



Industry Skills Australia

Maritime Industry



2025 Workforce Plan

JSC

Jobs and Skills Council
Transport and Logistics
An Australian Government Initiative

About ISA

Industry Skills Australia (ISA) has been established as the Jobs and Skills Council (JSC) for the Transport Supply Chain industries, which includes Aviation, Maritime, Rail, Transport and Logistics, and the emerging sectors of Omnichannel Logistics and Distribution, and Air and Space Transport and Logistics.

Owned and led by industry, our JSC is committed to building a world-class supply chain workforce to increase productivity, create better jobs and build opportunities for individuals.

We will do this through:

- leveraging almost 30 years of history with Transport Supply Chain industries
- undertaking research and data analysis to inform workforce planning
- advocating for a workforce development approach in tackling industry skills issues, and
- developing priority training package products.

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About the Workforce Plan

Purpose

Workforce Planning is the strategic centrepiece for Jobs and Skills Councils to inform and establish each of their other functions. The Workforce Plan serves as a guide to identifying the contemporary drivers and challenges within Australia's Maritime industry and developing forward-thinking actions to address those challenges. Drawing upon a rich blend of data sources, including industry reports, stakeholder consultation and the direction from our Strategic Workforce Planning Committee, it outlines the current obstacles impeding the industry's progress and proposes practical actions to overcome these hurdles.

The Workforce Plan begins the groundwork for ongoing evaluation and strategy refinement. It aims not only to diagnose current challenges but also to anticipate future trends and opportunities. This proactive approach ensures that the Australian Maritime industry remains agile and responsive to changing conditions.

A crucial aspect of this document is its collaborative nature, emphasising the value of stakeholder input. By incorporating diverse perspectives from industry experts, policy makers, and practitioners, the strategies presented are both robust and attuned to the real-world dynamics of the Maritime industry.

The Workforce Plan will serve as a dynamic tool for ongoing stakeholder engagement to maintain a deep understanding of current, emerging, and future workforce challenges and opportunities, and inform annual iterations of the Plan. This engagement will help identify skills gaps and shortages across the Transport Supply Chain, including in small, niche, and regional sectors. Collaboration with Jobs and Skills Australia will also provide employment outlooks for each industry sector. These insights will enable a proactive and well-informed approach to workforce planning and the development of targeted strategies to address key industry challenges.



The Workforce Plan 2025 is not just a snapshot of the present but a roadmap for the future, guiding stakeholders in collectively navigating and shaping the evolving landscape of Australia's Maritime industry.

Foreword

I am pleased to present the 2025 Workforce Plan for Australia's Maritime Industry, prepared by Industry Skills Australia and overseen by the Maritime Strategic Workforce Planning Committee.

The Committee brings together passionate and experienced Maritime industry leaders to shape the annual Workforce Plan through rigorous research, analysis, and proactive consultation with stakeholders. We have engaged with commercial operators, industry representatives, employers, unions, regulators, government representatives and training and education stakeholders to explore and analyse current challenges facing the industry and identify action that is needed from industry, government and the national skills system.

As an island nation, Australia depends on the Maritime industry for the movement of international and domestic freight. We connect Australian businesses with world markets, and we power operations in tourism, passenger transport and support services. For the Maritime industry to continue its crucial role supporting national resilience and prosperity, we must understand and anticipate future workforce challenges and emerging skill needs.

The 2025 Workforce Plan sets out a series of interrelated challenges and drivers of change for the industry. First among these is a significant gap between demand for seafarers and the current workforce supply. Costs associated with training and certification are a significant barrier for many aspiring seafarers that must be addressed. Limited access to training berths on suitable vessels is also a barrier for industry entrants. At the same time, the introduction of new technologies to the industry means that seafarers will need to be reskilled and upskilled in the safety requirements, operations and maintenance of new systems. To address the identified challenges, the industry needs access to training that reflects the adoption of evolving technologies and is aligned with national and international regulatory requirements.

Through the identification of proposed actions, the 2025 Workforce Plan provides Industry Skills Australia and Maritime industry stakeholders with a way forward for addressing priority areas through collaborative action.

Thank you to all stakeholders who contributed intelligence, insights and ideas to the 2025 Workforce Plan. We look forward to continuing our work with you to collectively shape the future of our industry.

Angela Gillham
Chair, Maritime Strategic Workforce Planning Committee





Executive Summary

The Maritime industry plays a crucial role in the Australian economy by providing Australian businesses with access to international markets and enabling the movement of passengers and freight around the country. The industry comprises the operation, coordination, and maintenance of vessels for the transportation of passengers or freight by water. Maritime industry activities can be categorised into five occupational areas:

- **Navigation**
- **Engineering**
- **Deck Operations**
- **Support Operations**
- **Autonomous Operations.**

The Australian Maritime industry employs nearly 28,000 people across three major subsectors of passenger and freight transport, tourism, and support services, and the workforce is expected to continue to see growth over the next decade. By identifying and analysing the key factors that impact the supply and demand of workers in the Maritime industry, the 2025 Workforce Plan can assist government, industry and enterprises to better understand workforce issues and develop and implement potential solutions.

The **Key Challenges and Drivers** section of the 2025 Workplace Plan explores the current labour market dynamics and workforce challenges that are influencing the supply and demand for workers in the Maritime industry. Extensive research and stakeholder consultation has found that:

- Skilled workforce shortages pose a major challenge for Australia's Maritime industry
- Maritime training faces barriers from high costs, limited course availability, and trainer shortages
- The limited availability of training berths is a major barrier to completing qualifying sea time
- The industry faces complex challenges in adapting to decarbonisation and new technologies
- Upskilling trainers and assessors to effectively implement updated Maritime Training Package products in response to regulatory change.

The 2025 Workforce Plan has been informed by ongoing engagement with stakeholders to gather workforce intelligence and inform evidence based and industry supported actions. The development of annual Workforce Plans allows the Maritime industry to continuously refresh and deepen understanding of the factors that influence workforce supply and demand, and ensure the development of strategic responses.

This plan also identifies a number of related existing workforce strategies and initiatives and maps the challenges and drivers to them. Where relevant, the 2025 Workforce Plan will seek to align with, or contribute to, these strategies and initiatives, or collaborate with those responsible in implementing them.

Summary of actions

Actions set out in **Table 4** of the 2025 Workforce Plan directly respond to the Australian Government Response to the Strategic Fleet Taskforce Final Report (November 2023).

Many of the Taskforce recommendations have broader applicability to the Maritime workforce. The 2025 Workforce Plan's actions have been designed to address both the urgent priorities of the Taskforce and establish a sustainable workforce model for industry to meet immediate and future workforce needs.

ISA has formulated actions in response to industry's key priorities. These include:

Industry Challenge/Driver	Proposed Actions
Skilled workforce shortages pose a major challenge for Australia's Maritime industry	• Maritime skills pipeline - Scope, design and validate an agreed skills pipeline model for the Australian maritime industry. • Revalidation and RCC model - Develop a VET model to improve RPL outcomes and support AMSA revalidation and recognition of current competency for Australia's Maritime workforce. • Occupational pathways for defence - Develop a recognition of prior learning model to support the transition from Naval occupations into civilian maritime occupations. • Occupational mobility - Develop occupational mobility pathways for Australia's maritime workforce. • Simulation - Develop a model that utilises technology (simulation) to develop real-world experience and seafaring capabilities which meets AMSA and IMO requirements.
Upskilling trainers and assessors to effectively implement updated maritime training package products in response to regulatory change	• Marine Order 505 Phase Two (RTO Capability) - Work with key industry stakeholders to support the implementation of updated Maritime training package products which reflect new Marine Order 505 licensing and regulatory requirements.
The industry faces complex challenges in adapting to decarbonisation and new technologies	• Digital Skills - Using DigComp 2.2 as the Digital Framework to review digital skills for a selected number of occupations in our industries.



Industry Challenge/Driver	Actions complete or underway
Skilled workforce shortages pose a major challenge for Australia's Maritime industry	• Marine Order 505 Phase One (Training Package Products) - Work with key industry stakeholders to update qualifications to reflect new Marine Order 505 licensing and regulatory requirements. • Vessel Traffic Services - Work with key industry stakeholders to update training package products. • National Maritime Skills Network - Pilot an industry-driven National Maritime Skills Network for the maritime industry. • Improving Maritime Career Information - Develop and promote maritime career and learning pathway information to learners, existing workers, careers advisors, training providers, industry organisations and unions. • Strategic Fleet Workforce Supply and Demand Forecast - Develop a workforce supply and demand forecast for Strategic Fleet.
Maritime training faces barriers from high costs, limited course availability, and trainer shortages	• VET Workforce Project - This is a Commonwealth funded initiative being led by the ten Job and Skills Councils with the aim to build and support a secure and sustainable VET workforce.
The limited availability of training berths is a major barrier to completing qualifying sea time	• Co-ordination of Sea Time - Establishes an agreed model for effective co-ordination of sea time requirements.
The industry faces complex challenges in adapting to decarbonisation and new technologies	• Autonomous Maritime Systems - Update qualifications for new and emerging job roles including Autonomous Underwater Vehicles (AUV) and Autonomous Surface Vessels (ASV) operations.

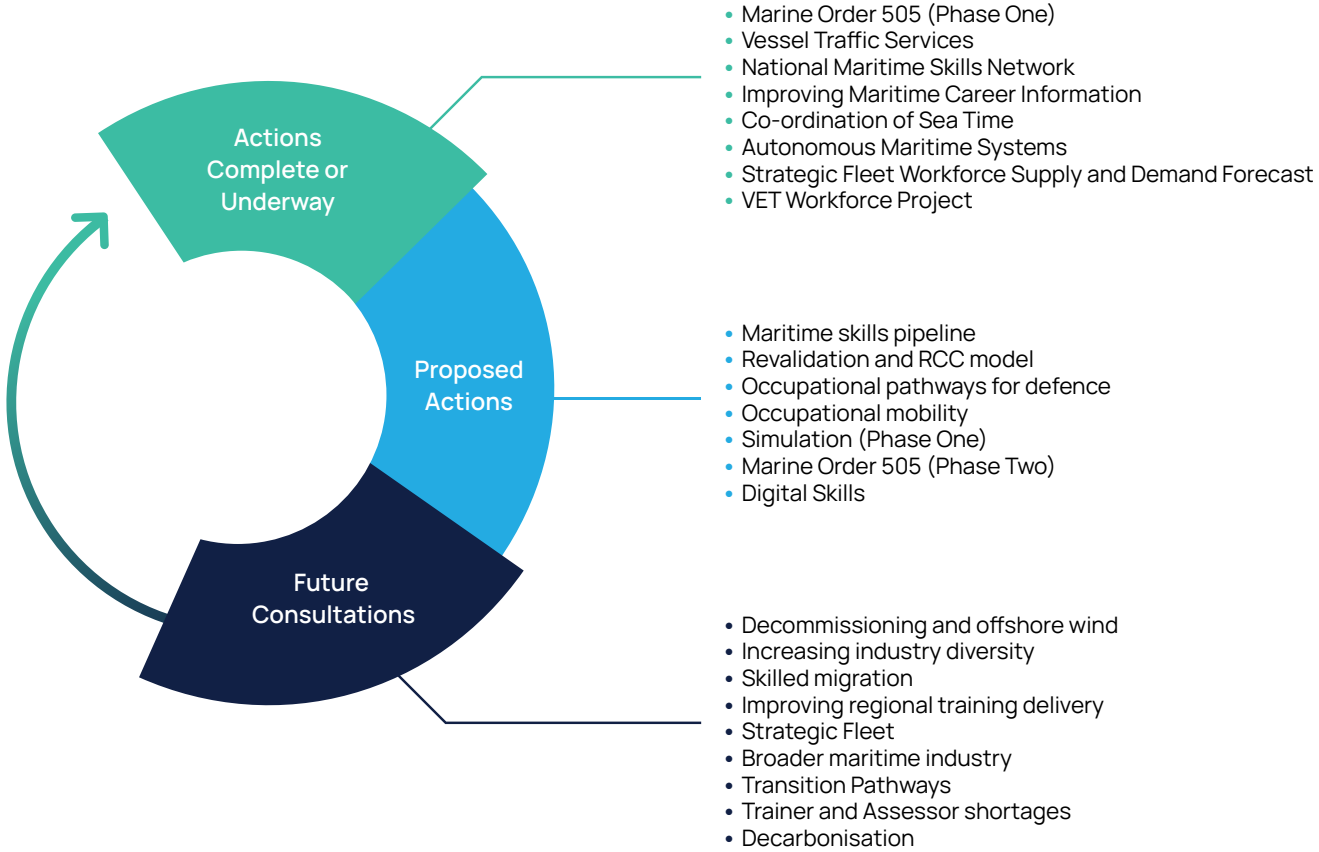


Summary of future consultation

Additional engagement, research and consultation activity has been identified to assist in the development of future strategies or initiatives to inform the 2025 Workforce Plan. These focus areas cover the key themes associated with our challenges and drivers and include:

Industry Challenge/Driver	Proposed Future Consultation
Skilled workforce shortages pose a major challenge for Australia's Maritime industry	• Decommissioning and offshore wind • Increasing industry diversity • Skilled migration • Broader maritime industry • Transition Pathways
Maritime training faces barriers from high costs, limited course availability, and trainer shortages	• Improving regional training delivery • Strategic Fleet • Trainer and Assessor shortages
The industry faces complex challenges in adapting to decarbonisation and new technologies	• Decarbonisation

Workforce Plan Actions



Industry Overview

The Maritime industry is crucial to the operation of the Australian economy, enabling the movement of passengers and freight around the country and providing Australian businesses with access to international markets. In 2024, the Maritime industry generated an estimated annual revenue of \$10.1 billion and added \$3.8 billion to the Australian economy.¹

The Maritime workforce comprises nearly 28,000² (Figure 1) people employed across three major subsectors: passenger and freight transport, tourism and support services³ with women making up 9.4% of workers in operational roles (Figure 2).⁴

The Maritime workforce can be categorised into five occupational areas:

	Navigation – commanding and navigating vessels.
	Engineering – maintaining marine systems, equipment, operation and maintenance of machinery and ships engines.
	Deck Operations – performing duties and functions on a vessel and/or assisting with deck or engine work.
	Support Operations – performing duties and functions to support vessel operations.
	Autonomous Operations – working or supervising Autonomous Maritime Systems operations in Near Coastal waters.

The industry includes seafarers who work on commercial and non-commercial vessels and personnel who are required to be certified by the Australian Maritime Safety Authority (AMSA).

Seafarers who work on domestic commercial vessels are required to hold Near Coastal AMSA certification. Seafarers who work on Australian or International vessels in Australian waters are required to hold STCW (Standards of Training, Certification and Watchkeeping) AMSA certification. To achieve AMSA certification seafarers are required to complete an approved course of study and qualifying sea time.

¹ IBISWorld Industry Wizard (2024)

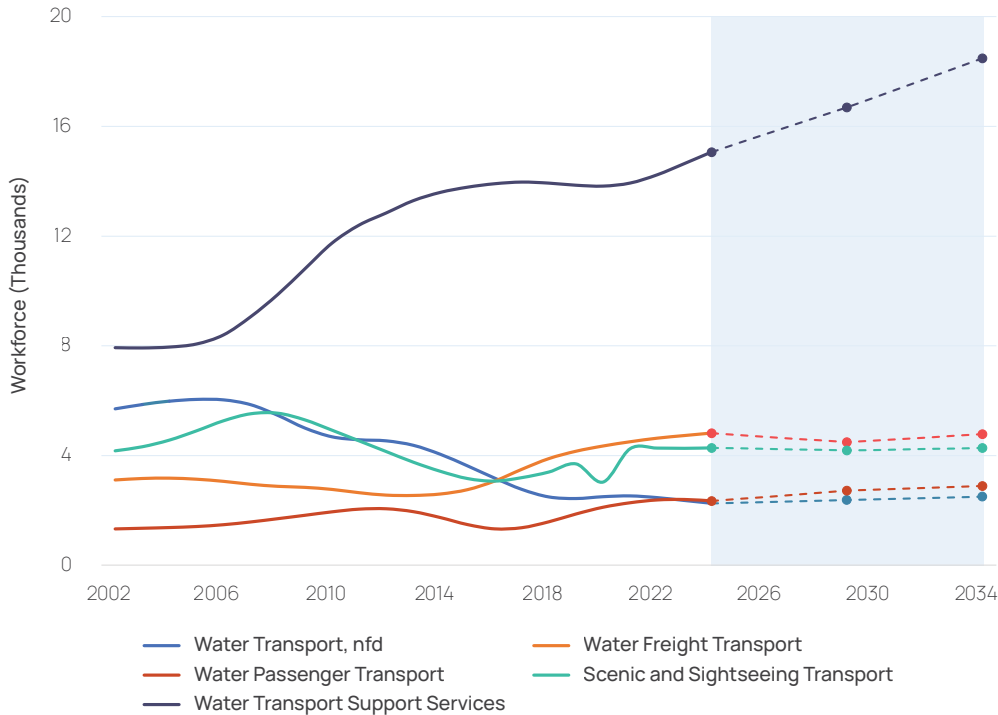
² Australian Bureau of Statistics, Labour force survey: Detailed, November 2024, Jobs and Skills Australia (JSA) trend data

³ NOTE: This figure is likely to be a significant underestimate of the true sea-going workforce, since maritime certificates are required in many related industries, such as oil and gas, defence, fishing and other sectors that are not captured here. The Australian Maritime Safety Authority has indicated that approximately 30 thousand certificate holding seafarers in November 2023 (comprising 29,039 near coastal seafarers and 3,778 STCW, with some holding both).

⁴ Australian Bureau of Statistics, Detailed Labour Force Survey, EQ08 - Employed persons by Industry group of main job, November 2024 (annual average of original data)



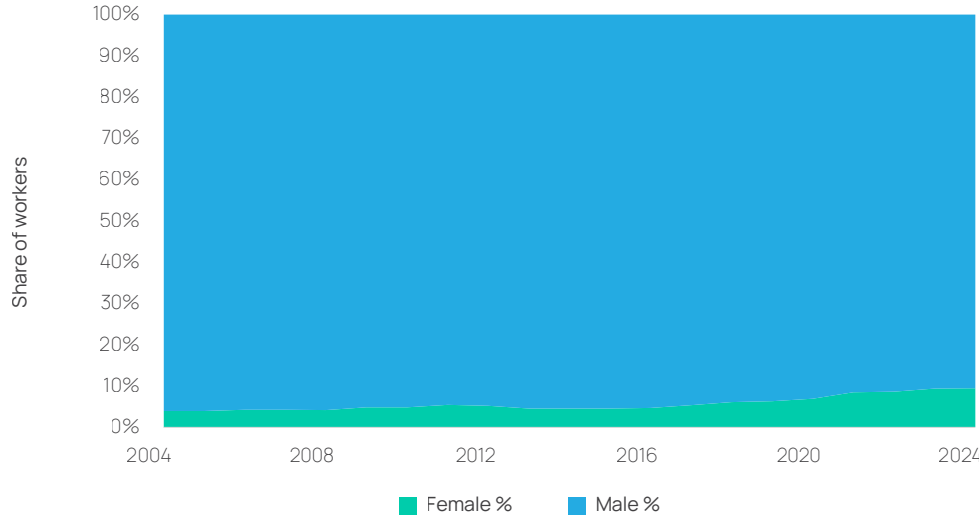
Figure 1: Maritime Industry Workforce, 2002 – 2034



Source: JSA Labour Force Trending (Nov 2024), JSA Employment Projections (2024 to 2034)

THE MARITIME WORKFORCE WILL
grow by 18% to 2034

Figure 2: Female Employment Share 2004 - 2024



Source: ABS, LFS, EQ08 2024, 4 - quarter average, 4 - year rolling average

women now make up 9.4%
OF WORKERS IN OPERATIONAL ROLES



MARITIME BUSINESS NO.

3108

38 with 200+ employees
162 with 20-199 employees
2,908 with 0-19 employees

AUSTRALIA'S INTERNATIONAL
TRADE CARRIED BY SEA



MORE THAN
99%

TOP 4 SECTORS
BY WORKFORCE NO.

Water Transport
Support Services



15064

Water Freight
Transport



4816

Scenic and
Sightseeing
Transport¹



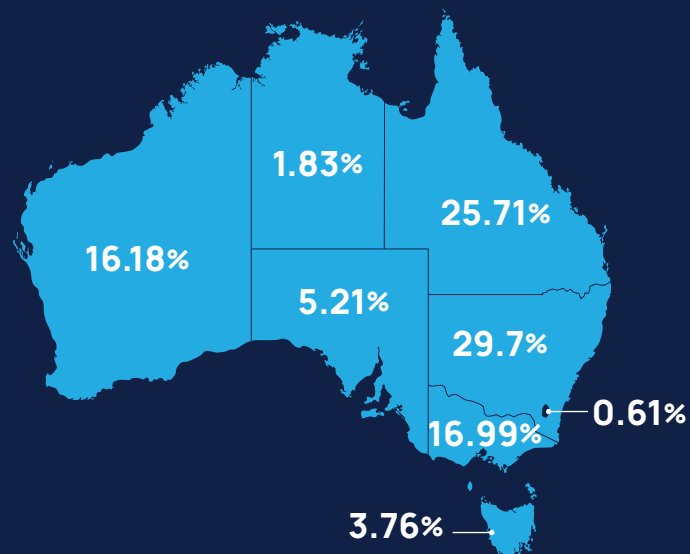
4281

Water Passenger
Transport



2341

BUSINESS DISTRIBUTION BY STATE %



MARITIME INDUSTRY
ESTIMATED ANNUAL
REVENUE \$B 2025

10.0716

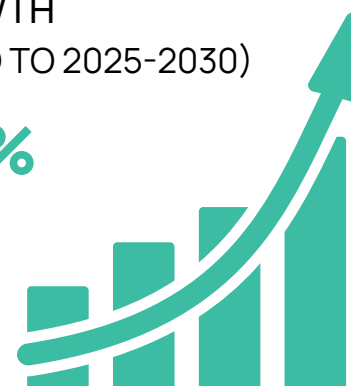


GDP CONTRIBUTION
\$B 2024

3.76

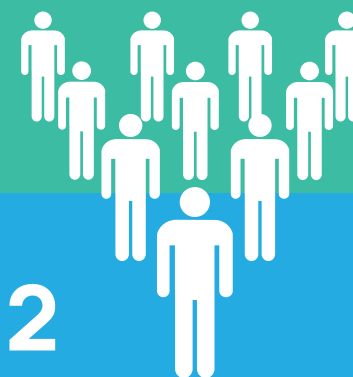
DOMESTIC FREIGHT
TASK GROWTH
(PROJECTED TO 2025-2030)

1.50%



MEDIAN AGE

45



WORKFORCE¹

27,902



7%
Female



1.7%
Aboriginal &
Torres Strait Islander



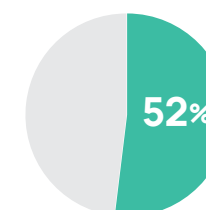
0.6%
With a
disability



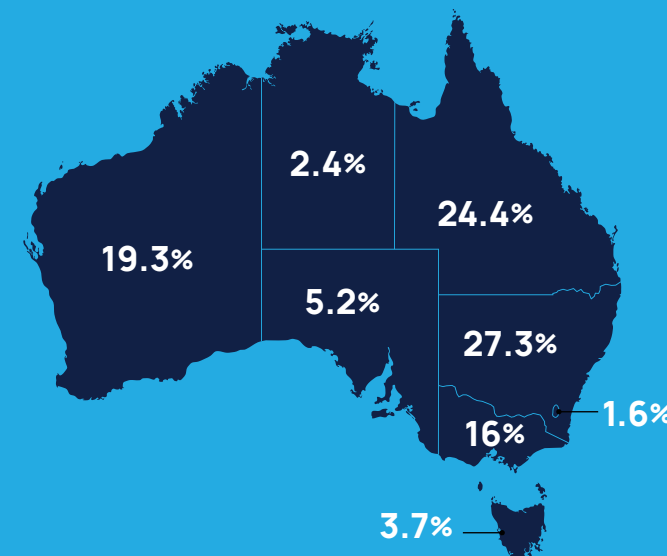
REGISTERED TRAINING
ORGANISATIONS (RTO)

65

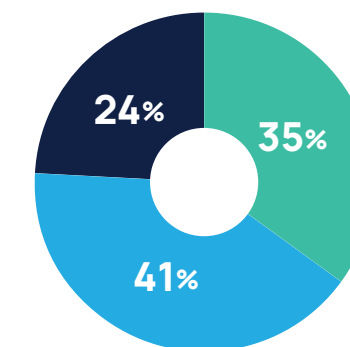
WORKERS WITH
VOCATIONAL
EDUCATION



WORKFORCE DISTRIBUTION



RESIDENTIAL DISTRIBUTION
OF WORKERS



Major cities Regional Remote

TOP 5 OCCUPATIONS

1	Ship's Master		3576
2	Deck Hand		2473
3	Ship's Engineer		1877
4	Ship's Officer		521
5	Marine Surveyor		483

WORKFORCE
NEARING RETIREMENT
(AGED 56-66)



18.5%

QUALIFICATION
ENROLMENTS 2023

7349



Key Challenges and Drivers

A. Skilled workforce shortages pose a major challenge for Australia’s Maritime industry

Employers, industry associations and unions all report the Australian Maritime industry is experiencing unprecedented demand for skilled professionals, with a significant gap between the demand for seafarers and the current workforce supply. The workforce shortage is being driven by growing demand for sea transportation to support domestic supply chains for emerging energy industries and offshore oil and gas decommissioning.⁵ The industry has reported that an increase in demand for trans-shipment operations, defence support, crewing requirements for government owned vessels and shipbuilding also contribute to increased workforce demand. ISA’s 2025 survey results highlighted that Maritime workforce development challenges are both immediate and long term.

