AUSTRALIAN
INDUSTRY
STANDARDS

SKILLS FORECAST 2019

AVIATION

INDUSTRY REFERENCE COMMITTEE

Australian Industry Standards acknowledges and thanks those organisations who supplied images to be used in this report. AviationImage on page 14, 20 QANTAS.

CONTENTS

4

EXECUTIVE SUMMARY

The Aviation industry is one of the largest industries in Australia, connecting people and businesses across the country and around the globe. The industry is a major economic contributor, creating jobs and facilitating international trade and tourism.

The industry had an estimated annual revenue over $45.98 billion in 2018, employing over 93,000 people across the major subsectors: domestic commercial aviation, international commercial aviation, general aviation, air-freight aviation, and aviation support infrastructure.

The industry has reported an increasing need for more pilots, flight instructors, and maintenance engineers, especially in regional airlines. The pilot shortage is compounded by international airlines poaching pilots from Australian airlines. Some domestic airlines have launched recruitment initiatives such as Pilot Academies and Cadet Pilot programs to address the workforce shortage. With further workforce training initiatives, Australia is well poised to benefit from the anticipated demand for pilots across the globe.

New technologies are also rapidly reshaping Aviation operations. Technological advances in remotely piloted aircraft systems, ground operations, and air traffic control systems have improved operational efficiency and safety. Airport security remains a major focus for the industry. New technologies such as Checkpoint Computed Tomography (CT), currently trialled in Australia, offer 3D imaging of luggage which will increase safety and security.

The industry is improving customer services by streamlining processes through the adoption of innovations such as SmartGate, automated check-in and bag drops, biometric technologies, and facial recognition. Airports are also offering some services via digital platforms and smart devices to improve efficiency and create a seamless passenger experience at airports.

Air traffic control and airport operations are transformed by new systems such as OneSky, Long Range Air Traffic Flow Management (LR-ATFM), and Airport Collaborative Decision Making (A-CDM) which harmonise operations through data sharing and collaborative and predictive decisions. Training and upskilling the workforce in digital literacy, cybersecurity, data analytics, and operation of new systems is deemed essential.

New technologies and the ongoing regulatory changes will require regular revision of the Training Package to ensure a skilled and adaptable workforce. The IRC has identified the need to develop new skills in 3D Computed Tomography (CT) scanning. The workforce planning and development activities undertaken by enterprises are essential to creating and retaining a viable and productive workforce.

Stephen Leahy
Aviation IRC Chair
This IRC Skills Forecast was agreed to by the Aviation IRC on 29 April 2019.

TECHNOLOGICAL ADVANCES IN REMOTELY PILOTED AIRCRAFT SYSTEMS, GROUND OPERATIONS, AND AIR TRAFFIC CONTROL SYSTEMS HAVE IMPROVED OPERATIONAL EFFICIENCY AND SAFETY.

IRC SKILLS FORECAST

The Industry Reference Committee (IRC) Skills Forecasts focus on the prioritisation of the skill needs of the industry sectors each IRC has responsibility for. They are developed and reviewed annually and submitted on behalf of the IRC to the Australian Industry and Skills Committee (AISC) for approval.

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. The information is then used to develop the four-year IRC Proposed Schedule of Work.

AVIATION IRC SKILLS FORECAST

This annual IRC Skills Forecast will be submitted by the Aviation IRC to the AISC for approval.

The IRC Skills Forecast identifies the priority skill needs of the Aviation industry following a research and stakeholder consultation process conducted by Australian Industry Standards (AIS) on behalf of the IRC.

Once approved by the AISC, the IRC Skills Forecast informs the development of a four-year rolling National Schedule for review and development work within the AVI Aviation Training Package.

More information on the National Schedule can be found at: www.aisc.net.au/content/national-schedule.

8

AVIATION INDUSTRY REFERENCE COMMITTEE

The Aviation IRC has been assigned responsibility for the AVI Aviation Training Package.

More information about the Aviation IRC and its work can be found here: www.australianindustrystandards.org.au/committee/aviation-industry-reference-committee/

AVIATION IRC MEMBERS

Stephen Leahy (Chair)
Westpac Life Saver Rescue Helicopters

Greg Tyrell (Deputy Chair)
Australian Association for Unmanned Systems

Claire Roberts
Airservices Australia

David Mogford
Australian Airline Pilots' Association

Douglas Nancarrow
The Royal Aeronautical Society Australian Division

Lynda Douglas
Department of Defence

Matt Norrey
Australian Services Union

Mike Higgins
Regional Aviation Association of Australia

Peter Howe
Australian Helicopter Industry Association

Roger Crosthwaite
Civil Aviation Safety Authority

Samantha Leighton
Australian Airports Association

Sarah Davis
Qantas Airways Limited

Steve Galjar
Aviation Aerospace Australia

For more information please contact:

Greg Spence
Aviation Industry Manager
Australian Industry Standards
M 0427 990 147
E greg.spence@australianindustrystandards.org.au

AVIATION INDUSTRY OVERVIEW

The Aviation industry underpins Australian business and tourism and has an estimated annual revenue of $45.98 billion, adding $18.42 billion to the Australian economy in 2018.

The industry employs more than 93,000 people across its five main subsectors: Domestic commercial aviation, international commercial aviation, general aviation, air-freight transport and aviation support infrastructure.

EXPLANATORY NOTES

Counts of Australian Businesses

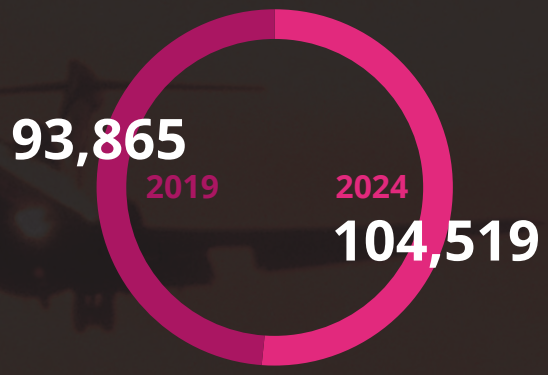
Distinct from the Census and Labour Force data, the Counts of Australian Businesses data uses a top down approach where industries are primarily classified by the single predominant industry class associated with a business' ABN. A limitation of this approach is that organisations with a presence in several States/Territories will be counted only once. This can lead to enterprise figures appearing low for a given state/territory, but it's not that there are no enterprises existing in the state/territory, it's that the headquarters are located elsewhere. A further consideration is that organisations in more than one industry will also be only counted in one industry.

WORKFORCE AGE

AT 41.6 YEARS OLD, THE TYPICAL WORKER IS **10 MONTHS** OLDER THAN THE NATIONAL AVERAGE.

THE WORKFORCE IS AGEING AT **1.4 TIMES** THE NATIONAL RATE

WORKFORCE SIZE



BUSINESS COMPOSITION

1808 SMALL BUSINESS

80 MEDIUM BUSINESS

33 LARGE BUSINESS

GENDER DISTRIBUTION

EMPLOYMENT GROWTH TO 2024

11.4%

INDUSTRY VALUE YEAR 2018-19

REVENUE $45.98B

+$18.42B TO GDP

12

KEY AVIATION STAKEHOLDERS

Employers

- Airbus Group Asia Pacific
- Airport security providers – Major, Regional and Remote
- Airports – Major, Regional and Remote
- Alliance Airlines
- Aviation Australia
- Basair Aviation College
- Becker Helicopters
- Boeing Australia Holdings Pty Ltd
- Cobham Aviation Services
- Council operated aerodromes
- Dedale Asia Pacific
- Flight Academy Australia
- Heliwest
- Insitu Pacific
- LifeFlight
- Medical Rescue
- Moorabbin Flying Services
- Qantas Airways Limited, including Jetstar and QantasLink
- Regional Express (REX)
- Rotor-Lift Aviation
- Sharp Airlines
- Virgin Australia
- Westpac Lifesaver Rescue Helicopter
- Yamaha Motor Australia Pty Ltd

Employer Representatives

- Australian Airports Association
- Australian Helicopter Industry Association
- Aviation-Aerospace Australia
- Flight Safety Foundation
- Recreational Aviation Australia
- Regional Aviation Association of Australia
- Royal Aeronautical Society (RAeS) Australia
- Royal Federation of Aero Clubs
- Safeskies Australia

Employee Representatives

- Australian & International Pilots Association
- Australian Federation of Air Pilots
- Australian Services Union
- Flight Attendants Association of Australia
- Transport Workers Union

Licensing / Regulatory

- Airservices Australia
- Australian Transport Safety Bureau
- Civil Aviation Safety Authority

