Pearson



For Every Future: Australia Spotlight

Preparing Australia's Skilled Workforce for an AI-Infused Future

Building on our global ***For Every Future*** report, this spotlight explores how AI could reshape skilled trade, technical, and service work in Australia, and what this means for early-career workers.

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A broader lens on AI: Examining Australia's frontline workforce

As AI works its way into the economic mainstream, much of the public dialogue has concentrated on AI's impact on white-collar jobs: not just software engineers and tech workers, but also knowledge workers, professional services providers, administrative personnel, and more. And as people consider how AI is reshaping work, the skilled trades and service occupations are increasingly part of the conversation.

Within that conversation, there's a popular admonition to "skip the university degree and learn a trade." This ignores the fact that a whole swath of occupations—the jobs historically referred to as blue- or grey- collar—are also being reconfigured by AI. At the same time, as populations worldwide age and shrink, demand is growing for these occupations, which encompass everything from mechanics and technicians to health care assistants and law enforcement personnel.

Pearson's For Every Future global report analyses workforce impacts, challenges, and needs in the AI era, focusing specifically on entry-level workers who are just starting out. The report is designed to help employers, educators, policymakers, and industry associations work together to create pathways for skilled work in the AI era.

The impacts and the institutional response will vary by region, based on local demographics, jobs in demand, workforce readiness, and public policy, as well as public perception.

This spotlight, one of several regional reports, explores how AI is predicted to reshape Australia's skilled trade, technical, and service workforce and the implications for employers, educators, policymakers, and early-career workers.



"Organisations need to determine how to integrate AI into early-career skilled jobs, and how to adapt training and education programs."

Taha Haidermota,
Australia Country Head at Pearson.

Our analysis

Some 13.6 million Australians now use AI tools in their daily lives, according to Jobs and Skills Australia's newly released report, *Jobs and Skills 2026*.

Adoption among 25–49–year-olds exceeds 70%-a promising finding, given AI's rapid adoption across industries and the fact that AI is reshaping work far beyond white-collar occupations.

Pearson's analysis reveals projected AI exposure throughout some of Australia's most familiar frontline occupations. From childcare workers and electricians to nursing assistants and mechanics, our analysis indicates how tasks and skills in trade, technical, and service occupations could change by 2036. The use of AI in daily life is one thing; fluency on the job as roles are being reshaped is quite another. These changes in how work is done call for upskilling that is accessible and new skills pathways.

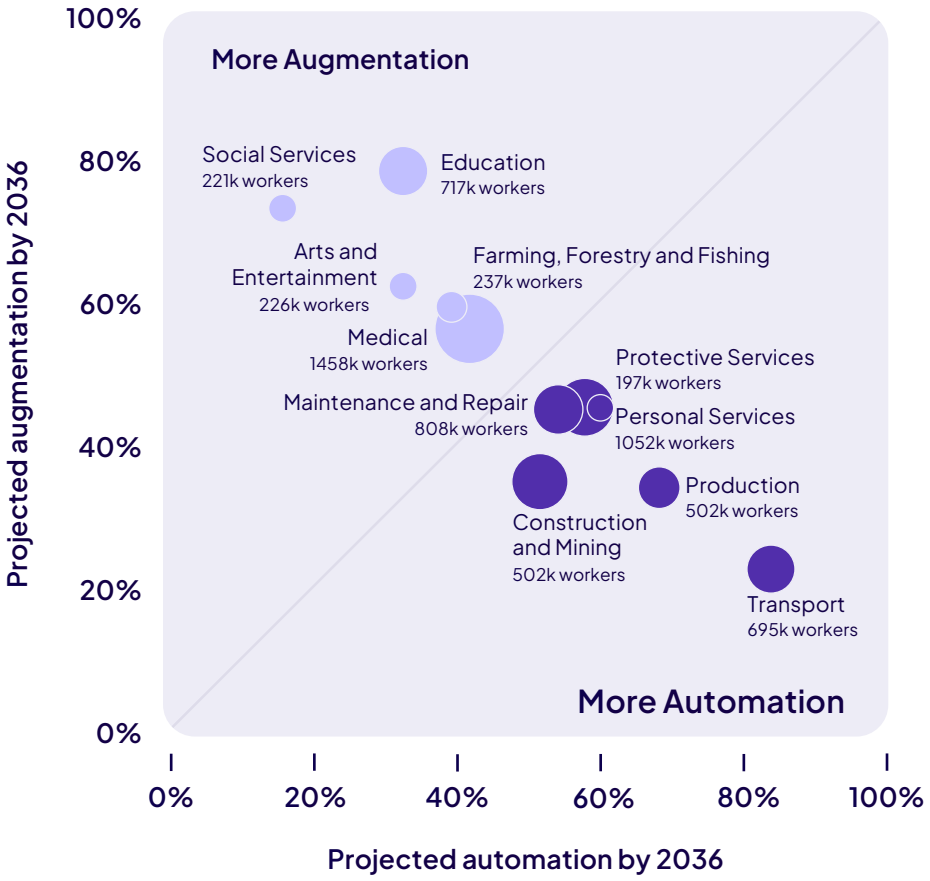
We identified roles that are expected to be affected by AI, examining those important to the Australian labour market. The point of our analysis was not to predict which occupations would be automated or replaced. Instead, we considered *the extent to which* AI would augment each role by the next decade. Our focus here is on job augmentation: examining occupations where job opportunities are plentiful, but where people will need to adapt.

