



Future Rail Skills Forum

SHAPING THE NEXT GENERATION WORKFORCE



Forum highlights

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Introduction

As part of the National Rail Action Plan, Australia's state and federal governments have tasked the National Transport Commission (NTC) to work collaboratively with industry to identify strategic reforms and initiatives that will:

- Lift productivity by growing a competent and mobile rail workforce
- Accelerate access to digital skills and next generation labour supply, and
- Improve the competitiveness of rail by creating a diverse and inclusive industry.

On 28 July 2023, the NTC in collaboration with the Australasian Railway Association (ARA) convened the inaugural **Future Rail Skills Forum (Forum)** to help inform its response.

The Forum brought together senior leaders from governments, unions and the rail and education sectors to identify critical rail skills challenges, barriers to meeting skills demand and opportunities to achieving target outcomes.

This report is a reflection of what we heard.

The nature of Australia's skills shortages

- Australia has the tightest labour market in 50 years and is experiencing the second highest labour shortages among Organisation for Economic Co-operation and Development (OECD) countries
- Vacancies which require a degree, certificate or apprenticeship receive fewer qualified applicants than other roles
- Many applicants with technical qualifications do not have the essential skill sets employers require; this includes soft skills and digital competencies
- There are mismatches in supply and demand for entry-level or semi-skilled workers
- Highly gender skewed occupations are much more likely to face skills shortages
- Despite a number of successful diversity programs, women make up just 24 per cent of the rail workforce
- The growth in occupations reliant on digital skills is outpacing overall jobs growth, while requirements for digital skills is emerging in occupations not traditionally considered to be digital
- Rail is competing for skills with other more popular sectors such as aerospace and defence. Demand for these skills is likely to increase as the rail industry transitions to greater use of automation, digitisation and the adoption of new technologies
- Rail has a reputation for being old-fashioned, slow to adopt new technologies and male-dominated making it unattractive to women and younger job seekers
- The lack of interoperability between systems and bespoke training often means that workers facing a lull in work in one state or jurisdiction cannot use their skills to meet demand in another.

The government commitment

Australia's Minister for Skills and Training, Hon Brendan O'Connor opened the Forum noting the importance of rail to the country's economy and the urgent need to grow a bigger more diverse rail workforce with skills to build and operate \$155 billion of investments in trains, tracks and technology over the next 15 years.

"We need to ensure strong and resilient supply chains supported by a skilled transport and logistics workforce, because they're critical to supporting the nation's economy."

"If we want to keep this nation moving, we need skilled workers ... not just to build our rolling stock, but also to design, to implement, to manage the increasingly complex automation of our transport."

Minister O'Connor told the Forum the Commonwealth government is committed to:

Greater engagement with industry through Jobs and Skills Councils (JSCs)

JSCs will open the way for greater sharing of data allowing labour market insights to be used in a more effective way.

“We must get better at understanding the labour market and anticipating the nature of change.

“JSCs are a network of organisations led by industry that will bring together employers and unions to work in partnership with government and education and training sectors. This goes to not just what (skills) will be needed, but what curricula should be in courses.”

Reforming Australia’s apprenticeship system to improve completion rates and encourage more young people to start a career in rail

“As of September 2021, there are fewer apprentices and trainees in the rail transport industry than there were before the pandemic, and frankly, that isn't good enough.

“Our government is investing \$3.1 billion through a new incentive system to target skilled shortages, improve apprentice completions and ensure they can access the support they need.

“We're also reforming apprenticeship services and strengthening targeted support for apprentices to feel valued in the workplace and encouraged to succeed.”

Increasing collaborations between TAFEs and the higher education sector

“If you look at best practice around the world, you see a much greater permeability and collaboration between tertiary sectors to deliver skills. One of the ways to do that (in Australia) is to ensure that we have policies that encourage the universities and the VET sector to work hand in hand.”

“We’re lining up a whole range of new reforms for the VET sector, including establishing centres of excellence that will bring universities and TAFEs together to collaborate to provide skills.”

Working with industry to improve diversity and female participation in the rail sector

“To attract skilled workers in today’s labour market, rail enterprises need to entice people from a younger age and create an environment that is attractive to women and people from diverse backgrounds. You can’t just fix the narrative top down; everyone has to be involved.”