Government

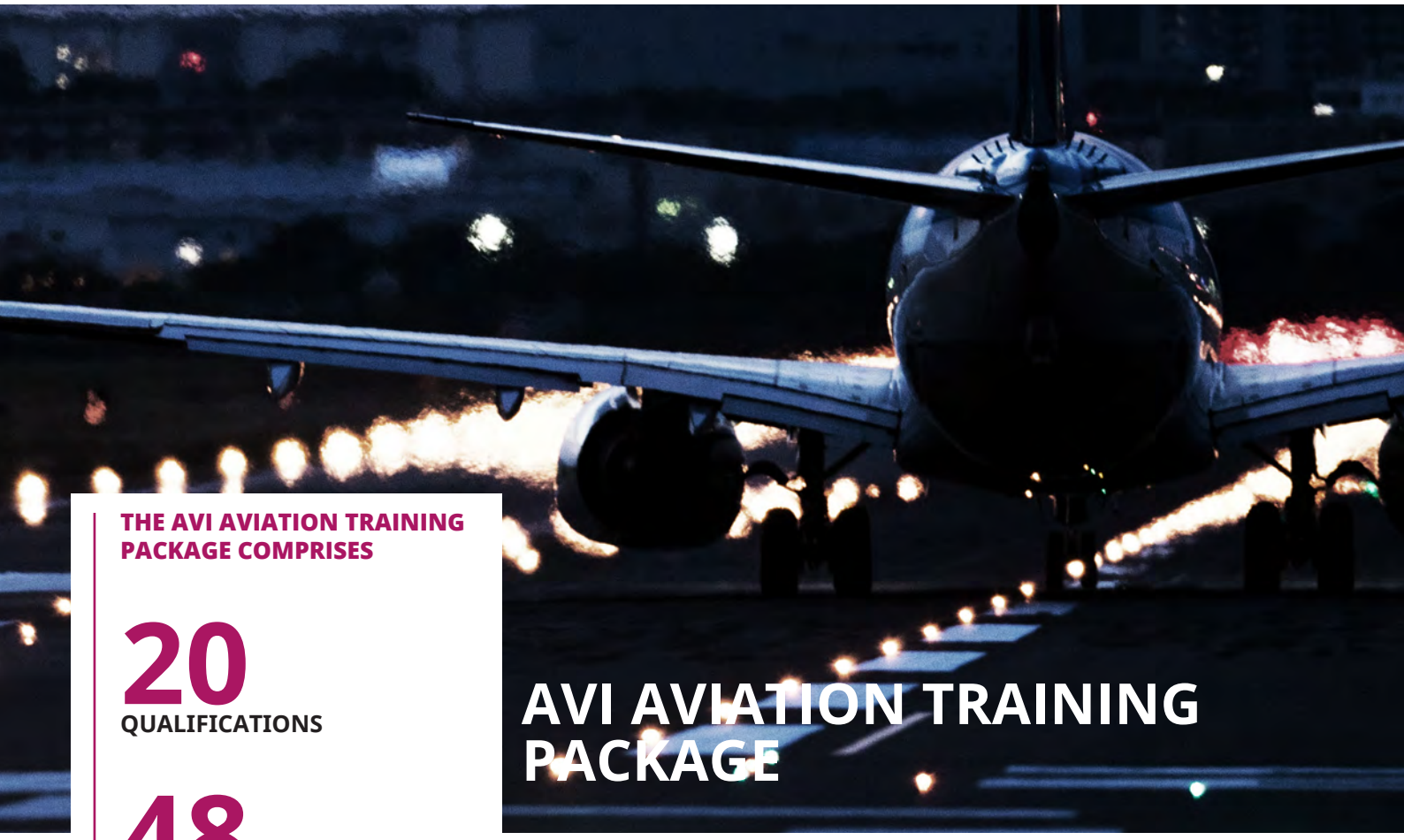
- Department of Defence
- Department of Infrastructure and Regional Development
- Federal, State/Territory Departments

Industry Advisory

- State and Territory Industry Training Advisory Bodies (ITABs)

Training Organisations

- TAFEs, Private RTOs, Enterprise RTOs



AVI AVIATION TRAINING PACKAGE

THE AVI AVIATION TRAINING PACKAGE COMPRISES

20
QUALIFICATIONS

48
SKILL SETS

219
UNITS OF COMPETENCY and associated assessment requirements. These covers aviation safety, ground operations and flight operations.

The AVI Aviation Training Package provides the only nationally recognised Vocational Education and Training (VET) qualifications for occupations involved in aerodrome operations, airport safety, ground operations, cargo services, customer service, transport security protection, aviation search and rescue, management and supervision, air traffic control, flight operations (pilots – aeroplane, helicopter, commercial, military, remote and pilot in command) and flight instruction.

The AVI Aviation Training Package contains the following qualifications:

Certificates

- Certificate I in Aviation (Foundation Skills)
- Certificate II in Certificate II in Transport Security Protection
- Certificate II in Aviation (Flight Operations-Cargo Services)
- Certificate II in Aviation (Ground Operations and Service)
- Certificate III in Aviation (Remote Pilot - Visual Line of Sight)

14

- Certificate III in Aviation (Ground Operations and Service)
- Certificate III in Aviation (Rescue Crewman)
- Certificate III in Aviation (Cabin Crew)
- Certificate III in Aviation (Aerodrome Operations)
- Certificate IV in Aviation (Aviation Supervision)
- Certificate IV in Aviation (Flight Operations Supervision)
- Certificate IV in Aviation (Aircrewman)

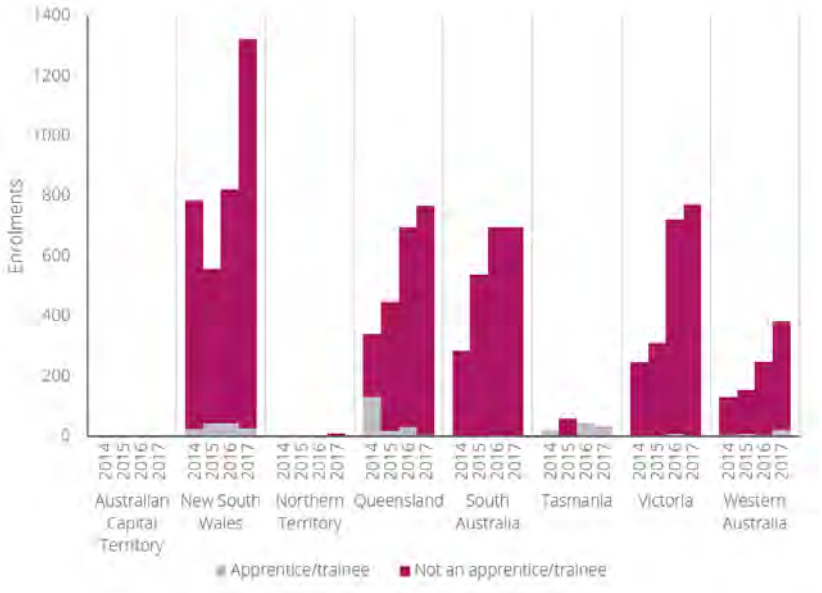
Diploma - Advanced Diploma

- Diploma of Aviation (Air Traffic Control)
- Diploma of Aviation (Commercial Pilot Licence - Aeroplane)
- Diploma of Aviation (Instrument Rating)
- Diploma of Aviation (Commercial Pilot Licence - Helicopter)
- Diploma of Aviation (Flight Instructor)
- Diploma of Aviation (Aviation Management)
- Advanced Diploma of Aviation (Pilot in Command)
- Advanced Diploma of Aviation (Chief Flight Instructor)

THE AVI AVIATION TRAINING PACKAGE IS ON THE SCOPE OF REGISTRATION OF 323 REGISTERED TRAINING ORGANISATIONS.

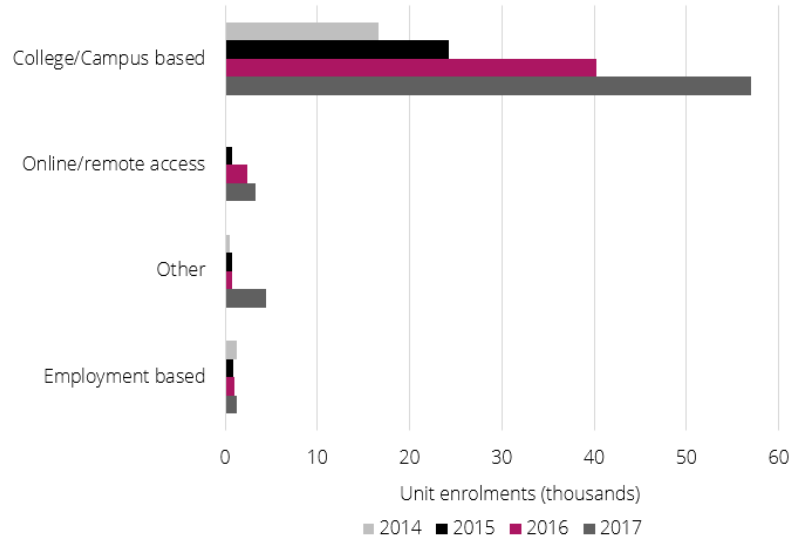
TRAINING DATA

The charts below investigate commencing qualification enrolments by apprentice/trainee status in each State and Territory along with Unit enrolments by delivery type over four years. At the national level, qualification enrolments in the AVI Training Package have more than doubled, growing by 120% over the last four years while Units of Competency enrolments have more than tripled (257%).



QUALIFICATION ENROLMENTS BY STATE/ TERRITORY

Aviation qualification enrolments have been increasing in almost every State and Territory, more than doubling in Western Australia, South Australia and Queensland and more than tripling in Victoria in the last four years.



UNIT ENROLMENTS BY DELIVERY TYPE

Online/remote access Unit enrolments grew from 22 enrolments in 2014 to 3,350 in 2017, more than quintupling each year. College/campus based, which is starting from a much higher value, more than tripled in the same period to almost 60,000 enrolments in 2017. Employment based enrolments declined slightly (-3.2%) in the same period.

