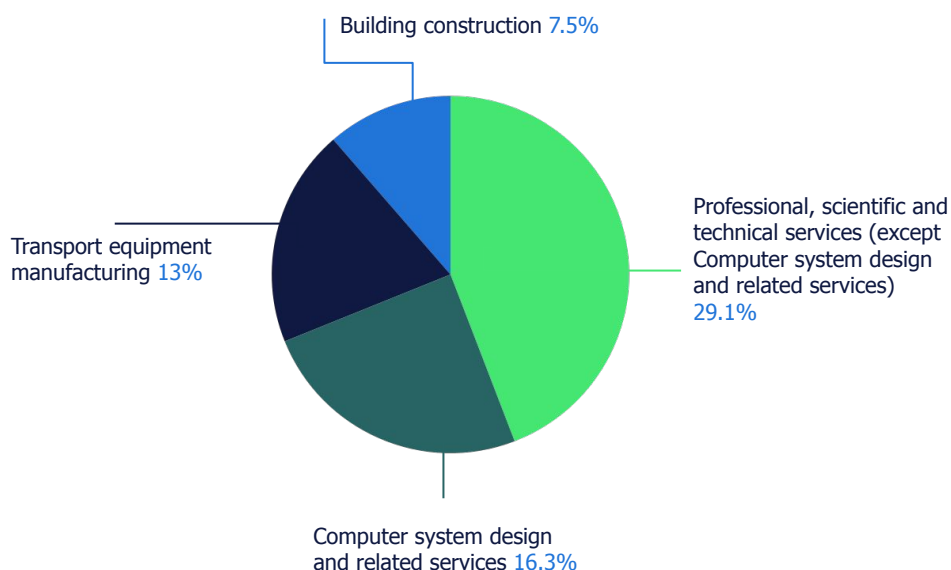
This impact was supported by a direct workforce of **69,400** and over **100,000** roles across the broader supply chain. Key drivers include increased government spending, military modernization, technological advancement, and stronger strategic partnerships. The largest GVA inputs came from **Professional, Scientific and Technical Services (\$5.4 billion)** and **Manufacturing (\$2.0 billion)**, underscoring the sector's reliance on high-skilled services and advanced production capabilities.

However, like Europe, Australia faces critical skill shortages in engineering, cybersecurity, and AI, worsened by an aging workforce and competition from civilian sectors. Major investments in AUKUS submarines, domestic missile production, hypersonics, and AI reflect Australia's push for sovereign capability and regional security leadership. Though smaller in scale than Europe, Australia's A&D sector shares similar challenges in talent and innovation, underlining its growing strategic significance.



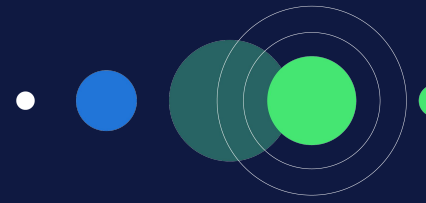
Australia's defence market is projected to reach a size of **\$54.1 billion in 2025**.

main contributors to defence industry GVA (2024)



Professional, Scientific, and Technical Services (excluding computer system design and related services) emerged as the leading contributor to the industry's GVA, accounting for 29.1%—the highest share among all sectors—highlighting its critical role in driving economic value within the defence ecosystem.

understanding the defence industry of **Australia**.



Australia's strategic capability domains.

Australia's strategic capability domains span traditional arenas – land, naval, and aerospace – as well as emerging realms in cyber and space. Major programs and investments are underway in each domain:

Land



The Army is undergoing major modernization with new combat vehicles, long-range strike systems, and land force upgrades. [Project LAND 400](#), for instance, is delivering advanced armoured vehicles, with local production at Rheinmetall's Queensland facility creating 600 jobs. While recent force structure updates have reprioritized some land projects—reducing infantry fighting vehicle orders from 450 to 129—investment remains strong in enhanced firepower, mobility, and protected vehicles.

Naval (Maritime)



Australia is undertaking a multi-decade, capital-intensive naval shipbuilding program centered in South Australia. The AUKUS initiative to acquire nuclear-powered submarines—replacing the SEA 1000 Attack-class project—is considered one of the most significant industrial efforts in the nation's history. Concurrently, Project SEA 5000 is progressing with the domestic construction of nine Hunter-class frigates at the Osborne shipyard. The National Naval Shipbuilding Enterprise is expected to generate 15,000 jobs nationwide, with the shipbuilding workforce surpassing 6,000 by 2030. Additional investments in offshore patrol vessels, Collins-class submarine upgrades, and sustainment efforts are further strengthening the naval industrial base.

Aerospace



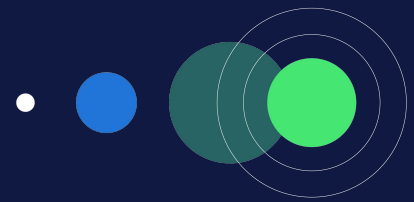
Australia is advancing its air domain with cutting-edge capabilities, including F-35A Lightning II fighters, Boeing MQ-28 Ghost Bat combat drones, and advanced missile systems. A \$4.1 billion investment over four years is dedicated to long-range strike capabilities. These programs are strongly supported by local industry in aerospace manufacturing, avionics, and systems integration. The aerospace sector is a major contributor to defence output, with Professional, Scientific & Technical Services (including aerospace engineering) generating \$5.4 billion in GVA in 2024—the largest share across the industry.

source: statements.qld.gov.au, australiandefence.com.au, nationaldefencemagazine.org, minister.defence.gov.au, abs.gov.au, defence.gov.au Data accurate 13-06-2025.



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understanding the defence industry of Australia.



Australia's strategic capability domains.

Australia's strategic capability domains span traditional arenas – land, naval, and aerospace – as well as emerging realms in cyber and space. Major programs and investments are underway in each domain:

Cyber and Information



Cyber has become a critical defence frontier, with the ADF establishing a dedicated Cyber Command and allocating \$15–20 billion under the 2024 Integrated Investment Program to boost cyber capabilities over the next decade. This investment will enhance cybersecurity, digital warfare, and intelligence systems. The growing reliance on private sector expertise in cybersecurity, software, and data analytics creates significant industry opportunities, though talent competition in this domain remains intense.

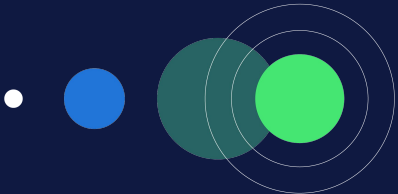
Space



Recognized as a sovereign priority, Australia's space domain is seeing major investment. Defence Space Command, established in 2022, is leading projects in satellite communications, earth observation, and space domain awareness. Between \$9–12 billion will be invested this decade in capabilities like sovereign satellite constellations and a deep-space radar system to track space objects. These efforts aim to bolster secure communications, surveillance, and situational awareness, while also fostering a growing niche industry in satellite tech, ground stations, and advanced space hardware manufacturing.

source: statements.qld.gov.au, australiandefence.com.au, nationaldefencemagazine.org, minister.defence.gov.au, abs.gov.au, defence.gov.au Data accurate 13-06-2025.

employment trends and workforce landscape.



total employment figures and growth.

The Australian defence industry has demonstrated robust employment growth. In the 2023-24 financial year, the sector directly employed 69,400 individuals, marking a significant 9.1% increase compared to the previous year. This growth was particularly pronounced in South Australia, which saw an addition of 1,300 defence industry employees. Beyond direct employment, the defence industry's economic reach extends considerably through its supply chain, supporting more than 100,000 jobs across Australia.



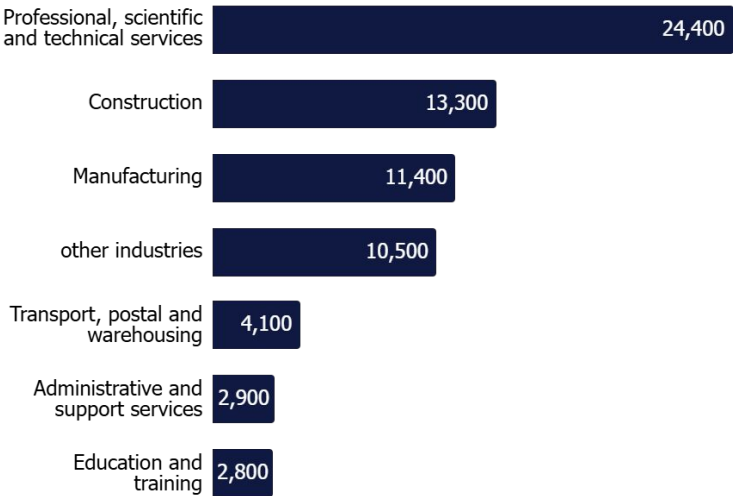
The Australian Defence Force (ADF) itself has ambitious personnel targets, aiming to increase its Permanent Force from 57,400 members (as of November 2024) to 69,000 by the early 2030s.

However, recent reports indicate that the ADF has made limited progress toward its longer-term personal goals, leading to a revision of targets to align with current recruitment and retention realities.

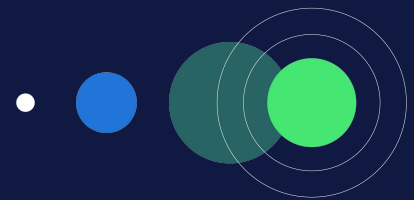
workforce employment and trends

work composition

Defence industry roles are primarily high-skilled, spanning sectors such as engineering, ICT, project management, and manufacturing. In 2023–24, the largest share of the workforce was in professional, scientific, and technical services (~24,400 roles), followed by construction (~13,300 jobs) and manufacturing (~11,400 jobs), supporting vehicle, ship, aircraft, and munitions production. Additional employment covers logistics, administration, training, and other support functions. These roles are intentionally high-skilled and well-paid, reflecting the sector's reliance on advanced technical expertise.



employment trends and workforce landscape.



sector-specific employment contributions.

Certain subsectors of the defence industry are especially prominent employers:

Shipbuilding and naval sustainment

Naval construction and repair, concentrated in hubs like Osborne (SA) and Henderson (WA), is highly labour-intensive and requires specialized talent such as naval architects, marine engineers, welders, electricians, and project engineers. The Hunter-class frigate program alone is expected to employ over 6,000 workers by 2030, while the Collins-class submarine sustainment program in WA already supports hundreds of skilled roles, with more to be added through upcoming upgrades. At its peak, continuous naval shipbuilding is projected to generate around 15,000 direct and indirect jobs.

Aerospace and defence manufacturing

Defence aviation projects are generating advanced manufacturing and engineering jobs, including roles in aircraft maintenance, F-35 sustainment, pilot training systems, and autonomous aircraft development. These projects are driving demand for aeronautical engineers, software developers, and technicians. On the land side, manufacturing efforts like the Boxer combat vehicle production in Queensland have created 600 skilled jobs at Rheinmetall's facility (LAND 400 Phase 2). Upcoming projects, such as howitzer assembly (LAND 8116) at Hanwha's Victoria facility and infantry fighting vehicle production, are set to further boost defence manufacturing employment.

Cyber, IT and intelligence services

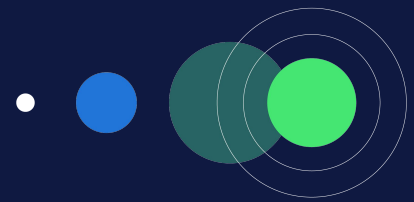
As Defence expands its digital capabilities, demand is rising for roles in cybersecurity, software development, data analytics, and intelligence analysis across both Defence and industry partners. While employment numbers are smaller compared to shipbuilding or manufacturing, they are growing rapidly. Defence contractors and consulting firms are actively hiring cybersecurity specialists, network engineers, AI/machine learning experts, and intelligence analysts to support defence cyber units and the Australian Signals Directorate. The establishment of Space and Cyber Commands has also created new opportunities for industry roles such as space systems engineers, satellite technologists, and communications experts through contracts and partnerships.

geographic distribution

Defence industry employment is nationwide but concentrated in key states. NSW and Victoria lead in output, contributing \$3.5 billion and \$2.5 billion GVA in 2023–24, driven by major companies and R&D hubs in Sydney and Melbourne. South Australia, the naval shipbuilding hub, is rapidly growing, adding ~1,300 jobs last year and preparing for submarine and frigate projects. Queensland supports land vehicles, aerospace, and defence services, while WA focuses on naval sustainment and defence for the resources sector. All states are investing in local skilling to meet rising workforce demands.

source: abs.gov.au, globalsecurity.org, minister.defence.gov.au, statements.qld.gov.au. Data accurate 13-06-2025.

employment trends and workforce landscape.



australian defence industry employment and workforce challenges

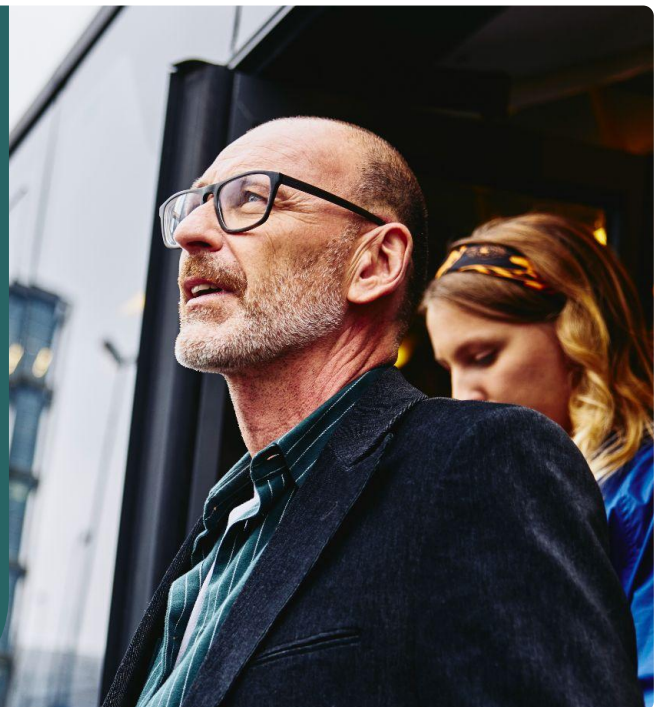
role	capacity exhaustion	challenge faced
Communications & Cyber Capacity	88%	Unable to meet demand since 2016
Engineering, Maintenance & Construction Capacity	91%	Constant decline in workforce since 2016
Intelligence Capacity	90%	Unable to keep pace with demand



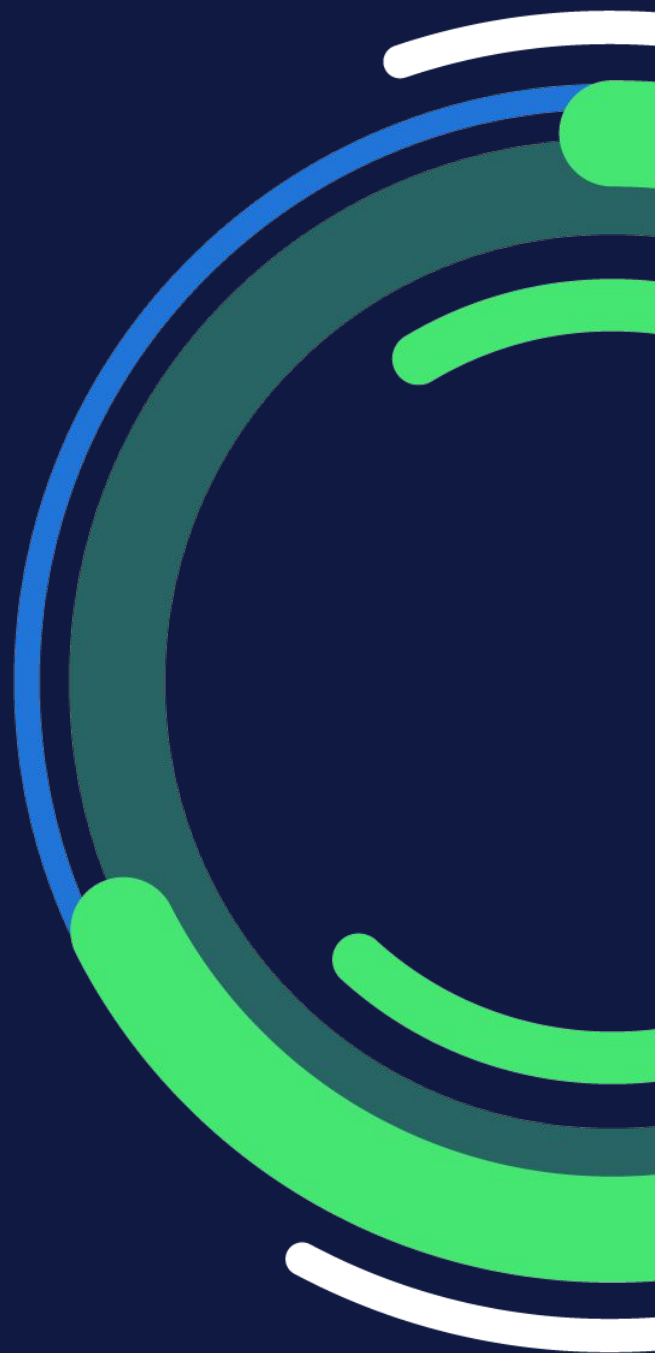
As of January 2025, 46% of the workforce is considering a job change—the highest level recorded since 2018.



