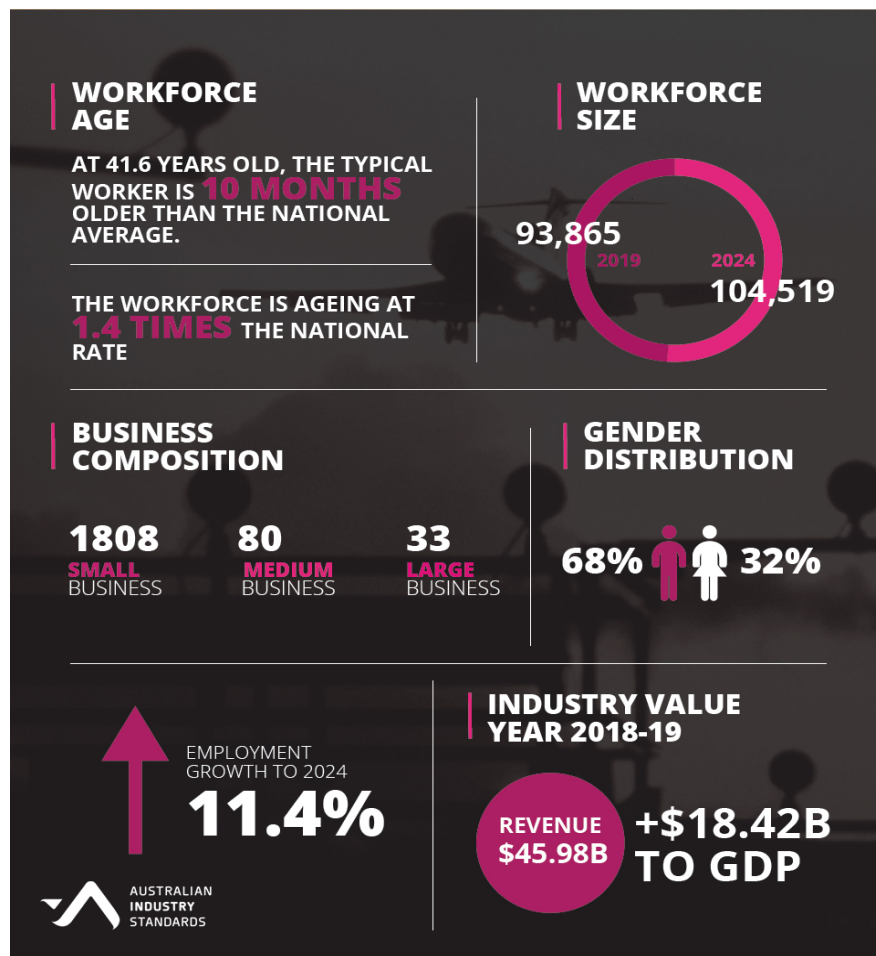## SUMMARY

The Aviation Industry Reference Committee (IRC) Skills Forecast identifies the priority skill needs of the Aviation industry following research and stakeholder consultation.

The IRC, made up of industry leaders and experts, acts as a conduit between the Aviation industry and the Australian Industry and Skills Committee (AISC). It proposes Training Package development work to ensure that skills standards and qualifications are contemporary, as well as future focused, to meet the skill needs of industry.

INDUSTRY TRENDS AND OVERVIEW

The Aviation industry 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.

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

93,865

2019   2024
104,519

BUSINESS COMPOSITION

1808 **SMALL** BUSINESS

80 **MEDIUM** BUSINESS

33 **LARGE** BUSINESS

GENDER DISTRIBUTION

68%   32%

EMPLOYMENT GROWTH TO 2024
11.4%

AUSTRALIAN INDUSTRY STANDARDS

INDUSTRY VALUE YEAR 2018-19

REVENUE $45.98B

+$18.42B TO GDP

INDUSTRY CHALLENGES AND OPPORTUNITIES

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.

DIGITAL TECHNOLOGIES

Aviation technology is advancing at an unprecedented rate. 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, advanced X-Ray equipment and body scanners, automated lane technology, and Checkpoint Computed Tomography (CT) which can produce a 3D image of the content of bags are examples of new technologies at Australian airports which have improved efficiency and enhanced customer passenger experience.

