artibus
INNOVATION
Developing industry skills.

IRC SKILLS FORECAST & PROPOSED SCHEDULE OF WORK

CPP PROPERTY SERVICES

2017

CONTENTS

A. ADMINISTRATIVE INFORMATION

Name of IRC: Property Services
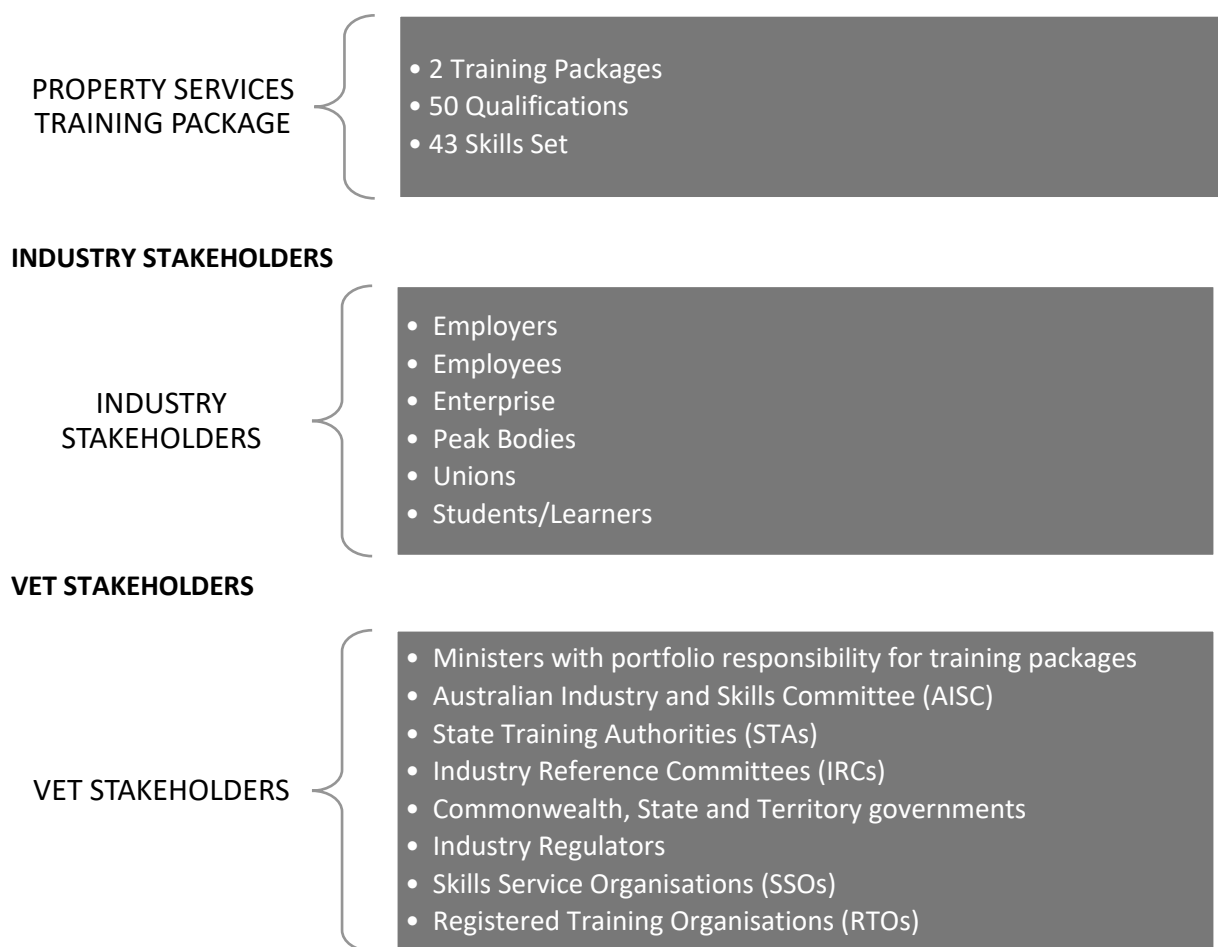
Name of SSO: Artibus Innovation

B. SECTOR OVERVIEW

The Property Services industry is comprised of diverse profitable sectors that play a key role in the Australian economy. Australia's property/real estate sector alone, for example, is forecast to grow annually at a rate of 2.5% and reach $49.9 billion in revenue by 2021–22.[1]

Given the socio-economic importance the Property Services industry plays in the Australian economy, Artibus Innovation (Artibus) as the Skills Service Organisation (SSO) is committed to develop skills and knowledge in the Property Services Training Package.

With an underlying commitment to research, Artibus seeks to address the current and emerging skills need of the industry by ensuring that industry has the workforce that meets its needs.

CPP/CPP07 TRAINING PACKAGE DETAILS

PROPERTY SERVICES TRAINING PACKAGE

- 2 Training Packages
- 50 Qualifications
- 43 Skills Set

INDUSTRY STAKEHOLDERS

INDUSTRY STAKEHOLDERS

- Employers
- Employees
- Enterprise
- Peak Bodies
- Unions
- Students/Learners

VET STAKEHOLDERS

VET STAKEHOLDERS

- Ministers with portfolio responsibility for training packages
- Australian Industry and Skills Committee (AISC)
- State Training Authorities (STAs)
- Industry Reference Committees (IRCs)
- Commonwealth, State and Territory governments
- Industry Regulators
- Skills Service Organisations (SSOs)
- Registered Training Organisations (RTOs)

INDUSTRY ANALYSIS – CROSS-SECTOR TRENDS AND SKILLS

Industry Survey

Artibus has undertaken two national industry-focused surveys addressing the impact of technological disruption and environmentally sustainable processes and products on the CPP Property Services Training Package.

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[1] IBISWorld, Industry Outlook http://clients1.ibisworld.com.au/reports/au/industry/industryoutlook.aspx?entid=536.

The recent *2017 Skills Forecast Survey* addressed changes in current and emerging job roles, future labour supply skills demand and workforce development.

Sample Size

n = 223

Survey Results

The results from Artibus's *Skills Forecast Survey 2017* highlight the emerging importance of the following industry-specific workplace skills and knowledge.

Below is an overview of the identified trends and the specific skills highlighted by industry:

TRENDS	SKILLS
Technological Disruption	Digital Literacy
Sustainability	Communication
Globalisation	Information Literacy
Building Information Modelling (BIM)	Foundation Skills
	Managerial/Leadership

CPP PROPERTY SERVICES SECTORS

SECTOR DESCRIPTIONS AND ANALYSIS	
WASTE COLLECTION, TREATMENT, AND DISPOSAL SERVICES	
Description	This sector is mainly involved in the collection, treatment, and disposal of waste. Relevant subsectors include waste collection (solid and other) and waste treatment disposal and remediation services (including materials recovery services).
Qualifications	• CPP20411 Certificate II in Waste Management • CPP30711 Certificate III in Waste Management • CPP40911 Certificate IV in Waste Management • CPP50811 Diploma of Waste Management
Peak Bodies	Waste Management Association of Australia, Facility Management Association of Australia, Property Services Industry Advisory Body, Professionals Australia, and United Voice.
Applicable Licensing	No national occupational licences are required. Waste management facilities, however, are licensed per state and territory requirements.

	SECTOR DESCRIPTIONS AND ANALYSIS	
Projected Employment Levels[2]	**WASTE MANAGEMENT** EMPLOYMENT LEVELS ('000S) 40.0 33.1 37.5 30.0 21.0 23.9 20.0 10.0 7.3 8.2 0.0 PROJECTED EMPLOYMENT LEVELS 2015 -2020 ■ Waste Collection, Treatment and Disposal Services ■ Waste Collection Services ■ Waste Treatment, Disposal and Remediation Services	
Analysis of Businesses	As of 2015, there were 4132 businesses operating in this sector. Between 2014 and 2015, 602 businesses entered the sector, and 527 businesses exited. One-person operations constitute 47% of all businesses.[3] In terms of market share, several large businesses dominate the sector, including Veolia Environmental Services and Suez Recycling and Recovery.[4] While waste collection services have a low level of globalisation, waste treatment and disposal services have high levels of foreign ownership.	
Trends in Job Design, Globalisation, Digitalisation and Automation	In the waste collection sector, technological developments generally relate to vehicle improvements, for example in fuel efficiency, lifting and tipping of bins and the transportation of liquid waste.[5] These changes have not significantly impacted on job design, although there have been fewer jobs in this area since the automation of lifting and tipping. Developments in the treatment and remediation subsectors relate to the treatment of organic material to produce biogas for electricity.[6] Alternative waste technology provides solutions for materials that would otherwise go to landfill and is predicted to be an important area for employment and growth in the future. The shift towards recycling and reproducing waste in alternative forms will create important skills needs in the future.	
Supply-Side Challenges	As of 2014, there were 264 people in training in this sector[7]	

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[2] Australian Department of Employment, Labour Market Information Portal, *Industry Projection – Five Years to November 2020*, 2016.

[3] Australian Bureau of Statistics: 81650 Counts of Australian Businesses, including Entries and Exits, June 2011- June 2015.

[4] IBISWorld Industry Reports on Solid Waste Collection Services, Other Waste Collection Services, Waste Treatment and Disposal Services, and Waste Remediation and Materials Recovery Services (2015-16).

[5] IBISWorld Industry Reports on Solid Waste Collection Services, Other Waste Collection Services (2016).

[6] IBISWorld Industry Reports on Waste Treatment and Disposal Services, and Waste Remediation and Materials Recovery Services (2015-16).

[7] National Centre for Vocational Education Research: Data Collection on VET Students by Industry (2014-15).

	SECTOR DESCRIPTIONS AND ANALYSIS
and Opportunities	The percentage of those employed after training (on average) was 80% as of 2014.[8] From 2010 to 2014, there were no enrolments in the Diploma of Waste Management.[9] Over 50% of employees in this sector have not completed formal training.[10]
Activities	Artibus has been commissioned to transition: • CPP20411 Certificate II in Waste Management • CPP30711 Certificate III in Waste Management • CPP40911 Certificate IV in Waste Management • CPP50811 Diploma of Waste Management. Research and industry consultation, however, suggest that a full review of the qualifications needs to be undertaken. Artibus is currently undertaking research and consulting with industry to collate intelligence and develop and propose a Case for Change to the Department of Education and Training. **Qualification Gaps:** • outdated and obsolete skills and knowledge • qualifications that do not align with current environmental and safety legislation and regulations • qualifications that do not reflect new technological and sustainable practices.
	PROPERTY OPERATORS AND REAL ESTATE SERVICES
Description	Property operators are involved in both residential and non-residential operations, and are mainly involved with renting, leasing and managing properties. Real estate services consist of valuing, purchasing, selling, managing, or renting real estate for others.
Qualifications	• CPP30211 Certificate III in Property Services (Agency) • CPP30311 Certificate III in Property Services (Operations) • CPP40307 Certificate IV in Property Services (Real Estate) • CPP40407 Certificate IV in Property Services (Stock and Station Agency) • CPP40507 Certificate IV in Property Services (Business Broking) • CPP40611 Certificate IV in Property Services (Operations) • CPP50307 Diploma of Property Services (Agency Management) • CPP50409 Diploma of Property Services (Business Broking)
Peak Bodies	Building Service Contractors Association, Facility Management Association, Prudential Investment Company, Real Estate Institute of Australia, Strata Community Australia, Property Services Industry Advisory Body Network, Professionals Australia, and United Voice.

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[8] Ibid.
[9] Ibid.
[10] Commonwealth Department of Employment (Labour Market Information Portal): Educational Attainment by Industry Sector (2014).

SECTOR DESCRIPTIONS AND ANALYSIS	
Applicable Licensing	Real estate agents are required to be licensed per state and territory requirements.
Projected Employment Levels[11]	
Analysis of Businesses	As of 2015, there were 209 181 businesses operating in this sector. Between June 2014 and June 2015, 21 941 businesses entered the sector, and 17 916 businesses exited.[12] As of 2015, 87% of businesses were non-employing[13]. Businesses with a significant market share in this sector include Defence Housing, LJ Hooker, Ray White Group, First National Real Estate and CBRE Pty Ltd.[14] While property investments are generally made domestically, there are high levels of foreign investment in the non-residential and real estate services subsectors. In addition, most of the large commercial real estate services have been sold to or are owned by overseas interests.
Trends in Job Design, Globalisation, Digitalisation and Automation	Industry and stakeholders report the following new technologies: online property auctions, virtual viewings, online forms, digital marketing, and the use of apps. Around 99% of real estate businesses now have a web presence.[15] Computer software has also significantly reduced the cost of providing property management services, making it less labour intensive[16]. New entrants must be able to use current technology and adapt when new products appear on the market. In terms of emerging environmental trends, property managers must understand sustainable house ratings and the requirements where asbestos is present within a property. In addition, globalisation has resulted in increased international interest in property and the internationalisation of real estate businesses.