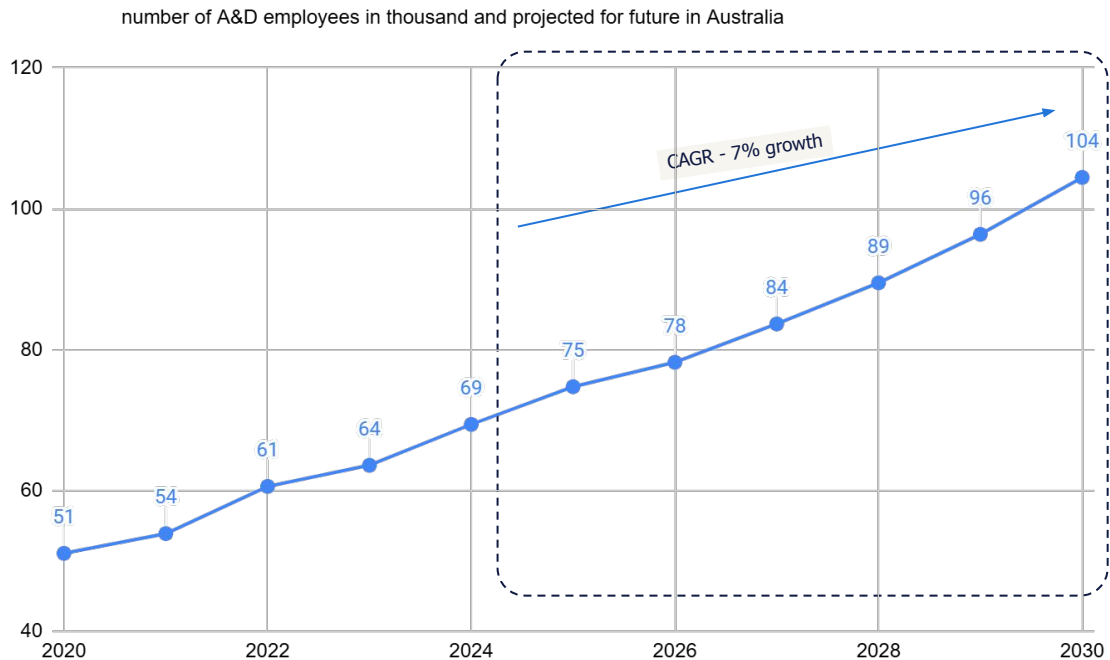
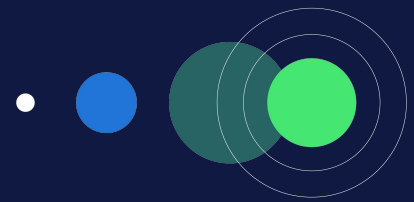
In summary, Australia's defence industry workforce has expanded strongly in recent years, with thousands of new high-skill jobs across engineering, manufacturing, and technology fields. The industry's employment outlook remains positive, but this growth is running up against a tightening labor market for critical skills.



employment growth



employment growth and projection.



source: employment supply modelled from ASD data. Population data modelled from World Bank Data accurate 14-06-2025.

***the numbers showcased in the black box are projected numbers calculated with historic data.

Employment Growth vs. Slowing Population Expansion.

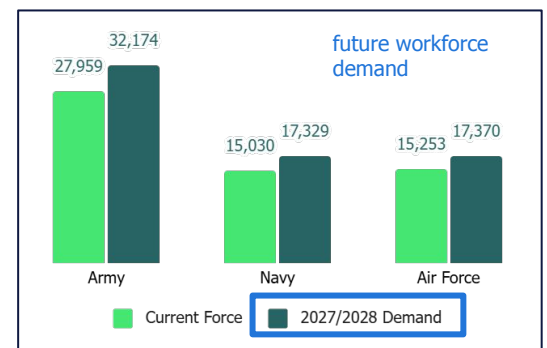
Employment has nearly doubled from 51 in 2021 to a projected 104 by 2030, with strong growth spikes in 2022 (12.43%) and 2030 (8.38%), signaling expanding workforce demand. However, slower growth in years like 2023 (4.95%) and 2026 (4.64%) suggests the need for sustained talent planning.

Meanwhile, population growth is gradually slowing—from 1.41% in 2020 to just 0.98% by 2030. Although the total population continues to rise, this deceleration may impact the long-term talent pipeline.

The divergence between robust employment growth and slowing population expansion may heighten future workforce pressure, particularly in A&D industry requiring specialized skills and future workforce demand.

If this trend continues, it may lead to talent shortages, wage pressures, and tougher competition for skills—highlighting the need for proactive workforce planning, upskilling, and broader talent inclusion.

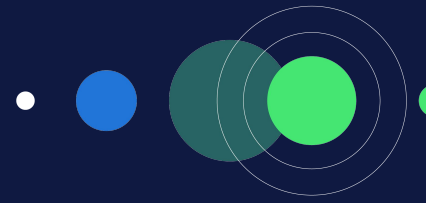
Rising employment demand alongside slowing population growth presents a critical challenge for the A&D industry. As workforce needs surge, talent shortages and wage pressures are likely to intensify, demanding strategic action. To stay ahead, the sector must invest in automation, upskilling, and global talent sourcing, while strengthening education pipelines and policy support to build a resilient, future-ready workforce.



talent shortage and gaps



roles where talent gap is observed.



83% of businesses in the defence industry sector were experiencing skills shortages. Nearly 65% of defence companies report struggling to find qualified specialists in fields like advanced IT, cyber, and analytics.



source: Defence Strategic Workforce Plan, ACS Digital Pulse Report, ASPI, State Development SA, SmartSat CRC – ASST Study, Industry Reports, ADF Workforce Reporting

roles where talent gap is observed.



Job remaining unfilled for Engineers across disciplines

The Australian A&D sector faces a [critical shortage of engineers across software, systems, mechanical, and electrical fields](#). These roles are the backbone of defence innovation and sustainment. As of February 2024, 42 ADF roles are deemed 'critical' and 31 'at-risk', with over half concentrated in technical domains like [engineering, cyber, and communications](#). The Defence Strategic Workforce Plan projects a need for 18,500 new personnel by 2040—placing immense pressure on engineering pipelines.



Job remaining unfilled for Cybersecurity and Data Analysts

The cybersecurity talent crisis in Australia continues to deepen. Since 2020, demand for cyber professionals has surged 80%. With a national need for 1.3 million additional tech workers by 2030, [the A&D sector](#) struggles to retain Cybersecurity Engineers and advanced data analysts. To stem attrition, the ADF has introduced competitive pay scales for cyber warfare roles.



Job remaining unfilled for Technicians and Tradespeople

[Skilled trades—such as welders, electricians, and mechanics—are in high demand, particularly in shipbuilding hubs like South Australia](#). These roles are critical to platform sustainment, yet the talent pipeline from VET programs remains insufficient. ASPI identifies technical trade shortages as a major constraint for the industry.



Job remaining unfilled for Emerging Tech & Space Sector Role

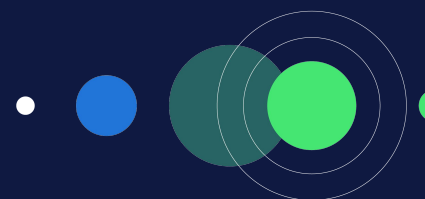
Specialized talent in AI, data analytics, and the space sector is severely lacking. The Australian Space Skills Taxonomy (ASST) highlights shortages in 310 of 319 space-related skill categories—[across technical, business, and governance areas](#). [These gaps threaten the advancement of next-gen defence capabilities](#).



Job remaining unfilled for Project & Compliance Managers

[A&D's complex program delivery depends on skilled project managers, QA engineers, and test professionals](#). These roles ensure regulatory compliance and risk oversight, yet remain difficult to source. [Expertise in SOPs, defence protocols, and program governance is increasingly scarce](#).

segments where talent shortage and gap is observed across AU.

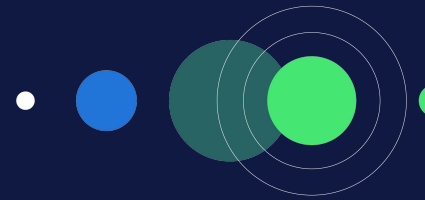


talent gap identified across roles.

Role/Skill Category	Indication of Shortage Severity	Key Impact Areas/Sub-sectors
Software Engineering	High	Cyber Defence, Aerospace, Systems Integration, Space
Systems Engineering	High	Shipbuilding, Aerospace, Complex Projects, Space
Mechanical Engineering	High	Manufacturing, Shipbuilding, Aerospace, Sustainment
Electrical Engineering	High	Shipbuilding, Aerospace, Electronics, Power Systems
Design Engineering	High	Aerospace, Naval, Land Systems
Cybersecurity (Engineers & Analysts)	Critical	Cyber Defence, All A&D sectors, Information Warfare
AI/Data Analytics	High	Autonomous Systems, Intelligence, Advanced Systems
Technical Trades (e.g., Welding, Electrical Fitting, Machinists)	Significant / Enduring	Shipbuilding, Manufacturing, Sustainment, Construction
Project/Program Management	High	All major projects, Complex acquisitions
Compliance/Quality Assurance	High	All A&D sectors (highly regulated)
Space-Specific Technical Skills	Widespread (310 of 319 skills)	Space Systems Development & Operation
ADF Technical Categories (various)	Critical/At Risk	Engineering, Cyber, Intelligence (within ADF)

source: Defence Strategic Workforce Plan, ACS Digital Pulse Report, ASPI, State Development SA, SmartSat CRC – ASST Study, Industry Reports, ADF Workforce Reporting

segments where talent shortage and gap is observed across AU.

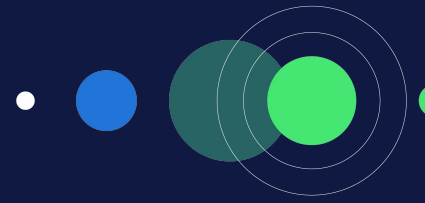


talent gap identified across skill-base.

Skill Gap Category	Description of Gap	Driving Factors
Digital Engineering/MBSE	Insufficient proficiency in model-based design, simulation, digital twins, and integrated digital environments.	Technological advancements, industry adoption of new design paradigms.
AI/Machine Learning Application	Lack of skills in AI/ML algorithms, autonomous systems, secure code practices, DevSecOps	Rapid AI evolution, demand for autonomous and intelligent systems.
Advanced Data Analytics	Shortfall in personnel able to analyze large, complex datasets for decision-making and capability enhancement.	Proliferation of data from sensors and digital systems.
Cybersecurity (Offensive/Defensive in complex systems)	Gaps in skills for Threat intelligence, ICS/OT security, secure cloud architectures, cyber forensics	Evolving threat landscape, increasing system complexity.
Naval Architects & Marine Engineers	Nascent skill base for applying Nuclear propulsion, hydrodynamics, ship stability modelling, CAD for shipbuilding.	Emerging technology with transformative potential.
Advanced Manufacturing -skilled Processes (incl. nuclear-related)	Insufficient workforce skilled in Defence-grade welding, submarine hull fabrication, composite assembly, high-precision soldering	New complex projects (e.g., AUKUS), advanced materials.
Space-Specific Technical Skills (High Intensity ASST)	Critical shortages in numerous Satellite bus integration, launch systems, orbital mechanics, space-grade communication tech	Growth of space domain, lack of specialized training providers.
Systems Integration of Emerging Tech	Difficulty in seamlessly integrating novel technologies (AI, quantum, sense computing etc.) into existing and future platforms.	Rapid influx of diverse new technologies.

source: Defence Strategic Workforce Plan, ACS Digital Pulse Report, ASPI, State Development SA, SmartSat CRC – ASST Study, Industry Reports, ADF Workforce Reporting

roles where talent gap is observed.



The A&D sector is grappling with a severe talent shortage that spans various roles and skills. Current market scenario states that demand outpaces supply.



1. aging workforce and knowledge drain

25% of Australia's defence workforce is nearing retirement age, mirroring trends seen across Europe.

This looming retirement wave threatens to erode not only headcount but also critical institutional knowledge and leadership experience.

Without effective succession planning and knowledge transfer, the A&D sector faces a serious talent continuity risk.

2. employer branding & perception barriers

1 in 3 young professionals are unaware of defence industry careers or perceive them as less innovative.

Attracting younger talent requires stronger employer branding, clearer growth paths, and visibility into A&D's high-tech, purposeful careers.

3.1 education & vet system misalignment

Only 28% of training organizations report being equipped to deliver courses for 86 high-intensity space skills identified by SmartSat CRC.

This indicates a major disconnect between education providers and industry needs. Slow curriculum updates and a lack of agile training models create a "catch-up" dynamic, making it hard for graduates to keep pace with A&D innovation.

3.2. skills shortage and stem pipeline issues

A majority (75%) of A&D employers report difficulty finding qualified candidates. Meanwhile, 40% of the adult population lacks basic digital literacy, worsening STEM pipeline constraints.

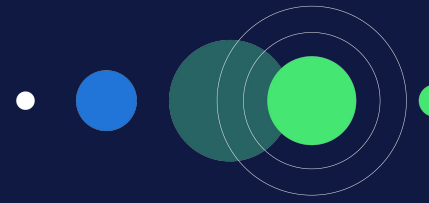
This shortage spans across engineering, cybersecurity, and manufacturing roles, forcing many employers to rely on in-house training.

source: SmartSat CRC, Engineers Australia, ACS Digital Pulse Report.



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reason for talent gap in AU.



4. stiff competition from civilian sector

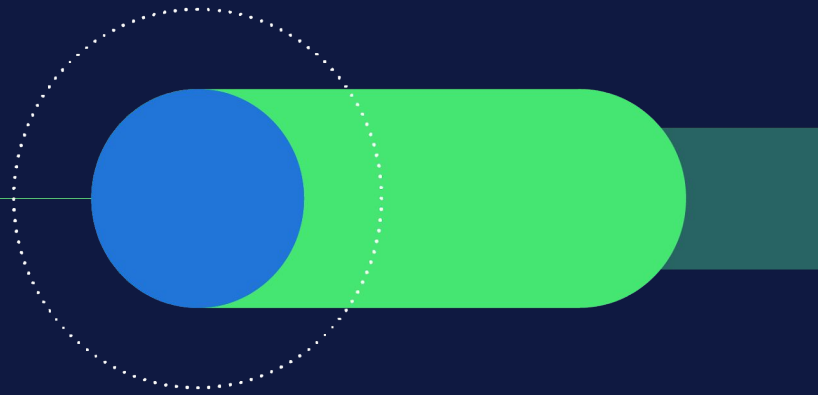
The A&D sector competes for the same talent pool as mining, energy, and tech industries.

