Mining and Automotive Skills Alliance

Automotive Workforce Insights Report 2026

Workforces in Transition

Acknowledgement of Country

We acknowledge the Traditional Custodians of the lands on which we live and work. We acknowledge Traditional Custodians of Country throughout Australia and their connections to land, sea and community.

We honour and respect their Elders, past and present, and extend that respect to all First Nations people.

Contents

CEO foreword

I am proud to present Mining and Automotive Skills Alliance's (AUSMASA's) *2026 Workforce Insights Report – Workforces in Transition*.

Building on our previous work, our 2026 report draws on extensive consultations, qualitative, and quantitative research to inform our work and research priorities. It delves into key trends driving the ebbs and flows within the Automotive and Mining workforces, electrification, licensing (including the need for national harmonisation), digitalisation, and the need for flexibility across skills, pathways, and career lifecycles.

Both industries are entering a period of profound transformation. The transition toward Net Zero emissions, rapid technological advancement, and evolving community and workforce expectations are fundamentally changing how work is performed, where it occurs, and the capabilities required to succeed. These changes present a significant opportunity, but also a risk if workforce systems, training arrangements, and policy settings do not evolve at the same pace as industry needs.

This year, AUSMASA has adopted a digital-first delivery model through the Research Hub on our website. This modular approach allows research findings to be released progressively, enabling ongoing engagement with stakeholders and ensuring insights remain timely, accessible, and actionable throughout the year rather than confined to a single publication cycle.

At its core, workforce planning is about partnership. The insights captured in this report reflect contributions from industry leaders, workers, unions, training providers, governments, and community representatives across Australia. Their perspectives ensure that this plan is grounded not only in data but in lived industry experience.

Our work is informed by the National Skills Agreement and aligns with various federal and state priorities and initiatives, including Closing the Gap, improving gender equity outcomes, the Critical Minerals Strategy, and the National Electric Vehicle Strategy. We also actively contribute to various policy conversations, providing direct input to work on the Migration Occupation Lists, Apprenticeship Priority Lists, and other reviews conducted by the Productivity Commission and the Australian Bureau of Statistics.

As the Jobs and Skills Council (JSC) for Mining and Automotive, AUSMASA's role is to act as a trusted steward, connecting industry voice with intelligence to enable evidence-based decision-making and policymaking. The opportunities outlined in this report are not owned by any single organisation; they require coordinated action across industry, education, and government. We welcome opportunities to collaborate and coordinate.

The transition underway is significant, but so too is Australia's capability to navigate it successfully. With collaboration, innovation, and a shared commitment to building skills, we can ensure that both industries continue to provide high-quality jobs, strong regional economies, and sustainable, inclusive growth for decades to come.

I extend my gratitude to our union, industry, government, and education partners. Your contributions are vital to our shared success. Our workforce planning outputs will serve as a valuable resource in our collective efforts to strengthen Australia's Mining and Automotive workforces for a sustainable, inclusive, and innovative future, as the industries transition into the industries of the future.

Dr. Gavin Lind,
Chief Executive Officer

Learn more about AUSMASA:

Executive summary

Automotive

The Automotive industry is an important employer in the economy with a workforce over 320,000. **Gender** representation has improved, with the female workforce now comprising 18.1% of the total workforce. The industry has an average worker aged 40, and less than 15% of the workforce is below the age of 24; the workforce is on the brink of ageing.[1]

Net Zero goals and **technological advancement** are driving the adoption of **electrification** and the development of electric **skills**. As electrification becomes increasingly commonplace, **licensing** is becoming an increasingly important part of the conversation. A conversation complicated by the numerous intersecting state and federal licenses, regulations, and standards. This means licensing can either become a **productivity** enabler or a **skills bottleneck**. AUSMASA has considered risk-based licensing design principles, which can mitigate some of these concerns.

Technological advancement has also driven increased demand for **diagnostic** and **digital skills**; however, the industry faces **acute skills shortages** and bottlenecks in the **apprenticeship** pipeline, compounded by challenges in **retention**, **attraction**, and **recruitment**. Challenges also impact the Training and Assessment (**TAE**) workforce, which has adversely affected the skills pipeline. The apprenticeship pipeline is also constrained by the **inaccessibility** of 'Original Equipment Manufacturer' (OEM) proprietary or specific information, particularly for Registered Training Organisations (RTOs). There is a need to have clearer entry routes and better retention to widen the talent pool.

Apprenticeship completion rates have improved in some key trades since 2017, like Automotive Electricians – but overall, those across Automotive Retail, Service, and Repair (AUR) apprenticeships still sit below the 2012 highs.[2] The apprenticeship ecosystem also faces **demographic**, **cultural**, and **financial** challenges. Several vocational courses are being updated for Electric Vehicles (EVs), Advanced Driver Assistance Systems (**ADAS**), and hydrogen fuel-cell vehicles. The strong growth in the sale of electric vehicles, both hybrid EVs and Battery Electric Vehicles (BEVs), means that the automotive workforce of the future will need more EV Technicians (or technicians with EV-relevant skills) and **workshops** capable of managing **end-of-life** for electric vehicle batteries. The automotive sector will play a critical role in the **circular economy**.

1 AUSMASA, "Workforce Data Dashboard", 2025.
2 NCVER, "Apprentice & trainee 4-year completion rates in AUR – DataBuilder", 2026.

About workforce planning

Workforce planning is the strategic centrepiece for AUSMASA and all JSC's. It informs all other functions by guiding the understanding of current and future workforce needs. This approach ensures that both industries and workers remain agile and responsive to changing conditions. By leveraging data, research, stakeholder input, and insights, workforce planning further helps to diagnose issues, anticipate trends, and identify opportunities for alignment and development across entire industries.

AUSMASA shares its workforce planning output in two ways:
- the annual workforce plans (now referred to as the Workforce Insights Report) and
- the monthly research bulletin.

The Bulletin, available via the Research section of the AUSMASA website, highlights key topics in the automotive and mining sectors and includes case studies, dashboards, fact sheets, and other state-of-the-industry snapshots.