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[11] Australian Department of Employment, Labour Market Information Portal, *Industry Projection – Five Years to November 2020*, 2016.

[12] Australian Bureau of Statistics: 81650 Counts of Australian Businesses, including Entries and Exits, June 2011- June 2015.

[13] Note: data for this sector includes property operators renting or leasing their own residential property.

[14] IBISWorld: Industry Reports on Residential Operators, Non-Residential Operators and Real Estate Services (2016).

[15] IBISWorld Industry Report on Real Estate Services (2016).

[16] Ibid.

SECTOR DESCRIPTIONS AND ANALYSIS	
Supply-Side Challenges and Opportunities	As of 2014, there were 22 547 students in training.[17] On average, 77% of students are employed following training.[18] Strict licensing requirements limit the ability of individuals to move to related occupations within the sector. Generally, there is a steady supply of workers into the industry, and no significant issues with attrition. • Technological changes are predicted to have a significant impact on this industry. These changes will impact on the job roles of those working in this sector, as well as the skills required of employees. The changes will impact on both new entrants and the existing workforce. • There is a high level of regulation in this sector, with requirements differing considerably between each state and territory. Employees in this sector must be aware of regulatory requirements. • The high number of sole traders has implications for training and workforce development.
Activities	A Case for Change is being developed.

ARCHITECTURAL, ENGINEERING AND TECHNICAL SERVICES	
Description	This sector includes architectural services (including building design and inspection), surveying and mapping services, and other specialised design services (including signs and graphics).
Qualifications	• CPP30216 Certificate III in Surveying and Spatial Information Services • CPP41110 Certificate IV in Home Sustainability Assessment • CPP41212 Certificate IV in NatHERS Assessment • CPP40216 Certificate IV in Surveying • CPP40316 Certificate IV in Spatial Information Services • CPP40115 Certificate IV in Building Design Drafting • CPP50216 Diploma of Spatial Information Services • CPP50911 Diploma of Building Design • CPP50116 Diploma of Surveying • CPP51012 Diploma of Residential Building Energy Assessment • CPP60116 Advanced Diploma of Surveying • CPP80113 Graduate Certificate in Building Design • CPP80213 Graduate Diploma of Building Design
Peak Bodies	Australian Graphic Design Association, Association of Building Sustainability Assessors, Building Designers Australia, Consulting Surveyors National, Strata Community Australia, Surveying and Spatial Sciences Institute, Professionals Australia, and United Voice.

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[17] National Centre for Vocational Education Research: Data Collection on VET Students by Industry (2014-15).
[18] Ibid.

	SECTOR DESCRIPTIONS AND ANALYSIS
Applicable Licensing	A licence is required in some states for some building design and surveying and spatial information services occupations.
Projected Employment Levels[19]	
Analysis of Businesses	As of 2015, there were 63 024 businesses operating in this sector.[20] Between June 2014 and June 2015, there was a slight net decline in the number of businesses (<1%). As of 2015, 53% of businesses were non-employing and 45% employed between 1 and 19 people.[21] This sector has low levels of foreign ownership and globalisation; however, this is increasing.[22] The requirement for registration and accreditation tends to limit import competition. Some local surveying firms also operate in international markets.
Trends in Job Design, Globalisation, Digitalisation and Automation	Technological changes are occurring at a rapid rate within this sector. Industry and other stakeholders report that emerging technologies include unmanned aerial vehicles (UAVs) and aerial photography, hand-held global navigation satellite systems (GNSS), precision machine control systems, advanced total stations, scanners, database management, BIM and LiDAR. New entrants will be required to understand and operate these devices and systems to work effectively in the industry. Other emerging trends include environmental legislation changes, changing business structures in a competitive environment, and the growing demand for environmentally sustainable practices and products.
Supply-Side Challenges	

The chart caption: ARCHITECTURAL, ENGINEERING AND TECHNICAL SERVICES — EMPLOYMENT LEVELS ('000S) — values 308.1 and 368.2 — PROJECTED EMPLOYMENT 2015 - 2020 — ■ Architectural, Engineering and Technical Services

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[19] Australian Department of Employment, Labour Market Information Portal, *Industry Projection – Five Years to November 2020*, 2016.

[20] Australian Bureau of Statistics: 81650 Counts of Australian Businesses, including Entries and Exits, June 2011- June 2015.

[21] Ibid.

[22] IBISWorld: Industry Reports on Architectural, Surveying and Mapping and Specialised Design Services in Australia (2015-16).

SECTOR DESCRIPTIONS AND ANALYSIS	
and Opportunities	As of 2014, there were 6088 people enrolled in CPP or CPP07 qualifications.[23] Employees are most likely to hold a Bachelor Degree (38%).[24] This means articulation between VET and the tertiary sector is particularly important in this sector. According to the Department of Employment's Skills Shortage List, there are currently skills shortages for surveyors and quantity surveyors. • It is predicted that this sector will face a 7% decline in employment numbers in the next five years.[25] • The importance of technology and the high cost of equipment is a barrier to entry for the many sole traders and microbusinesses bidding for contracts. • The use of technology has also led to a reduction in separation between the industry occupations. • While the knowledge bases remain discrete, the range of technological tools used at task level have led to skill sets that can be used across the range of occupations.
Activities	A Case for Endorsement is being developed to transition the Home Sustainability Components to the 2012 Standards for Training Packages. This Case for Endorsement and revised Companion Volumes is scheduled to be submitted to the Department on or before 1 December 2017. • CPP41110 Certificate IV in Home Sustainability • CPP41212 Certificate IV in NatHERS Assessment • CPP51012 Diploma of Residential Building Energy Assessment Research activities have been undertaken to develop a Case for Change for the following qualifications: • CPP40115 Certificate IV in Building Design Draft • CPP50911 Diploma of Building Design • CPP80113 Graduate Certificate in Building Design • CPP80213 Graduate Diploma of Building Design
BUILDING CLEANING AND PEST CONTROL	
Description	Relevant subsectors of this sector include cleaning services and pest management.
Qualifications	• CPP20617 Certificate II in Cleaning • CPP30316 Certificate III in Cleaning Operations • CPP30115 Certificate III in Urban Pest Management • CPP40416 Certificate IV in Cleaning Management
Peak Bodies	

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[23] National Centre for Vocational Education Research: Data Collection on VET Students by Industry (2014-15).
[24] Commonwealth Department of Employment (Labour Market Information Portal): Educational Attainment by Industry Sector (2014).
[25] Commonwealth Department of Employment (Labour Market Information Portal): Industry Employment Growth and Projections by Industry Sector (2015).

SECTOR DESCRIPTIONS AND ANALYSIS	
	Australian Environmental Pest Managers Association, Building Service Contractors Association of Australia, Facility Management Association of Australia, Professionals Australia, United Voice.
Applicable Licensing	Pest management is a licensed occupation, and all operators in every state except Western Australia must complete the skill set CPPSS00046. In WA, a provisional licence may be granted after completing CPPPMT3006. The Certificate III must be achieved over a period of 12 months to continue practicing. Cleaning is not a licensed occupation.
Projected Employment Levels[26]	BUILDING CLEANING, PEST CONTROL AND OTHER SUPPORT SERVICES 206.2 217.6 EMPLOYMENT LEVELS ('000S) PROJECTED EMPLOYMENT 2015 - 2020 ■ Building Cleaning, Pest Control and Other Support Services
Analysis of Businesses	As of 2015, there were 25 946 businesses operating in cleaning services, and 2801 businesses operating in pest control services.[27] Between June 2014 and June 2015 there was a slight net decline in the number of businesses operating in cleaning services (−0.4%) and a slight net growth in the number of businesses in pest control (0.1%).[28] As of 2015, 62% of all businesses in this sector were non-employing, and 35.7% employed 1 to 19. Cleaning services has low levels of globalisation, although this is expected to increase due to the international expansion of Australian operators.[29] The pest control industry is also increasingly influenced by global factors, including global warming, longer pest seasons, growing urbanisation and global trade.
Trends in Job Design, Globalisation, Digitalisation and Automation	In the pest control subsector, industry reports that growth is occurring in non-chemical treatment options (IPM) on a much wider and deeper scale than is currently reflected in the training package. Other technological advancements have occurred in marketing and presentation and in building design and pest control.

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[26] Australian Department of Employment, Labour Market Information Portal, *Industry Projection – Five Years to November 2020*, 2016.
[27] Australian Bureau of Statistics: 81650 Counts of Australian Businesses, including Entries and Exits, June 2011- June 2015.
[28] Ibid.
[29] IBISWorld: Industry Reports on Commercial Cleaning Services (2015-16).

	SECTOR DESCRIPTIONS AND ANALYSIS
	Consumers are increasingly demanding technological solutions, non-intrusive solutions and remote solutions. In-transit fumigations is a global concern and risk (i.e. from poor fumigation practices, seals, poor skills and knowledge of fumigation and poor venting procedures) and has the potential to result in illness and death. Future pest controllers will need knowledge of the impact on human health, the environment and food, prevention with minimal use of chemicals, continual monitoring, and compliance training for licensing and WHS. While technological change is less rapid in the cleaning sector, key advancements include automation and robotics in cleaning tools and machines. Sustainability is also a key focus for this sector, and there is an increasing trend towards sustainable use of microfibre, reduced use of chemicals and increased acknowledgment of the importance of cleaning for health. Entrants will need to appreciate these factors and utilise sustainable and new practices to work effectively in this sector.
Supply-Side Challenges and Opportunities	As of 2014, there were 7799 people enrolled in training in CPP07 qualifications. Approximately 73% of students are employed after training in this sector.[30] A major source of students and employees in the cleaning sector is migrants and international students. Language, literacy and numeracy (LLN) and WHS are an important focus because of the differing language and cultural standards in this subsector. Approximately 62% of the workforce does not have formal qualifications, due partially to a lack of regulatory requirements for the cleaning sector.[31] Due to the relaxed regulatory environment, there are few entry barriers into the cleaning industry, leading to varying standards. • Approximately 62% of this workforce does not have formal qualifications.[32] • There are few barriers to entry in cleaning due to the lack of regulation, and it remains an attractive sector for migrants and international students. • Embedding LLN skills in the training package are a priority. • In the pest control subsector, operators must now successfully complete accredited training. • Drivers of regulation in pest control include public health, consumer protection, biosecurity and consumer demand. • In the future, the focus of pest control will shift towards prevention, with minimal use of chemicals and greater awareness of environmental impacts.
Activities	CPP2017 Certificate II in Cleaning is a new qualification that has been submitted to the Department of Education and Training. The new Certificate II in Cleaning supersedes but is not an equivalent replacement for CPP20611 Certificate II in Cleaning Operations.

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[30] National Centre for Vocational Education Research: Data Collection on VET Students by Industry (2014-15).
[31] Commonwealth Department of Employment (Labour Market Information Portal): Educational Attainment by Industry Sector (2014).
[32] Commonwealth Department of Employment (Labour Market Information Portal): Educational Attainment by Industry Sector (2014).

	SECTOR DESCRIPTIONS AND ANALYSIS
	PUBLIC ORDER AND SAFETY
Description	This sector includes investigation and security services and fire protection services.
Qualifications	- CPP10107 Certificate I in Security Operations - CPP20212 Certificate II in Security Operations - CPP20307 Certificate III in Technical Security - CPP30411 Certificate III in Security Operations - CPP30507 Certificate III in Technical Security - CPP30607 Certificate III in Investigative Services - CPP40707 Certificate IV in Security and Risk Management - CPP50611 Diploma of Security and Risk Management
Peak Bodies	Australian Security Industry Association, Security Providers Association of Australia Ltd, Building Service Contractors Association of Australia, International Association of Healthcare, Security and Safety, Professionals Australia, United Voice, Australian Security Industry Association Limited, and Commonwealth Police Departments.
Applicable Licensing	Licensing applies in all states and territories for investigation and security. Requirements differ considerably.
Projected Employment Levels[33]	
Trends in Job Design, Globalisation, Digitalisation	Technological advancements affecting this sector include biometrics, digital test device, apps/software, online insurance claims, cloud-based dispatch systems, SOPs on smart devices, ID scanning, virtual reality systems, advanced GPS tracking systems, integrated alarm/CCTV/building management systems and online incident reporting.