Ongoing shortages of Engineers, Masters, Officers and Deck Hands are impacting the industry

The gap between the demand for Australian seafarers and the availability of qualified workers poses a serious challenge for the industry. As shown in **Table 1**, all maritime occupations are currently in shortage in at least one state/territory in Australia. Ship’s Engineers and Masters were in shortage nationwide in 2024, suggesting that maritime professionals are in critically low supply across the country.

Table 1: Maritime Occupations in Shortage by State/Territory

Occupation title	2021	2022	2023	2024
Deck Hand	NT	NSW, NT	NSW, NT, QLD	NT, QLD, SA
Marine Surveyor		VIC, WA		WA
Marine Transport Professionals nec		VIC		NSW, WA
Ship’s Engineer	NT	NT, VIC, WA	AUST	AUST
Ship’s Master	NT	NT, VIC, WA	NT, QLD	AUST
Ship’s Officer		VIC, WA	NSW	NSW, WA

Source: Occupational Shortage List (14 February 2025)
AUST: All States and Territories

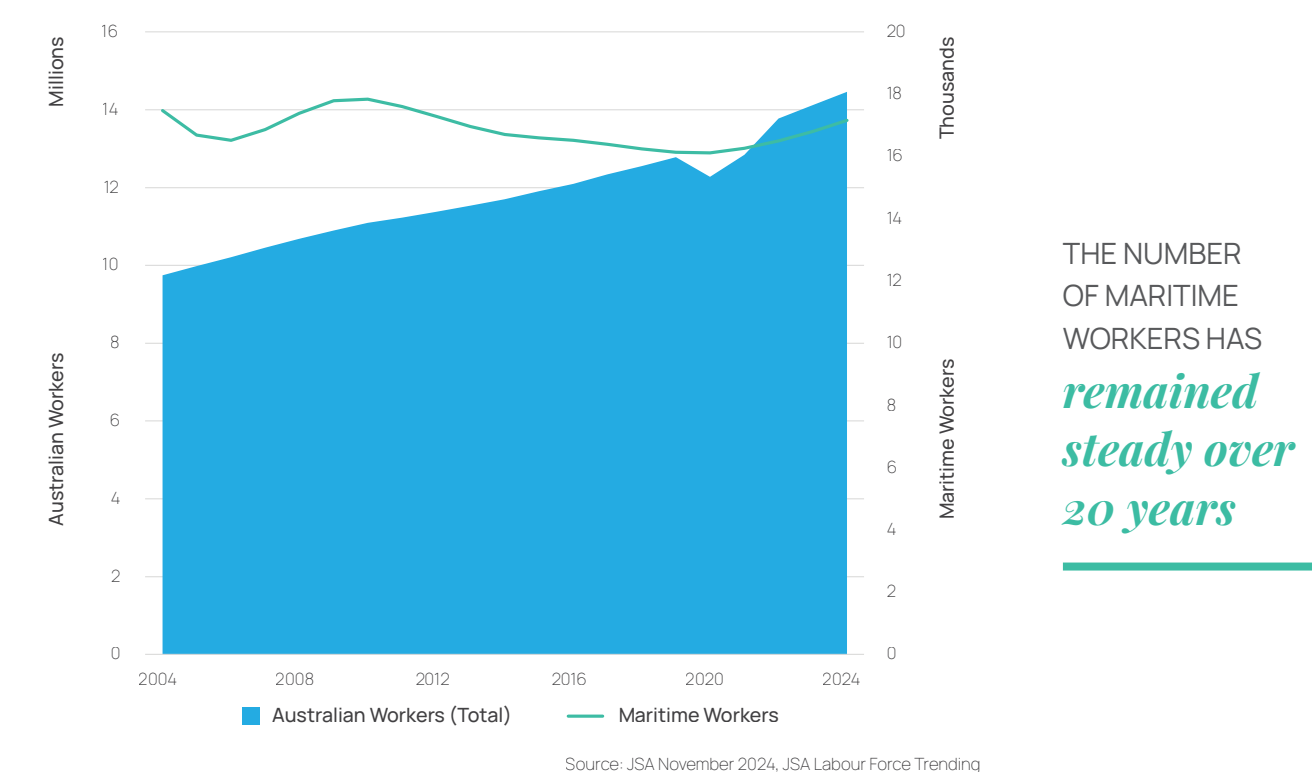
Industry stakeholders report that occupational shortages are exacerbated by difficulties in attracting and retaining workers. ISA’s 2025 survey results highlighted that attraction is particularly challenging in regional areas. Additionally, the decline in Australian-flagged shipping makes it harder to attract new workers and support occupational mobility because there is no assurance that the industry can sustain workers’ maritime careers. The ongoing shortage of Integrated Ratings and Near Coastal deckhands is impacting the capacity to crew vessels and stakeholder feedback indicates a significant shortage of Electro-Technical Officers.

⁵ Department of Industry, Science and Resources. (2024). [Australia’s Offshore Resources Decommissioning Roadmap](#)



The long-term workforce trends further underscore these challenges. Jobs and Skills Australia (JSA) data (**Figure 3**) shows that while Australia’s total workforce has grown by nearly half (48.5%) over the past 20 years, the number of workers in maritime roles has barely changed. Indicators show the demand for maritime workers, as represented by online job ads (**Figure 4**), reached a peak in 2022 and has since fallen by 19% to 2024 ⁶, suggesting some volatility in employer demand and hiring activity.

Figure 3: Comparison of Total and Maritime Workers, 2004-2024

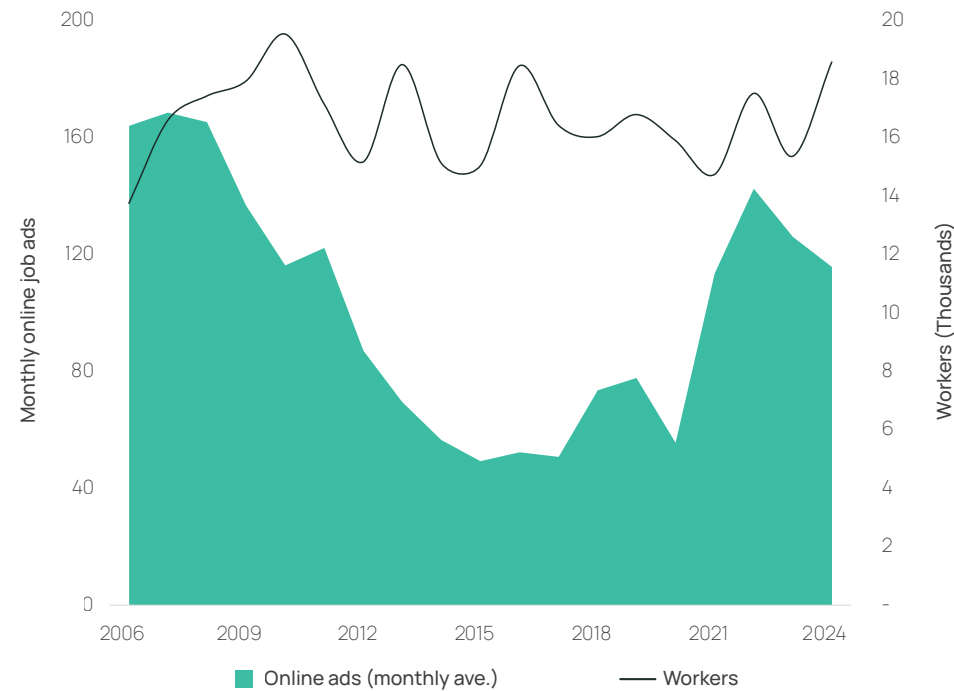


⁶ Australian Bureau of Statistics. [Job vacancies](#), February 2025

While historical growth among maritime workers has been flat, JSA projections report a 3.7% increase in maritime workers to 2029 and 8.9% to 2034. However, this growth remains well below the total labour force average of 13.6% over the same period⁷. While these projections signal a turnaround in maritime employment, it remains uncertain whether this growth will be sufficient to meet the demands of new projects and initiatives. A further cause for uncertainty was identified in responses to ISA's 2025 survey where respondents indicated that adjacent maritime sectors, such as seafood, fishing and boatbuilding, are competing for workers and are experiencing impacts on productivity, fleet size, sustainability and operations.

However, the ISA 2025 survey also highlighted that the right policy settings would support maritime careers. The policy settings identified by survey respondents included the training levy, reforms to the Coastal Trading Act, support for initiatives such as Strategic Fleet and offshore wind including approaches to co-contribution funding models, industry and government collaboration to support these.

Figure 4: Maritime Workers and Online Job Ads, 2006 - 2024



Source: ABS Labour Force/Internet Vacancy Index, three month moving average

Emerging green energy sectors and expanding Maritime industries will increase demand for skilled workers

Industry stakeholders predict that the shortage of skilled maritime workers will also be felt in emerging green energy sectors. The development of offshore renewable energy and transmission infrastructure is a pivotal part of the transition to renewable energy and the Maritime industry is integral to this development.⁸

Six initial licences for offshore wind projects were granted by the Australian Government in May 2024, with feasibility licences for 12 projects for the Gippsland Offshore Wind Zone also granted.⁹ More recently, the Australian Government has granted two feasibility licences for proposed offshore wind farms in the Pacific Ocean, off Hunter region¹⁰ and the Southern Ocean¹¹, off Victoria's Southwest coast. While the scale of these infrastructure projects is dependent on Government approvals, maritime workers will be required to support construction, operations and maintenance phases.

⁷ Jobs and Skills Australia. [Employment projections produced May 2024 to May 2034](#)

⁸ Victorian Government. Energy, Environment and Climate Action. [Offshore wind energy](#)

⁹ Offshore Wind. (2024). [Australia Approves Twelve Offshore Wind Projects, Set to Generate 25 GW Capacity](#)

¹⁰ DCCCEW. (2025, February 28). [Hunter offshore wind zone – Final decision on feasibility licences](#)

¹¹ DCCCEW. (2025, February 28). [Australian Government grants feasibility licence for Southern Ocean offshore wind zone](#)

MARITIME
JOB ADS
*fell 19%
in 2024*
AFTER PEAKING
IN 2022,
*highlighting
demand
volatility*

Maritime workers will also be required for the decommissioning of offshore oil and gas facilities as Australia's offshore oil and gas industry matures, and Australia moves to reduce its emissions and reliance on fossil fuels.¹² The first deepwater decommissioning project in Australian waters, Northern Endeavour, is underway.¹³

This type of activity will be an increasingly important component of the offshore industry with decommissioning activity over the next 30 years estimated to cost more than A\$60 billion.¹⁴ The involvement of seafarers in these projects will vary depending on their scope and complexity¹⁵ but it is anticipated that seafarers will be required for the provision of essential vessel operations and support services.

The Strategic Fleet Taskforce identified that 432 STCW qualified seafarers would be required to crew 12 vessels. Recognising that existing workforce shortages will need to be addressed to crew these vessels the Taskforce recommended taking a proactive approach to workforce development. With the establishment of the Strategic Fleet Pilot, workforce development solutions are required now to achieve its objectives.

Key Insight Strategic Fleet Taskforce Final Report and Government Response

In 2022 the Australian Government appointed the Strategic Fleet Taskforce to advise on the establishment of a maritime Strategic Fleet.

The Taskforce released its final report in November 2023 and made 16 recommendations for the Fleet's development.

In its formal response, the Australian Government agreed, in full or in principle, to 12 recommendations and committed to further exploring the remaining four recommendations.

The Strategic Fleet Taskforce estimated 432 STCW qualified seafarers are required for 12 vessels. Recommendations 9, 11 and 13 of the final report apply to skills and workforce development activities.

The Key Challenges and Drivers in this Workforce Plan echoed in the Taskforce Report with several of the Report's recommendation's requiring actions from the national skills system, Jobs and Skills Australia, Industry Skills Australia, Commonwealth and state agencies and the Maritime industry.

¹² Australian Academy of Technological Sciences and Engineering. (2024). [Offshore oil and gas decommissioning](#)

¹³ Department of Industry, Science and Resources. (2024). [An update on decommissioning the Northern Endeavour](#)

¹⁴ Wood Mackenzie. (2020). [Australia-Oil-and-Gas-Industry-Outlook-Report.pdf](#)

¹⁵ ACCR. (2023). [Offshore oil and gas asset decommissioning](#)

¹⁶ Inpx. (2024). [Maritime workforce position paper](#)



Key Insight Strategic Fleet Pilot

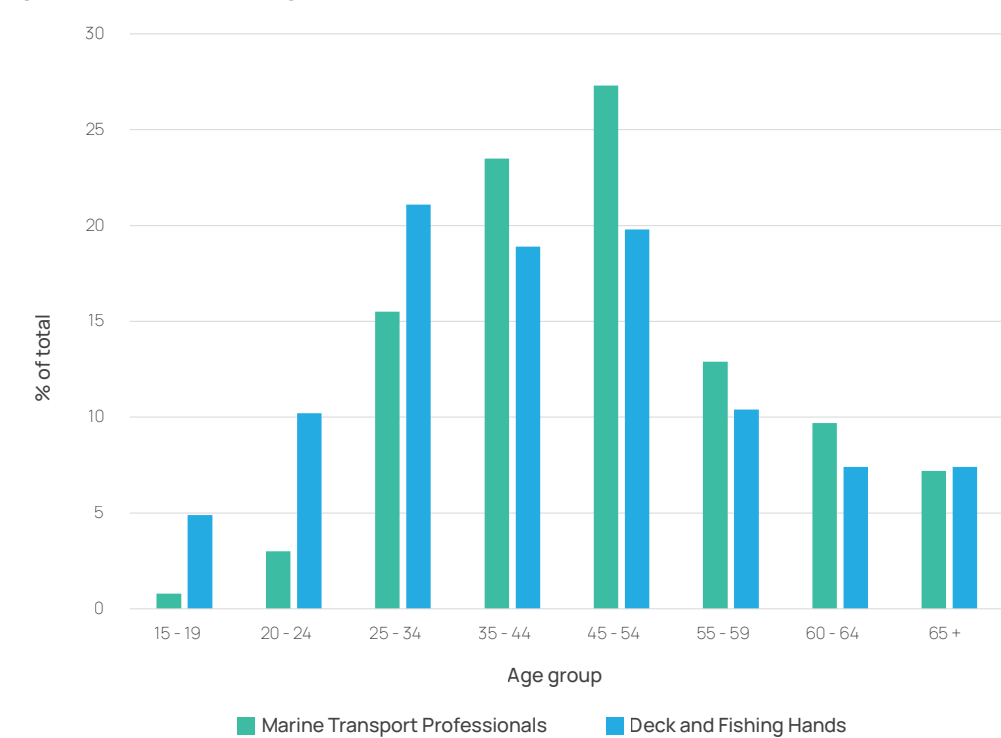
Work toward establishing Australia's maritime Strategic Fleet is underway. In 2024, the Australian Government announced a five year Strategic Fleet Pilot which included establishing three Strategic Fleet vessels through a request for tender process.

As of May 2025, proposals are being evaluated as a part of a competitive, open and transparent procurement process.

The industry is grappling with an ageing workforce and high turnover rates

The industry is challenged by an ageing workforce and difficulties in retaining workers.¹⁶ As shown in **Figure 5**, maritime workers tend to be older than the national average, with a disproportionate share above 45 years old, and relatively few in the youngest age groups. Industry stakeholders report that qualified seafarers are leaving the industry or moving into higher-paid jobs in adjacent sectors of the Maritime industry.

Figure 5: Maritime Workers Age Profile



MARITIME
WORKERS ARE
OLDER ON
AVERAGE,
*with few
workers
under 30*

Source: JSA November 2024, Occupation Profiles Data, Table 7

The Maritime industry has had difficulty attracting women and underrepresented groups into the workforce. Employers have reported mixed success from their efforts to recruit a more diverse workforce.

To expand the pool of potential workers available to the industry, further efforts will be needed to promote the Maritime industry to currently underrepresented cohorts, and to support a more diverse and inclusive work environment.

Proposed Actions:

- [Maritime skills pipeline](#)
- [Revalidation and RCC model](#)
- [Occupational pathways for defence](#)
- [Occupational mobility](#)
- [Simulation- Phase One](#)

Actions Complete or Underway:

- [Marine Order 505 - Phase One \(Training Package Products\)](#)
- [Vessel Traffic Services](#)
- [National Maritime Skills Network](#)
- [Improving Maritime Career Information](#)
- [Co-ordination of Sea Time](#)
- [Strategic Fleet Workforce Supply and Demand Forecast](#)

Future Consultation:

- [Decommissioning and offshore wind](#)
- [Skilled migration](#)
- [Increasing industry diversity](#)
- [Broader maritime industry](#)
- [Transition pathways](#)



B. Maritime training faces barriers from high costs, limited course availability, and trainer shortages

The costs associated with training and certification can be a significant barrier for many aspiring seafarers due to the need to comply with international standards and regulatory requirements.¹⁷

The International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW) sets the standards of competence for seafarers internationally.¹⁸ Australia is a signatory to the convention and the Australian Maritime Safety Authority (AMSA) is responsible for ensuring Australian compliance with the standards of the STCW. In this role, AMSA approves and evaluates RTOs that provide training and assessment that leads to STCW certification.¹⁹

To gain an AMSA certificate of competency, seafarers must undertake an AMSA approved course and/or complete an AMSA mandated practical assessment.²⁰ Approved training courses for STCW occupations include qualifications and Skill Sets from the Maritime Training Package.

¹⁷ MIAL. (2025). [Government investment a welcome boost for strategic maritime skills](#)

¹⁸ Safety Culture. (2023). [STCW for seafarers: What you need to know](#)

¹⁹ AMSA. [Evaluations—STCW certificate of competency/proficiency and short courses—MT04](#)

²⁰ AMSA. [AMSA mandated practical assessments](#)



Maritime training is hindered by the need for substantial investments, a lack of trainers, and regulatory pressures

RTOs need significant investment to develop and maintain specialised maritime training programs. Approved training organisations are required to demonstrate that they can meet International Maritime Organization (IMO) and/or AMSA requirements relevant to their training and assessment system. This can include requirements relating to methods of delivery, assessment instruments,²¹ Recognition of Prior Learning (RPL) processes,²² industry certification for assessors,²³ equipment, and the use of simulators.²⁴ As a result, there

is a high cost for RTOs to register, develop and maintain training courses that deliver highly specialised and technical job skills that meet STCW requirements.

Industry stakeholders have highlighted a shortage of qualified trainers across the Maritime industry, reflecting broader shortages of 'Vocational Education Teachers' consistently reported across all States and Territories over the past three years (**Table 3**). The shortage impacts RTO capacity to deliver training and is a barrier to creating a skills pipeline for the maritime workforce. With industry looking to the national skills system for support to develop the maritime workforce, increasing the support of trainers with current skills in new and emerging technologies will be critical.

Table 2: Vocational Education Teacher Shortages by State/ Territory

State/Territory	2021	2022	2023	2024
Australian Capital Territory	No Shortage	Shortage	Shortage	Shortage
New South Wales	No Shortage	Shortage	Shortage	Shortage
Northern Territory	Shortage	Shortage	Shortage	Shortage
Queensland	No Shortage	Shortage	Shortage	Shortage
South Australia	No Shortage	Shortage	Shortage	Shortage
Tasmania	No Shortage	Shortage	Shortage	Shortage
Victoria	No Shortage	Shortage	Shortage	Shortage
Western Australia	No Shortage	Shortage	Shortage	Shortage

Source: Occupational Shortage List (14 February 2025)

²¹ AMSA. [STCW Training and assessment, quality standards and use of simulators—MT02](#)

²² AMSA. [STCW recognition of prior learning policy—MT03](#)

²³ AMSA. [Lecturer qualifications required for STCW course delivery—MT07](#)

²⁴ AMSA. [STCW Training and assessment, quality standards and use of simulators—MT02](#)

Government funding supports VET enrolments, but course availability is limited

Although government funding supports VET enrolments in Maritime courses, the availability of courses through Fee-Free TAFE and VET traineeships is limited. Despite significant shortages for all maritime occupations across Australia (**Table 1**), only New South Wales is offering a wide range of funded traineeships for the Maritime industry (**Table 3**). Only one VET traineeship relating to STCW is currently available for the Maritime industry; the Certificate III in Maritime Operations (Integrated Rating), offered exclusively in Western Australia²⁵.

