AVIATION INDUSTRY

INDUSTRY SKILLS PRIORITIES PAPER - 2023

About Industry Skills Australia

Industry Skills Australia (ISA) has been appointed by Government as the Jobs and Skills Council (JSC) for the Transport and Logistics industry sectors, which includes Aviation, Maritime, Rail, Transport and Logistics, and the emerging sectors of Omnichannel Logistics and Distribution; and Air and Space Transport and Logistics.

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

We will do this by leveraging our more than 20-year history with the transport and logistics industry, undertaking research and data analysis to inform workforce planning, advocating for a workforce development approach in tackling industry skills issues, and developing priority training products.

Purpose of the Industry Skills Priorities Paper

The purpose of this paper is to seek feedback from industry stakeholders on a summary of the key industry and skills-related trends that have been identified for the Aviation Industry. The main themes in this paper are drawn from desktop research, and targeted industry consultation since ISA commenced operations, and by drawing on our deep industry engagement over previous years in June 2023. This information, along with feedback from stakeholders will be used by ISA in the development of the 2023 Aviation Industry Initial Workforce Plan and to prioritise work on the Aviation Training Products.

In the 2023 Initial Workforce Plans, JSCs are required to include a scan of each industry sector to identify key workforce challenges, identify existing workforce strategies/measures, and outline planned industry engagement that will inform a more comprehensive 2024 Workforce Plan, including a schedule of proposed initiatives in response to identified workforce challenges.

Consultation questions

1. Are the identified issues/priorities correct?
2. Is there any additional information/context related to the identified issues that needs to be included in the Workforce Plan?
3. Are there any other key issues (existing or emerging) affecting skills and workforce development in the sector? What is driving these issues?
4. Are there any existing initiatives responding to workforce challenges that are achieving good results and could be used in other settings?

How to provide feedback

Stakeholders are invited to submit their comments on the key themes and issues outlined in this paper by close of business on **Friday 28 July 2023.**

It is acknowledged that the information provided about industry skills priorities in this paper is deliberately brief. The purpose of this paper is to validate and confirm consultation and research findings to date.

Responses and requests for further information should be emailed to:

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About the Aviation Industry

The Aviation industry comprises the operation and coordination of aircraft for the transportation of freight and passengers by air.

The activities of the industry can be categorised into three (3) occupational areas:

- **Flight Operations** - planning, executing and managing flights including activities and processes involving the coordination and management of all aspects related to flights, from pre-flight preparations to post-flight procedures and safety.
- **Airport Operations** - managing and supporting passengers through airport systems including security screening, ground operations, and the turnaround of aircraft between flights.
- **Aviation Rescue** - conducting rescue operations and emergency response to ensure the safety of people, crew and aircraft during critical situations.

The industry employs over 64,910[1] people across the major subsectors: domestic commercial aviation, international commercial aviation, general aviation, air-freight aviation, and aviation support infrastructure. The industry had an estimated annual revenue of 47.8 $b in 2023, amounting to 57.06% growth over the previous year[2]. The average age of aviation workers is 42.7 years[3], with women making up 36.8% of the workforce[4].

Notes

i. Significantly expanded statistical data will be provided in the 2023 Initial Workforce Plan
ii. The Transport and Logistics Jobs and Skills Council does NOT cover maintenance engineering and public safety. These areas fall under the coverage of other Jobs and Skills Councils.