To that end, we developed simplified composite scores that reflect how much employment opportunity the role represents (labour-market demand) as well as AI's capacity to impact the role. Our primary data source was Faethm, Pearson's proprietary workforce analytics database, which gathers available data across many countries. Faethm links tasks and skills to roles, and roles to industries, as well as tracks AI role exposure and labour-market demand for these roles. We also relied on Australia census data.

With a focus on early-career workers, we looked only at skilled trade, technical and service roles that require no prior work experience or education beyond high-school level. (Further details on our research methodology are provided in the *global report*.)



AI's potential impact across key sectors in Australia



Australia Projections, 2036

The graph left represents AI's potential impact on role augmentation and automation in Australia by the year 2036.

Bubble size represents projected 2036 early-career employment numbers in these key industries and occupations within these industries. Sectors positioned close together have similar degrees of automation and augmentation exposure. Those that fall along or near the diagonal have relatively equal automation and augmentation exposure.

Our analysis predicts that the social services, education, and arts and entertainment sectors will be highly receptive to task augmentation, as their position in the graph indicates. Given the high degree of human engagement and personal interaction inherent in these roles, they will likely experience relatively little automation. Personal services, maintenance and repair, construction and mining, and the medical industry are the sectors featuring the most job opportunities (demand) that are also most amenable to AI augmentation.

The greatest number of employment opportunities lie in the medical, maintenance and repair, construction, and protective-services industries. Early-career jobs in these sectors will likely see even effects from augmentation and automation.

In **personal services**, the jobs predicted to be affected include childcare workers, nannies, dishwashers, and animal trainers.

In **maintenance and repair**, the list of roles is extensive. It includes maids, landscaping and groundskeeping workers, electronic equipment installers, motor vehicle repairers, aircraft mechanics and service technicians, telecommunications installers and repairers, arborists, bus and truck mechanics and diesel engine specialists, and heating/ventilation/air conditioning and refrigeration mechanics and installers.

In **construction and mining**, the top roles include labourers, roofers, carpenters, rail-track laying and maintenance equipment operators, and electricians.

In the **medical** field, the roles most affected include nursing assistants, dental hygienists, orderlies, radiology technicians and radiology technologists, occupational therapy assistants, ambulance drivers, nuclear medicine technologists, and psychiatric aides. Of the healthcare roles we analyzed, dental hygienists likely face the greatest AI exposure.

These findings challenge assumptions about the kinds of jobs AI is affecting and highlight the urgent need for workforce planning and education. That urgency, however, should not be taken to mean that AI's impact is categorically a risk or threat. Rather, it is a workforce readiness challenge. The priority is helping workers, employers, and educators prepare for how skilled work is evolving. This is especially relevant for Australia, given the chronic job shortages the nation faces. The augmentation possibilities that AI brings to many of the skilled trades and technical occupations can significantly alleviate the shortages in many of these fields. Although shortages have eased (falling 2 percentage points since 2025 and 9 percentage points since their 2023 peak), 27% of the total jobs that Jobs and Skills Australia analysed in its *2026 Occupations Shortage* report suffer shortages. Nearly half of technician and trades jobs—in construction, the electrotechnology and telecom trades, health, and early childhood education–are experiencing shortages. The list closely matches our findings. Some of these shortages, moreover, have endured for at least five years.

