

# artibus INNOVATION

Developing industry skills

Property Services

IRC Skills Forecast and Proposed Schedule of Work

Version: 0.4

Date: 30 March 2018

**Artibus Innovation**

373 Elizabeth Street, North Hobart, Tasmania 7000  
PO Box 547, North Hobart, Tasmania 7002  
T: 03 6218 2841 | E: [enquiries@artibus.com.au](mailto:enquiries@artibus.com.au) | W: [artibus.com.au](http://artibus.com.au)

***Disclaimer***

This report has been prepared by Artibus Innovation (Artibus) from primary and secondary sources and is intended to provide general guidance only. Artibus and its employees and other parties associated with the production of this report make no representations about the accuracy, veracity or completeness of information within it and are not liable for any omissions, errors or inaccuracies. Artibus may update, amend or supplement this document at any time, but has no obligation to do so. Artibus disclaims all liability resulting from any decisions, opinions, assumptions and actions taken in response to, and resulting from, the information provided in this report.

***Acknowledgement of Support***

Artibus Innovation is funded by the Australian Government Department of Education and Training through the Training Product Development Programme.

DRAFT

# Property Services

## IRC Skills Forecast and Proposed Schedule of Work

### Table of Contents

Executive Summary	1
Skills Forecast	4
Administrative Information	4
Sector Overview	4
CPP Property Services Industry Sub-Sectors	4
Peak Bodies	12
Property Services Qualifications	12
Challenges and Opportunities	15
Employment and Skills Outlook	18
Employment Outlook	18
Key Skills Needed	19
Ranking of 13 Generic Workforce Skills	20
Key Drivers for Change	21
Proposed Responses and Risks of Not Proceeding	30
Proposed Schedule of Work	32
2018-19 Project Details	33
References	44
Appendix A – Unit of Competencies	47

# Property Services

## IRC Skills Forecast and Proposed Schedule of Work

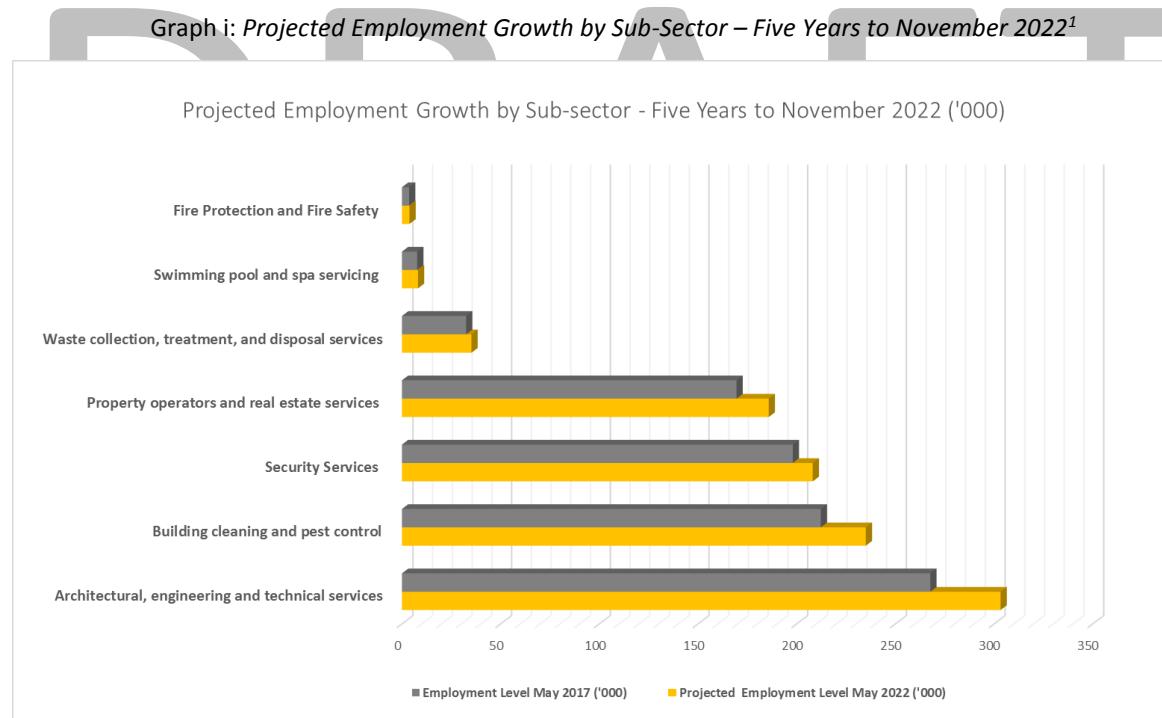
### Executive Summary

#### Sector Overview

The Property Services industry encompasses a broad range of sectors providing services to the built environment - pre-build; design and compliance assessment, and post-build; sale, management, maintenance, cleaning and waste services.

#### Employment Outlook

The industry employs close to 1 million workers. This is forecast to continue to grow, with the highest growth forecast in the architectural, engineering and technical services sector.