Table 3: Funded Maritime Traineeships by State/Territory

State/Territory	ACT	NSW	NT	QLD	SA	TAS	WA	Certification
MAR10424 Cert I in Maritime Ops (Coxswain Grade 2 NC)						X		NC
MAR20324 Cert II in Maritime Ops (Coxswain Grade 1 NC)		X	X	X			X	NC
MAR20424 Cert II in Maritime Ops (MED Grade 3 NC)		X					X	NC
MAR30122 Cert III in Marina Ops		X						N/A
MAR30220 Cert III in Maritime Ops (Integrated Rating)							X	STCW
MAR30824 Cert III in Maritime Ops (MED Grade 2 NC)		X			X	X	X	NC
MAR30924 Cert III in Maritime Ops	X	X		X	X	X		NC
MAR40224 Cert IV in Maritime Ops (MED Grade 1 NC)		X						NC
MAR40324 Cert IV in Maritime Ops (Master up to 45 m NC)		X				X		NC
MAR50120 Dip of Marine Engineering		X						STCW, NC
MAR50320 Dip of Maritime Ops		X						STCW, NC
Total	1	9	1	2	2	4	4	

Source: Various state/territory price list websites

ISA 2025 survey results reinforced previous feedback from employers on the challenges of developing a national workforce when funding priorities do not have a national approach.

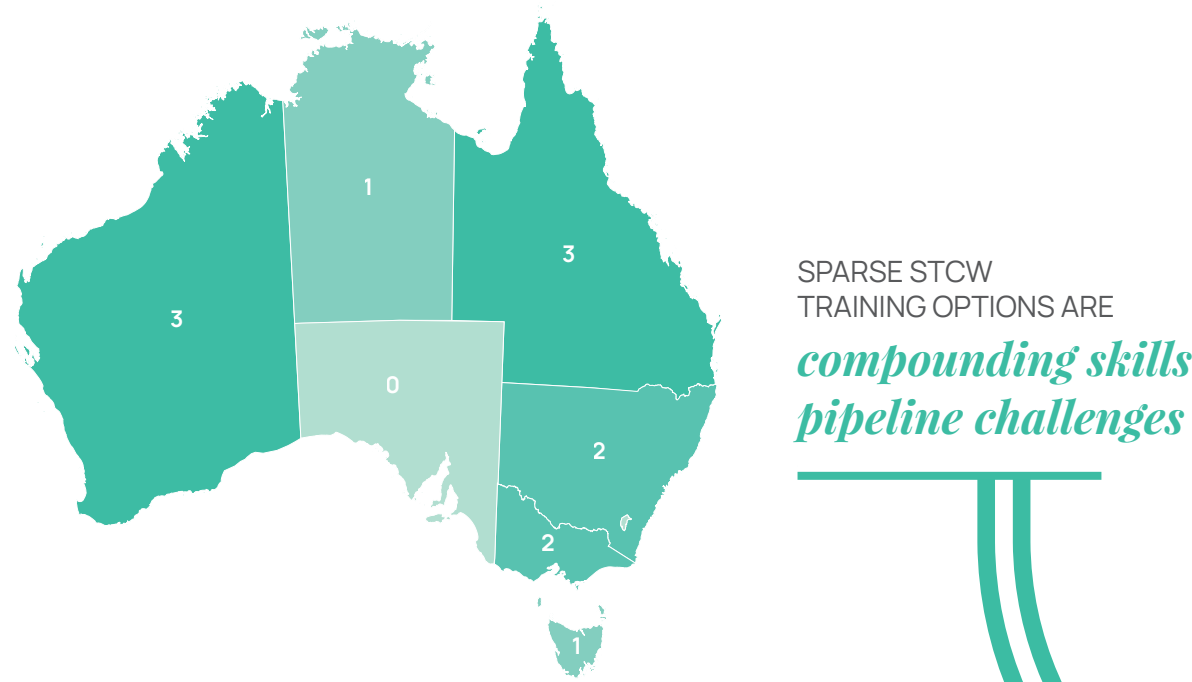
Government and industry stakeholders must work together to explore fair and equitable funding models that will make training viable for training providers and cost effective for employers and seafarers.

²⁵ Department of Training and Workforce Development. (2025, January). [Eligible traineeship list 2025 \(version 1\). Jobs and Skills WA](#)

RTOs struggle to maintain cost-effective courses due to low enrolments

Low enrolments in maritime courses restrict RTOs' ability to achieve economies of scale to deliver cost-effective courses. Thin markets and uncertain viability can result in a lack of delivery in specific skill areas and/or geographic regions. **Figure 6** highlights that there are few approved STCW training providers across the country with South Australia having no approved provider. As a result, prospective students must often travel interstate, increasing costs and compounding the challenges already faced by RTOs.

Figure 6: Approved STCW Training Providers by Jurisdiction



Source: AMSA, Approved training courses, March 2025

The Maritime industry is feeling the flow-on impacts of low enrolments. Industry have reported impacts on training delivery of STCW and Near Coastal qualifications including limited numbers of approved STCW training providers, and limited delivery locations and course/training intakes. Stakeholders identified employer training costs such as wages, accommodation, meals, travel allowance and salary replacement as key barriers to maritime industry growth.

Resolving the cost of training delivery to achieve AMSA certified qualifications is considered critical and was identified by the Strategic Fleet Taskforce as a barrier to building and maintaining a certified workforce for the Strategic Fleet.²⁶

Actions Complete or Underway:

- [National Maritime Skills Network](#)
- [VET Workforce Project](#)

Future Consultation:

- [Improving regional training delivery](#)
- [Strategic Fleet](#)
- [Trainer and Assessor shortages](#)

²⁶ Department of Infrastructure, Transport, Regional Development, Communications, Sport and the Arts. (2023). [Strategic fleet taskforce – Final report](#)

C. The limited availability of training berths is a major barrier to completing qualifying sea time

Seafarers must complete a specified amount of qualifying sea service, or 'sea time', on a vessel to be eligible for AMSA certification.²⁷ Without completing the required sea time, seafarers are unable to be AMSA certified and are unable to work in the industry.²⁸ Sea time requirements stipulate the length of time, the duties to be completed and the type of vessel on which that sea service needs to be completed for each grade of certificate. Near coastal sea time requirements are aligned with national standards while sea time requirements for international certificates are aligned with international STCW requirements.²⁹



The lack of training berths limits opportunities to meet certification requirements

To complete the required sea time, prospective seafarers need access to training berths on suitable vessels.³⁰ However, access to training berths has proved to be a major barrier for people undertaking maritime training. Stakeholders in the Domestic Commercial Vessel (DCV) sector have also reported difficulties accessing berths to complete sea time requirements.

The Strategic Fleet Taskforce identified the lack of access to training berths on vessels as a major challenge to growing the maritime workforce.³¹ The Taskforce's final report proposed measures to reduce these barriers, such as mandated training berths and cadetship programs.

²⁷ AMSA. [Sea service and task books](#)

²⁸ AMSA. [Guidance—international certificates](#)

²⁹ AMSA. [Qualifying near coastal sea service](#)

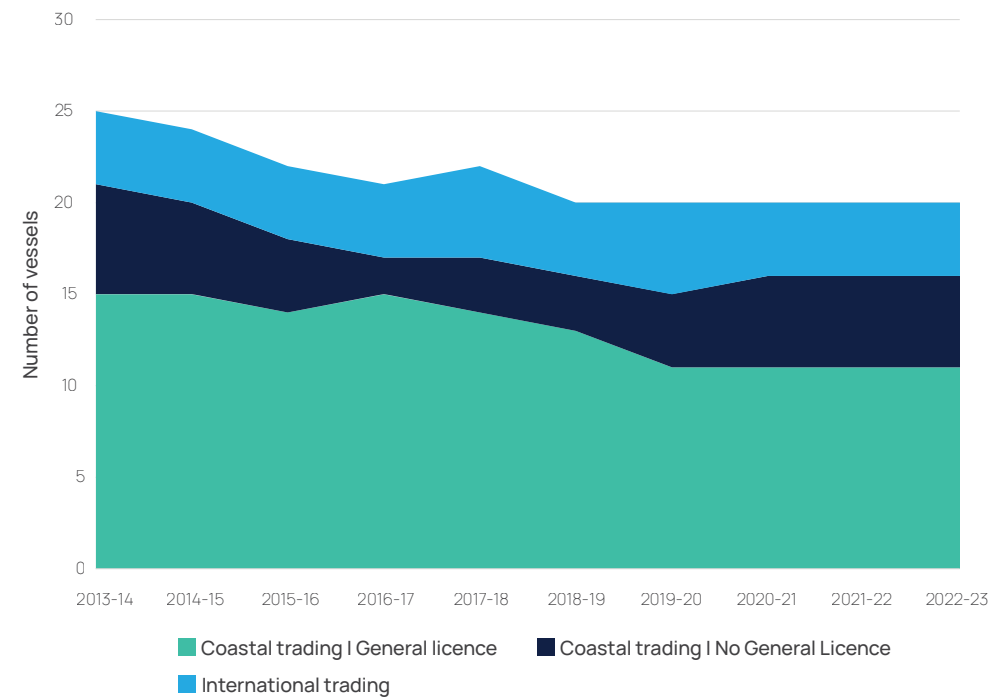
³⁰ Department of Infrastructure, Transport, Regional Development, Communications, Sport and the Arts. (2023). [Strategic fleet taskforce – Final report](#)

³¹ Department of Infrastructure, Transport, Regional Development, Communications, Sport and the Arts. (2023). [Strategic fleet taskforce – Final report](#). Pg. 60

The decline in Australian-flagged vessels reduces sea time opportunities for new entrants

The reduction in the number of Australian flagged vessels (**Figure 7**) has meant that fewer training berths are available for seafarers to complete the sea time they need to achieve VET qualifications and AMSA certification. This has been further exacerbated by the sale of the final four Australian-flagged LNG carriers in 2024,³² which marked the end of the Australian-flagged international fleet. This also impacts the capacity of the industry to attract new entrants as the opportunity to achieve sea time for AMSA certification is reduced. Industry stakeholders in the DCV sector are also reporting difficulties accessing sea time for key occupations.

Figure 7: Decline of Australian-flagged Trading Fleet (Major)



DECLINE IN
VESSELS
*limits
sea time
opportunities
for trainees*

Source: BITRE forthcoming, Australian Sea Freight 2024 (preliminary), based on Lloyd's List Intelligence and DITRDCA data

Lack of coordination limits effective access to training berths

A lack of coordination across industry and training providers has meant that available training berths are not effectively accessed and used.³³ Industry have suggested that better coordination could improve the ability of prospective seafarers to fulfil the sea time requirements of their certification.

Key Insight Investment in Maritime Skills and Training

In 2025, the Australian Government will invest \$16.9 million in a new maritime skills and training initiative to give up to 20 trainee seafarers each year for four years, access to berths to complete sea time required for international certification.

This initiative supports the establishment of a Strategic Fleet of up to 12 vessels, and responds to the recommendations from the 2024 Maritime Workforce Plan and Strategic Fleet Taskforce, aiming to strengthen Australia's maritime sector.

Actions Complete or Underway:

- Co-ordination of Sea Time

³² Daily Cargo News. (2024, March 22). Sayonara to NWS carriers. <https://www.thedcn.com.au/news/sayonara-to-nws-carriers>

³³ Department of Infrastructure, Transport, Regional Development, Communications, Sport and the Arts. (2023). [Strategic fleet taskforce – Final report](#)

D. The industry faces complex challenges in adapting to decarbonisation and new technologies

The Maritime industry is facing complex challenges as it navigates decarbonisation efforts and new technologies. Change is being driven by evolving international regulations, transition to cleaner fuels and the introduction of automation technologies.³⁴ Recent Australian government initiatives, such as Future Made in Australia, show the significance of achieving net zero.³⁵

Seafarers will need to be reskilled and upskilled in the safety requirements, operation and maintenance of new systems, including autonomous systems and alternative fuels, while also being trained in safety measures to protect the community, passengers and marine life.³⁶

New International Maritime Organization (IMO) regulations will drive the adoption of cleaner fuels and technologies

In 2023, the IMO Green House Gas Strategy set an ambitious target to reduce net emissions to zero by 2050.³⁷ In 2025, the IMO continues to work towards the adoption of measures to meet the ambition and timeframes agreed in the strategy to urgently reduce greenhouse gas emissions from international shipping, promote cleaner fuels, such as liquefied natural gas (LNG), biofuels and new, low-carbon and zero-carbon fuels, and technologies. In response, industry has been exploring innovative ways to reduce its carbon footprint. Several new technologies and alternative fuel technologies have been developed and are currently being trialled.³⁸

Globally binding measures from this policy including a new fuel standard to lower GHG intensity of marine fuels and a global pricing mechanism for emissions will come into force in 2027³⁹. These will also have a significant impact on the Maritime industry by driving shipping's energy transition and accelerating the adoption of new fuels and technologies. However, in Australia, emissions from maritime transport have instead increased by 1.3 Mt (megatonnes), or 46% in the 10 years to 2022, as shown in **Figure 8**. Rather than declining in line with global targets, emissions have been moving in the opposite direction, making the challenge of reaching net zero more complex.

³⁴ Maritime Executive. (2025). [Charting key regulatory change across maritime law in 2025 and beyond](#)

³⁵ Department of Infrastructure, Transport, Regional Development, Communications, Sport and the Arts. [Media release - Low-carbon liquid fuels of the Future Made in Australia](#) released on March 2025

³⁶ Maritime Just Transition Taskforce. (2022). [Mapping a Maritime Just Transition for Seafarers](#)

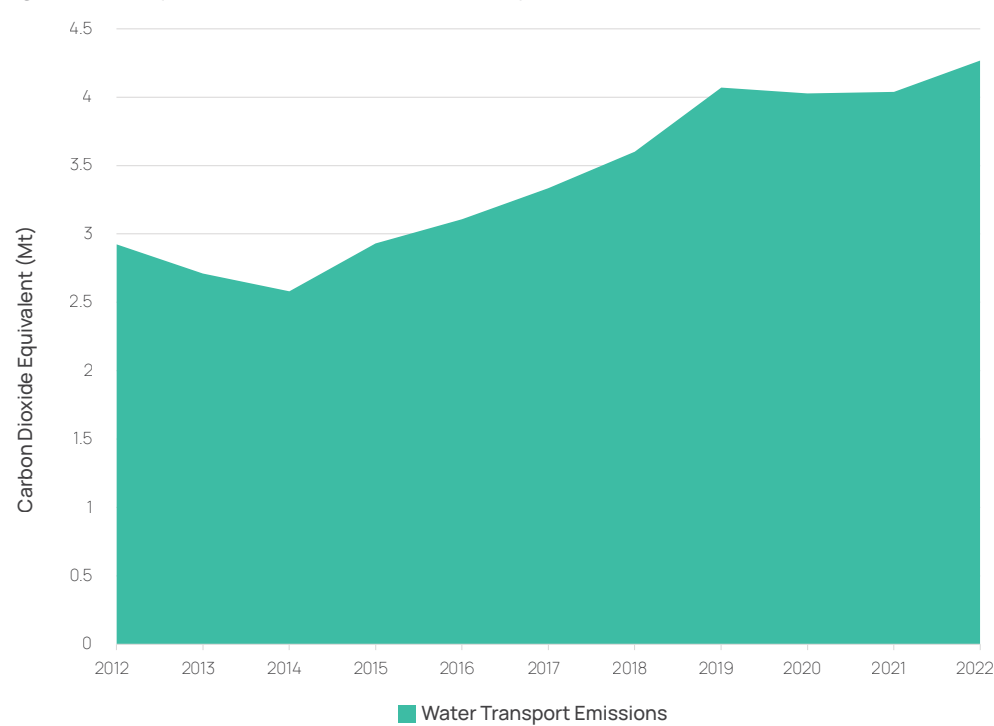
³⁷ International Maritime Organization. (2023). [2023 IMO Strategy on Reduction of GHG Emissions from Ships - Annex 15, Resolution MEPC.337\(80\)](#)

³⁸ Department of Infrastructure, Transport, Regional Development, Communications, Sport and the Arts. (2023). [MERNAP Issues Paper: Energy Sources and Technologies](#)

³⁹ International Maritime Organization. (2023). [Comprehensive impact assessment of the basket of IMO mid-term measures](#)



Figure 8: CO₂ Equivalent Emissions in Maritime Transport



Source: DCCEEW 2025, National inventory by economic sector, Water Transport

RIISING EMISSIONS CHALLENGE AUSTRALIA'S PATH
to net zero in shipping

Preparing domestic seafarers for decarbonisation is complex due to evolving technologies and skills demands

Decarbonising DCVs is particularly challenging due to uncertainty around the adoption of new technologies. This presents difficulties in assessing the skills needed for the future.

The Australian government's Maritime Emissions Reduction National Action Plan Issues Paper Skills and Training (MERNAP)³⁷ also acknowledges that training seafarers for a cleaner future is a challenge that needs to be addressed.

Growing automation and digitalisation in Maritime operations demands new competencies

There is a level of uncertainty among industry stakeholders about the uptake and viability of new technologies, and the timeframes for commercialisation and implementation. However, it is expected that increasing automation and digitalisation in maritime operations will have implications for seafarer skills and training.

Maritime stakeholders and ISA's Industry Advisory Group (IAG) have highlighted the role of the national skills system in workforce development and skills transition to support the implementation of automation and digitalisation.

The shift to new technologies and alternative fuels demands updated skill requirements and strong safety measures

The maritime workforce will need specialist knowledge and skills to address safety challenges and hazards associated with alternative fuels. Certification and training to ensure safety standards and regulatory compliance will need to reflect the new technologies and alternative fuels that are adopted, such as hydrogen, ammonia, methanol



and battery electric systems.⁴⁰ An immediate pathway for implementing new skill requirements is not yet clear due to the need for regulatory direction from the IMO and the slow uptake of the new technologies in Australia.⁴¹ ISA's 2025 survey results highlighted that uncertainty around which fuels and technologies will be adopted is challenging for the maritime regulator and training providers to skill and upskill maritime workers.

Employers are reporting that the decarbonisation skills gap will impact the capacity of the industry to implement carbon reduction solutions effectively and could raise safety issues.

Industry are reporting that the IMO needs to establish training standards for workers operating on vessels requiring STCW certification and have highlighted the importance of IMO member projects such as the Baseline Training Framework for Seafarers in Decarbonisation.⁴² Respondents to ISA's 2025 survey indicated that decarbonisation skills requirements for workers operating on domestic commercial vessels should be addressed now.

ISA will conduct further consultation on decarbonisation policy, the outcomes of the Baseline Training Framework for Seafarers in Decarbonisation and initiatives to identify skills and training implications for Australian seafarers.

Proposed Action:

- [Digital Skills](#)

Actions Complete or Underway:

- [Autonomous Maritime Systems](#)

Future Consultation:

- [Decarbonisation](#)

⁴⁰ Green Voyage. [Alternative marine fuels: Regulatory mapping](#)

⁴¹ Maritime Just Transition Taskforce. (2022). [Mapping a Maritime Just Transition for Seafarers](#)

⁴² International Transport Worker's Federation. (2023). [Training seafarers for a decarbonized future](#)

E. Upskilling trainers and assessors to effectively implement updated Maritime Training Package products in response to regulatory change

Marine Order 505

The maritime regulation known as Marine Order 505 (Certificates of competency – National Law) for domestic commercial vessels came into effect on 1 January 2023,⁴³ following industry consultation over a two-year period.

This resulted in changes to AMSA Certificates of competency and updates to maritime qualifications for Near Coastal job roles to reflect the MO505 licensing and regulatory requirements.⁴⁴

The quality of graduate outcomes in the Near Coastal sector is a concern

Employers have raised concerns about the quality of graduates who complete qualifications which align with low complexity tickets to work in the Near Coastal sector.

To support registered training organisations, ISA, AMSA and key stakeholders will:

- establish a community of practice through the National Maritime Skills Network and work with AMSA approved providers to align their training and assessment system with MO505 training package requirements.
- develop guidance materials for AMSA approved providers to support the implementation of MO505 training package requirements and to help RTO's and learners' understanding of transition arrangements from National Standards for Commercial Vessels to MO505.

Proposed Actions:

- [Marine Order 505 - Phase Two \(RTO Capability\)](#)

Actions Complete or Underway:

- [National Maritime Skills Network](#)



Proposed Actions

The 2025 Workforce Plan identifies the following proposed actions developed in consultation with industry to address the sector-specific and cross-sector issues.

Table 4: Proposed Actions to Address Challenges and Drivers.