For example, while mechanical engineers in Government & Defence average A\$116,692, those in mining earn A\$138,479—with companies like Woodside Energy offering median salaries of A\$158,000.

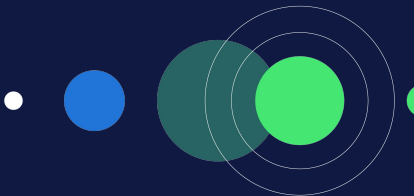
The cyber talent war is especially fierce, prompting the ADF to revamp pay for cyber roles to remain competitive.



submarine industry employment and trends in Australia.



understanding the submarine industry of Australia.



current employment landscape.

Estimated 3,500–4,000 workers are currently employed in submarine-related roles across Australia, primarily at:

Osborne Naval Shipyard, South Australia- focusing on Collins-class sustainment and early-stage SSN planning. The Collins-class sustainment program at ASC employs over 1,200 workers, including marine engineers, systems technicians, and project managers.



Fleet Base West (HMAS Stirling), Western Australia- hosting forward operations and expanding for future SSN support.



projected workforce growth.

Australia will need an estimated 20,000 skilled workers over the next three decades to deliver AUKUS submarine programs, including: Interim Virginia-class operations (from early 2030s), Construction of SSN-AUKUS boats at Osborne, Full-cycle depot sustainment in WA.

South Australia expects direct defence jobs to rise from ~3,500 to 8,500 by 2040, largely due to submarine construction.

Western Australia is planning for 5,000+ submarine sustainment jobs over the next 10 years through upgrades at HMAS Stirling and surrounding industry parks.



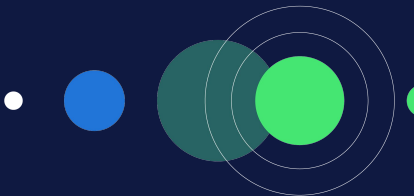
source: Australian Submarine Agency, 2023, United States Studies Centre, AUKUS Workforce Readiness, 2024, SA Government Naval Workforce Plan, WA Government “The Other Force” Strategy, Defence Strategic Review, 2023, ABS Defence Employment, 202, SA Department for Industry: Submarine Workforce,ASC Annual Report 2023–24, The Other Force WA, Data accurate 13-06-2025.

key roles in demand.

Roles expected to be in acute demand for submarine readiness include:

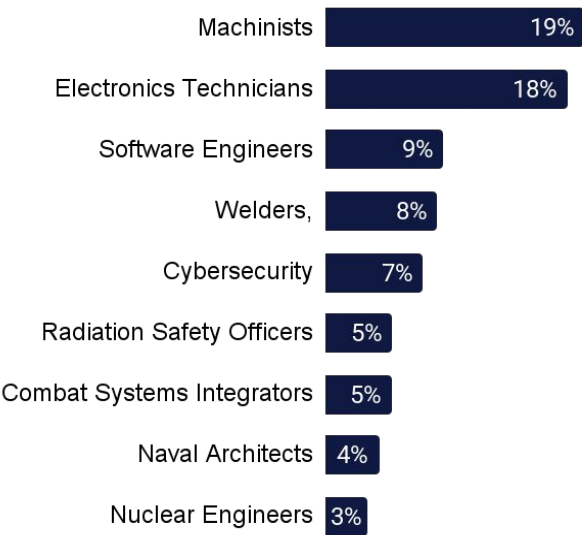
Nuclear Engineers	Radiation Safety Officers	Welders
Combat Systems Integrators	Electricians	Machinists
Naval Architects	Welders	Cybersecurity Professionals
Naval Software Engineers	Sustainment Planners	Supply Chain/Logistics Officers

understanding the submarine industry of Australia.



These roles are also challenging to fill due to a limited supply of qualified talent, strong competition from other employers, and the highly specialized skills required to perform them effectively.

% of jobs remaining unfilled for top roles in submarine industry in Australia.



Approximately 60% of the most in-demand roles remain difficult to fill, largely due to intense competition from other sectors and the migration of talent to adjacent industries offering more attractive opportunities. Roles in the machinist and electrical/electronic professions are among the most challenging to attract and retain.

source: demand data modelled from aggregated and de-duplicated job posting data retrieved from job boards, networking sites, social media, agency postings and career sites. Data accurate 13-06-2025

workforce challenges faced by Australia’s submarine industry for talent attraction.

severe skilled workforce shortage.

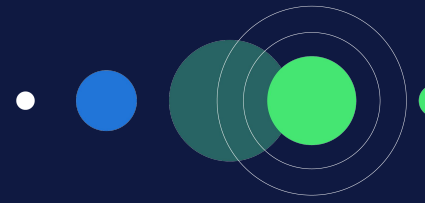
Australia will need around 20,000 new roles over the next 30 years to support the AUKUS nuclear submarine program—including nuclear engineers, systems integrators, specialist welders, and project managers. With no civilian nuclear sector, Australia lacks a domestic talent pipeline for critical roles like nuclear propulsion engineers and radiation safety experts. The ASA has identified “acute gaps” in engineering, fabrication, and nuclear skills, and the U.S. Studies Centre warns that workforce shortages pose the greatest risk to AUKUS implementation.

industrial infrastructure constraints.

Australia’s submarine capability is being centered at Osborne Naval Shipyard (SA) and Fleet Base West (WA), but both require major retooling and upgrades—such as radiological safety infrastructure, modular assembly, and larger dry docks—to support nuclear-powered subs. WA must support about 5,000 sustainment jobs by the mid-2030s, while SA needs new high-spec facilities for reactor module integration and nuclear safety. The federal government warns these infrastructure projects face “extremely tight timelines” and must proceed alongside surface-fleet upgrades like SEA 5000.

source: ASA, Submarine Industry Strategy 2023, United States Studies Centre, AUKUS Brief 2024, ITECA, Skills Reform Submission 2023, Australian Department of Defence (AUKUS Industry Plan 2024), WA Government, The Other Force Workforce Strategy, Minister for Defence Industry, media release March 2024, Australian Government AUKUS Cost Briefing 2023, The Guardian, “\$368 Billion Price Tag for AUKUS,” March 2023, Reuters, “Australia’s Nuclear Submarine Plan Faces Budget Blowouts,” 2024, Australian Strategic Policy Institute (ASPI), Submarine Transition Paper, Baird Maritime, “Collins-Class LOTE Under Strain,” 2024, APDR, “The Sisyphean Task of Sustaining Collins,” April 2024, UK House of Commons AUKUS Review, 2023, Australian Senate Estimates 2023. Data accurate 13-06-2025

understanding the submarine industry of Australia.



budget pressure and cost overruns.

The total projected cost of the AUKUS submarine program ranges from A\$268 billion to A\$368 billion by 2055, including acquisition, sustainment, workforce development, and infrastructure. A 50% contingency has been included in cost estimates to account for program uncertainty. U.S. and U.K. submarine yards are already operating at full capacity, and any delay in their delivery or support to Australia could push local timelines and inflate downstream costs.

regulatory gaps in nuclear safety and oversight.

Australia currently does not have a domestic nuclear regulatory framework for naval propulsion. Establishing safety protocols, licensing mechanisms, and environmental management regimes will require entirely new legislation, particularly in Western Australia where SSNs will be based. Senate Estimates hearings have revealed that collaboration between the Department of Defence and WA environmental and radiation safety authorities is ongoing, but full readiness is not expected before the early 2030s.

project management and program complexity.

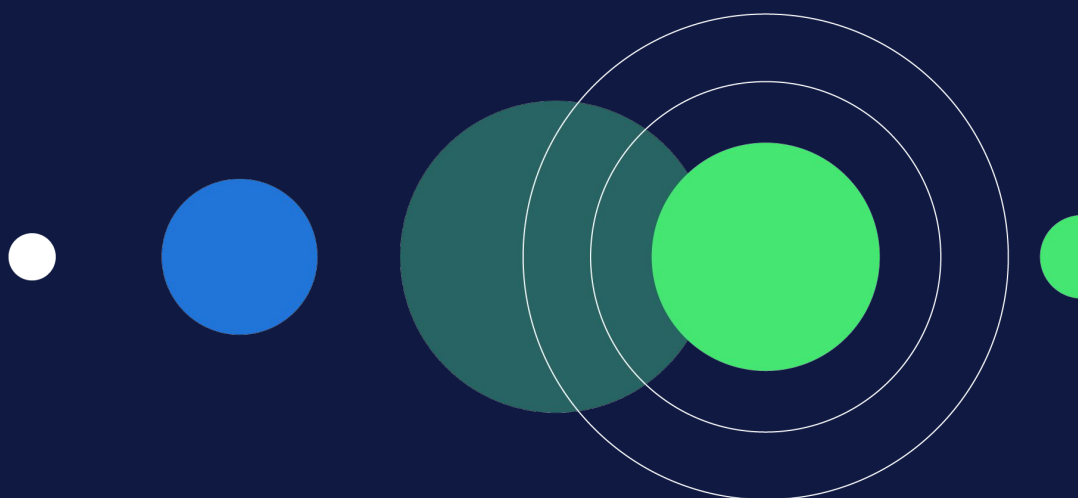
Australia is highly dependent on the U.S. and U.K. for reactor technology, propulsion components, and classified design data. Both allies face supply chain strain and talent bottlenecks in their own submarine programs, which could delay critical exports or mentorship needed by Australia. Further, the International Traffic in Arms Regulations (ITAR) in the U.S. and similar frameworks in the U.K. may slow down Australia's access to software, secure communication modules, and submarine system updates—unless streamlined AUKUS-specific pathways are implemented.

capability gap before SSNs arrive.

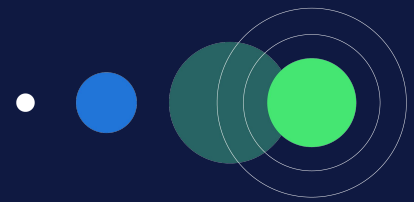
Australia won't receive its first Virginia-class submarine until the early 2030s, and the first SSN-AUKUS until 2042–43, creating a major capability gap. To bridge this, the ageing Collins-class fleet is undergoing a high-risk Life-of-Type Extension (LOTE), challenged by technical complexity, workforce shortages, and obsolete components. Reports suggest even the first LOTE refit may be scaled back due to limited resources.

source: ASA, Submarine Industry Strategy 2023, United States Studies Centre, AUKUS Brief 2024, ITECA, Skills Reform Submission 2023, Australian Department of Defence (AUKUS Industry Plan 2024), WA Government, The Other Force Workforce Strategy, Minister for Defence Industry, media release March 2024, Australian Government AUKUS Cost Briefing 2023, The Guardian, "\$368 Billion Price Tag for AUKUS," March 2023, Reuters, "Australia's Nuclear Submarine Plan Faces Budget Blowouts," 2024, Australian Strategic Policy Institute (ASPI), Submarine Transition Paper, Baird Maritime, "Collins-Class LOTE Under Strain," 2024, APDR, "The Sisyphean Task of Sustaining Collins," April 2024, UK House of Commons AUKUS Review, 2023, Australian Senate Estimates 2023. Data accurate 13-06-2025

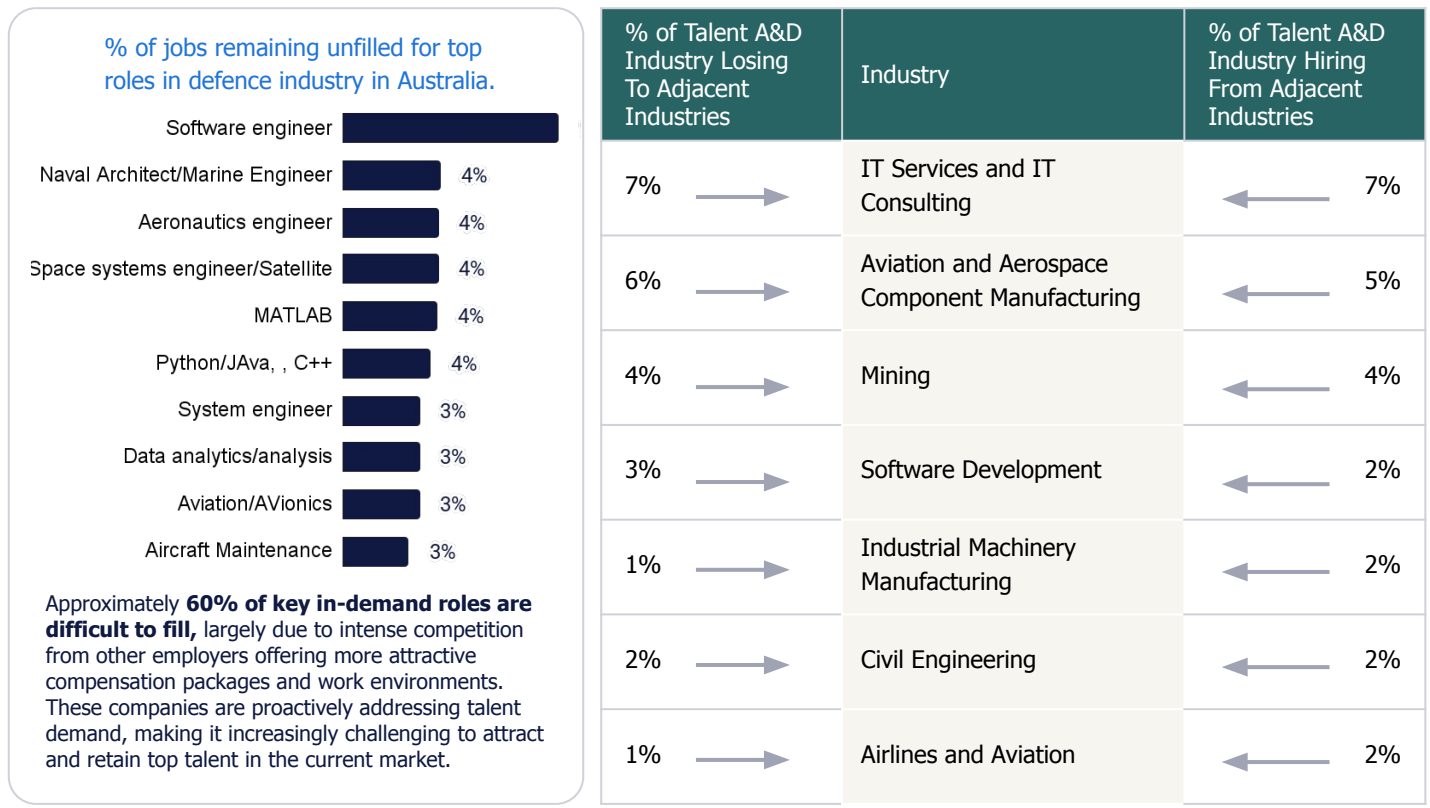
industry
transferability &
mobility.



mobility & transferability between adjacent industries.



A key contributor to the talent gap in the A&D industry is the competitive market, where skilled professionals often transition into adjacent sectors. In Australia, around **8–10% of ADF personnel (5,000–6,600 individuals) exit the force each year**—many of them engineers—who are quickly absorbed into civilian industries such as aerospace, defence tech, IT, consulting, and iAnfrastructure. This highlights the importance of **broadening the talent pipeline** by targeting professionals from related industries where similar skill sets are more widely available.,



Approximately **60% of key in-demand roles are difficult to fill**, largely due to intense competition from other employers offering more attractive compensation packages and work environments. These companies are proactively addressing talent demand, making it increasingly challenging to attract and retain top talent in the current market.

key reason for mobility among industries.