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[33] Australian Department of Employment, Labour Market Information Portal, *Industry Projection – Five Years to November 2020*, 2016.

SECTOR DESCRIPTIONS AND ANALYSIS	
and Automation	Many of these changes have reduced the heavy reliance on labour in this sector. Industry and key stakeholders report that computer skills are an increasingly important requirement for employment. Another important development in this sector is globalisation and the increased risk of terrorism. This has increased community expectations of what is required by the security industry, particularly in the areas of prevention and emergency response.
Analysis of Businesses	As of 2015, there were 6404 businesses operating in this sector. Of these, 6016 were operating in the investigation and security services subsector.[34] Between 2014-15 there was a slight net decline in the number of businesses (-1.4%). In 2015, 43.4% of businesses were non-employing, and 42.6% employed between 1-19 people.[35] Major operators include SIS Australia Holdings Pty Ltd, Linfox Pty Ltd and Wilson Parking Australia 1992 Pty Ltd.[36] While most companies are Australian-owned, there are several major foreign companies operating in Australia. The level of globalisation is projected to increase in future years with the expansion of existing foreign operators.[37]
Supply-Side Challenges and Opportunities	Due to the high number of migrants and underqualified workers employed in this sector, LLN and customer service deficiencies are an area of concern for industry and stakeholders. Inconsistent licensing arrangements have resulted in people crossing borders to attain licences in jurisdictions with fewer requirements.[38] • Differing regulations in states and territories lead to people crossing borders to jurisdictions where they can attain a security licence with fewer requirements. These licences are valid Australia-wide.[39] • The introduction of technological advancements to the industry has created a need to ensure that employees can operate new technologies efficiently and ethically. • Technological advancements—for example, the use of computerised central alarm and security camera monitoring systems—are reducing the heavy reliance on labour.[40] • Key stakeholders from industry have identified knowledge of biometrics as an important aspect that needs to be incorporated into qualifications.
Activities	Industry consultation is being undertaken. A Case for Endorsement is currently being developed against ASQA's Security Review. The scope of the activity order for this project is currently being reassessed with the Department of Education and Training.

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[34] Australian Bureau of Statistics: 81650 Counts of Australian Businesses, including Entries and Exits, June 2011- June 2015.
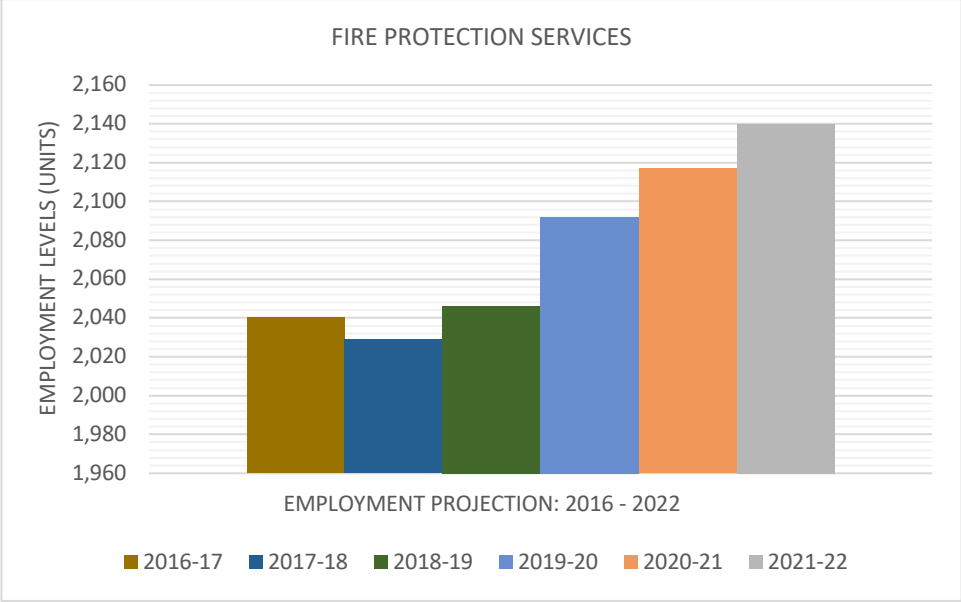[35] Ibid.
[36] IBISWorld: Industry Report on Investigation and Security Services in Australia (2015).
[37] Ibid.
[38] Australian Skills Quality Authority: Training in security programs in Australia (2016).
[39] See: Australian Skills Quality Authority: Training in security programs in Australia (2016).
[40] IBISWorld: Industry Report on Investigation and Security Services in Australia (2015).

SECTOR DESCRIPTIONS AND ANALYSIS

FIRE PROTECTION INSPECTION AND TESTING

Description	This sector includes fire and security alarm installation services.
Qualifications	• CPP20511 Certificate II in Fire Protection Inspection and Testing • CPP30811 Certificate III in Fire Protection Inspection and Testing
Peak Bodies	National Fire Industry Association, Fire Protection Association of Australia, Master Plumbers and Mechanical Services Association of Australia, Communication, Electrical and Plumbing Division, Construction, Forestry, Mining and Energy Union, Australian Workers Union, and the Australian Manufacturing Union.
Applicable Licensing	No legislative requirements apply. National accreditation schemes exist.
Projected Employment Levels[41]	
Analysis of Businesses	As of 2015, there were 3168 businesses operating in this subsector.[42] Between June 2014 and June 2015, there was a slight net growth in the number of businesses (1.3%). As of 2015, 44% of businesses were non-employing and 53% employed between 1 and 19 people.[43] This sector has a medium level of globalisation, due to both major operators being foreign owned (UTS Australia Commercial Holdings Pty Ltd and Wormald & ADT Australia Pty Ltd).[44] However, most businesses are Australian-owned and operate domestically.

FIRE PROTECTION SERVICES

EMPLOYMENT PROJECTION: 2016 - 2022

■ 2016-17 ■ 2017-18 ■ 2018-19 ■ 2019-20 ■ 2020-21 ■ 2021-22

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[41] IBISWorld Industry Reports on Fire Protection Services (2017).

[42] Australian Bureau of Statistics: 81650 Counts of Australian Businesses, including Entries and Exits, June 2011- June 2015.

[43] Ibid.

[44] IbisWorld Specialised Industry Report on Fire Protection Services in Australia (2016).

	SECTOR DESCRIPTIONS AND ANALYSIS
Trends in Job Design, Globalisation, Digitalisation and Automation	Research and development is continuous into systems for fire detection, alarm, and suppression.[45] These systems are designed to provide integrated concepts and solutions in areas such as climate control, energy management, work processes and layout of client operations. Digital advancements have also occurred in surveillance, communication, and relaying systems. Remote fire-detection software and automated alarm systems have also been developed, although many of these advancements occur in manufacturing markets and are utilised in the fire-protection sector.[46] There is also a strong focus on prevention of ozone depleting substances and greenhouse gas emissions. Entrants into the industry must be technologically and environmentally aware, as well as adaptable to changes in equipment and processes.
Supply-Side Challenges and Opportunities	As of 2014, there were approximately ,477 people enrolled in fire protection qualifications.[47] • The regulatory environment has tightened regarding building codes relating to fire detection and prevention equipment.[48] • The industry is comprised mainly of smaller operators that are geographically dispersed throughout Australia. • Modest growth in employment (1.6%) is predicted in this industry from 2016 to 2021.[49] • Technological advancements are associated with digitalisation, for example, fire detection software and automated alarm systems.
Activities	A Case for Endorsement is currently being developed.
SWIMMING POOL AND SPA SERVICING	
Description	This sector includes swimming pool and spa servicing.
Qualifications	• CPP31212 Certificate III in Swimming Pool and Spa Service • CPP41312 Certificate IV in Swimming Pool and Spa Service
Peak Bodies	Swimming Pool and Spa Association of Australia Ltd, Professionals Australia, United Voice, Swimming Australia, Royal Life Saving Society, Federation Internationale de Nation (FINA).
Applicable Licensing	Licences may be required in Queensland and South Australia depending on the scope and cost of work.

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[45] IBISWorld Specialised Industry Report on Fire Protection Services in Australia (2016).
[46] Ibid.
[47] National Centre for Vocational Education Research: Data Collection on VET Students by Industry (2014-15).
[48] Ibid.
[49] Ibid.

	SECTOR DESCRIPTIONS AND ANALYSIS
Projected Employment Levels[50]	SWIMMING POOL AND SPA SERVICING Chart showing Enterprises (grey) and Employment (yellow) levels: 2015-16: 2,252 / 1,032 2016-17: 2,205 / 1,005 2017-18: 2,174 / 982 2018-19: 2,343 / 1,044 2019-20: 2,434 / 1,065 2020-21: 2,507 / 1,083 2021-22: 2,567 / 1,116 Y-axis: EMPLOYMENT AND ENTERPRISE LEVELS (UNITS), scale 0–3,000 X-axis: PROJECTED EMPLOYMENT: 2015 - 2020 Legend: ■ Enterprises ■ Employment
Analysis of Businesses	Specific governmental or privately produced data is not available for this sector.
Trends in Job Design, Globalisation, Digitalisation and Automation	Emerging trends in this sector include energy saving products and requirements, non-chlorine pools, mineral pools, water-saving products and techniques, new equipment used in servicing, and new surfaces. These changes are not predicted to significantly impact on job design.
Supply-Side Challenges and Opportunities	As of 2014, there were approximately 425 people enrolled in swimming pool and spa servicing qualifications.[51] • Employees must be up-to-date with relevant regulations, including fencing and environmental standards. • There is a need for industry employees to become formally qualified, due to past proliferation of unqualified industry employees and the health and safety implications of this.
Activities	All the qualifications are subject to an extensive review. Major gaps have been identified relating to the currency of the qualifications in the industry. Research and industry consultation are being undertaken to develop a Case for Change.
FACILITY MANAGEMENT	
Description	This sector involves the management, operation, and maintenance of built environments.

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[50] IBISWorld Industry Reports on Swimming Pool and Spa Servicing (2017).
[51] National Centre for Vocational Education Research: Data Collection on VET Students by Industry (2014-15).

	SECTOR DESCRIPTIONS AND ANALYSIS
Qualifications	• CPP50511 Diploma of Property Services (Asset and Facility Management) • CPP60211 Property Services (Asset and Facility Management)
Peak Bodies	Facility Management Association of Australia.
Applicable Licensing	Facility management is not a licensed occupation; however, state and territory regulations may affect how buildings are managed and operated.
Projected Employment Levels[52]	FACILITY MANAGEMENT Enterprises / Employment by year: 2015-16: 412 / 97 2016-17: 418 / 99 2017-18: 425 / 100 2018-19: 432 / 102 2019-20: 436 / 103 2020-21: 443 / 104 2021-22: 450 / 106 EMPLOYMENT AND ENTERPRISE LEVELS (UNITS) PROJECTED EMPLOYMENT: 2015 - 2020 ■ Enterprises ■ Employment
Analysis of Businesses	Approximately 40% of businesses in this sector operate nationally, 36% operate globally or internationally.[53] Practitioner portfolios are shrinking, with 45% of portfolios including five buildings or less.[54] There is a trend in the sector towards a younger and more gender-balanced profession, although women still only make up 25% of the overall workforce.[55]
Trends in Job Design, Globalisation, Digitalisation, and Automation	Research and development is continuous into systems for fire detection, alarm and suppression.[56] These systems are designed to provide integrated concepts and solutions in areas such as climate control, energy management, work processes and layout of client operations. Digital advancements have also occurred in surveillance, communication and relaying systems. Remote fire-detection software and automated alarm systems have also been developed. Many of these advancements occur in the wider manufacturing sector and are utilised in the fire protection sector.[57]

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[52] IBISWorld Industry Reports on Facility Management (2017).

[53] Facility Management Australia, Facilities Management Industry Census: Trends and Insights (2014-15).

[54] Ibid.

[55] Ibid.

[56] IBISWorld Specialised Industry Report on Fire Protection Services in Australia (2016).

[57] Ibid.