“A lot of thinking has to go into not only attracting women (into the sector) but removing barriers. Making people feel welcome is absolutely critical.

“This is for the industry to lead, but we want to help. We’re happy to discuss with the industry what else we can do.”

An international perspective of the rail skills challenge

Rail experts from the UK and Europe provided international operator and supplier perspectives on the rail skills challenge.

Neil Robertson, Chief Executive of the UK National Skills Academy for Rail (NSAR)

Neil warned about:

The high cost of “doing nothing”

Labour currently accounts for 50 per cent of major project costs in the UK. Better access to skills will reduce inflationary pressure on projects between 10-40 per cent.

“Wage inflation is an existential threat to future rail development”.

The need for strong data

The NSAR has adopted an evidence-based framework used to identify and deliver key strategies and initiatives that support target workforce outcomes.

“Data opens doors ... we really got good support from industry to contribute data that allows us to say what have we got now and what do we need in the future and what's the gap.

“(The NSAR) takes a scientific approach to bringing in new talent. We collect and store data on the existing workforce and predict what workforce is needed for the future ... we understand the implications of new digital technologies ... we promote the sector to attract new entrants under one initiative ... and we encourage training, setting up our own assurance systems that really makes sense to the industry.”

The need for immediate action to prepare for an escalation in rail digital transformation

“The impact of digital skills is hard to overestimate.

“It will allow us to bring in new technologies that will drive productivity and reliability of the railway ... but it's going to be a huge challenge. Everybody wants these digital skills, everybody wants data analysts, everybody wants software managers, everybody wants systems engineers.

“We're not going to be able to compete financially with other sectors so we're going to have to grow them ourselves.”

Alice Consilvio, Associate Professor at University of Genoa

Alice spoke about the “Skill Training Alliance For the Future European Rail system” (STAFFER) set up by the European Union to help deliver the skills needed in Europe’s rail sector.

- The Alliance is made up of 31 partners from 12 European countries and aims to integrate perspectives of operators, suppliers and educational institutions.
- In Europe, rail is noted as a green mode of transportation responsible for just 0.5 per cent of the transport sector’s greenhouse gas emissions.
- It is seen as a backbone for the future multimodal European transport system.
- STAFFER is focused on creating cross border solutions to similar challenges being faced in Australia such as:
 - an ageing population
 - the perception of rail as being old-fashioned and unattractive to women and younger job seekers
 - a change in skills requirements due to the digital transformation.

“We are working on improving academic and vocational training curriculums to adapt them to companies’ needs and to make them more attractive for young people and women.”

Arpad Domjan, Manager of Training, Learning and Consulting Business, Deutsche Bahn (DB)

- DB is one of Germany’s largest and most diverse employers with 337,000 employees and 12,000 trainees. Over the next five years, 30 per cent of employees are expected to leave the group, 100,000 new employees are expected to be hired.
- Arpad noted that digital upskilling is a major focus as routine jobs are being replaced by technology at an increasing rate.
- DB strategies include a heterogenous learning environment and a target of 30 per cent female management positions by 2024.
- Arpad outlined DB’s new approach for transitioning the country’s railway to digital technologies and an interoperable network. This includes the 2024 rollout of a Learning Experience Platform to manage learning and integration.

“Innovations, willingness to change and qualifications are the success criteria of employees in the digital age ... In this new reality, training providers have a key role to play in meeting these challenges.”

Naomi Knight, Head of Engineering ANZ for Siemens

Naomi provided a supplier perspective on how global suppliers of technology fulfil their skills requirements in Australia. She noted a need for:

Greater interoperability in rail skills training

“Interoperability is needed now today, not five years’ time. I think we could be heading for a bit of a car crash in that direction if we don’t deal with it soon.”

“(Siemens ANZ) manages 11 different competence management systems. I might have 15 engineers in Sydney who have got a lull in work, but they can't work in Melbourne because it's a totally different competence management system. We're losing engineers to other countries because they're fed up with this.”

Focus on growing both existing and future skills

“Although we're talking about the digitalisation space, the existing railway is not going to change overnight. Some of the core skills that we have today, we will still need in 20 perhaps 30 years' time.”

Better cybersecurity skills and training

“I don't think the threat level is incredibly high at this point, but it will change over the future in five to 10 years.”