#### Key Skills Needs

Cross-sector and cross-industry collaboration is leading to a convergence of industries and sectors. The industry is riding a wave of change and opportunity from digital disruption. This driver, combined with its location as the industry skills for environmental sustainability in the built environment is

<sup>1</sup> Labour Market Information Portal, 2017 Industry Projections – five years to May 2022, accessed online 25/01/18 at <http://lmip.gov.au/default.aspx?LMIP/GainInsights/EmploymentProjections>

leading to an increased need for generic para professional skills packed with technical skill sets and knowledge domains. This is commonly termed ‘the T-shaped professional’,

### **Key Drivers for Change**

The rise, and rapid evolution, of digitisation and new technologies, and its enabling effect across the built environment is fuelling a 4.0 industry termed ‘the Proptech’ industry. Building Information Modelling (BIM) in particular the enabler of ‘digital integrated delivery’ across the industry. Along with the effects of increased urbanisation, environmental sustainability and regulation, and consumer demand this is leading to convergence of sectors and the need for more diverse skill sets among property services professionals. Therefore, updating the CPP training package to focus on the effects of these drivers for change and the shifting skill needs is vital.

### **Artibus Innovation’s Current Projects**

2017 has seen significant progress in the Security Operations, Real Estate, and Fire Protection Inspect and Test projects with national consultation underway or complete in each. Projects have been initiated in the Home Sustainability, Waste Management, Swimming Pool and Spa reviews and cases for change are being developed for the Technical Security, Private Investigation, Building Design and Access consulting sectors. In addition, the IRC is leading work on built environment training products to support cross sector consistency within the property sector. This will support the Ministers priorities of reducing duplication and further streamline training packages and increase industries shared understanding of the sector interactions.

DRAFT



# Skills Forecast

## Administrative Information

### Skills Services Organisation (SSO):

Artibus Innovation

Artibus Innovation has been commissioned by the Australian government to support the IRCs for Construction, Plumbing and Services and Property Services. We look at skills training and qualifications for occupations in the building and property industries. We talk to employers, workers, trainers, regulators and other industry stakeholders. We explore current and anticipated skills needs, examine data on enrolments and outcomes, and make recommendations for change.

### Industry Reference Committee (IRC):

Property Services

The Property Services IRC is responsible for national training package qualifications relevant to: Waste collection, treatment and disposal services; property operations and real estate services; architectural, engineering and technical services; public order and safety; swimming pool and spa servicing; facility management; surveying and spatial information services; building cleaning and pest control; fire protection; strata management; and access consulting.

## Sector Overview

The property services training package is comprised of a diverse range of sectors including:

- Real Estate Services, Strata Management and Facility Management
- Architectural Services
- Engineering and Technical Services
- Waste Collection, Treatment, and Disposal Services
- Building Cleaning Services
- Pest Control Services
- Security Services
- Fire Protection and Fire Safety Services
- Swimming Pool and Spa Servicing

## CPP Property Services Industry Sub-Sectors

### Real Estate Services, Strata Management and Facility Management

The real estate sector services two markets, residential and commercial. Combined they account for 38,325 businesses<sup>2</sup>, which are characterised by small, self-employed agents and property managers.

<sup>2</sup> IBISWorld, September 2017, IBISWorld Industry Report L6720: Real Estate Services in Australia, accessed online 01/02/18 at <http://clients1.ibisworld.com.au/reports/au/industry/default.aspx?entid=539> (p3)

In the past five years (2013-2017) residential property operators have faced competition from an increase in owner-lessors.<sup>3</sup> The geographic distribution of operators is influenced by population demand pressures<sup>4</sup>, with most operators located in the eastern states of New South Wales (38%)<sup>5</sup>, Victoria (20.1%)<sup>6</sup> and Queensland (25.8%)<sup>7</sup>.

The primary activities undertaken in this industry are:

- Conveyancing
- Real estate agency, actioning, body corporate management and brokering
- Real estate management
- Real estate title transfers
- Timeshare apartment managing
- Title sharing
- Appraisal of real estate<sup>8</sup>

State and territory specific licensing requirements apply to this sector.

### **Architectural Services**

There are 13,059<sup>9</sup> businesses, predominantly small firms and sole proprietors, in the Architectural Services sector. Businesses that have developed strong green building credentials have provided a new point of difference, setting themselves apart from competitors<sup>10</sup>. The geographic distribution of operators aligns with population distribution, economic activity and construction activity<sup>11</sup>. The industry is heavily concentrated across the eastern seaboard, with New South Wales (32.4%)<sup>12</sup>, Victoria (30%)<sup>13</sup> and Queensland (17.2%)<sup>14</sup> accounting for 80%<sup>15</sup> of operators.

The primary activities undertaken in this sector are:

- Architectural consultancy services
- Architectural design and drafting services
- Architectural landscaping services
- Town planning services<sup>16</sup>

Licensing requirements apply to this sector in some states and territories.