EXPLANATORY NOTES

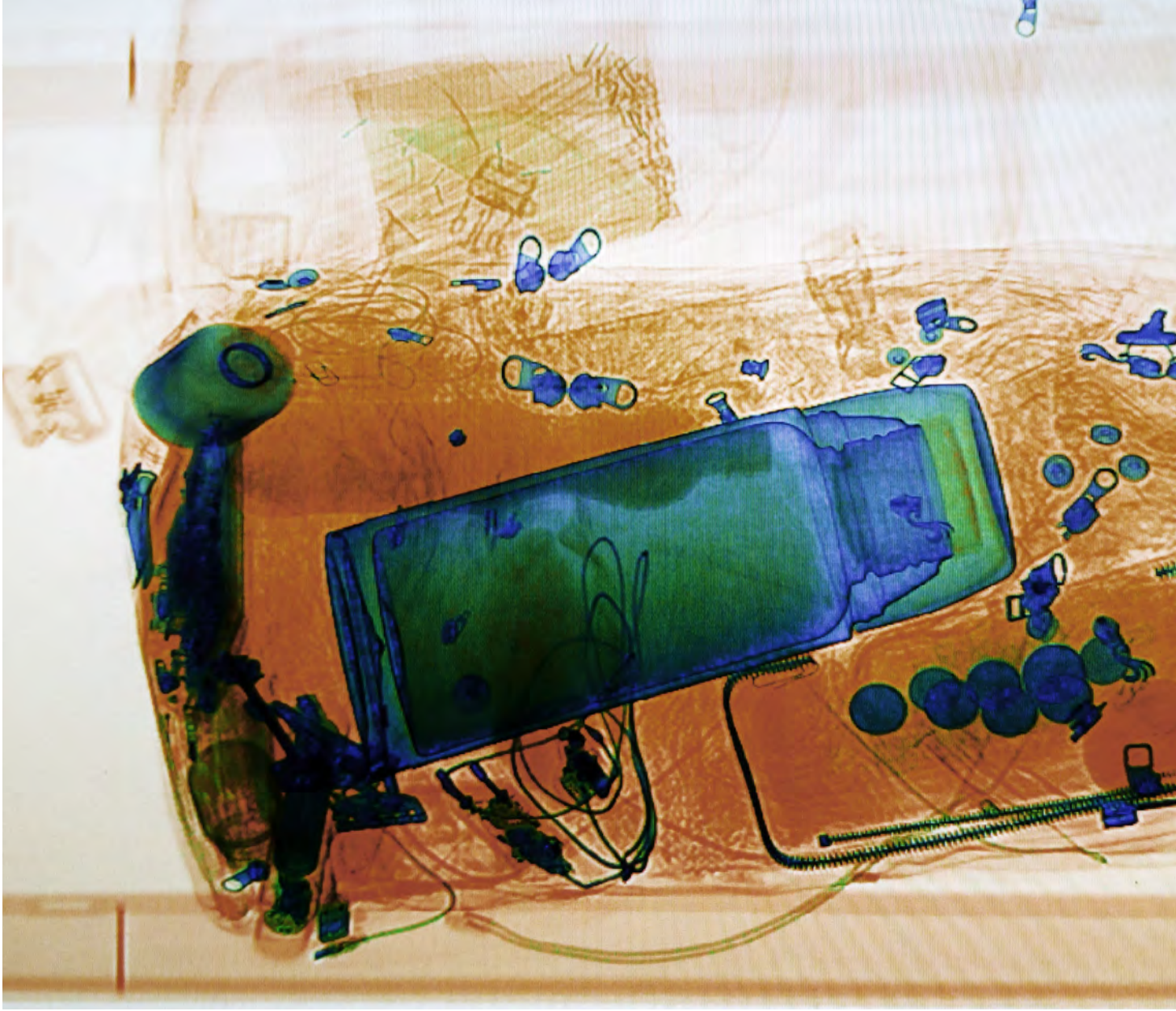
Training Charts

Total VET Activity (TVA) data is collected from all types of training providers and not only those in receipt of Commonwealth or State funding. TVA data collection commenced in 2014. For Enrolments by Delivery type 'Other' includes; Recognition of Prior Learning (RPL), Credit Transfers and Units where the mode of delivery is mixed.

Exemptions

Where the submission of training data to TVA conflicts with defence or national security legislation or jeopardise the security or safety of personnel working in defence, border protection, customs or Australian police departments, an exemption from reporting training data is available.

Organisations that deliver training for vital services to the community (such as emergency, fire, first aid and rescue organisations) may have received an exemption to submit data to TVA. From 1 January 2016 however, the exemption from reporting applies only in respect of training activity not delivered on a fee for service / commercial basis.



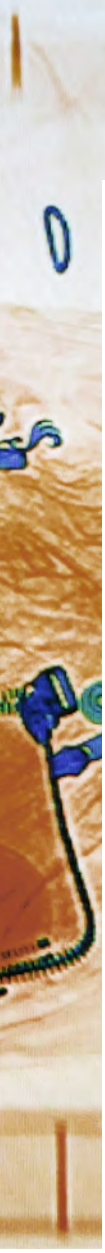
CHALLENGES AND OPPORTUNITIES

INTERNATIONAL AVIATION IS A BOOMING INDUSTRY

The international Aviation industry will continue to grow rapidly in the foreseeable future. According to the International Air Transport Association (IATA), over the next two decades the number of travelling passengers is expected to almost double to 7.8 billion globally, with the biggest demand across the Asia-Pacific region.[1] It is forecasted that about 240,000 new commercial pilots will be required in the next 20 years to meet the Aviation industry's need in this region.[2] This is largely driven by international economic growth in provincial areas, and higher disposable incomes and increased air travel in emerging economies which are transitioning to more service-based economies.[3]

Australia's proximity to Asia and the boom of global tourism and travel offer unique opportunities for the Australian Aviation industry. Similar to the global increase in air travel, Australia also enjoyed a 5.3 per cent rise in overall international passenger traffic in 2017.[4] Australian major airports (Melbourne, Sydney and Brisbane) expect a doubling of both domestic and international passengers in the next two decades and have invested in major development plans to accommodate the increased demand.[5 6 7 8] Western Sydney International Airport is also under construction which is expected to open in 2026. During both construction and operation, Western Sydney Airport will support a range of jobs for various skill levels and qualifications including baggage handlers, ground staff and engineers. The project is expected to create 28,000 direct and indirect jobs by 2031 which will pose a challenge in developing a capable workforce.[9]

As air travel increases, Australian airlines and airports are facing greater competition for skilled labour, both locally and from other countries. This is already evident as qualified pilots and



engineers are in great demand. Many developing countries are raising pilot wages to attract foreign-trained talent to support their growth.[10] Incentives and methods to retain skilled Aviation industry employees, as well as ensuring the Vocational Education and Training (VET) meets demands of industry, will continue to be highly important in the future.

TECHNOLOGIES AIM TO IMPROVE SERVICES AND CUSTOMER SATISFACTION

Aviation technology is advancing at an unprecedented rate, requiring the industry to anticipate, adapt and plan much faster than ever before. These innovations remain a key challenge in meeting the capability requirements of the Aviation workforce.[11]

In response to the growth in the Aviation industry, airports have significantly invested in the implementation of new technologies to streamline processes and provide greater customer service. The introduction of SmartGates, automated check-in and bag-drops, trials of biometric technologies and facial recognition, the launch of digital platforms to provide tailored information for customers, advanced X-Ray equipment and body scanners,[12] automated lane technology, and Checkpoint Computed Tomography (CT) which can produce a 3D image of the content of bags[13] are examples of new technologies at Australian airports which have improved efficiency and enhanced customer passenger experience.[14] [15]

Artificial Intelligence (AI) and Virtual Technology (VT) have the potential to significantly increase operation efficiency. Worldwide and within Australia, airlines have adopted tools such as dynamic airborne rerouting planning, crew scheduling optimisation, predictive maintenance, and fuel efficiency software to minimise costs and disruptions and improve services.[16] Leveraging new technologies will create opportunities to improve overall performance, productivity and safety.[17] Western Sydney Airport is currently under construction which will be Australia's first digital/smart airport by optimising the integration of technology and sustainability, providing a seamless travel experience.[18]

Technology-based solutions will also provide new career paths for existing and future employees, with opportunities to train and further enhance skills.

SECURITY AND INDUSTRY-SPECIFIC CYBER SECURITY IS REQUIRED

The growing pace of new innovations and technologies is accompanied with increasing exposure to cyber security threats. Cyberattacks are a common risk to many industries including the aviation sector. According to a research report, 95 per cent of Chief Information Officers believe that cyberattacks will increase and impact organisations in the next three years.[19] Australia has also been identified as the nation most under cyberattack threats in the Asia-Pacific region with 80 per cent of companies reporting a total of 5,000 threats a day,[20] incurring a cost of $29 billion per annum to Australian businesses.[21] Over two thirds (69 per cent) of Australian businesses report experiencing cyber fatigue against cyber threats.[22]

Awareness of the nature of cyber security threats and skills to detect, report and resolve the issues remain a challenge. Under the Notifiable Data Breaches (NDB) scheme, established in early 2018, organisations that suffer a data breach causing serious harm to individuals are required to alert the Office of the Australian Information Commissioner (OAIC). They must also inform the affected customers/clients whose confidential data is breached.[23] This, in turn, could entail financial and/or reputational loss if a breach occurs due to lack of proper cyber security skills and procedures. About 66 per cent of Australian CEOs regard cyber security capabilities among the top three most important workforce capabilities to foster.[24] This was supported at the AIS national Industry Skills Forums where the vast majority of participants considered cyber security to be a highly significant issue to their organisations.

The unique nature of Aviation technologies and innovations such as Big Data, AI, automation, etc., creates large amounts of data and can expose the industry to growing cyber security risks. Ensuring the safe handling of personal data of all passengers in airports, and on planes, as well as their personal safety, will continue to be a challenge for aerodrome operators.

The specific nature of innovations in the Aviation industry makes it imperative to have a tailored cyber security training program not only to inform the workforce of the particular nature of these cyberattacks, but also give them the skills and competencies to be able to resolve them.