Maritime skills pipeline		
Labour Market Dynamics	Proposed Action/Strategy	Key Stakeholders
Key Challenge/Driver A. <u>Skilled workforce shortages pose a major challenge for Australia's Maritime industry</u> • Shortage of trained and skilled seafarers • Establishment of Strategic Fleet requires Australian crew. • Long lead times to train and certify Australian seafarers. Symptom • Occupational shortage • Industry competition for skilled workers as Australia embarks on multiple initiatives that will demand maritime workers.	Activity: Develop and validate a Maritime Skills Pipeline Model. Components: ISA will work with key industry stakeholders to scope, design and validate an agreed skills pipeline model for the Australian Maritime industry to underpin the implementation and coordination of initiatives to build the maritime workforce by: • Identifying and reviewing the effectiveness of current approaches used to attract, skill and retain the Maritime workforce. • Reviewing state and national reports into the Maritime industry (including Strategic Fleet Taskforce Final Report, WA Shipping and Supply Chain Taskforce Report, QLD Maritime Jobs Taskforce, Freight Victoria Career Analysis). • Consulting with key stakeholders to scope and confirm user requirements (employer, worker/union, state training authorities, schools, VET, and higher education providers). • Designing the draft Maritime industry skills pipeline model in consultation with key stakeholders. • Validating the model and underpinning elements for each stage with broader industry. Impact: Establishes an agreed framework for mapping existing and planned initiatives to build the maritime workforce and drives collaboration and co-ordination between the national skills system (jurisdictions and agencies), key industry stakeholders and regulators to optimise investment and minimise duplication of effort. • Supports Recommendation 9, 11 and 13 of the Strategic Fleet Taskforce Final Report. • Underpins ISA proposed actions to address occupational shortages and develop a sustainable maritime workforce. Anticipated timing: 2025 - 2026	• Governments • State and federal agencies • Maritime Strategic Workforce Planning Committee • AMSA (Regulator) • Ship owners and operator association (MIAL) • Unions (MUA, AMOU, AIMPE) • Associations focused on near coastal certification (AMPTO & ACVOA) • National Maritime Skills Network

⁴³ AMSA. [Changes to domestic certificates of competency from 1 January 2023 – new Marine Order 505](#)

⁴⁴ AMSA. (2023). [The new Marine Order 505 – Guidelines on the changes to the certificates of competency and exemptions](#)

Revalidation and RCC model		
Labour Market Dynamics	Proposed Action/Strategy	Key Stakeholders
Key Challenge/Driver <u>A. Skilled workforce shortages pose a major challenge for Australia's Maritime industry</u> • Shortage of trained and skilled seafarers • Establishment of Strategic Fleet requires Australian crew. • Long lead times to train and certify Australian seafarers. Symptom • Occupational shortage • Highly regulated industry which limits inter and intra occupational mobility. • Low levels of recognition of prior learning (Total VET Students and Courses 2018-2022).	Activity: Develop a VET model to improve RPL outcomes and support AMSA revalidation and recognition of current competency for Australia's Maritime workforce. Components: ISA will work with key maritime stakeholders to develop, pilot and evaluate an agreed VET model to support revalidation and recognition of current competency (RCC) for Australian seafarers by: • Identifying the critical features and underpinning elements that underpin an accessible, robust, and efficient model for revalidation and RCC of seafarers and which meets AMSA regulatory requirements. • Designing a series of possible revalidation and RCC models for consideration, refinement, and agreement by key stakeholders. • Piloting and evaluating an agreed model for revalidation and RCC with partially qualified seafarers in collaboration with key stakeholders (occupations in shortage). • Developing a tool to assist trainers and assessors with RCC. • Rolling out the agreed model through the National Maritime Skills Network. Impact: Increase the supply of Australian seafarers in response to existing occupational shortages and to meet the crewing needs of the Strategic Fleet. • Supports Recommendation 9.5 of the Strategic Fleet Taskforce Final Report. • Supports the development of crew for the broader maritime industry including Near Coastal and Maritime onshore job roles. Anticipated timing: 2025 – 2027	• Maritime Strategic Workforce Planning Committee • Maritime enterprises • AMSA (Regulator) • Ship owners and operator association (MIAL) • Unions (MUA, AMOU, AIMPE) • State and federal agencies • National Maritime Skills Network • RTOs and higher education providers • State and territory industry advisory bodies

Occupational pathways for defence		
Labour Market Dynamics	Proposed Action/Strategy	Key Stakeholders
Key Challenge/Driver <u>A. Skilled workforce shortages pose a major challenge for Australia's Maritime industry</u> • Shortage of trained and skilled seafarers. • Defence readiness requires reduced involvement in responses to climate change disasters and humanitarian concerns. Symptom • Occupational shortage • No pathway for Navy to transition into the Maritime industry for inter occupations	Activity: Develop a recognition of prior learning model to support transition from Naval occupations into civilian maritime occupations. Components: ISA will work with key stakeholders to map, design, and promote an RPL model to establish formal recognition and training pathways from Naval occupations into civilian maritime occupations by: • Working with AMSA to identify key Naval occupations which are most aligned with key skill shortages in officers and deck in civilian maritime. • Mapping key Naval occupations and aligning them to nationally recognised training package products. • Scoping any identified gaps in training pathways needed to support transition. • Validating outcomes with key maritime and Navy stakeholders. • Designing an RPL model focussed on Naval occupations most closely aligned with key skill shortages. • Working with the National Maritime Skills Network to promote Naval-to-civilian maritime transition pathways and RPL process. Impact: Accelerates the supply of Australian seafarers in response to existing occupational shortages and to meet the crewing needs of the Strategic Fleet by: • Contributing to the development of the Strategic Fleet workforce in a timely manner (given the long lead-times required for STCW certification). • Optimising Government's significant investment in training of Navy personnel. • Increasing career transition opportunities from Navy into civilian employment. • Increasing cross-industry collaboration. Supports Recommendation 13a of the Strategic Fleet Taskforce Final Report. Anticipated timing: 2025 – 2026	• Maritime Strategic Workforce Planning Committee • Maritime enterprises • AMSA (Regulator) • Ship owners and operator association (MIAL) • Unions (MUA, AMOU, AIMPE) • State and federal agencies • National Maritime Skills Network • RTOs and higher education providers • State and territory industry advisory bodies

Occupational mobility		
Labour Market Dynamics	Proposed Action/Strategy	Key Stakeholders
Key Challenge/Driver <u>A. Skilled workforce shortages pose a major challenge for Australia's Maritime industry</u> - Shortage of trained and skilled seafarers - Establishment of Strategic Fleet requires Australian crew. - Long lead times to train and certify Australian seafarers. Symptom - Occupational shortage - Highly regulated industry which limits easy inter and intra occupational mobility. - Low levels of recognition of prior learning (Total VET Students and Courses 2018-2022). - Lack of visibility and understanding of maritime career pathways.	Activity: Develop occupational mobility pathways for Australia's maritime workforce. Components: ISA will work with key maritime stakeholders to identify, formally recognise and promote skills that are portable between maritime occupations by: - Identifying the formal learning pathways needed to support occupational mobility (credit, credit transfer, recognition of prior learning, recognition of current competency, micro-credentials, dual certification). Identifying any gaps in existing training and assessment and the scope for future development. - Developing training products and bridging programs. - Working with the National Maritime Skills Network and key stakeholders to promote maritime careers and the pathways into and within the industry. Impact: Accelerates the supply of Australian seafarers in response to existing occupational shortages by: - Formal recognition of portable skills. - Supporting the establishment of crew for the Strategic Fleet. - Supporting the development of crew for the broader Maritime industry including Near Coastal and maritime onshore job roles. - Increasing the mobility of skilled maritime labour. - Enabling upskilling of the existing maritime workforce. Supports Recommendation 9.1 of the Strategic Fleet Taskforce Final Report. Anticipated timing: 2025 - 2026	- Maritime Strategic Workforce Planning Committee - Maritime enterprises - AMSA (Regulator) - Ship owners and operator association (MIAL) - Unions (MUA, AMOU, AIMPE) - State and federal agencies - National Maritime Skills Network - RTOs and higher education providers - State and territory industry advisory bodies - Association focused on near coastal certification (AMPTO & ACVOA) - Seafood Industry Australia - National Maritime Skills Network

Simulation- Phase One		
Labour Market Dynamics	Proposed Action/Strategy	Key Stakeholders
Key Challenge/Driver <u>A. Skilled workforce shortages pose a major challenge for Australia's Maritime industry</u> - Shortage of trained and skilled seafarers. - Establishment of Strategic Fleet requires Australian crew. - Long lead times to train and certify Australian seafarers. Symptom - Occupational shortage - Highly regulated industry which requires training providers to meet stringent delivery and assessment requirements. - Challenges faced by employers and students to meet certification requirements.	Activity: Develop a model that utilises technology (simulation) to develop real-world experience and seafaring capabilities which meets AMSA and IMO requirements. Components: ISA will work with key maritime stakeholders and AMSA to scope, develop and validate a training model that utilises simulation to support the achievement of AMSA certification by: - Working with AMSA and industry to benchmark and validate simulation requirements for the use of simulation in training. - Working with AMSA to validate the use of simulation training to support training providers to meet STCW and Near Coastal simulator training requirements. Identifying simulation requirements for nationally endorsed maritime training package qualifications and units of competency. Scoping requirements for new and updated training package products to support the use of simulation. Developing a tool to assist training providers to deliver and assess simulated requirements in accordance with industry and regulatory requirements. Using simulation to promote maritime career pathways to school leavers and career changers in an engaging and safe manner. Phase One – In response to stakeholder feedback, ISA will work with key maritime stakeholders and AMSA to scope out the parameters of the project to identify the licensing and regulatory requirements relevant to the use of simulation and simulators in training assessment for STCW and Near Coastal job roles. Impact: Supporting the supply of Australian seafarers in response to existing occupational shortages by: - Supporting AMSA revalidation and recognition of current competencies for partially qualified stakeholders - Reducing the cost of training which is a recognised barrier for employers and seafarers. - Utilising technology to lift the quality and currency of delivery and assessment. Anticipated timing: 2025 – 2026 (Phase One)	- Maritime Strategic Workforce Planning Committee - Maritime enterprises - AMSA (Regulator) - Ship owners and operator association (MIAL) - Unions (MUA, AMOU, AIMPE) - State and federal agencies - National Maritime Skills Network - RTOs and higher education providers - State and territory industry advisory bodies

Marine Order 505 - Phase Two (RTO Capability)		
Labour Market Dynamics	Proposed Action/Strategy	Key Stakeholders
Key Challenge/Driver <u>E. Upskilling Trainers and Assessors to Effectively Implement Updated Maritime Training Package Products in Response to Regulatory Change.</u> - Training Package - Skills and training implications for Australian maritime seafarers. Symptom - Graduates from the training system have insufficient/ inappropriate skills for their occupations (due regulation changes).	Activity: Work with key industry stakeholders to support the implementation of updated maritime training package products which reflect new Marine Order 505 licensing and regulatory requirements. Components: - Developing guidance materials for AMSA approved providers to support the implementation of Maritime training package products and VET transition requirements. - Establishing a community of practice through the National Maritime Skills Network and work with AMSA approved providers to align their training and assessment system with MO505 training package requirements. - Identifying career and learning pathways for MO505 job roles. - Developing resources for trainers and assessors for new training package products aligned with the Master less than 45 metres Near Coastal. Impact: Supporting registered training organisations and learners in implementing Maritime training package products which facilitates graduates having appropriate skills for Near Coastal occupations which aligns with MO505 requirements. Anticipated timing: 2025 – 2026	- Australian Maritime Safety Authority - Unions (MUA, AMOU, AIMPE) - Maritime enterprises (Near Coastal) - Associations focused on near coastal certification and ship owners and operator - Stakeholders who have experience and expertise in near coastal vessels and operations. - National Maritime Skills Network

Digital Skills		
Labour Market Dynamics	Proposed Action/Strategy	Key Stakeholders
Key Challenge/Driver <u>D. The industry faces complex challenges in adapting to decarbonisation and new technologies</u> Symptom: Skills Shortage	Activity: Using DigComp 2.2 as the Digital Framework to review digital skills for a selected number of occupations in our industries. Components: - Develop a Digital Occupational Profile (DOP) template based on DigComp 2.2 to assist in identifying the digital skills found within our industries occupations. - Use the DOP template to undertake a review of selected occupations. - Re-validate Rail Digital Skills project work. - Coordinate working groups of industry experts to review selected occupations within our industries to identify digital skills using the DOP. - Coordinate a review across our training packages with respect to the impact of digital transformation using information from the European Skills, Competences and Occupations (ESCO) to compare to the Australian Digital Skills identified from the completed DOPs. Impact: - Identify how digital technology developments are likely to change the profile of skills in demand. - Identify where future-focussed upskilling and reskilling pathways need to be established and opportunities for establishing them. - Outcomes can be used to inform training product design, training delivery and support a systematic approach to the analysis of skills supply and demand. - Identify where there is a case for specific training package development of qualifications, skill sets and units of competency that responds to changes in skills profiles and job roles driven by digital technology developments. - Training qualifications and units that facilitate improved training and assessment of transferrable digital skills that match industry requirements. - Impact of training product development/ maintenance work provides maximum benefit for industry, whilst minimising the impact of training product churn for RTOs. Anticipated timing: 2025 - 2027	- Industry enterprises - Industry peak bodies/ associations - Industry unions - Registered training organisations - State/territory training authorities - State/territory industry advisory bodies - Other relevant Jobs and Skills Councils

Actions Complete or Underway

The following provides an update on ongoing actions aimed at addressing the challenges identified in the 2024 Workforce Plan, many of which remain relevant in 2025.

Marine Order 505 - Phase One (Training Package Products)		
Labour Market Dynamics	Project Details	Key Stakeholders
Key Challenge/Driver <u>A. Skilled workforce shortages pose a major challenge for Australia's Maritime industry</u> • Training Package • Skills and training implications for Australian maritime seafarers. Symptom • Graduates from the training system have insufficient/ inappropriate skills for their occupations (due to regulation changes)	Summary: Work with key industry stakeholders to update training package products to reflect new Marine Order 505 licensing and regulatory requirements. Impact: • Update qualifications to align with new MO505 licensing and regulatory requirements. • Develop a new Skill Set for Coxswain Grade 3. • Develop guidance materials for learners and students to support training implementation by updating the Maritime Companion Volume Implementation Guide (CVIG). Project has completed. For further details visit the ISA Website.	• Australian Maritime Safety Authority • Unions (MUA, AMOU, AIMPE) • Maritime enterprises (Near Coastal) • Associations focused on near coastal certification and ship owners and operators. • Stakeholders who have experience and expertise in near coastal vessels and operations. • RTO's and higher education providers

Vessel Traffic Services		
Labour Market Dynamics	Project Details	Key Stakeholders
Key Challenge/Driver <u>A. Skilled workforce shortages pose a major challenge for Australia's Maritime industry</u> Symptom • Graduates from the training system have insufficient / inappropriate skills for their occupations (due to regulation changes)	Summary: Work with key industry stakeholders to delete training package products. Impact: • Delete MAR30022 Certificate III in Vessel Traffic Services from Training Package. • Update Maritime Companion Volume Implementation (CVIG) Guide to reflect changes. Project completed. For further details visit the ISA Website.	• Australian Maritime Safety Authority • Unions (MUA, AMOU, AIMPE) • Operators of Vessel Traffic Services • Jobs and Skills Council - Skills Insight

National Maritime Skills Network		
Labour Market Dynamics	Project Details	Key Stakeholders
Key Challenge/Driver <u>A. Skilled workforce shortages pose a major challenge for Australia's Maritime industry</u> <u>B. Maritime training faces barriers from high costs, limited course availability, and trainer shortages</u> • Shortage of trained and skilled seafarers • Establishment of Strategic Fleet requires Australian crew. • Long lead times to train and certify Australian seafarers. Symptom • Occupational shortage • Thin training market • Highly regulated industry which requires training providers to meet stringent delivery and assessment requirements.	Summary: Pilot an industry-driven National Maritime Skills Network for the Maritime industry. ISA will scope, design, and facilitate a pilot of an industry-driven National Maritime Skills Network model that underpins skills development for the Strategic Fleet workforce whilst also supporting skill needs of the broader Maritime industry. Impact: The pilot will 'showcase' how the National Maritime Skills Network model can successfully deliver high quality, industry-driven training to a thin market, that is heavily regulated. • Supports Recommendation 9, 11 and 13 of Strategic Fleet Taskforce Final Report. • Underpins ISA proposed actions to address occupational shortages and develop a sustainable maritime workforce Project has commenced. For further details visit the ISA Website.	• Maritime Strategic Workforce Planning Committee • RTOs and higher education providers • Government • Maritime enterprises • AMSA (Regulator) • Ship owners and operator association (MIAL) • Unions (MUA, AMOU, AIMPE) • State and federal agencies

Improving Maritime Career Information		
Labour Market Dynamics	Project Details	Key Stakeholders
Key Challenge/Driver <u>A. Skilled workforce shortages pose a major challenge for Australia's Maritime industry</u> • Shortage of trained and skilled seafarers • Establishment of Strategic Fleet requires Australian crew • Poor awareness of maritime careers, opportunities, and entry points Symptom • Occupational shortage • Highly regulated industry which limits easy inter and intra occupational mobility. • Lack of visibility and understanding of maritime career pathways.	Summary: Develop and promote maritime career and learning pathway information to learners, existing workers, careers advisors, training providers, industry organisations and unions. Impact: • Supports development of crew for the maritime industry including Strategic Fleet, Near Coastal and onshore job roles. • Supports the mobility of skilled maritime labour. • Enables upskilling of existing maritime workforce. • Increases career transition opportunities into Strategic Fleet occupations. • Underpins the development of an interactive campaign for the maritime industry. • Supports Recommendation 9 and 11 of the Strategic Fleet Taskforce Final Report. Project has commenced. For further details visit the ISA Website.	• Maritime Strategic Workforce Planning Committee • Unions (MUA, AMOU, AIMPE) • Ship owners and operator association (MIAL) • AMSA (Regulator) • Maritime enterprises (STCW and Near Coastal) • Career Industry Council of Australia • Year13 • National Maritime Skills Network

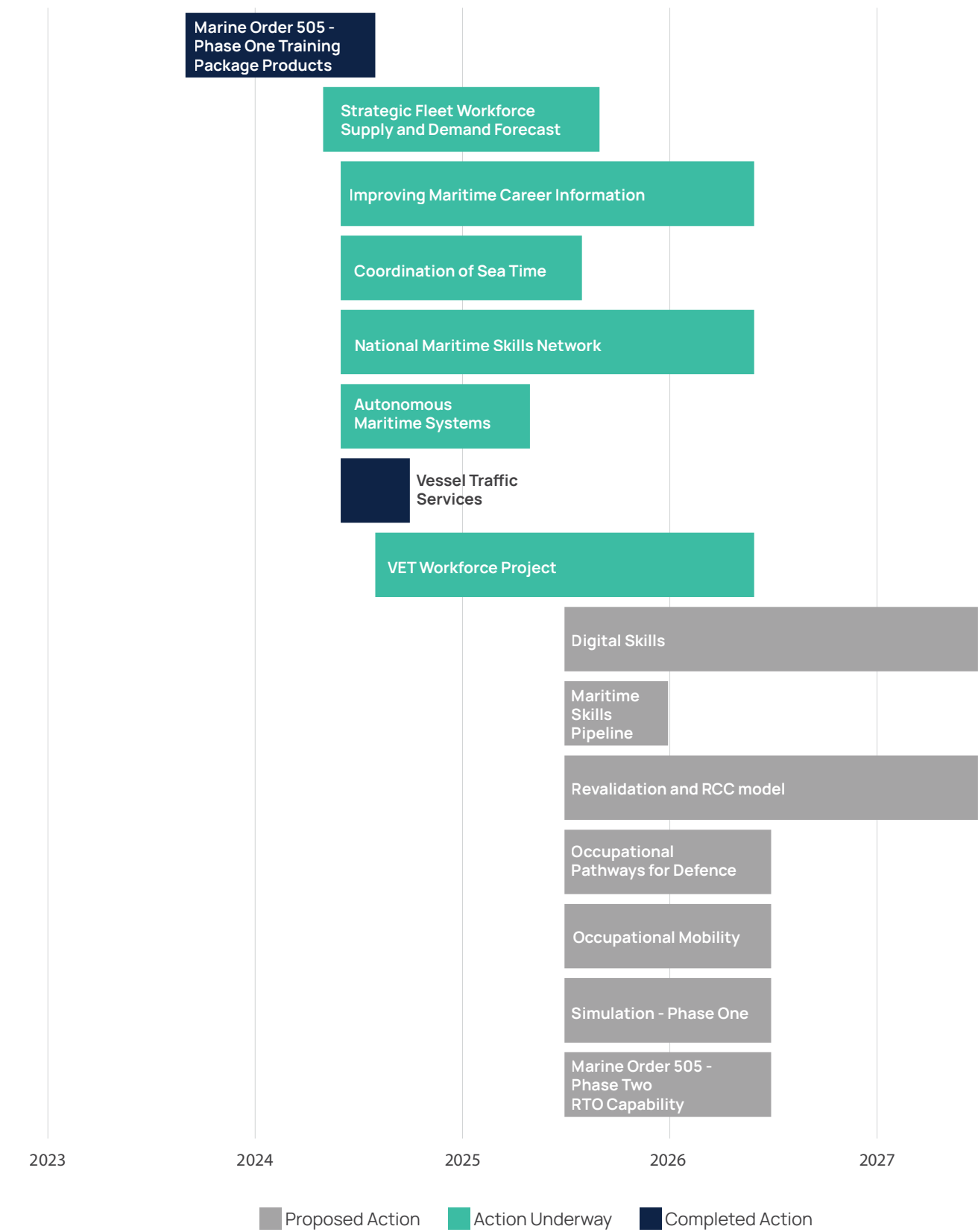
Co-ordination of Sea Time		
Labour Market Dynamics	Project Details	Key Stakeholders
Key Challenge/Driver <u>A. Skilled workforce shortages pose a major challenge for Australia's Maritime industry</u> <u>C. The limited availability of training berths is a major barrier to completing qualifying sea time</u> • Shortage of trained and skilled seafarers. • Establishment of Strategic Fleet requires Australian crew. • Long lead times to train and certify Australian seafarers. Symptom • Occupational shortage • Reduction in Australian fleet has reduced capacity to meet sea time requirements. • Highly regulated industry which requires training providers to meet stringent delivery and assessment requirements.	Summary: Develop a model for effectively co-ordinating sea time. Impact: Establishes an agreed model for effective co-ordination of sea time requirements which will: • Support establishment of the Strategic Fleet. • Support the development of crew for the broader maritime industry including Near Coastal and Maritime onshore job roles. • Meet critical and immediate occupational shortages. • Address the ongoing requirements of cadets and trainees. Supports Recommendation 9.4 of the Strategic Fleet Taskforce Final Report. Project has commenced For further details visit the ISA Website.	• Unions (MUA, AMOU, AIMPE) • Ship owners and operator association (MIAL) • AMSA (Regulator) • Maritime enterprises (STCW) • Group Training Organisations (METL) • VET experts who have experience and expertise in existing approaches (yet to be identified) • Stakeholders who have experience and expertise in innovative sea time models to be identified and existing approaches to be identified.

VET Workforce Project		
Labour Market Dynamics	Project Details	Key Stakeholders
Key Challenge/Driver <u>B. Maritime training faces barriers from high costs, limited course availability, and trainer shortages</u> Symptom Occupational shortage	Summary: The VET Workforce Project is a Commonwealth funded initiative being led by the ten Job and Skills Councils with the aim to build and support a secure and sustainable VET workforce. The Australian Government, in collaboration with Jobs and Skills Australia has developed a VET Workforce Blueprint (the Blueprint) to support a high quality and sustainable workforce. The VET Workforce Blueprint has been developed in collaboration with states and territories to provide a roadmap to grow, support and sustain the VET workforce. To continue and further support the work VET Workforce Blueprint, Industry Skills Australia is undertaking a project that will concentrate on vocational education providers in the transport sectors (Aviation, Maritime, Rail and Transport and Logistics) to complement and contribute to the opportunities and actions included in the Blueprint. Impact: ISA will deliver a workforce study comprising the following components: • Understanding the VET Workforce • VET workforce roles and needs • VET workforce pathways and pipelines • Future and emerging VET Workforce Issues Project has commenced. For further details visit the ISA Website.	• Training regulators • Australian Education Union • State/territory training authorities • State/territory industry advisory bodies • Industry enterprises • Industry peak bodies/associations • Jobs and Skills Australia • Department of Employment and Workplace Relations

Autonomous Maritime Systems		
Labour Market Dynamics	Project Details	Key Stakeholders
Key Challenge/Driver <u>D. The industry faces complex challenges in adapting to decarbonisation and new technologies</u> • Training Package • Skills and training implications for Australian maritime seafarers. Symptom Graduates from the training system have insufficient / inappropriate skills for their occupations (due to regulation changes).	Summary: Work with key industry stakeholders to update qualifications for new and emerging job roles including Autonomous Underwater Vehicles (AUV) and Autonomous Surface Vessels (ASV) operations. Impact: Training package content will align with industry requirements which facilitates graduates having appropriate skills for AUV and ASV operations. Project has completed. For further details visit the ISA Website.	• Maritime enterprises • AMSA (Regulator) • Stakeholders who have experience and expertise in AUV and ASV operators and technicians.