---

<sup>3</sup> Ibid (p4)

<sup>4</sup> Ibid (p16)

<sup>5</sup> Ibid (p15)

<sup>6</sup> Ibid (p15)

<sup>7</sup> Ibid (p15)

<sup>8</sup> Ibid (p2)

<sup>9</sup> IBISWorld, September 2017, IBISWorld Industry Report M692: Architectural Services in Australia, accessed online 01/01/18 at <http://clients1.ibisworld.com.au/reports/au/industry/default.aspx?entid=550>

(p3)

<sup>10</sup> Ibid (p7)

<sup>11</sup> Ibid (p17)

<sup>12</sup> Ibid (p16)

<sup>13</sup> Ibid (p16)

<sup>14</sup> Ibid (p16)

<sup>15</sup> Ibid (p17)

<sup>16</sup> Ibid(p2)

## **Engineering and Technical Services**

This sector is comprised of 3,370<sup>17</sup> businesses, characterised by many micro businesses, 95.2%<sup>18</sup> of them employ less than 20 people. The four largest businesses: Fugro Holdings (Australia) Pty Ltd, AAM Pty Ltd, Jacobs Australia Holdings Company Pty Ltd and Veris Limited<sup>19</sup> account for less than 20%<sup>20</sup> of industry revenue. The geographic distribution of operators aligns with population concentration and economic activity<sup>21</sup>, with states such as Western Australia (20.3%)<sup>22</sup> and Queensland (22.4%)<sup>23</sup> having a slightly higher distribution of operators due to demand in these areas for mapping and mine surveying<sup>24</sup>.

The primary activities undertaken in this industry are:

- Aerial surveying service
- Cadastral surveying service
- Engineering surveying service
- Geodetic surveying on a contract or fee basis
- Hydrographic and oceanographic surveying
- Land surveying service
- Map preparation service
- Mining surveying service
- Photogrammetry surveying on a contract or fee basis
- Seismic surveying service<sup>25</sup>

A specialist area of the surveying industry is Access Consulting, which is concerned with accessible facilities and built environments. Access Consulting's primary activities include accessibility appraisals, audits, design, research, training, information on codes, and advice on good practice.<sup>26</sup>

Licensing requirements apply to this sector in some states and territories.

---

<sup>17</sup> IBISWorld, February 2017, IBISWorld Industry Report M6922: Surveying and Mapping Services, accessed online 07/02/18 at <http://clients1.ibisworld.com.au/reports/au/industry/default.aspx?entid=551> (p4)

<sup>18</sup> Ibid (19)

<sup>19</sup> Ibid (24)

<sup>20</sup> Ibid (19)

<sup>21</sup> Ibid (p18)

<sup>22</sup> Ibid (p17)

<sup>23</sup> Ibid (p17)

<sup>24</sup> Ibid (p18)

<sup>25</sup> Ibid (p2)

<sup>26</sup> Association of Consultants in Access Australia, 2017, Accessibility in the Built Environment, accessed online 07/02/18 at <http://www.access.asn.au/index.php/accessibility-in-the-built-environment>

## **Waste Collection, Treatment, and Disposal Services**

The Waste Collection sector is comprised of 1,964<sup>27</sup> businesses, characterised by small operators, 95.9%<sup>28</sup> of which employ fewer than 20 staff or are non-employing. The sector has four major operators which account for less than 40%<sup>29</sup> of sector revenue (2017-18), the largest market share (15.3%)<sup>30</sup>, is held by Cleanaway Waste Management Limited. The geographic distribution of operators is related to population (household numbers) and business activity<sup>31</sup>, for this reason New South Wales (33.2%)<sup>32</sup> and Victoria (28.5%)<sup>33</sup> receive the highest proportion of industry revenue.

The primary activities undertaken in the Waste Collection sector are:

- Bin hiring and waste collection service
- Garbage collection service
- Solid hazardous waste collection service
- Solid industrial waste collection service
- Metal barrel/skip hiring and waste collection service
- Night soil collection service
- Portable toilet hiring and waste collection service
- Rubbish collection service
- Solid waste collection service
- Solid waste haulage service (local)<sup>34</sup>

Licensing is not applicable to this sector.

The Waste Treatment and Disposal industry is comprised of 759<sup>35</sup> businesses which are predominantly larger operators due to acquisition activity and outsourcing of services by local councils<sup>36</sup>. There are five major operators in the industry who account for 53.5%<sup>37</sup> of the market share, the largest of which is Suez Recycling & Recovery Holdings Pty Limited (21.7% market share)<sup>38</sup>. Some operators specialise in a specific market segment such as medical waste disposal services<sup>39</sup>. The geographic distribution of operators is aligned with the concentration of populations, industrial manufacturing and construction

---

<sup>27</sup> IBISWorld, October 2017, IBISWorld Industry Report D2911: Solid Waste Collection Services in Australia, accessed online 13/02/18 at <http://clients1.ibisworld.com.au/reports/au/industry/default.aspx?entid=5023> (p4)

