AUSTRALIAN
INDUSTRY
STANDARDS

INDUSTRY OUTLOOK

2021

AVIATION

INDUSTRY REFERENCE COMMITTEE

ABOUT THIS INDUSTRY OUTLOOK

The Industry Reference Committee (IRC) Industry Outlooks focus on the prioritisation of the skill needs of the industry sectors each IRC has responsibility for. The Aviation IRC Industry Outlook identifies the priority skill needs of the Aviation industry following a stakeholder consultation and research process conducted by Australian Industry Standards (AIS) on behalf of the IRC.

The document is deliberately brief, it does not seek to identify every issue within every sector. It is a snapshot of a continually evolving story that is intended to alert and inform a wide audience and enhance the industry's capacity to act.

IRCs are required to consult broadly with stakeholders to ensure a whole-of-industry view about the opportunities and challenges for the workforce and the Training Package review work necessary to meet industry needs.

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FROM THE CHAIR

The Aviation industry plays a significant role in Australia, connecting people and businesses across the country and around the globe. The industry had an estimated annual revenue of $26.94 billion in 2019-2020, which is significantly lower than the previous year. The industry's employment numbers have also decreased, yet over 65,000 people are currently employed across the major subsectors: domestic commercial aviation, international commercial aviation, general aviation, air-freight aviation, and aviation support infrastructure.

COVID-19 has caused substantial disruption to the Aviation industry with significant reductions in domestic and international airline operations and services. The recovery path will take time with the international border restrictions still in place, however the recovery in domestic airline activities will be faster. The long-term sustainability and growth of the Aviation industry is important to the Australian economy and the government has provided some support to enable the industry to maintain operations during this difficult period.

One area of growth for the industry during the pandemic is drone technology. In response, the Aviation IRC has proposed to develop a new qualification to address skills and knowledge requirements for operators across multiple industries including agriculture, public safety and transport.

Digital Transformation has resulted in important technological advances in air traffic control operations which will help industry safely integrate drone operations with more conventional flight operations. Control towers are rapidly becoming more digitalised to enhance service delivery and improve safety outcomes. Air traffic controllers will need to be upskilled in the operation of these new technologies and the IRC is proposing to review Air Traffic Control materials in the Aviation Training Package to ensure the skills and knowledge requirements are aligned with new technologies.

There are other proposed projects related to Aviation Supervision and Commercial Pilot to help the Aviation workforce conduct their duties safely in accordance with regulations and latest practices.

The IRC will continue to monitor the industry landscape and review and update qualifications to ensure a resilient and agile workforce who can adapt to continual challenges and requirements.

Stephen Leahy
Aviation IRC Chair
This IRC Industry Outlook was endorsed to by the Aviation IRC on 4 June 2021.

AVIATION INDUSTRY REFERENCE COMMITTEE

The Aviation Industry Reference Committee provides the formal conduit for the Aviation industry in gathering information from the sector – including challenges, opportunities, trends, and skills requirements for training via the Vocational Education and Training (VET) system.

The Aviation Industry Reference Committee comprises industry leaders and experts who work to ensure skills standards and qualifications are developed to meet the needs of industry, now and into the future. This work involves engaging with broader industry stakeholders to ensure that skills standards keep pace with changing industry needs, technology innovations and regulatory requirements. The IRC also ensures that qualifications are responsive and support the portability of skills.

TRAINING PACKAGE

The IRC oversees nationally endorsed qualifications, referred to as the *Aviation Training Package*. This Training Package provides the only nationally recognised Vocational Education and Training (VET) qualifications for occupations involved in domestic commercial aviation, international commercial aviation, general aviation, air-freight transport and aviation support infrastructure.

The AVI Aviation Training Package comprises 19 qualifications, 37 Skill Sets and 242 Units of Competency and associated Assessment Requirements covering these sectors.

AVIATION IRC MEMBERS

Chair: Stephen Leahy
Subject Matter Expert

Deputy Chair: Greg Tyrell
Australian Association for Unmanned Systems

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Qantas Airways Limited

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AVIATION INDUSTRY OVERVIEW

The Aviation industry is divided into five main subsectors:

- domestic commercial aviation
- international commercial aviation
- general aviation
- air-freight transport
- aviation support infrastructure.