Figure 1: Workforce planning cycle for Workforce Plan 2027

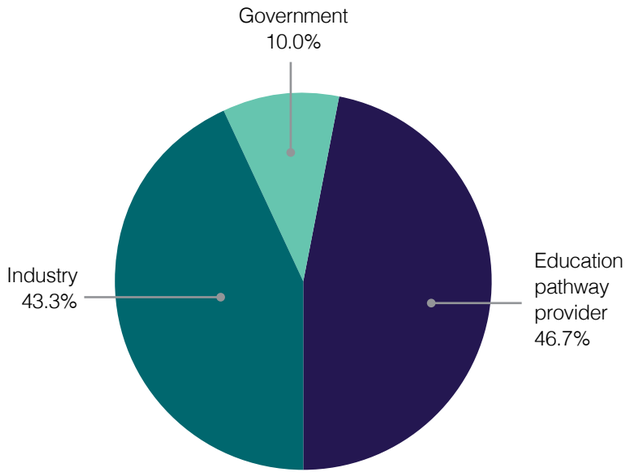
Workforce planning cycle	Intelligence gathering and research	Initial consultation	Targeted consultations	Collating, submission, publications, and launch	Implementation and monitoring
Timeline	Ongoing	Ongoing	September 2026 - February 2027	February 2027 - June 2027	Ongoing
What it involves?	• Stakeholder engagement and intelligence gathering • Ascertaining overlap with other federal/state bodies and JSCs • Establishing stakeholder needs and pain-points • Input from SWAPs to direct research and engagement • Update analysis and data dashboards	• Prepare Consultation Papers for stakeholder input • Establish key workforce challenges and industry level trends • Establish Prioritisation matrix and systematic approach to alleviating roadblocks	• 1:1s with industry stakeholders and SWAPs • 1:1s with industry stakeholders as identified by SWAPs • In-depth exploration of industry level trends and industry level challenges • Detailed mapping of workforce and appropriate pathways and solutions that align with industry needs	• Internal review for Workforce Plan • SWAP feedback on Workforce Plan • Final tweaks and design editing • Final 1:1s with SWAPs to tie off any pending action items • Submit Workforce Plan to DEWR and provide further information as needed	• Promotion, collaboration, and coordination across stakeholders to communicate Workforce Plan findings • Develop suitable industry-led solutions • Engage stakeholders to monitor the success of the development and implementation phases • Close off feedback loop and report on the success of above initiatives
Who do we talk to?	Strategic Workforce Advisory Panel (SWAP) | Employers | Individual Industry Association and Peak Bodies | Industry stakeholders | Pathway Providers (VET & Higher education)		Government | JSCs | Unions		
How do we communicate?	Meetings	Roundtables	Emails	Summits	LinkedIn Website Webinars Conferences

Our Workforce Planning and Policy team drives our data, workforce planning, policy, and research, and is part of our stewardship functions. It focuses its work on three core pillars: research, engagement, and amplification. Engagement with stakeholders to inform and direct research, and amplification to promote and activate the rigorous research that has been done. All three pillars are activated and implemented throughout the year to continuously direct and tighten the focus and impact of these functions (Figure 1).

Approach to consultation and key groups

Our 2026 workforce planning consultations spanned 4 in-person roundtables and one online roundtable across Darwin, Perth, Brisbane, and Melbourne. Across these, we undertook over 150 consultations and received over 100 written submissions. This included feedback from managers, directors, operational, and executive-level staff across training providers, government representatives, unions, industry groups, and peak bodies (Figure 2).

Figure 2: Type of stakeholders AUSMASA consulted for the Workforce Insights Report 2026



First Nations

AUSMASA is committed to advancing First Nations employment by working with industry to better understand and support the design and understanding of pre-employment and training programs tailored to First Nations communities. These programs are essential for fostering participation and success in the years ahead. AUSMASA will continue to research this space and further engage with First Nations organisations to better understand the nuances around the opportunity. We have outlined our planned First Nations consultation strategy and invite stakeholder feedback, including opportunities to collaborate (Figure 3).

Figure 3: First Nation's Consultation Plan

First Nation's Consultation Plan	Intelligence gathering	Consultation and engagement	Research	Amplification and Implementation
Timeline	Ongoing	April 2026 - Ongoing	June 2026 - Ongoing	February 2027 - Ongoing
What it involves?	• Scoping and designing engagement • Building relationships • Defining research, data, and communication protocols • Collating lists of relevant stakeholders Initiating contact	• Engage First Nations Advisory forums and advisory groups • Direct research efforts • Access and collate data sources • Engage with key stakeholders • Enable intelligence gathering channels • Enable ongoing intelligence gathering channels	• 1:1s with industry stakeholders and SWAPs • 1:1s with industry stakeholders • In-depth exploration of industry level trends and industry level challenges • Detailed mapping of workforce and appropriate pathways and solutions that align with industry needs • In-depth research and analysis	• Publish findings • Publish recommendations • Explore and coordinate implementation challenges • Amplify process improvements • Amplify system improvements • Impact tracking (including utilisation monitoring) • Coordinating intelligence
Who will we talk to?	Community led organisations | First Nations Peak Bodies | Indigenous Educators and RTOs		CoE for Indigenous Futures | Coalition of Peaks | JSA First Nations Cultural Advisory Panel	
How do we communicate?	Meetings	Roundtables	LinkedIn	Website	Webinars	Conferences
Considerations	Building trust | Engagement fatigue | Workplace barriers		Lack of data availability | Sustained engagement | Access challenges	

First Nations

First Nations people comprise 4.6% of the mining workforce, higher than the 2.6% average for all industries (Figure 4).[3] Mining consistently records higher First Nations participation than all other sectors, with sub-sectors such as Coal and Metal Ore Mining setting the benchmark at over 5% of First Nations workers (Table 1). This mainly points to the co-location of mines and the places where First Nations communities live, mostly in Queensland (QLD) and Western Australia (WA). In comparison, Automotive sits below the national average at 2%, and most First Nations workers in the Automotive industry work in the eastern states. First Nations workers are concentrated in core production roles, but they also hold notable positions in supervisory and technical roles.

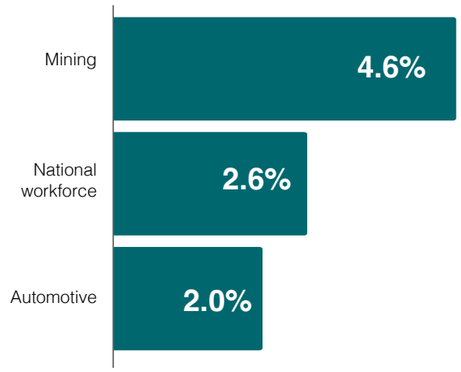
A significant proportion of First Nations workers in the mining sector is concentrated in Coal Mining and Metal Ore Mining, accounting for over 76.9% of all mining First Nations workers in these sub-sectors. Similarly, over half of all First Nations workers in the automotive sector work in repair and maintenance. At the same time, First Nations women's representation is relatively low in these sectors. First Nations women make up 27.6% of the total First Nations workforce in Oil & Gas on the mining side, and in Automotive Retail on the automotive side. There is an opportunity to improve First Nations female participation beyond these two sub-sectors.

First Nations Australians represent 12.3% of Mining apprentices and trainees, compared to the 6.1% average for all industries.[4] Across both enrolments and completions, RII consistently attracts greater numbers, largely due to the co-location factor mentioned above. First Nations enrolments in RII consisted of 7.6% of all enrolments and 9.8% of completions across 2015 to 2024. RII is structurally positioned as a stronger vocational pathway for First Nations learners (Figure(s) 5 & 6).

In contrast, the AUR and Automotive industry Manufacturing (AUM) pathways have lower participation from First Nations learners, with lower enrolments and completions, both in absolute terms and relative to non-First Nations learners, especially compared to the RII pathway. Although AUR's First Nations completions and enrolments are growing. AUM has low enrolments and completions and appears to be the least common entry pathway. AUR and RII training packages display stability in both enrolments and completions. The overall trend suggests a high level of engagement and follow-through for First Nations participants in automotive pathways, despite year-to-year variability in numbers.

The Automotive sector's relatively low First Nations participation suggests there may be structural or cultural barriers to access. There is scope to research employer recruitment and retention behaviours, apprenticeship availability and perception of trade pathways in First Nations communities. There may be an opportunity to scale growth in AUR enrolments and completions through targeted interventions, such as mentoring programs, community-based pre-training, and culturally responsive apprenticeship models.

Figure 4: Proportion of First Nations workforce by industry, 2021



Source: ABS Table Builder 2021 Census—employment, income, and education.
Note: The proportion of the Automotive industry has been calculated by averaging the 3-digit ANZSIC groups covering the industry.