<sup>28</sup> Ibid (p18)

<sup>29</sup> Ibid (p18)

<sup>30</sup> Ibid (p22)

<sup>31</sup> Ibid (p17)

<sup>32</sup> Ibid (p16)

<sup>33</sup> Ibid (p16)

<sup>34</sup>Ibid (p2)

<sup>35</sup> IBISWorld, November 2017, IBISWorld Industry Report D2921: Waste Treatment and Disposal Services in Australia, accessed online 13/02/18 at <http://clients1.ibisworld.com.au/reports/au/industry/default.aspx?entid=5024> (p4)

<sup>36</sup> Ibid (p19)

<sup>37</sup> Ibid (p24)

<sup>38</sup> Ibid (p24)

<sup>39</sup> Ibid (p19)

activity, and the extent of government involvement<sup>40</sup>, for these reasons New South Wales (29.1%)<sup>41</sup> and Victoria (27.8%)<sup>42</sup> account for a large share of industry activity.

The primary activities undertaken in the Waste Disposal and Treatment sector are:

- Garbage disposal services
- Hazardous waste treatment and disposal services
- Non-hazardous waste treatment and disposal services
- Operating landfills
- Operating other waste treatment facilities
- Rubbish dump or tip operation
- Sanitary disposal services
- Septic tank pumping or cleaning services (except repairs and maintenance)<sup>43</sup>

State and territory specific licensing requirements apply to waste management facilities.

## Building Cleaning Services

There are 27,375<sup>44</sup> businesses operating in the industry, which are predominantly comprised of small operators (94.2%)<sup>45</sup> with the exception of major industry player Spotless Group Holdings Limited (5.8%)<sup>46</sup>, who capitalised on the convergence of industries, successfully servicing the customer demand for multi-service contracts.<sup>47</sup> The geographic distribution of operators is influenced by population density and number of institutions<sup>48</sup>, for these reasons a majority of businesses are located in New South Wales (34.1%)<sup>49</sup> and Victoria (26.6%)<sup>50</sup>.

The primary activities in this industry are:

- Bathroom and toilet cleaning
- Building interior and exterior cleaning (excluding sandblasting and steam cleaning)
- Chimney and duct cleaning
- Gutter cleaning
- Janitorial services
- House and residential building cleaning
- Office and commercial building cleaning

<sup>40</sup> Ibid (p18)

<sup>41</sup> Ibid (p17)

<sup>42</sup> Ibid (p17)

<sup>43</sup> Ibid (p2)

<sup>44</sup> IBISWorld, September 2017, IBISWorld Industry Report N7311: Commercial Cleaning Services in Australia, accessed online 07/02/18 at <http://clients1.ibisworld.com.au/reports/au/industry/default.aspx?entid=574> (p4)

<sup>45</sup> (p23)

<sup>46</sup> Ibid (p23)

<sup>47</sup> Ibid (p5)

<sup>48</sup> Ibid (p18)

<sup>49</sup> [Ibid](#) (p4)

<sup>50</sup> Ibid (p4)

- Road and street cleaning
- Transport equipment cleaning
- Window cleaning<sup>51</sup>

Licensing is not applicable to this sector.

## Pest Control Services

This sector is comprised of 2,916<sup>52</sup> businesses, the majority of which are small private operators (82.9%)<sup>53</sup>, with the exception of two major players: Rentokil Pty Limited (6.7%)<sup>54</sup> and Anticimex Pty Ltd (10.4%)<sup>55</sup>. Merger and acquisition activity by major players is expected to continue over the next five years (2017-2021)<sup>56</sup>. The geographic distribution of operators is influenced by population size and climatic conditions<sup>57</sup>, the latter being a significant factor, with operators heavily concentrated in the warmer, humid, tropical areas of New South Wales (34.2%)<sup>58</sup> and Queensland (32.4%)<sup>59</sup>.

The primary activities in the industry are:

- Exterminating services\*
- Fumigating services\*
- Insect control services\*
- Pest control services\*
- Pest inspection report services\*
- Termite control services\*
- Weed control services\*<sup>60</sup>

\* except agricultural and forestry

License requirements are applicable to this sector, all operators apart from Western Australia (WA) must complete the skill set CPPSS00046. In WA, a provisional licence may be granted after completing CPPMT3006. The Certificate III must be achieved over a period of 12 months to continue practicing.