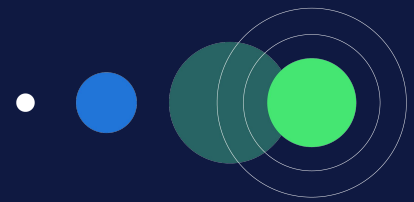
The mobility trend in Australia’s A&D workforce is less about a shortage of qualified talent and more about the stronger appeal of adjacent industries. Sectors like IT Services, Consulting, and Aviation are drawing A&D talent—particularly in roles like systems engineering, cybersecurity, and data science—at a faster rate than the industry can attract in return. This net outflow is driven by factors such as faster innovation cycles, better work-life balance, more agile cultures, and stronger pay and career growth prospects

key takeaway.

Each year, Australia sees approximately 6–7% of its A&D workforce transition into IT services, consulting, and aerospace/airline sectors, reflecting a steady outflow toward adjacent industries.

Therefore, the core challenge lies not only in skill availability but in competitive positioning. Unless A&D employers in Australia strengthen their employer value propositions, talent mobility pathways, and reskilling efforts, they will continue to lose skilled professionals to adjacent industries that present clearer growth trajectories and modern relevance. Even hiring from adjacent sectors will only serve as a short-term fix—sustainable talent retention will depend on reshaping industry perception and aligning with evolving workforce expectations.

adjacent industries for transfer.



A&D roles' potential transferability.

A&D Role Example	Key Transferable Skills	Potential Destination Industries
Aerospace Engineer	Technical expertise (design, analysis), systems thinking, engineering regulation, maintenance procedures, technical documentation, logistics, aircraft design/systems facilities	Automotive, renewable energy, advanced manufacturing, robotics, software development (particularly simulation), electronics manufacturing, medical devices, telecommunications
Avionics Technician	Electrical systems, troubleshooting, attention to detail, problem-solving, interpreting electrical drawings, soldering, wire harnessing, specialist testing equipment	Automotive (especially electric vehicles), electronics manufacturing, medical devices, telecommunications
Aircraft Maintenance Technician	Mechanical systems, maintenance procedures, discipline, work ethic, safety awareness, manual dexterity, blueprint interpretation, composite repair, metalworking, non-destructive testing	Automotive (maintenance), rail and shipping transportation, industrial equipment maintenance, wind energy (specifically turbine maintenance), manufacturing, transport, public administration and safety
Project Manager	Project management, leadership, stakeholder management, risk assessment, strategic thinking, budget management, planning, executing complex operations, managing resources, meeting deadlines	IT, construction, consulting, government/public sector, logistics
Supply Chain Specialist	Logistics management, negotiation, inventory control, supplier relations, process optimization, procurement, integrated logistics support	Retail, general manufacturing, healthcare, e-commerce, public sector
Systems Engineer	Systems thinking, requirements engineering, integration, testing, problem-solving, analytical skills, risk management, technical communication	IT, telecommunications, automotive, healthcare technology, energy, marine, shipbuilding, mining, oil and gas
Data Scientist/Analyst	Analyzing complex data, data mining techniques (statistics, machine learning, AI), programming skills, data engineering, integration, interoperability, data analysis, benchmarking, trend analysis, hypothesis development	IT, government, consulting, finance, research
Intelligence Officer	Superior intellect, interpersonal skills, judgment, strong interpersonal and liaison skills, curiosity, quick-thinking, self-motivation, excellent written communication, high maturity, risk assessment, resilience, personal integrity, professionalism	Government, consulting, corporate intelligence
Mission Aircrew/Surveillance Aircraft Pilot	Verbal/non-verbal reasoning, logical thinking, comprehension, mathematical ability, spatial orientation, coordination, leadership, strategic thinking, decision-making	Civilian aviation (pilot roles), complex operational management, logistics, training roles in civilian aviation or other industries requiring high-stakes operational oversight

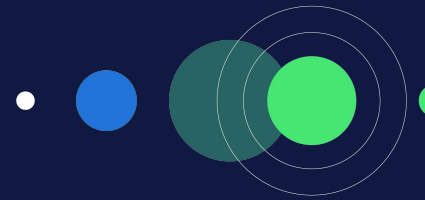
Many professionals from sectors like IT, manufacturing, telecommunications, and aviation possess highly transferable skills—such as project management, systems thinking, and technical expertise—that align well with A&D roles. By tapping into adjacent industries, A&D employers can address talent gaps and diversify their workforce, especially with the right upskilling and onboarding support. This approach also brings fresh perspectives and innovation into traditionally structured defence environments.

source: LinkedIn Talent insights, Mckinsey, AU defence news. Data accurate 13-06-2025.



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talent pool availability in adjacent industries.



adjacent industry talent pool across Australia

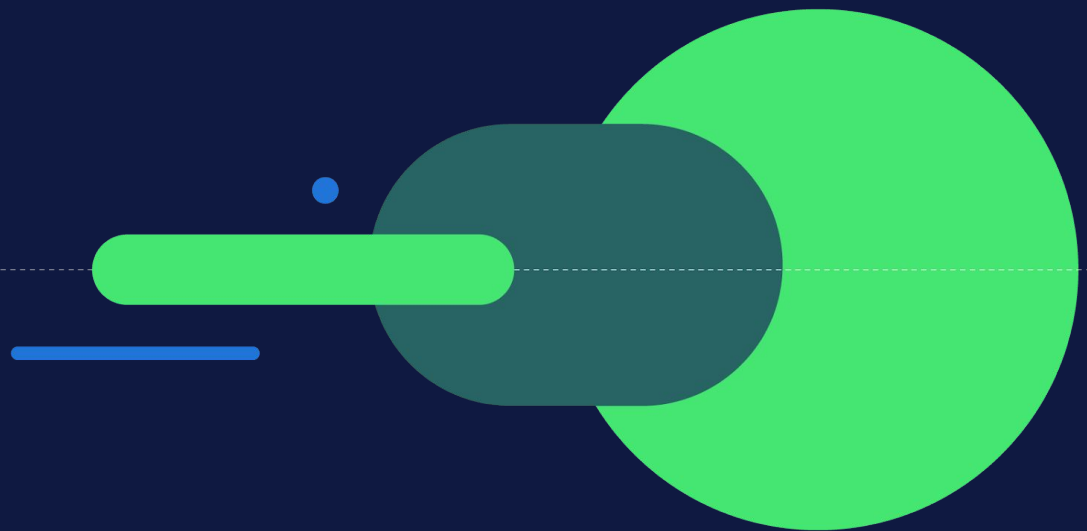
IT Services and IT Consulting	442,105
Aviation and Aerospace Component Manufacturing	22,105
Armed Forces	13,684
Mining	231,579
Software Development	168,421
Industrial Machinery Manufacturing	89,474
Civil Engineering	105,263
Airlines and Aviation	65,263



The data highlights strong talent availability in adjacent industries across Australia, with large pools in IT Services and Consulting (442,105), Mining (231,579), Software Development (168,421), and Civil Engineering (105,263). These sectors offer transferable skills highly relevant to A&D needs, including technical operations, systems thinking, and project management. Smaller but specialized pools in Aviation, Aerospace Manufacturing, and Industrial Machinery also align well with engineering and maintenance roles. By targeting these industries and creating tailored upskilling pathways, A&D employers can ease talent shortages and build a future-ready workforce.

source: LinkedIn Recruiter. data. Data accurate 13-06-2025.

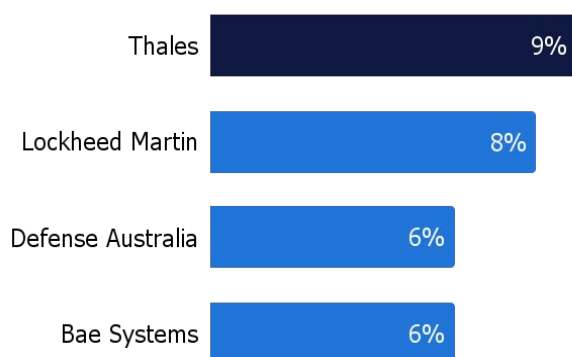
talent attrition and demand.



high attrition in AU defence industry.

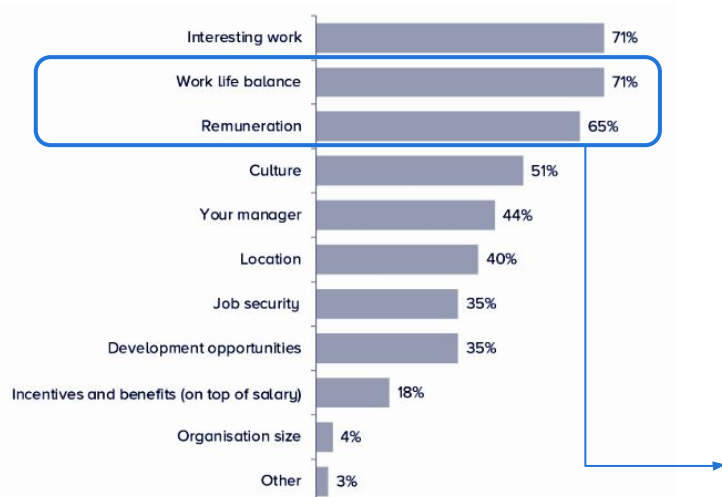
As highlighted previously, Australia's defence sector is facing mounting talent pressures, with attrition trending upward across both ADF and industry workforces. Key drivers include wage competitiveness issues, location hardships—particularly at regional naval bases—limited work-life balance, and an increasing talent shift to private sectors like mining and technology. These sectors often offer better compensation, career mobility, and flexible working conditions. Notably, for every employee transitioning to a non-defence role, another exits the industry entirely, creating a net-zero retention impact. Addressing these attrition factors is critical for sustaining a stable workforce, especially as Australia prepares to meet long-term hiring demands—up to 20,000 new roles—under AUKUS and the Integrated Investment Program.

company level defence attrition across Australia.



source: Turnover rates are drawn from LinkedIn's member data. We calculated turnover by taking the number of departures/movement in a given sector (e.g., network), then dividing that number by the average headcount of that given population (excluding internal job changes within the same company). Data accurate 13-06-2025.

why talent in A&D industry leave in Australia.



source: Kinexus, PwC, ABS.gov.au, Engineers Australia, AMWU, McKinsey, StateDevelopment.sa.gov.au, ASPIS, InsideSmallBusiness, FederalNewsNetwork . Data accurate 13-06-2025.



Australia's defence sector is under strain, with attrition trending upward across both the ADF and industry workforce.

Australia attrition: The attrition rate in the Australia defence sector stood at **9%**, significantly higher than the **3%** recorded in the U.S. defence sector.



6% decline in the workforce was observed when comparing net exits to net hires, indicating approximately **7,000 open positions that need to be filled.**

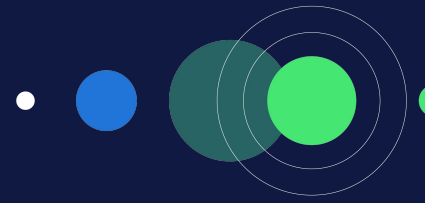


For every employee being reabsorbed into a non-Defence role, one is exiting defence industry altogether.

Retention in Australia remains fragile as the sector scales hiring to meet AUKUS and Integrated Investment Program goals—demanding up to **20,000 workers over the next 30 years.**

Attrition is being driven by low wage competitiveness, challenging locations (such as regional naval bases), poor work-life balance, and a steady talent shift to higher-paying private sectors like mining and technology—areas where Australia faces increasing retention challenges.

Why talent leave.



Pay Disparity Weakens Retention

Defence salaries rose just 1.8% vs. 3.2% nationally—effectively a pay cut after inflation. Mining roles offer ~A\$2,593/week, far above the A\$1,750 in public administration (incl. defence). Nearly 50% of touch-labor workers feel underpaid, prompting exits for better-paying sectors.

Lack of Meaningful Work and Engagement

46% of defence professionals are actively or soon looking for new roles. Only 4% say “I love my job.” Top drivers of dissatisfaction: lack of interesting work, career stagnation, and low fulfillment.

Location Constraints Limit Mobility

Many A&D jobs are tied to specific geographies—like shipbuilding in SA—causing friction. Workers unwilling to relocate exit the sector. Defence jobs in SA expected to grow from 3,500 to 8,500 by 2040, but talent mobility remains a barrier

High Transferability = High Attrition Risk

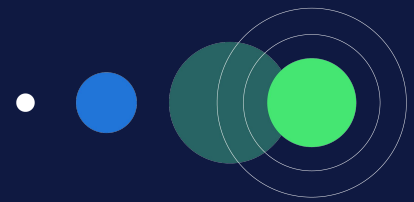
Engineers and IT staff trained in A&D easily move to tech, mining, or civil infra. ~3,200 engineers leave annually across sectors. Without matching flexibility and innovation exposure, defence loses talent to more dynamic fields.

Retirement Wave Looms

Average age of Defence engineers: 48 years. Up to 25,000 engineers may retire within 5 years. Loss of expertise + limited graduate pipeline creates severe capability gaps. Only ~25% of engineering students graduate on timeline, indicating that the influx of new qualified professionals may not be sufficient to fill the growing gaps.

source: Kinexus, PwC, ABS.gov.au, Engineers Australia, AMWU, McKinsey, StateDevelopment.sa.gov.au, ASPIS, InsideSmallBusiness, FederalNewsNetwork .
Data accurate 21-03-2025.

Why talent leave.



Burnout & Poor Work-Life Balance Drive Exits

26% of A&D sector employees report frequent burnout. Long hours, high bureaucracy, and relocations strain defence staff. Since 2019, work-life balance remains a top concern, with growing interest in flexibility and wellness support

The majority of also respondents emphasized on the following: skill prioritization mismatch

44% of employees consider high-proficiency technical skills critical now, but only 24% of employers agree. Moreover, employers' future skill outlook does not align with employees' current priorities.

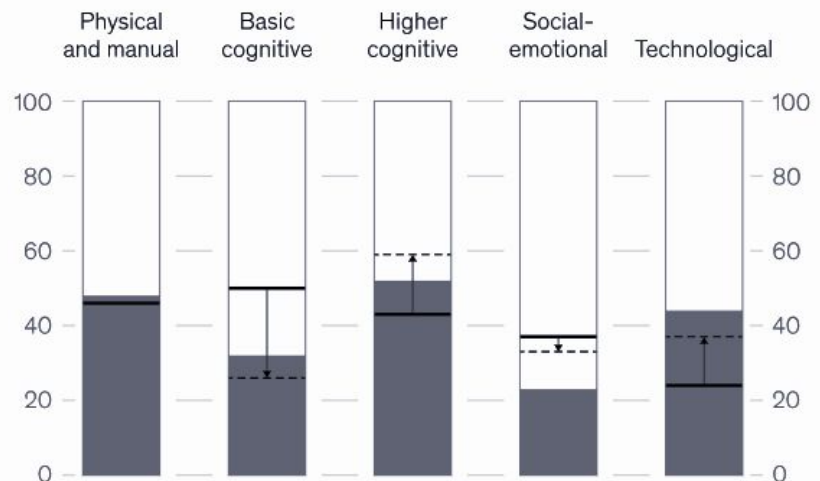
Aerospace and defense employers and employees are not on the same page when it comes to the skills they deem most important.