Strategic Fleet Workforce Supply and Demand Forecast		
Labour Market Dynamics	Project Details	Key Stakeholders
Key Challenge/Driver A. Skilled workforce shortages pose a major challenge for Australia's Maritime industry - Lack of accurate and contemporary data to underpin decision-making and informed investment in establishment of the Strategic Fleet workforce. - Potential impact of offshore wind and decommissioning on crewing of Strategic Fleet. Symptom - Occupational shortage - Industry competition for skilled workers as Australia embarks on multiple initiatives that will demand maritime workers.	Summary: ISA will work with JSA and key maritime stakeholders to build a definitive data set and modelling of future workforce supply and demand scenarios over the next 5-10 years in collaboration with Jobs and Skills Australia (JSA). Impact: Builds a definitive and authoritative data set on probable workforce supply and demand scenarios which will: - Support decisions made by government and industry on how to build the Strategic Fleet workforce. - Provide a necessary evidence base for industry to plan and work with the national skills system to build a sustainable pipeline of skilled workers. - Supports Recommendations 91., 9.3, 9.5 and 11 of the Strategic Fleet Taskforce Final Report. For further details visit the ISA Website.	- Industry stakeholders - Maritime Strategic Workforce Planning Committee - Jobs and Skills Australia (JSA) - Department of Employment and Workplace Relations (DEWR) - Australian Maritime Safety Authority (AMSA) - State Training Authorities

Timeline of Activities



Future Consultation

Additional engagement consultation activity has been identified to assist in the development of future strategies or initiatives to inform the 2026 Workforce Plan. These focus areas cover the key themes associated with the challenges and drivers and are not an exhaustive list as industry may raise additional issues as we work with them in 2025:

A. Skilled workforce shortages pose a major challenge for Australia's Maritime industry

Decommissioning and offshore wind

Conduct further consultation on decommissioning and offshore wind to identify skills and workforce development implications.

Increasing industry diversity

Engage with industry and relevant support organisations to identify barriers for under-represented cohorts to participate in the maritime workforce and determine potential strategies to assist in connection to employment.

Skilled migration

In consultation with industry stakeholders, we will investigate the current temporary and permanent skilled work visas, including the recent transition from the Temporary Skill Shortage (TSS) visa to the new Skills in Demand (SID) visa, reviewing how they are meeting the needs of the workforce and addressing shortages.

Broader maritime industry

Continue to conduct further consultation to identify workforce challenges and skills requirements for domestic commercial vessels, marine surveying, autonomous shipping (automated processes, remote controlled, fully autonomous), navigational assistance, on shore job roles and maritime support roles for defence projects.

Transition pathways

Conduct further consultation to explore potential pathways between the maritime transport industry and related industries such as seafood, fishing, boatbuilding, boating and superyachts. This would include cross-collaboration with other Jobs and Skills Councils.

B. Maritime training faces barriers from high costs, limited course availability, and trainer shortages

Improving regional training delivery

Engage with the National Maritime Skills Network and regional stakeholders to explore and develop strategies to support student cohorts in regional areas.

Strategic Fleet

To identify skills and training implications of recommendations from Strategic Fleet Taskforce Final Report 2023, Strategic Fleet Pilot and Australian government investment in trainee seafarers.

Trainer and Assessor shortages

To identify skills and knowledge requirements for trainers and assessors ISA will continue to:

- review and monitor implementation of the Credential Policy and the revised Standards for RTO's and impact on industry participation in the delivery of training, assessment and validation of assessments.
- work with the National Maritime Skills Network to determine the impact of:
 - maritime skills shortages on RTO's capacity to supply qualified seafarers and provide trainers and educators including those who have skills currency in new and emerging technologies
 - a thin training market on training delivery and skills supply for the Maritime Industry.
- work with the National Maritime Skills Network to:
 - lift the professional capability of VET practitioners
 - support vocational currency of VET practitioners
 - establish communities of practice to support quality graduate outcomes.

D. The industry faces complex challenges in adapting to decarbonisation and new technologies

Decarbonisation

Conduct further research and consultation on decarbonisation policy and initiatives to identify the skills and training implications for Australian seafarers and determine the scope of any required training products.

To identify skills and training implications ISA will continue to monitor and review:

- outcomes of IMO member projects including Baseline Training Framework for Seafarers in Decarbonisation.
- skills development requirements to be outlined in Maritime Emissions Reduction National Action Plan (MERNAP) 2023-2024.
- expansion of the Strategic Fleet to address specific skill and training requirements for seafarers in response to decarbonisation initiatives.

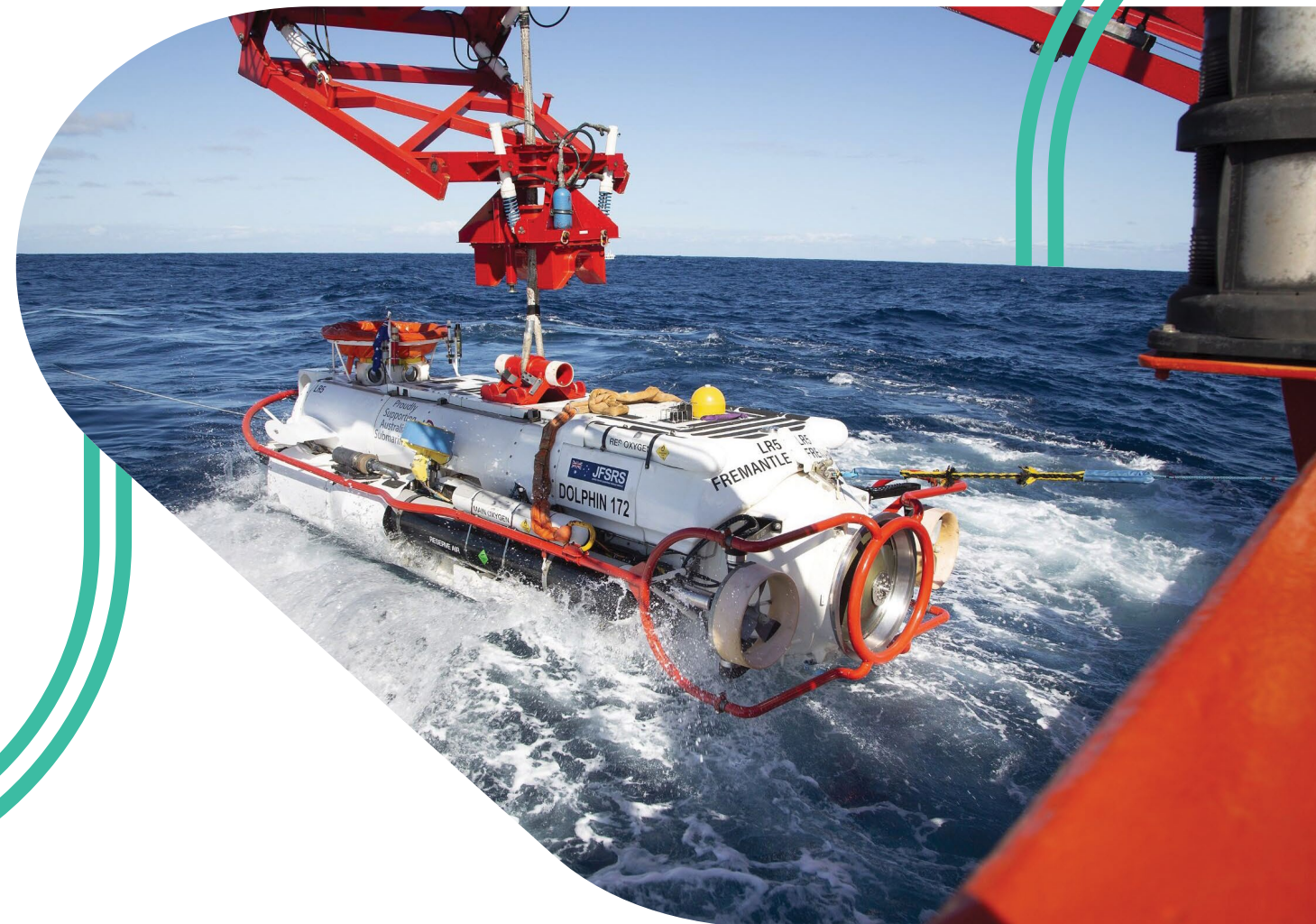
- outcomes from ISA Industry Advisory Committee (IAG), ISA Technology Future Taskforce and the Jobs and Skills Councils' CEO Forum.

To support skills development and training implications we will work with the National Maritime Skills Network, key maritime stakeholders and JSC's to:

- develop training products to meet specialised training requirements in collaboration with other JSC's including any required responses to alternative fuels, alternative fuels, autonomous shipping, digitalisation to meet industry needs.
- monitor and review skills requirements for offshore wind.
- support Actions identified in Australia's Offshore Resources and Decommissioning Roadmap where appropriate.

High levels of engagement and cross-collaboration will be required between AMSA, industry, and RTOs to develop training products that address these needs.

ISA will continue to provide input and advice into key government initiatives where relevant.



Megatrends

Megatrends are overarching, transformative shifts that impact the economy, workforce, and global environments. These trends shape the future landscape of industries, influencing business operations, innovation, and strategic planning. Four key megatrends have been identified as having profound impacts and driving long-term changes across the Aviation, Maritime, Rail and Transport and Logistics industries.



Occupational and workforce shortages

Workforce shortages are a critical megatrend affecting all areas of the Transport Supply Chain, disrupting operations and limiting business growth. The Aviation, Maritime, Rail and Road Transport industries are struggling to attract and retain skilled workers. This growing challenge is driven by an aging workforce, changing job expectations and increased competition from other industries. To address this, there must be a strong focus on raising awareness about the wide range of careers available, from technical and operational roles to digital and managerial positions. Developing clear, accessible career pathways and training programs is essential to boost attraction, support retention and future-proof the industry workforce.



Diversity

Diversity is an emerging megatrend across the Transport Supply Chain, with increasing efforts to build more inclusive and representative workforces. Many parts of the industry have historically attracted limited segments of the population, resulting in a narrow talent pool. By actively promoting diversity and inclusion, the industry can open employment and career opportunities to a broader range of people, helping to address long-term workforce shortages. Inclusive hiring practices, workplace culture improvements and targeted outreach programs are essential to attract new talent and create environments where all individuals can thrive. Embracing diversity strengthens innovation, resilience and the overall sustainability of the Transport Supply Chain.



Automation and new technologies

Automation and new technologies are rapidly reshaping the Transport Supply Chain, enhancing operational efficiency and safety. Key developments include the rapid growth in autonomous vehicles, drones and automated port and warehouse operations. Artificial intelligence (AI) is increasingly used to optimise operations, improve maintenance planning and manage complex supply chains. The growing reliance on digital platforms and connected devices, from real-time tracking systems to cloud-based logistics management tools, is transforming day-to-day operations. As a result, there is strong demand for building the digital skills capability of the workforce, including in the use of new technologies, data analytics and cyber security. This megatrend is fundamentally redefining roles, workflows and the capabilities needed.



Sustainability

Sustainability is a major megatrend transforming the Transport Supply Chain, driven by the need to reduce environmental impact and meet global climate goals. The shift toward alternative and environmentally friendly fuels, such as hydrogen and biofuels, is gaining momentum. There is also increased adoption of electric and autonomous vehicles and vessels, battery-powered equipment, and low-emission aircraft. These technologies not only lower carbon emissions but also improve energy efficiency. The successful implementation of these innovations requires significant upskilling across the workforce to ensure compliance with evolving regulations and to safely operate, maintain and handle new systems, machinery and fuels. Sustainability is reshaping industry standards, operations and workforce capabilities for the long term.



Approach to Consultation

The Transport Supply Chain industries are extremely diverse, comprising businesses ranging from complex national and global companies through to small one and two person businesses. Over 99% of enterprises within our coverage are small businesses.⁴⁵

Our consultation approach is aligned with the needs of stakeholders, ensuring their voices are heard and their concerns meaningfully reflected in the Workforce Plan. Through rigorous engagement using diverse methods and platforms, we gather valuable insights that inform actionable strategies and effective responses to workforce drivers and challenges.

This inclusive process not only strengthens the quality of this Workforce Plan, but also ensures it delivers tangible benefits to our stakeholders. By embedding stakeholder input at every stage, we foster shared ownership and build workforce solutions that are both relevant and impactful.

The following key elements highlight some of the engagement mechanisms used in the development of this Workforce Plan, demonstrating our commitment to transparency, collaboration and continuous improvement.

Strategic Workforce Planning Committees

The Strategic Workforce Planning Committees consist of senior industry leaders from across Australia's Transport Supply Chain industries - Aviation, Maritime, Rail, Transport and Logistics. Each Committee leads the development of their respective national Workforce Plan, with the goal of building a world class Transport Supply Chain workforce. Their focus is on identifying workforce challenges, emerging skills needs, and the responses needed from industry, government and the national skills system.

Industry Advisory Council

The Industry Advisory Council (IAC) is a high-level, tripartite mechanism that brings together a range of industries with the single goal of building a resilient and agile supply chain workforce. Made up of senior supply chain executives and industry leaders from a range of sectors and organisations, it operates as a dynamic advisory mechanism to the Board and SWPCs by providing world-class business intelligence and strategic insights from across the economy.

The IAC provides advice on cutting-edge trends in technology adoption and automation; immediate and emerging skills and workforce development priorities; opportunities for cross-industry collaboration and solutions; and responses required by the national skills system, industry and governments.

Technology Futures Taskforce

The Technology Futures Taskforce (TFT), established by ISA, comprises experts in the innovation and technology sector specialising in supply chain technologies. Its activities are focused on identification of technologies likely to automate skills and job roles and trigger structural change in the workforce.

The TFT is an advisory mechanism to the Board and SWPCs by providing intelligence and insights on technology impacts for our sectors.

Supply Chain Leaders' Summit

Our 2024 Supply Chain Leaders' Summit brought over 150 participants to Parliament House, including industry leaders, union representatives, parliamentarians and government officials, to explore the current and future workforce planning and development challenges facing Australia's Transport Supply Chain industries.

With many critical issues common across Aviation, Maritime, Rail, Transport and Logistics, this event provided valuable input into our activities and workforce plans.

Industry engagement

Diverse stakeholder views and insights are captured through extensive engagement activities to keep people involved and informed. These include industry roundtables, presentations and participation at industry conferences and events, enterprise site visits, one-on-one meetings, webinars, website updates, monthly e-newsletters and social media.

Cross JSC engagement

Cross JSC collaboration is a proactive and ongoing effort to address shared workforce planning and skills development priorities. This includes open consultation and coordination when workforce planning strategies may impact the scope of work or stakeholders of another Jobs and Skills Council.

Roundtables

The metropolitan and regional roundtables offer a unique opportunity to gather firsthand insights from a diverse array of stakeholders. These include employers, key Transport Supply Chain stakeholders, local Chambers of Commerce, Regional Development Australia and Local Jobs and Skills organisations.

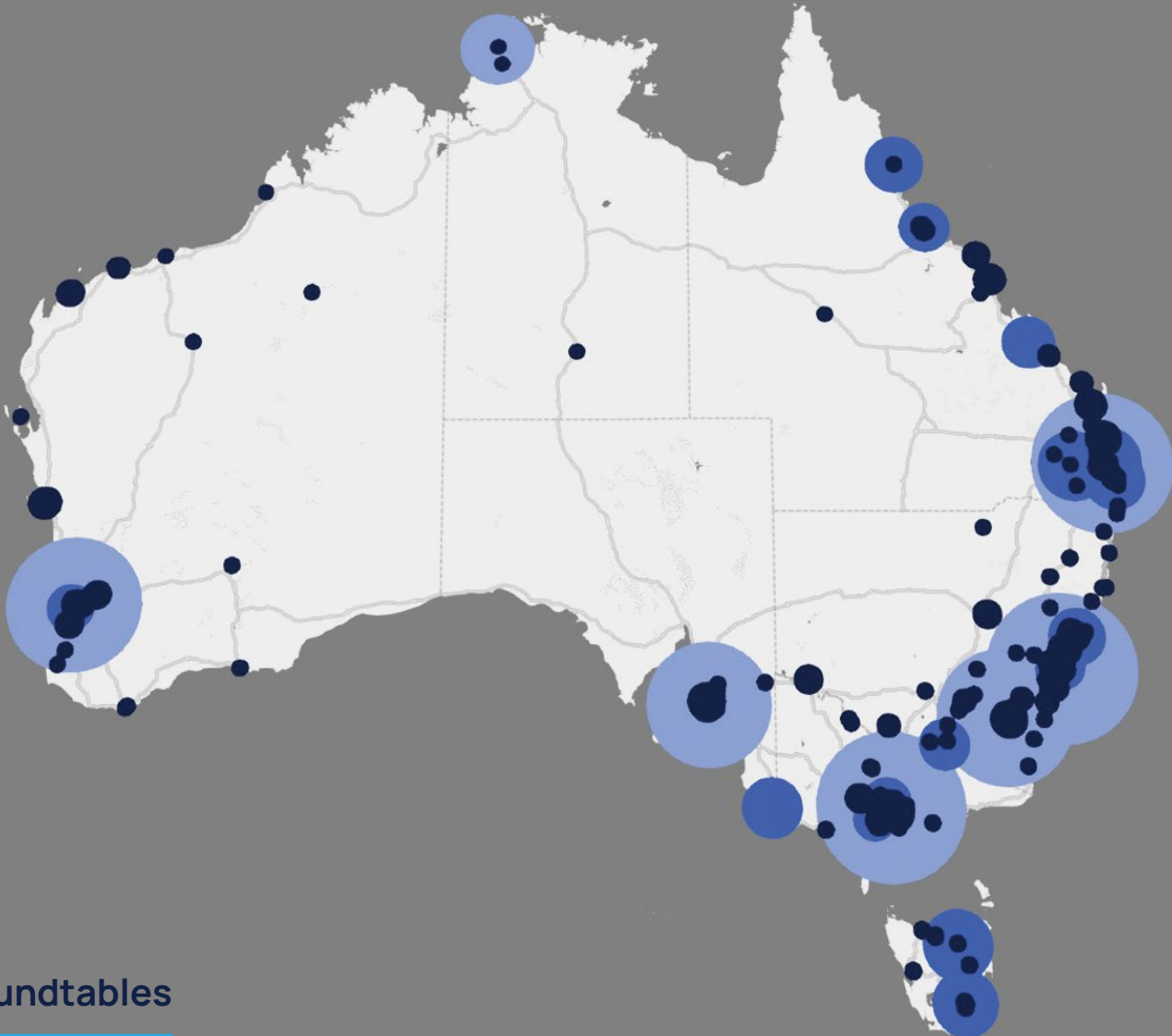


Key Stakeholder Groups

INDUSTRY	INDIVIDUALS	VET SYSTEM
• Enterprises • Unions • Industry associations • Innovation sector • Industry peaks • Occupational licensing/ regulatory bodies • Professional bodies	• Existing workers • Apprentices/trainees • Learners • Job seekers	• Registered Training Organisations • Individual VET practitioners • Jobs and Skills Councils • Industry Training Advisory Bodies • VET Regulators • Training Product Assurance Body
SCHOOLS SECTOR	HIGHER ED.	GOVERNMENTS
• Secondary schools • Individual teachers • Secondary education authorities • Careers associations	• Universities	• Department of Employment and Workplace Relations • Jobs and Skills Australia • National Careers Institute • National Centre for Vocational Education Research (NCVER) • Department of Infrastructure, Transport, Regional Development, Communications, Sport and the Arts • Regional Australia Institute • Regional Development Australia • State Training Authorities • National Transport Commission

⁴⁵ Australian Bureau of Statistics. (2024, August 27). [Counts of Australian businesses, including entries and exits, July 2020 - June 2024](#)

Engagement Coverage



Roundtables

Roundtables are one of the mechanisms used by ISA to actively consult and engage with industry at a grassroots level across Australia. It is important that Australia's metropolitan, rural, regional and remote voices are heard to ensure that all industry challenges and opportunities are identified and reflected in the Workforce Plan. Roundtables enable the training system to better understand and anticipate the shifting skill needs of Australia's supply chains and shape meaningful responses that work at the local level. This, in turn, assists the overall capability of the training system to meet industry's needs. Other methods of engagement include, conference events and presentations, newsletters, articles in industry publications, social media, meetings (both face-face and virtual) and enterprise site visits.



ISA conducted 17 Roundtables in prominent metropolitan and regional areas throughout Australia, bringing together key stakeholders from industry, Government departments, unions, training providers and employment service providers. Each roundtable provided intelligence about workforce priorities, key blockages, and potential high-impact solutions unique to their respective region, as well as the many challenges and opportunities common across all areas.

Stakeholder feedback:

The main challenge overall is attraction and retention of workers, not only to industry, but also to some regions. Common themes identified included:

1. Workforce attraction and retention

- Workforce shortages, competition for workers, ageing workforce and low wages
- Careers are often shaped by personal preferences and societal influences (family, peers, advice)
- Poor perception vs. reality of particular jobs and industries
- Younger generations have different expectations (e.g., flexibility) and COVID-19 changed workplace expectations
- Regional, cultural and personal circumstances affect workforce participation
- Seasonal work limits year-round stability and attraction
- Career transition challenges and low visibility of occupational mobility
- Lack of national career promotions and visibility of career pathways and job mobility options
- Poor retention rates due to multiple external and internal factors.

2. Skills development and job readiness

- Disconnect between qualifications and graduate outcomes with job-readiness and industry needs
- High cost of training for employers and students
- Limited training options in regional/remote areas
- Outdated or rigid training models that lack innovation and flexibility
- Shortage of trainers and assessors and inadequate use of Subject Matter Experts (SMEs) in training delivery, especially in regional areas
- Emerging technologies drive new skill requirements and job transitions
- Lack of funding /subsidies for specific qualifications.

3. Migration and skilled labour access

- Complex, lengthy and costly skilled migration processes
- Overseas qualifications and experience often don't align with local standards
- Quality and safety concerns with recognising foreign credentials
- Skilled migration could fill gaps in the short term, but current system poses significant barriers.

The following challenges are common across some regions, not all, that will require unique, local and targeted responses:

- Lengthy training time to have work-ready staff
- Access to community/social services such as childcare and housing availability
- Access to public and affordable transport
- Crime is impacting industry significantly in some regions, including ability to attract workforce or to gain required employment checks
- Internet connectivity.

Solutions and opportunities

- Increase usage of group training or labour hire organisations to assist with developing a 'job ready workforce'
- Working with local migrant and First Nations communities and support services
- Increase visibility and promotion of career pathways across supply chain industries
- Encourage investment in employee upskilling and development
- Offer financial support or subsidies for workforce training and education
- Introduce more flexible and innovative delivery models
- Include occupations experiencing shortages on the Australian Apprenticeship Priority List.

Existing Workforce Strategies and Initiatives

Our implementation of the research, consultation and activities outlined above will be informed by existing workforce strategies and initiatives. Where relevant, we will seek to align our work with, or contribute to, these strategies and initiatives, or to collaborate with those responsible for implementing them.

Below is a mapping of the workforce strategies and initiatives that we have identified as relevant to the Maritime Industry and the key issues and evidence gaps outlined in this Workforce Plan. We will continue to add to this list as we consult further with industry.