<sup>51</sup> Ibid (p2)

<sup>52</sup> IBISWorld, September 2017, IBISWorld Industry Report N7312: Building Pest Control Services in Australia, accessed online 09/02/18 at <http://clients1.ibisworld.com.au/reports/au/industry/default.aspx?entid=573> (p4)

<sup>53</sup> Ibid (p22)

<sup>54</sup> Ibid (p22)

<sup>55</sup> Ibid (p22)

<sup>56</sup> Ibid (p18)

<sup>57</sup> Ibid (p17)

<sup>58</sup> Ibid (p16)

<sup>59</sup> Ibid (p16)

<sup>60</sup> Ibid (p2)

## **Security Services**

This sector is comprised of 6,239<sup>61</sup> businesses, most of which are small local operators (79.8%)<sup>62</sup> who act as sub-contracted agents for larger businesses<sup>63</sup>. There are three major operators in the industry, Linfox Proprietary Limited (6.9%)<sup>64</sup>, SIS Australia Holdings Pty Ltd (7.8%)<sup>65</sup> and Wilson Parking Australia 1992 Pty Ltd (5.5%)<sup>66</sup>, collectively they account for roughly a quarter of industry revenue in 2016-17<sup>67</sup>. The geographic distribution of operators is influenced by concentration of business clients and population size<sup>68</sup>, for this reason a majority of operators are located in New South Wales (33.1)<sup>69</sup>, Victoria (24.9%)<sup>70</sup> and Queensland (20.8%)<sup>71</sup>, these states accounted for 78.8%<sup>72</sup> of industry revenue for 2017.

The primary activities in this industry are:

- Armoured car services (cash transfers)
- Bodyguard services
- Burglary protection services
- Detective work or private investigative services
- Locksmith services
- Nightwatchman services
- Security and protection services (except police)
- Security guard services
- Security service monitoring
- Security alarm monitoring<sup>73</sup>

Licensing requirements apply to this occupation in all states and territories.

## **Fire Protection and Fire Safety Services**

There are 3,140<sup>74</sup> businesses operating in the industry, of which 97.6%<sup>75</sup> employ less than 20 employees and 44.7%<sup>76</sup> operate as sole proprietors or partners. The two major operators are UTC

---

<sup>61</sup> IBISWorld, January 2017, IBISWorld Industry Report 07712: Investigation and Security Services in Australia, accessed online 09/02/18 at <http://clients1.ibisworld.com.au/reports/au/industry/default.aspx?entid=572> (p4)

<sup>62</sup> Ibid (p24)

<sup>63</sup> Ibid (p19)

<sup>64</sup> Ibid (p24)

<sup>65</sup> Ibid (p24)

<sup>66</sup> Ibid (p24)

<sup>67</sup> Ibid (p19)

<sup>68</sup> Ibid (p18)

<sup>69</sup> Ibid (p17)

<sup>70</sup> Ibid (p17)

<sup>71</sup> Ibid (p17)

<sup>72</sup> Ibid (p18)

<sup>73</sup> Ibid (p2)

<sup>74</sup> IBISWorld, May 2017, IBISWorld Industry Report E3234: Fire and Security Alarm Installation Services in Australia, May 2017, accessed online 09/02/18 at <http://clients1.ibisworld.com.au/reports/au/industry/default.aspx?entid=327> (p3)

<sup>75</sup> Ibid (p20)

<sup>76</sup> Ibid (p20)

Australia Commercial Holdings Pty Ltd (8.2%)<sup>77</sup> and Mather & Platt Pty Ltd (9.9%)<sup>78</sup> are expected to increase their share of the commercial market and dominate specialised service segments over the next five years (2017-2021)<sup>79</sup>. The geographic distribution of operators is influenced by construction activity and population size<sup>80</sup>, the majority of operators are located in the capital cities of New South Wales (37.3%)<sup>81</sup>, Victoria (24%)<sup>82</sup> and Queensland (18.9)<sup>83</sup>, which have a large share of high-rise apartments and offices that require complex fire and security systems<sup>84</sup>.

The primary activities in this industry are:

- Fire alarm system installation
- Fire sprinklers installation
- Closed circuit video surveillance system installation
- Security systems installation
- Smoke detectors installation
- Repair of installed fire or burglar security alarm systems<sup>85</sup>

Licensing is not applicable to this occupation but National accreditation schemes exist.

DRAFT

### **Swimming Pool and Spa Servicing**

The sector is comprised of 1,053<sup>86</sup> businesses which are predominantly small, independent and locally owned, there are no major players<sup>87</sup>. The geographic distribution of operators is influenced by warm climatic conditions and population size, for this reason the coastal regions of northern New South Wales (35.1%)<sup>88</sup> and Queensland (25.1%)<sup>89</sup> have a disproportionately high number of operators<sup>90</sup>.