242 Units of Competency

21 Qualifications

50 Skill Sets

98 Registered Training Organisations

Gender Distribution

34%

66%

Current and Projected Workforce Size

2021 **65,337**

2026 **94,499**

44.6% Employment Growth to 2026

Workforce Size by state

NSW	33.3%
QLD	24.0%
VIC	22.8%
WA	8.8%
SA	5.7%
NT	2.2%
TAS	1.8%
ACT	1.3%

Ageing Rate **2.2X** faster than all industries

42.3 Average Age

Industry Value

Revenue **$26.94B** 2019-20

+

Value Add **$10.73B**

Business Composition

1922 Small Businesses

97 Medium Businesses

28 Large Businesses

2047 Total Number of Enterprises

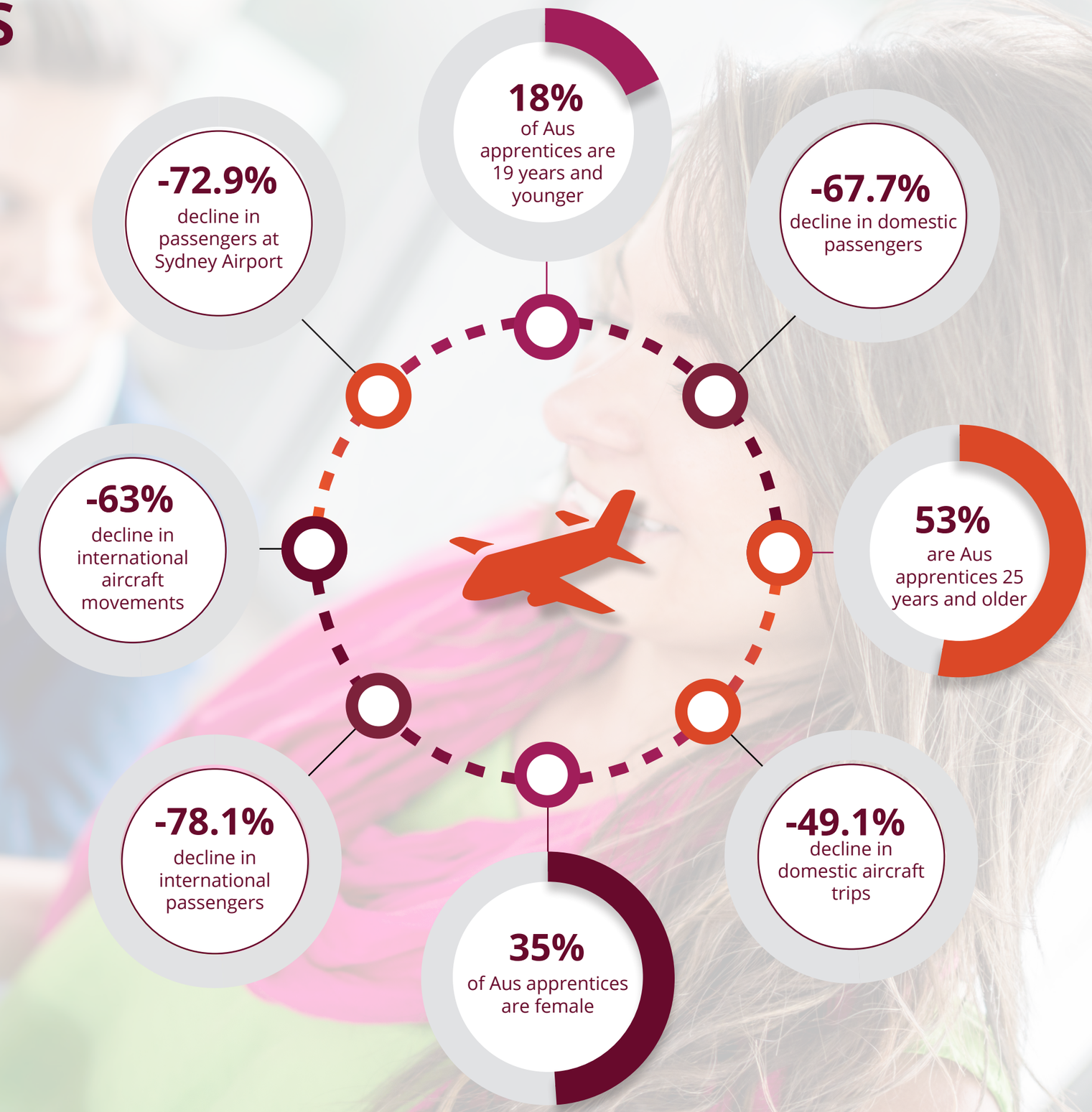
INDUSTRY FAST FACTS

$60B
commercial drone market by 2024

1.2M
drones operating in Australia

22.60M
passengers carried on domestic commercial aviation in 2019-20 (-64.7% decline)

