Australian Government
Australian Submarine Agency

NUCLEAR-POWERED SUBMARINE WORKFORCE STRATEGY



2026

Acknowledgement of Country

The ASA acknowledges the Traditional Owners of Country throughout Australia and acknowledges their continuing connection to land, waters and community. We pay our respects to the people, the cultures and the Elders past and present.



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Australian Government

Australian Submarine Agency

ASA

NUCLEAR-POWERED SUBMARINE WORKFORCE STRATEGY

2026

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Ministerial foreword

The Government has directed the Australian Submarine Agency (ASA) to deliver the nuclear-powered submarine program – a program of national significance.

We are committed to strengthening our defence capabilities to keep Australians safe, contribute to regional stability and to deter conflict. Australia will employ all elements of power to protect the security interests and way of life of the Australian people. Nuclear-powered submarines play an essential role in meeting Australia's defence requirements in the decades ahead. No other platform matches the stealth, endurance, mobility and mix of capabilities provided by a conventionally-armed, nuclear-powered submarine.

The AUKUS partnership between Australia, the United Kingdom and the United States, is central to this objective. The program will also require unparalleled coordination and cooperation between Commonwealth, and state and territory governments, industry, unions and academia.

The nuclear-powered submarine program will support around 20,000 direct jobs over the coming decades and underpin $30 billion in investment in industry uplift, including workforce uplift. It will drive growth in new high-skilled jobs and investment in advanced technologies. It will build on the industry and infrastructure capabilities of Australia's already high-performing vocational education and training and higher education sectors to develop, qualify and sustain a skilled workforce across all stages of the nuclear-powered submarine enterprise. Countless more jobs will be created as sovereign supply chains and small to medium enterprises join the growing submarine enterprise.

Under the Government's direction, ASA will continue to implement the Pathway for Australia to acquire nuclear-powered submarines, announced on 14 March 2023. The AUKUS Pathway will achieve the safe acquisition, delivery, construction, technical governance, sustainment and disposal of Australia's nuclear-powered submarines. This includes enabling the necessary policy, legal, non-proliferation, workforce, security and safety arrangements.

AUKUS has Australians at its heart, with abundant opportunities to contribute. Together, we are building a new industry and the sovereign capability to operate, construct and sustain these advanced submarines in Australia.

The Nuclear-Powered Submarine Workforce Strategy articulates how the Commonwealth will build on Australia's world-class Collins class submarine program to deliver a persistent, potent and sovereign submarine capability. It outlines the strategic priorities and actions necessary to ensure all parties and stakeholders have a clear view of the whole-of-nation approach to grow and sustain the workforce for continuous naval shipbuilding and sustainment.

This Strategy is the product of collaboration across Commonwealth, and state and territory governments, industry, education and training providers, unions, and AUKUS partners. The Strategy will be continually monitored to inform future decisions on priorities, initiatives and investment.



The Hon. Richard Marles MP

Deputy Prime Minister

Minister for Defence



The Hon. Pat Conroy MP

Minister for Defence Industry and Capability Delivery

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Chapter 1
Overview

This Nuclear-Powered Submarine Workforce Strategy (the Strategy) provides a nationally-aligned framework to grow, develop and retain the workforce required to deliver, operate and sustain Australia's nuclear-powered submarine capability.

In March 2023, Australia, the United Kingdom and the United States agreed to the Optimal Pathway to deliver an enduring nuclear-powered submarine (SSN) capability for Australia which provides significant, long-term strategic benefits for all three countries. Australia's acquisition of nuclear-powered submarines is the single biggest investment in our defence capability in our history and represents a transformational moment for our nation, our Defence Force and our economy.

The National Defence Strategy provides the foundation for this Strategy. The workforce must be capable of sustaining the Collins-class fleet, integrating and maintaining Virginia-class submarines, and building, operating and sustaining the future SSN-AUKUS platform. This Strategy complements the Defence Workforce Plan 2024 and is informed by the Naval Shipbuilding and Sustainment Plan 2024, the Australian AUKUS Submarine Industry Strategy 2025 and the Defence Industry Development Strategy 2026.

The Strategy builds on Australia's sovereign submarine expertise, developed through decades of operating, sustaining and supporting Oberon and Collins-class submarines. It recognises the strength of Australia's submarine industrial base and seeks to enhance the capability, capacity and resilience of the naval shipbuilding and sustainment workforce needed to support the nuclear-powered submarine enterprise.

The Strategy has been informed by extensive research and consultation to understand national and state workforce conditions, forecast future workforce requirements and assess whole-of-nation initiatives relevant to delivering the Optimal Pathway. It draws together workforce planning, investment and development initiatives across government, the Australian Defence Force, industry, academia and international partners into a coordinated national effort. For example, the Royal Australian Navy *Plan TRITON* establishes the conditions for development of the Navy workforce required to operate the capability, while workforce development plans delivered by the Sovereign Submarine Partners, ASC Pty Ltd and BAE Systems, outline the growth of the prime industry workforce required to design, build, sustain and support the enterprise. Together, these efforts contribute to the development of sovereign workforce capability across the full nuclear-powered submarine enterprise.

Our objective

The effort to generate the nuclear-powered submarine enterprise workforce has a single overarching objective.

To grow, train and retain a sovereign, highly-skilled, experienced and qualified workforce to deliver Australia's nuclear-powered submarine capability.

Our strategic outcomes

Achieving the overarching objective will also see the nuclear-powered submarine enterprise workforce contribute to the following broader outcomes:

- A sustainable pipeline of **suitably qualified and experienced personnel**, enabling safe delivery of a multiclass submarine fleet;
- **Reduced labour shortages** in priority occupations through targeted investment and proactive workforce risk management to minimise impacts on national capability; and
- **Workforce mobility and career pathways** that optimise capability across the continuous naval shipbuilding and sustainment enterprise.

Our lines of effort

Significant investment in workforce growth has been made by the Commonwealth and state governments — supported by industry and our AUKUS partners — through a coordinated program of initiatives. Four key lines of effort coordinate these workforce initiatives:

- **Attracting and inspiring** Australians to join the nuclear-powered submarine workforce;
- **Targeting investment** in high-priority skills, qualifications and experience pathways;
- **Uplifting Australia's sovereign training** capability and capacity; and
- **Strengthening workforce retention** within the continuous naval shipbuilding and sustainment enterprise.

Our key behaviours

Three key behaviours underpin delivery of the Strategy and support achievement of the strategic outcomes. These behaviours require sustained collaboration across the Commonwealth, state governments, AUKUS partners, industry, unions and education and training providers:

- **Coordinate and collaborate** to align priorities at a national level;
- Apply **workforce data and analysis** to support planning and decision-making; and
- **Sustained investment** in the development of a skilled workforce.

Nuclear-Powered Submarine Workforce Strategy

Australian Government
Australian Submarine Agency

Our Objective

To grow, train and retain a sovereign, highly-skilled, experienced and qualified workforce to deliver Australia's nuclear-powered submarine capability

Our Key Behaviours

- **Coordinate & collaborate** to align priorities at a national level
- Apply **workforce data & analysis** to support planning & decision-making
- **Sustained investment** in the development of a skilled workforce

Our Strategic Outcomes Achieving our objective contributes to the following broader outcomes:

- A **sustainable pipeline of suitably qualified and experienced personnel**, enabling safe delivery of a multiclass submarine fleet
- **Reduced labour shortages** in priority occupations through targeted investment and proactive workforce risk management to minimise impacts on national capability
- **Workforce mobility and career pathways** that optimise capability across the continuous naval shipbuilding and sustainment enterprise

Our Lines of Effort Four lines of effort coordinate significant investment in workforce growth initiatives:

- **Attracting and inspiring** Australians to join the nuclear-powered submarine workforce
- **Targeting investment** in high-priority skills, qualifications and experience pathways
- **Uplifting Australia's sovereign training** capability and capacity
- **Strengthening workforce retention** within the continuous naval shipbuilding and sustainment enterprise



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Chapter 2

Building Australia's sovereign workforce capability

Our reliance on everyday Australians

The scale, urgency and complexity of this challenge is unprecedented. Meeting the challenges of our conventionally-armed, nuclear-powered submarine program will offer diverse and rewarding workforce opportunities for everyday Australians. Coordinated action across Commonwealth and state governments, industry, unions, education and training providers will position Australian workers and industry to fully participate in the nuclear-powered submarine program.

We are building on Australia's existing capabilities. These include:

- our mature shipbuilding and sustainment industry through the Continuous Naval Shipbuilding and Sustainment (CNSS) Enterprise
- decades of experience in delivering and sustaining the Oberon and Collins-class submarine capability
- our demonstrated nuclear safety and stewardship capability at the Australian Nuclear Science and Technology Organisation (ANSTO).

The Optimal Pathway requires a sovereign workforce across functions for the sustainment of Collins-class submarines; the integration and maintenance of Virginia-class submarines; and the design, shipbuilding, sustainment and operation of the SSN-AUKUS. Sustained investment is necessary to grow the workforce pipeline across the submarine industrial base, while also developing new nuclear occupations.

Strategic analysis, including the *Jobs and Skills Australia: Occupation Shortage Report* and *Industry Skills Australia: Maritime Industry 2025 Workforce Plan*, was utilised to baseline and project workforce challenges. State government approaches outlined in the *South Australian Defence Industry Workforce and Skills Action Plan* and *Western Australian Defence Industry Workforce Development Plan* provided valuable insights into state workforce development models.

The growth required is primarily in specialised areas of maintenance, advanced manufacturing, and engineering. Australia needs to continue growing the pool of suitably skilled, qualified and experienced personnel, across science, technology, engineering and maths (STEM) and specialised trade roles. Analysis from Jobs and Skills Australia shows workforce shortages are widespread and are typically higher in highly gender segregated occupations, with national shortages across around 60 occupations required by the nuclear-powered submarine workforce. To meet these challenges together, we will establish connected pathways from schools into vocational and tertiary education, through to advanced professional expertise. As the workforce grows, demand for these specialist skills will need to be balanced across national priorities, such as clean energy, health and construction.

No single entity can address these workforce challenges alone. Meeting this workforce demand will require a step-change in how the nation addresses workforce development, driven by long-term planning, accelerated skilling pathways, and robust governance structures and coordination.