MAPPING KEY:

A - Skilled workforce shortages pose a major challenge for Australia's Maritime industry	B - Maritime training faces barriers from high costs, limited course availability, and trainer shortages	C - The limited availability of training berths is a major barrier to completing qualifying sea time
D - The industry faces complex challenges in adapting to decarbonisation and new technologies	E . Upskilling trainers and assessors to effectively implement updated Maritime Training Package products in response to regulatory change	

Table 5: Existing Workforce Strategies and Initiatives

Title	Mapping	Description	How it will impact/inform the Workforce Plan
Marine Order 505 – Certificates of competency – national law Australian Maritime Safety Authority (AMSA)	A, E	National (effective 1 January 2023) • Outlines changes to AMSA certification framework and guidelines for Near Coastal job roles. • Marine Order 505 forms the basis for the proposed changes to the Maritime Training Package products. • Marine Order 505 includes: • AMSA certificates of competency that can be issued. • criteria which AMSA uses to issue a certificate of competency. • conditions on a certificate of competency • requirements for renewal of certificate.	Changes to AMSA certification framework and guidelines for Near Coastal job roles to be acknowledged as an initiative in the 2025 Workforce Plan. ISA has completed Phase One to update qualifications to reflect new Marine Order 505 licensing and regulatory requirements.
Strategic Fleet Taskforce Final Report (Public version) Department of Infrastructure, Transport, Regional Development, Communication and the Arts	A, B, C	The Report outlines Australia's plan to establish a Maritime Strategic Fleet to enhance national resilience and economic security • National • Recommendations to establish and maintain an Australian maritime strategic fleet.	The recommendation from the Strategic Fleet is included in 'actions underway', 'proposed actions' and 'future consultation' of 2025 Workforce Plan.

Decarbonisation Policy (2023 Revised IMO Strategy on Reduction of GHG Emissions from Ships) International Maritime Organization	A, D	Represents work by the IMO to address greenhouse gas (GHG) emissions from international shipping. • International/National (2023 – 2025) • Outlines short-, mid- and long-term reduction measures to be implement by member states including Australia. • Highlights barriers, supportive actions, capacity building, technical co-operation, R&D initiatives to support reduction of GHG.	Decarbonisation strategies will impact adoption of new technologies and biofuels, with flow-on impacts on skills and training for seafarers. As a result of this work, the IMO will establish new skills and training requirements. We will reflect these in cross-sectoral training products outlined in the workforce plan. This will require collaboration with other JSCs.
2021 Outcome of the regulatory scoping exercise for the use of Maritime Autonomous Surface Vessels MASS International Maritime Organization	A, D	Represents work by IMO to integrate new and advancing technologies in its regulatory framework. • International/National (2021 – 2022) • Outlines implications for introduction of MASS operations in the shipping industry. • Highlights four degrees of autonomy and identifies areas in the regulatory framework to be updated.	MASS Code will impact workforce planning for the industry with flow-on impacts on skills and training for seafarers. The final recommendations will form part of the advice going forward to the Maritime Strategic Workforce Committee to inform workforce plans including potential funded activities to support MASS implementation.
Maritime Workforce Position Paper By Inpex for Maritime Industry Australia Ltd (MIAL) and Australian Resources & Energy Employers Association (AREEA) industry workshop 2023	A, B, C, D	The report highlights critical issues and recommendations for Australia's maritime sector and highlights the following. • Seafarer shortage • Aging workforce • Training and education • Immediate actions • Future recommendations represent the views of a collection of end user industries under the general agreement that Australia faces a significant issue in accessing critical maritime skills.	This report and its findings will form part of the advice going forward to the Maritime Strategic Workforce Committee and will inform 2025 Workforce Plan.
Maritime Just Transition Taskforce Det Norske Veritas (DNV)	A, D	Taskforce established to: • Conduct an initial assessment of the impacts decarbonization shipping industry will have on seafarers. • Highlight challenges related to alternative fuels in shipping, developing skills and training requirements for seafarers. • International/ National	Model could be used to inform how we identify skills seafarers need and challenges that need to be taken into consideration when developing training package products and implementation. Provides an insight into the safety and technical skill requirements for seafarers and challenges in the implementation of skills requirements. This will inform 2025 Workforce Plan.

Fee-Free TAFE Department of Employment and Workplace Relations in partnership with state and territory governments	B	Key focus is to address skills shortages and delivery fee-free TAFE and vocational education places for students wanting to train, retrain or upskill. • National • Fee Free TAFE in partnership with States and Territories to deliver over \$1.5 billion funding for 500,000 Fee-Free TAFE and vocational education and training (VET) places across Australia over 2023 to 2026.	The summary of funded initiatives will form part of the advice on funded pathways for maritime to the Maritime Strategic Workforce Committee and will inform 2025 Workforce Plan.
Australia's Offshore Resources Decommissioning Roadmap Australian Department of Industry, Science and Resources	A	Australia's Offshore Resources Decommissioning Roadmap outlines the Australian Government's strategy to develop a domestic decommissioning industry for offshore energy infrastructure was released in December 2024. • National • This roadmap aims to ensure decommissioning activities are conducted in a timely, safe, and environmentally responsible manner, contributing to Australia's transition to net zero.	The final report and its findings will form part of the advice going forward to the Maritime Strategic Workforce Committee to inform 2025 Workforce Plan onwards.
Maritime Emissions Reduction National Action Plan (MERNAP) 2023-2024 MERNAP scoping, background and issues papers. Department of Infrastructure, Transport, Regional Development, Communication and the Arts	D	MERNAP outlines the strategic direction and recommend actions to decarbonise the maritime sector in line with governments climate change agenda. • National • Highlight how Australia can develop green shipping collaborations with international partners to support IMO net zero emissions by 2050. • Highlight training and skills requirements for seafarers to support a just transition to decarbonisation.	The recommended actions will form part of the advice going forward to the Maritime Strategic Workforce Committee to inform 2025 Workforce Plan onwards.
National Skills Passport (Consultation Paper 2024) Department of Employment and Workplace Relations	A	Practical solution that will support employers to source employees and support workers to promote their capabilities (skills and qualifications). • National	The Consultation Paper will form part of the advice going forward to the National Maritime Skills Network and Maritime Strategic Workforce Committee to inform 2025 Workforce Plan onwards.
Offshore Wind Energy in Australia: Final Project Report (2021) Blue Economy CRC Report	D	A study designed to inform approaches to developing offshore wind farms in Australia. • National • Study which focuses on 10 proposed offshore wind farms in Australia. • Includes 6 recommendations for the development of offshore wind in Australia. • Highlights potential gap in data in terms of the number of seafarers who work on vessels that supply oil and gas facilities or seafarers servicing oil and gas industries.	Study is used as part of further consultation activities in 2025 Workforce Plan.

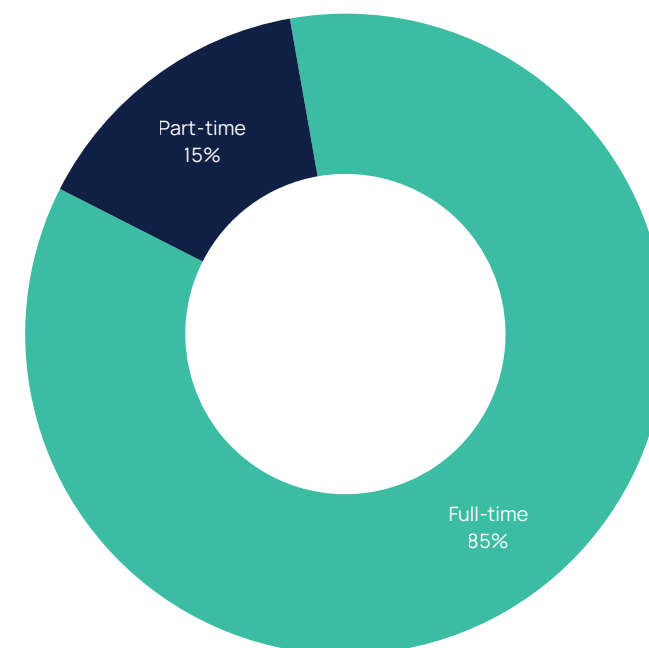
The Clean Energy Generation: workforce needs for a net zero economy (2023) Jobs and Skills Australia	D	Capacity study focusing on workforce needs for Australia to transition to a clean energy economy. • National • Highlights workforce supply and demand issues including emerging skills, skills gaps and opportunities for regional growth, clean energy career and learning pathways, barriers and challenges those First Nations, women and migrants' participation in the clean energy sectors.	Study is used as part of further research and consultation activities in 2025 Workforce Plan.
Towards a National Jobs and Skills Roadmap – Annual Jobs and Skills Report 2023 Jobs and Skills Australia	A	Highlights current and future challenges for the Australian workforce and creates the foundation for a national jobs and skills roadmap to underpin a systematic approach to building Australia's workforce. • National • This includes highlighting the role that the JSC's will play in the development of the national jobs and skills roadmap.	The Consultation Paper will form part of the advice going forward to the National Maritime Skills Network and Maritime Strategic Workforce Committee to inform 2025 Workforce Plan.
Novel vessel policy statement (2022) Australian Maritime Safety Authority	D	Policy statement for the certification and assessment of 'novel' vessels. • National • Novel vessels include vessels with alternative fuel technologies, electric propulsion, autonomous vessels.	This policy statement is used as part of further consultation activities in 2025 Workforce Plan onwards.
Decarbonisation initiatives ARENA	D	• Hydrogen Headstart Program • Powering the Regions Fund • National Reconstruction Fund • Future Made in Australia Fund	This initiative is based on Australia's Bioenergy Roadmap and is used as part of further consultation activities in 2025 Workforce Plan. The paper will inform the advice provided to the Maritime Strategic Workforce Planning Committee to identify skills and initiatives required for the transition of the Maritime industry to green energy.
State and Territory funding initiatives	B	• Doing what matters for maritime careers project (Victoria) • Backing Queensland Maritime jobs (Qld) • Maritime Employment Grant Program (Qld) • Maritime Training Grant Program (Qld)	Initiatives can be used as part of further consultation activities in 2025 Workforce Plan and onwards.
WA Shipping and Supply Chain Taskforce Final Report (2023) Western Australian Government	A, B, C	This report provides recommendations to support WA shipping industry and supply chains. • National	The recommendations from the Strategic Fleet will inform Maritime Industry National Workforce Plan's and will inform 2025 Workforce Plan onwards.
Other Australian Government Initiatives	A, E	• Food Supply Chain Capacity Study 2024 (in progress) • National Defence – Defence Strategic Review 2023	Initiatives can be used as part of further consultation activities in 2025 Workforce Plan onwards.

Appendices

Appendix A Reference Data and Charts

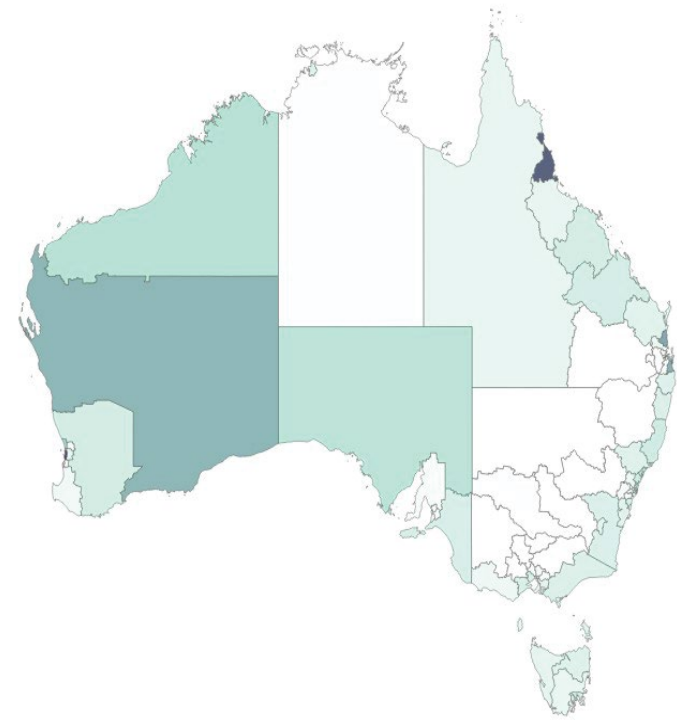
Employment and Distribution

Figure 9: Employment Status 2024



Source: ABS, Nov 2024, Labour Force, Australia, Detailed, Table EQ08 (annual average)

Figure 10: Distribution of Maritime Workers by Residence, 2025

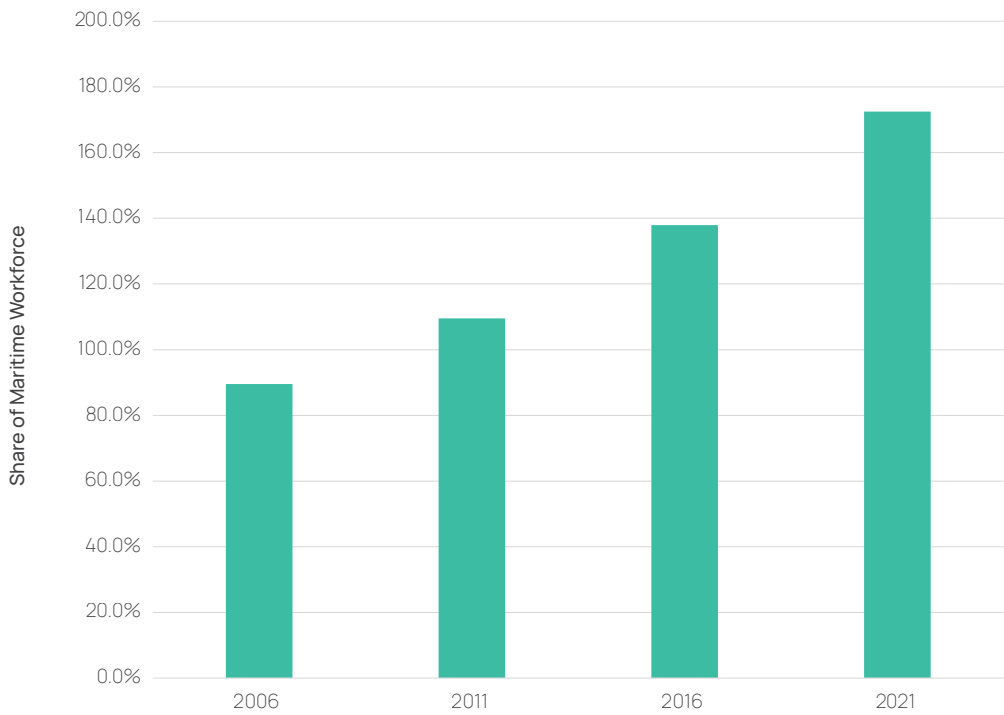


Source: JSA, Feb 2025, NERO, ANZSCO 4 Digit Occupations and SA4 Regions



Occupational Demographics

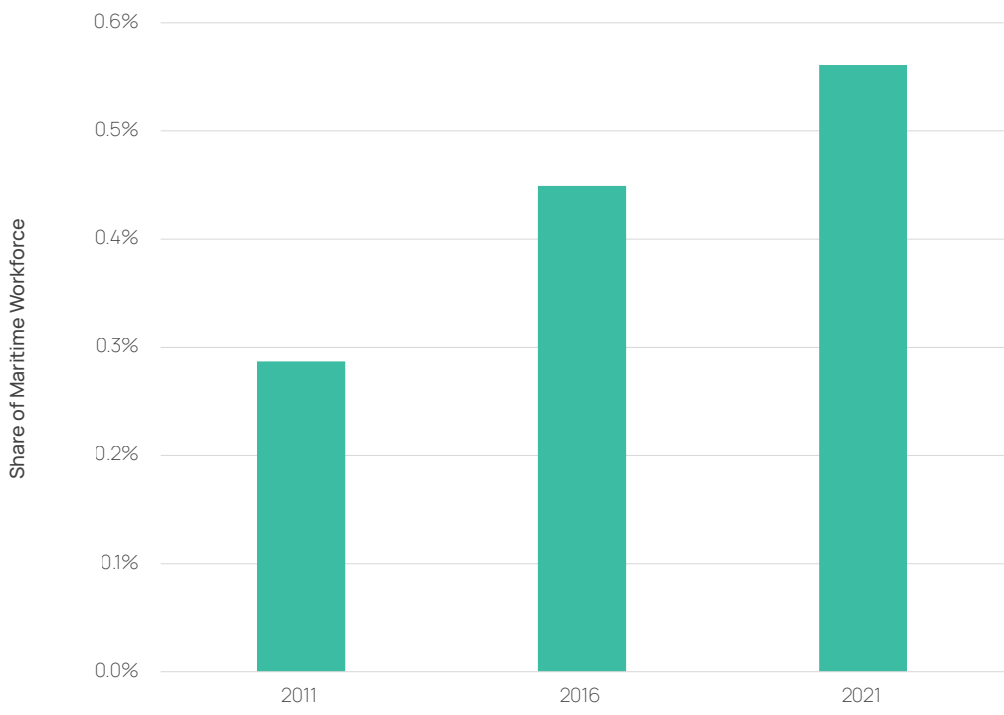
Figure 11: First Nations Workforce in Maritime Industry, 2006 – 2021



Source: ABS 2021, Census of Population and Housing, 2006-2021

THE PROPORTION OF FIRST NATIONS EMPLOYEES IN THE MARITIME WORKFORCE *has almost doubled from 2006 to 2021*

Figure 12: Maritime Workforce with a Disability, 2006 – 2021



Source: ABS 2021, Census of Population and Housing, 2006-2021

THE PROPORTION OF EMPLOYEES WITH A DISABILITY IN HAS *increased slightly from 0.29% to 0.56%* FROM 2011 TO 2021