Businesses need to raise awareness about the issue, have proper processes in place and deploy the right technologies to help identify, block or remediate against any malicious attacks.

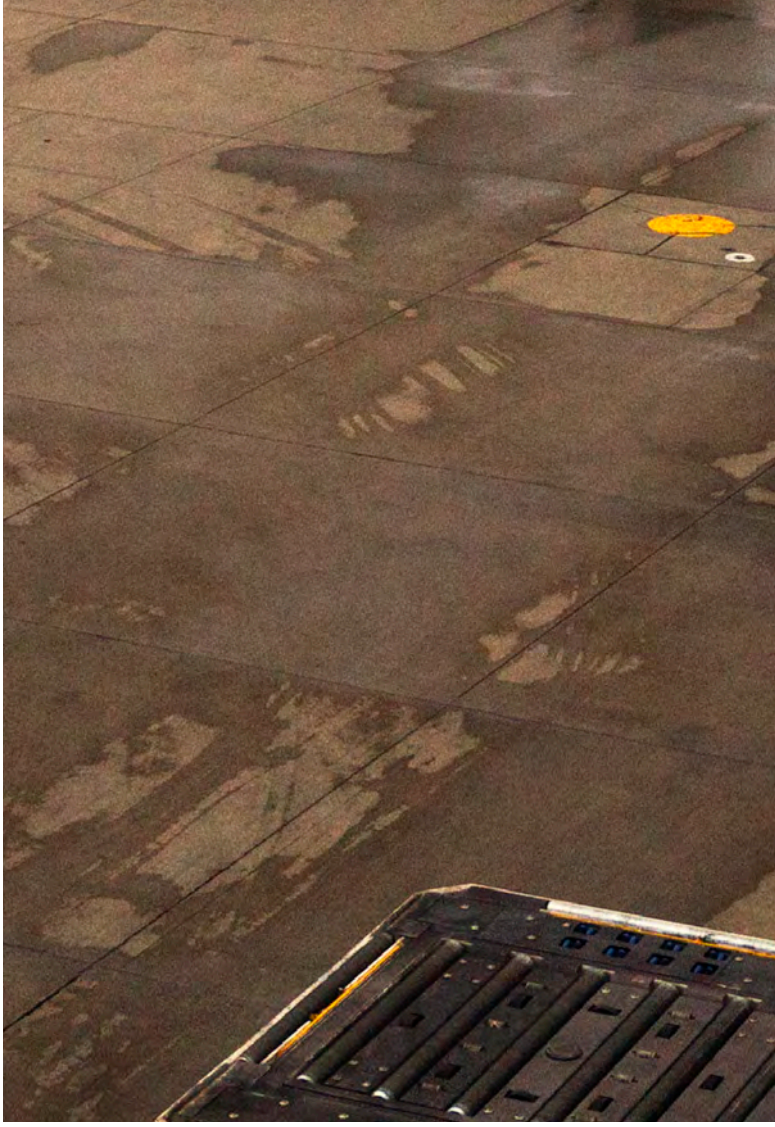
Similarly, there is increased risk of real-world attacks, either in the air or in high-density airport facilities. The challenge in establishing the appropriate level of security at airports is that the global threat environment is constantly evolving. Threat actors are continuing to innovate and experiment with new techniques, technologies and concealment methods in an attempt to defeat security measures. Maintaining high standards of security and training people to identify suspicious behaviour will be necessary to ensure continued reliable safe travel operations. Investing in skills and capabilities through educational programs is key to understanding cybersecurity and being protected from both security and cyber threats.

DIGITAL LITERACY IS ESSENTIAL

Digital transformation has completely revamped every aspect of life and workforce. New technologies and devices are widely used in the workplace, creating digitally-enabled environments that affect numerous occupations. Digital literacy and Information Communication Technology (ICT) skills are required to respond and adapt to the fast pace of implementation of these technologies. Digital literacy is defined as having practical skills in using technology to access, manage, manipulate, and create information as well as the skills to critically analyse, interpret and apply the information to relevant situations. Digital literacy also encompasses more technical skills in programming and coding, data analytics, technology design, system analysis, and presenting and managing content on the web to develop and manage applications.[25] [26]

Advancements in Artificial Intelligence, computer technology, automation, the Internet of Things, cloud computing, big data, customer-service platforms and social media are generating a massive volume of data and information, offering a range of benefits such as improved customer service and operational efficiency. In line with the Australian Government's National Innovation and Science Agenda,[27] training and upskilling in digital literacy will help drive economic prosperity.

Airservices Australia is making the biggest transition to cloud technology in government history[28] and intends to digitalise their workflow



services in 2019,[29] highlighting the significance of digital skills capabilities. Demand for analytical skills, digital literacy, information management, and mobile applications (development and implementation) will continue to rise, making digital literacy one of the most significant areas in which the new and existing workforce will need training.[30] This will ensure that the industry can take advantage of new opportunities and keep pace with emerging technologies.

Data is the driver of improved customer service which is offered through digital platforms. Data specialists can provide network organisations with insights into consumer behaviour. Organisations can use the data and insights that have been sourced from digital services and platforms in order to tailor consumer relationship processes. Programming skills will be pivotal as they are required in the design, construction and delivery of educational materials via digital platforms that enable interaction with consumers. Consumers are also increasingly demanding digitalised services, allowing them to directly communicate with service providers via smart devices and social media channels. The design and build of these digitalised service systems and their usability for consumers will be critical in order to attract and retain consumers.[31] Benefitting from digital literacy

will also require a digitally competent workforce with a range of skills, from basic ICT skills to specialist skills, to manipulate and interpret data in a meaningful manner and deploy technologies more effectively.

In a recent survey, employers prioritised digital technology training development for managers (33%) followed by technicians/trades workers and professionals at 18 and 16 per cent respectively.[32] Digital skills have been ranked as the second highest-priority skills needs with 64 per cent of IRCs listing them in their skills forecasts.[33] Participants at the AIS national Industry Skills Forums also emphasised digital literacy as a highly significant skill in demand.

Australia is very well positioned to be a leader in the digital economy. This will be enhanced through continued planning and investment in educational programs to train and upskill the existing and future workforce in digital literacy.

REMOTELY PILOTED AIRCRAFT SYSTEMS (RPAS) REQUIRE NEW SKILLS

Remotely Piloted Aircraft Systems (RPAS), also known as Unmanned Aircraft Systems (UAS), or drones, are on the rise. Spending on drones in Australia is projected to be about US$3.1 billion by 2021.[34] Effective management of RPAS to ensure their safe integration into airspace remains a challenge.[35] A recent Senate inquiry has recommended a mandatory registration regime for drones weighing more than 250 grams and also a tiered education program to provide basic knowledge of aviation rules for those who purchase drones, advanced knowledge for recreational drone operators, and comprehensive knowledge for commercial drone operators before obtaining their license.[36] The Senate also received suggestions regarding the training of commercial drone operators who conduct 'beyond visual line of sight' operations.[37] [38] The Australian Association for Unmanned Systems (AAUS) has also shown strong support for these recommendations to improve aerial safety of drone operations.[39]

RPAS can provide huge economic opportunities to a range of industries. These opportunities

necessitate immediate response in terms of upskilling and training to ensure RPAS operators are conscious of safe operations of these systems and compliance regulations.

NEW SYSTEMS ARE CHANGING AIR TRAFFIC CONTROL

Air traffic control is being reshaped by a surge of new systems and technologies. Air Traffic Control operations are conducted by highly skilled professionals who oversee automated processes to conduct terminal and approach operations. Technologies such as Satellite Based Augmentation System (SBAS) have been trialled successfully and can provide safer and more accurate approach guidance and stability to airplanes.[40] As aircraft activity in Australia continues to increase, the demand for operators who are capable of accurately interpreting large volumes of flight data and communicating with manned and unmanned flights, while maintaining situational awareness of the broader airspace environment, will be in significant demand.

A new Air Traffic Management System, known as OneSky, will replace the current system and is expected to roll out by 2023. OneSky, a global first, will harmonise civil and military air operation and allow flexible use of air space, improving safety and efficiency.[41] Another technology is Long Range Air Traffic Flow Management (LR-ATFM) which can increase air traffic predictability and reduce controllers' workload, allowing for improved operational efficiency.[42] Australia is also leading the world's first network-wide implementation of Airport Collaborative Decision Making (A-CDM) which will harmonise airport operations through data sharing and provide the opportunity to make collaborative and predictive decisions.[43]

Whilst new systems will be supported through new or revised VET skills and knowledge, the role of the air traffic controller will increasingly demand "on-the-fly" analysis of large volumes of data, interpretation of diagnostic information, as well as critical thinking and problem-solving.