The primary activities in this industry are:

- Routine maintenance of domestic, commercial and public swimming pools and spas<sup>91</sup>
- Treatment of water quality problems

---

<sup>77</sup> Ibid (p25)

<sup>78</sup> Ibid (p25)

<sup>79</sup> Ibid (p20)

<sup>80</sup> Ibid (p19)

<sup>81</sup> Ibid (p18)

<sup>82</sup> Ibid (p18)

<sup>83</sup> Ibid (p18)

<sup>84</sup> Ibid (p19)

<sup>85</sup> Ibid (p2)

<sup>86</sup> IBISWorld, August 2017, IBISWorld Industry Report OD4034: Swimming Pool and Spa Equipment Stores in Australia, accessed online 09/02/18 at <http://clients1.ibisworld.com.au/reports/au/industry/default.aspx?entid=4034> (p3)

<sup>87</sup> Ibid (p17)

<sup>88</sup> Ibid (p15)

<sup>89</sup> Ibid (p15)

<sup>90</sup> Ibid (p16)

<sup>91</sup> training.gov.au, Qualification details: CPP31212 - Certificate III in Swimming Pool and Spa Service (Release 2), accessed online 30/01/18 at <https://training.gov.au/Training/Details/CPP31212>

- Service and repair of key components of domestic, commercial and public swimming pools and spas<sup>92</sup>

Varying licensing requirements are applicable to this sector in Queensland and South Australia, dependent on the scope and cost of work.

## Peak Bodies

- Waste Management Association of Australia
- Facility Management Association of Australia
- Property Services Industry Advisory Body
- Professionals Australia
- United Voice
- Building Service Contractors Association of Australia
- Prudential Investment Company
- Real Estate Institute of Australia
- Strata Community Australia
- Australian Graphic Design Association
- Association of Building Sustainability Assessors
- Australian Environmental Pest Managers Association
- Swimming Pool and Spa Association of Australia
- Swimming Australia
- Royal Life Saving Society
- Federation Internationale de Nation (FINA)
- Association of Consultants in Access Australia
- Australian Institute of Building Surveyors
- Royal Institute of Chartered Surveyors Australia
- Building Designers Australia
- Consulting Surveyors National
- Surveying and Spatial Sciences Institute

## Property Services Qualifications

*Table 1: CPP Property Services Qualifications by Sub-Sector*

<b>Real Estate Services, Strata Management and Facility Management</b>	<b>No. of Enrolments 2016<sup>93</sup></b>	<b>No. of Completions 2016<sup>94</sup></b>
CPP30211 Certificate III in Property Services (Agency)	1471	143
CPP30311 Certificate III in Property Services (Operations)	77	5
CPP40307 Certificate IV in Property Services (Real Estate)	18012	3025

<sup>92</sup> training.gov.au, Qualification details: CPP41312 - Certificate IV in Swimming Pool and Spa Service (Release 2), accessed online 30/01/18 at <https://training.gov.au/Training/Details/CPP41312>

<sup>93</sup> NCVER, 2016, Data Product: Total VET students by industry – Total VET program enrolments, accessed online on 20/02/2018 at: <https://www.ncver.edu.au/data/collection/students-and-courses-collection/total-vet-students-and-courses>

<sup>94</sup> NCVER, 2016, Data Product: Total VET students by industry – Total VET program completions, accessed online on 20/02/2018 at: <https://www.ncver.edu.au/data/collection/students-and-courses-collection/total-vet-students-and-courses>

CPP40407 Certificate IV in Property Services (Stock and Station Agency)	141	81
CPP40507 Certificate IV in Property Services (Business Broking)	117	71
CPP40611 Certificate IV in Property Services (Operations)	440	241
CPP50307 Diploma of Property Services (Agency Management)	4796	381
<b>Architectural Services</b>		
CPP41110 Certificate IV in Home Sustainability Assessment	10	0
CPP41212 Certificate IV in NatHERS Assessment	618	257
CPP40115 Certificate IV in Building Design Drafting	119	0
CPP50911 Diploma of Building Design	3738	378
CPP51012 Diploma of Residential Building Energy Assessment	0	0
CPP80113 Graduate Certificate in Building Design	0	0
CPP80213 Graduate Diploma of Building Design	24	6
<b>Engineering and Technical Services</b>		
CPP30216 Certificate III in Surveying and Spatial Information Services	359	188
CPP40216 Certificate IV in Surveying	299	111
CPP40316 Certificate IV in Spatial Information Services	87	41
CPP50216 Diploma of Spatial Information Services	51	20
CPP50116 Diploma of Surveying	524	251
CPP60116 Advanced Diploma of Surveying	85	65
CPP40811 Certificate IV in Access Consulting	41	41
CPP50711 Diploma of Access Consulting	29	29
CPP80313 Graduate Diploma of Access Consulting	NA	NA
<b>Waste Collection, Treatment, and Disposal Services</b>		
CPP20411 Certificate II in Waste Management	19	19
CPP30711 Certificate III in Waste Management	150	16
CPP40911 Certificate IV in Waste Management	8	0
CPP50811 Diploma of Waste Management	0	0
<b>Building Cleaning Services</b>		
CPP20617 Certificate II in Cleaning	4158	497
CPP30316 Certificate III in Cleaning Operations	310	29
CPP40416 Certificate IV in Cleaning Management	77	30