SECTOR DESCRIPTIONS AND ANALYSIS	
	There is also a strong focus on prevention of ozone depleting substances and greenhouse gas emissions. Entrants into the industry must be technologically and environmentally aware, as well as adaptable to changes in equipment and processes.
Supply-Side Challenges and Opportunities	The highest rated weakness for this sector in the Facility Management Industry Census is the attraction and retention of appropriately skilled staff.[58] As of 2014, there were 91 people enrolled in facility management qualifications. There were no enrolments in the advanced diploma.[59] • The three greatest strengths of this sector include improvement and maintenance of health and safety, energy management and improvement in FM service levels.[60] • Currently there are issues in this sector in attracting and retaining appropriately skilled staff and in carbon management.[61]
Activities	Research and industry consultation are being undertaken to develop a Case for Change.
STRATA MANAGEMENT	
Description	This sector includes the management and administration of owner corporations. Strata managers ensure buildings and common areas within strata schemes are properly maintained.
Qualifications	• CPP30416 Certificate III in Strata Community Management • CPP40516 Certificate IV in Strata Community Management • CPP50316 Diploma of Strata Community Management
Peak Bodies	Strata Community Australia Ltd.
Applicable Licensing	Licensing applies in NSW and the NT. Registration is required in the ACT and Victoria.
Analysis of Businesses	It is estimated that there are approximately 270 000 owner corporations covering two million individual lots Australia-wide.[62] Strata management mainly occurs at a local level, with low levels of globalisation.
Trends in Job Design, Globalisation,	A key area of development in this sector is in 3D technologies. The use of 3D technologies will support the land market, streamline legal requirements, decrease delays and reduce costs for designing, planning, building and managing modern cities.[63]

[58] Facility Management Australia: Facility Management Industry Census (2014-15).
[59] National Centre for Vocational Education Research: Data Collection on VET Students by Industry (2014-15).
[60] Ibid.
[61] Ibid.
[62] Strata Community Australia: https://www.stratacommunity.org.au/understandingstrata/what-is-strata (2016).
[63] Strata Community Australia (Vic):
http://www.vic.stratacommunity.org.au/OCV2/Resources/Research_Industry_Information/OCV2/Resources/Research_-_Industry_Information.aspx?hkey=cbc7ce05-826d-450c-9a8e-265ae8259666 (viewed April 2016).

SECTOR DESCRIPTIONS AND ANALYSIS	
Digitalisation and Automation	Online service delivery is another important development, with major strata management companies creating digitalised strata management services through websites and apps. According to Prudential Investment Company of Australia, cloud-based solutions will become fundamental to strata management in the future.[64] Remote asset monitoring sensor technology is also being developed, which will inform strata management of building problems without manual inspection.
Supply-Side Challenges and Opportunities	A key priority skill for the strata sector is customer service and people skills. There is currently no data available on the number of people in training, as the strata management qualifications were only endorsed as of 2016. • Developments in 3D technologies are predicted to support the land market, decrease delays and reduce costs.[65] • A key challenge for this sector is the regulatory framework, as there are different laws in each state and territory to comply with.
Activities	Research and industry consultation are being undertaken to assess the currency of qualifications.
ACCESS CONSULTING	
Description	This sector is concerned with the provision of advice or other services regarding accessible environments. Services include accessibility reports, audits, design, research, and advice on best practice.
Qualifications	• CPP40811 Certificate IV in Access Consulting • CPP50711 Diploma of Access Consulting • CPP80313 Graduate Diploma of Access Consulting
Peak Bodies	Association of Consultants in Access Australia, Australian Institute of Building Surveyors, Royal Institute of Chartered Surveyors Australia.
Applicable Licensing	Licensing does not apply to this profession. Consultants must be aware of relevant standards, regulations, and codes.
Analysis of Businesses	This industry consists primarily of sole traders (approximately 90%). The work performed by this profession directly affects the welfare of over two million Australians.[66]

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[64] Financial Review (6 July 2016) http://www.afr.com/real-estate/pica-and-urbanise-digitalises-strata-management-20160706-gpzni3.
[65] Strata Community Australia (Vic):
http://www.vic.stratacommunity.org.au/OCV2/Resources/Research_Industry_Information/OCV2/Resources/Research_-_Industry_Information.aspx?hkey=cbc7ce05-826d-450c-9a8e-265ae8259666 (viewed April 2016).
[66] Association of Consultants in Access https://www.access.asn.au/ (2016).

	SECTOR DESCRIPTIONS AND ANALYSIS
	There are approximately four hundred access consultants operating around Australia.[67] There are no major operators, although some architectural and surveying firms employ access consultants. The sector primarily operates nationally rather than globally.
Trends in Job Design, Globalisation, Digitalisation, and Automation	This sector is closely related to surveying and architecture; therefore, any important technological developments in those sectors will also affect this one (see above for more detail). In addition, technological advancements in telecommunications and internal resource management continue to improve efficiency in workplace operations.
Supply-Side Challenges and Opportunities	Attrition is very low. Access consulting is not a physically strenuous profession; therefore, people stay in the industry until they retire from the workforce. The low attrition rate does not yet impact on training requirements because the profession is still growing.[68] As of 2014, there were approximately 60 people enrolled in access consulting qualifications.[69] • Key challenges for the access consulting sector stem from society's lack of awareness of or concern with the importance of environmental access in allowing people with disabilities to engage with their community.[70] • The industry consists primarily of sole traders. Networking and continuous profession development (CPD) are important for the maintenance of skills and knowledge.[71]
Activities	All the qualifications are subject to an extensive review. Major gaps have been identified in the currency of the existing qualifications in the industry. Research and industry consultation are being undertaken to develop a Case for Change.

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[67] Ibid.

[68] Association of Consultants in Access Australia: https://www.access.asn.au/ (2016).

[69] National Centre for Vocational Education Research: Data Collection on VET Students by Industry (2014-15). This data is not reliable or available over the longer-term as some access consulting courses are not currently recorded as government funded (and therefore data collection is limited).

[70] Ibid.

[71] Ibid.

C. EMPLOYMENT

INDUSTRY EMPLOYMENT OUTLOOK

WASTE MANAGEMENT
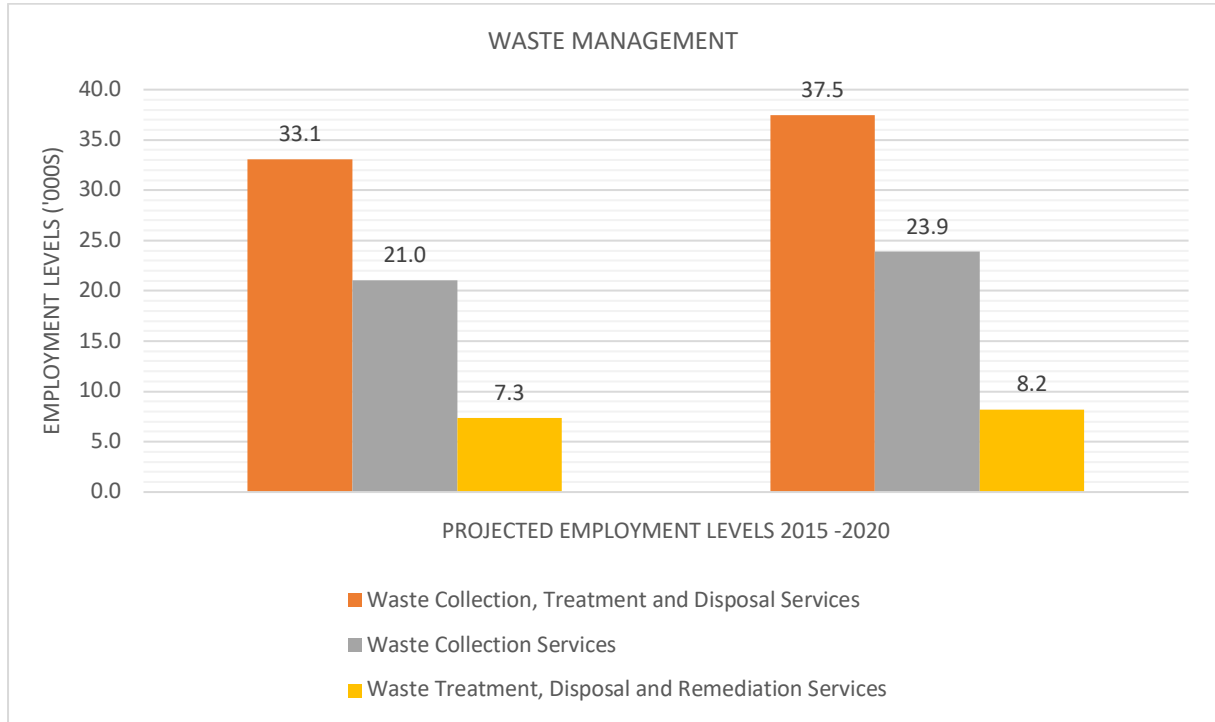
Based on an aggregate average, employment levels in the waste management sector are expected to grow by 5.3% by 2020.

PROPERTY OPERATORS AND REAL ESTATE SERVICES
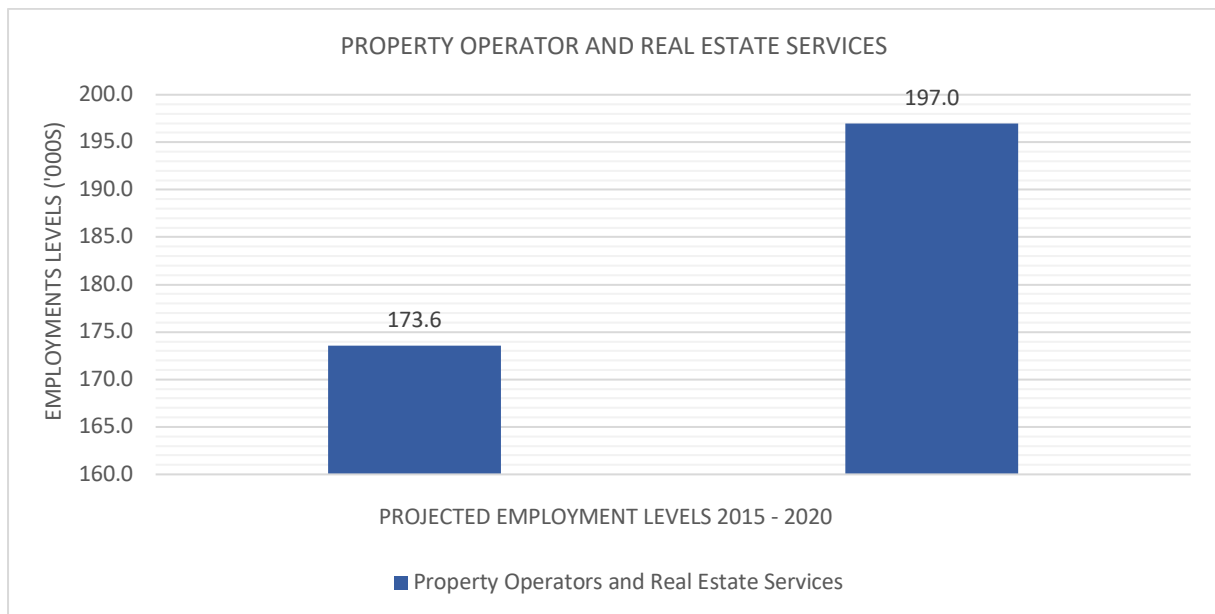
Employment levels in the property operators and real estate services are expected to growth annually by 4.7% and by 23.4% by 2020.