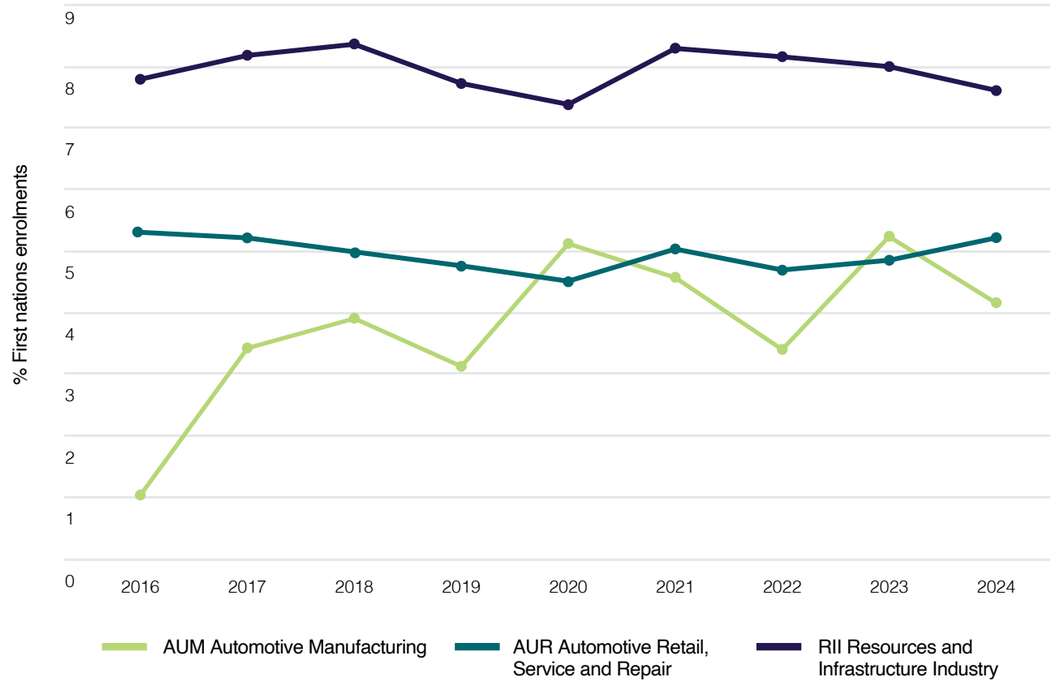
Table 1: Percentage of First Nations employees by sub-industry, 2021

Sub-industry	First Nations percentage of total workforce	Female proportion of First Nations workforce
Coal Mining	5.5%	20.9%
Oil and Gas Extraction	3.2%	27.6%
Metal Ore Mining	5.2%	23.2%
Non-Metallic Mineral Mining and Quarrying	3.8%	16.4%
Exploration and Other Mining Support Services	2.6%	16.5%
Mining total	**4.6%**	**21.8%**
Automotive Repair and Maintenance	2.3%	12.4%
Motor Vehicle Parts and Tyre Retailing	2.3%	29.7%
Motor Vehicle Retailing	1.6%	27.4%
Motor Vehicle and Motor Vehicle Parts Wholesaling	1.5%	16.2%
Motor Vehicle and Motor Vehicle Part Manufacturing	1.4%	11.5%
Automotive total	2.0%	16.8%
National workforce	**2.6%**	—

Source: Australian Bureau of Statistics, 2021 Census; Indigenous Employment by Industry, 2023.

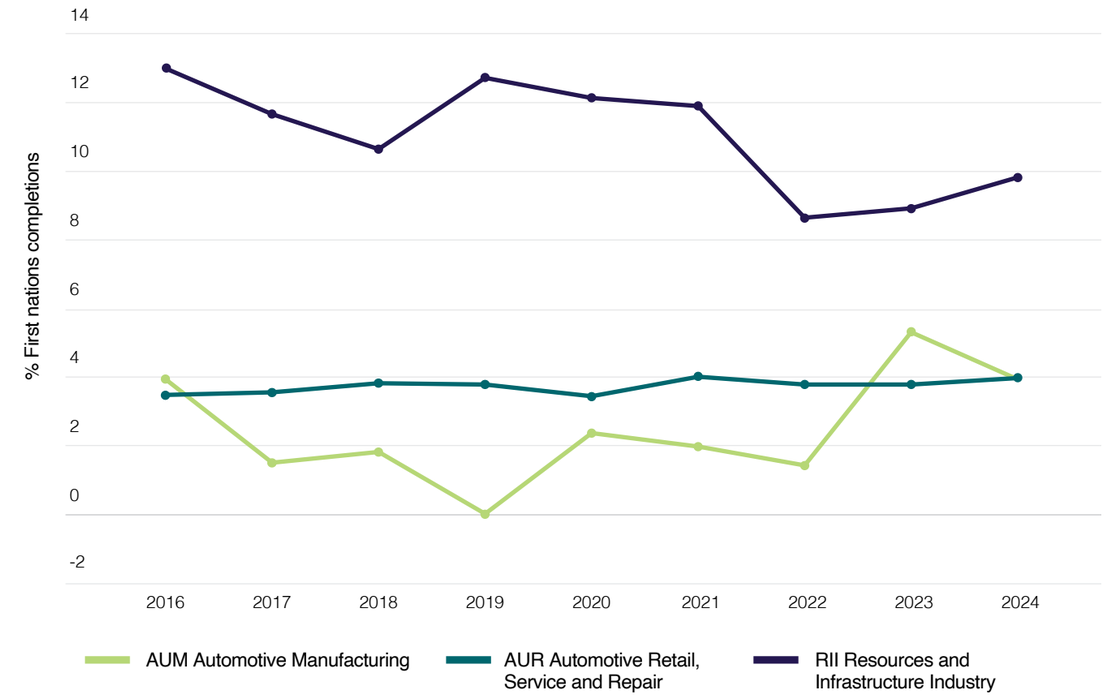
[3] Australian Bureau of Statistics, "2021 Census - DataBuilder - Indigenous Employment by Industry", 2023.
[4] NNCVER, Apprentices and trainees 2023 - March quarter DataBuilder, Contract status, Employer industry 2-digit by Indigenous status, 2023..

Figure 5: Percentage of First Nations students enrolments for RII, AUR and AUM, 2016–2024



Source: NCVER VOCSTATS, "TVA program enrolments 2015-2024", 2025.

Figure 6: Percentage of First Nations students Completions for RII, AUR and AUM, 2016–2024



Source: NCVER VOCSTATS, "TVA program completions 2015-2024", 2025.

Key trends in the Automotive industry

Australia's Automotive industry is undergoing rapid change as electrification, digitalisation, and new policy settings reshape both the vehicle market and the workforce. Growth in plug-in hybrid and electric vehicle adoption, supported by initiatives such as the National Vehicle Efficiency Standard (NVES) and targeted investment, signals a gradual shift away from traditional petrol vehicles. The war in Iran and the resulting supply-side inflationary shocks have increased interest in EVs among households and businesses.[5]

Advances in autonomous systems, advanced driver-assistance technologies, and connected vehicles are transforming how vehicles are serviced, repaired, and maintained. These developments are occurring alongside longstanding workforce challenges, including skills shortages, lower apprenticeship completion rates in AUR since 2012 (despite upwards trends since 2017), and limited trainer capacity. The transition to electrified and software-enabled vehicles is increasing demand for digital, diagnostic, and high-voltage capabilities, while training and licensing systems must adapt to remain practical and risk-proportionate.