INDUSTRY-SPECIFIC CYBER SECURITY

Cyberattacks are a common risk to many industries including the aviation sector. Awareness of the nature of cyber security threats and skills to detect, report and resolve the issues remain a challenge. The unique nature of Aviation technologies and innovations such as Big Data, AI, automation, etc., generates large amounts of data which can expose the industry to growing cyber security risks. It is therefore necessary to have a tailored cyber security training program to give the workforce the skills and competencies to be able to identify, block or remediate against any malicious attacks.

DIGITAL LITERACY

Advancements in Artificial Intelligence, computer technology, automation, the Internet of Things, cloud computing, big data, and customer-service platforms are generating a massive volume of data and information, offering a range of benefits such as improved customer service and operational efficiency. 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 for the new and existing workforce.

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. Effective management of RPAS to ensure their safe integration into airspace remains a challenge. 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. The Senate also received suggestions regarding the training of commercial drone operators who conduct 'beyond visual line of sight' operations. These opportunities necessitate an immediate response in terms of upskilling and training to ensure RPAS operators are conscious of safe operations of these systems and compliance regulations.

NEW AIR TRAFFIC CONTROL SYSTEMS

A new Air Traffic Management System, known as OneSky, which is expected to roll out by 2023 will replace the current system. OneSky will harmonise civil and military air operation and allow flexible use of air space, improving safety and efficiency. 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. 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.

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. 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. Similar to the global increase in air travel, Australia also enjoyed a 5.3 per cent rise in overall international passenger traffic in 2017. Australian major airports 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. As air travel increases, Australian airlines and airports are facing greater competition for skilled labour, both locally and from other countries.

SHORTAGE OF PILOTS, FLIGHT INSTRUCTORS, AND MAINTENANCE ENGINEERS

The Aviation industry is experiencing a shortage of pilots. There is also a reported shortage of licenced maintenance engineers to supervise the maintenance of aircrafts. The challenge is further compounded by the age profile of the current aviation engineering workforce, with an age average in the mid-fifties.

SOFT SKILLS

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. Creativity and problem-solving skills will help individuals to explore new technologies and deploy them effectively in the workplace.

SKILLS RELATED INSIGHTS AND OUTLOOK

About 83 per cent of AIS survey respondents reported experiencing a skills shortage in the last 12 months. The occupations reported as being in shortage were: educators/trainers/assessors, engineers/ technicians, managers, pilots, and safety personnel. The Aviation industry employers identified the following reasons for the shortage:

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

AVI AVIATION TRAINING PACKAGE

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 comprises 20 qualifications, 48 Skill Sets and 219 Units of Competency and associated assessment requirements and covers aviation safety, ground operations and flight operations. The AVI Aviation Training Package is on the Scope of Registration of 323 Registered Training Organisations.

TRAINING PACKAGE REVIEW AND DEVELOPMENT – PRIORITY WORK

*The following projects were proposed and submitted to Australian Industry and Skills Commission for consideration on 30 April 2019.

2019-20 INDUSTRY SKILLS – REVIEW AND DEVELOPMENT

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

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

The project is to develop new AVI Aviation Training Package materials 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.

The full Aviation IRC Skills Forecast can be accessed at:
https://www.australianindustrystandards.org.au/industry-reference-committee-irc-skills-forecasts-2019/

AUSTRALIAN INDUSTRY STANDARDS

Australian Industry Standards (AIS) is a Government appointed Skills Service Organisation (SSO) that partners with industry to shape the workforce of the future through the development of skills standards.

We work under the direction of Industry Reference Committees that represent the following sectors: aviation, transport and logistics, maritime, energy, water and utilities, public safety, police, fire, defence and corrections. Together, these industries keep Australia productive, powered and secure.

AIS supports IRCs through industry engagement, research and analysis to prioritise the skill needs of their industry. We help to develop contemporary, future focused and world class qualifications for the workforce, create career pathways, and support industry growth and productivity.

CONTACT US

instagram.com/ausindstds   twitter.com/AusIndStds   www.linkedin.com/company/australian-industry-standards/

www.australianindustrystandards.org.au

enquiries@australianindustrystandards.org.au

Australian Government
Department of Employment, Skills, Small and Family Business