Workforce development initiatives underway

SKILLS AND TRAINING DEVELOPMENT IN WA

- **$200 million** investment for new Navy training centre at HMAS *Stirling*
- **$14.6 million** State and Federal investment to design and deliver the training programs for the industry's emerging skills in partnership with South Metropolitan TAFE and the Defence Industry Skills Centre of Excellence



SKILLS AND TRAINING ACADEMY CAMPUS

- **$502 million** invested towards delivering an operational Skills and Training Academy campus by 2028 in Osborne, SA
- Up to **1,000 students** annually in submarine construction and maintenance

INTERNATIONAL PLACEMENTS

- Government-backed placements funding 2024–2028
- **+200 ASC personnel** embedded in the US since 2024 at Pearl Harbor Shipyard
- **+70 international** undergraduate and postgraduate placements since 2022

SHIPBUILDING EMPLOYMENT PATHWAYS PROGRAM

- **$34.7 million** invested over next 6 years
- **125 apprentices** to commence over the next 2 years

DEFENCE INDUSTRY PATHWAYS PROGRAM

- **$11 million** to expand the Defence Industry Pathways Program
- **150 trainees** to commence over three years

SCHOOLS PATHWAYS PROGRAM

- August 2024, **$5.1 million** funding agreement with SA and WA state governments to promote STEM for future employment in the defence industry sector

STEM UNIVERSITY COURSE PLACES

- **$128 million** invested over 2024–2028 towards funding extra university places in 38 STEM-related courses

PROPEL: AUSTRALIAN SUBMARINE SCHOLARSHIP PROGRAM

- More than **$15 million** dedicated to STEM scholarships supporting the future nuclear-powered submarine workforce, across four years (2024–2028)
- **3,000 technical scholarships** for students undertaking undergraduate STEM degrees at eligible universities

ASA NUCLEAR GRADUATE PROGRAM

- Over **$4 million** invested into the Nuclear Graduate Program across three years (2024–2027)
- STEM pathway rotations at ANSTO, ARPANSA, ARWA, and other key industry partners
- **~50 graduates** participating in 2025

SOUTH AUSTRALIAN DEFENCE INDUSTRY WORKFORCE AND SKILLS

- **$58 million** investment, 22 initiatives 2023-2028
- **$358 million** for eight technical colleges, hands-on industry training in partnership with defence industry employers



NUCLEAR SKILLING COURSES (NUCLEAR AWARENESS)

- Nuclear skilling courses to be rolled out over the next 4 years to co-design training programs with industry relevant to the nuclear-powered submarine enterprise

Figure 1. Workforce development initiatives underway[1]

[1] *Combined funding through Commonwealth, state and industry collaboration*

Partnering with State Governments

This Strategy prioritises targeted action and investment nationally with South Australia and Western Australia having the greatest nuclear-powered submarine workforce demand. The Commonwealth is working closely with government and industry to resolve the unique workforce challenges in each state.

The *South Australian Defence Industry Workforce and Skills (SADIWS) Action Plan* provides a detailed blueprint to create, train, and retain a highly-skilled and experienced defence industry workforce into the 2040s. The *SADIWS Action Plan* details initiatives that will grow and sustain South Australia's defence industry workforce, to fulfil some of the largest and most complex defence projects in Australia's history. These initiatives extend across the training and development ecosystem, from primary school learners to mid-career professionals.

The *SADIWS Action Plan* demonstrates the commitment of the Commonwealth and its partners to develop the workforce required. It details investment in a range of coordinated programs to establish our pipeline of suitably qualified and experienced workers. The Commonwealth and South Australian governments are co-investing $58 million to cultivate talent in STEM and other in-demand occupations.

Initiatives to support the nuclear-powered submarine workforce are integrated into this Strategy and support the action areas. The *SADIWS Action Plan* is a once-in-a-generation opportunity that will transform Australian industry and strengthen Defence capability.

Jobs created across Australia

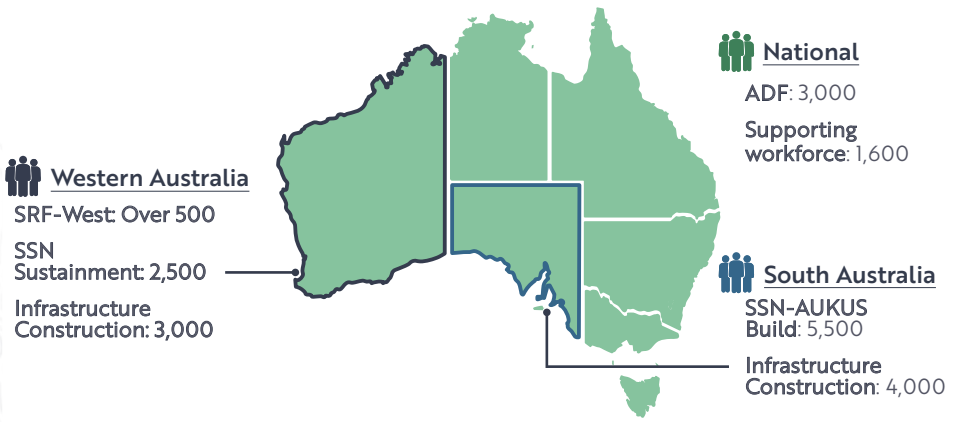
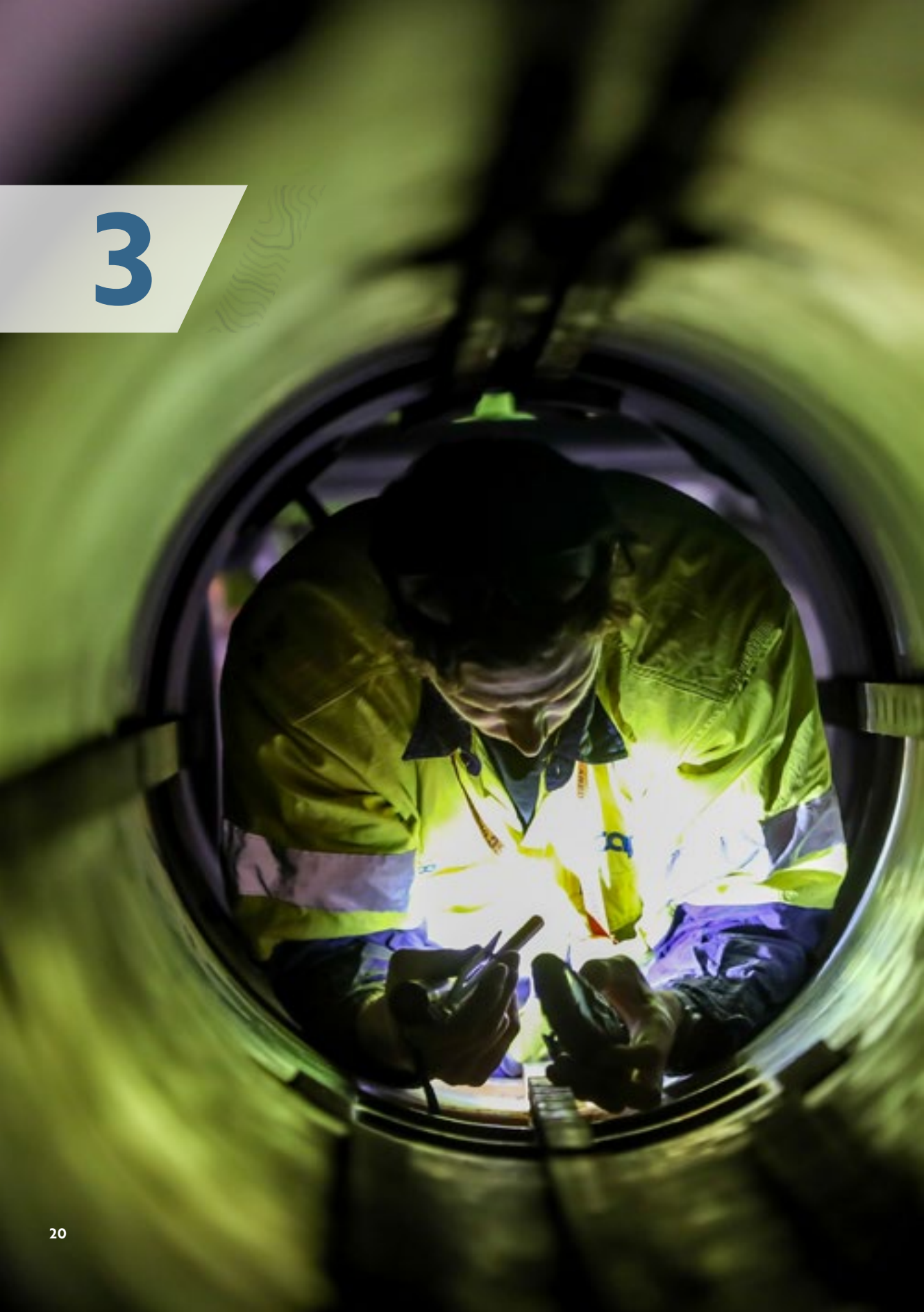


Figure 2. Jobs created across Australia



Photo supplied: ASC Pty Ltd

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Chapter 3

Our Australian workforce footprint

Defining our workforce requirements

This Strategy outlines a clear demand profile for the direct workforce needed to build, operate, and sustain Australia's nuclear-powered submarine capability. This demand profile will be refined and progressively updated in future versions of the Strategy.

Building the nuclear-powered submarine workforce requires targeted action in key areas. This collaborative effort will create significant growth in the nation's workforce. It also requires development of high priority job functions, including nuclear specialties. Equipping workers for these job functions requires long lead times to provide deep expertise.

Figure 3 shows demand for the nuclear-powered submarine workforce using the Naval Shipbuilding and Sustainment Industrial Workforce Taxonomy. A more detailed breakdown of this demand in Western Australia and South Australia is included in Annexes A and B, respectively.

Jobs created

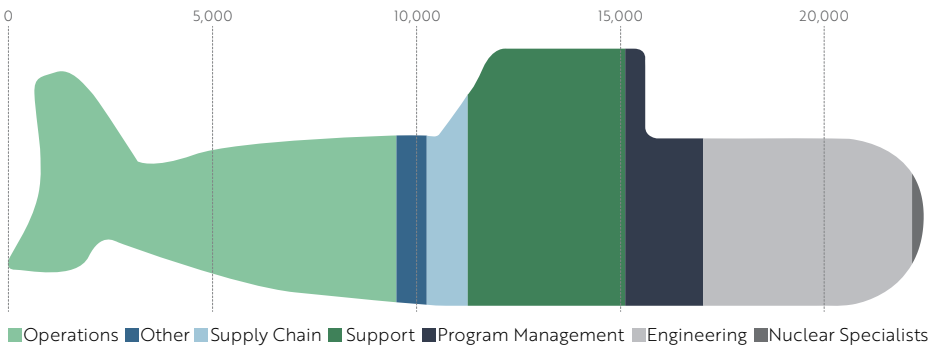


Figure 3. Jobs created for nuclear-powered submarine enterprise workforce

Job creation

The workforce demand for the nuclear-powered submarine program spans the whole nation, with particular focus on Western Australia and South Australia. The program is expected to create 20,000 new jobs in the next 30 years across industry, the Australian Public Service (APS) and the Australian Defence Force (ADF).

Beyond the 20,000 new direct jobs expected to be created, Australia's supply chain will also see major investment. This will drive thousands more indirect jobs, boosting our national economy while deepening the resilience and capability of our skilled workforce. This Strategy focuses on the direct workforce, however the action areas also operate in alignment with the AUKUS Industry Strategy. See also Figure 2, which shows jobs created across Australia.

Western Australia

Over 3,000 jobs are expected to be created to support SSN maintenance in Western Australia. This includes an initial requirement of over 500 to support Submarine Rotational Force-West (SRF-West).

Western Australia's SRF-West infrastructure upgrades at HMAS *Stirling* will generate employment for around 3,000 construction workers.

South Australia

Around 5,500 jobs are expected to be created to build SSN-AUKUS in Osborne, South Australia.

At its peak, around 4,000 Australian workers will be employed to design and build the infrastructure for the NPS construction yard in Osborne.