REGULATORY HARMONISATION IS ESSENTIAL

Compared to other countries with a leading aviation industry, Australia's aviation regulations on engineering and maintenance lack harmonisation which negatively impacts on training organisations.[44] There is also a need to harmonise state and territory privacy laws and standards in relations to drones,[45] a need which has been emphasised by the Australian Association for Unmanned Systems as well.[46]

GROUND OPERATIONS ARE BEING REVAMPED BY TECHNOLOGY

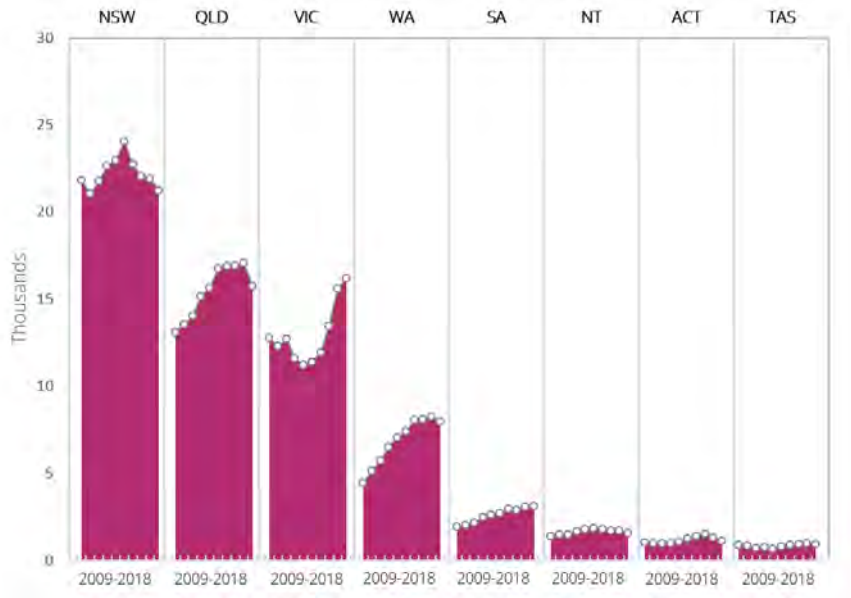
The advent of autonomous systems and vehicles will improve the efficiency of loading/unloading cargo, safety, reducing human factor incidents, and turnaround times between flights. More and more digital self-service technologies such as automated check-in, baggage drop-off, and biometrics will save costs and reduce routine work for ground operators. However, not all tasks in ground operations will be automated. Most aircraft refuelling tasks and the opening of internal and external aircraft cargo holds for loading and unloading cargo have not yet been designed for automatic or robotic-assisted opening. Within ramp operation roles, tasks are likely to predominantly focus on equipment maintenance skills to support autonomous ground operations equipment.

Examples of new skills could include the ground operators' ability to interpret body-language which seeks to identify signals beyond the scope of computer checks. Customer service (including check-in and baggage handling) will also become more about interacting with people.

EMPLOYMENT AND SKILLS OUTLOOK

EMPLOYMENT DEMOGRAPHICS

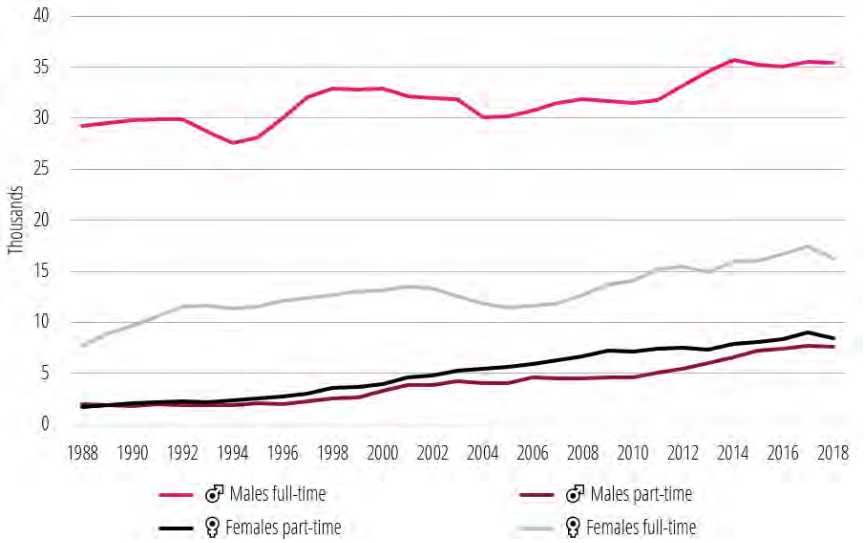
The following charts provide an overview of the Aviation workforce at a glance. These include workforce by State/Territory, gender-composition by employment type, and the projected employment for the next five years.



AVIATION WORKFORCE BY STATE/TERRITORY (2009 – 2018)

With the exception of New South Wales, all other States and Territories have experienced strong growth in the last ten years, particularly Western Australia (growing by 79.7%) and South Australia (increasing by almost 60%).

Source: Australian Bureau Statistics (2017) 6291.0.55.003 - Labour Force, Australia, Detailed. Australian Government.



GENDER BY EMPLOYMENT TYPE

Although the number of females in the industry is increasing, it is doing so largely in parallel with increases in the male workforce. The small difference in per year increases for the last ten years (2.7% for females and 1.9% for males) means gender parity in the Aviation industry is still a very long way off.

Source: Australian Bureau Statistics (2017) 6291.0.55.003 - Labour Force, Australia, Detailed. Australian Government.

PROJECTED AND HISTORICAL AVIATION WORKFORCE (2009 – 2024)

Though comprising the smaller workforce, Airport Operations is projected to increase by 4.1% per year to 2024 with Freight and Passenger Transport growing by 2.5% per year over the same period.

Source: IBISWorld Reports on Airport Operations, Domestic Airlines, International Airlines, Non-Scheduled Air Transport.

EXPLANATORY NOTES

Labour Force Data

Outside of Census years, the size of an industry's workforce is established by the Australian Bureau of Statistics using the Labour Force survey. This dataset provides a 30-year view of the industry where, like the Census, industry is assigned at the discretion of the individual respondent. Given that the survey is sample-based, it should also be understood that the smaller the industry being measured, the larger the margin of error.

The scope of the Labour Force survey is limited to the civilian population of Australia and therefore members of permanent defence forces are excluded from the survey.

IBISWorld Data

IBISWorld data is comprised from a variety of economic, demographic, government and company data, including the Australian Bureau of Statistics.

AVIATION INDUSTRY SKILL SHORTAGES

On behalf of the Aviation IRC, AIS conducted an online survey for stakeholders, between 11 September 2018 and 14 January 2019. The IRC sought feedback on the current skill shortages and the reasons for the shortages, as perceived by industry stakeholders.

AVIATION SKILL SHORTAGES

83 per cent of respondents reported experiencing a skills shortage in the last 12 months. The occupations reported as being in shortage were:

1. EDUCATORS, TRAINERS AND ASSESSORS
2. ENGINEERS AND TECHNICIANS
3. MANAGERS
4. PILOTS
5. SAFETY PERSONNEL

REASONS FOR SHORTAGE

Employers identified the following reasons for the shortage with the most frequent response listed first.

1. COST/TIME TO ACHIEVE THE REQUIRED QUALIFICATION
2. COMPETITION FROM OTHER ORGANISATIONS
3. AGEING WORKFORCE / CURRENT STAFF RETIRING
4. WAGES / SALARIES CONSIDERED TOO LOW
5. GEOGRAPHIC LOCATION OF THE VACANCY

THE INTRODUCTION OF SMARTGATES, TRIALS OF BIOMETRIC TECHNOLOGIES AND FACIAL RECOGNITION, AND CHECKPOINT COMPUTED TOMOGRAPHY (CT) ARE EXAMPLES OF NEW TECHNOLOGIES AT AUSTRALIAN AIRPORTS.

PRIORITY SKILLS

The priority skills of the Aviation industry are drawn from stakeholder responses to the Aviation IRC Skills Forecast survey conducted between 11 September and 14 January 2019.

SKILL CATEGORY

In order of priority to the industry, the following skills were identified from the survey as the most important for the Aviation workforce within the next three to five years.

1. HEALTH/SAFETY
2. OPERATIONAL
3. SECURITY
4. MAINTENANCE/SERVICING
5. PILOTING

GENERIC SKILLS

The Generic Skills listed are provided to AIS by the Department of Education and Training. Within the survey, the IRC asked stakeholders to rank these skills in order of importance to the industry. Ranking of the 12 generic workforce skills in order of importance to the Aviation industry are as follows.

1. DESIGN MINDSET / THINKING CRITICALLY / SYSTEM THINKING / SOLVING PROBLEMS
2. LEARNING AGILITY / INFORMATION LITERACY / INTELLECTUAL AUTONOMY AND SELF-MANAGEMENT
3. TECHNOLOGY
4. MANAGERIAL / LEADERSHIP
5. COMMUNICATION / VIRTUAL COLLABORATION / SOCIAL INTELLIGENCE
6. SCIENCE, TECHNOLOGY, ENGINEERING, MATHEMATICS (STEM)
7. LANGUAGE, LITERACY AND NUMERACY (LLN)
8. CUSTOMER SERVICE / MARKETING
9. ENTREPRENEURIAL
10. ENVIRONMENTAL AND SUSTAINABILITY
11. DATA ANALYSIS
12. FINANCIAL