Share of respondents selecting skill as 1 of top 2 most important, by role and location, aerospace and defense industry,¹ %

Current skill, employee prioritization

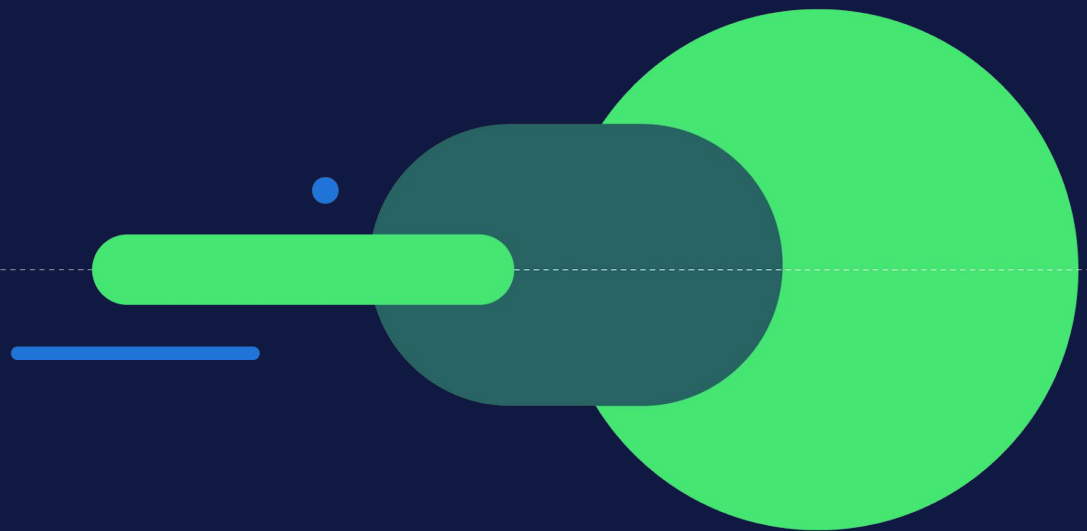
Current skill, employer prioritization

Future skill, employer prioritization

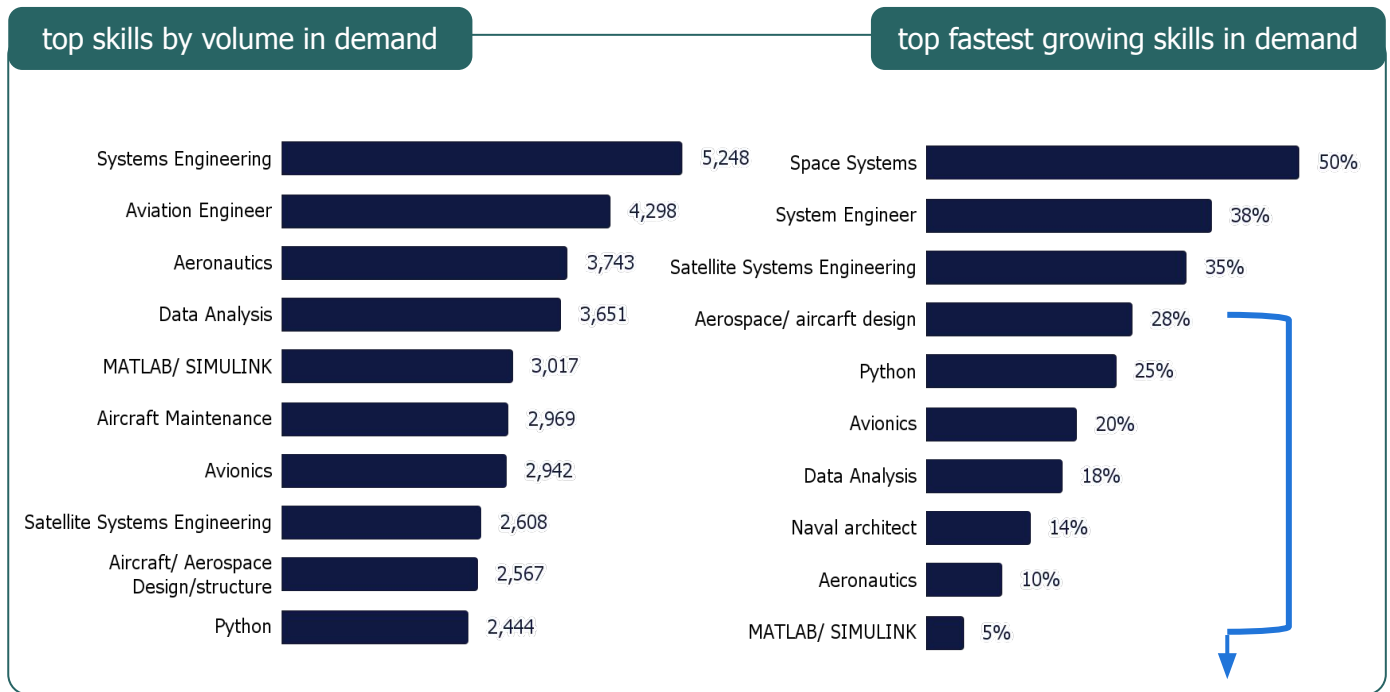
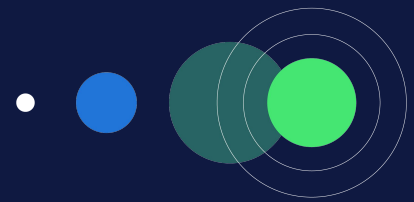


To attract and retain talent, A&D employers must go beyond salary competitiveness by prioritizing flexible work arrangements, strengthening work-life balance, and investing in meaningful career development. With an aging workforce, rising burnout, and limited graduate pipelines, it is critical to offer clear upskilling pathways, succession planning, and engaging roles that provide both stability and purpose—key motivators for today's defence professionals.

roles and skills in
demand.



top skills in demand by volume and growth in Australia.



In line with European market trends, 3D design, aircraft design and simulation, architectural modeling, and programming are emerging as key skill focus areas for the Australian A&D sector.



Surprisingly, although Australia has a substantial cybersecurity talent pool, it is not actively hiring or investing in cybersecurity at the scale seen in the US following Europe market trend. This lack of significant investment creates a potential growth gap, an area currently overlooked in Australia's strategic focus.

source: LinkedIn Talent Insights data. Data accurate 13-06-2025.

key insights.



There is a strong and growing demand for digital and technical skills across Australia's A&D sector, with top needs centered on systems engineering, data analytics, Python, and aerospace systems design. These skills are crucial for driving automation, simulation capabilities, and system integration in defence and aerospace programs.



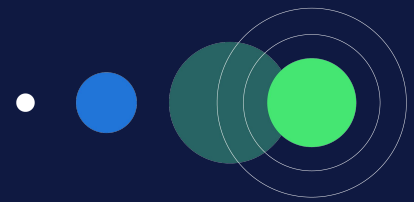
The emergence of 3D design, aircraft simulation, and architecture as some of the fastest-growing skill areas reflects a shift toward virtual prototyping, design validation, and digitally enabled engineering workflows, in line with European innovation trends



Additionally, roles tied to space systems, satellite engineering, and advanced propulsion are seeing rapid demand growth, signaling a national pivot toward space defence, orbital technologies, and next-gen aerospace engineering.

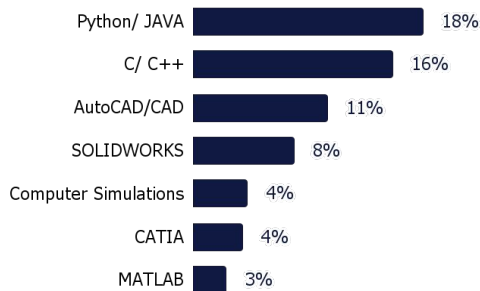


top skills hiring growth/ fastest growing skills.

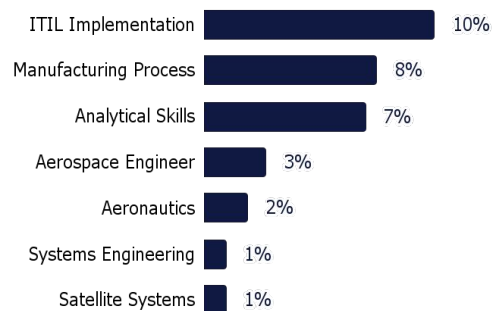


fastest growing skills in the top 5 defence companies in Australia.

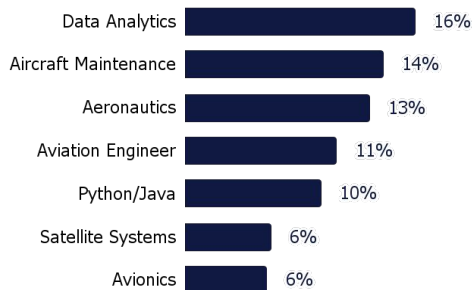
Bae Systems



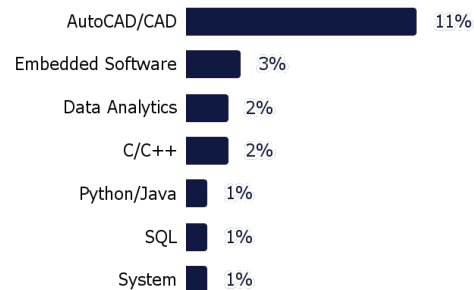
Defense Australia



Lockheed Martin



Thales



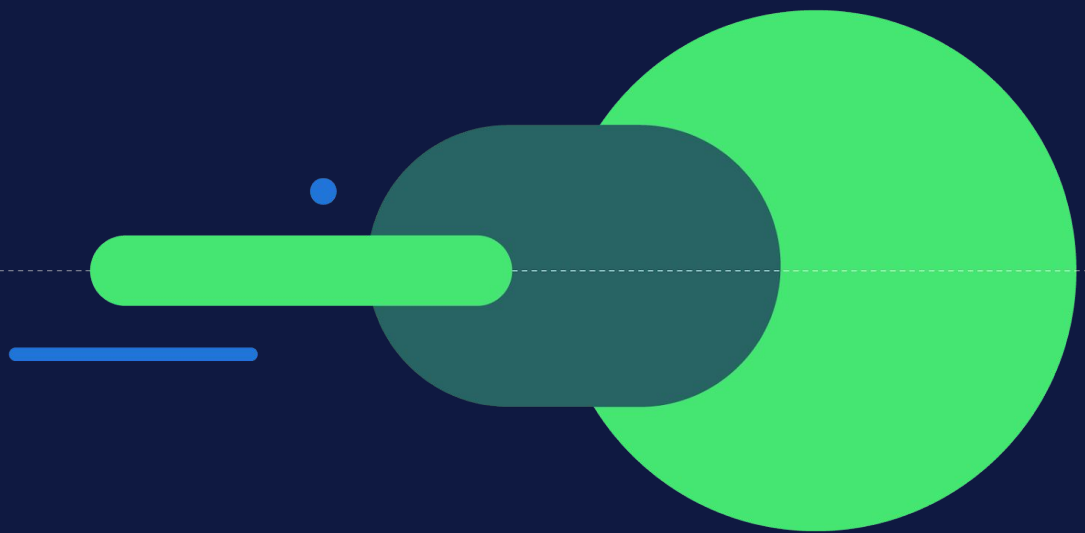
source: LinkedIn Talent Insights. data. Data accurate 13-06-2025.

Following broader industry trends, [programming languages have become a major area of focus](#), particularly for BAE Systems, which recorded a [34% FTE growth](#) in the past year. Lockheed Martin also showed a [10% growth](#), while Thales saw a more modest [3%](#) in this area.

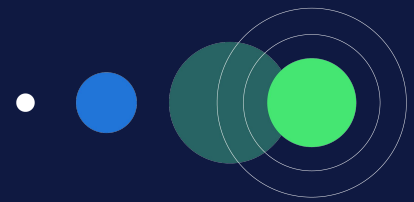
Another key focus is [3D design and simulation](#), where BAE Systems reported a [26% FTE growth](#) and Thales registered [11%](#) growth through AutoCAD alone. Notably, [41% of BAE's workforce](#) and [10% of Thales'](#) are now skilled in these areas, reflecting alignment with global demand for digital engineering capabilities.

In contrast, [Defense Australia appears to follow a different trajectory](#), prioritizing [IT and systems support](#), with a [10% FTE growth](#) driven by ITIL implementation and manufacturing process optimization. This stands out as [surprising](#), given that most [private A&D companies are closely tracking market-driven demand](#), while the [government-led approach seems to be focused more on internal operational efficiency and digital integration](#).

hiring trends.



slow growth in Australia defence industry.



slow hiring growth of AU defence companies

Bae Systems

1 year FTE growth 6%



Lockheed Martin

1 year FTE growth 5%



Department of Defense

1 year FTE growth 19%



Defense Australia



Thales



When comparing hiring growth, Australia trails behind both Europe and the United States. Top defence companies in Australia report an average hiring growth rate of 2%, compared to 6–7% in Europe and 10% in the U.S.. In terms of employment volume, Australia's defence workforce—at approximately 69,000—is about 7 times smaller than Europe's and over 30 times smaller than that of the United States, highlighting the country's relatively limited scale and ramp-up capacity within the global defence ecosystem.

key insights.

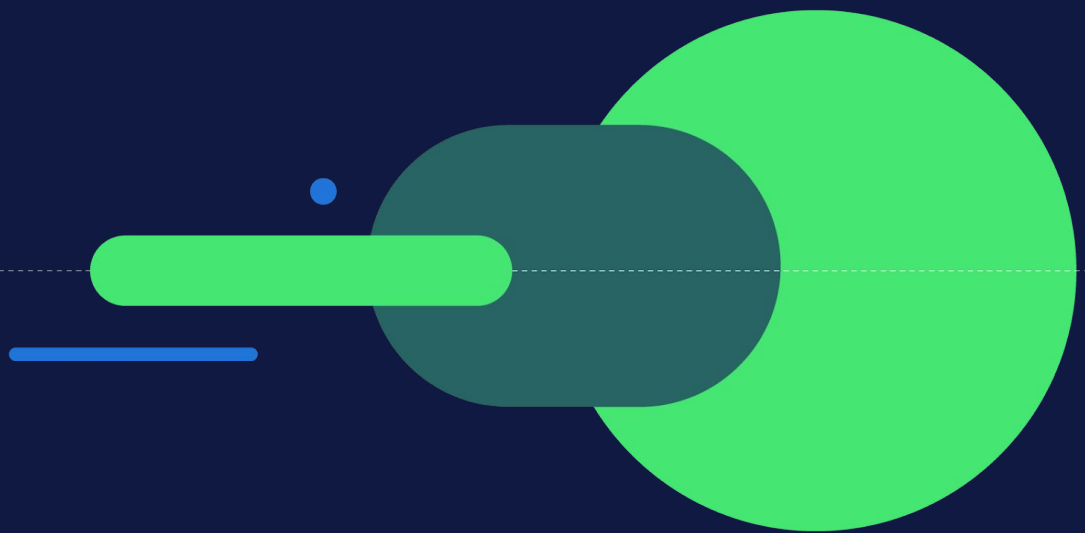
The Department of Defence Australia recorded a 19% hiring growth over the past year—the highest among its peers—signaling a strong push toward capability expansion and workforce modernization. This aligns with Australia's \$270 billion defence investment plan through 2030, with growing focus on cyber resilience, IT systems, and supply chain transformation.

Source: LinkedIn

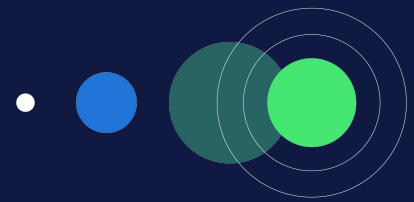


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strengths and future prospects of Australia.



capabilities and niche expertise of different countries and their growth.



Australia's Indo-Pacific defence strategy(2024–2030)

Australia is undertaking its biggest defence upgrade since World War II, with the 2024–25 Defence Budget set at A\$55.7 billion, projected to rise to A\$100 billion by 2033–34, equivalent to around 2.3% of GDP. This includes A\$5.7 billion extra in forward estimates and A\$50 billion in additional funding across the decade

Digital Warfare & Space Command Growth

Australia is making major investments in digital defence and space. The new Defence Space Command is driving a A\$9–12 billion push into satellites, radars, and resilience systems. Meanwhile, the Australian Signals Directorate is expanding cyber capabilities through academic and industry partnerships to address skills shortages. AI and autonomy are also being integrated into ISR, logistics, and decision-making as part of broader modernisation efforts.