Nation-wide

Around 3,000 Australian Defence Force members will be required to support the nuclear-powered submarine program, including the operation and crewing of the Virginia-class submarines and the future SSN-AUKUS fleet, as well as planning and support activities within the Australian Submarine Agency.

Around 1,600 Commonwealth public servants will be employed within the nuclear-powered submarine program.



Photo supplied: ASC Pty Ltd

Prioritising job functions

The Commonwealth has established a clear view of high-priority job functions specific to the nuclear-powered submarine workforce through engagement with industry and our AUKUS partners. Demand requirement forecasting, labour market supply analysis, and lessons learned from previous shipbuilding projects will inform ongoing prioritisation of job functions. Investment will reflect these priorities.

High-priority job functions include those which are:

- **high volume,** where significant growth is required to meet demand forecast;
- **key to strategy/operations,** to achieve program strategic priorities and maintaining operational efficiency;
- **not currently in Australia,** due to skills and experience not available at the scale required for the Australian shipbuilding industry; and/or
- subject to a **long lead time** for skill development, qualification, and/or access to expertise.

High-priority job functions

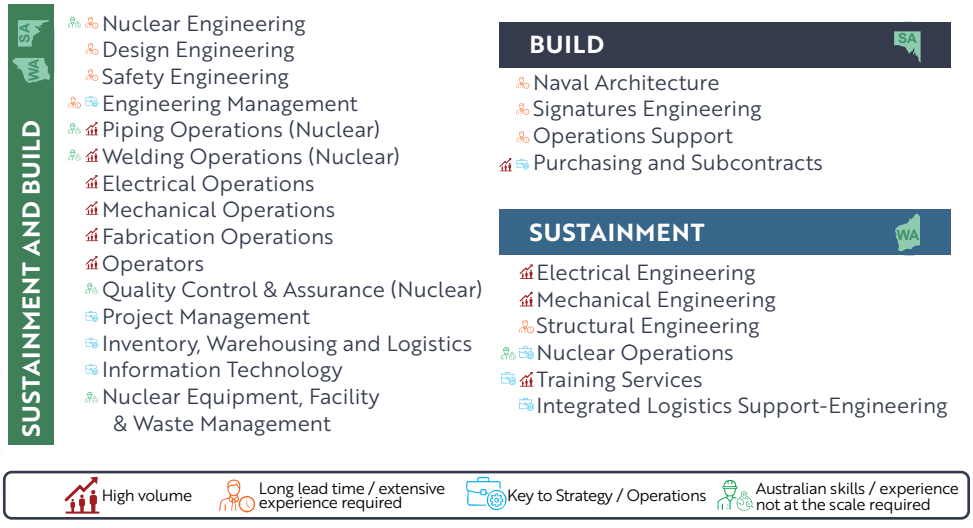


Figure 4.High-priority job functions

Beyond the identified priority functions, the nuclear-powered submarine workforce requires a diverse workforce, with opportunities for all Australians (see Figure 5).

Range of Roles

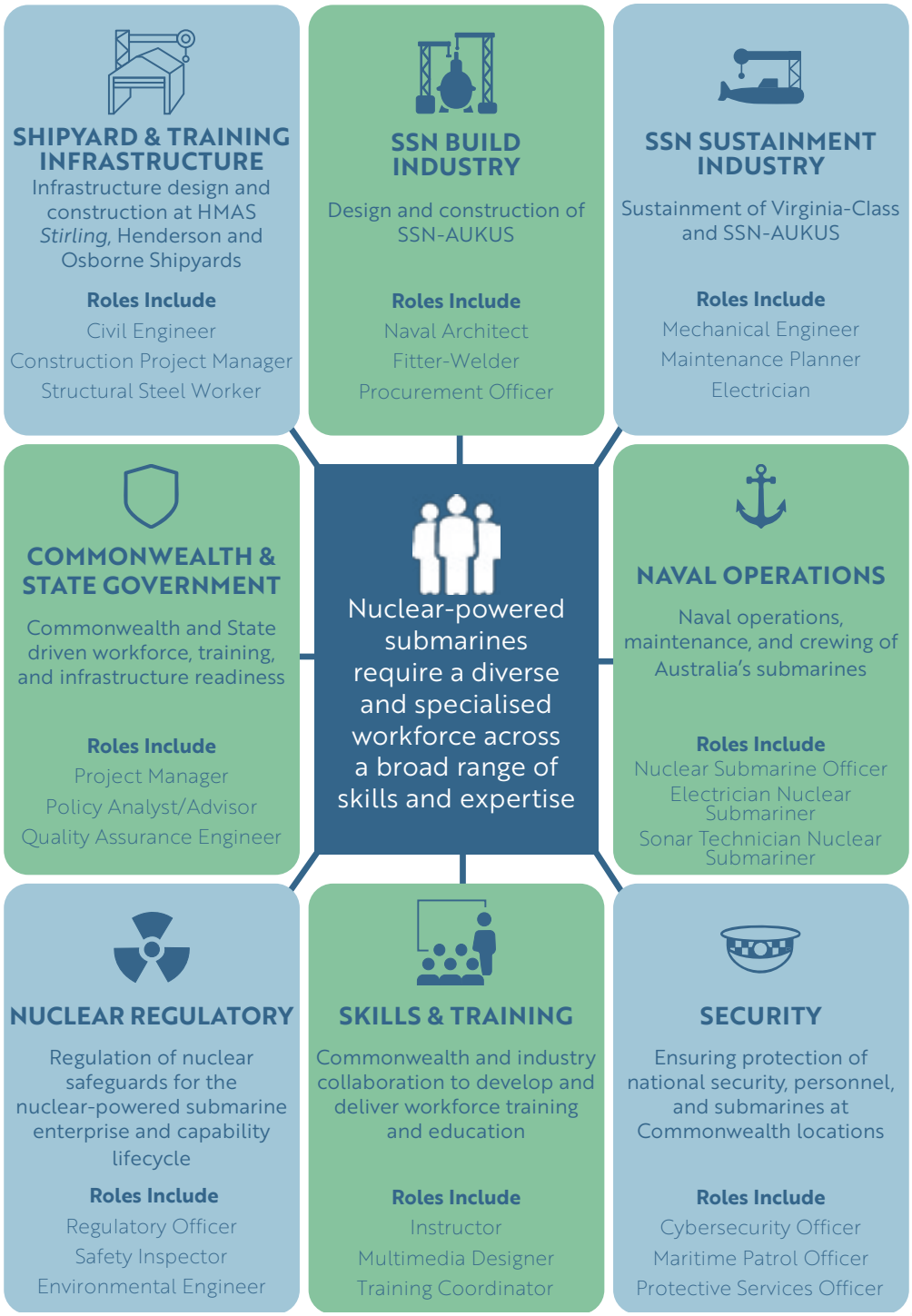


Figure 5. Range of the nuclear-powered submarine workforce

Partnerships for a shared purpose

The Commonwealth is partnering with stakeholders to shape policy, and to establish regulatory and capability environments that will determine the pace and sustainability of growth across the nuclear-powered submarine enterprise workforce.

In 2024, the Commonwealth selected ASC Pty Ltd and BAE Systems as our Sovereign Submarine Partners (SSPs). These world-leading companies are working closely together to establish a long-term incorporated joint venture within Australia. This joint venture establishes an enduring partnership to leverage the unique and complementary capabilities, skills, expertise and resources of the two partners to build Australia's SSN-AUKUS submarines.

The Commonwealth has also selected ASC Pty Ltd as the Sovereign Submarine Partner for the sustainment of nuclear-powered submarines. This will commence with the Virginia-class, followed by the SSN-AUKUS. This decision recognises ASC's long history and expertise in the sustainment of submarines in Australia, in addition to its established workforce and supply chain network. These SSPs will be supported by other suppliers across Australia, the UK and the US.

In May 2026, the Commonwealth selected Lockheed Martin Australia as the preferred Combat System Integration Partner for Australia's future fleet of sovereign Virginia-class submarines. This will complement the long-standing submarine combat system Armament Cooperative Programs between the Australian and US Governments to integrate and sustain the combat capability of the submarines.

The AUKUS partnership enables Australia to develop the expertise necessary to achieve a sovereign workforce. Australian personnel are already working with and learning from, UK and US industry, government, military and technical counterparts both within and outside shipyards for nuclear-powered submarines. As part of SRF-West, additional visits to Australian ports by US Navy and UK Royal Navy nuclear-powered submarines will provide opportunities for the Australian workforce to uplift sovereign skilling and experience.

Small-to-medium businesses will be key players in building and sustaining the future defence workforce. Direct hiring of skilled workers will be complemented by functions supporting major defence contractors and contributions across the supply chain. This wider enterprise includes a complex network of Commonwealth and state government departments, public and private education and training providers, unions, industry associations and strategic advisory bodies.

Australian Submarine Agency	Sets strategic direction, coordinates workforce initiatives, shapes policy and regulation. Collaborates with industry, unions and educators to build and sustain an enterprise workforce of suitably qualified and experienced personnel.
Defence (NSSG, RAN)	Sets Defence strategic direction, capability requirements and defines workforce needs. Ensures alignment with broader continuous shipbuilding sustainment enterprise, existing Collins-class capability, and the ADF operational workforce.
Commonwealth Government (DEWR, JSA, DE)	Collaborates with ASA and Defence to achieve a nationally-coordinated approach to workforce planning, and to contribute expertise and resources for delivery of the nuclear-powered submarine program.
State and territory governments	Lead state and local workforce training and education initiatives. Partner with the Commonwealth and industry to build local capability and secure long-term workforce pipelines.
Commonwealth and state regulators (ANNPSR, ASNO, ARPANSA, National EPA)	Set safety and licensing standards, guiding competency requirements, and work with industry and training providers to ensure the workforce meets regulatory requirements.
AUKUS partners	Coordinate trilateral industrial base and qualification frameworks. Augment Australian workforce to initiate knowledge transfer and offset immediate skilled workforce requirements. Provide government and military exchange of information.
Sovereign Submarine Partners (ASC, BAE)	Engage, train and retain workforce required to build and sustain nuclear-powered submarines.
Australian unions	Represent industrial workforce, collaborate on training and job security, and advocate for fair employment conditions to retain a skilled workforce.
Skills and Training Academy	Australia's flagship Skills & Training Academy at Osborne equips tomorrow's Defence workforce with high-tech, hands-on training for submarine and shipbuilding careers.
Infrastructure construction (ANI)	Ensures an integrated and coordinated approach to the delivery of infrastructure and facilities necessary for the nuclear-powered submarine program.
Australian suppliers (OEMs, SMEs)	Contribute specialised skills, deliver training pathways, support local industry capability, and collaborate with government (Commonwealth and state) and prime partners.
US and UK primes	Transfer knowledge and augment Australian industrial workforce and capability. Provide international placements within and outside shipyards.
Education and training providers	Deliver the skills, qualifications and pathways required to build and sustain the nuclear-powered submarine workforce.
Jobs and skills councils	Represent industry in identifying skills and workforce needs for the sector. Map career pathways and develop VET training products.
Industry associations	Represent sector interests, facilitate collaboration across industry and government to promote career pathways. Support skills development, standards and advocacy.

Figure 6. Stakeholders of the nuclear-powered submarine workforce enterprise

Growing our workforce securely

Australia's sovereign defence capability relies on a highly-skilled and trusted workforce.