[1] Australian Bureau of Statistics (2023) Labour Force Survey
[2] IBISWorld Industry Wizard (2023)
[3] Australian Bureau of Statistics (2021) '2021 Census - Employment, income and education', TableBuilder
[4] Australian Bureau of Statistics (2023) Labour Force Survey

Key issues and drivers affecting the Aviation workforce

Workforce shortages are challenging the industry

As the industry continues to recover post COVID, it is facing a shortage of skilled workers across different occupations including pilots, flight instructors, cabin crew, security screening personnel and baggage handlers. This shortage is particularly pronounced in regional areas where it is more difficult to recruit, an issue which is even further compounded by differing requirements for levels of experience in regional airlines. The shortages are impacting the industry in the following ways:

- Pilot shortages are a global problem where the supply of pilots cannot keep up with the demand due to rapid post-COVID recovery. Competition from international airlines and closely related industries are also impacting airlines. During the pandemic, many airlines downsized their workforce and suspended recruitment efforts and are now finding it difficult to bring them back to the industry. There is currently a cabin crew shortage due to high turnover rates and limited training resources.
- Ground operations have been similarly affected. The shortage of security screening personnel is placing a strain on airport's ability to maintain optimal safety and security levels for passengers and airlines.
- Flight instructor shortages require urgent attention due to the knock-on effects on new pilot numbers. Industry stakeholders have identified an untapped pool of former pilots who could contribute significantly to the training of new aviators.
- The general aviation sector is experiencing growth due to expansion of training schools, and fleet expansion by charter operators. However, the shortage of pilots and other related occupations may hamper this growth.

We will be consulting with industry, regulators, and training providers to identify workforce initiatives to attract more recruits to the industry and provide more information about the available career pathways.

Training costs are creating barriers for potential new entrants

The cost of aviation training, including pilot and cabin crew training, is substantial and involves various components such as tuition fees, flight hours, simulator sessions, and regulatory requirements. The funding sources for aviation training can vary, with some individuals financing their training privately through personal savings or loans, while others may receive sponsorship from airlines, government programs, or scholarships. Additionally, some training organisations offer financing options or instalment plans to ease the financial burden. The availability and accessibility of funding can vary geographically, leading to disparities in access to training opportunities.

As the aviation industry evolves, there is an ongoing need for stakeholders, industry and government to explore fair and equitable funding models to ensure the availability of well-trained professionals in this crucial sector.

Sustainable Aviation Fuel (SAF) initiatives have implications for skill needs

The global air transport industry is committed to net-zero by 2050. One of the key enablers of sustainability is the development and implementation of Sustainable Aviation Fuel (SAF). There has been an increasing focus on SAF along with investments to support the implementation of alternative fuels. CSIRO's research on hydrogen adoption in the aviation sector also highlights that the adoption of hydrogen for ground support equipment by 2025 is feasible. Guidelines and a policy framework are expected to be in place to expedite the uptake of hydrogen in the near future.

We will continue to monitor the adoption of SAF in the sector and conduct further research and consultation to identify the immediate workforce impacts and skills needed by industry to make safe transitions to alternative fuels.

VET qualifications are not aligned with pilot licensing requirements

The Diploma of Aviation provides skills and knowledge for flight crew personnel performing normal and emergency commercial pilot duties in support of commercial or Defence aviation flight operations. The qualification covers part of the requirements for certification as a commercial pilot by the Civil Aviation Safety Authority (CASA). Those who successfully complete the qualification still need to attain a Commercial Pilot Licence (CPL) from CASA. There is a need for a better alignment of aviation training and certification that will ensure that all aviation professionals undergo similar training and meet the same competency standards, promoting uniformity and reliability within the industry. This will further enhance the industry's recognition of an individual's competence and professionalism.

We will be consulting with CASA in any review of the Diploma of Aviation (Commercial Pilot Licence – Aeroplane) to ensure it aligns with CASA licence requirements.

We will contribute to the ANZSCO review of occupations in Air and Space Sector

The Australian Bureau of Statistics is currently inviting submissions to review occupations in the Air and Space Transport sector to ensure the accuracy of current occupation skill levels and descriptions reflected in ANZSCO, and to identify occupations that it is anticipated will emerge in the next 5 to 10 years.

We will be consulting with industry stakeholders, including the Australian Space Agency, to prepare a submission. We will also conduct further research and industry consultation to better understand the role of the VET sector in the Air and Space Transport and Logistics sector and how it can support current and emerging occupations in the industry.