Training

Figure 13: Commencing Maritime Qualification Enrolments, 2019 – 2023

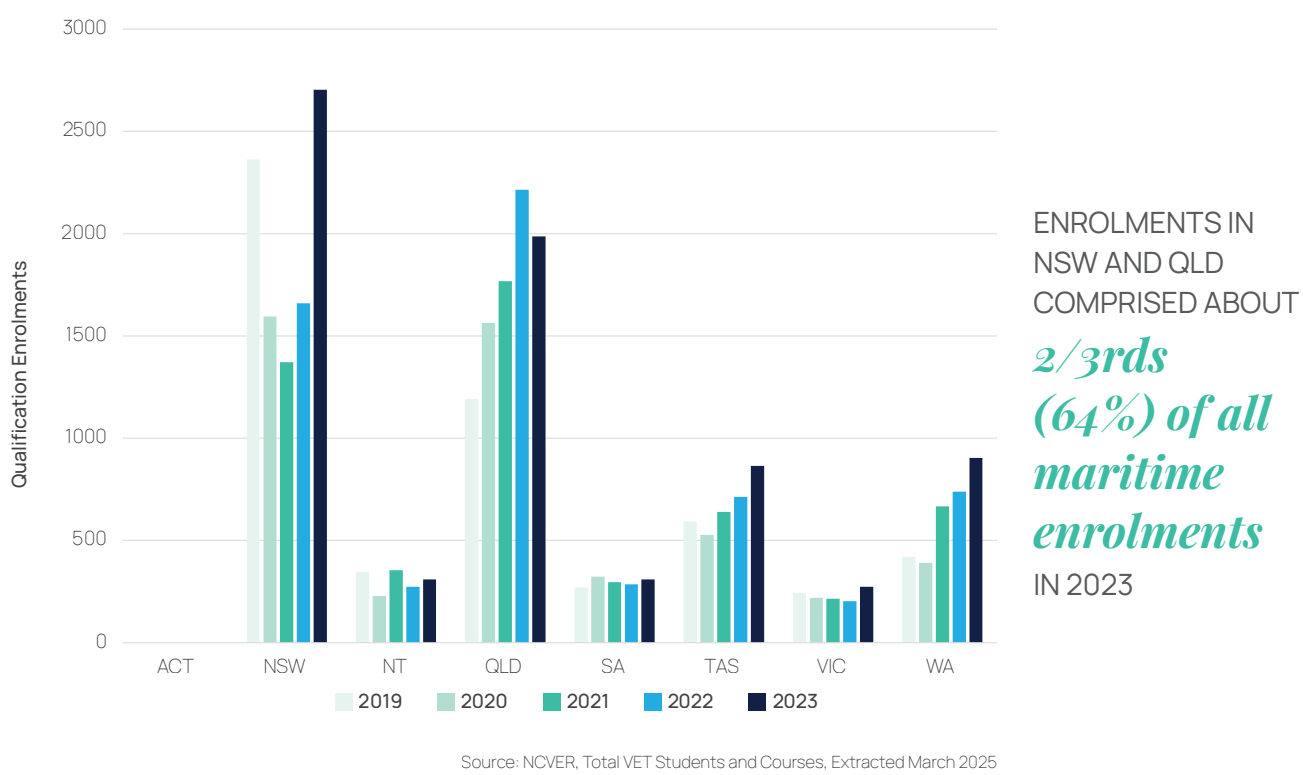


Figure 14: Maritime VETiS Students, 2013 - 2023

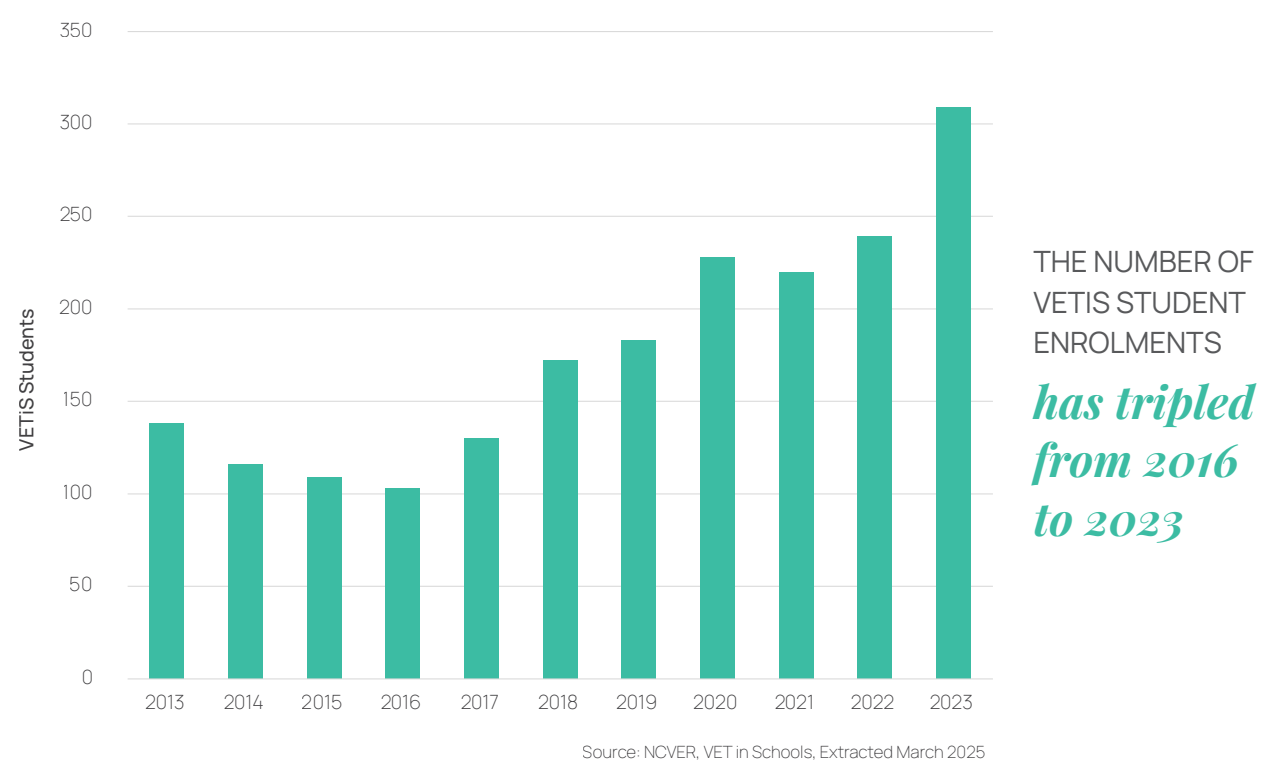


Figure 15: Share of Qualification Enrolments by First Nations Students

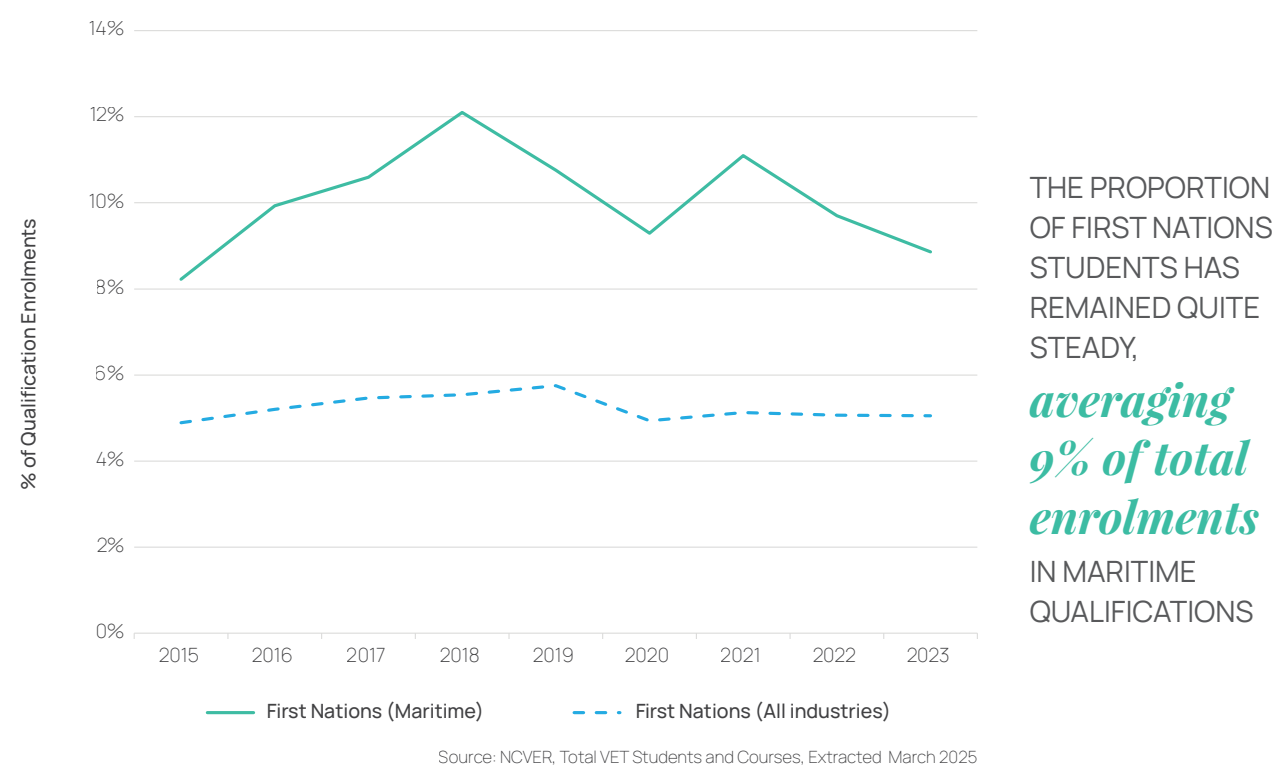


Figure 16: Share of Qualification Enrolments by Students with a Disability

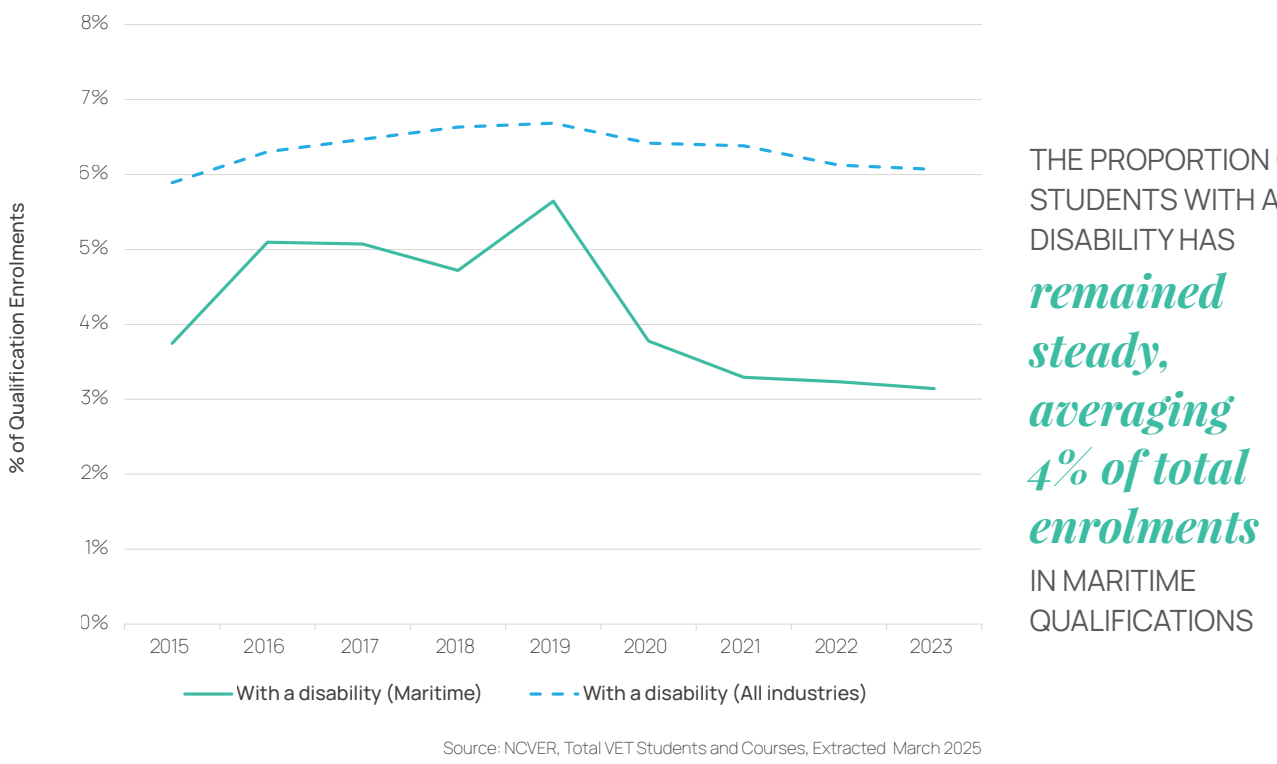


Figure 17: Share of Qualification Enrolments by Gender

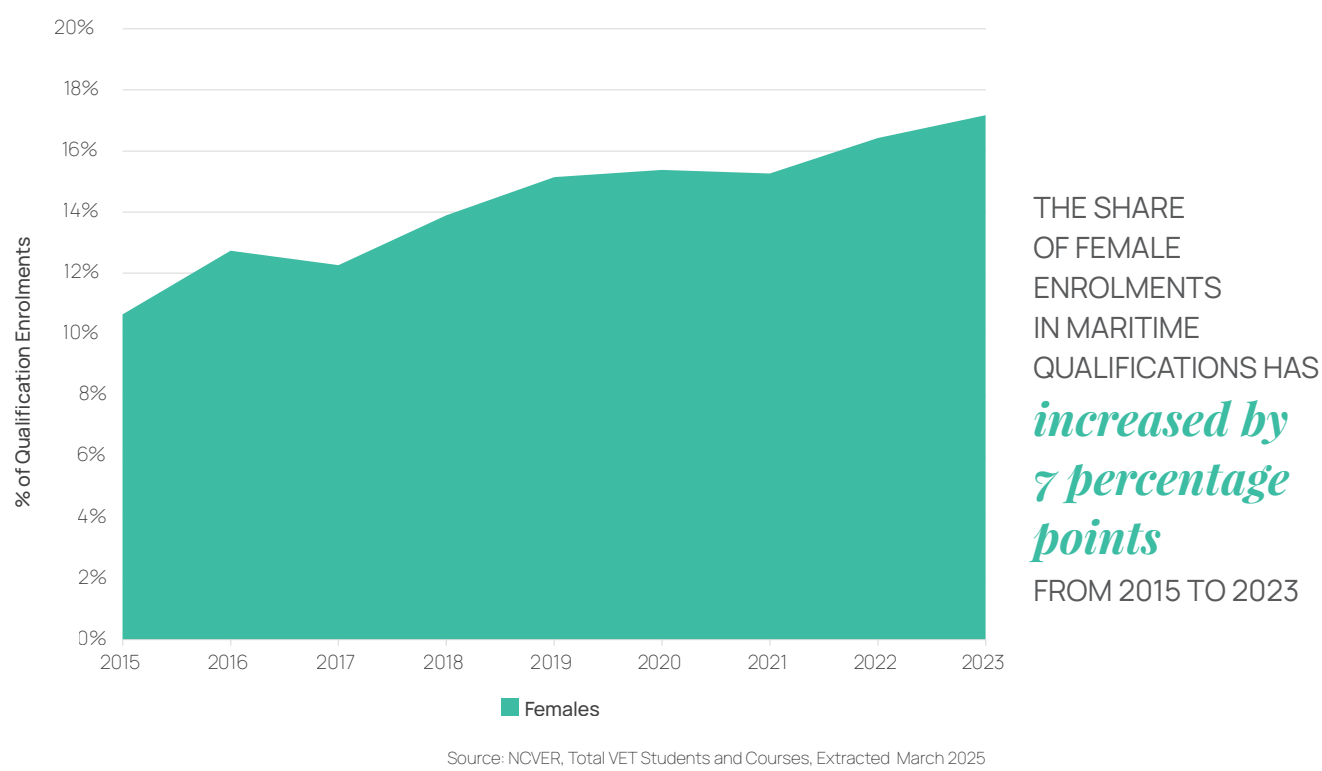


Figure 19: Share of Maritime Related Higher Education Enrolments by Equity Group

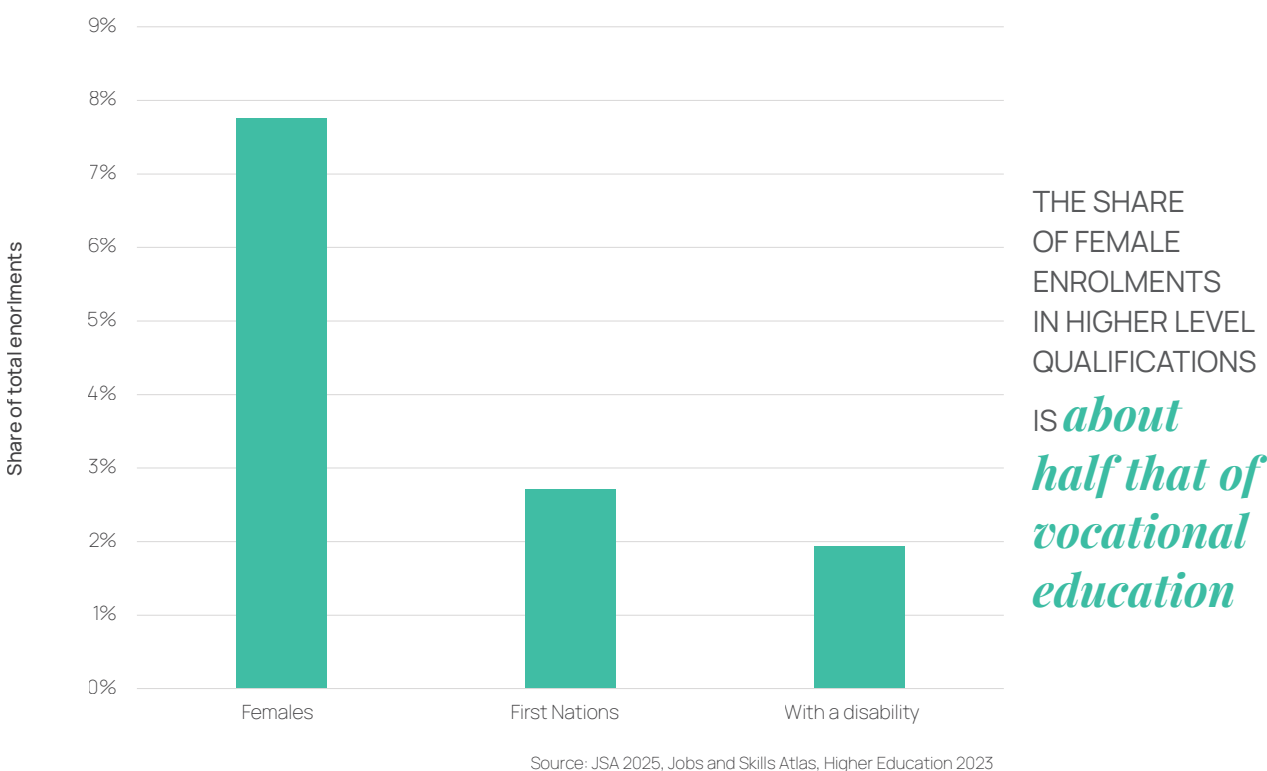
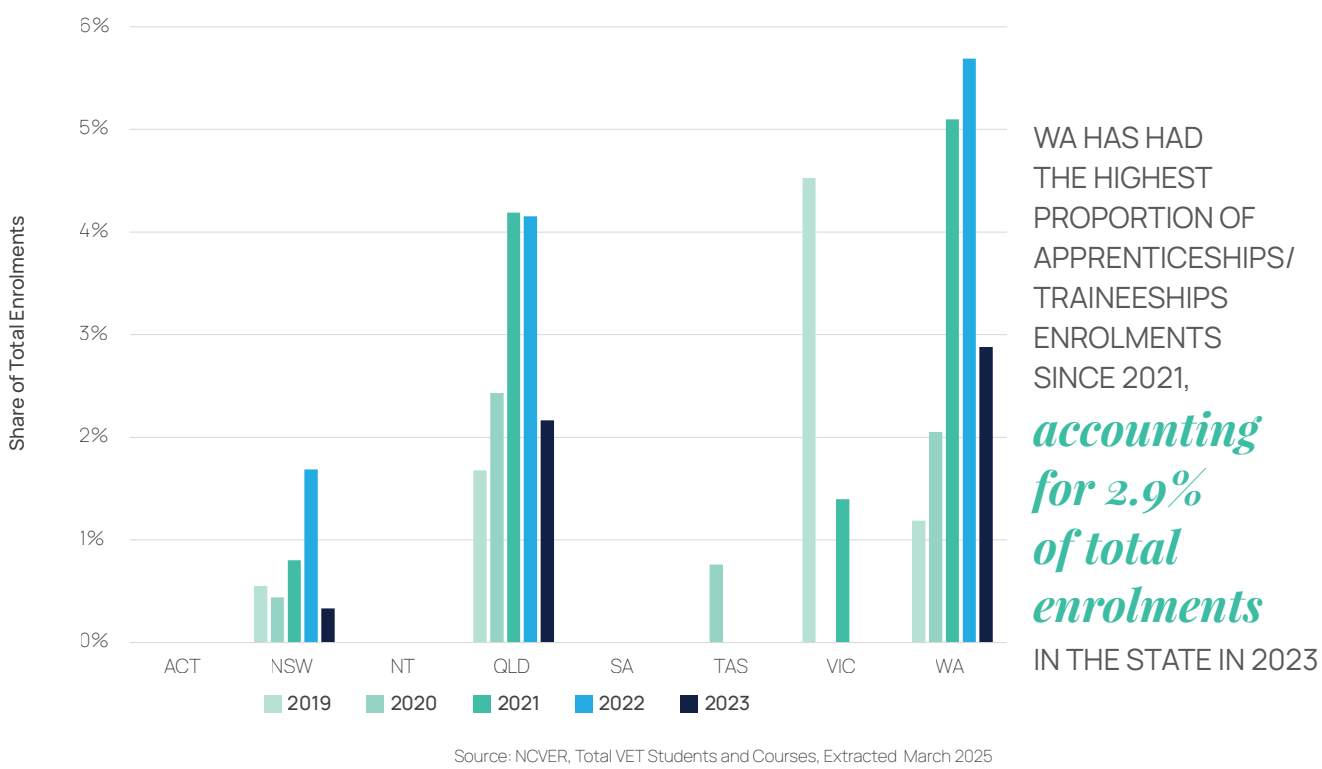


Figure 18: Apprenticeships/Traineeships Share of Total MAR Enrolments in Each State/Territory



Training system data

Qualification Enrolments⁴⁶

Qualification	2019	2020	2021	2022	2023	Certification
MAR10224 Certificate I in Maritime Operations (General Purpose Hand Near Coastal)	983	774	664	847	1260	Near Coastal
MAR10424 Certificate I in Maritime Operations (Coxswain Grade 2 Near Coastal)	441	360	487	519	566	Near Coastal
MAR20121 Certificate II in Maritime Operations (Linesperson)	24	3	0	0	0	N/A
MAR20324 Certificate II in Maritime Operations (Coxswain Grade 1 Near Coastal)	1770	1493	2005	2350	2651	Near Coastal
MAR20424 Certificate II in Maritime Operations (Marine Engine Driver Grade 3 Near Coastal)	182	127	146	167	185	Near Coastal
MAR31222 Certificate III in Autonomous Maritime Systems	0	0	0	0	0	N/A
MAR30122 Certificate III in Marina Operations	5	0	1	2	0	N/A
MAR30220 Certificate III in Maritime Operations (Integrated Rating)	90	96	53	83	142	STCW
MAR30324 Certificate III in Maritime Operations (Marine Cookery)	0	2	0	0	3	COST
MAR30824 Certificate III in Maritime Operations (Marine Engine Driver Grade 2 Near Coastal)	707	745	698	788	959	Near Coastal
MAR30924 Certificate III in Maritime Operations	898	962	908	955	1229	Near Coastal
MAR40121 Certificate IV in Maritime Operations (Chief Integrated Rating)	0	0	0	0	0	STCW
MAR40224 Certificate IV in Maritime Operations (Marine Engine Driver Grade 1 Near Coastal)	65	19	54	83	100	Near Coastal
MAR40324 Certificate IV in Maritime Operations (Master up to 45 metres Near Coastal)	180	235	198	191	295	Near Coastal
MAR50120 Diploma of Marine Engineering	40	33	56	55	53	STCW, Near Coastal
MAR50320 Diploma of Maritime Operations	43	20	14	13	38	STCW, Near Coastal
MAR60120 Advanced Diploma of Marine Engineering (Class 1)	15	27	15	31	21	STCW
MAR60220 Advanced Diploma of Maritime Operations (Master Unlimited)	20	19	13	4	10	STCW
Grand Total	5463	4915	5312	6088	7512	

Note: enrolment numbers include all versions of the qualification across the years they were available (e.g. MAR10220 Certificate I in Maritime Operations (General Purpose Hand Near Coastal) includes enrolments for MAR10313, MAR10220, MAR10318 and MAR10120.)