For Defence industry, the Protective Security Policy Framework (PSPF) helps industry understand and manage security requirements associated with Defence tenders and contracts. It provides access to security advice and support services and is complemented by the Defence Industry Security Program (DISP), which helps businesses meet the high standards of physical, personnel and cyber security required to work on Defence projects.

For individuals, the Australian Government Security Vetting Agency (AGSVA) is the central authority for security clearances. Holding and maintaining a security clearance provides assurance of an individual's suitability to access sensitive information and typically requires Australian citizenship alongside other suitability assessments. While these requirements are fundamental to protecting national security and maintaining a trusted workforce, they also constrain the available labour pool at a time of unprecedented demand. AGSVA is modernising its vetting processes through initiatives such as the myClearance digital platform. As demand grows, AGSVA is streamlining timelines, expanding requirements, improving contractor connectivity and strengthening customer engagement to improve service delivery.

As Australia delivers the AUKUS program, security requirements will increasingly shape workforce development across the industrial base. Consistent with Australia's AUKUS Submarine Industry Strategy, Australia is building the sovereign industrial capability, capacity and trusted workforce needed to deliver and sustain critical national security capabilities. While the scale and complexity of the AUKUS enterprise will continue to require collaboration with trusted partners in the UK and US, Australia is investing to grow the depth, capacity and resilience of its own sovereign workforce over time. Industry can expect an ongoing emphasis on developing an Australian workforce capable of undertaking activities critical to sovereign capability, while also supporting collaboration across Australia, the UK and the US where security requirements permit. As Australian capability matures, opportunities for Australian workers and businesses to support priority areas of sovereign industrial capability are expected to increase.

Skilled migrants will also continue to play an important role in Australia's workforce needs, including the development of the broader industrial and technical workforce that supports Australia's industry.

The Department of Home Affairs is working with industry to streamline migration pathways for critical skills, supporting high-priority workforce growth across the economy. Implemented measures include streamlined visa processing, the establishment of Designated Area Migration Agreements[1] in South Australia and Western Australia to address regional skill shortages, and priority processing for regional areas and accredited sponsors. While many skilled migrants may not participate directly in Defence programs due to security and clearance requirements, their contribution to adjacent industries will help alleviate labour market pressures and strengthen the broader workforce needed to support Australia's defence industrial base.

Nuclear-specialised roles

Australia's existing expertise in submarine systems has not included naval nuclear propulsion until now. There is a need to grow real expertise in key technical fields such as nuclear propulsion, nuclear safety and radiation protection, nuclear engineering, and reactor maintenance. This expertise is essential for the nuclear-powered submarine enterprise workforce.

Every person in a nuclear organisation requires basic nuclear awareness to understand how their decisions affect nuclear safety. A smaller number of roles across the workforce will require specialist or expert nuclear skills. Nuclear workforce development requires careful planning and strong technical governance due to the highly specialised nature of nuclear roles and their stringent safety, regulatory, and security requirements. This development depends on suitably qualified and experienced personnel from a broad range of engineering, science and related disciplines.

The Commonwealth's Nuclear, Engineering, Science and Technology (NEST) competency framework supports a sovereign nuclear skilling capability. It provides a nationally consistent approach to recognise, develop and sustain the specialists needed to deliver the nuclear-powered submarine program. It assists the Commonwealth to invest in Australian workers, upskilling technical personnel through formal educational courses and work placements in AUKUS partner organisations and their industry primes.

Over time, the demand for specific skillsets will change depending on the stage of the program. The Commonwealth and its industry partners will continue to work together to build a deeper understanding of these skillsets, in alignment with our strategic priorities and the goal of developing a resilient national skills base. Where demand may temporarily exceed Australia's capacity, the Commonwealth will draw on support from our AUKUS partners. As Australia's specialist workforce grows, we will reciprocate this valued support.

[1] *Australian Government Department of Home Affairs website: https://immi.homeaffairs.gov.au/visas/employing-and-sponsoring-someone/labour-agreements/types-of-labour-agreements/designated-area-migration-agreements-%28dama%29*

The nuclear awareness pyramid

Every person in a nuclear organisation requires basic nuclear awareness to understand how their decisions affect nuclear safety. The nuclear skills and awareness pyramid in Figure 7 shows the levels of nuclear capability required across the workforce.

Nuclear awareness protects all workers. For this reason, **nuclear aware** workers form the largest group. These individuals may not work directly with nuclear technology, but require an understanding of nuclear principles, safety culture and regulatory expectations to perform their roles effectively. This level of awareness ensures that the wider workforce is aligned with the unique demands of the nuclear sector, promoting consistency, safety and shared responsibility across functions and capabilities.

Middle-tier **nuclearised** staff apply nuclear knowledge and practice in their work. They may come from other technical or professional fields and have retrained to operate in the nuclear environment. For example, nuclearised staff may include specialist engineers, and scientists responsible for the research and activities that enable technical decision-making. Combining their specialist background with nuclear specific training and standards, they bring valuable perspectives while adhering to the strict safety and regulatory requirements of the industry.

At the top is a small but critical group of **nuclear specialists** with deep expertise developed through advanced education and extensive experience. These experts provide leadership, solve complex problems, and safeguard the integrity of nuclear operations.

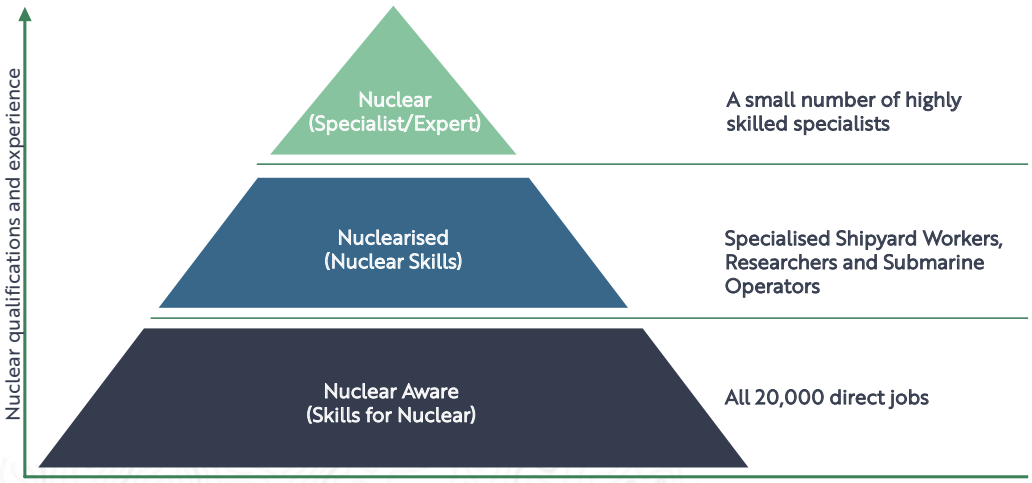


Figure 7. Nuclear skills competency framework




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Chapter 4
Lines of effort

Coordinated effort will drive our national nuclear-powered submarine workforce uplift. While the ASA will lead this coordination effort, enterprise partners including other Commonwealth agencies, state governments, industry, and education and training providers will each provide input and resources. The lines of effort serve as a framework to achieve this coordination and to ensure efficiency and collaboration across all stakeholders.

The Commonwealth has already committed over a billion dollars in initiatives to grow, train and retain a sovereign, highly-skilled, experienced and qualified workforce to safely acquire, build and sustain Australia's nuclear-powered submarine capability. Industry will continue to drive workforce expansion through projects within our continuous naval shipbuilding, sustainment, and broader defence industry enterprises. Leveraging Commonwealth program investment, SSPs are expected to prioritise workforce development strategies that address both current and emerging delivery requirements. This approach will ensure targeted capability growth which is aligned with the specialised demands of the nuclear-powered submarine program, thereby strengthening Australia's resilient workforce skills base and uplifting Australia's submarine industrial base.

The strategic outcomes will be achieved through four key lines of effort, which structure workforce initiatives across Commonwealth and state governments as well as other enterprise partners.

These lines of effort are:

- **Attracting and inspiring** Australians to join the nuclear-powered submarine workforce;
- **Targeting investment** in high-priority skills, qualifications and experience pathways;
- **Uplifting Australia's sovereign training** capability and capacity; and
- **Strengthening workforce retention** within the continuous naval shipbuilding and sustainment enterprise.

The lines of effort have been developed through extensive stakeholder consultation, to capture and coordinate all current and future workforce initiatives for the nuclear-powered submarine enterprise.

Attracting and inspiring Australians to join the nuclear-powered submarine workforce

Delivering Australia's nuclear-powered submarine workforce capability requires a national, multi-generational approach to attract and inspire the workforce across all career stages in the coming decades. Many of the initiatives in this line of effort will benefit the entire Defence industrial base, building a strong workforce skills base to support national Defence priorities.

Clear and consistent messaging is required to highlight the diversity, safety, complexity and national significance of these career paths. Opportunities exist to proactively expand the talent pool through active inclusion of under-represented groups, including women, First Nations Australians, regional communities, and individuals who may not traditionally see themselves in technical or Defence-related careers. For Australians already in the workforce, mid-career professionals require pathways into the nuclear-powered submarine enterprise, especially where existing skills can be recognised and redeployed.

A strong foundation in STEM is essential to building a broad, future-ready workforce. The experiences of our AUKUS partners emphasise the criticality of engagement with students from early primary to Year 12 to increase the number of students entering STEM and trades nationally. National engagement is supported through STEM curriculum enrichment, experiential learning opportunities, and structured work experience programs across defence industry. This effort will be expanded to highlight the specific career pathways available across the nuclear-powered submarine program.

Australia's nuclear-powered submarine workforce initiatives will:

- deliver a national nuclear-powered submarine **media awareness campaign** to coordinate outreach and improve the visibility of pathways with rolling job advertising campaigns over the lifecycle of the program, targeted to address specific audiences and requirements, including under-represented groups;
- support inclusive **STEM engagement at all education levels** through national partnerships with schools and program providers; and
- coordinate **attraction programs** across Commonwealth departments, states and territories, and industry, to fill the wide range of job roles available across the program.

Snapshot of Key Commonwealth and State Nuclear-Powered Submarine Enterprise Workforce Activities*

National Nuclear-Powered Submarine Propulsion Challenge
Led by: Dept. of Defence



A national STEM program for Years 7–12 students, introducing nuclear submarine propulsion and AUKUS workforce pathways. Delivered across all states and territories, with participants gaining an immersive submariner experience at HMAS *Stirling*, WA.

Other National STEM Attract and Inspire Programs
Led by: Various Government Departments



The Australian Government continues to invest in a range of national STEM initiatives designed to inspire, attract, and develop the next generation of talent, strengthening the pipeline to support the nuclear-powered submarine program and Australia's broader defence workforce needs.

Schools Pathways Program
Led by: Dept. of Defence



Inspires students to pursue defence industry careers by promoting STEM education in participating schools.

National Media Campaign
Led by: ASA



A national campaign showcasing career opportunities across Australia's nuclear-powered submarine enterprise.