Sovereign Shipbuilding & Missile Programs

Australia is ramping up major aerospace and naval programs. The SSN-AUKUS submarine program is expected to generate 20,000 jobs over 30 years and require up to 8,500 direct industrial roles at its build peak. Concurrently, the Hunter-class frigate project (SEA 5000) is driving A\$45 billion of shipbuilding work at Osborne, while A\$4.1 billion has been allocated to establish sovereign guided weapons production.

talent workforce & readiness

Workforce development is central to these plans. AUKUS alone is expected to create around 20,000 direct roles over 30 years, with up to 8,500 workers supporting submarine build and sustainment at its peak. New initiatives like the A\$500 million Skills & Training Academy in SA and WA's "Other Force" plan aim to train welders, naval architects, and nuclear specialists. Defence roles, including submarine officers, are now open to high-school graduates, with training pathways and starting salaries of A\$100,000.

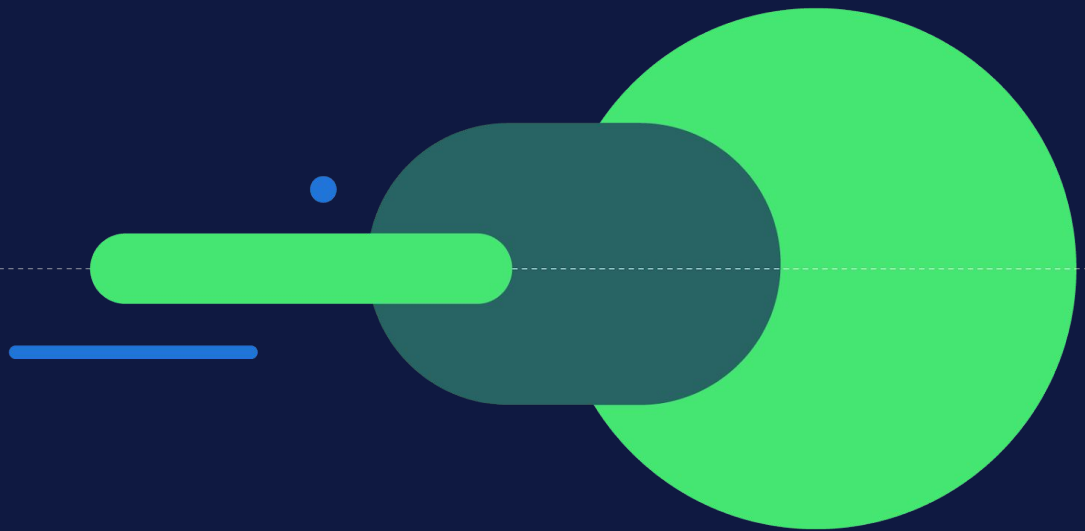
source: news.com.au, aph.gov.au, australiandefence, asa.gov.au, adelaidenow, minister.defence.gov.au, dailytelegraph



Australia's niche expertise

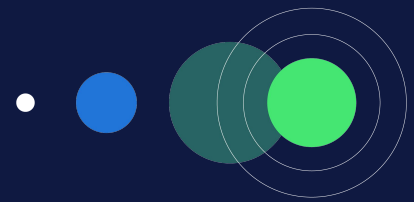
Australia is emerging as a regional defence industrial powerhouse. The AUKUS submarine program enables domestic design, build, and sustainment of SSN-class subs, creating 20,000 skilled jobs and boosting local expertise. Complementary programs like the Hunter-class and guided weapons projects strengthen sovereign aerospace and naval capabilities. Backed by the A\$330 billion Integrated Investment Program, Australia is positioning itself as a hub for sovereign production and workforce resilience, supported by UK-US integration and state-led training hubs in SA and WA.

security clearance
for work in **Australia.**



Understanding Clearance Levels:

Baseline, NV1, NV2, and Positive Vetting (PV).



The Australian security clearance system features four primary levels, each granting access to different sensitivities of classified information and involving progressively more rigorous vetting processes. Understanding these distinctions is crucial for organisations in determining appropriate clearance levels for roles and for individuals in comprehending the responsibilities and scrutiny associated with each.

Baseline Clearance	This entry-level clearance grants access to information classified up to PROTECTED and is typically required for administrative or IT roles in secure government settings. The vetting includes background checks on employment, criminal history, and residency over the past 5 years. Revalidation is required every 15 years.
NV1 (Negative Vetting Level 1)	An NV1 clearance allows access to information up to SECRET and is common for defence, policy, and cybersecurity roles. Vetting includes detailed checks on finances, foreign ties, and personal background. Revalidation is required every 10 years.
NV2 (Negative Vetting Level 2)	A Top Secret (TS) clearance allows access to highly classified information and is typically required for senior intelligence, defence strategy, and national security roles. Vetting involves in-depth interviews with the individual and their associates. Revalidation is required every 5 to 7 years.
PV (Positive Vetting)	A Positive Vetting (PV) clearance allows access to TOP SECRET and compartmented information and is the highest security clearance in Australia. It is required for senior roles in intelligence, counter-terrorism, and national security. Vetting includes lifestyle reviews, psychological testing, and background checks. Revalidation occurs every 5 years, with annual reviews.

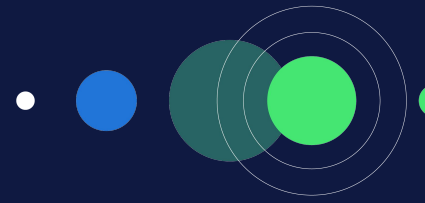
Australian clearance levels

Clearance Level	Level of Access	AGSVA Target Vetting Period	Revalidation Frequency	Key Vetting Aspects
Baseline	PROTECTED	20 business days	15 years	Background check (5 yrs), identity, criminal record, residency
Negative Vetting 1 (NV1)	SECRET	70 business days	10 years	Detailed financial, foreign influence, personal background checks
Negative Vetting 2 (NV2)	TOP SECRET	100 business days	5-7 years	Intensive vetting, interviews with associates/contacts, deeper financial/background
Positive Vetting (PV)	TOP SECRET (including some caveated information)	180 business days	5 years (annual reviews)	Most rigorous: psychological evaluation, lifestyle assessment, extensive interviews

In Australia, demand for security-cleared roles—particularly **NV** and **PV**—has grown significantly since 2015, driven by defence and cyber expansion. While PV approval times peaked at over 500 days in 2016–17, they now average around **157 business days (~7.5 months)**.

This remains faster than in parts of Europe, where Top Secret-level clearances often exceed **249 days**, delaying critical talent onboarding.

prevalence of clearance requirements in key defence companies.



prevalence of clearance requirements in key defence companies

The critical role of security clearances is evident in the recruitment practices of major aerospace and defence companies operating in Australia. Job advertisements frequently stipulate the need for applicants to either hold an existing Australian Defence security clearance or be eligible to obtain one as a condition of employment.

BAE Systems Australia often requires a "current Australian Defence Security clearance" for specialised roles such as Senior Product Security Engineers. The company also has established processes for managing information related to employee security clearances to ensure appropriate access to classified material.

Thales Australia explicitly states in job postings, for instance for an Inventory Controller, that "security clearance is required for this role, applicants must be Australian citizens and eligible to obtain and maintain an appropriate clearance"

Lockheed Martin Australia roles, such as Security Officer positions, commonly require a Baseline clearance or higher. While many of their US-based positions list various US clearance requirements (e.g., Secret, TS/SCI) , Australian operations adhere to AGSVA standards.

Boeing Defence Australia mandates high-level clearances for certain positions; for example, an ICT Systems Administrator role supporting the Australian Signals Directorate (ASD) requires a Positive Vetting (PV) clearance. Other roles within the company may necessitate an NV1 clearance.

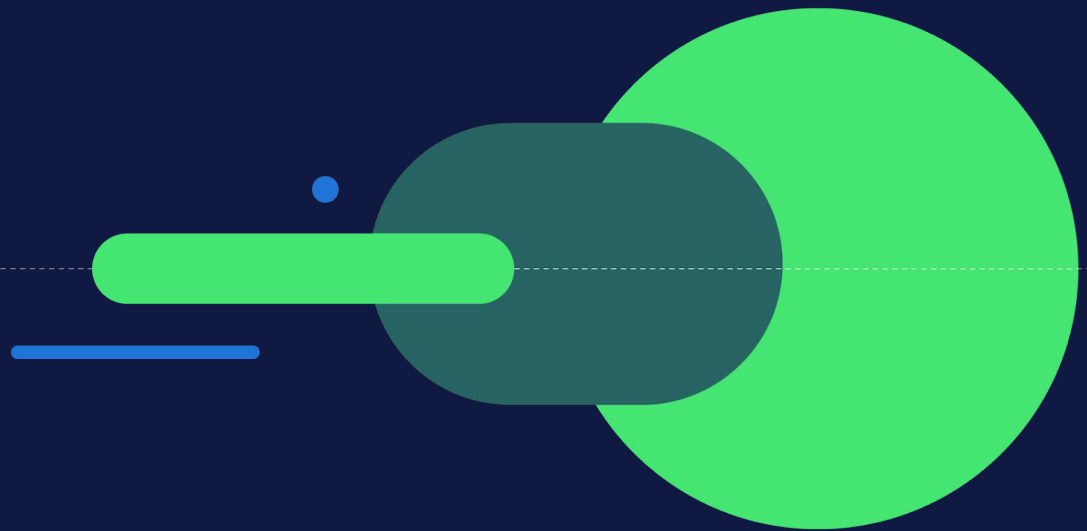
Raytheon Australia typically requires eligibility for an Australian Defence security clearance for engineering and program management roles, with specific levels like NV1 sometimes cited for positions such as Asset Manager.

Northrop Grumman Australia requires Defence security clearances for roles like Document Support Officer and notes the applicability of International Traffic in Arms Regulations (ITAR) compliance, highlighting the intersection of personnel and export control security.

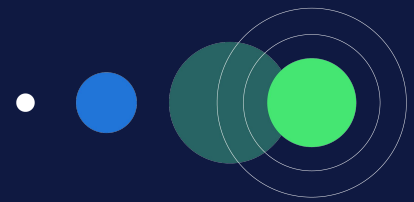
This consistent demand for cleared personnel by major defence prime contractors can create a significant barrier to entry for smaller and medium-sized enterprises (SMEs) looking to participate in the defence supply chain. SMEs may lack the resources or experience to sponsor clearances or attract already-cleared personnel. This could inadvertently limit innovation and competition if not addressed through targeted programs designed to support SME security uplift and integration into defence projects.

source: defence.gov., naa, ausclear support, bae systems, thales careers, seek, boeing careers, boeing, rtx jobs, clearancejobs
Data accurate 12-06-2025

migration trends of blue collar workforce to Australia.



rising demand for a skilled blue-collar workforce.



why demand for blue collar roles are rising?

The critical role of security clearances is evident in the recruitment practices of major aerospace and defence companies operating in Australia. Job advertisements frequently stipulate the need for applicants to either hold an existing Australian Defence security clearance or be eligible to obtain one as a condition of employment.



For instance, the AUKUS submarine construction yard infrastructure alone will require up to 4,000 workers at its peak, with an additional 4,000 to 5,500 direct jobs anticipated for the construction of the submarines themselves.

This demand is not merely for an increase in the quantity of workers but also for an evolution in the quality and complexity of their skill sets. The increasing integration of Industry 4.0 technologies, advanced manufacturing techniques, and sophisticated digital systems within the A&D sector means that blue-collar roles are becoming more technologically advanced. For example: The demand for "Production Operators" 12 capable of working with advanced machinery and adhering to stringent quality standards is equally critical

addressing critical workforce shortages in Australia's Defense and Aerospace Industry.

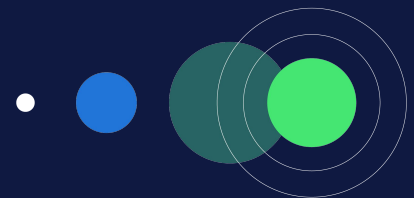
The Australian A&D industry is grappling with deep, systemic skill shortages—especially in blue-collar and technical trades—caused by rapid technological advancements, an aging and retiring workforce, and the erosion of mid-level talent critical for mentoring and training. Compounding this, current education and training systems are often misaligned with the evolving demands of advanced manufacturing, cyber, AI, and engineering roles. This mismatch between industry needs and workforce readiness is undermining the sector's ability to meet strategic objectives, such as AUKUS and sovereign capability development. Addressing this challenge requires a comprehensive approach that combines targeted skilled migration, modernised vocational training, continuous upskilling, and strong retention frameworks to build and sustain a future-ready workforce.

source: article by ussc.edu,aspi.org,trsresourcing.com, Navigating workforce challenges in Australia's A&D industry - WTW, Top 10 In-Demand Skilled Trades in Australia for 2025, AUKUS inflection point: Building the ecosystem for workforce development. Data accurate 12-06-2025

Top In-Demand Blue-Collar Roles in Australian A&D Industry and migrated from other countries

Role Title	Key Skills/Typical Duties in A&D	Relevance to A&D Projects	Indicative Skill Level (AQF)
Welders (First Class / Pressure Welders)	High-integrity welding of various metals (steel, aluminium, exotic alloys) for structural components, pressure vessels, pipework.	Naval shipbuilding (hulls, submarines), armoured vehicle fabrication, aerospace component repair, munitions casings. ¹⁶	Cert III/IV
Metal Fabricators / Boilermakers	Marking out, shaping, cutting, and assembling metal plates and sections; structural steelwork; heavy fabrication.	Ship/submarine hull construction, platform structures, ground support equipment, infrastructure for defence facilities. ¹⁶	Cert III/IV

rising demand for a skilled blue-collar workforce.

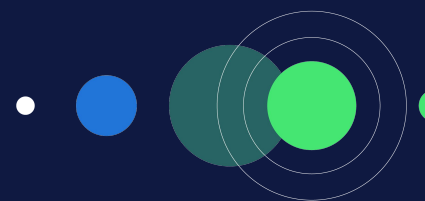


Top In-Demand Blue-Collar Roles in Australian A&D Industry and migrated from other countries

Role Title	Key Skills/Typical Duties in A&D	Relevance to A&D Projects	Indicative Skill Level (AQF)
Fitters and Turners / Mechanical Fitters	Assembling, installing, maintaining, and repairing complex machinery, engines, hydraulic/pneumatic systems, weapon systems.	Naval propulsion systems, aircraft engines, vehicle power trains, missile launchers, manufacturing plant equipment.	Cert III/IV
Electricians (General & Special Class)	Installing, testing, commissioning, and maintaining complex electrical and electronic systems, wiring, and control panels.	Naval vessel power distribution and combat systems, aircraft avionics and electrical systems, defence facility infrastructure.	Cert III/IV
Aircraft Maintenance Engineers (Mechanical, Avionics, Structures)	Inspecting, servicing, repairing, and overhauling aircraft airframes, engines, electrical/instrument systems, and structural components.	RAAF aircraft fleet sustainment (e.g., F-35A), commercial aerospace MRO, rotary-wing aircraft maintenance.	Cert IV/Diploma
Production Operators/Technicians (Advanced Manufacturing)	Operating CNC machinery, robotic systems, additive manufacturing equipment, composite material layup and curing.	Component manufacturing for aerospace and naval projects, munitions production, prototyping.	Cert III/IV
Sheet Metal Workers (First Class)	Fabricating and repairing sheet metal components, ducting, and paneling to precise specifications.	Aircraft fuselage and wing components, naval vessel ventilation systems, custom enclosures for electronic equipment.	Cert III
Diesel Mechanics / Heavy Vehicle Mechanics	Diagnosing, repairing, and maintaining diesel engines and heavy vehicle systems (transmissions, brakes, hydraulics).	Maintenance and repair of Army land vehicles (trucks, armoured personnel carriers, tanks), ground support equipment.	Cert III

source: article by wtwco.com, trsresourcing.com, anzscosearch. Data accurate 12-06-2025

migration insights of boilermakers, welders, mechanical fitters, etc.



deep dive into boilermakers, welders, mechanical fitters, electricians, or pipe fitters occupations.