The Automotive industry also faces challenges related to low Recognition of Prior Learning's (RPL) and the inability to accurately track and identify the industry due to the lack of an Automotive ANZSIC identifier. Without a clear statistical boundary around the industry, it is difficult to measure employment, productivity, skills shortages, or training outcomes with precision. Together, these structural limitations reduce visibility of the industry's true economic footprint and hinder evidence-based workforce planning.

Electrification is reshaping Australia's automotive workforce

Tags: decarbonisation, electrification, technological advancement, and battery innovation

With NVES taking effect from 2025, Plug-in Hybrid Electric Vehicles (PHEVs) entered a period of outsized growth, as PHEVs sales rose by over 170.5% in the year to January 2026, with hybrid vehicles accounting for 17.4% of all sales.[6] New zero-emission buses (ZEBs) accounted for 18% of sales in 2025.[7] As Electric Vehicle (EV) sales remained stable at around half of this level, the market is clearly making some initial moves away from petrol-only vehicles.[8] At the same time, the Government's National Reconstruction Fund Corporation (NRFC) has made its first automotive investment of $30.7 m, in a Melbourne manufacturer of autonomous electric vehicles used in mining and logistics.[9] An investment likely to have a positive impact on driver shortages, but will compete with existing businesses in the skills space.

There is a critical shortage of electrical skills in the Automotive industry, with fill rates sitting at 41% for EV technicians, despite the current Australian "carpark" consisting of less than 1% EVs (Figure A1). By 2050, Australia will need between 6,500 and 10,500 EV technicians (or Automotive Technicians with the relevant electrical skills) (Figure A2).

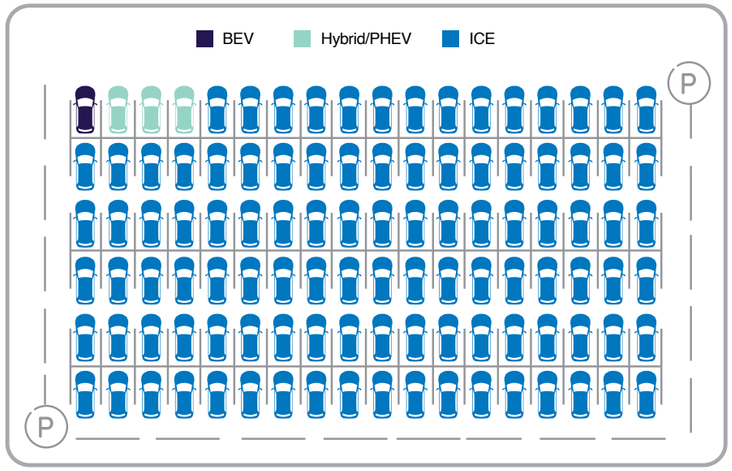
Structural pressures within the vocational education and training system, including training mismatches and barriers to RPL, further constrain workforce supply across both electrical and broader and more acute skills shortages faced by the industry.

This highlights the importance and implications for:

- **government:** aligning skills policy with emissions reduction and transport policy
- **industry:** planning workforce capability ahead of EV adoption growth
- **pathway providers:** map and enable pathways to enable circular function in the battery repurposing space.

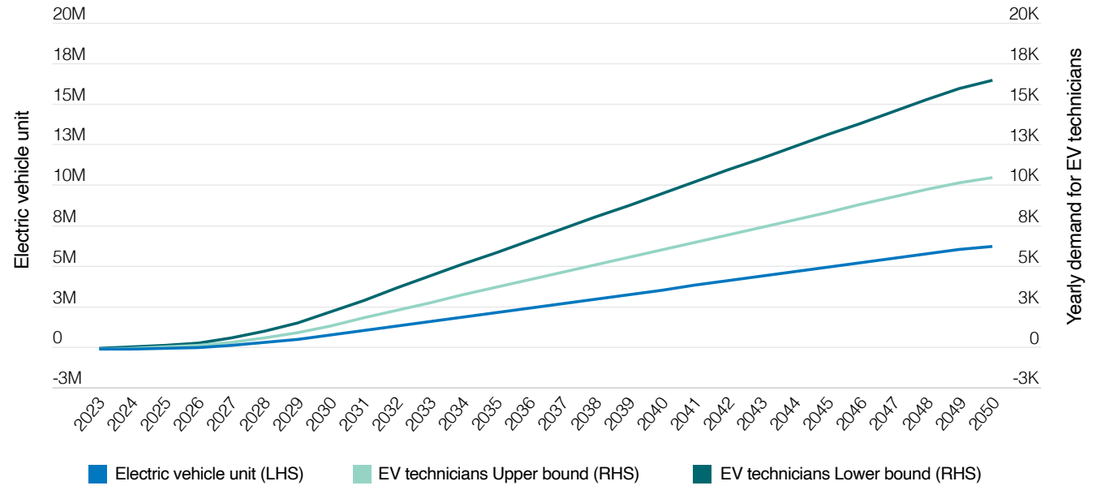
5 National Australia Bank, "EV interest surges 100% as fuel pressures bite Australians", 2026.
6 FCAI, "New vehicle sales steady in January 2026", 2026.
7 Bus Industry Confederation, "Meet in the middle of the ZEB transition", 2025.
8 FCAI, "New vehicle sales steady in January 2026", 2026.
9 NRF, "National Reconstruction Fund's first transport investment supports energy transition", 2026.

Figure A1: Australian carpark as of 31 January 2024



Source: Australian Automobile Association, "Electric Vehicle Index", 2025.

Figure A2: Projected EV Technicians demand by 2050



Source: AUSMASA, "BEV electrical licensing: Getting safety, skills and productivity right", 2026.

Technological advancements in the electrification space mean licensing can be a skills bottleneck or a productivity enabler

Tags: electrification, technological advancement, net zero, and safety

Technological advancements like ADAS and the adoption of EVs are reshaping the industry. Presenting a range of challenges, including insufficient EV infrastructure, varied licensing frameworks and limited training pathways.[10] For example, the Certificate III in Automotive Electric Vehicle Technology had 147 (mostly) new enrolments in 2024,[11] despite far higher and record EV sales at the time.[12] By 2050, Australia will need between 6,500 and 10,500 EV technicians (or Automotive Technicians with the relevant electrical skills) (Figure A2).

The lack of standardised EV training and recognition has created barriers to EV adoption and licensing, as jurisdictions have pursued and repeatedly reconsidered the role(s) of licensing, disrupting the industry.[13] Licensing is a complicated matter, given that an automotive technician can perform a large majority of repair and service tasks on an EV without coming into contact with high-voltage components; a blanket licence may not work in the industry. Any licensing conversation needs to be risk-proportionate, task-based, and evidence-led, because unintended workforce constraints may arise. Keeping this complexity in mind, AUSMASA has considered licensing design principles (Table A1).[14] Licensing may also disproportionately disadvantage smaller workshops, where technicians often perform a broad range of tasks and roles are less specialised. In contrast, larger workshops may be better placed to allocate EV-related work across dedicated roles or technician streams, making compliance with licensing requirements easier to manage.