Regulatory Change in Transport Security Protection has implications for security screeners

The Department of Home Affairs serves as the security regulator for the aviation, maritime, and air cargo sectors. It has been a requirement since January 2022 for screeners in the aviation and maritime sectors to hold a Certificate II in Transport Security Protection, and since 2023, for those in the air cargo sector. Since its release in 2019, the certificate has only had a minor update.

The Department of Home Affairs, industry, and Registered Training Organisations believe this qualification needs to be reviewed to ensure it reflects the latest industry and regulatory requirements.

We are currently in consultation with the Department of Home Affairs to understand the latest regulatory requirements, and how they are best addressed in the qualification, as well as to identify the potential impacts and benefits of any change on the workforce and industry.

New technologies are transforming the industry

A range of new technologies are transforming ways of working in the aviation sector. The increasing integration of Uncrewed Aircraft Systems (UAS) in airspace will require innovative solutions and systems to harmonise the safe integration of traditional aircraft and UAS. Digital Control Tower technology is being implemented at Canberra Airport and Western Sydney International Airport to optimise airport operations through enhanced real-time data sharing. The new Civil Military Air Traffic Management System (CMATS) will replace the existing air traffic management systems soon and will improve air services and support future air traffic growth.

We will be monitoring these developments and conducting further consultation with stakeholders to gain a better understanding of the nature of changes and how best industry can create an agile and futureproof workforce.

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We have identified four common issues and themes that are impacting the industries supported by ISA.

Technology and Automation

Automation and digital technologies are revolutionising industries and reshaping business operations. In transport and logistics, robotics, drones and big data analytics are optimising operations and improving productivity. Autonomous trucks have been recently trialed in Australia and autonomous vessels trialed in the maritime industry, with some already in operation. The rail sector is operating autonomous trains, using smart devices and conducting automated asset inspections using LiDAR. In the aviation sector, cutting-edge technologies such as uncrewed aircraft systems, remote digital tower technology, OneSky and satellite based augmentation systems are being implemented.

Despite these changes, the role of humans in operating and maintaining systems remains highly significant, and workers will need the technical skills to work safely with these new technologies.

Sustainability

The adoption of sustainable practices and technologies to reduce Australia's carbon emissions has been gaining pace, and the industries we support are well positioned to be key enablers of this change. For example, the supply chain sector is relying more on autonomous technology and alternative fuels such as hydrogen to reduce its carbon footprint. Trials for zero-emissions hydrogen fuel-cell battery trucks are already underway in Australia, as are trials of alternative fuels in the maritime industry. The aviation industry is working towards the replacement of ground equipment with hydrogen powered fuel cells, while the rail industry is focused on technologies such as hydrogen or battery electric to phase out diesel trains.

Once again, these changes will require workers to have the skills and knowledge to safely work with these technologies and comply with regulations.

Workforce Challenges

Australia is grappling with significant labour shortages across many industries, including those supported by ISA. There is both a general shortage of skills, as well as a slowing down of skilled migration as a result of border closures due to the pandemic. Ongoing impacts are likely to be seen in terms of business operations and the completion of infrastructure projects.

Globally, organisations have started to prioritise the attraction and retention of new talents. Similarly, Australian businesses are investing in staff training, developing skills, and attracting young people and more women into traditionally male-dominated industries and occupations.

Industry Skills Development

The Vocational Education and Training (VET) system in Australia is well positioned to supply the skills and knowledge required for the future of work. However, barriers such as perceptions of the VET sector and shortages of qualified trainers are impacting on the attractiveness of the sector to prospective learners and on learner outcomes. The challenges are even greater in regional and remote areas, where lack of high-quality training facilities, up-to-date equipment and training providers further compound the situation. Establishment of clearer career pathways and articulation arrangements that enable learners to seamlessly transition from the schools sector into VET and onwards to Higher Education are needed to build opportunities for individuals and support the shift to higher skilled job roles.

Industry Skills Australia

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