Ten Skilled Trades High in Demand and AI Augmentation Potential

We identified the following occupations based on the employment opportunity they present in Australia and their potential for AI-enabled augmentation.

- **Childcare Workers**
  Personal Services
- **Maids and Housekeeping Cleaners**
  Maintenance and Repair
- **Nannies**
  Personal Services
- **Landscaping and Groundskeeping Workers**
  Maintenance and Repair
- **Electronic Equipment Installers and Repairers of Motor Vehicles**
  Maintenance and Repair
- **Aircraft Mechanics and Service Technicians**
  Maintenance and Repair
- **Construction Laborers**
  Construction and Mining
- **Dishwashers**
  Personal Services
- **Janitors and Cleaners**
  Maintenance and Repair
- **Roofers**
  Construction and Mining

How skilled work might evolve: five examples

From the list of dozens of affected job roles in the Australian labour market, we selected five key roles to illustrate how AI could reshape specific tasks within skilled trade, technical, and service occupations. These examples are just that; they are not intended as predictions of how individual occupations will evolve.



Childcare workers



Construction labourers



Electricians



Nursing assistants



Bus and truck mechanics and diesel engine specialists

Here, it's worth noting that AI encompasses a variety of technologies, including generative AI, machine learning, and predictive analytics, and more. Rather than attempt to specify which types of AI would be used for different tasks, we simply assessed AI's general impact, offering examples of the kinds of tasks it might automate and those it could augment.

Childcare workers

According to our analysis, childcare is highlighted because of its projected labour-market importance and potential for AI-enabled task augmentation by 2036. Jobs in this sector represent the greatest combination of labor market demand and AI impact by 2036.

At first glance, the considerable impact AI is projected to have might seem counterintuitive for one of the country's most human-centered occupations. But AI's augmentation possibilities can actually free up workers to devote more time to their most important tasks: engaging directly with children to provide care, emotional support, and protection; and supporting their development and promoting relationship-building.



For example, AI can:

Reduce administrative work, such as attendance systems, meal planning, and routine paperwork. It could also help regulate rest periods and schedule activities.

Aid in program- and lesson-planning, including suggesting activities and recommending simple learning tasks that workers can then adapt to each individual child and setting.

Simplify communications, in the form of virtual communication tools and AI-supported notes. These could help organise routine updates for parents and guardians about activities and issues. Sensitive conversations that require judgment would still be crafted by the worker.

Construction labourers

AI's biggest impact on this role will be in shifting how physical work is organized and supported. Beyond automating strenuous, dangerous, or repetitive work, advanced robotics and autonomous equipment can also support tasks such as site preparation, excavation, material handling, and clean-up.

As digital skills become more important in manual jobs, construction workers may increasingly need to interpret AI-generated guidance, use digitally-enabled equipment, and decide when automated outputs are reliable enough to act on.

Consider some of the ways in which AI can augment their tasks:

Reducing information search time. AI could support reading plans, instructions, and specifications, helping workers determine activities more quickly.

Ensuring safer, more continuous monitoring. AI-enabled monitoring systems could support traffic control, material identification, air monitoring, and the detection of unsafe conditions. They could give workers and their supervisors more information about site conditions, onsite or remotely, which could provide efficiency as well as safety.



Interpreting recommendations and executing safely would still be the worker's responsibility. The upshot is that AI can help labourers work more safely and be more informed and less dependent on supervisors for every answer.

Electricians

AI can support testing, maintenance, and fault detection. For example:

Maintenance could increasingly rely on predictive tools. AI-enabled systems can help identify potential issues earlier, preventing downtime as well as physical risk. They also support maintenance planning.

Testing and diagnostics might be more digital. AI-based tools can help interpret readings and identify possible faults more quickly.

Routine test workflows could be streamlined. Rules-based automation might support activities comprising standard testing and documentation. AI can thus reduce repetitive steps without sacrificing verification.