Table A1: Licensing design principles

Licensing Design Principle	Statement
Evidence-based regulation	Licensing arrangements for EV technicians should be grounded in empirical safety evidence and real-world risk, rather than assumed electrical hazards.
Risk-proportionate controls	Regulatory controls should be applied in proportion to risk, with higher requirements limited to genuinely high-risk activities such as high-voltage battery work.
Task-based approach	Licensing should be applied at the task or activity level rather than imposed across entire automotive occupations.
Workforce and productivity protection	Licensing frameworks should avoid creating labour supply constraints, productivitybarriers, or cost pressures that could slow EV uptake or restrict repair capacity.
Pathway continuity	EV licensing should build on existing automotive trade qualifications and apprenticeships, supporting transition pathways rather than displacing establishedskills.
Industry-informed design	Licensing settings should be developed in consultation with OEMs, repairers, andindustry to reflect contemporary EV design and workshop practices.
Adaptive and future-ready frameworks	Licensing arrangements should be flexible and capable of evolving alongsidetechnological change and the EV battery life cycle.

Source: AUSMASA, "BEV electrical licensing: Getting safety, skills and productivity right", 2026.

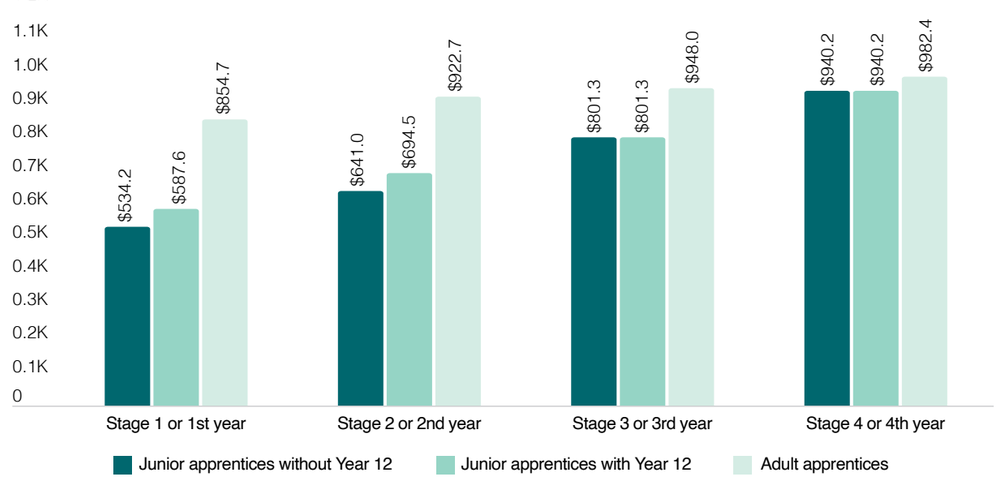
10 AUSMASA, "On the road to electrification", 2025.
11 NCVER, "Total VET program enrolments 2015–2024", 2024.
12 AUSMASA, "The changing automotive landscape", 2025.
13 AUSMASA, "On the road to electrification", 2025.
14 AUSMASA, "The nuances of being an EV technician", 2025.

Table A2: Automotive occupation shortages, 2024

Occupation	Regional fill rate (%)	Metro fill rate (%)
Apprentice Mechanic / Technician	100%	46%
Tyre Fitter	50%	34%
Motor Vehicle Parts and Accessories Fitter (General)	46%	32%
Car Detailer	57%	57%
Vehicle Painter	29%	31%
Materials Recycler (Automotive Dismantler)	25%	28%
Motorcycle Mechanic / Technician	20%	25%
Motor Mechanic / Technician (General)	33%	40%
Diesel Motor Mechanic / Technician	22%	30%
Automotive Industry Average	33%	41%
Motor Vehicle Parts Interpreter / Automotive Parts Salesperson	50%	59%
Office Support Workers	33%	43%
Sales Representative (Motor Vehicle Parts and Accessories)	41%	55%
Panelbeater	16%	30%
Motor Vehicle or Caravan Salesperson	57%	77%
Vehicle Body Builder	9%	50%
Tow Truck Driver	20%	50%
Automotive Electrician	14%	46%
Electric Vehicle Mechanic / Technician	0%	43%
Customer Service Manager	25%	89%

Source: Deloitte, Regional and metropolitan fill rates by occupation, "Skills Shortages in the Australian Automotive industry," 2024. Note: RS: Regional Shortage; S: Shortage; NS: Not in shortage.

Figure A3: Automotive apprentice wage rates and progression, Vehicle Repair, Services and Retail Award, 2020



Source: AUSMASA, "Skills pipeline and the apprenticeship ecosystem", 2026.

This highlights the importance and implications for:

- **government:** ensuring licensing discussions are nationally consistent and risk-proportionate
- **industry:** engaging in policy discussions to ensure licensing frameworks reflect real workplace tasks
- **government:** avoiding regulatory settings that unintentionally constrain workforce supply.

There is a growing need for digital and electrical skills

Tags: digitalisation, productivity, education pathways or upkeep, and industry 4.0

In the Automotive industry, technological change is making digital capability increasingly important. As EVs, ADAS and other software-enabled vehicle systems become more common, Automotive Technicians, Autoglaziers and Panelbeaters need the skills to work with vehicle software, data and diagnostic tools. These capabilities are increasingly necessary to service, repair, and maintain modern vehicles, including undertaking precise calibration and validation processes, where required.[15] Such skills enable them to service, repair, and maintain modern vehicles, which typically require precise (re)calibration when serviced and,[16] importantly, immediately after accidents and subsequent repairs.[17] However, digital literacy gaps are believed to pose issues for occupations such as Panelbeater (Automotive Body Repair Technician), alongside some mid-career and mature-aged workers, warranting further research to clarify roles, tasks, and risks.[18] Gaps that need to be addressed to ensure ongoing work and enable productivity outcomes.[19]

The digitisation of the automotive workplace has outpaced the current training architecture. Diagnostic scan tools, OEM software platforms, digital multimeters, oscilloscopes, tablet-based service information systems, workshop management software, telematics platforms, and thermal imaging tools are now standard in modern workshops. Employers increasingly expect entry-level technicians to arrive with baseline competency in these tools as a workplace fundamental, not a specialist skill. However, digital diagnostic capability is fragmented across multiple elective units in the AUR training package, resulting in inconsistent skill development across the workforce.

This highlights the importance and implications for:

- **government:** supporting digital skills programs
- **industry:** supporting continuous learning to keep pace with rapidly changing technologies
- **pathway providers:** coordinating technological solutions in training and assessment with industry.

Critical skills are in short supply, particularly acute in the regions

Tags: regional workforce, management or supervision upskill, and productivity

Australia's automotive workforce is also changing and facing supply challenges linked with Vocational Education and Training (VET). A key issue has been an acute skills shortage, with shortfalls of nearly 28,000 skilled technicians and 14,000 apprentice vacancies as of 2024.[20] Such shortages are exacerbated by key demographic trends, such as completion rates that have declined more in AUR, since 2012, amongst adult-aged and mid-career apprentices.[21] Aspects of award-based pay and workplace challenges, such as workplace culture and a lack of mentoring, have also been identified as potential factors that negatively impact apprenticeship retention and completion (Figure A3).[22] At the same time, training mismatches, such as elective-heavy qualifications and differences between manufacturer credentials and VET credentials, can further limit apprentices' post-completion employability and future mobility.[23] Improvements in RPL, Recognition of Current Competency (RCC), mentoring programs, coaching, and targeted career development are showing some early promise.