In the below section, we have showcased talent who have migrated to Australia and are currently employed as boilermakers, welders, mechanical fitters, electricians, or pipe fitters play a vital role in supporting the country's industrial and defence sectors.

top countries from which these blue-collar workers have migrated to Australia

	Welder	Electrician	Mechanical fitter	Pipe fitter	Boilermaker
US	9%	10%	29%	42%	21%
UK	10%	11%	30%	55%	28%
Canada	1%	1%	4%	5%	2%
Germany	1%	1%	4%	8%	4%
New Zealand	3%	3%	8%	19%	9%
India	2%	2%	6%	12%	6%
Indonesia	3%	3%	9%	16%	8%

source: LinkedIn Talent Insights. Data accurate 12-06-2025

The UK and US remain the primary source countries for blue-collar talent migrating to Australia. However, a notable trend emerges in the pipe fitter segment, where—beyond the UK and US—significant talent is also originating from New Zealand (19%), India (12%), and Indonesia (16%).

Given Australia's ongoing blue-collar workforce shortages, bridging the skill gap will increasingly rely on sourcing talent from key migrant-supplying countries. In the following section, we will examine the talent supply landscape in these countries, assessing the availability and pipeline of blue-collar professionals within their domestic labour markets to evaluate their potential to support Australia's workforce needs.

migration insights of boilermakers, welders, mechanical fitters, etc.



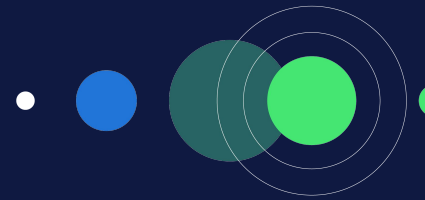
top countries from which these blue-collar workers have migrated to Australia

	Welder	Electrician	Mechanical fitter	Pipe fitter	Boilermaker
US	957,895	568,421	32,632	178,947	45,263
UK	136,842	157,895	40,000	52,632	4,316
Canada	146,368	105,263	10,256	30,526	6,316
Germany	74,250	22,500	8,550	2,000	511
New Zealand	10,741	12,899	3,222	3,544	1,074
India	1,006,566	1,141,553	159,817	118,721	11,872
Indonesia	752,727	194,455	26,345	19,445	4,109

source: talent supply modelled considering all iterations of Welder, Electrician, Mechanical fitter, Pipe fitter, Boilermaker pushing LinkedIn data through layers of statistics normalization. Data accurate 12-06-2025

The US, UK, India, Canada, and Indonesia possess a strong talent pool across key blue-collar roles, making them well-suited for cross-border hiring and scalable workforce solutions. In contrast, talent availability in New Zealand and Germany is more limited, warranting a targeted and strategic recruitment approach when sourcing from these markets.

top countries from where blue-collar talent have migrated in AU.



Australia's Migration Program delivered 195,004 permanent places, with the Skill stream accounting for 142,344 of these, a significant increase from the previous year. India was the largest source country for the overall Migration Program, providing 41,145 places (21.1%), and the Philippines (13,085 places, 6.7%). Growth in permanent migration was particularly strong from India and New Zealand.

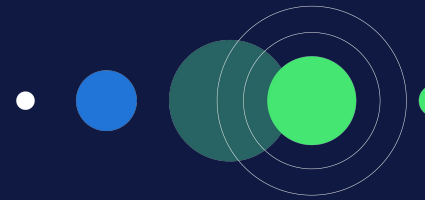
Assessment of Top Source Countries for A&D Blue-Collar Migrants from where talent have migrated in past

Country	% of people granted skill-level Visa	Evidence of Current Skilled Trades Migration to Australia	Strength of Domestic Vocational Training System (Relevant Trades)	General English Proficiency Levels	Compatibility with Australian A&D Standards/ Security Considerations	Overall Potential as a Source for A&D Blue-Collar Workers
United Kingdom	10.9%	Strong historical source for various trades; prominent in Employer Sponsored and State Nominated visa data.	Well-established apprenticeship system (e.g., NVQs, City & Guilds), often aligned with Australian standards.	High.	High compatibility due to similar standards, language, and Five Eyes security arrangements.	Very High
India	21%	Largest overall source of skilled migrants; significant in Employer Sponsored and Regional streams.	Large and diverse VET sector (e.g., ITIs), quality can vary. Some specialized training available.	Moderate to High (among skilled visa applicants).	Moderate; qualification recognition can be complex. Security vetting on a case-by-case basis. Visa assessment required for electricians on 482 visa.	High (due to volume), with focus on targeted skill sets and rigorous assessment.

source: article by [homeaffairs.gov](#), [ausclear.com](#), [downundercentre.com](#), [reddit](#), [trsresourcing](#). Data accurate 12-06-2025



top countries from where blue-collar talent have migrated in AU.

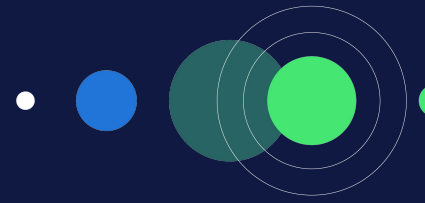


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Philippines	6.7%	Significant source country across various skilled visa streams, including Employer Sponsored.	Strong emphasis on vocational training for overseas employment (e.g., TESDA accredited).	Generally Good to High.	Moderate to High; experience in international work environments. Visa assessment required for electricians on 482 visa.	High
New Zealand	5%	Significant source, facilitated by Trans-Tasman Travel Arrangement; prominent in Skilled Independent data.	Vocational training system largely compatible with Australia's.	High.	Very High compatibility due to closely aligned standards, language, and security cooperation.	Very High
Canada	Data not available	Anecdotally a source for trades; similar developed economy and English-speaking.	Strong apprenticeship and college-based vocational training.	High.	High compatibility due to similar standards, language, and Five Eyes security arrangements.	High (Potential)

source: article by [homeaffairs.gov](#), [ausclear.com](#), [downundercentre.com](#), [reddit](#), [trsresourcing](#). Data accurate 12-06-2025

migration pathways, visas and facilitators for blue collar workers in Australia.



Several visa subclasses provide pathways for skilled blue-collar workers to migrate to Australia and contribute to the A&D industry. Employer-sponsored visas are often the most direct route, given the specific skill requirements of A&D companies.

Temporary Skill Shortage / Skills in Demand visa: This temporary visa allows employers to sponsor skilled foreign workers when local talent is unavailable. It is valid for up to 4 years (5 for Hong Kong passport holders) and may lead to permanent residency. A skills assessment is usually not mandatory unless the applicant holds a passport from specific countries such as India, the Philippines, or South Africa. Licensing may still require one. English proficiency (IELTS 5.0 overall) is required, with no strict age limit for the temporary visa itself.

Skilled Independent and Skilled Nominated visas: These are points-tested permanent visas that also accommodate trades like electricians and welders, provided applicants meet the required points, have a positive skills assessment, and receive an invitation to apply.

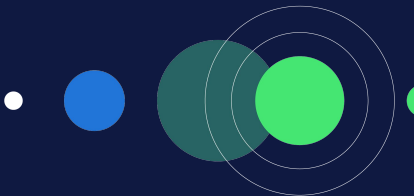
Employer Nomination Scheme visa: This permanent visa supports skilled workers nominated by an Australian employer. The Direct Entry stream applies to those with an occupation on the MLTSSL (Medium and Long-term Strategic Skills List), a positive skills assessment, at least three years of relevant experience, IELTS 6.0 in each band, and typically under 45 years of age (exemptions may apply). The Temporary Residence Transition stream is for Subclass 482 holders who've worked in their nominated role for 2–3 years with the same employer and meet other eligibility criteria.

Skilled Work Regional – Provisional visa: A points-tested, provisional visa allowing skilled workers to live and work in regional Australia, either through state/territory nomination or eligible family sponsorship. It offers a pathway to permanent residency.

Labour Agreements (including DAMAs): These are specialized agreements between employers (or industry bodies) and the government that allow hiring overseas workers where standard programs fall short. They may include concessions on English proficiency, skill level, or age. DAMAs are location-specific and help address regional and niche labour shortages.

source: article by visaenvoy, workvisalawyer, immigrationagentadelaide, homeaffairs. Data accurate 12-06-2025

why blue collar talent are moving to Australia to work.



Economic factors—especially wages and living standards—are key drivers for blue-collar migration. [Australia offers strong earning potential, with trades like](#) boilermakers, plumbers, and electricians earning between \$87,000 and \$109,000 annually, and hourly rates often exceeding \$44, particularly in high-demand regions or sectors like mining.

The comparison table below of average hourly wages for selected trades across Australia, the UK, the USA, and New Zealand reveals Australia's strong position:

top countries from which these blue-collar workers have migrated to Australia

Roles	United Kingdom	USA	New Zealand
Electrician	AUS wage 41% lower than UK	AUS wage 20% higher than the US	AUS wage 33% higher than the NZ
Plumber	AUS wage 60% lower than UK	AUS wage 11% lower the US	AUS wage 26% higher than the NZ
HVAC Technician	AUS wage 109% higher than UK	AUS wage 29% higher than the US	AUS wage 31% higher than the NZ

key insight.

- Wage differentials play a critical role in Australia's ability to attract skilled blue-collar talent. For electricians and plumbers, the UK offers over 40% higher wages than Australia, suggesting Australia may need to adjust compensation to remain competitive for these roles. Conversely, Australia outperforms the UK in HVAC technician salaries, offering 109% higher wages, making it easier to attract talent in this category.
- Compared to the US, Australia offers higher wages for electricians and HVAC technicians, positioning it favorably for talent attraction. However, US plumbers earn approximately 11% more than their Australian counterparts, indicating a need to align wages to remain competitive.
- For New Zealand, Australia's higher wage levels provide a strong advantage in attracting skilled tradespeople.

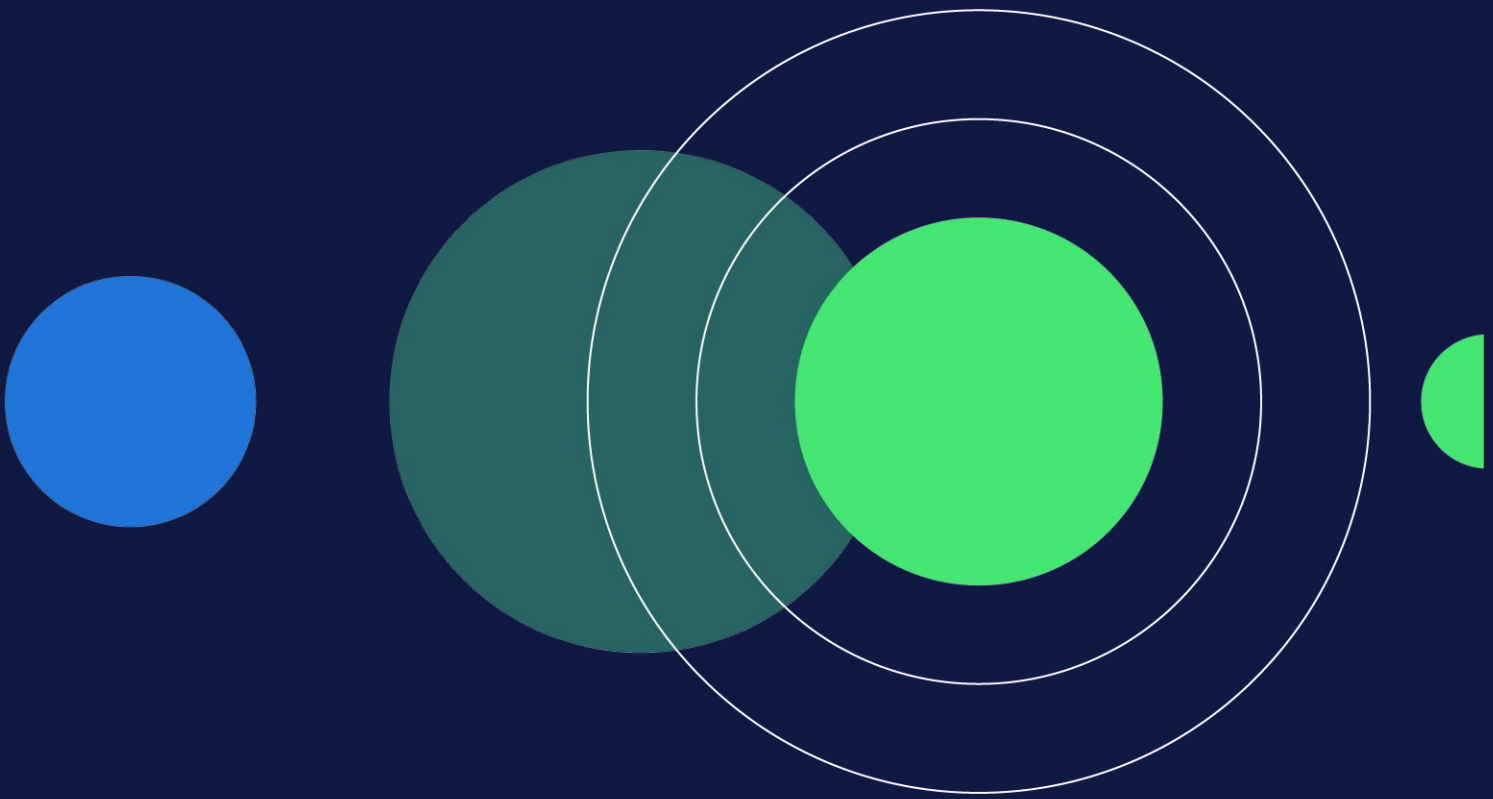
key takeaway.

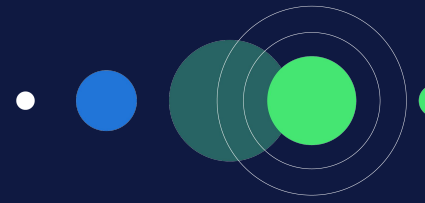
To attract skilled blue-collar talent to Australia's A&D sector, compensation strategies should be tailored by source country, ensuring wage competitiveness where international markets offer higher pay. Where Australia already holds a wage advantage, this should be leveraged to attract talent more easily. In markets with stronger earning potential, wage alignment or targeted incentives may be required to strengthen Australia's appeal.

source: article by tradifyhq.com. Data accurate 12-06-2025



strategic priorities and future outlook.





government defence spending plans and targets

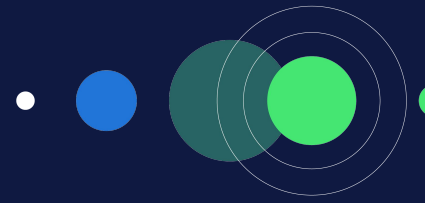
Rising Investment & Strategic Commitments: Australia's defence spending currently sits at 2% of GDP (\$56 billion in 2024–25), ranking 15th globally. The government plans to grow this to 2.35% of GDP (\$100 billion) by 2034, while the opposition targets a more aggressive 3% (\$135 billion) by 2034–35. The 2024 National Defence Strategy (NDS) aims for 2.4% by 2033–34, with an additional \$10.6 billion announced over the forward estimates.

Concerns Over Pace and Timing: Despite these robust long-term figures, the 2024–25 budget only reflects a 1.6% real-terms increase. Much of the new investment is back-loaded, arriving closer to the 2033–34 mark. Critics argue this "slow start" could leave Australia lagging behind global peers who are accelerating their defence outlays more urgently.

Risk of Capability Gaps: The imbalance between future-focused investment and immediate readiness poses risks. Funds diverted toward long-term capabilities may undercut the Australian Defence Force's short-term preparedness, creating a potential deterrence gap. To mitigate this, policymakers may need to review and potentially accelerate spending timelines to align immediate capability with strategic intent.