ARCHITECTURAL, ENGINEERING AND TECHNICAL SERVICES
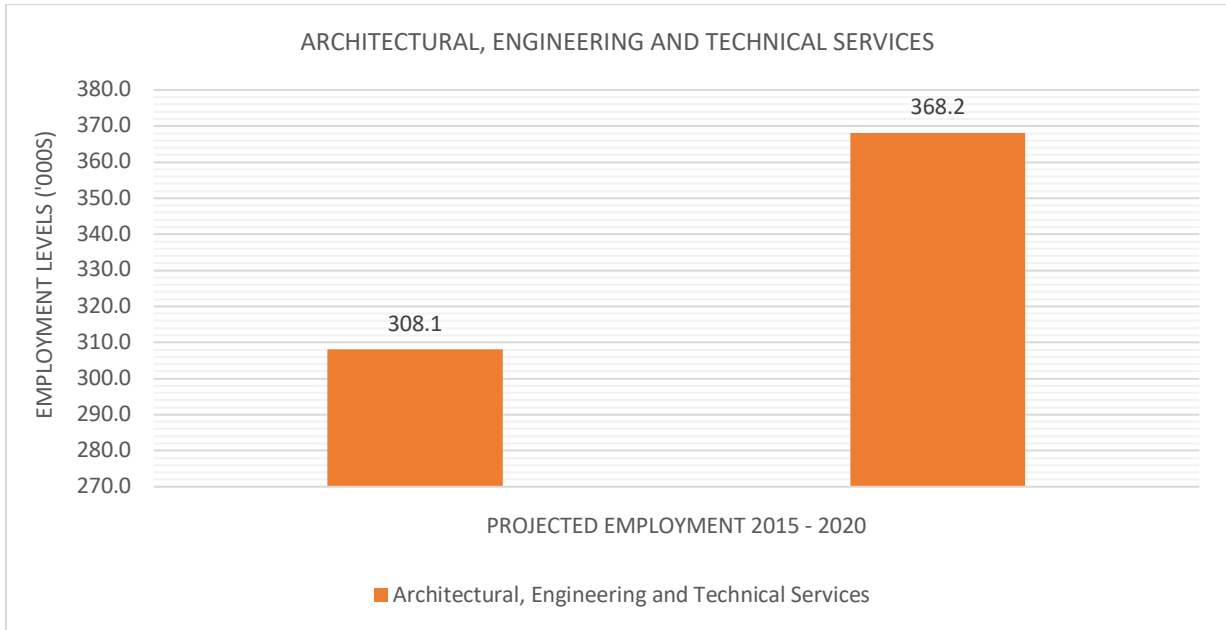
Levels of employment are expected to increase by 12% annually and increase by 60% by 2020.

BUILDING CLEANING, PEST CONTROL AND OTHER SUPPORT SERVICES
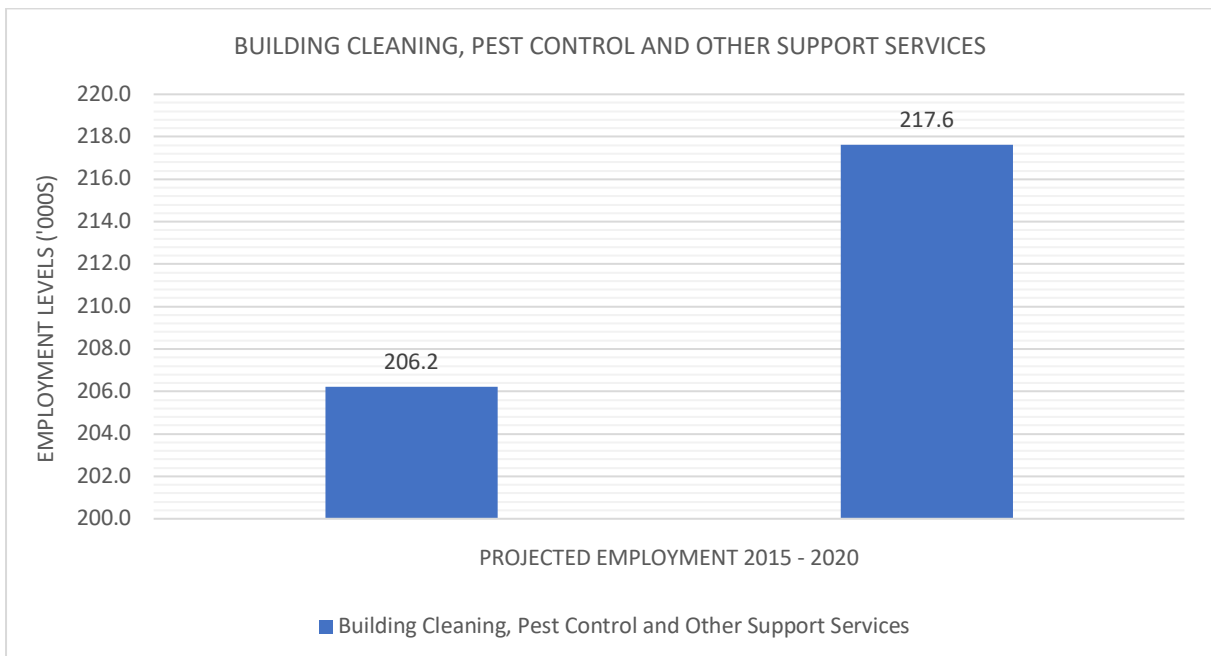
PUBLIC ADMINISTRATION AND SAFETY
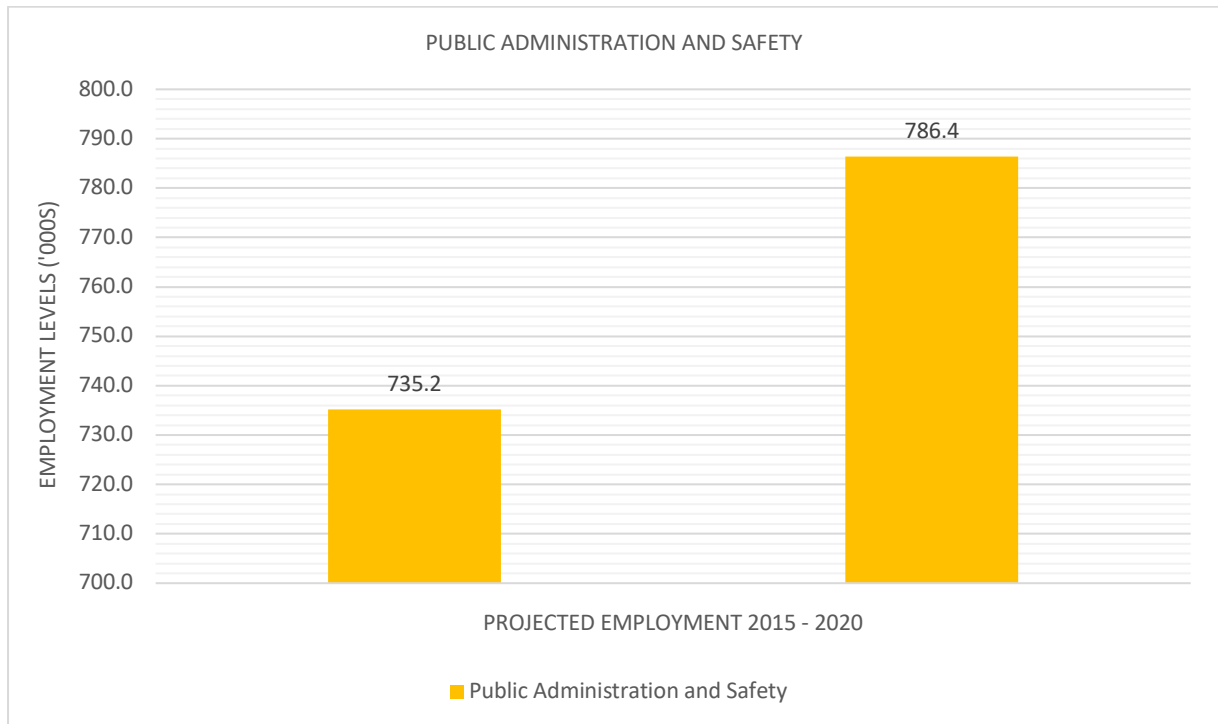
Employment levels in the public administration and safety sector are expected to increase annually by 10.2%. Overall employment levels are expected to increase 60% by 2020.

FIRE PROTECTION SERVICES
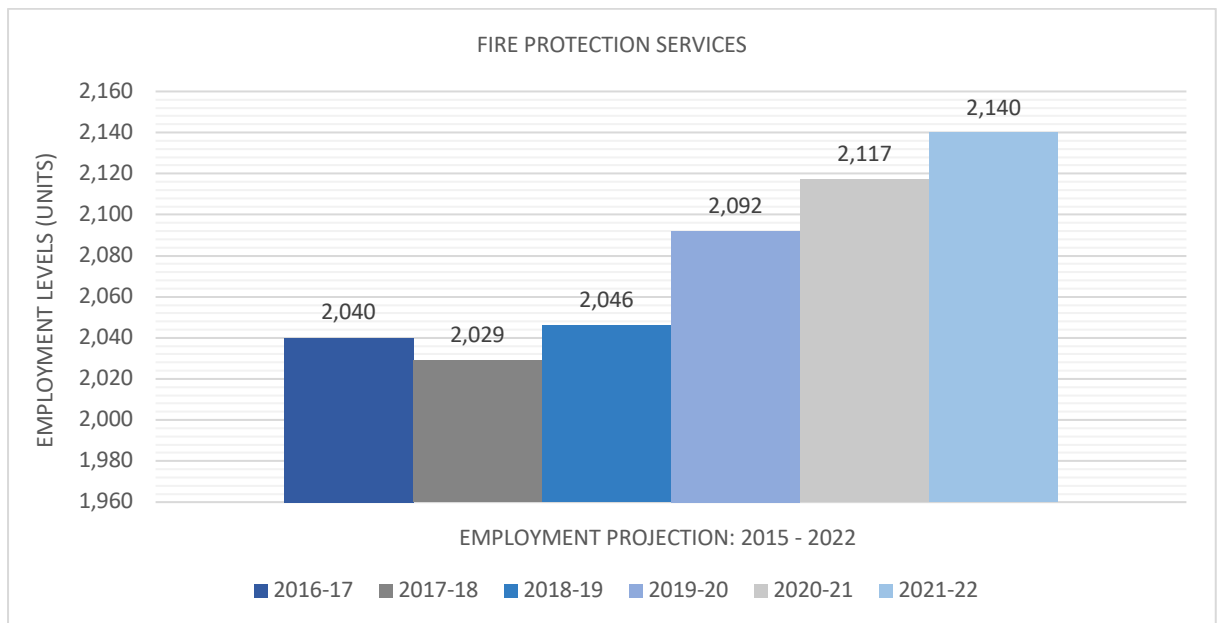
Overall, employment levels are expected to increase by 20% annually between 2015 to 2020.

SWIMMING POOL AND SPA SERVICE

SWIMMING POOL AND SPA SERVICE
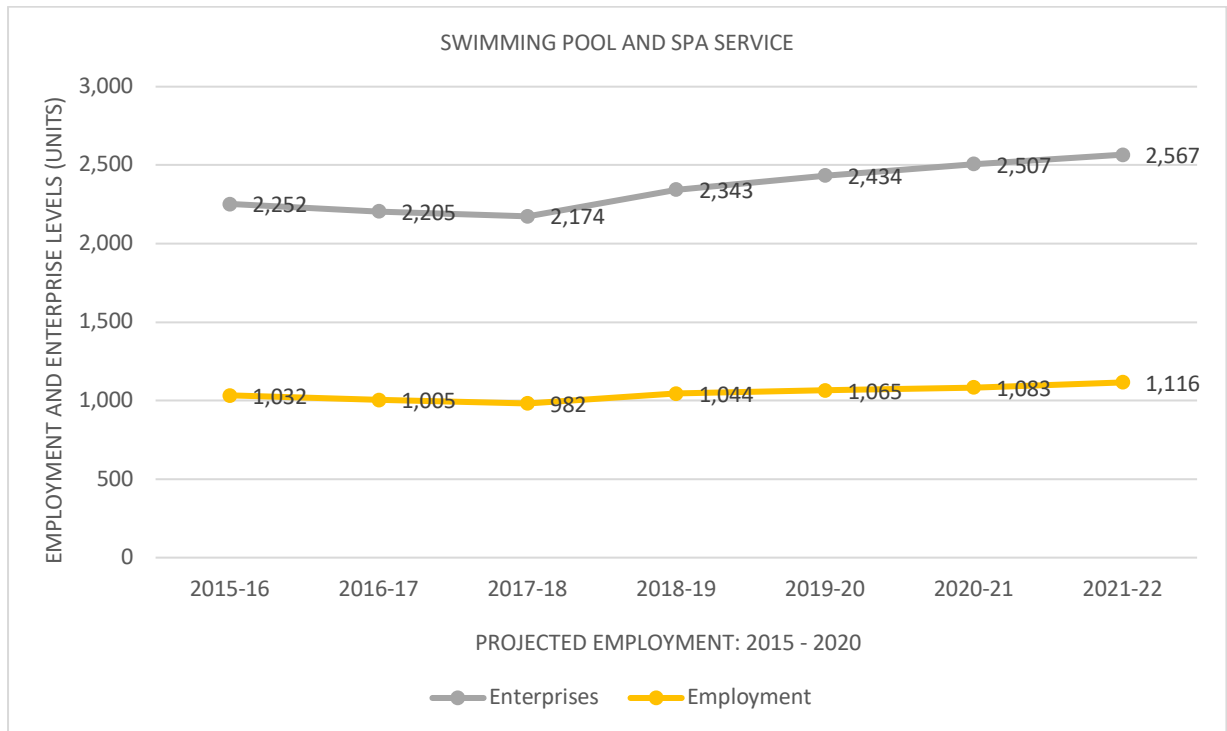
Levels of employment are positively correlated with the number of enterprises in the sector.