This highlights the importance and implications for:

- **government:** supporting regional workforce development initiatives
- **industry:** improving mentoring, career development, and workplace practices to retain apprentices
- **pathway providers:** working with industry to improve apprenticeship completion rates
- **research:** explore alternative payment systems that represent ongoing skills acquisition post-qualification to shed light on retention and attraction trends.

15 AUSMASA, "The changing automotive landscape", 2025.
16 AUSMASA, "The changing automotive landscape", 2025.
17 AUSMASA, "Industry Workforce Plan: Moving ahead together", 2024.
18 AUSMASA, "The changing automotive landscape", 2025.
19 AUSMASA, "The changing automotive landscape", 2025.
20 Australian Automotive Aftermarket Association, "Strong Growth Ahead for Aftermarket Industry", 2024.
21 NCVER, "Apprentice & trainee 4-year completion rates in AUR – DataBuilder", 2026.
22 NCVER, "Issues in Apprenticeships and Traineeships -a Research Synthesis", 2021 Data used in AUSMASA, "Skills pipeline and the apprenticeship ecosystem", 2026.
23 AUSMASA, "Skills pipeline and the apprenticeship ecosystem", 2026.

Preparing the workforce of the future – apprenticeships, training, assessment, and the Right to Repair Scheme and TAE shortages

Tags: education pathways, training product maintenance or upkeep, and technological advancement

To deliver training and assessment without direction, including making assessment judgements, the person must hold one of the following credentials:

- TAE40122 Certificate IV in Training and Assessment or its successor,
- TAE40116 Certificate IV in Training and Assessment,
- TAE40110 Certificate IV in Training and Assessment,
- A diploma or higher-level qualification in adult education or vocational education and training.

In addition, they must also have a relevant qualification and maintain current industry skills and knowledge, which is regularly verified to demonstrate industry currency.[24] This poses challenges for technological advancements in EVs, ADAS and other automated systems, as trainers often shift into teaching after long careers spent working on different types of technology.[25] At the same time, RTOs face challenges in training and assessment due to the costs of OEM information and tools under the Right to Repair Scheme.[26] Licensing agreements can be restrictive, particularly for non-profit educational users, and RTOs cannot transfer licenses if a teacher retires or leaves.[27] Even when an RTO helps its trainers secure broad-based access through the Scheme, this can require them to navigate multiple OEM portals and manage short-term subscriptions, which is time-consuming and burdensome.[28] Complicated by a critical shortage in TAEs. AUSMASA has made recommendations to address this, including offering more affordable licensing options for RTOs, and continues to call for streamlining this process and reducing compliance burdens for industry.[29]

It is important to note that the Australian apprenticeship model allows individuals to train/learn and earn at the same time, compared to an average university degree, where they are unlikely to earn as they learn. However, there are still financial constraints that may constrict the apprenticeship supply pipeline.[30] Apprentices who start an apprenticeship one day before their 21st birthday will, by default, earn below the adult rate for their entire apprenticeship.[31] This may act as a major disincentive for the younger cohort, delaying their entry into apprenticeships and constricting the skills supply pipeline.

Cost-of-living pressures may also reduce apprenticeship uptake by making early-stage training wages harder to live on, especially for those who are not living at home or pursuing a mid-career change, potentially delaying commencements and constricting supply.

This highlights the importance and implications for:

- **government:** addressing apprenticeship wage structures and training incentives
- **industry:** improving access to OEM tools and training resources
- **industry:** enabling training and assessment collaboration with pathway providers to help mitigate TAE shortages by supporting secondment-type arrangements
- **government:** reducing administrative burdens under the Right to Repair Scheme for training providers.

24 AUSMASA, "Review of AURVTN120 Remove and replace major welded panels on vehicles", 2025. Stakeholder Feedback collected from the Consultation Stage.
25 AUSMASA, "Can RPL solve skills shortages", 2025.
26 AUSMASA, "Providing access to OEM information for the Right to Repair", 2025.
27 AUSMASA, "Providing access to OEM information for the Right to Repair", 2025.
28 AUSMASA, "Providing access to OEM information for the Right to Repair", 2025.
29 AUSMASA, "Providing access to OEM information for the Right to Repair", 2025.
30 NCVER, "Issues in Apprenticeships and Traineeships -a Research Synthesis", 2021.
31 AUSMASA, "Skills pipeline and the apprenticeship ecosystem", 2026.

RPL has untapped potential

Tags: management or supervision upskill, gender equity, RPL, and productivity

Skills shortages are a persistent concern for the Automotive industry. In 2023, 35% of 26 key Automotive occupations were in shortage.[32] Since the beginning of the pandemic, vacancy levels in automotive occupations have increased more than the national average, making it harder for automotive businesses to find skilled staff and apprentices (Table A2).[33]

There is the potential to unlock latent workforce supply and mitigate skills shortages in the Automotive industry through RPL. RPL can assist experienced, semi-skilled, and/or mature-age workers who are not formally (or fully) qualified to gain a full, nationally recognised qualification.[34] This can be particularly useful for industries facing shortages of skilled tradespeople, where a pool of 'latent supply' of potential workers exists but lacks up-to-date skills and/or qualifications. This includes:[35]

- female workers who might have temporarily exited the workforce for caring or childcare responsibilities and are looking to return to work
- people who might have gained skills or experience informally or on the job, and are looking to build on those skills by upskilling, and avoid duplication of training
- those with relevant prior skills, such as migrants with overseas experience, or someone with years of hands-on work experience.

However, there are significant challenges in implementing RPL, including cost, quality assurance, transparency, and the lack of national standardisation, with differences apparent at the provider level. Realising the potential of RPL will require a dedicated, coordinated effort across various government, industry, and pathway-provider stakeholders.

This highlights the importance and implications for:

- **government:** supporting scaling and standardising RPL application
- **pathway providers:** collaborating with government and industry stakeholders to enable the above.

Accurately measuring and reporting data on the Australian industry is challenging

No separate category for the Australian Automotive industry exists under the ANZSIC system. Instead, it is split across the manufacturing, wholesale, retail, and other services divisions, across varying levels of aggregation. This results in inconsistent reporting and tracking. AUSMASA has recommended to the Australian Bureau of Statistics (ABS) that a separate classification be created for the Automotive industry.

This separation would enhance the clarity and improve the accuracy of industry classification for Automotive-related activities. Thus, enabling more accurate economic and econometric analysis on this industry classification.

This highlights the importance and implications for:

- **government:** updating industry classifications to enable accurate labour market analysis.

The lack of visibility on career pathways obstructs skills supply

Tags: education pathways, management or supervision upskill, gender equity

Limited visibility of career pathways constrains the effective supply of skills in the labour market. When individuals lack clear, accessible information about available roles, required competencies, and progression routes, it is harder for them to make informed decisions about education, training, and career transitions. Research has also shown that female cohorts are disproportionately affected by information asymmetry. Current career pathway resources compound this challenge. Many existing maps are outdated and fail to incorporate emerging occupations in electric and autonomous vehicles, such as battery technicians, sensor calibration specialists, robotics technicians, and automotive cybersecurity roles. However, among career starters, 44% are keen to learn about EVs, and 43% are keen to learn about advanced technologies.[36] Existing resources are also largely designed for students and entry-level workers, offering minimal guidance for mid-career adults transitioning from related industries. As a result, individuals must piece together fragmented information from OEM programs, TAFE and RTO providers, government agencies, and vocational certification frameworks to understand their options.