26

WORKFORCE SUPPLY SIDE CHALLENGES AND OPPORTUNITIES

PILOT, FLIGHT INSTRUCTOR AND MAINTENANCE ENGINEER SHORTAGE

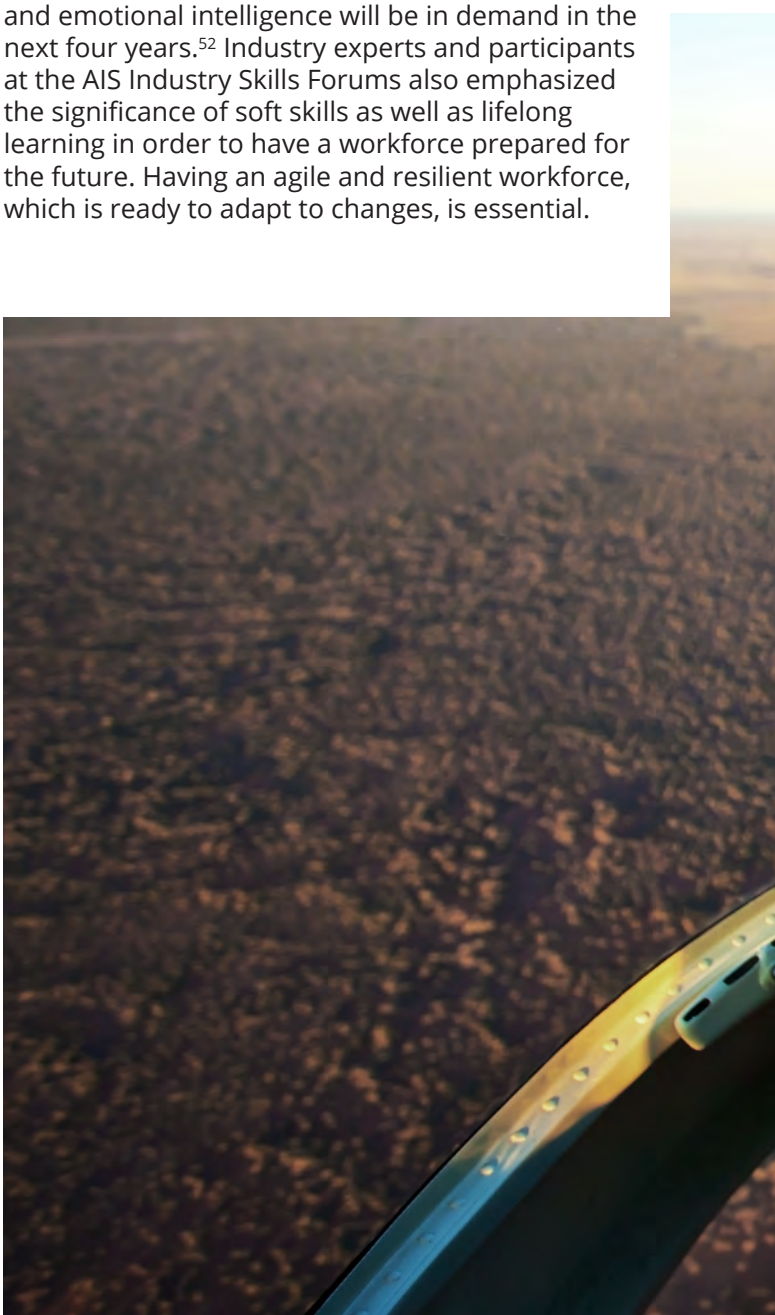
The Aviation industry is experiencing a shortage of pilots. This is a global trend where airlines worldwide have been hit by a growing demand for pilots with a projected 635,000 pilots needed around the world by 2037, with 40 per cent in the Asia Pacific region.[47] The global demand for pilots has also caused international airlines to poach pilots from Australian airlines. The issue is compounded by a similar need for qualified and experienced Flight Instructors, Flight Examiners and Flight Operations Inspectors.

There is also a reported shortage of licenced maintenance engineers to supervise the maintenance of aircrafts and the challenge is further compounded by the age profile of the current aviation engineering workforce, with an age average in the mid-fifties.[48] Multi-crew coordination training and advanced simulator training skills are also in high demand.[49]

The offshoring and/or outsourcing of aircraft maintenance functions by Australian airlines in recent years has had a significant effect on the maintenance engineering training landscape. Several generalist engineering training providers have stopped providing aviation related courses. There is a significant concern within the industry that closing engineering training facilities will impede the ability of training providers and maintenance businesses to rebound or take advantage of international growth opportunities. To ease workforce supply issues, industry Pilot Academies and Cadet Pilot Programs have been established, a move which has been well received by the Australian aviation industry to ensure long-term training of pilots and engineers. Airlines are committed to attracting a more diverse workforce through these programs.[50]

SOFT SKILLS ARE INTEGRAL FOR THE FUTURE

Today's workplace has fundamentally changed over the past decade and will continue to be transformed due to the advent of new technologies. In addition to technical and digital skills, soft skills will be equally important. Non-technical skills such as teamwork, problem-solving, and creativity are integral to the successful adoption and implementation of disruptive technologies.[51] Creativity and problem-solving skills will help individuals to explore new technologies and deploy them effectively in the workplace. The World Economic Forum has also indicated that these skills, as well as critical thinking, leadership, and emotional intelligence will be in demand in the next four years.[52] Industry experts and participants at the AIS Industry Skills Forums also emphasized the significance of soft skills as well as lifelong learning in order to have a workforce prepared for the future. Having an agile and resilient workforce, which is ready to adapt to changes, is essential.



INTERNATIONAL OPPORTUNITIES TO BENEFIT AUSTRALIA

Strong international opportunities exist for Australian aviation training providers, both in terms of expanding overseas operations and developing domestic aviation training capacity for international aviation operators. Australia has extensive flight training capabilities and expertise in commercial aviation and may leverage the benefits of the predicted global demand for commercial pilots. Australia is well positioned to be a leading exporter of aviation training and skills services in the Asia Pacific region.[53] [54]

Australia is also considered a leader in the field of aircraft manufacturing and engineering through the provision of through-life services, particularly applied to military aircraft. This also provides opportunities for international growth.

AERODROME OPERATIONS ARE EXPANDING

The projected growth in tourism across the world and in Australia has led major Australian airports to make significant investments in expansion and upgrade projects. This has generated a strong demand for ground support functions at capital and regional airports, including Ramp Support Staff, Aircraft Baggage Handlers, Ground Crew, Load Controllers and Works Safety Officers.

High staff turnover rates are a challenge and risk to the viability of regional and capital city aerodrome operations. Annual employee replacement rate is estimated to be 25 per cent, indicating a lack of knowledge and experience exists in many operational and support roles.[55]

PILOT SHORTAGE AND OPERATING COSTS AT REGIONAL AIRPORTS

Competitive market conditions remain a challenge for regional and remote aerodromes, from both financial and workforce perspectives. Australia's regional airports are a significant factor in the sustainability of rural and regional communities. Regional airports enable tourism, provide access to global supply chains, improve access to metropolitan health services, enhance educational opportunities for regional communities, and connect rural Australia through fast and economical transport means.

The Australian Airports Association's commissioned report revealed that over 60 per cent of regional airports ran budget deficits in 2014-2015, with nearly 40 per cent expected to have persistent budget deficits over the next ten years. Expenditure at regional airports is expected to rise by 38 per cent over the next decade. Across all regional airports, the expected budget deficit will be greater than $17 million per annum for the next decade.[56] Regional airports may be generally characterised by ageing airport infrastructure which is costly to maintain or upgrade. The maintenance expertise often needs to be sourced from other locations that entails additional costs.[57] Airlines that service regional airports routinely lose pilots to larger airlines, leading to flight cancellations due to lack of back-up pilots.[58]

The increasing costs of aviation regulatory compliance and transport security protection needs will likely cause major disruption to the management of regional airports. The aviation workforce in these centres will be at risk of a reduction in employment opportunities. Federal, state and government aviation industry policies, including privatisation opportunities, will play an important role in the future of Australia's rural and regional airports.

TRAINING COST REMAINS A CHALLENGE

Training providers have indicated that aviation ground and flight training in Australia is widely recognised as being high-quality compared with other countries. Achieving quality training outcomes has an associated high financial cost. Aviation training organisations have raised significant concerns regarding the dual costs of maintaining separate RTO and Flying Training Organisation accreditation with national VET and aviation safety regulatory authorities. Many organisations question the cost/benefit ratio of maintaining duplicated training compliance requirements. High regulatory compliance costs drive student training costs, with the subsequent financial effects flowing into the wider aviation industry. The availability of VET Student Loans (VSL) has managed to attract more aviation training applicants. However, the current VSL cap for aviation skills is considered insufficient to support applicants to undertake the full suite of aviation employment courses.[59]

The current cost barriers faced by individuals and businesses within the aviation industry are well understood. However, there is a need for the aviation industry to invest further in upskilling its current and future workforce, through public and private funding mechanisms.

STAKEHOLDER CONSULTATION

An extensive consultation process has been undertaken in the development of the Skills Forecast and Proposed Schedule of Work.

Among many issues and sensitivities raised throughout the consultation process, the top three key themes that emerged were:

- Exponential growth in the advancement of technology in Aviation across the board and training people to use it especially bio-tech and info-tech
- The growth in drone technology in commercial settings (pilot training and regulation aspects)
- Data processing and analysis capabilities needed for staff at Airports with the growth in technology

Stakeholders involved in the consultation process;

12
IRC Members (see listed earlier in the Skills Forecast)

924
AIS AVI Aviation Training Package subscribers

8
State Training Authorities

AIS Industry Skills Forum, Aviation Industry breakout sessions were attended by representatives/s from the following organisations;

- Aerodrome Management Services
- Aerospace Developments
- Air Services Australia
- Australian Association for Unmanned Systems
- Australian Postgraduate Research (APR) Internship
- Australian Services Union
- Aviation Australia
- Box Hill Institute
- Civil Aviation Safety Authority (CASA)
- Council of Adult Education Australia
- Department of Trade, Business and Innovation NT
- Department of Training and Workforce Development
- ERGT Australia
- Fox Strategic
- IIT Training Pty Limited
- Industry Delivered Training
- Inventra
- Industry Skills Advisory Council NT (ISACNT)
- Moorabbin Flying Services
- Northrop Grumman Australia
- Royal Aeronautical Society
- Sky Education
- Sydney Airport
- TAFE NSW

2018 INDUSTRY SKILLS FORUMS

AIS facilitated a series of Industry Skills Forums across the country between September and November 2018. Respected journalist and author Kerry O'Brien moderated the events across all States and Territories that attracted over 1100 people, with an additional audience watching the Melbourne event that was live streamed online.