Greater engagement with universities to promote rail and ensure training meets industry's needs

“We need to take a position of talking to the universities if the degrees that are coming through, the kids that are coming through, don't quite meet our expectation.”

“We need to provide future topics at universities now (such as) AI engineering, cybersecurity.”

Greater industry effort promoting rail as a career from an early age

“We should be visiting primary schools.”

The importance of attracting and hiring more women.

“There are women out there with the correct qualifications and attitude to work in our industry. There is such a thing as positive discrimination. It really does work.

“We need to provide a friendly, non-threatening environment and we just need to be better employers and stop taking the easy road.”

A multi-pronged approach to hiring and recruitment

Siemens' recruitment program includes a graduate intake, hiring from 'parallel' industries such as aerospace and technology and international recruitment focusing on Europe (particularly Spain) India and China.

Australian Government reforms

Representatives from the Australian Government's new skills bodies presented at the Forum giving updates on the work being done to identify and implement solutions to skills shortages.

David Turvey, First Assistant Secretary, Jobs and Skills Australia

Jobs and Skills Australia (JSA) provides the Australian Government with advice on current, and future skills needs, and the effectiveness of the national skills system in meeting these needs. JSA leads research and harnesses insights through industry-led Jobs and Skills Councils.

"We're coordinating all the different elements and working closely with the states and territories and Jobs and Skills Councils to provide a more consistent approach to delivering the needs of the labour market."

David noted:

The different categories of shortages:

- traditional skills shortage when there are not enough people with the right qualifications applying for jobs
- a mismatch where people have the qualifications but lack the skills employers require
- areas of high mobility where people move around due to unsatisfactory remuneration of conditions.

"You have to think about the different types of skill shortages, be careful about understanding the causes of them and design policy appropriately."

Occupations which are highly gender skewed, are much more likely to be in shortage

"If you're trying to find people and you're not looking at the entire demographic, then of course you can have problems."

The increasing importance of digital skills across job roles

"The digital challenge is broader than just those specific technical occupations. They're in every job, they're in every occupation (and) they should be in every training package."

Paul Walsh, CEO, Industry Skills Australia

Industry Skills Australia (ISA), is the transport and logistics industry sector's JSC. It undertakes research and data analysis to inform models and training products that focus on growing priority skills in the sector.

"ISA is supporting collaboration between industry and training providers and providing a mechanism for industry leaders to have a direct dialogue with government on the skills, workforce development, training system (and) policy issues."

Paul highlighted:

The importance of sharing good data to building a strong response to the skills challenge

“Data will drive really good strong decision making, but the data's got to be reliable. Getting really solid data is one of our challenges. I think working collaboratively, we can do that.”

The need to bring industry and skills people together to create training programs

“We can have all the great products and skills initiatives but at training delivery we get it wrong, that's not what we need.”

ISA's intention to set up:

- an Industry Advisory Council with representatives from the rail and supporting sectors
- an annual supply chain leaders summit to identify new ways to address the challenge
- a Technology Future taskforce.

“We're looking for people that can think differently and (use their ideas) to think about the skills problems.”

Broader perspectives

Forum participants were encouraged to share their experiences during a workshop and networking sessions. Here are some of the thoughts raised during the afternoon:

“It’s very difficult to build a national skills system without standardised systems, standardised terminology, standardised job titles, that allow people to move across jurisdictions and networks and be recognised for what they do and the skills they possess.”

Paul Humphreys, Industry Engagement Manager, Industry Skills Australia

“Rail has an opportunity to promote the fantastic career opportunities that are available and the amazing role it is playing in reducing Australia’s carbon footprint.”

Jacqui Walters, National Rail Manufacturing Advocate

“(When it comes to interoperability) Australia has got to understand the changing complexity of projects ... That’s through training and learning from other industries such as the IT sector which has spent the last decade perfecting this.”

Robert Scarbro, Director, System Integration, Systra

“A problem around the TAFE sector is that TAFE doesn’t have the capabilities. Private RTOs [Registered Training Organisations] pay above TAFE teacher rates and TAFEs cannot compete.”

“Micro-credentialling is not an answer. It doesn’t allow for the transfer of skills or develop the higher level of skills that will be needed in the future.”

“I’ve worked in the industry for 30 years and we keep doing things the same way. We need to think differently. There is lots of culture and heritage in other parts of the world we can learn from and still keep pride in the industry.”