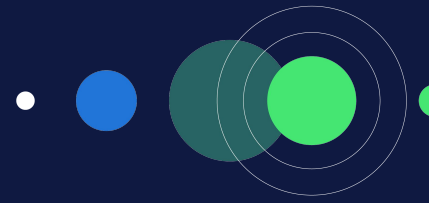


source: article by Australian Department of Defence, Australian Government Budget Papers, Smart Missile Sovereign Capability Factsheet, AUKUS Submarine Transition Plan, ASPI, Reuters, Adelaide Now. Data accurate 12-06-2025



future employment projection

Project/Initiative	Projected New Roles / Growth Target (Number)	Key Skill Categories Required	Timeframe
AUKUS Pillar 1 - SSN Build (South Australia)	4,000 - 5,500	Shipbuilding Trades, Nuclear Engineering (inferred), Advanced Manufacturing, Project Management	By 2040s
AUKUS Pillar 1 - SSN Infrastructure (Osborne, SA)	Up to 4,000	Construction Trades, Engineering, Project Management	By end of decade
AUKUS Pillar 1 - HMAS Stirling Expansion (WA)	~3,000	Construction, Engineering, Logistics, Technical Trades	Over next decade
AUKUS Pillar 1 - Henderson Sustainment (WA)	~3,000	Marine Engineering, Technical Trades, Logistics, Nuclear Sustainment (inferred)	Future (post-establishment)
Overall AUKUS Program (Direct Jobs)	~20,000	Diverse: Engineering, Trades, Scientific, Project Management, Nuclear Expertise (inferred)	Over 30 years
ADF Permanent Force Growth Target (Overall)	~11,600 (to 69,000 from 57,400)	All ADF categories, emphasis on technical and specialist roles	By early 2030s
ADF Growth - Communications & Cyber	~1,486 (from 5,191 to 6,677)	Cyber Specialists, IT, Signals, Electronic Warfare	By 2033/34
ADF Growth - Engineering, Maintenance & Construction	~1,928 (from 15,148 to 17,076)	Engineers (various), Technicians, Trades, Maintenance Personnel	By 2033/34
Continuous Naval Shipbuilding (General - beyond AUKUS)	Significant (not specified)	Shipbuilding Trades, Marine Engineering, Systems Integration, Project Management	Ongoing
Guided Weapons & Explosive Ordnance Enterprise (GWEO)	Significant (not specified)	Chemical Eng, Advanced Manufacturing, Energetics, Systems Eng, Safety Specialists	Ongoing



major investment programs and capability development focus areas

01

AUKUS Submarine Program (Pillar 1)

This is a cornerstone of Australia's defence strategy, involving the acquisition of at least 3 (potentially 5) Virginia-class submarines from the US in the early 2030s. This will be followed by the construction of a new SSN-AUKUS class, with Australia building its first in the early 2040s. The estimated cost of this ambitious program ranges between \$268 billion and \$368 billion.

02

Domestic Missile Manufacturing

Australia plans to invest up to A\$18 billion in domestic missile manufacturing, with the goal of producing 4,000 guided missile systems annually from 2029. This initiative includes the assembly of limited numbers of the short-range Guided Multiple Launch Rocket System (GMLRS) starting from late 2025.

03

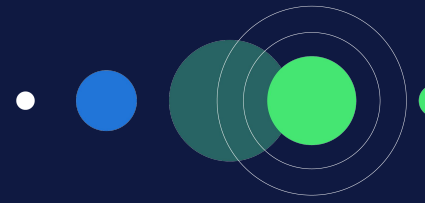
Naval Shipbuilding

A significant allocation of \$11.1 billion is earmarked for accelerating the Navy's surface combatant fleet and expanding shipbuilding capabilities. This also encompasses the homeporting and sustainment of conventionally armed, nuclear-powered submarines under AUKUS Pillar

04

Long-Range Strike Capabilities:

\$4.1 billion is committed to enhancing these critical capabilities.



major investment programs and capability development focus areas

05

Northern Base Infrastructure

\$3.8 billion is allocated for upgrading northern base infrastructure to support high-intensity defence operations, recognizing its strategic importance.

06

Integrated Air and Missile Defence (IAMD)

Identified as a top priority for national security, IAMD has been noted as "underinvested" by the current government, despite recommendations to fast-track its acquisition.

07

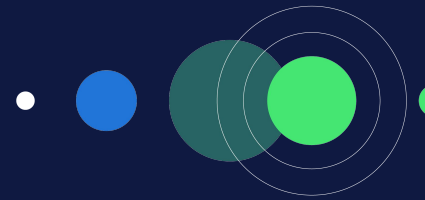
Autonomous Systems

There is a recognized need for greater investment in the "high volume, low cost" acquisition of autonomous systems (for air, land, and sea domains) to address the current lack of mass in the ADF.

scarcity of blue collar
roles in Australia's A&D
industry.



Scarcity of blue-collar roles in the Australian A&D sector.



Australia's aerospace and defence (A&D) sector is undergoing significant expansion, driven by major national projects like AUKUS, a renewed focus on sovereign capability, and the increasing complexity of modern defence platforms. While high-technology roles in engineering, cybersecurity, and AI often capture headlines, a critical foundation of skilled blue-collar workers is essential for building, maintaining, and sustaining the nation's defence assets. However, the Australian A&D industry, much like its global counterparts, faces acute and growing shortages in these foundational trade roles, threatening project timelines, production capacity, and long-term competitiveness.

key blue collar roles in shortage

Skilled Welders (including Boilermakers, welders)

Australia faces a critical shortage, with a projected [deficit of 70,000 welders by 2030](#)—potentially rising to [100,000](#) due to defence shipbuilding (AUKUS), energy, and critical minerals projects. Of [~67,000 welders](#) identified in the last census, [fewer than 5,000](#) meet high-level defence/nuclear standards. Nearly [one-third of experienced welders are nearing retirement](#), while the fabrication industry has shrunk by [20%](#) over two decades.

CNC Machinists and Precision Tool Operators:

[Shortages](#) in advanced manufacturing are acute, with [31% of occupations on the 2023 Skills Priority List](#) experiencing shortfalls. CNC machinists are among the hardest hit, [limiting defence production capacity for high-precision components](#) vital to aerospace and naval projects.

Maintenance, Repair, and Overhaul (MRO) Technicians

Global and local MRO workforces are under strain. [690,000 new MRO technicians](#) will be needed globally over 20 years. Australia's defence sustainment—averaging [\\$3.1B/year in Navy sustainment spending](#)—relies heavily on this workforce, which is being impacted by STEM shortages and ageing trade-qualified talent.

Assembly Technicians and Fitters

Ongoing demand in shipbuilding and aerospace highlights [persistent shortages in skilled assembly technicians](#). Australia's boatbuilding and repair sector employed [5,264 people in 2024](#), with modest growth projected—reflecting continued pressure in related assembly occupations supporting naval and air defence systems.

Avionics Mechanics and Electrical Technicians

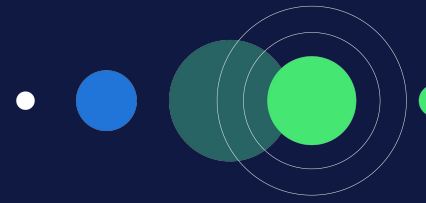
With only [2,300 Aircraft Maintenance Engineers \(Avionics\)](#) as of the 2021 Census, Australia's supply of skilled avionics technicians remains constrained. As [electronic systems in defence platforms grow](#), demand for this workforce—currently [just 8% female](#)—is rising sharply, especially for [uncrewed systems and next-gen aircraft](#).

drivers for disparity

Aging Workforce and Retirement Wave.

A significant portion of Australia's current skilled blue-collar A&D workforce is approaching retirement age. For example, up to 70,000 engineers (a related professional field facing similar demographic pressures) are predicted to retire over the next 15 years. This impending wave is leading to a substantial loss of experienced talent, critical hands-on skills, and valuable institutional knowledge that is difficult to replace quickly.

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Skills Mismatch

Modern aerospace and defence manufacturing now demands a blend of trade skills and digital literacy. Roles increasingly require advanced welding, CNC programming, interpreting 3D digital models, and working with integrated electronic systems. A 2022 Australian Industry Group report found 83% of defence businesses face skills shortages, exposing a gap between workforce capabilities and industry needs—especially for projects like AUKUS. While VET and apprenticeships provide a base, they often lag in embedding digital and material science skills. Ongoing upskilling and more adaptable training frameworks are essential to bridge this gap.

Limited Training Pipeline

Apprenticeship enrolments and completions in key defence trades—like boilermaking, welding, and fitting—are struggling to meet rising demand. In the 12 months to March 2022, 234,700 apprenticeships commenced (103,185 in trades), but 110,925 were cancelled. Completion rates are falling, with only 55.7% of the 2017 cohort and 53.4% of 2018 trade apprentices finishing. Contributing factors include the declining appeal of trades for young people, competition from other industries, and underinvestment in modern VET facilities and curricula. This limits the supply of qualified tradespeople, worsening shortages and hindering sovereign capability growth.

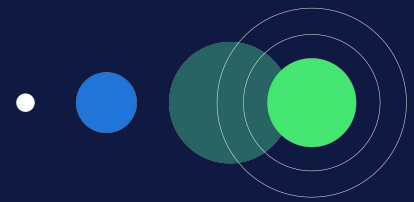
Competition for talent & attractiveness of the sector

The A&D industry directly competes with other major sectors, such as mining, construction, and resources, for the same pool of skilled tradespeople. Perceptions regarding career pathways, remuneration in some trades, and working conditions can impact the A&D sector's ability to attract and retain talent, especially when some youth cohorts are lured by high pay in low-skilled jobs in sectors like mining.

Impact of Major National Projects (e.g., AUKUS)

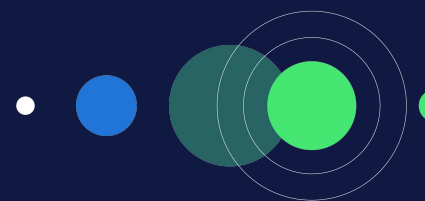
Landmark national initiatives like the AUKUS submarine program are set to dramatically increase the demand for specialized blue-collar skills. The AUKUS plan is projected to create around 20,000 direct jobs over the next 30 years across industry, the ADF, and the Australian Public Service. These projects will further strain an already limited national talent pool if proactive workforce development strategies are not effectively implemented. The government has allocated nearly \$150 million to start delivering these skills, including funding for an additional 4,000 university places in STEM disciplines.

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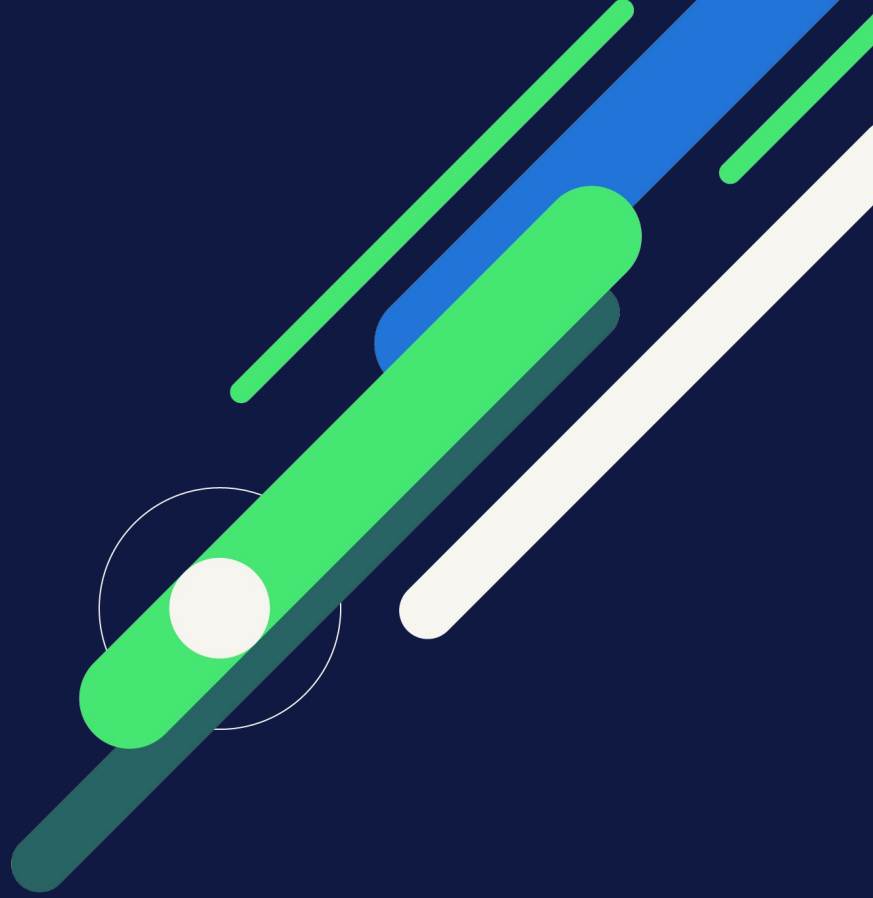
Role Category	Specific Role Examples	Key Driving Factors	Critical Skills Needed
Maintenance Tech	Aircraft Maintenance Technician (AMT/LAME), MRO Technician	Aging workforce (avg. age 50+, high retirement rate), Attractiveness, Tech Complexity	Diagnostics, Digital tools, Data analysis (predictive maint.), New propulsion systems (SAF, H2, electric), Systems integration, Safety protocols
CNC Machinist	CNC Operator, CNC Programmer	Industry 4.0 adoption, Demand from Aero/Auto, Lack of skilled operators, Training lag	Programming (G-code, CAM), Setup, Operation, Troubleshooting, Precision measurement, Digital literacy, potentially multi-axis machining
Welder	Aerospace Welder	Defence demand, Specialized materials (alloys), Need for high precision	Specific material expertise (e.g., titanium, aluminum alloys), Advanced welding techniques (TIG, Laser), Quality inspection, Blueprint reading
Composite Tech	Composite Laminator, Fabricator, Technician	Increased use of composites, Automation in composites manufacturing	Material handling, Lay-up techniques, Vacuum bagging/curing, Bonding, Machining composites, NDT, Repair techniques, Automation operation
AM Technician	Additive Manufacturing Operator/ Technician	Adoption of 3D printing for parts/tooling, Need for specialized operation skills	Machine operation (various AM types), Material handling (esp. powders), Post-processing, Quality control, Basic CAD understanding
Fitter/Assembler	Aerospace Manufacturing Fitter, Systems Fitter, Assembler	Production volume, Need for adaptation to new tech/materials	Mechanical aptitude, Blueprint reading, Use of hand/power tools, Assembly techniques (fasteners, bonding), Digital work instructions (AR)

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Role Category	Specific Role Examples	Key Driving Factors	Critical Skills Needed
Avionics / Electrical Tech	Aircraft Maintenance Engineer (Avionics), Electrical Fitter (Defence), Electronics Technician (Aerospace/Maritime), Weapons Technician	Increasing electronic & software content in all defence platforms (aircraft, ships, vehicles), Upgrades to existing platforms with new sensor/communication suites, Introduction of uncrewed aerial systems (UAS) & autonomous systems, Growth in the Australian space industry & satellite technology	Interpreting complex electrical/electronic schematics & wiring diagrams, High-reliability soldering & wire harnessing to aerospace/defence standards (e.g., IPC J-STD-001, WHMA-A-620), Fault diagnosis & repair of complex avionic/electronic systems to component level, Use of specialized electronic test equipment (oscilloscopes, spectrum analyzers, TDRs), Understanding of data bus technologies (e.g., MIL-STD-1553), fibre optics, and network-centric systems.
Assembly / Fitter Tech	Aerospace Fitter, Mechanical Fitter, Structural Assembler (Shipbuilding/Aerospace), Armament Fitter	Increased production rates for major defence acquisition projects, Assembly of large & complex structures (e.g., ship modules, aircraft fuselages, vehicle hulls), High demand for precision in assembly & systems integration, Growth in sovereign manufacturing capability	Blueprint reading & interpretation of detailed assembly drawings/3D models, Precision measurement, alignment & fitting techniques, Use of specialized hand & power tools, torque wrenches, and assembly jigs/fixtures, Fastening & joining techniques (mechanical fasteners, riveting, structural bonding), Experience working with various materials (metals, composites), System installation & integration (hydraulic, pneumatic, mechanical).

source: article by aspi, wtwco, manufacturinggrowthhub, space.gov.au. Data accurate 12-06-2025



thank you.