9.3M
international passenger carried in 2019-20, (-78.1% decline)



IRC RESPONSE TO SKILLS NEEDS

Aviation Industry Trends

COVID -19 and the Aviation Industry

COVID-19 restrictions have caused a significant reduction in domestic and international airline services. The slump in airline activities poses a serious safety risk as it impacts aircrew recency and currency requirements. Pilots need to maintain their skills and knowledge during the downturn. There has been extensive job loss in the industry and recovery will be slow and dependent on an effective vaccination program. The vaccination program is underway and once the Aviation industry returns to normal, it will face the challenge of addressing skills shortages. Maintenance of skills remains a high priority for the industry as some current licence holders require ongoing professional training.

Covid-19 has also had an adverse effect on wildlife hazard management with an increase in strikes owing to a decrease in traffic (wildlife feels more comfortable with fewer aircrafts), and nesting of wildlife in parked aircraft.

Workforce Impact

Maintaining the currency of aircrew's skills during the pandemic is a major concern for the workforce. Safety is a priority in the Aviation industry and managing the recency and currency of skills and knowledge is vital for the workforce once the industry returns to normal.

The IRC Response

- The IRC will monitor the situation through targeted stakeholder consultation/ engagement validating the industry's ability to counter the COVID-19 threat.

Aviation Industry Trends

Drone Technology is a Game Changer

The COVID-19 pandemic has also increased the demand for automation, including autonomous vehicles, in the aviation sector. The use of drones and unmanned aerial taxi for delivering products such as food or medical supplies, and even commuting to work will be more prevalent in the future. A new development is Electric Vertical Take-off and Landing (eVTOL) Vehicles that will create even more opportunities. Drone technology is projected to create up to 5,500 new full-time jobs each year for the next two decades.

In response to the increasing use of drones across a range of industries, the need for operational risk management is being monitored by the regulator.

Workforce Impact

There is a need for more aviation workers with skills in digital, telecommunications and automation technologies as well as knowledge of regulatory change in the aviation sector.

The IRC Response

- The IRC is proposing a Diploma of Aviation (Chief Remote Pilot) to provide a regulatory and procedural leadership role supporting future changes in the drone industry. The new qualification is proposed to include drawing in appropriate existing aviation and imported units of competency.
- The Aviation IRC has developed a new single unit Skill Set to address the skills and knowledge for Remotely Piloted Aircraft (RPA) operations in the excluded category sub 2 kg. The new unit will be suitable for contextualisation across multiple industries.

Aviation Industry Trends

New Trends in Air Traffic Control

The effective integration of drones into traditional airspace and flight operations is a challenge. There is a pilot program to assess unmanned traffic management (UTM) systems and identify options for integration of unmanned systems with conventional airspace users while maintaining air safety and security.

A new Air Traffic Management System, known as OneSky, will replace the current system and is expected to roll out by 2023 to harmonise civil and military air operation.

The industry is also working towards introducing Digital Aerodrome Services, also known as Digital Control Towers, to help air traffic controllers, enhance service delivery and improve safety outcomes. The technology involves capturing video imagery of an airport and surrounding airspace and displaying it on screens at a centrally based control room. Digital towers can also be integrated into the air traffic management data networks to improve flow management and collaborative decision-making. This technology can increase efficiency and save costs.

Workforce Impact

The aviation workforce will need skills to operate the latest technologies especially in air traffic control operations.

The IRC Response

- The IRC is proposing to review the Diploma of Aviation (Air Traffic Control) and associated Units of Competency to ensure the skills and knowledge requirements are aligned with technology, and CASA standards (Manual of Standards Part 172—Air Traffic Services). The project may also include the development of new Units of Competency to address job requirements associated with new air traffic functions.

Aviation Industry Trends

Industry-Specific Cybersecurity

The rapid adoption of digital technologies by industries, expedited by COVID-19, has highlighted the importance of cybersecurity. In the last year, over 59,000 cybercrimes have been reported in Australia, equal to one cybercrime every ten minutes. Investment in the development of strategies and digital skills to combat cyber threats is integral to aviation safety and business continuity and is also an enabler of digital transformation. The Australian government has made significant investments to develop a skilled workforce with technical and cyber security skills in partnership with industry. The development of cybersecurity skills can also encourage workers to be more engaged with other digital technologies, benefitting both organisations and the Australian economy.