Attendees represented small, medium and large businesses (both employers and employees), education providers (from high school, the Vocational Education and Training sector and University), unions, State/Territory and Federal Department officials and peak bodies.

The Industry Skills Forums were set up as the central platform in AIS' intelligence gathering activity for 2018 allowing AIS to

identify industry skills needs, now and into the future.

The purpose of the forums was twofold:

To provide participants with the opportunity to directly shape the skills and workforce priorities across a broad range of Australia's industries; and

To provide AIS with the opportunity to capture data and intelligence for the 2019 Skills Forecasts.

Each forum consisted of two Panel discussions, facilitated by Kerry O'Brien. The panels were made up of Industry Leaders and focused on the current challenges facing our industries. Panel One discussed "Industry Leadership - new thinking about jobs and careers". This was followed by Panel Two discussing "Future Skilling our people in an age of digital transformation".

Following the panel sessions, attendees participated in industry-specific breakout sessions, facilitated by AIS Industry Managers. This provided participants with the opportunity to talk about the issues affecting their industry. The discussions kicked off with looking at the impact of new technologies and then focused on the barriers and opportunities to recruiting skilled employees and the emerging skill needs for each industry.

INDUSTRY LEADERS' DINNERS

Industry leaders across AIS' 11 industries met to discuss the high-level workforce and skills issues at a series of Industry Leaders' Dinners hosted by AIS on the evening preceding each 2018 Industry Skills Forum. Attendees from around the country included leaders from Industry, Government, the education sector, and relevant unions. AIS was delighted that the Minister for Jobs and Industrial Relations and Minister for Women, the Hon Kelly O'Dwyer was able to attend the Melbourne dinner.

The dinner meeting discussions were facilitated by Kerry O'Brien and the clear message from attendees was that they provided an excellent opportunity to bring together multiple industries to discuss common workforce development challenges and opportunities.

Many attendees from both the Industry Skills Forums and the Industry Leaders' Dinners commented on the opportunity that the events provided to engage with industry directly on workforce issues. Kerry O'Brien summarised the sentiment very well when wrapping up the final forum in Adelaide, noting that at every forum around the country, significant issues and ideas were raised about the pathway that we need to take as a nation. He noted that it is critical that these issues have been discussed at this level with the key players and the challenge for AIS now is twofold. The first is to formulate policy advice to take back to government. The second is to continue the conversation.

REFERENCES

1 International Air Transport Association. (2017). 2036 Forecast Reveals Air Passengers Will Nearly Double to 7.8 Billion. Press Release No.:55. Retrieved from https://www.iata.org/pressroom/pr/Pages/2017-10-24-01.aspx.

2 Australian Aviation. (2018). Boeing Says Asia Pacific to Need 240,000 New Commercial Pilots over the Next 20 Years. Retrieved from http://australianaviation.com.au/2018/08/boeing-says-asia-pacific-to-need-240000-new-commercial-pilots-over-next-20-years/.

3 Boeing. (2018). Commercial Market Outlook 2018-2037.

4 Bureau of Infrastructure, Transport and Regional Economics. (2018). Aviation: International Airline Activity 2017.

5 Melbourne Airport. (2018). Melbourne Airport Master Plan 2018 Preliminary Draft.

6 Sydney Airport. (2018). Sydney Airport Master Plan: The Right Future Starting Now.

7 Brisbane Airport Corporation. (2018). Planning for Brisbane Airport's Future. Retrieved from https://bne.com.au/corporate/projects/airport-master-plan

8 Brisbane Airport Corporation. (2018). Planning for Brisbane Airport's Future. Retrieved from https://bne.com.au/corporate/projects/airport-master-plan

9 Department of Infrastructure, Regional Development and Cities. (2018). Western Sydney Airport Overview

10 PricewaterhouseCoopers. (2015). Tailwinds: 2015 Airline Industry Trends.

11 Civil Aviation Safety Authority. (2018). CASA Corporate Plan 2018-19.

12 Creedy, S. (2018). "New X-Ray Machines and Body Scanners in $A300m Australian Security Upgrade." Airline Ratings. May 8th. Retrieved from https://www.airlineratings.com/news/new-x-ray-machines-body-scanners-a300m-australian-security-upgrade/

13 Grieve, C. (2018). "Airport Trials 3D Bag Scans to Take Away Liquid Gel Hassle." The Sydney Morning Herald. 28 November. Retrieved from https://www.smh.com.au/business/consumer-affairs/airport-trials-3d-bag-scans-to-take-away-liquid-gels-hassle-20181127-p50ilg.html

14 Australian Airport Association. (2018). Australian Airports Driving Tourism Growth.

15 Australian Aviation. (2018). "Qantas Starts Brisbane Biometrics and Digital Passport Trial" retrieved from http://australianaviation.com.au/2018/11/qantas-starts-brisbane-biometrics-and-digital-passport-trial/

16 Boeing. (2018). Commercial Market Outlook 2018-2037.

17 Airservices. (2018). Corporate Plan 2018-19.

18 Western Sydney Airport. (2018). Corporate Plan 2018-2019.

19 Gartner. (2018). Mastering the New Business Executive Job of the CIO: Insights from the 2018 CIO Agenda Report.

20 CISCO. (2018). CISCO 2018 Asia Pacific Security Capabilities Benchmark Studies: Regional Breach Readiness.

21 Microsoft. (2018). Direct Costs Associated with Cybersecurity Incidents Costs Australian Businesses $29 Billion Per Annum. Retrieved from https://news.microsoft.com/en-au/features/direct-costs-associated-with-cybersecurity-incidents-costs-australian-businesses-29-billion-per-annum/

22 CISCO. (2018). CISCO 2018 Asia Pacific Security Capabilities Benchmark Studies: Regional Breach Readiness.

23 Office of Australian Information Commissioner. (n.ad.). Notifiable Data Breaches Scheme.

24 KMPG. (2018). 2018 Global CEO Outlook: An Australian Perspective: A Year of Cautious Optimism, Digital Crusaders, and Concerns about Protectionism.

25 Western Sydney University. (2017). Digital Literacy. Retrieved from https://www.westernsydney.edu.au/__data/assets/pdf_file/0009/1105398/eBook_-_Digital_literacy.pdf

26 McPherson, S. (2017). Digital Literacy: "What is it and How Important is it in the Future of Work?" Foundation of Young Australians. Retrieved from https://www.fya.org.au/2017/06/29/digital-literacy-important-future-work/

27 Australian Government. (2015). National Innovation and Science Agenda.

28 O'Brien, J. (2018). Airservices Australia Flying High after 'Biggest Transition to Cloud in Government History. Retrieved from https://www.cio.com.au/article/648279/airservices-australia-flying-high-after-biggest-transition-cloud-government-history/

29 Airservices. (2018). Corporate Plan 2018-19.

30 Ai Group. (2018). Skilling: A National Imperative.

31 Energy Networks Australia and CSIRO. (2017). Future Workforce Skilling.

32 Ai Group. (2018). Skilling a National Priority.

33 Australian Industry and Skills Committee. (2018). Digital Skills. Retrieved from https://nationalindustryinsights.aisc.net.au/national/digital-skills

34 Air Services. (2018). Corporate Plan 2018-19.

35 Civil Aviation Safety Authority. (2018). CASA Corporate Plan 2018-19.

36 Parliament of Australia. (2018). Current and Future Regulatory Requirements that Impact on the Safe Commercial and Recreational Use of Remotely Piloted Aircraft Systems (RPAS), Unmanned Aerial Systems (UAS) and Associated Systems.

37 Ibid.

38 Parliament of Australia. (2018). "Helistar Aviation". Submission 23.

39 Australian Association of Unmanned Systems. (2018). AAUS Extended Response to Senate Inquiry Report on the Safe Use of RPAS. Press Release. Retrieved from https://aaus.org.au/wp-content/uploads/2018/08/20180824-PRESS-RELEASE-Senate-Inquiry-Report.pdf.

40 Australian Aviation. (2018). Airservices Trials Show the Promise of SBAS. Retrieved from http://australianaviation.com.au/2018/08/airservices-trials-show-the-promise-of-sbas-2/.

41 Deloitte Access Economics. (2018). Connecting Australia: The Economic and Social Contribution of Australia's Airports.

42 Air Services. (2018). Corporate Plan 2018-19.

43 Air Services. (2018). Airport Collaborative Decision Making. Retrieved from http://www.airservicesaustralia.com/projects/collaborative-decision-making-cdm/airport-collaborative-decision-making/

44 Expert Panel on Aviation Skills and Training in Australia. (2018). Report of the Expert Panel on Aviation Skills and Training.

45 Parliament of Australia. (2018). Current and Future Regulatory Requirements that Impact on the Safe Commercial and Recreational Use of Remotely Piloted Aircraft Systems (RPAS), Unmanned Aerial Systems (UAS) and Associated Systems.

46 Australian Association of Unmanned Systems. (2018). AAUS Extended Response to Senate Inquiry Report on the Safe Use of RPAS. Press Release. Retrieved from https://aaus.org.au/wp-content/uploads/2018/08/20180824-PRESS-RELEASE-Senate-Inquiry-Report.pdf.

47 Boeing. (2018). Commercial Market Outlook 2018-2037.

48 Expert Panel on Aviation Skills and Training in Australia. (2018). Report of the Expert Panel on Aviation Skills and Training.