- STCW (Standards of Training Certification and Watchkeeping)
- COST (Certificate of Safety Training)
- IALA (International Association of Marine Aids to Navigation and Lighthouse Authorities Standard 1050)

⁴⁶ NCVER VOCSTATS <<https://www.ncver.edu.au/research-and-statistics/vocstats>>, extracted on December 2024

Qualification Completions⁴⁷

Qualification	2019	2020	2021	2022	2023	Certification
MAR10224 Certificate I in Maritime Operations (General Purpose Hand Near Coastal)	650	640	577	675	960	Near Coastal
MAR10424 Certificate I in Maritime Operations (Coxswain Grade 2 Near Coastal)	498	336	476	485	510	Near Coastal
MAR20121 Certificate II in Maritime Operations (Linesperson)	50	11	4	0	0	N/A
MAR20324 Certificate II in Maritime Operations (Coxswain Grade 1 Near Coastal)	1143	1161	1373	1517	1692	Near Coastal
MAR20424 Certificate II in Maritime Operations (Marine Engine Driver Grade 3 Near Coastal)	181	96	125	130	141	Near Coastal
MAR31222 Certificate III in Autonomous Maritime Systems	0	0	0	0	0	N/A
MAR30122 Certificate III in Marina Operations	7	0	1	2	0	N/A
MAR30220 Certificate III in Maritime Operations (Integrated Rating)	25	32	24	33	56	STCW
MAR30324 Certificate III in Maritime Operations (Marine Cookery)	0	2	0	0	3	COST
MAR30824 Certificate III in Maritime Operations (Marine Engine Driver Grade 2 Near Coastal)	600	611	652	675	762	Near Coastal
MAR30924 Certificate III in Maritime Operations	650	697	795	748	855	Near Coastal
MAR40121 Certificate IV in Maritime Operations (Chief Integrated Rating)	0	0	0	0	0	STCW
MAR40224 Certificate IV in Maritime Operations (Marine Engine Driver Grade 1 Near Coastal)	56	18	37	72	94	Near Coastal
MAR40324 Certificate IV in Maritime Operations (Master up to 45 metres Near Coastal)	155	171	146	162	213	Near Coastal
MAR50120 Diploma of Marine Engineering	42	24	54	45	49	STCW, Near Coastal
MAR50320 Diploma of Maritime Operations	21	18	15	15	31	STCW, Near Coastal
MAR60120 Advanced Diploma of Marine Engineering (Class 1)	14	18	14	21	21	STCW
MAR60220 Advanced Diploma of Maritime Operations (Master Unlimited)	19	12	5	7	8	STCW
Grand Total	4111	3847	4298	4587	5395	

⁴⁷ NCVER VOCSTATS <<https://www.ncver.edu.au/research-and-statistics/vocstats>>, extracted on December 2024

Number of RTOs scoped to deliver Maritime Qualifications⁴⁸

Qualification	RTO count	Certification
MAR10224 Certificate I in Maritime Operations (General Purpose Hand Near Coastal)	28	Near Coastal
MAR10424 Certificate I in Maritime Operations (Coxswain Grade 2 Near Coastal)	5	Near Coastal
MAR20121 Certificate II in Maritime Operations (Linesperson)	1	N/A
MAR20324 Certificate II in Maritime Operations (Coxswain Grade 1 Near Coastal)	40	Near Coastal
MAR20424 Certificate II in Maritime Operations (Marine Engine Driver Grade 3 Near Coastal)	22	Near Coastal
MAR30122 Certificate III in Marina Operations	1	N/A
MAR30220 Certificate III in Maritime Operations (Integrated Rating)	3	STCW
MAR30324 Certificate III in Maritime Operations (Marine Cookery)	1	COST
MAR30824 Certificate III in Maritime Operations (Marine Engine Driver Grade 2 Near Coastal)	25	Near Coastal
MAR30924 Certificate III in Maritime Operations	27	Near Coastal
MAR31222 Certificate III in Autonomous Maritime Systems	0	N/A
MAR40121 Certificate IV in Maritime Operations (Chief Integrated Rating)	1	STCW
MAR40224 Certificate IV in Maritime Operations (Marine Engine Driver Grade 1 Near Coastal)	11	Near Coastal
MAR40324 Certificate IV in Maritime Operations (Master up to 45 metres Near Coastal)	4	Near Coastal
MAR50120 Diploma of Marine Engineering	5	STCW, Near Coastal
MAR50320 Diploma of Maritime Operations	5	STCW, Near Coastal
MAR60120 Advanced Diploma of Marine Engineering (Class 1)	3	STCW
MAR60220 Advanced Diploma of Maritime Operations (Master Unlimited)	2	STCW

⁴⁸ Training.gov.au (as at 17 March 2025)

Maritime-related university qualifications⁴⁹

Qualification Type	Course Name	Qualification Type	Course Name
Diploma	Digital Technologies (Submarines)	Graduate Certificate	Marine Engineering
Advanced Diploma	Applied Science (Nautical Science)	Graduate Certificate	Maritime and Logistics Management
Associate Degree	Engineering (Maritime)	Graduate Certificate	Maritime Engineering
Associate Degree	Global Logistics And Maritime Management	Graduate Certificate	Maritime Engineering (Naval Engineering)
Bachelor	Applied Science (Marine Electrical Engineering)	Graduate Certificate	Maritime Management
Bachelor	Applied Science (Marine Electro-Technology)	Graduate Certificate	Maritime Studies
Bachelor	Applied Science (Marine Electrotechnology)	Master	Business Administration (Advanced) (Maritime and Logistics Management)
Bachelor	Applied Science (Marine Engineering)	Master	Business Administration (Maritime and Logistics Management)
Bachelor	Applied Science (Maritime Technology Management)	Master	Business Administration (Maritime Technology And Management)
Bachelor	Business (Maritime and Logistics Management)	Master	Business Administration (Shipping And Maritime Management)
Bachelor	Business (Maritime and Logistics Management) Honours	Master	Business AdministrationIMaritime Management
Bachelor	Engineering (Marine & Offshore Engineering - Co-Operative Ed	Master	Engineering (Maritime Design)
Bachelor	Engineering (Marine & Offshore Engineering) (Honours)	Master	Maritime Engineering (Advanced)
Bachelor	Engineering (Marine And Offshore Engineering) (Honours)	Master	Maritime Engineering (Professional)
Bachelor	Engineering (Marine And Offshore Engineering) Honours	Master	Maritime Engineering (Technology Management)
Bachelor	Engineering (Marine And Offshore Systems) Honours	Master	Maritime Policy
Bachelor	Engineering (Maritime) (Honours)	Master	Philosophy (Maritime and Logistics Management)
Bachelor	Engineering Technology (Maritime)	Master	Philosophy (Maritime Logistics Management)
Bachelor	Global Logistics And Maritime Management With Honours	Doctor	Philosophy (Marine Craft Operation)
Bachelor	Maritime Engineering (Specialisation) (Honours)	Doctor	Philosophy (Maritime Engineering And Technology)
Bachelor	Maritime Engineering (Specialisation) (Honours) (Co-Operative Education)	Doctor	Philosophy (Maritime Engineering)

⁴⁹ Australian Government Department of Education

Maritime Occupational Areas

Industry Skills Australia acknowledges that the ANZSCO/OSCA codes used by the VET system to identify occupations in the Maritime industry do not always correspond with the way in which the industry describes itself. The table below describes job roles in terms that industry will recognise. We have developed this framework as a starting point to assist in conversations with industry stakeholders and will further refine it over time in collaboration with the Strategic Workforce Planning Committees. Job roles that have no clear ANZSCO/OSCA alignment are identified with a dash, '-'.

Occupational Area	ANZSCO Occupation Titles	OSCA Occupation Titles	Job Roles
1. Navigation	231213 Ship's Master, 231214 Ship's Officer	313435 Ship's Master, 313436 Ship's Officer	Master Unlimited, Master < 3000 GT, Chief Mate < 3000 GT, Master < 500 GT, Mate < 500 GT, Chief Mate, Watchkeeper Mate Deck
	231213 Ship's Master	313435 Ship's Master, 313432 Marine Pilot	Master < 100 metres Near Coastal (NC)
	231213 Ship's Master	313435 Ship's Master, 313432 Marine Pilot	Master < 45 metres NC, Master < 24 metres NC, Master (Inland waters) NC
	-	-	Coxswain Grade 3 NC, Coxswain Grade 2 NC, Coxswain Grade 1 NC
2. Engineering	231212 Ship's Engineer	313431 Marine Engineer	Engineer Class 1 (Steam and Motor), Engineer Class 1 (Steam), Engineer Class 1 (Motor), Engineer Watchkeeper, Engineer Class 2
	231212 Ship's Engineer	313431 Marine Engineer	Engineer Class 3 NC
	-	381232 Electrical Fitter (Marine Electrician)	Electro-Technical Officer
	-	351435 Marine Technician, 732931 Boiler or Engine Operator (Marine Engine Driver)	Marine Engine Driver Grade 3 NC, Marine Engine Driver Grade 2 NC, Marine Engine Driver Grade 1 NC.
3. Deck Operations	899211 Deck Hand	899231 Deck Hand (Marine Rating)	Chief Integrated Rating, Integrated Rating, Able Seafarer - Deck, Able Seafarer - Engine, Navigational Watch Rating, Engine Room Watch Rating
	351411 Cook	322331 Cook	Marine Cook
	899211 Deck Hand	899231 Deck Hand (Marine General Purpose Hand)	General Purpose Hand
4. Support Operations	899211 Deck Hand	899231 Deck Hand	Linesperson
	231299 Marine Transport Professionals nec	313499 Marine Transport Masters, Officers and Technicians nec (Vessel Traffic Officer)	Vessel Traffic Services Operator
	149999 Hospitality, Retail and Service Managers nec	172999 Service Managers nec (Marina Manager), 899999 Labourers nec (Marina Attendant)	Marina Manager, Marina Assistant
	231215 Marine Surveyor	313433 Marine Surveyor	Marine Surveyor
5. Autonomous Operations	-	731999 Machine Operators nec (Remotely Operated Vehicle Pilot)	Autonomous Surface Vehicles (ASV) Operator, Autonomous Underwater Vessels (AUV) Operator, ASV Technician, AUV Technician in Near Coastal waters

ANZSCO and ANZSIC Classifications

This section provides a detailed breakdown of the Australian and New Zealand Standard Classification of Occupations (ANZSCO) and the Australian and New Zealand Standard Industrial Classification (ANZSIC) as they have been used in this document to quantify occupations and industry. While OSCA replaced ANZSCO for use in Australia in December 2024, the underlying data is yet to be updated.

ANZSCO data is presented at two levels of detail. The highest level of detail (6-digit) is available for Census and Skills Priority List data while 4-digit data is available for the quarterly Labour Force data, Employment Projections and the Internet Vacancy Index and others.

ANZSIC data is also presented at two levels of detail. The highest level of detail (4-digits) is available for Census, Counts of Australian Businesses and IBISWorld Industry Class reports, that approximately align to 4-digit ANZSIC while 3-digit data is available or the quarterly Labour Force data, Employment Projections and others.

Note: 'nec' stands for 'not elsewhere classified' and 'nfd' stands for 'not further defined'. If the Census/ Survey respondent didn't provide enough information to categorise the occupation/industry at the highest level of detail, 'not further defined' is used and the respondent is still counted.

ANZSCO Code	Title	Level of Detail
231200	Marine Transport Professionals, nfd	6-digit
231212	Ship's Engineer	6-digit
231213	Ship's Master	6-digit
231214	Ship's Officer	6-digit
231215	Marine Surveyor	6-digit
231299	Marine Transport Professionals, nec	6-digit
899200	Deck and Fishing Hands, nfd	6-digit
899211	Deck Hand	6-digit
2312	Marine Transport Professionals	4-digit
8992	Deck and Fishing Hands	4-digit

ANZSIC Code	Title	Level of Detail
4810	Water Freight Transport	4-digit
4820	Water Passenger Transport	4-digit
5212	Port and Water Transport Terminal Operations	4-digit
5219	Other Water Transport Support Services	4-digit
480	Water Transport, nfd	3-digit
481	Water Freight Transport	3-digit
482	Water Passenger Transport	3-digit
5210	Water Transport Support Services, nfd [†]	4-digit
521	Water Transport Support Services [†]	3-digit
5010	Scenic and Sightseeing Transport [†]	4-digit
501	Scenic and Sightseeing Transport [†]	3-digit

Stakeholder Survey Summary

The stakeholder survey was conducted between February and March 2025 and was designed to test the identified challenges and drivers and to capture proposed strategies from industry.

Table 6: Stakeholder Consensus on Workforce Issues

Challenge/Driver		Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
A	Attracting women and under-represented groups is a challenge for the industry		7.7%	23.1%	53.8%	15.4%
	Emerging green energy sectors and expanding Maritime industries will increase demand for skilled workers	7.7%	3.8%	34.6%	30.8%	23.1%
	Ongoing shortages of Engineers, Masters, Officers, and Deck Hands are impacting the industry	3.8%		11.5%	34.6%	50.0%
	The Strategic Fleet will require more qualified seafarers to meet operational demands	3.8%		11.5%	46.2%	38.5%
	The industry is grappling with an aging workforce and high turnover rates		3.8%	11.5%	46.2%	38.5%
B	Government funding supports VET enrolments, but course availability is limited	7.7%	3.8%	34.6%	23.1%	30.8%
	Maritime training is hindered by the need for substantial investments, a lack of trainers, and regulatory pressures			23.1%	30.8%	46.2%
	RTOs struggle to maintain cost-effective courses due to low enrolments		19.2%	15.4%	38.5%	26.9%
	The quality of graduate outcomes in the Near Coastal sector is a concern	11.5%	7.7%	19.2%	30.8%	30.8%
C	Lack of coordination limits effective access to training berths		3.8%	26.9%	38.5%	30.8%
	The decline in Australian-flagged vessels reduces sea time opportunities for new entrants		7.7%	23.1%	26.9%	42.3%
	The lack of training berths limits opportunities to meet certification requirements		3.8%	19.2%	46.2%	30.8%
D	Growing automation and digitalisation in Maritime operations demands new competencies			26.9%	57.7%	15.4%
	New International Maritime Organization (IMO) regulations will drive the adoption of cleaner fuels and technologies			30.8%	53.8%	15.4%
	Preparing domestic seafarers for decarbonisation is complex due to evolving technologies and skills demands		3.8%	38.5%	46.2%	11.5%
	The shift to new technologies and alternative fuels demands updated training and strong safety measures			26.9%	46.2%	26.9%

Impact on organisations

Survey participants were asked about how the identified drivers and challenges affect their organisations. Below is a summary of the key insights they provided.

- A. Skilled workforce shortages are impacting operational efficiency, industry growth and possibly vessel safety. This is further exacerbated by an ageing workforce, inadequate training, and competition for skilled labour.
- B. High costs, limited course availability, and trainer shortages are creating significant training barriers which hinder the development of a skilled workforce and impact vessel operational efficiency.
- C. The limited availability of training berths is impacting seafarer competency and career progression.
- D. Adapting to decarbonisation and new technologies, limited exposure to advancements, and uncertainty about future standards and fuels poses a significant challenge.

Proposed solutions

Participants were invited to suggest solutions for addressing the identified drivers and challenges. Here is a summarised overview of their recommendations.

- A. Skilled workforce shortages pose a major challenge for Australia's Maritime industry**
- Addressing the occupational shortage through school-based apprenticeships and targeted skilled migration programs.
 - Enhancing training standards, industry incentives, and regulatory oversight to improve seafarer competency and vessel safety.
 - Advocacy for increasing funding support, industry-government collaboration, and promoting Australian-flagged vessels to attract and retain a skilled maritime workforce.
 - Collaborating with the industry to implement workforce strategies, reform funding and education, improve VET, review migration programs, and provide training for visa holders to support workforce development.
- B. Maritime training faces barriers from high costs, limited course availability, and trainer shortages**
- Promoting maritime apprenticeships in schools to attract young people to the industry.
 - Enhancing training standards, providing incentives for trainers, and improving course availability and regulatory collaboration to address maritime training challenges.
 - Advocacy for government support or funding to implement stricter assessments and ensuring industry-government collaboration to improve seafarer competency and vessel safety.

C. The limited availability of training berths is a major barrier to completing qualifying sea time

- Increasing on-the-job training opportunities and trainees accepting experience on non-Australian vessels.
- Improving training standards, providing mandatory refresher courses, and addressing casualisation to enhance job security.
- Supporting regional maritime workforce development with infrastructure and government-subsidised training and ensuring strategic fleet vessels have training capabilities.

D. The industry faces complex challenges in adapting to decarbonisation and new technologies

- Better collaboration between regulators and industry experts to find solutions.
- Increasing sea time requirements and improving training quality to ensure competent Near Coastal seafarers.
- Advocacy for government support or subsidies, phased timelines, and greater resources to support training availability and major changes.

Other key drivers

Participants were asked to share additional key drivers and challenges affecting skills and workforce development in their sector. Below is a summary of these critical issues.

- Addressing the significant skills gap due to an aging workforce and limited young entrants.
- Promoting the industry's attractiveness that is hindered by long working hours, physical demands, and perceived lack of career progression.
- Technological advancements and new regulations are creating a gap between the skills people have and the skills they need.
- Focusing on the inconsistent training standards and lack of promotion in schools contribute to the skills gap.
- Advocacy for stable work schedules and attractive incentives for Australian-flagged shipping can enhance commitment to the industry.

Explanatory notes to data

Occupational data (Workers) vs Industrial data (Workforce)

When analysing the workforce and industry data in Australia, two classifications are commonly used: ANZSCO/OSCA and ANZSIC.

- ANZSCO (Australian and New Zealand Standard Classification of Occupations) or OSCA (Occupation Standard Classification for Australia) categorises occupations based on skill level and specialisation.
- While OSCA replaced ANZSCO for use in Australia in December 2024, the underlying data (such as the Labour Force Survey, or the Occupational Shortage List) are yet to be updated. See Maritime Occupational Areas for OSCA/ANZSCO mapping.
- ANZSIC (Australian and New Zealand Standard Industrial Classification) classifies businesses into industry sectors. This groups companies based on the primary activities they are engaged in.

In simple terms, ANZSCO/OSCA is about what people do in their jobs, and ANZSIC is about the industry or sector where businesses operate. They are used for different purposes and are not directly comparable.

In this document, we use the term 'Workers' when referring to occupational data (ANZSCO) and industry 'Workforce' when referring to industrial data (ANZSIC).

Occupational Shortage vs Skills Shortage

In this document, we distinguish between occupational shortages and skills shortages.

- Occupational shortage: This occurs when employers struggle to fill vacancies for a specific occupation or can't find employees with specialised skills needed in that occupation. Essentially, there aren't enough qualified people available to do the job.
- Skills shortage: This refers to a situation where the existing workforce does not possess the right skills to meet the demands of their sector or occupation. It's not about the number of employees, but about the quality or suitability of their skills.

Business Count

In the Counts of Australian Businesses data, industries are classified by the main industry linked to a business ABN. This method has limitations. Firstly, businesses operating in several States/Territories are counted only once, making enterprise figures appear low in some areas. This does not mean that there are no enterprises in those regions; rather, that their headquarters are located elsewhere. Secondly, if an organisation operates in multiple industries, it is only counted in one, leading to potential inaccuracies in industry classification.



Training Data

Total VET Activity (TVA) data is collected from all types of RTOs and not only those in receipt of Commonwealth or State funding.

Endnotes/Special References

[†] Scenic and Sightseeing Transport is an industrial category that covers all transport modes, and the workforce is split proportionately among the transport sectors according to historical Census distributions.

Water Transport Support Services is an industrial category that is split between the Maritime workforce (port and terminal operations sub-categories) and Transport and Logistics workforce (Stevedoring Services sub-category). This split is based on historical Census distributions.

Data gaps

1. Outside of Census years, the resolution of labour force data is not high. Maritime has only two occupational categories at the 4-digit ANZSCO level. As a practical example, separating demand for Masters, Engineers or Officers is not straightforward since they are only available at 6-digit resolution.

In December 2024, the **Occupation Standard Classification for Australia (OSCA) 2024**, replaced ANZSCO for use in Australia. OSCA has been established by the Australian Bureau of Statistics (ABS) through a comprehensive review of ANZSCO, conducted between July 2022 and December 2024.

It will take some time for OSCA occupations to appear in occupational data or shortage lists. Although the number of occupations counted at the 6-digit level will increase from 6 to 8, the Maritime industry will continue to have only two occupational categories at the 4-digit level.

2. The Maritime Training Package is utilised by more industries than just the maritime transport industry. Workforce data relating to marine rescue, fishing, aquaculture and other industries that utilise the Maritime training package are not captured in the Water Transport category. In the most recent Census, only 38%⁵⁰ of Maritime workers were identified as working in the Water Transport or Water Transport Support Services sectors, with the majority dispersed in various other sectors.

3. **Qualification Completions** should not be compared with enrolment numbers to ascertain completion rates. Instead, completion rates⁵¹ are calculated by the National Centre for Vocational Education Research (NCVER), reflecting the proportion of qualifications that are ultimately completed. It's important to note that these rates are available for all qualifications collectively, but not for specific training packages or individual qualifications.

⁵⁰ ABS Census 2021

⁵¹ NCVER 2024, VET qualification completion rates 2023, NCVER, Adelaide



Sources for infographics

Data	Source
Business No	ABS Counts of
Business distribution by state %	Australian Businesses
Female %	ABS Labour Force 2024
Australia's international trade carried by sea	AMSA Corporate Plan 2024-2025
Domestic freight task growth (projected to 2030)	BITRE Yearbook 2022
First Nations %	Census 2006 to 2021
With a disability %	
Workforce with VET as highest qualification	
Workforce nearing retirements (aged 56-66)	
Median age	
Top 5 occupations	
GDP contribution \$b 2023-2024	IBISWorld Industry Wizard
Annual revenue \$b 2023-2024	
Qualification enrolments	NCVER, Total VET Activity 2023
Workforce	JSA Labour Force Trending 2025
Top 4 sectors by workforce numbers	
Residential distribution of workers	JSA NERO 2025 and ABS Remoteness Areas - 2021
Registered training organisations (RTO)	training.gov.au

Appendix B
Glossary
of Terms

- Gap analysis** - The process of quantifying and identifying the difference between current workforce and skills needs and what will be required into the future.
- Labour shortage** - Where the demand for unskilled labour (entry level or otherwise) is greater than the supply of those available and willing to work under existing industry conditions
- Registered Training Organisation** - Organisations that are approved by ASQA, WA TAC or VRQA to deliver nationally recognised training in the VET sector
- Reskilling** - Involves learning new skills outside of a person's existing skillset which are often closely adjacent to their current function, but can be geared toward a different path entirely
- Skill Set** - A single unit of competency or a combination of units of competency from a training package that link to a licensing or regulatory requirement, or a defined industry need
- Training Provider** - Any organisation or individual providing education or training services
- Upskilling** - Undertaking learning to expand a person's existing skill set. Upskilling enhances a worker's performance in their current role, potentially advancing them along their career path
- Workers** - The term refers to occupational data (ANZSCO/OSCA)
- Workforce development** - Design or delivery of initiatives to build the skills and capability of the workforce. May include but is not limited to: skills audits and skills analyses; on or off-the-job training; skills recognition; recruitment, job design and career pathways; assessment and evaluation.
- Workforce Plan** - The repeated, systematic and cyclical identification, analysis and planning of workforce skill needs at the enterprise (micro) or sector/region (meso) or whole of industry/economy (macro) level
- Workforce Planning** - Analysis, research and strategies to identify, forecast and respond to the current, emerging and future workforce challenges and opportunities
- Workforce** - The term refers to industrial data (ANZSIC)



Appendix C Methodology

The Workforce Plan adopts a comprehensive approach to understand and address workforce drivers and challenges in our industries. Our methodology is designed to be evidence based, industry supported and actionable, ensuring that the insights we generate are both relevant and practical.

1. Industry Consultation and Issue Identification

Throughout the year, ISA actively engages with industry stakeholders through consultations, roundtable discussions across states, territories, and regional areas, events such as the Supply Chain Leaders' Summit, and participation in relevant conferences and meetings. Insights gathered from these engagements are documented, reviewed, and categorised according to key labour market dynamics, such as skills shortages, occupational shortages, or occupations with attraction and retention issues. This structured identification of issues provides the context necessary to inform hypothesis development.

2. Generating Hypotheses

Using the categorised issues identified through industry consultations and events we develop hypotheses about the workforce. A hypothesis is an idea that is proposed so that it can be tested to see if it might be true. For example, we might hypothesise that the demand for truck drivers is high due to ongoing issues with attracting and retaining employees in these roles. Individual hypotheses are grouped into narrative sections, for example "A. Industry struggles to attract and retain workers". These hypotheses guide our research and analysis, helping us to focus on specific areas of interest.

3. Data and Research Support

To validate our hypotheses, we draw on both qualitative and quantitative sources, including labour market reports, academic studies, news articles and a wide variety of data. This step is crucial for grounding our hypotheses, ensuring that the problems we have identified are backed by solid evidence.

4. Stakeholder Survey

The stakeholder survey is designed to test our hypotheses with industry. For each hypothesis we:

- measure agreement among stakeholders
- gain an understanding of how the identified issues are impacting organisations
- capture suggested responses to the issues
- identify any additional key drivers not previously considered.

The insights gathered from stakeholders play a pivotal role in shaping the Plan. Their feedback not only tests the relevance of the identified challenges but also enriches the development of Proposed Actions with practical solutions.

5. Developing Proposed Actions

A key part of our methodology involves the Labour Market Dynamics and Potential Strategies Mapping tool. This tool allows us to:

- diagnose our hypotheses as having one or more 'symptoms', symptoms being categories of shortages/surpluses of skills and workers. These symptoms indicate how the labour supply is meeting demand
- identify potential strategies to respond to the identified issues
- evaluate existing initiatives, identifying any that are aligned with our hypotheses. This helps to ensure our Proposed Actions complement, rather than duplicate, existing efforts.

6. Incorporating Feedback

Prior to public consultation, our Strategic Workforce Planning Committees (SPWC) identified priority areas for investigation across sectors. This step is crucial for ensuring our findings and recommendations are relevant, practical, and aligned with the needs and priorities of industry.

7. Public Consultation

A draft of our report is made available for public consultation, allowing a broader audience to contribute their insights and feedback via a feedback form. This phase enables us to fine-tune our challenges/drivers and validate Proposed Actions through direct engagement with our stakeholders.





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