FACILITY MANAGEMENT[72]

FACILITY MANAGEMENT

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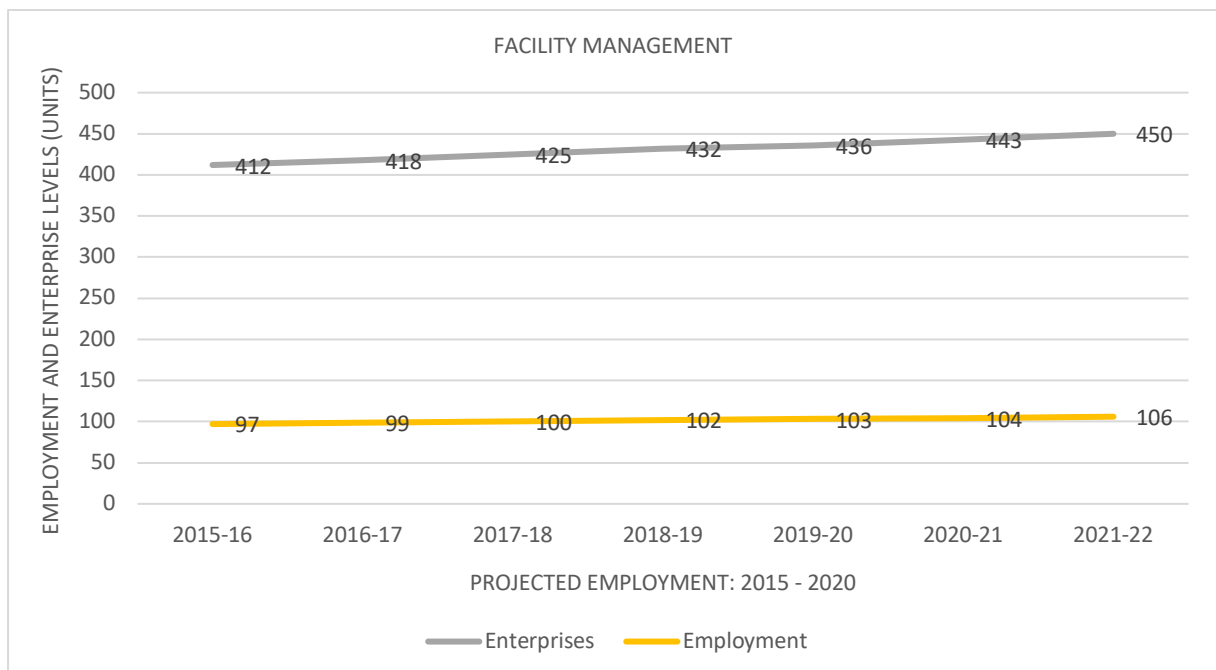
[72] IBISWorld Industry Reports on Fire Protection Services (2017).

Employment levels in the facilities management sector are positively correlated with the number of enterprises in the sector. Employment levels have been increasing in proportion with the number of enterprises.

PROPERTY INDUSTRY OCCUPATIONAL DATA - ADDITIONAL OCCUPATIONS	
KEY OCCUPATIONAL GROWTH IN THE TWO YEARS	
Real Estate Sales Agents	15
Commercial Cleaners	-2
Office Managers	2
Contract, Program, and Project Administrators	5
Information Officers	18
Security Officers and Guards	20
Architectural, Building and Surveying Technicians	9
Recycling and Rubbish Collectors	-17
Other Hospitality, Retail, and Service Managers	11
Other Miscellaneous Labourers	16
Electronics Trades Workers	4
Other Miscellaneous Technicians and Trades Workers	13
Other Cleaners	-7
Auctioneers and Stock and Station Agents	7

| SUPPLY SIDE CHALLENGES AND OPPORTUNITIES	
INDUSTRY SECTOR	**CHALLENGES AND OPPORTUNITIES**
Waste Collection, Treatment, and Disposal Services	As of 2014, there were 264 people in training in this sector[73] The percentage of those employed after training (on average) was 80% as of 2014.[74] In the five years from 2010-2014, there were no enrolments in the Diploma of Waste Management.[75] Over 50% of employees in this sector have not completed formal training.[76]
Property Operators and Real Estate Services	As of 2014, there were 22,547 students in training.[77] On average, 77% of students are employed following training.[78] Strict licencing requirements limit the ability of individuals to move to related occupations within the sector. Generally, there is a steady supply of workers into the industry, and no significant issues with attrition.
Architectural, Engineering and Technical Services	

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[73] National Centre for Vocational Education Research: Data Collection on VET Students by Industry (2014-15).
[74] Ibid.
[75] Ibid.
[76] Commonwealth Department of Employment (Labour Market Information Portal): Educational Attainment by Industry Sector (2014).
[77] National Centre for Vocational Education Research: Data Collection on VET Students by Industry (2014-15).
[78] Ibid.

SUPPLY SIDE CHALLENGES AND OPPORTUNITIES	
	As of 2014, there were 6,088 people enrolled in CPP or CPP07 qualifications.[79] Employees are most likely to hold a Bachelor Degree (38%).[80] This means articulation between VET and the Tertiary sector is particularly important in this sector. According to the Department of Employment Skills Shortage List, there are currently skills shortages for surveyors and quantity surveyors.
Building Cleaning, Pest Control, and Gardening Services	As of 2014, there were 7,799 people enrolled in training in CPP07 qualifications. Approximately 73% of students are employed after training in this sector.[81] A major source of students and employees in the cleaning sector is migrants and international students. LLN and WHS are an important focus because of the differing language and cultural standards in this subsector. Approximately 62% of the workforce does not have formal qualifications, due partially to a lack of regulatory requirements for the cleaning sector.[82] Due to the relaxed regulatory environment, there are few entry barriers into the cleaning industry, leading to varying standards.
Public Order and Safety	While there are many people undertaking training in this sector (25,879 as of 2014), the employment rate after training is only 55%.[83] Due to the high number of migrants and underqualified workers employed in this sector, LLN and customer service deficiencies are an area of concern for industry and stakeholders. Inconsistent licensing arrangements has resulted in people cross borders to attain licences in jurisdictions with fewer requirements.[84]
Swimming Pool and Spa Servicing	As of 2014, there were approximately 425 people enrolled in swimming pool and spa servicing qualifications.[85]
Fire Protection Inspection and Testing	As of 2014, there were approximately 2,477 people enrolled in fire protection qualifications.[86]
Facility Management	

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[79] National Centre for Vocational Education Research: Data Collection on VET Students by Industry (2014-15).
[80] Commonwealth Department of Employment (Labour Market Information Portal): Educational Attainment by Industry Sector (2014).
[81] National Centre for Vocational Education Research: Data Collection on VET Students by Industry (2014-15).
[82] Commonwealth Department of Employment (Labour Market Information Portal): Educational Attainment by Industry Sector (2014).
[83] National Centre for Vocational Education Research: Data Collection on VET Students by Industry (2014-15).
[84] Australian Skills Quality Authority: Training in security programs in Australia (2016).
[85] National Centre for Vocational Education Research: Data Collection on VET Students by Industry (2014-15).
[86] National Centre for Vocational Education Research: Data Collection on VET Students by Industry (2014-15).

SUPPLY SIDE CHALLENGES AND OPPORTUNITIES	
	The highest rated weakness for this sector in the Facility Management Industry Census is attracting and retaining appropriately skilled staff.[87] As of 2014, there were 91 people enrolled in facility management qualifications. There were no enrolments in the Advanced Diploma.[88]
Strata Management	A key priority skill for the strata sector is customer service and people skills. There is currently no data available on the number of people in training, as the strata management qualifications were only endorsed as of 2016.
Access Consulting	Attrition is very low. Access consulting is not a physically strenuous profession; therefore, people stay in the industry until they retire from the workforce. The low attrition rate does not yet impact on training requirements because the profession is still growing.[89] As of 2014, there were approximately 60 people enrolled in access consulting qualifications.[90]

[87] Facility Management Australia: Facility Management Industry Census (2014-15).
[88] National Centre for Vocational Education Research: Data Collection on VET Students by Industry (2014-15).
[89] Association of Consultants in Access Australia: https://www.access.asn.au/ (2016).
[90] National Centre for Vocational Education Research: Data Collection on VET Students by Industry (2014-15). This data is not reliable or available over the longer-term as some access consulting courses are not currently recorded as government funded (and therefore data collection is limited).

D. SKILLS OUTLOOK

OVERVIEW

2017 SKILLS FORECAST SURVEY RESULTS - EMERGING TRENDS OVERVIEW

With a national industry sample size of 223, findings from the *2017 Skills Forecast Survey* confirmed the impact of technological disruption and environmentally friendly materials and processes on the industry.

EMERGING TRENDS – TECHNOLOGY

The 2017 Artibus Innovation Industry Survey aimed to gauge the effect of technology as an emerging trend on four key stakeholder groups identified in the 2016 Artibus Innovation Skills Forecast.
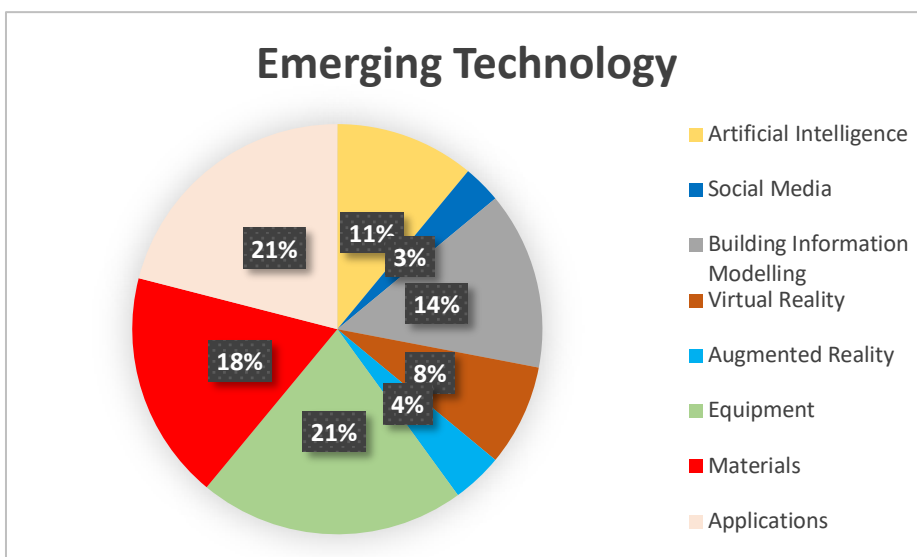
2017 Survey responses were categorised into eight key groups within emerging technology: Applications, Equipment, Materials, Building Information Modelling, Artificial Intelligence, Virtual Reality, Augmented Reality and Social Media.

The two categories with the joint highest response rate of 42% were Applications and Equipment, suggesting a continued uptake of applications by businesses in order to increase productivity and accuracy. In the property services and real estate sector, applications are increasingly able to automate processes such as booking systems, online tenant and seller communication systems, online trust accounting and property management that were previously carried out by real estate agents. The development and incorporation of applications for case management, online claims and GPS tracking were highlighted as being of interest to the Security and Investigation sectors.

Equipment (including everything from tablets to cranes) has the potential to improve training delivery and workplace performance. In particular, respondents stated that there is significant scope in the security and investigation sectors for incorporating devices such as body cameras, WiFi network cameras, and night and infrared vision goggles to increase safety, mobility and accuracy.

Of those surveyed, 18% acknowledged the importance of technology in the engineering of new materials, such as cross-laminated timber (CLT), that provide superior durability, efficiency,

sustainability and affordability. Respondents stated concern at keeping up to date with products that undergo frequent change, such as waterproofing materials, which are constantly being redesigned for affordability and utility.