** Initiatives may be extended or added over time to address evolving workforce priorities, challenges, constraints and opportunities.*

Targeting investment in high-priority skills, qualifications and experience pathways

Targeted investment in skills, qualifications and experience pathways is essential to safely deliver and sustain Australia's nuclear-powered submarine capability. Students and workers will have access to attractive and affordable nationally-accredited qualifications in both the VET and higher education sectors. Investment priorities will be guided by function prioritisation to support Australia's national education and training system for both new and existing qualification offerings. To remain ahead of workforce demand, investment will be guided by continuous needs analysis.

International placements and other experiential pathways provide access to specialised training environments that accelerate the development of priority skills not currently available in Australia, through hands-on learning in high-priority roles requiring long lead-time development or niche expertise.

A whole-of-career approach must underpin the targeted investment.

- **Early-career** support will focus on guiding and incentivising individuals into existing and new accredited VET and tertiary programs.
- **Emerging graduate** support will focus on targeted job-matching and practical skills, and/or additional qualifications. This will enable each graduate to begin their nuclear-powered submarine career with a clear path to future roles.
- **Mid-career professionals** will be offered structured transition pathways from adjacent industries, developed to recognise existing qualifications and skills to accelerate workforce integration.
- For **highly-specialised roles,** investment must integrate education and training, practical experience, and structured mentoring to build sovereign capability in areas such as combat systems engineering, nuclear engineering, and nuclear assurance.

Identified high-priority functions will evolve and change as the workforce grows and new challenges emerge. The Commonwealth, led by the ASA, will implement a consistent process to assess skills and occupations where targeted action and investment is needed.

Australia's nuclear-powered submarine workforce initiatives will deliver:

- an Australian nuclear-powered submarine **priority skills framework**;
- co-investment in existing and new **qualification initiatives** which specifically support priority roles;
- partnerships with industry, education and training providers and regulators to streamline the development and **accreditation of new qualifications**; and
- **international placements** aligned to priority roles, enabling Australians to gain qualifications and experience in overseas nuclear environments.

Snapshot of Key Commonwealth and State Nuclear-Powered Submarine Enterprise Workforce Activities*

Defence Industry Internship Program (DIIP)
Led by: Dept. of Defence

The DIIP offers 12-week, paid internships for 3rd- and 4th-year engineering & technology students with small to medium enterprises (SME) in Australia's defence sector, giving hands-on experience with advanced systems and projects.

Nuclear-Powered Submarine Student Pathways Program
Led by: ASA and Dept. of Education

The Government has committed to over $128 million to 4,001 new Commonwealth Supported STEM places to build a highly-skilled graduate pipeline for Australia's nuclear-powered submarine enterprise and strengthen sovereign capability.

Qualification Recognition Program
Led by: ASA

Maps and aligns qualifications across partner nations, ensuring internationally-recognised credentials for skills critical to Australia's nuclear-powered submarine enterprise.

Nuclear-Powered Submarine University Technical Scholarships
Led by: ASA

ASA has partnered with a delivery agency to deliver 3,000 scholarships in identified STEM undergraduate degrees. Each recipient will receive $5,000 over a two-year period to support their studies.

Non-Destructive Testing Traineeship
Led by: ASA

The NDT Traineeship develops specialist skills to conduct advanced inspections without damaging assets, ensuring the highest standards of safety, reliability, and technical assurance across critical systems.

Welding Bridging/Aptitude
Led by: ASA

This program grows welder supply by identifying suitable candidates and offering additional training to create job-ready candidates who can continue an apprenticeship with more confidence.

US & UK Postings and Placements of APS Personnel
Led by: ASA

UK & US postings and placements provide hands-on training for APS engineering and technology staff across ASA, Defence, and industry, accelerating their nuclear-propulsion and submarine-operating capabilities to meet nuclear-powered submarine mission requirements.

Nuclear-Powered Submarine Professional Submarine Pathways Program
Led by: ASA

Program to increase the talent pool for non-trade related nuclear-powered submarine priority roles which are low supply and needed across all phases of the program.

Degree Apprenticeships
Led by: ASA and SA Government

Increasing the supply of honours-level degree qualified personnel for nuclear-powered submarine priority roles.

** Initiatives may be extended or added over time to address evolving workforce priorities, challenges, constraints and opportunities.*

Uplifting Australia's sovereign training capability and capacity

Australia offers world-class education in both its VET and higher education sectors. Australia's sovereign training system must build on its current strengths to ensure it can independently develop, qualify and sustain a skilled workforce across all stages of the nuclear-powered submarine enterprise. A sovereign training system enables national control over safety, quality and readiness.

Investment has commenced through international placements in the US and the UK. These placements serve a dual purpose of rapidly upskilling Australians to contribute to the early phases of the program, while also building the expertise needed for those individuals to return as trainers, assessors, and technical mentors. These placements are complemented by reciprocal arrangements that embed UK and US experts within Australian institutions and industry, to accelerate knowledge transfer into local training systems. Formal partnerships between Australian training providers and their UK and US counterparts will be critical to sustain this exchange, aligning curriculum standards and embedding best practice across all three nations.

Partnerships spanning academia, training providers, educational institutions and industry are critical to co-design and accredit fit-for-purpose courses that meet the enterprise's technical and regulatory requirements. Further investment will focus on scaling these initiatives, closing identified skill gaps and embedding international best practice within Australia's curriculum.

To deliver at the required scale, regular long-term investment will be required in the capacity and capability of the education and training organisations, including new facilities such as simulation labs and advanced manufacturing workshops. The Skills and Training Academy, located in Adelaide, South Australia, will provide dedicated training facilities to uplift the nuclear-powered submarine industrial workforce and support the broader naval shipbuilding and sustainment enterprise. The Skills and Training Academy will operate within and alongside the national education and training ecosystem including TAFE and Registered Training Organisations, South Australian Technical Colleges and universities.

The Commonwealth has initiated a number of early workforce pilot initiatives in the lead-up to completion of the Skills and Training Academy campus. Western Australia's Defence Industry Skills Centre of Excellence will innovate defence industry training with an initial focus on maritime training.

Australia's nuclear-powered submarine workforce initiatives will deliver:

- a **dedicated Skills and Training Academy** in South Australia and continued support to the Western Australian Defence Industry Skills Centre of Excellence;
- structured **international placements** that support knowledge transfer and enable sovereign training capability uplift, including developing personnel to return as trainers and mentors; and
- a clear and sustained **training demand signal** to state governments, industry registered training organisations, and other education and training providers.

Snapshot of Key Commonwealth and State Nuclear-Powered Submarine Enterprise Workforce Activities*

Department of Employment and Workplace Relations Taskforce
Led by: DEWR

The DEWR Taskforce facilitates stakeholder connections and provides policy advice on using Australia's skills and training system to support the workforce requirements of the nuclear-powered submarine enterprise.

The Other Force: Nuclear Skills Framework & Study Tours
Led by: South Metro TAFE

The Other Force program is developing WA's nuclear skills framework and sending study tour teams to the UK & US to benchmark training and curriculum for nuclear-powered submarine work.

Industrial Workforce International Placements (US/UK)
Led by: ASA

UK/US industry placements give Australian engineering and tech workers experience in SSN-AUKUS build and SRF-West sustainment, closing skills gaps in nuclear propulsion, maintenance, fabrication, and project roles for the Australian nuclear-powered submarine enterprise.

Nuclear-Powered Submarine Nuclear Education Postgraduate Program (Aus courses)
Led by: ASA

The Nuclear-Powered Submarine Nuclear Education Postgraduate Program enables ASA staff to study nuclear-related Masters, micro-credentials, and short courses at leading Australian universities.

Nuclear Mindset Training
Led by: ASA

The Nuclear Mindset Training embeds a shared culture of safety, accountability, security, and technical excellence across ASA and partner agencies for Australia's nuclear-powered submarine enterprise.

Skills and Training Academy Pilot Train-the-Trainer Program
Led by: ASA

The Skills and Training Academy Train-the-Trainer pilot places VET teachers in the US to build AUKUS-aligned skills and strengthen nuclear-powered submarine career pathways.

Nuclear-Powered Submarine Workforce Tradie2Trainer Program
Led by: ASA

Increasing the supply of nuclear-powered submarine and naval shipbuilding and sustainment tradespersons trainers to deliver trade training to support the industry personnel growth requirements for the nuclear-powered submarine program.

Skills and Training Academy Campus (Osborne SA)
Led by: ASA with support from SA Government

Provides specialised training facilities to build a skilled nuclear-powered submarine workforce and support broader continuous naval shipbuilding and sustainment workforce needs.

** Initiatives may be extended or added over time to address evolving workforce priorities, challenges, constraints and opportunities.*

Case Study: Skills and Training Academy Campus



A case study for building the future workforce, today.

The Skills and Training Academy Campus is a critical workforce development capability that will help Australia build and sustain the highly-skilled workers needed to support the nation's future Nuclear-Powered Submarine (NPS) program and the broader Continuous Naval Shipbuilding and Sustainment (CNSS) enterprise.

The Campus has been designed as an integrated learning environment that closely reflects real-world shipbuilding and sustainment workplaces. It will combine classroom-based learning with practical training using workshops, life-sized mock-ups, prototypes and simulated work environments. This approach will allow learners to apply theoretical knowledge in realistic settings, accelerating their readiness to work within the submarine and naval shipbuilding industry.



For the NPS workforce, training delivered within the Campus will embed the professional behaviours, safety culture and disciplined work practices required to support the construction and sustainment of nuclear-powered submarines in Australia.

The Campus will be delivered through strong partnerships across governments, industry and Australia's education and training sector. These partnerships will help ensure training and workforce development activities remain aligned with workforce demand and emerging enterprise requirements, while drawing on the strengths and capabilities of Australia's existing education and training system.

The Campus is expected to be operational by early 2028 and will play an important role in preparing a workforce capable of supporting the long-term delivery and sustainment of Australia's sovereign submarine and naval shipbuilding capabilities.





Strengthening workforce retention within the continuous naval shipbuilding and sustainment enterprise

Workforce retention balances individual employer responsibilities with national coordination and support across the whole system. This enables mobility across the enterprise, fostering long-term industry participation and investment. Strategies for workforce retention range from system-wide levers to employer-specific incentive structures and value propositions.

Retention of workers enables retention of skills and experience. To encourage commitment and retention, workers in the nuclear-powered submarine enterprise need clear pathways from entry-level roles to positions of leadership and expertise, whether through technical mastery or executive advancement. Further, a strong and positive workforce culture across the enterprise empowers a safe, effective and engaged workforce. This, in turn, drives retention to ensure continuity of skills and knowledge within the enterprise.

Employers play a central role in building career pathways and creating conditions that support workforce retention. Workforce mobility across the enterprise is a key enabler for retaining workers within the defence industry, even when they change employment. Portability of qualifications and skills across employers programs and jurisdictions supports a resilient and adaptable maritime workforce. Nationally-accredited and widely recognised qualifications should be prioritised to support easier transitions between roles, employers and programs including across the broader shipbuilding and defence manufacturing sector. Sector-wide approaches to training and accreditation should be favoured over proprietary or employer-specific models that constrain mobility and limit long-term workforce sustainability.

Sustainable retention also depends on long-term industry participation and investment in workforce capability. This Strategy is supported by the AUKUS Submarine Industry Strategy, the Defence Industry Development Strategy, and the Naval Shipbuilding and Sustainment Plan, which collectively establish a clear vision for sovereign industry capacity and workforce investment. This includes support for sovereign small and medium enterprises, whose active participation in training, retention and workforce development will be essential to building an integrated and resilient Australian workforce.