Our upcoming career pathways project will address these gaps by developing a comprehensive, integrated map of career pathways that reflect real industry structures. This can help reduce skills mismatches and build a more resilient, future-ready workforce system by better aligning career expectations and improving visibility.

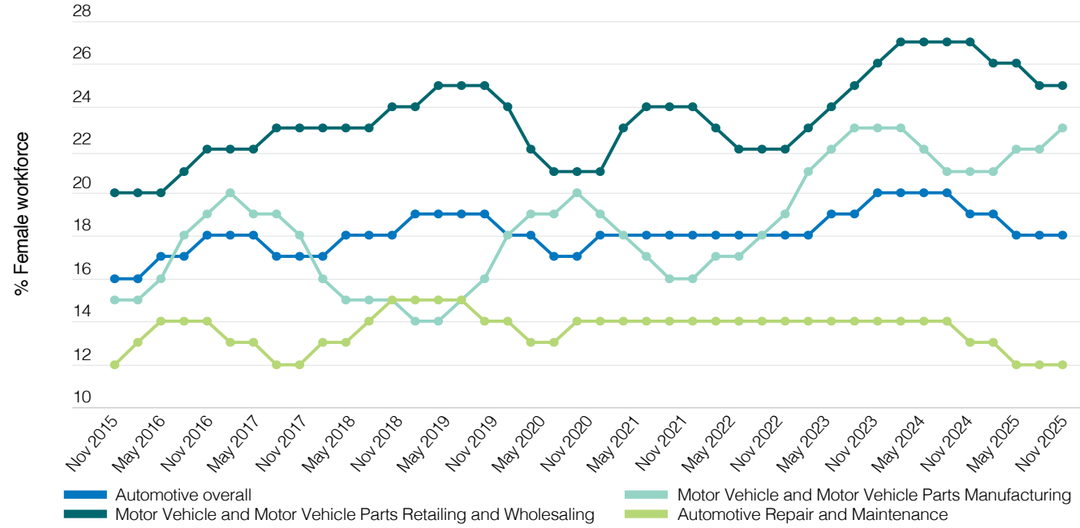
32 Deloitte, "Skills Shortages in the Australian Automotive industry", 2024. Cited in AUSMASA, "Can RPL solve skills shortages", 2025.
33 Capricorn, "State of the Nation" ,2025. Cited in AUSMASA, "Can RPL solve skills shortages", 2025.
34 NCVER, "Adult Trade Apprentices: Exploring the Significance of Recognition of Prior Learning and Skill Sets for Earlier Completion", 2015. Cited in AUSMASA, "Can RPL solve skills shortages", 2025.
35 AUSMASA, "Can RPL solve skills shortages", 2025.
36 AUSMASA, "Perceptions of Automotive Careers", 2025.

Gender representation in the Automotive industry

Overall, the Automotive industry's gender ratio has remained relatively stable, with some notable spikes in male representation during May 2018 and August 2020 (Figure A4). Since May 2022, the industry has gradually shifted back towards a lower, more sustained gender balance, as the ratio has decreased and now stands closer to 4:1. Yet, despite this progress, the Automotive industry remains predominantly male, with more pronounced disparities in some key occupations. Female workers were concentrated in the 35–44 age range, while men were more evenly distributed across the 25–34, 35–44, and 45–54 age ranges. Suggesting that men tend to remain in the industry for longer, potentially shifting into business ownership.[37] While women face gendered issues like unpaid caring and domestic responsibilities at certain ages, and in general.[38]

Motor Mechanics comprise the industry's largest occupation, with sizable gender disparity: 81,800 males compared to 2,700 females. Other occupations, like Metal Fitters, Machinists, and Motor Vehicle and Vehicle Parts Salespeople, also showed a large male majority. On the other hand, the more general occupation of Keyboard Operators has had a large share of female workers, with 1,700 women and 300 males, reinforcing gendered issues and women's long association with administrative and support roles.

Figure A4: Proportion of female workforce, 2015–2025



Source: ABS, Labour Force, Australia, Detailed, November 2025; Trended by AUSMASA.

Sector-level trends

- In the **Automotive Manufacturing**, the percentage of female workers has gradually increased over the last decade, as it recovered from the end of large-scale passenger car manufacturing. With a baseline of 15.1% in 2015, the proportion of female workers steadily rose to 23.3% by 2025. This could also be noteworthy for the industry, as women's completions of AUM qualifications have never exceeded more than 7 each year[39] – which is unlikely to be sufficient to fulfil increased private and public sector investments, like $30.7 m of equity recently provided to a Melbourne EV manufacturer through the Government's National Reconstruction Fund.[40]
- The **Automotive Wholesale and Retail** has also had a consistently high share of female workers, a key factor in the industry's overall gender balance. From the industry's highest starting baseline of 19.9% in 2015, the sector's share of female workers steadily increased over the last decade to a series high of 27.4% by August 2024 and then dropping to 25.1% by end of 2025. This is also important, as it indicates that women are keen to take on roles like Motor Mechanics when available, which have accounted for the second-largest occupation in the sector and have seen almost 400 completions by female students throughout 2024.[41]
- However, the **Automotive Repair and Maintenance** has shown minimal change in female representation over the last 10 years. With a baseline of 12.1% in 2015, its share of female workers has fluctuated by 1 percentage point per year, reaching a peak of 15.1% in 2018 and 2019, but subsequently declining to around 14% for several years and then further decline to 11.6% by end of 2025. This shows that the Repair and Maintenance sector remains heavily male-dominated.[42]

37 AUSMASA, "Gender Representation", 2025.
38 Chief Executive Women, "Addressing Australia's Critical Skill Shortages: Unlocking Women's Economic Participation", 2022.
39 NCVER, "Total VET program completions 2015–2024", 2024.
40 National Reconstruction Fund Corporation, "National Reconstruction Fund's first transport investment supports energy transition with $30.7 million equity stake in Applied Electric Vehicles", 2026.
41 NCVER, "Total VET program completions 2015–2024", 2024.
42 AUSMASA, "Gender Representation Dashboard", 2026.

The way forward

This section highlights opportunities for stakeholders to advance outcomes for the industries in our remit. These are based on opportunities identified through our research. These opportunities are not owned by any single organisation; they require coordinated action across industry, education, and government. We welcome opportunities to collaborate and coordinate. This is only a sample; our whole library is available through our research publications.