<b>Pest Control Services</b>		
CPP30115 Certificate III in Urban Pest Management	513	29
<b>Security Services</b>		
CPP10107 Certificate I in Security Operations	265	173
CPP20212 Certificate II in Security Operations	18434	12964
CPP20307 Certificate III in Technical Security	154	47
CPP30411 Certificate III in Security Operations	12257	7547
CPP30507 Certificate III in Technical Security	55	44
CPP30607 Certificate III in Investigative Services	764	253
CPP40707 Certificate IV in Security and Risk Management	613	251
CPP50611 Diploma of Security and Risk Management	832	281
<b>Fire Protection and Fire Safety Services</b>		
CPP20511 Certificate II in Fire Protection Inspection and Testing	1112	334
CPP30811 Certificate III in Fire Protection Inspection and Testing	98	5
<b>Swimming Pool and Spa Servicing</b>		
CPP31212 Certificate III in Swimming Pool and Spa Service	202	82
CPP41312 Certificate IV in Swimming Pool and Spa Service	49	38

# Challenges and Opportunities

This section involves a brief overview of the challenges and opportunities to the property services sector. For a more detailed discussion, see the Key Drivers for Change and Proposed Responses section below.

## *The Challenges*

The Property Services industry is set to experience a number of major challenges in the future. These challenges will both disrupt and innovate the industry, changing the way some occupations and sub-sectors function, while also providing new opportunities.

### **Increased Urbanisation**

The increasing urbanisation of major cities presents critical challenges for the property services sector, particularly in areas such as security,<sup>95</sup> infrastructure and building maintenance and the energy efficiency of buildings.<sup>96</sup> In Australia, this could result in infrastructure becoming strained and inefficient as populations expand,<sup>97</sup> an increase in the need for at-home security systems, pest control and waste services and the need for buildings to be more eco-efficient.<sup>98</sup> Meeting the challenge of urbanisation will also require the investment and innovation from the private sector as well as commitment and funding from governments.<sup>99</sup>

### **Convergence of Industries**

Tackling large, multifaceted issues such as climate change and rapid urbanisation requires partnership and collaboration from the technology, environmental sustainability and property industries sectors.<sup>100</sup> This cross-sector collaboration and convergence of industries therefore means that the property services industry is being disrupted by the introduction of new technology and the increase in environmental sustainability regulations and standards for buildings. This disruption is leading to a change in the skills profile needed among workers in the industry, as the industry is increasingly needing T-shaped professionals that train in a specific area, but also have technological literacy and knowledge and comprehension of the environmental sustainability industry and the building codes and regulations it impacts.

---

<sup>95</sup> PWC, 2016, Five Megatrends and Their Implications for Global Defence & Security, accessed online 31/01/18 at <https://www.pwc.com/gx/en/government-public-services/assets/five-megatrends-implications.pdf>

<sup>96</sup> PWC, 2014, Real Estate 2020: Building the future, accessed online 30/01/18 at <https://www.pwc.com/sg/en/real-estate/assets/pwc-real-estate-2020-building-the-future.pdf>

<sup>97</sup> PWC, 2016, Five Megatrends and Their Implications for Global Defence & Security, accessed online 31/01/18 at <https://www.pwc.com/gx/en/government-public-services/assets/five-megatrends-implications.pdf>

<sup>98</sup> PWC, 2014, Real Estate 2020: Building the future, accessed online 30/01/18 at <https://www.pwc.com/sg/en/real-estate/assets/pwc-real-estate-2020-building-the-future.pdf>

<sup>99</sup> Ernst & Young, 2016, The upside of disruption: Megatrends shaping 2016 and beyond, accessed online 31/01/18 at [http://www.ey.com/Publication/vwLUAssets/EY-the-upside-of-disruption/\\$FILE/EY-the-upside-of-disruption.pdf](http://www.ey.com/Publication/vwLUAssets/EY-the-upside-of-disruption/$FILE/EY-the-upside-of-disruption.pdf)

<sup>100</sup> Ibid

## **Customer Demand**

Today's consumer is empowered with more knowledge of the products they are consuming and how their consumption affects the world around them. As a result, consumers are driving transparent and competitive pricing, energy-efficient, environmentally friendly products, and flexible, more personalised ways to interact with businesses.<sup>101</sup> For the property services industry, this means that consumers are helping drive the shift towards the adoption of new technologies and the convergence of services within businesses as well as the increase in smart and green buildings.<sup>102</sup>

## **Digitalisation**

The property services industry in Australia will experience a shift in the skills needed due to the effects of significant digital disruption. There are two major technological advances that will affect the CPP training package. The first is automation and research suggests that in the property service industry, real estate sales agents have an 85.2% probability of being automated.<sup>103</sup> Secondly, Building Information Modelling (BIM) will allow property services professionals to access 3D walk-through animations for marketing, track the building's sustainability rating and view and record sales, leasing and ownership information all in the one place.<sup>104</sup>

## **Sustainability**

With the need for action on climate change and sustainability becoming a focal point globally, so too comes an increased emphasis on the use of renewable energies and green buildings in the property industry. Green buildings significantly reduce the negative impact that buildings have on the environment by incorporating sustainable design, construction and operational elements.<sup>105</sup> In addition, the waste treatment and disposal industry has been constrained by government regulations such as the National Waste Policy of 2009, that encourage recycling and raise landfill disposal costs.<sup>106</sup>