Australia's nuclear-powered submarine workforce initiatives will deliver:

- support for retention, and development of our Commonwealth employed workforce—including APS and ADF—through existing **workforce strategies** and **planning frameworks**;
- Jobs and skills councils with support from Defence industry to develop **nationally-consistent interoperable training** that supports career progression, talent retention and workforce resilience across the enterprise;
- national policy and regulatory levers that enable **workforce mobility** and encourage the use of **nationally-accredited training**; and
- clear and consistent **messaging on career pathways** within the nuclear-powered submarine enterprise workforce.

Snapshot of Key Commonwealth and State Nuclear-Powered Submarine Enterprise Workforce Activities*

WA Defence Industry Pathways Program (DIPP)
Led by: Dept. of Defence and WA Government

The WA DIPP is a 12-month, paid traineeship with South Metropolitan TAFE and MEGT, giving hands-on experience in defence trades and engineering while gaining a Certificate III.

ASC Sustainment & SSN Build (GAT)
Led by: ASC

The ASC Pty Ltd Graduates, Apprentices, and Trainees (GAT) intake provides early career pathways with hands-on experience in designing and constructing nuclear-powered submarines.

NSS Industrial Taxonomy
Led by: Dept. of Defence and ASA

The Naval Shipbuilding and Sustainment (NSS) Industrial Workforce Taxonomy will be updated to incorporate nuclear-related occupations and support a consistent approach to skills recognition across the nuclear-powered submarine enterprise. The Commonwealth will work with industry, education and training providers, and unions to align the taxonomy with the existing ANZSCO/OSCA standards. This process will also provide a mechanism to identify where existing occupational definitions, classifications or standards may require amendment to reflect emerging workforce requirements.

ASA APS Graduate Program
Led by: ASA

An 18-month development pathway that recruits high-performing STEM and generalist graduates into multidisciplinary rotations, building core skills and capability to support Australia's nuclear-powered submarine enterprise.

SA Defence Industry Pathways Program (DIPP)
Led by: ASA and SA Government

The SA DIPP expands the WA model with paid traineeships over three years, providing practical training and host-employer experience for work in Australia's defence industries.

External Labour Market Analysis
Led by: ASA

An initiative led by ASA to develop a data-driven supply model to forecast external workforce availability and close capability gaps for Australia's nuclear-powered submarine enterprise.

Shipbuilding Employment Pathways (SEP)
Led by: ASA

A four-year apprenticeship delivering trade qualifications in fabrication, mechanical and electrotechnology for Australia's naval and nuclear-powered submarine workforce.

** Initiatives may be extended or added over time to address evolving workforce priorities, challenges, constraints and opportunities.*

5



Chapter 5
Enablers to deliver the workforce

This chapter describes the key enabling behaviours that support workforce stakeholders across the nuclear-powered submarine enterprise to achieve the Strategy's objective and outcomes. Each of these is a catalyst for the lines of effort described in Chapter 4. The Strategy will leverage existing AUKUS, national and Defence governance forums and structures to ensure all stakeholders have the opportunity to engage, contribute and progress outcomes in a coordinated manner.

The three key behaviours that drive alignment across government, industry, and international partners are:

- **National coordination and collaboration to drive workforce uplift.** Close collaboration with state and territory governments, industry, unions and AUKUS partners is fundamental. The Commonwealth will lead coordination across stakeholders to support a nationally aligned approach to workforce planning and workforce development;
- **Applying workforce planning to support data-driven decision making.** A centralised nuclear-powered submarine workforce planning model will enable visibility and forecasting, while also informing investment decisions. This will be supported by integrated data from Defence, industry, and education providers; and
- **Sustained investment** in the development of a skilled workforce is required across all stakeholders to build a strong pipeline of personnel from now until the 2050s. Expanding skilling capacity, designing training programs, and aligning standards nationally will support mobility and workforce readiness.

National coordination to drive workforce uplift

A collaborative approach with industry and Australia's AUKUS partners is essential. The scale and complexity of the nuclear-powered submarine workforce challenge cannot be resolved by the Commonwealth Government in isolation.

The Commonwealth will lead stakeholder collaboration for workforce uplift.

- **AUKUS coordination.** The Commonwealth will continue to partner with the US and UK to align Australian workforce planning with trilateral initiatives; facilitate international placements; and support whole-of-government coordination of AUKUS workforce activities.
- **Government and industry coordination.** The Continuous Naval Shipbuilding and Sustainment Council will lead alignment on critical initiatives to deliver a productive and resilient sovereign shipbuilding and sustainment industrial enterprise.
- **Structured engagement and collaboration.** The Commonwealth leads a structured program of industry engagement, including through delivery of the Australia's AUKUS Submarine Industry Strategy, to grow our skilled and experienced workforce in partnerships with state governments and training providers.

Aligning workforce planning

Robust workforce planning for the nuclear-powered submarine program will ensure funding and policy levers are applied effectively within the national labour market. Effective planning at the national level requires strong partnerships across the Commonwealth, state governments, Australian industry, and international partners.

A standardised workforce taxonomy will establish a common language for Australia's future nuclear workforce and skills planning. This structured approach is essential for identifying skill gaps, reducing barriers to diverse workforce participation, facilitating targeted training and development, and supporting career mobility within the nuclear-powered submarine workforce. The ASA, the SSPs, and Naval Shipbuilding and Sustainment Group's (NSSG) Workforce Planning and Intelligence Service (WPIS) are collaborating for the inclusion of nuclear-related roles into the existing Naval Shipbuilding and Sustainment Industrial Workforce Taxonomy.

Workforce data and insights will be shared across the enterprise, to generate a common understanding. Planning and sustainment of the nuclear-powered submarine workforce will be informed by this shared understanding of labour market dynamics and workforce supply and demand. This requires mutual commitment to consistent sharing of analysis, workforce demand data, and modelling across the enterprise. To lead in this area, the Commonwealth—led by the ASA—will provide clear specialist workforce demand signals and supporting analysis to other Commonwealth departments, state governments, and industry.

Sustained investment in workforce development

The delivery of Australia's nuclear-powered submarine program relies on a deliberate, sequenced investment pipeline that is integrated with other key Defence initiatives. Building the workforce required to deliver and sustain the program is a multi-decade undertaking that demands sustained investment across education, training, recruitment, retention and workforce development.

This Strategy will be supported by ongoing workforce planning, performance monitoring and regular reporting to Government. These mechanisms will inform future decisions on priorities, initiatives and investment, including consideration of additional initiatives where required to address emerging workforce risks, constraints or opportunities. This will help ensure Australia develops and maintains the sovereign workforce capability necessary to deliver and sustain an enduring nuclear-powered submarine enterprise.

6



Chapter 6
Next steps

As Australia continues to develop its nuclear-powered submarine workforce, ongoing monitoring and evaluation of performance against this Strategy will focus and optimise these collaborative efforts. This monitoring and evaluation will include active identification and mitigation of risks. These systemic activities guide and empower the individual contributions of workers within the workforce. To learn more about these specific opportunities to get involved and contribute to Australia's nuclear-powered submarine workforce, please see the "How to get involved" section at the end of this chapter.

Monitoring and evaluating performance

Ongoing monitoring and evaluation of performance is necessary to maintain the focus and efficacy of the collaborative development of the workforce. The Commonwealth will monitor the system in order to adjust planning when required and inform stakeholders through clear and consistent demand signals. Existing governance mechanisms will be applied to align our AUKUS partners and our national shipbuilding and sustainment enterprise, as shown in Figure 8.

The performance monitoring framework is focused on achievement of the Strategy's objective. Workforce performance will be monitored to ensure priorities, initiatives and investment remain aligned with government direction, policy settings and Australian labour market conditions. Insights generated through this process will inform future workforce priorities and investment decisions across the nuclear-powered submarine enterprise.

Figure 9 outlines the measures used to assess progress towards the Strategy's objective and the effectiveness of its strategic outcomes, lines of effort and enabling behaviours. Supported by workforce analysis, forecasting and performance reporting, these measures provide an evidence-based approach to monitoring workforce performance and informing workforce planning and investment decisions across the nuclear-powered submarine enterprise.

Enabling industry and trilateral delivery of the nuclear-powered submarine workforce

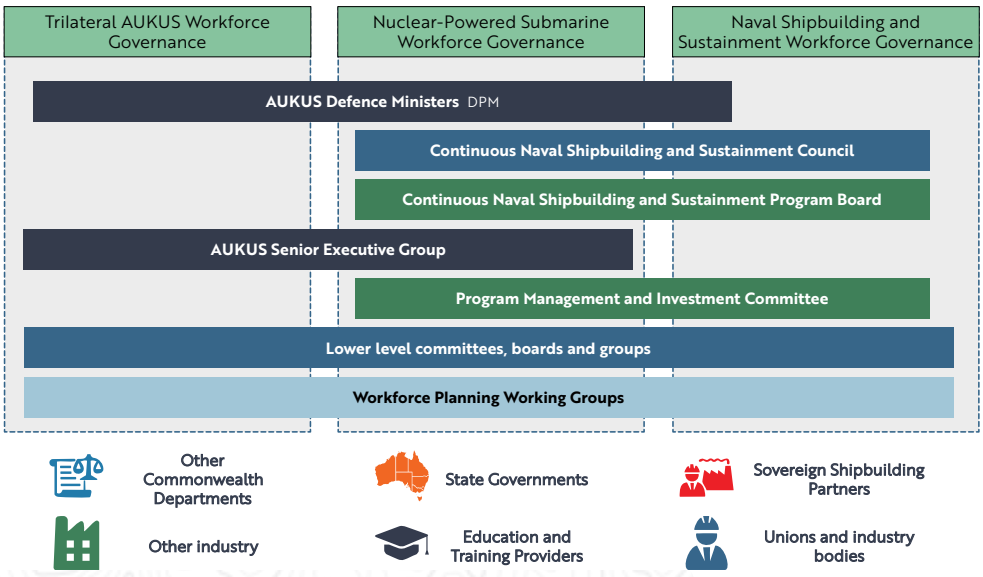


Figure 8. Enabling industry and trilateral delivery of the nuclear-powered submarine workforce

Measuring achievement towards the strategic objective



Does sufficient workforce capability exist, or is credibly being established to meet approved commitments in the near term?

- Assesses achievement of the Strategy's **strategic outcomes** by evaluating workforce capacity, capability and sustainability against the program requirements of AUKUS Pillar One.
- Metrics may include workforce supply relative to demand, recruitment outcomes, training completions, qualifications achieved, workforce readiness, retention rates and other indicators demonstrating progress towards the strategic objective.



Is appropriate planning and investment in place to ensure the workforce capacity and capability is delivered to meet forecast demand in priority job functions?

- Assesses the effectiveness of the Strategy's **lines of effort** by evaluating whether workforce initiatives and investments are delivering the intended workforce outcomes.
- Metrics may include delivery and uptake of funded initiatives, qualification outcomes, participation rates, cost-effectiveness, return on investment and evidence that workforce interventions are reducing forecast shortages in priority occupations and job functions.