Building Information modelling (BIM) was acknowledged by 14% of respondents as an emerging technology that would play a role in their area. At its highest level (Level 3 or 'Open BIM'), BIM allows complete collaboration between different sectors, preventing the potential of conflicting information. Survey respondents showed a basic understanding of BIM and its potential uses, with the suggestion that level 1 would be appropriate for current sector requirements.

Artificial Intelligence (AI) was recorded by 11% of respondents as an emerging trend, with the two main examples cited being drones and robotics.

Virtual Reality (VR) and Augmented Reality (AR) were recognised as emerging trends by respondents (8% and 4% respectively). VR was highlighted as having potential for training delivery, such as using simulators to train plant and equipment operators. Survey results suggest that AR is a lesser known emerging technology and the scope for its potential uses within sectors has not yet been fully realised. However, respondents within the real estate sector noted that AR was currently being used in 3D videos and online inspections for interstate and overseas buyers, allowing for realistic remote viewing.

Social Media was identified as an emerging technology by 3% of respondents, the main purpose being to use the platform's search functions to collate information. This function was considered particularly useful in the investigation sector.

Other Emerging Trends

Survey respondents reported the effects of globalisation on the property services and real estate sector as an increased impact of overseas property trends on the Australian property market and the rapid expansion of strata companies. 'Institutional buyers, particularly superannuation funds looking to diversify their investment portfolios for clients, have been major purchasers of office property over the period [2016-17].'[91] In addition, increased ease of accessibility to online property data and services is allowing consumers greater autonomy, causing a change in dynamics of the property services and real estate sector. 'The bypass of real estate agents in favour of online channels remains the most significant threat to the industry over the next five years.'[92]

Respondents from the security and investigation sectors noted the rise of terrorism, particularly its recent increase in Australia. This has led to increased public concern and scrutiny of security risks, particularly due to techniques used such as the active shooter. IBISWorld Industry Report O7712 provides additional evidence for an increase in public concern, 'with heightened terrorism concerns expected to result in a 2.8% industry revenue growth in 2016-17 as government and commercial demand for industry services increases.'[93] Cybersecurity was also noted as an area of significant development due to the increase in prevalence and sophistication of cyber-attacks. The escalation of drug use, in particular ice (crystallised methamphetamine), was mentioned by one respondent as posing a rising threat of violence to security officers and the general public and, subsequently, creating a need for training incorporating defensive techniques and drug awareness material.

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[91] IBISWorld Industry Report L6720 Real Estate Services in Australia, January 2017
[92] Ibid.
[93] IBISWorld Industry Report O7712 Investigation and Security Services in Australia, January 2016.

Respondents in the waste management and cleaning operations sectors showed an awareness of environmental products and processes as an emerging trend; these include the use of low VOC materials, sustainable cleaning processes and waste separation, minimisation, and regulation. According to the IBISWorld Industry Report D2911, 'separate collection of recyclables and the collection of e-waste and hazardous waste are all services that have had increased demand over the past five years, boosting revenue for industry operators.'[94]

BUILDING INFORMATION MODELLING (BIM) IN THE INDUSTRY

In March 2017, Artibus proposed an interdisciplinary project to the Australian Government Department of Education and Training relating to building information modelling (BIM).

Given that the landscape of occupations in the built environment is changing and this change is expected to accelerate and be re-shape the with the adoption of BIM, our strategic approach aim to promote a collaborative cross-sectoral research network and between industries, IRCs and SSOs

The support of the Commonwealth Department of Education and Training is key in facilitating the research on, and adoption and implementation of BIM across the VET sector and Australians industries.

IMPACT OF AUTOMATION, GLOBALISATION, AND DIGITALISATION

SECTOR	TRENDS IN JOB DESIGN, GLOBALISATION, DIGITALISATION, AND AUTOMATION
Waste Collection, Treatment, and Disposal Services	In the waste collection sector, technological developments generally relate to vehicle improvements, for example in fuel efficiency, lifting and tipping of bins, and the transportation of liquid waste.[95] These changes have not significantly impacted on job design, although since automation of lifting and tipping there have been fewer jobs in this area. Developments in the treatment and remediation subsectors relate to the treatment of organic material to produce biogas for electricity.[96] Alternative waste technology provides solutions for materials that would otherwise go to landfill, and is predicted to be an important area for employment and growth in the future. The shift towards recycling and reproducing waste in alternative forms will create important skills needs in the future.
Property Operators and Real Estate Services	Industry and stakeholders report the following new technologies: online property auctions, virtual viewings, online forms, digital marketing, and the use of apps. Around 99% of real estate businesses now have a web presence.[97]

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[94] IBISWorld Industry Report D2911 Solid Waste Collection Services in Australia, September 2016.
[95] IBISWorld Industry Reports on Solid Waste Collection Services, Other Waste Collection Services (2016).
[96] IBISWorld Industry Reports on Waste Treatment and Disposal Services, and Waste Remediation and Materials Recovery Services (2015-16).
[97] IBISWorld Industry Report on Real Estate Services (2016).

SECTOR	TRENDS IN JOB DESIGN, GLOBALISATION, DIGITALISATION, AND AUTOMATION
	Computer software has also significantly reduced the cost of providing property management services, making it less labour intensive[98]. New entrants must be able to use current technology, and adapt when new products appear on the market. In terms of emerging environmental trends, property managers must understand sustainable house ratings and the requirements where asbestos is present within a property. In addition, globalisation has resulted in increased international interest in property and the internationalisation of real estate businesses.
Architectural, Engineering and Technical Services	Technological changes are occurring at a rapid rate within this sector. Industry and stakeholders report that emerging technologies include Unmanned Aerial Vehicles (UAVs) and aerial photography, hand-held global navigation satellite systems (GNSS), precision machine control systems, advanced total stations, scanners, database management, BIM, and LiDAR. New entrants will be required to understand and operate these devices and systems to work effectively in the industry. Other emerging trends include environmental legislative changes, changing business structures in a competitive business environment, and the growing demand for environmentally sustainable practices and products.
Building Cleaning, Pest Control, and Gardening Services	In the pest control subsector, industry reports that growth is occurring in non-chemical treatment options (IPM) on a much wider and deeper scale than is currently reflected in the training package. Other technological advancements have occurred in marketing and presentation and Building Out Pests. Consumers are increasingly demanding technological solutions, non-intrusive solutions, and remote solutions. In-transit fumigations is a global concern and risk (i.e. from poor fumigation practices, seals, poor skills and knowledge of fumigation and poor venting procedures) and has the potential to result in illness and death. Future pest controllers will need knowledge of the impact on human health, the environment and food, prevention with minimal use of chemicals, focus on continual monitoring, and compliance training for licencing and WHS. While technological change is less rapid in the cleaning sector, key advancements include automation and robotics in cleaning tools and machines. Sustainability is also a key focus for this sector, and there is an increasing trend towards sustainable use of microfiber, reduced use of chemicals, and

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[98] Ibid.

SECTOR	TRENDS IN JOB DESIGN, GLOBALISATION, DIGITALISATION, AND AUTOMATION
	increased acknowledgment of the importance of cleaning for health. Entrants will need to appreciate these factors and utilise sustainable and new practices to work effectively in this sector.
Public Order and Safety	Technological advancements affecting this sector include biometrics, digital test device, apps/software, online insurance claims, cloud based dispatch systems, SOPs on smart devices, ID scanning, virtual reality systems, advanced GPS tracking systems, integrated alarm/CCTV/building management systems, and online incident reporting. Many of these changes have reduced the heavy reliance on labour in this sector. Industry and key stakeholders report that computer skills are an increasingly important requirement for employment. Another important development in this sector is globalisation and the increased risk of terrorism. This has increased community expectations of what is required by the security industry, particularly in the areas of prevention and emergency response.
Swimming Pool and Spa Servicing	Emerging trends in this sector include energy saving products and requirements, non-chlorine pools, mineral pools, water saving products and techniques, new equipment used in servicing, and new surfaces. These changes are not predicted to significantly impact on job design.
Fire Protection, Inspection and Testing	Research and development is continuous in areas of new fire detection, alarm, and suppressions systems.[99] These systems aim to provide integrated concepts and solutions in areas such as climate control, energy management, work processes and layout of client operations. Digital advancements have also occurred in surveillance, communication, and relaying systems. Remote fire detection software and automated alarm systems have also been developed, although many of these advancements occur in manufacturing markets and are utilised in the fire protection sector.[100] There is also a strong focus on prevention of ozone depleting substances and greenhouse gas emissions. Entrants into the industry must be technologically and environmentally aware, as well as adaptable to changes in equipment and processes.
Facility Management	Technology and digitalisation has affected this sector in two areas: service delivery and internal resource management.[101] Computer diagnostics on

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[99] IBISWorld Specialised Industry Report on Fire Protection Services in Australia (2016).
[100] Ibid.
[101] Facility Management Association: Facilities Management Industry Census (2014-15).

SECTOR	TRENDS IN JOB DESIGN, GLOBALISATION, DIGITALISATION, AND AUTOMATION
	internal equipment have allowed for more accurate and faster maintenance. Telecommunications and automation allow for remote access to operating controls for security systems. These developments have resulted in improved efficiency; however, have not significantly changed job design. Industry participants view technology as an opportunity to better improve service delivery.
Strata Management	A key area of development in this sector is in 3D technologies. The use of 3D technologies will support the land market, streamline legal requirements, decrease delays, and reduce costs for designing, planning, building and managing modern cities.[102] Online service delivery is another important development, with major strata management companies creating digitalised strata management services through websites and apps. According to Prudential Investment Company of Australia, cloud-based solutions will become fundamental to strata management in the future.[103] Remote asset monitoring sensor technology is also being developed, which will inform strata management of building problems without manual inspection.
Access Consulting	This sector is closely related to surveying and architecture, therefore any important technological developments in those sectors will also affect access consulting (see above for more detail). In addition, technological advancements in telecommunications and internal resource management continue to improve efficiency in workplace operations.

KEY SKILLS IN THE PROPERTY SERVICES INDUSTRY

KEY SKILLS
- Foundation Skills
- Digital Literacy
- Communications Skills
- Information Literacy
- Managerial/Leadership

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[102] Strata Community Australia (Vic): http://www.vic.stratacommunity.org.au/OCV2/Resources/Research_Industry_Information/OCV2/Resources/Research_-_Industry_Information.aspx?hkey=cbc7ce05-826d-450c-9a8e-265ae8259666 (viewed April 2016).
[103] Financial Review (6 July 2016) http://www.afr.com/real-estate/pica-and-urbanise-digitalises-strata-management-20160706-gpzni3.

The primary source of information used in the compilation of this list includes the whole-of-industry survey undertaken by Artibus Innovation, the *2017 Skills Forecast Survey.*

Intelligence was also gathered from the Property Services Industry Skills Committee (IRC) and current industry reports for relevant sectors.

RANKING OF 12 MOST IMPORTANT GENERIC WORKFORCE SKILLS

The table below provides a comparative analysis of the perceived importance of workforce skills in the industry based on two industry surveys.[104]

Most important skill =1; least important generic skill for your industry =12.

	12 GENERIC WORKFORCE SKILLS		
2016	**Skill**	**2017**	
1	Financial	9	↓ 8
2	Entrepreneurial	10	↓ 8
3	Technology	4	↓ 1
4	Managerial / Leadership	2	↑ 2
5	Design mindset / Thinking critically / System thinking / Solving problems	3	↑ 2
6	LLN	1	↑ 5
7	Customer service / Marketing	6	↑ 1
8	STEM	12	↓ 4
9	Data analysis	11	↓ 2
10	Environmental and Sustainability	8	↑ 2
11	Communication / Virtual collaboration / Social intelligence	7	↑ 4
12	Learning agility / Information literacy / Intellectual autonomy and self-management	5	↑ 7

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[104] The numbering column on the left are the results from the Artibus Training Package Survey 2016. The numbering column on the right are the results from Artibus IRC Skills Forecast Survey 2017.

E. OTHER RELEVANT SKILLS-RELATED INSIGHTS FOR THIS SECTOR

Skills enabling the workforce to conform with regulatory framework

As mentioned above, advances in technology (e.g. building information modelling, prefabrication, new materials) are causing structural changes in the built environment. Wider adoption of energy efficient and sustainable practices by the industry means further changes. The changes to manufacturing processes and business operations ultimately have implications for the regulatory framework as well.

Aligning with industrial practices, relevant standards and regulations will be implemented in relation to areas such as environmental protection and workplace health and safety. Therefore, from the perspective of skills and workforce needs, training will have to reflect these regulatory standards and regulations.