49 Australian Industry Standards. (2016). Aviation Workforce Skills Study.

50 Chong, J. (2018). "Virgin Australia Sets 50:50 Gender Target for Pilot Cadetships." Australian Aviation. Retrieved from http://australianaviation.com.au/2018/05/virgin-australia-sets-5050-gender-target-for-pilot-cadetships/

51 National Centre for Vocational Education Research. (2018). The Fourth Industrial Revolution: The Implications of Technological Disruption for Australian VET.

52 World Economic Forum. (2018). The Future of Jobs Report 2018.

53 Expert Panel on Aviation Skills and Training in Australia. (2018). Report of the Expert Panel on Aviation Skills and Training.

54 The Airport Professionals. (2018). Flight Training Opportunity for Australian Aviation. Retrieved from https://airportprofessional.asn.au/airport-people/flight-training-opportunity-australian-aviation/

55 Australian Industry Standards. (2016). Aviation Workforce Skills Study.

56 ACIL Allen Consulting. (2016). Regional Airport Infrastructure Study: Economic Contribution and Challenges of Regional Airports in Australia. Melbourne, VIC.

57 The Airport Professional. (2018). Challenges Remain for Regional Airports. Retrieved from https://airportprofessional.asn.au/regional-airports/challenges-remain-for-regional-airports/

58 Shepherd, B. (2018). Global Shortage Hits Australia, with Cancelled Regional Routes Just the Beginning. Retrieved from https://www.abc.net.au/news/2018-07-22/airline-passengers-facing-perfect-storm-as-pilot-shortage-bites/10012624

59 Report of the Expert Panel on Aviation Skills and Training. (2018).

PROPOSED SCHEDULE OF WORK

KEY DRIVERS

2019-20 - INDUSTRY SKILLS REVIEW AND DEVELOPMENT

Emerging aviation technology-based solutions (including the automation of work practices) will provide new career pathways for existing aviation employees, with opportunities to retrain and further enhance skills. The increasing demand for analytical skills, digital literacy and management, information management and mobile applications (development and implementation), among others, will continue to rise. Aviation employers are demanding increased digital skills capabilities and increased skills transferability across operational roles in the Aviation industry.

Ongoing Australian aviation safety regulatory changes and cyber security threats will necessitate periodic review of Training Package materials. This is to ensure they are fit for purpose and meet Australia's national and international aviation safety regulatory obligations.

2019-20 - 3D COMPUTED TOMOGRAPHY (CT) SCANNING DEVELOPMENT

3D CT scanning is currently undergoing trials in Melbourne and Sydney airports and it is anticipated that national aviation transport security regulations will be revised to accommodate this new technology. Given this change to regulations, transport security screening skills requirements will require AVI Aviation Training Package development to meet these future skill challenges.

PROPOSED RESPONSES

2019-20 - INDUSTRY SKILLS REVIEW

The Aviation IRC has proposed a project to review five flight operations qualifications, including associated Units of Competency and Skill Sets. This project will consider the effects of technological change and regulatory updates on industry skills. Focus will be on skills development of foundation skills, flight operations supervision, aviation management and air traffic control.

The Aviation IRC will undertake broad consultations with aviation industry stakeholders through the project's duration. Additional consultation and engagement will be undertaken on the IRCs behalf with State Training Authorities and other key industry stakeholders, including seeking public feedback and input into development of material throughout the project duration.

2019-20 - 3D COMPUTED TOMOGRAPHY (CT) SCANNING – REVIEW AND DEVELOPMENT

The Aviation IRC has proposed a project to develop one new Unit of Competency and one new Skill Set. This project will consider the effects of technological change and regulatory updates on aviation security screening skills at major domestic and international airports.

This project seeks to enhance the vocational skills and professionalisation pathways for transport security protection roles and allied security screening occupations, whilst adopting new advances to technological skills in the area of 3D Computed Tomography (CT) Scanning and ensuring continued compliance with aviation transport security regulatory requirements.

PROPOSED SCHEDULE OF WORK

2019-20

Aviation Industry Skills - Review and development

The IRC has proposed this project to address new or revised aviation industry regulatory needs and changing industry skills requirements through review and development of the AVI Aviation Training Package.

Where imported Units of Competency are identified as either deleted or superseded in qualification packaging rules, the IRC may also elect to revise the affected qualification(s) through the IRC Minor Change process.

3D Computed Tomography (CT) Scanning – Review and development

Ongoing Australian aviation transport security regulatory changes necessitate the periodic review of Aviation Training Package materials to ensure they are fit for purpose and meet still meet Australia's national and international aviation transport security regulatory obligations.

3D CT scanning is currently undergoing trials in Melbourne and Sydney airports and it is anticipated that civil aviation safety regulations will be revised to accommodate this new technology. Given this change to regulations, transport security screening skills requirements will require AVI Aviation Training Package development.

2020-23

Aviation Industry Skills

There are no AVI Aviation Training Package products currently identified for review or development during this forecast period.

Where imported Units of Competency are identified as either deleted or superseded, the IRC may elect to revise the affected qualification(s) through the IRC Minor Change process.

36

2019-20 PROJECT DETAILS

INDUSTRY SKILLS

Description

This project will review and develop AVI Aviation Training Package material due to changing industry skill requirements.

Rationale

The project will ensure that the AVI Aviation Training Package meets industry skill requirements and proposed updates to aviation safety and security regulations. The project will also ensure that the revised qualifications include clear linkages to leadership and management occupational roles, including technical and specialist pathways where necessary.

Ministers' Priorities Addressed

- The project does not propose removal of obsolete and superfluous qualifications from the National Register
- The project will ensure that information is made available about cargo services and flight operations training delivery to training providers
- The project will support individuals transferring skills across the Australian helicopter industry
- The project does not propose creation of Units of Competency that can be owned and used by multiple industry sectors, due to the discrete and targeted nature of the required skills and knowledge
- The project does not propose the development of additional Skill Sets for the AVI Aviation Training Package
- The project does not propose the incorporation of existing accredited course materials into the AVI Aviation Training Package

Consultation Plan

The Aviation IRC will undertake consultations within Australia's aviation networks through the project's duration.
AIS will undertake consultation on the IRCs behalf with State Training Authorities and other key national stakeholders, including seeking public feedback and input into development of material through the project's duration.

Scope of Project

The project is planned to be undertaken from July 2019 to May 2020, with a Case for Endorsement planned for submission by July 2020.

Training Package

- AVI Aviation Training Package Release 6.0

Qualifications

Two qualifications to be reviewed and developed

- AVI40216 Certificate IV in Aviation (Aviation Supervision)
- AVI50616 Diploma of Aviation (Aviation Management)

Units of Competency

- Seven existing Units of Competency to be reviewed and developed

Skill Sets

Nil

3D COMPUTED TOMOGRAPHY (CT) SCANNING - DEVELOPMENT

Description

The project is to develop new AVI Aviation Training Package material due to revised aviation transport security regulations and changing industry skill requirements relating to 3D CT scanning technology being implemented at major points of entry into Australia.

Rationale

3D CT scanning is currently undergoing trials in Melbourne and Sydney airports and it is anticipated that aviation transport security regulations will be revised to accommodate this new technology. Given this change to regulations, aviation security screening skills requirements will require AVI Aviation Training Package development. The risk of not undertaking this project is that emerging 3D CT screening technology skills will not be widely available to Aviation Screening Authorities across Australia.

The project ensures that the AVI Aviation Training Package meets industry skill requirements and proposed updates to aviation transport security regulations.

Ministers' Priorities Addressed

- The project does not propose removal of obsolete and superfluous qualifications from the National Register
- The project will ensure that information is made available about cargo services and flight operations training delivery to training providers
- The project will support individuals transferring skills across the Australian helicopter industry

- The project does propose creation of Units of Competency that can be owned and used by multiple industry sectors, due to the discrete and targeted nature of the required skills and knowledge
- The project does propose the development of an additional Skill Set for the AVI Aviation Training Package
- The project does not propose the incorporation of existing accredited course materials into the AVI Aviation Training Package

Consultation Plan

AIS will:

- undertake consultation on the IRCs behalf with all State Training Authorities and other key national stakeholders
- seek public feedback and input into development of material through the project's duration
- communicate to enterprises, State/Territory Training authorities, State/Territory Industry Training Advisory Bodies, Peak Bodies, Registered Training Authorities (RTOs) and other interested parties, of the establishment of the project
- conduct initial consultation with stakeholders to identify and invite key representatives to establish the Technical Advisory Committee (TAC) and posting information about the project on the AIS website and newsletter
- conduct face to face consultation and engagement sessions as required
- conduct the first TAC meeting to explain the process and gather comments/feedback
- communicate the process of drafting, identified Training Package materials (Qualifications/ Units of Competency/Skill Sets), verify and validate this material with stakeholders through email, the AIS website and the AIS newsletter for wider stakeholder involvement, throughout the review process
- continue communication on the project via the AIS website and newsletter.

Scope of Project

The project is planned to be undertaken from July 2019 to May 2020, with a Case for Endorsement planned for submission by July 2020.

Training Package

- AVI Aviation Training Package Release 6.0

Qualifications

- Nil

Units of Competency

One new unit of Competency to be developed

- AVIO999X Conduct screening using 3D CT scanning techniques

Skill Sets

One new Skill Set to be developed

- AVISS9999X 3D Computed Tomography (CT) Scanning Skill Set

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.

CONTACT US

instagram.com/ausindstds

twitter.com/AusIndStds

www.linkedin.com/company/australian-industry-standards/

www.australianindustrystandards.org.au

enquiries@australianindustrystandards.org.au


AUSTRALIAN
INDUSTRY
STANDARDS