Is workforce planning sufficiently mature, underpinned by a clear understanding of demand giving confidence in segments' capability to manage associated risks?

- Assesses the effectiveness of the Strategy's **enabling behaviours** by evaluating the quality, integration and application of workforce planning across the enterprise.
- Metrics may include workforce planning maturity assessments, workforce demand and supply forecasting capability, data quality and availability, information-sharing practices and the use of workforce intelligence to support decision-making across the enterprise.

Figure 9. Measuring the nuclear-powered submarine workforce strategic priorities

Managing workforce risk

Delivering a nuclear-powered submarine workforce at scale presents complex, long-term challenges. Identifying, monitoring, and managing key workforce risks is critical to sustaining momentum, mitigating disruption, and ensuring the Strategy's success. Addressing these risks is a shared responsibility among all stakeholders, enabled by nationally coordinated workforce planning.

Risk	Control
Insufficient availability of suitably qualified and experienced personnel (SQEP)	Deliver targeted national campaigns to engage students, parents, and mid-career professionals, promoting inclusive entry pathways and raising awareness of secure, meaningful careers across the submarine workforce.
Fragmented national coordination and governance	Strengthen intergovernmental and industry coordination through a centralised governance framework, common workforce planning tools, and national standards to enable aligned decision-making and efficient resource allocation.
Collins to SSN AUKUS Pathway	Future proof Australia's sovereign industrial capability to support the Collins sustainment workforce, and develop a sovereign workforce capable of delivering multiclass submarine sustainment.
Inability to scale education and training systems to meet demand	Expand domestic training capacity through partnerships, curriculum co-design, and infrastructure investment, while using international placements to rapidly develop critical skills and accelerate workforce readiness.
Competition among adjacent sectors of national priority	Continued investment by the Australian Government to improve opportunities for all Australians to access and benefit from well-paid jobs in science, technology, engineering and mathematics. This includes women and girls, First Nations people, culturally and linguistically diverse people, and people from regional and rural areas.
Mismatched or delayed investment from industry and education/training sectors	Issue clear long-term demand forecasts to give industry partners the confidence to scale workforce initiatives in line with enterprise milestones.

Figure 10. Workforce risk and control matrix

How to get involved

Australian workers are core to the success of this Strategy. The nuclear-powered submarine program is expected to create over 20,000 new jobs in the next 30 years, across industry, the Australian Public Service (APS) and the Australian Defence Force (ADF).

Roles are available now. For more information, go to:

ASA Careers

www.asa.gov.au/jobs-careers

ADF Careers

www.adfcareers.gov.au/

ASC Careers

www.asc.com.au/careers

BAE Systems Australia Careers

www.careers.baesystems.com/locations/australia

To explore education, training and internship opportunities that support the nuclear-powered submarine enterprise, go to:

Defence Industry Internship Program

www.diip.com.au

Nuclear-Powered Submarine Student Pathways

www.education.gov.au/higher-education-funding/commonwealth-grant-scheme-cgs/nuclearpowered-submarine-student-pathways

TAFE Centres of Excellence

www.dewr.gov.au/national-skills-agreement/tafe-centres-excellence

Defence Industry Pathways Program – WA

www.southmetrotafe.wa.edu.au/defence-industry-pathways-program

Defence and Shipbuilding Career Opportunities – SA

www.peer.com.au/exciting-career-opportunities-in-defence-and-shipbuilding/

South Australian Defence Industry VET Initiatives

www.statedevelopment.sa.gov.au/defence-industry/vet

For information on Designated Area Migration Agreements, go to:

Department of Home Affairs

https://immi.homeaffairs.gov.au/visas/employing-and-sponsoring-someone/labour-agreements/types-of-labour-agreements/designated-area-migration-agreements-%28dama%29

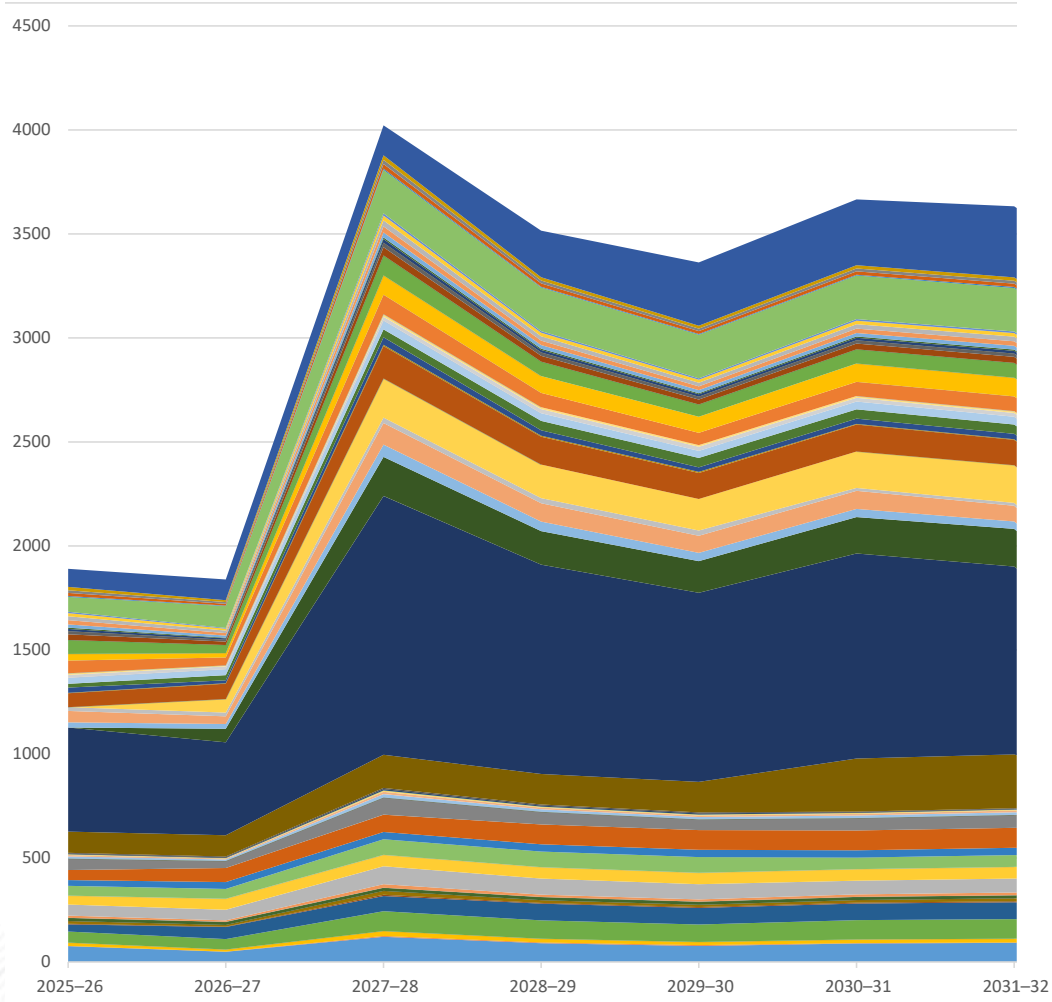
Annex





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Annex A: Nuclear-powered submarine enterprise workforce demand Western Australia



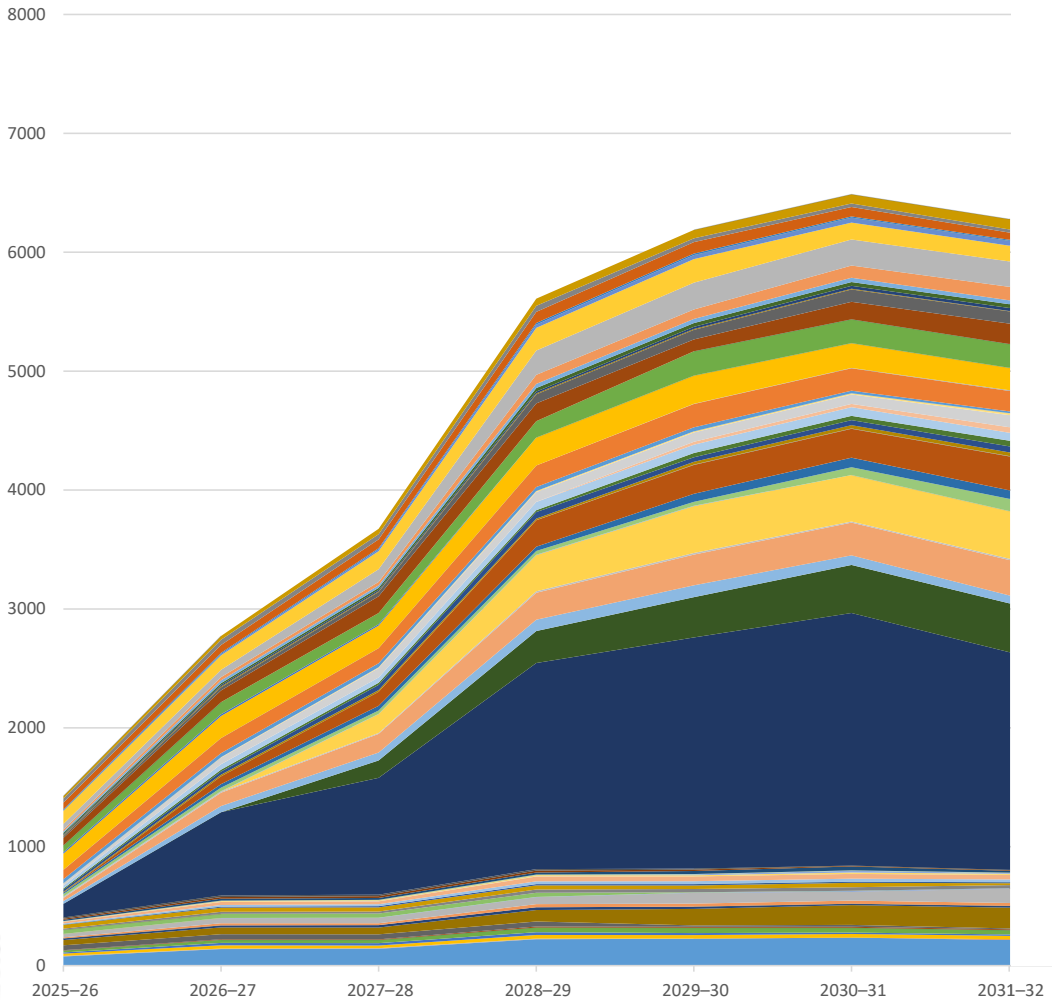
Annex A: Nuclear-powered submarine enterprise workforce demand Western Australia