Recent Artibus Innovation survey results indicate that the CPP training package requires improvement on aspects relating to the regulatory framework. There was consensus among employers, RTOs and regulators that the training package needs improvement in areas relating to licensing. Figure 1 illustrates levels of satisfaction with the utility of the training package.
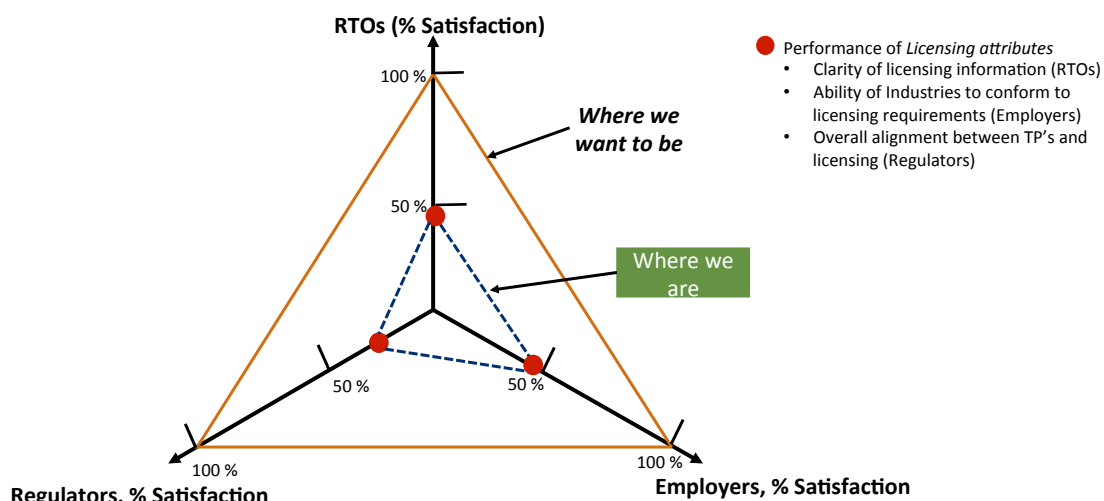

Figure 1: Utility of the Training Package: Support Towards Regulatory Framework

Recommendation:

The training needs to provide learners with a sound understanding of the regulatory framework and its implications for the industry and for their occupations.

Value Addition: Artibus Innovation Model for Quality, Utility, and Relevance of Training Packages

Artibus Innovation have developed a working framework to provide consistency in research, operational processes, and effective stakeholder participation.

Four main stakeholder groups were identified as having a direct relationship with the training packages (TPs). These groups have differing expectations of the TPs.

- Employers—for workforce development
- Learners (Employees, Students)—for learning and career aspirations

- RTOs—for training and assessment
- Regulators—for enabling users to conform with regulatory framework

TPs can be assessed in terms of quality, utility, and relevance.

Quality refers to the TP's success in delivering the intended function(s) and is determined by assessment across the stakeholder groups as measured through the parameter of customer satisfaction.

Utility refers to the effectiveness of the TP as assessed by the different stakeholder groups and measured through factors that are common across the groups, and can be represented by *Utility Maps.* For example, ability to conform to regulatory framework is a common aspiration among employers, RTOs and regulators, and therefore is an indicator for utility of the TP. Figure 1 is an illustration of the current utility of the CPP TP.

F. TRAINING PACKAGE REVIEW PLAN

Advice on the most appropriate timing for the review of relevant Training Package components

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Date submitted to Australian Government Department of Education and Training: [Insert date submitted]

Project Activity Key:

A – Case for Change,
B – Develop new Training Package, Qualification, or Units,
C – Update a Training Package, Qualification, or Units; and
D – Preparation of Training Product or Materials to Support the implementation of Training Packages

CONTRACTED ACTIVITIES

PLANNED REVIEW START (YEAR)	TRAINING PACKAGE QUALIFICATIONS	RATIONALE	ACTIVITY
2016-17	• CPP20617 Certificate II in Cleaning	A development of a new entry-level cleaning qualification to meets industry's needs. The qualifications addressed industry's demands for social inclusivity, equity, and the provision of industry pathways. AQF levels were addressed with industry including issues with training and assessment.	Activity B: Development of a new Cleaning Qualification. Development is now completed and pending AISC approval.
2017	• CPP40115 Certificate IV in Building Design Drafting	This Case for Change will focus on, but will not be limited to, providing advice about the changes	Activity A: Case for Change is currently being developed.

PLANNED REVIEW START (YEAR)	TRAINING PACKAGE QUALIFICATIONS	RATIONALE	ACTIVITY
	• CPP50911 Diploma of Building Design • CPP80113 Graduate Certificate in Building Design • CPP80213 Graduate Diploma of Building Design	required to update the CPP07 Property Services Training Package specifically related to Building Design. The Case for Change will capitalise on previous activities and consultation with industry, which highlighted that further work should be undertaken in relation to the above components. This Case for Change will provide IRCs with advice as to how the recommended work will support the implementation of the November 2015 COAG Industry and Skills Council Training Package Reforms, summarisedat: www.education.gov.au/vocational-education-and-training-reform. This Case for Change is scheduled for submission to the Department on or before **1 December 2017**.	
2017	• CPP20511 Certificate II in Fire Protection Inspection and Testing • CPP30811 Certificate III in Fire Protection Inspection and Testing	This Case for Endorsement will perform the activities described in the Case for Change approved by the AISC. The Case for Endorsement is due for submission to the Department on or before **31 July 2017.**	Activity B, C, and D
2017	• CPP41110 Certificate IV in Home Sustainability	A review is required of sustainability principles and their application to all sectors of the property services industry, considering the impact they are having on service delivery, skills needs and job design.	Activity: B, C, and D

PLANNED REVIEW START (YEAR)	TRAINING PACKAGE QUALIFICATIONS	RATIONALE	ACTIVITY
	• CPP41212 Certificate in NatHERS Assessment • CPP51012 Diploma of Residential Building and Energy Assessment	This Case for Endorsement will transition the Home Sustainability Components to the 2012 Standards for Training Packages. The units will be developed in the context of feedback from industry about the need for further work to be undertaken on components the CPP and CPP07 training packages including other qualifications which share these components. This Case for Endorsement and revised Companion Volumes is scheduled to be submitted to the Department on or before **1 December 2017**.	
2017	• CPP30211 Certificate III in Property Services (Agency) • CPP30311 Certificate III in Property Services (Operations) • CPP40307 Certificate IV Property Services (Real Estate) • CPP40407 Certificate IV in Property Services (Stock and Station Agency)	The real estate and property services industry is facing significant market disruption from new technologies and business models. In terms of emerging environmental trends, agents must also begin to understand the concept of sustainable housing. These changes are challenging the traditional agent role. It is imperative that the real estate qualifications are restructured to meet current and emerging skill demands. Therefore, the Australian Industry Skills Committee (AISC) commissioned a Case for Change to be developed. The Case for Change considered the following:	Activity: A

PLANNED REVIEW START (YEAR)	TRAINING PACKAGE QUALIFICATIONS	RATIONALE	ACTIVITY
	• CPP40507 Certificate IV in Property Services (Business Broking) • CPP40611 Certificate IV Property Services (Operations) • CPP50307 Diploma of Property Services (Agency Management) • CPP50409 Diploma of Property Services (Business Broking)	• potential market disruption caused by new technologies and business models challenging the traditional agent role • licensing and regulatory requirements across jurisdictions related to occupations • the need to clearly establish the links between the requirements of the state and territory regulators and the real estate qualifications • emerging regulatory requirements around housing/commercial environmental sustainability • the requirements of industry to future-proof job roles and occupational outcomes • the need to transition the qualifications to the 2012 Standards for Training Packages	
2017	• CPP10107 Certificate I in Security Operations • CPP20212 Certificate II in Security Operations • CPP30411 Certificate III in Security Operations	This Case for Endorsement will perform the activities described in the Case for Change approved by the AISC including: • an update of CPP20212 Certificate II and CPP30411 Certificate III in Security Operations • further investigation of the CPP10107 Certificate I in Security Operations as to its relevance to industry and the regulators, and its possible removal from the suite of Security Operations qualifications	Activity: B, C and D

PLANNED REVIEW START (YEAR)	TRAINING PACKAGE QUALIFICATIONS	RATIONALE	ACTIVITY
		• the establishment of a core set of units agreed to by both industry and the regulators enabling consistency across all jurisdictions • language, literacy and numeracy (LLN) skills aligned to the requirements of industry. The Case for Endorsement is scheduled for submission to the Department on or before 1 December 2017.	
2017	• CPP20307 Certificate II in Technical Security • CPP30507 Certificate III in Technical Security • CPP30607 Certificate III in Investigative Services • CPP40707 Certificate IV in Security and Risk Management • CPP50611 Diploma of Security and Risk Management	A review of the security qualifications is required to better align qualifications to workplace needs. Many of the security qualifications are overdue for review (the last review was undertaken five years ago), and none have been updated to the 2012 Standards, which further supports prioritising these qualifications. It is recommended the work extend across all the security qualifications in the training package.	Activity: A
2017		These qualifications will be due for review in 2020. Industry and key stakeholders report that rapid	Activity Type: C and D

PLANNED REVIEW START (YEAR)	TRAINING PACKAGE QUALIFICATIONS	RATIONALE	ACTIVITY
	• CPP20116 Certificate II in Surveying and Spatial Information Services • CPP30216 Certificate III in Surveying and Spatial Information Services • CPP40216 Certificate IV in Surveying • CPP40316 Certificate IV in Spatial Information Services • CPP50216 Diploma of Spatial Information Services • CPP50116 Diploma of Surveying • CPP60116 Advanced Diploma of Surveying	technological change is occurring in the surveying and spatial information services industry. These advances are resulting in changes in job design, as well as altering the skills needed when working in this area. These changes need to be further researched and reflected in the training package. This review could be confined to the addition of new units relating to technological developments such as BIM and the use of drones. In addition, there are persistent skills shortages for surveyors and quantity surveyors. Growth in employment is predicted in this sector.	

PROPOSED ACTIVITIES

PLANNED REVIEW START (YEAR)	TRAINING PACKAGE QUALIFICATIONS	RATIONALE	ACTIVITY
2017	• Building Information Modelling Project (BIM) in the Property Services Industry	A review is required of building information modelling (BIM) across all sectors of the property services industry examining the impact it is having on service delivery, skills need and job design.	

		This will be completed alongside a review of BIM in the construction, plumbing and services industry.	
2017	• Waste Management	Major systemic gaps have been identified in all the qualifications. Research activities and industry consultation are being undertaken to develop a Case for Change	Activity: C and D
2017	• Swimming Pool and Spa Services	See above.	Activity: C and D
2017	• Access Consulting	See above.	Activity: C and D
2018-19	• CPP30115 Certificate III Urban Pest Management	This qualification will be due for review in 2019. Industry and stakeholders report that there is a shift occurring in this sector towards non-chemical methods of pest control to a much larger extent than is currently reflected in the training package. In addition, there is a shift in focus from treatment to prevention. Growth in employment is also predicted in this sector.	
2019-20	• Digitalisation of Business Processes in the Property Services Industry	A review is required of the digitalisation of business processes across all sectors of the property services industry, considering the impact it is having on service delivery, skills needs and job design.	
2019-20	• CPP30416 Certificate III in Strata Community Management • CPP40516 Certificate IV in Strata Community Management	These qualifications will be due for review in 2020.	

	• CPP50316 Diploma of Strata Community Management		
2019-20	• CPP30316 Certificate III in Cleaning Operations • CPP40416 Certificate IV in Cleaning Management	These qualifications will be due for review in 2020.	

Notes on the table:

1. This advice should reflect the industry imperative identified in the IRC Skills Forecast and Proposed Schedule of Work.

2. The AISC will use the recommendations made by all IRCs, together with an analysis of the relevant IRC Skills Forecast and Proposed Schedule of Work, to develop the National Review Schedule. In developing the National Review Schedule, the AISC will assess relative priority across IRC Skills Forecasts and Proposed Schedules of Work, taking account of risk, regulatory need, strategic industry and government priorities, economic impact, current levels of VET activity and available budget. The AISC will also take account of any relevant industry proposals received. Work to review/update/develop training products will be commissioned in accordance with the National Review Schedule.

G. IRC SIGN-OFF

This IRC Skills Forecast and Proposed Schedule of Work was agreed to by:

(Name of Chair)	Signature of Chair

Date

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