Most installation, repair, and safety-critical work, however, is likely to remain hands-on. Electricians will still be responsible for safe systems, unusual site conditions, and compliance. And they will still need to exercise judgment in deciding whether an AI or machine-generated result is credible.



Nursing assistants

Most of AI's potential impact on this role is supportive and involves streamlining routine logistics. AI can:

Automate routine documentation. AI-driven process automation can support creating and maintaining documentation, a highly repetitive function. It can also automate record-keeping and administrative coordination, reducing the amount of time assistants must spend on routine processes.

Make monitoring and treatment processes more tech-enabled. AI-driven systems may assist with equipment operation, specimen handling, and directed treatments. (Licensed staff and nursing assistants would still remain accountable for safe application and escalation.)

Oversight and patient care will remain the assistant's core responsibilities. Comfort, consent, observation, and communication are critical human functions. Recognising changes in a patient's condition requires contextual judgement that cannot be reduced to task execution.



Bus and truck mechanics and diesel engine specialists

AI may play a greater role in diagnostics and predictive maintenance, in addition to automating select tasks.

AI can contribute to these roles in the following ways:

Accelerating fault detection. AI-enabled asset monitoring could analyze sensor data, identify malfunctions, and predict maintenance needs before a failure becomes apparent.

Supporting more frequent inspections. AI-driven diagnostic tools could support checks of dimensions, clearances, safety devices, brakes, and other components against specifications.

Making repair decisions more data-driven. Mechanics could use AI-generated diagnostic evidence to identify likely causes and prioritise maintenance actions. They would still need to apply their judgment to confirm the fault.

Oversight is likely to become a more important part of the individual's job. As vehicles and diagnostics become more software-driven and sensor-enabled, mechanics will increasingly need to validate machine outputs and determine exceptions. In addition, as more alternative fuel systems come into operation, they will need to be able to work with both conventional and alternative systems.

Across these occupations, a common pattern emerges: as AI changes tasks, human judgment, practical expertise, digital fluency, and distinctly human capabilities become increasingly important.



Building the skilled workforce Australia needs in the AI era

As AI becomes an inextricable part of skilled work, distinctly human capabilities will become even more valuable. Communication, collaboration, adaptability, emotional intelligence, and judgment are increasingly important complements to technical expertise, and they will need to be intentionally cultivated, practiced, and assessed alongside occupation-specific skills and AI literacy. Acknowledging this need has become especially urgent amid the current wave of retirements, which puts organisations at risk of losing institutional knowledge.

Industries in the skilled-trade and service sectors should be making investment decisions now about the right AI tools for their operations. And AI investment should be accompanied by investment in workforce planning, upskilling and reskilling, so that people are equipped to work effectively and responsibly alongside emerging technologies.

As Taha Haidermota, Australia Country Head at Pearson, observes,

> **Early-stage Australian workers need the capabilities that allow them to pursue attractive, promising fields. And policymakers and job creators need the ability to reap AI's benefits and remain competitive on the global stage. We want to be sure the needs of economies and societies are met—and that as work changes, people are not left behind."**

Technologies and workplace practices are evolving faster than traditional training and qualification cycles. As a result, Australia faces a workforce readiness challenge. As AI becomes more embedded in skilled trade, technical, and service occupations, the priority is not simply adopting new technologies, but ensuring people have the capabilities to work with and alongside those technologies effectively.

At the same time, many skilled occupations depend on practical know-how, judgment, and experience acquired through observation, mentoring, and practice. As experienced workers retire, employers and educators will need to find new ways to preserve that knowledge and transfer it to the next generation.

AI is unlikely to reduce Australia's need for skilled workers. Rather, it has the potential to increase the value of workers who combine technical expertise and practical know-how with digital fluency human capabilities, and sound judgment.

For employers, educators, and policymakers, the implication is clear: early-career pathways need to evolve alongside the changing nature of work. By connecting learning, experience, and capability more effectively, Australia can build the skilled, adaptable workforce it needs to thrive in an AI-enabled economy.

Pearson

Building expertise in an AI-infused world

AI is changing skilled work. The imperative now is building expertise through stronger connections between learning, assessment, credentials and real-world experience.

Closing the gap is essential to workforce readiness.
Learn more: pearson.com/ai-ready-careers