Automotive	Priority Type		
Industry	**Core**	**Emerging**	**Risk-associated**
Electric Transition:			
Partner with RTOs, OEMs, or independent providers to improve consistency and quality of training delivery, especially for EVs		✓	
Assess long-term reliability and safety of BEVs in mining environments, including shocks, vibrations, and extreme temperatures.		✓	✓
Develop methods to support the efficient and safe recycling/repurposing of end-of-life batteries from mining BEVs.		✓	✓
Workforce Strategy:			
Strengthen supervision and mentoring to improve early-stage apprentice retention; invest in mentoring programs to build a positive work culture.	✓		
Build a diverse workforce, increasing participation from women, First Nations people, young people, and other underrepresented groups.	✓		
Consider pathways to enable capacity building for existing workforce.	✓		
Government			
RPL modernisation and consistency:			
Create a national standard for recognised prior learning (RPL) to improve clarity and consistency.	✓		
Encourage AI-supported, low-resource RPL processes.	✓		
Align incentives through policy:			
Engage stakeholders on the need for restricted electrical licences for automotive and mobile plant technicians.		✓	✓
Review and update the Priority List and Apprenticeship Incentive System to improve fairness and effectiveness for both apprentices and employers.	✓	✓	
Reassess existing support payment structures to improve equity between junior and adult apprentices.	✓	✓	
Support training delivery:			
Address training and business barriers for small, medium, and remote employers.	✓		
Support regional training delivery to enhance accessibility.	✓		
Research Priorities			
Electrification and Safety Skills:			
Investigate skills requirements for high-voltage isolation, hydrogen safety, and battery systems across vehicles and mobile machinery.		✓	✓
Explore training tools that improve understanding of BEV hazards, battery risks, and fire safety.	✓		✓
Analyse alignment between AUR and UEE qualifications, particularly relating to electrification and pathways for isolation/depowering skills.			✓
Career Pathways:			
Conduct research to map career pathways within and beyond the automotive sector to better understand workforce supply and demand pressures.	✓		
Map the evolution of automotive trades, identifying convergence of roles and emerging job functions.		✓	
Map EV technician pathways across AQF and accredited/non-accredited training.		✓	
Investigate early education pathways supporting structured automotive career awareness.	✓		
Investigate opportunities to scale mid-career apprenticeships, including entry and pay structures.	✓		
Understand regional supply/demand dynamics to strengthen workforce readiness.	✓		
Training Modernisation:			
Conduct training product gap analyses to determine whether current qualifications are outdated.	✓		✓
Assess emerging technologies such as 3D printing, AI, and composites for integration into training programs.		✓	
Evaluate training package structures and the delivery of missing units, especially for smaller RTOs.	✓	✓	
Workforce Structure, Supply & Demographics:			
Examine VET trainer shortages, particularly those with EV expertise.	✓		
Study workforce demographics, including ageing and regional retention challenges.	✓		
Conduct research to evaluate succession planning effectiveness in the automotive workforce.	✓	✓	
Pathways			
Workforce inclusion:			
Promote lifelong learning aligned with future skills needs, including digital and Information and Communication Technology (ICT) capabilities for EVs and ADAS-related software.	✓		
Training-industry alignment:			
Align upskilling pathways to new technologies through modular and flexible learning options.	✓	✓	
Develop flexible, stackable training including modular pathways and AI-supported recognition pathways.		✓	

Data methodology

Explanatory notes to workforce demographic and occupational insights

AUSMASA's workforce analysis is based on the 2 key government classification systems: ANZSIC and ANZSCO.

- ANZSIC (Australian and New Zealand Standard Industrial Classification) classifies businesses into industry sectors based on their primary activities.
- ANZSCO (Australian and New Zealand Standard Classification of Occupations) categories all occupations and jobs using the skill-based classification.[43]

Trending methodology for employment data

The total workforce numbers are calculated by aggregating the workforce numbers of ANZSIC 3-digit groups from the Australian Bureau Statistics' (ABS) quarterly Labour Force Survey (LFS). The workforce numbers have been seasonally adjusted using the 13-term Henderson filter moving averages.

Defining the State of Industry

Sub-industries within the State of Industry section are classified using ANZSIC and, ANZSCO. In cases where these frameworks do not fully capture the characteristics of specific industries, additional economic activity indicators are applied to ensure appropriate classification.

The table below outlines the scope and definitions of each industry included in the analysis.

State of Industry sub-section	Scope
Mining	ANZSIC - Main Division B Mining
Coal Mining	ANZSIC – Subdivision 06 Coal Mining
Oil and Gas Extraction	ANZSIC – Subdivision 07 Oil and Gas Extraction
Metal Ore Mining	ANZSIC – Subdivision 08 Metal Ore Mining
Quarrying	ANZSIC – Subdivision 09 Non-Metallic Mineral Mining and Quarrying
Exploration and Other Mining Support Services	ANZSIC – Subdivision 10 Exploration and Other Mining Support Services
Drilling	There is no dedicated ANZSIC classification for the drilling sector. Employment estimates therefore draw on relevant occupations (712211 Drillers, 821912 Drillers Assistants, and Drillers, Miners, and Shot Firers not further defined under ANZSCO), as well as support workers associated with active rigs.[44]
METS	There is no dedicated ANZSIC classification for the METS sector. Our approach to defining the METS sector uses ABS Input–Output (IO) tables to track sub-industry inputs and outputs, identifying industries associated with METS. Employment is estimated by applying relevant proportions (e.g. 95% for Exploration and Mining Support Services in FY23) to workforce data in each IO category. As individuals may work across multiple industries, these figures represent an upper bound of the workforce, reflecting roles rather than distinct workers. ABS data are available for FY13 and FY19 to FY23. FY13 is used as a baseline to assess long-term and recent trends. FTE roles are calculated as full-time plus 50% of part-time roles, with trends largely driven by full-time employment.
Automotive	ANZSIC Subdivision 35, 39, Group 231, and 941
Automotive Manufacturing	ANZSIC – Group 231 Motor Vehicle and Motor Vehicle Part Manufacturing
Automotive Wholesale and Retail	ANZSIC – Subdivision 35 Motor Vehicle and Motor Vehicle Parts Wholesaling, 39 Motor Vehicle and Motor Vehicle Parts Retailing
Automotive Repair and Maintenance	ANZSIC – Group 941 Automotive Repair and Maintenance
Heavy Automotive	There is no dedicated ANZSIC classification for the Heavy Automotive sector. Instead, it spans relevant occupations across manufacturing, repair and maintenance, and transport. Employment figures presented in this section are based on the HVIA's estimates.[45]
Collision Repair	There is no dedicated ANZSIC classification for the Collision Repair sec-tor. Employment numbers are based on Australasian Paint & Panel's estimates. The collision rates shown are calculated per 10,000 residents to allow comparison between states and territories of different population sizes.
Marine	There is no dedicated ANZSIC classification for the Marine sector. Em-ployment estimates of the key occupations Boat Builder and Repairer (399111), Shipwright (399112), Marine Surveyors (231215), Marine Transport Professionals (231299), Ship's Engineer (231212), Vehicle Body Builder (324211), Vehicle Trimmer (324212), Motor Mechanic (General) (321211) are based on ABS Census 2021 data. As the Marine Automotive industry intersects with other industries, including marine, automotive, and fishing sectors, we are unable to identify the exact employment numbers within the Marine Automotive industry. Our remit is limited to the Automotive aspects of the industry.
Bicycles	There is no dedicated ANZSIC classification for the Bicycles sector. Employment numbers are based on the ABS Census 2021 figure for Bicycle Mechanics.

43 We will work with ABS to transition our occupation classification references to OSCA as OSCA becomes more widely adopted and integrated to other ABS products. Please find more information on OSCA as it relates to AUSMASA here: OSCA Update | Mining and Automotive Skills Alliance (https://ausmasa.org.au/news-and-events/osca-update/)

44 ADIA, "Economic Impact of Drilling in Australia", 2025.

45 HVIA, "Industry At A Glance", 2026.

Mining and Automotive
Skills Alliance