“The rail industry in Australia needs to promote how attractive it is. What are the skills we need? What are the career paths you can take? How can we develop you through the industry?”

“Today we are competing with each other to attract people. We will be stronger if we advertise as an industry rather than as individual bodies.”

Insights

A review of the day's presentations and interactive sessions identified some of the most pressing rail skills and solutions that are making a difference.

Accelerate workforce diversity

Despite a number of successful diversity programs, rail remains predominantly an ageing, white, male dominated sector. While female participation rates are increasing, there are persistent workplace practices, behaviours and/or cultural issues that present barriers to increased participation.

To grow its talent pool and find workers with the skills it needs, rail has to attract more women, younger people and workers from diverse backgrounds. To do this rail organisations need to become more inclusive and proactive in welcoming change.

Attract a more diverse pool of job seekers and compete with 'parallel' industries for skills

The rail sector needs to become more visible and better at promoting itself as an exciting, dynamic career option. Instead of competing for workers and poaching each other's employees, rail organisations should work together to promote the industry. This could be done by creating more community links, tapping into events like Lego Robotics and engaging students, particularly young girls, in primary schools.

"People should see (rail) as a long-term career where you can make a lot of money and have fun. Highlight what is possible earnings-wise and the opportunities for development and learning new skills."

Naomi Knight, Head of Engineering ANZ for Siemens

Broaden recognition of prior learning

Employees are generally not given any recognition for the skills and competencies gained in other networks or outside the sector. Addressing the rail skills challenge requires a multi-pronged response which includes greater recognition of the skills and qualifications of workers from different networks, sectors and from overseas.

Better use of TAFEs and apprenticeships

VET and higher education qualifications often fail to meet industry expectations.

Only three per cent of rail skills training is through TAFE. Completion rates are low.

TAFE capabilities to expand are constrained by a lack of trainers with remuneration well below what professionals can earn on the job or working in private RTOs.

National agreement around competencies and job profiles

Currently Australia faces a situation where bespoke industry training means workers are often locked into the network or state in which they are trained.

Each railway has its own practices, work methods and competency requirements, resulting in there being a different “right way of working” for each operator or rail infrastructure manager (RIM).

“There is a right way, a wrong way and then there is the rail way.”

Creating national mutually recognised skillsets will require an alignment in terminologies used to define categories of rail work across all networks, including the occupancy descriptions, skill sets and competencies.

Technology impacts on job roles

Over the next five years, 40 per cent of the roles in rail will be impacted by the introduction of digital technologies. To prepare for the escalation in rail’s digital transformation, there needs to be a supporting program of reskilling the existing workforce and recruiting employees with the new skill sets needed for the digital age.

“Digital skills are becoming ubiquitous. They're in every job, they're in every occupation. The digital challenge is broader than just specific technical occupations.”

Paul Walsh, CEO, Industry Skills Australia

You need to work in rail to get a job in rail

Most rail skills training is only available to people once they have a job in rail, increasing industry’s training burden and prolonging the period it takes to develop competencies.

The development of publicly accessible training would ease training costs for rail organisations and make it easier for people to take the first step in their rail career.

Next steps

The Forum highlighted a broad goodwill and commitment among attendees to collaborate to address Australia's rail skills challenges and progress this agenda at a national level.

As a result of the forum:

- Governments are reviewing more than 11 different workforce competency requirements of rail network operators that are directly driving up major project costs. The aim is to develop how a competency framework could be harmonised across rail infrastructure managers, especially in signalling, to create a harmonised competency assessment framework. The NTC is expected to report back to jurisdictions on findings and solutions by late 2023.
- The ARA will continue to support governments by promoting pathways into rail careers.
- NRAP's Strategic Advisory Board has requested the NTC and ARA to progress detailed investigations into the problem statements outlined at the Forum to enable the outcomes to be achieved.
- The forum will reconvene in 12 months to assess and progress approaches to key barriers.

Concluding remarks

"We're on a burning platform for change where big investment decisions will need to be made. To avoid expensive legacy rail systems, which are largely government-funded, we need to get better at working together."

Carolyn Walsh, Chief Commissioner, National Transport Commission

"The ARA will continue to work closely with industry and government across the country to close the gender gap and support a thriving industry that is inclusive and diverse."

Caroline Wilkie, Chief Executive Officer, Australasian Railway Association