Workforce Impact

Workforce skills need to be developed to:

a. minimise the risk of cyber attacks, and

b. reinstate digital businesses systems as quickly as possible in the event of a cybersecurity incident – including compliance with regulatory requirements.

The IRC Response

- The IRC will monitor the Skill Sets developed by other IRCs and the work of the new Digital Skills Organisation (SO) pilot. Any suitable identified Skills Sets will be contextualised for use in the Aviation Training Package to develop workforce skills.

Aviation Industry Trends

Regulatory Compliance and Training Package Updates

Safety and compliance are of utmost importance in the Aviation industry. To this end, regulations are updated to ensure ongoing safety. There have been regulatory updates on drug and alcohol management in the industry. There will also be new regulations regarding flight operations which will be implemented in December this year covering flight rules, as well as certification and management, for a variety of aircraft and operations. New standards (MOS139) came into effect for aerodromes in August 2020 resulting in additional airports now deemed to be “certified”.

Workforce Impact

The workforce will need to maintain their current skills to ensure safety and compliance in Flight Operations, Flight Training and Ground Operations.

The IRC Response

- The IRC is proposing the revision of the Diploma of Aviation (Commercial Pilot Licence - Aeroplane) and Units of Competency to ensure the skills and knowledge requirements are aligned with new regulatory standards. A specific area for review will be Units of Competency that contain ‘incipient spin’ as per regulation changes published in 2021. Furthermore, the Units of Competency for aerodrome personnel will be reviewed and additional Units/Training Packages developed as required.
- The IRC is proposing to review Units of Competency from the recently deleted Certificate IV Aviation (Flight Operation Supervision) and add them as a fourth stream in the Certificate IV in Aviation (Aviation Supervision) This would provide the essential skills and knowledge to support this role in aviation ground operations going forward.

KEEPING INDUSTRY ENGAGED

Industry plays a key role in the identification of skills needs and the development of skills standards. An industry-led Vocational Education and Training (VET) system brings together industry and the VET sector with the joint goal of growing the capability and agility of Australia's workforce in line with industry's current and emerging skill needs.

With the advent of the double disruption of COVID-19 and accelerating digital transformation, there is an even greater need to ensure we have a workforce with the right skills at the right time. The Australian economic recovery and our global competitiveness will be underpinned by a strong and responsive vocational education and training system.

Fundamental to a strong and responsive vocational education and training system is engagement with industry stakeholders. A strong industry voice and its leadership of the VET system will be central to ensuring that we leave no worker behind in the journey ahead.

The VET system plays a significant role in ensuring enterprises have a highly skilled workforce, with opportunities to upskill and reskill existing workers, as well as prepare new entrants for the world of work. Industry leadership and engagement will ensure training to meet the needs of employers, provide better job outcomes, and equip workers with transferrable skills to increase their mobility and broaden their career paths.

The industry can support the Aviation IRC to collect evidence-based data through a range of intelligence gathering methods and engagement activities to ensure advice and decision making is informed, accurate, and reflective of industry needs.

ABOUT AUSTRALIAN INDUSTRY STANDARDS

Australian Industry Standards (AIS) provides high-quality, professional secretariat services to the Aviation IRC in our role as a Skills Service Organisation. AIS provide services to eleven allocated IRCs which cover Aviation, Corrections, Gas, Electricity Supply (Generation and Transmission, Distribution and Rail), Electrotechnology, Maritime, Public Safety (including Police, Fire and Emergency Services, Defence), Rail, Transport and Logistics, and Water industries. AIS supports these important industry sectors using our in-house capability and capacity in technical writing, quality assurance, project management and industry engagement in the production of Training Packages.

AIS was established in early 2016, 20 years after its predecessor the Transport and Logistics Industry Skills Council (TLISC) was established in 1996. More information about AIS can be found at http://www.australianindustrystandards.org.au

- We support industry growth and productivity through our modern innovative approach to establishing skills standards.
- We provide high-quality, professional secretariat services to help our allocated industry reference committees develop the skills that industry needs.
- We partner with industry to shape the workforce of the future.

Visit our Engagement Hub on our website – www.australianindustrystandards.org.au

Talk to a member of our team (details are available on our website or by calling (03) 9604 7200)

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