NSSG FAMILY	NSSG FUNCTION	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31	2031-32
Engineering	Civil Engineering	76	49	121	90	77	89	92
Engineering	Combat System Engineering	1	1	4	4	4	2	2
Engineering	Construction	16	10	24	18	15	17	18
Engineering	Electrical Engineering	53	50	95	88	84	93	94
Engineering	Electrical Operations	35	58	73	80	80	80	81
Engineering	Electronics Engineering	3	2	6	4	4	4	5
Engineering	Engineering Management	13	8	19	13	11	13	14
Engineering	Light Fabrication Operations	15	15	15	15	15	15	15
Engineering	Materials Engineering	11	7	17	12	11	12	13
Engineering	Mechanical Engineering	53	51	86	77	73	66	67
Engineering	Mechanical Operations	43	53	55	55	55	55	56
Engineering	Nuclear Engineering	47	47	75	75	75	56	57
Engineering	Nuclear Operations	28	33	35	35	35	35	35
Engineering	Operators	48	68	83	95	95	95	96
Engineering	Process Engineering	55	34	83	61	52	60	62
Engineering	Research Engineering	10	7	16	12	11	12	13
Engineering	Safety and Certification	7	4	11	8	7	8	8
Engineering	Science	4	3	7	5	5	5	5
Engineering	Structural Engineering	3	3	6	5	5	3	3
Engineering	Welding Engineering	4	4	6	5	5	3	3
Engineering	Workplace Health, Safety and Environment	102	102	159	147	147	255	259
Operations	Construction	500	447	1244	1006	909	986	903
Operations	Electrical Operations	0	65	188	161	152	175	181
Operations	Facilities	25	23	59	46	40	39	36
Operations	Heavy Fabrication Operations	55	37	104	88	82	87	75
Operations	Light Fabrication Operations	18	18	26	25	25	14	14
Operations	Mechanical Operations	0	65	188	161	152	175	181
Operations	Piping Operations	67	74	156	134	125	130	122
Operations	Production Planning	2	2	6	5	5	3	3
Operations	Quality Assurance	25	14	36	26	22	25	26
Operations	Quality Control	18	25	38	45	45	45	45
Operations	Safety and Certification	30	29	43	37	34	37	37
Operations	Welding Operations	13	13	18	20	20	18	18
Program Management	Commercial	8	5	12	9	8	9	9

NSSG FAMILY	NSSG FUNCTION	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31	2031-32
Program Management	Project Cost and Scheduling	61	38	94	69	59	68	71
Program Management	Project Management	32	21	93	81	77	88	90
Supply Chain	Inventory, Warehousing and Logistics	67	39	96	69	59	68	71
Supply Chain	Purchasing and Subcontracts	27	16	39	28	24	28	29
Support	Administration	15	9	22	16	14	16	16
Support	Business Improvement	11	7	17	12	11	12	13
Support	Communications	6	3	8	6	5	6	6
Support	Corporate Executive	16	10	24	18	15	17	18
Support	Finance	20	12	29	21	18	21	22
Support	Human Resources	19	12	29	21	18	21	22
Support	Information Technology	15	9	23	17	14	17	17
Support	Legal	7	4	11	8	7	8	8
Support	Other	71	105	209	209	209	209	209
Support	Risk and Insurance	4	2	6	4	4	4	5
Support	Security	15	9	22	16	14	16	16
Support	Training Services	13	8	20	14	12	14	14
Support	Workplace Health, Safety and Environment	16	9	22	16	14	16	16
Other	Other	87	100	144	224	304	316	342
		1890	1839	4022	3516	3363	3666	3633



Annex B: Nuclear-powered submarine enterprise workforce demand South Australia



Annex B: Nuclear-powered submarine enterprise workforce demand South Australia

NSSG FAMILY	NSSG FUNCTION	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31	2031-32
Engineering	Civil Engineering	77	139	142	222	226	236	216
Engineering	Combat System Engineering	1	1	1	1	0	0	6
Engineering	Configuration Management	4	4	4	4	1	0	0
Engineering	Construction	19	27	22	31	30	31	29
Engineering	Design	10	20	20	23	17	11	11
Engineering	Electrical Engineering	16	26	27	40	44	40	36
Engineering	Electronics Engineering	3	5	5	8	9	9	8
Engineering	Engineering Assurance	41	42	42	42	12	16	7
Engineering	Engineering Management	44	58	58	97	138	166	175
Engineering	Integrated Logistics Support	14	17	20	23	19	12	15
Engineering	Materials Engineering	9	17	16	26	26	26	24
Engineering	Mechanical Engineering	27	43	44	59	90	75	120
Engineering	Naval Architecture	2	2	2	2	2	6	3
Engineering	Nuclear Engineering	35	35	35	35	3	2	1
Engineering	Process Engineering	9	17	17	27	28	29	26
Engineering	Production Engineering	32	35	35	35	29	37	16
Engineering	Project Engineering	3	8	11	11	12	10	9
Engineering	Research Engineering	8	14	15	23	24	25	23
Engineering	Safety and Certification	14	26	25	40	40	41	38
Engineering	Safety Engineering	2	2	2	2	0	0	0
Engineering	Science	3	6	6	10	10	11	10
Engineering	Signatures Engineering	0	0	0	0	7	15	6
Engineering	Software Engineering	2	3	4	5	4	3	3
Engineering	Structural Engineering	10	16	16	17	25	33	16
Engineering	Systems Engineering	10	14	15	16	12	5	5
Engineering	Welding Engineering	10	14	13	13	8	2	2
Operations	Construction	115	699	983	1733	1944	2125	1831
Operations	Electrical Operations	0	0	146	269	339	404	411
Operations	Facilities	23	52	66	96	100	81	67
Operations	Heavy Fabrication Operations	26	113	157	226	258	275	297
Operations	Light Fabrication Operations	8	8	8	13	14	9	12
Operations	Mechanical Operations	1	1	158	304	394	391	400
Operations	Nuclear Operations	3	3	3	3	3	0	0
Operations	Operations Support	22	30	28	32	33	66	103

NSSG FAMILY	NSSG FUNCTION	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31	2031-32
Operations	Operators	11	30	39	36	67	80	72
Operations	Piping Operations	1	65	118	222	243	243	285
Operations	Product Safety	0	0	0	1	3	3	3
Operations	Production Planning	6	14	15	13	23	28	31
Operations	Quality Assurance	18	26	43	55	38	42	51
Operations	Quality Control	10	16	18	16	36	36	47
Operations	Safety and Certification	24	46	44	69	70	73	67
Operations	Test and Activation	1	1	1	1	25	27	47
Operations	Welding Operations	17	54	79	82	78	80	101
Program Management	Commercial	2	4	6	9	10	11	17
Program Management	Program Office	34	34	34	34	34	21	15
Program Management	Project Cost and Scheduling	79	127	127	181	195	188	172
Program Management	Project Estimating	0	0	0	0	3	3	6
Program Management	Project Management	136	186	190	235	237	209	188
Supply Chain	AIC Industrialisation	13	14	11	0	0	0	0
Supply Chain	Inventory, Warehousing and Logistics	56	102	95	137	204	200	200
Supply Chain	Purchasing and Subcontracts	63	98	140	150	100	147	172
Support	Administration	15	27	36	76	80	104	103
Support	Business Development	7	8	7	8	8	6	3
Support	Business Improvement	9	12	12	15	17	25	25
Support	Communications	12	15	16	30	32	32	32
Support	Corporate Executive	12	23	22	35	35	36	33
Support	Finance	15	28	28	76	80	102	113
Support	Human Resources	48	61	107	204	225	219	214
Support	Information Technology	109	122	152	191	198	142	132
Support	Legal	6	11	15	28	34	43	42
Support	Risk and Insurance	7	10	10	13	13	9	8
Support	Security	57	66	74	94	96	80	61
Support	Training Services	35	44	43	50	32	29	26
Support	Workplace Health, Safety and Environment	20	32	46	61	71	78	87
		1426	2773	3674	5610	6188	6488	6279

Glossary

Term	Meaning
Australian Naval Infrastructure (ANI)	The organisation responsible for delivering infrastructure and services to support Australia's shipbuilding and sustainment programs.
Australian Submarine Agency (ASA)	The Commonwealth Agency responsible for safely and securely acquiring, constructing, delivering, technically governing, sustaining and disposing of Australia's conventionally-armed nuclear-powered submarine capability.
Australian Radiation Protection and Nuclear Safety Agency (ARPANSA)	The Australian Government regulator for radiation protection and nuclear safety.
Australian Naval Nuclear Power Safety Regulator (ANNPSR)	The Australian Government independent regulator for naval nuclear propulsion.
Australian Safeguards and Non-Proliferation Office (ASNO)	The Australian Government regulator for nuclear security and non-proliferation.
AUKUS Pillar One	The first major initiative of the AUKUS partnership: the delivery of a conventionally-armed, nuclear-powered submarine capability for Australia.
Collins-class Submarine	Australian-built diesel-electric submarines operated by the Royal Australian Navy.
Combat System Integration Partner (CSIP)	Combat System Integration Partner will be responsible for the implementation and testing of combat systems improvements, and supporting crews in conducting maintenance and repair on the combat system.
Defence Workforce Plan 2024	The Defence Workforce Plan examines planning and development, including the growth and future needs. It addresses Australian Defence Force (ADF) recruitment, retention, organisational culture, wellbeing and support to ADF members and their families.
Enhanced Lethality Surface Combatant Fleet	A Royal Australian Navy initiative to expand and modernise its surface fleet, focusing on increased offensive and defensive capabilities.
Mid-Career Professionals	Individuals who have gained significant experience and expertise in their chosen field, generally aged between 30 and 50 years.
Naval Nuclear Propulsion	Use of nuclear reactors to power naval vessels, primarily submarines and aircraft carriers, for propulsion and other on-board power needs.
Naval Shipbuilding and Sustainment Plan 2024 (NSSP)	The Commonwealth's long term strategy to enhance Australia's maritime capabilities and strengthen its naval industrial base.
Naval Shipbuilding and Sustainment Group (NSSG)	A Defence group responsible for delivering Australia's shipbuilding and sustainment programs, including workforce data and planning services.

Term	Meaning
Nuclear-Powered Submarine (NPS)	A submarine that uses a nuclear reactor to generate electricity, which in turn powers the submarine's propulsion system.
Nuclear-Powered Submarine Enterprise	The integrated system of Commonwealth, Defence, industry, and education partners working collectively to deliver the submarine capability.
Nuclear-Powered Submarine Workforce	Encompasses the skilled personnel needed to design, build, operate, and maintain nuclear-powered submarines, including engineers, scientists, technicians, and naval personnel.
Optimal Pathway	The identified pathway to deliver Australia a conventionally-armed, nuclear-powered submarine (SSN) capability as soon as the early 2030s. It elevates all three nations' industrial capacity to produce and sustain interoperable nuclear-powered submarines. It expands individual and collective undersea presence in the Indo-Pacific and contributes to global security and stability in the region.
Protective Security Policy Framework (PSPF)	A framework produced by the Attorney-General's Department which sets out the Australian Government's security requirements for the protection of its people, information and assets.
South Australian Defence Industry Workforce and Skills Action Plan (SADIWS)	A joint initiative by the Australian and South Australian Governments designed to address the growing need for skilled workers in the state's expanding defence industry.
Sovereign Submarine Partner (SSP)	ASC Pty Ltd and BAE Systems, selected as industry partners to deliver Australia's nuclear-powered submarine capability.
Plan TRITON	The Royal Australian Navy plan to generate a sovereign nuclear-powered capability.
Skills and Training Academy	A training facility to be built in South Australia, to build a skilled workforce for the AUKUS submarine project.
Western Australian Skills and Workforce Development Action Plan	A strategic framework designed to build, attract and retain a skilled workforce; address skills shortages, and promote workforce participation in Western Australia to ensure the state has the skilled and adaptable workforce needed to meet the needs of its economy, both now and in the future.





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