## **Regulation**

These drivers for change are not only going to impact jobs and business models, but are also going to challenge current regulations in fire safety and testing, waste disposal and treatment, and building sustainability. It will therefore be the challenge of the government to find the right balance between innovation and regulation in order to create regulatory regimes for the future of the industry, which will allow for further innovation and change while making sure standards and policy are adhered to.<sup>107</sup>

---

<sup>101</sup> Ernst & Young (2016) The upside of disruption: Megatrends shaping 2016 and beyond, accessed online 31/01/18 at [http://www.ey.com/Publication/vwLUAssets/EY-the-upside-of-disruption/\\$FILE/EY-the-upside-of-disruption.pdf](http://www.ey.com/Publication/vwLUAssets/EY-the-upside-of-disruption/$FILE/EY-the-upside-of-disruption.pdf)

<sup>102</sup> Jadhav, NY, 2016, Green and Smart Buildings, Springer, Singapore

<sup>103</sup> PWC, 2015, *A Smart Move: Future-proofing Australia's workforce by growing skills in science, technology, engineering and maths (STEM)*, accessed online 19/01/2018 at <https://www.pwc.com.au/stem.html>

<sup>104</sup> Azhar, S et al. (2012) 'Building information modeling (BIM): now and beyond', *Australasian Journal of Construction Economics and Building*, **12** (4) 15-28

<sup>105</sup> Green Building Council of Australia, 2018, *What is Green Building?* <https://www.gbcna.org.au/about/what-is-green-building/>

<sup>106</sup> IBISWorld, November 2017, IBISWorld Industry Report D2921: Waste Treatment and Disposal Services in Australia, accessed online 01/02/18 at <http://clients1.ibisworld.com.au/reports/au/industry/default.aspx?entid=5024>

<sup>107</sup> Ernst & Young (2016) The upside of disruption: Megatrends shaping 2016 and beyond, accessed online 31/01/18 at [http://www.ey.com/Publication/vwLUAssets/EY-the-upside-of-disruption/\\$FILE/EY-the-upside-of-disruption.pdf](http://www.ey.com/Publication/vwLUAssets/EY-the-upside-of-disruption/$FILE/EY-the-upside-of-disruption.pdf)

## *The Opportunities*

With these challenges comes opportunities to shift the Australian property services industry into a more streamlined, environmentally friendly and cost-efficient age. For this to occur, not only will new technologies need to be adopted, but the workforce will need to be trained, re-trained and upskilled with the more diverse range of skills of a T-shaped professional. The review and development of the property services training package presents the opportunity to do this. Of relevance to this review and development are four cross-sector projects that are examining these challenges in the Australian workforce; automation, big data, cyber security and environmental sustainability.

The Automation cross-sector project is being led by Skills Impact with the aim to review 241 existing units of competency across 32 training packages in areas where automation has the potential to rapidly transform work tasks or processes. 33 Property Services units have been identified for review. This review however, does not encompass all property occupations that will be affected by automation and therefore the Property Services IRC believes that Artibus Innovation's involvement is critical in order to lead research on how the various property services occupations will be affected by automation.

The Big Data cross-sector project, led by PwC's Skills for Australia is currently a case for change that proposes to develop new units around introducing big data and data-driven decision making, and identify existing units that could be imported into other training packages as electives. With BIM and an increasing amount of property services becoming available online, big data has the potential to greatly impact the property industry. The Property Services IRC therefore proposes that Artibus Innovation conduct a case for change to determine how this impact will occur, what occupations will be affected and what implications this has for the training package.

In addition, Building Information Modelling (BIM) has the potential to disrupt and challenge a major part of the property services current processes, tasks and occupations and as a result, Artibus Innovation proposes to conduct a case for change to determine how disruption will occur, what occupations will be affected and what implications this has for the training package.

The Cyber Security cross-sector project, led by PwC's Skills for Australia is currently a case for change that proposes to develop new units around cyber security awareness and to identify existing units that could be imported into other training packages as electives. There is currently one CPP unit of competency identified for review, however, with the increasing amount of property services becoming available online, cyber security is vital to the property industry. The Property Services IRC therefore proposes that Artibus Innovation conduct a case for change to determine how cyber security intersects with the changes occurring in the property services industry and what implications this has for the training package.

The Environmental Sustainability cross-sector project is being led by Skills Impact with a focus on environmentally sustainable production methods and energy management; natural resource management and waste handling; and consumer/market driven sustainability practices. There are seven Property Services units that have been identified for review. Environmental sustainability is critical to the property industry, with the increasing demand for green buildings and environmental

regulations around waste disposal and treatment. Environmentally sustainability therefore has the potential to affect many occupations in the property services industry and therefore Property Services IRC proposes that Artibus Innovation's involvement in this cross-sector project is critical to lead research and reviews on how multiple property services occupations will be affected.

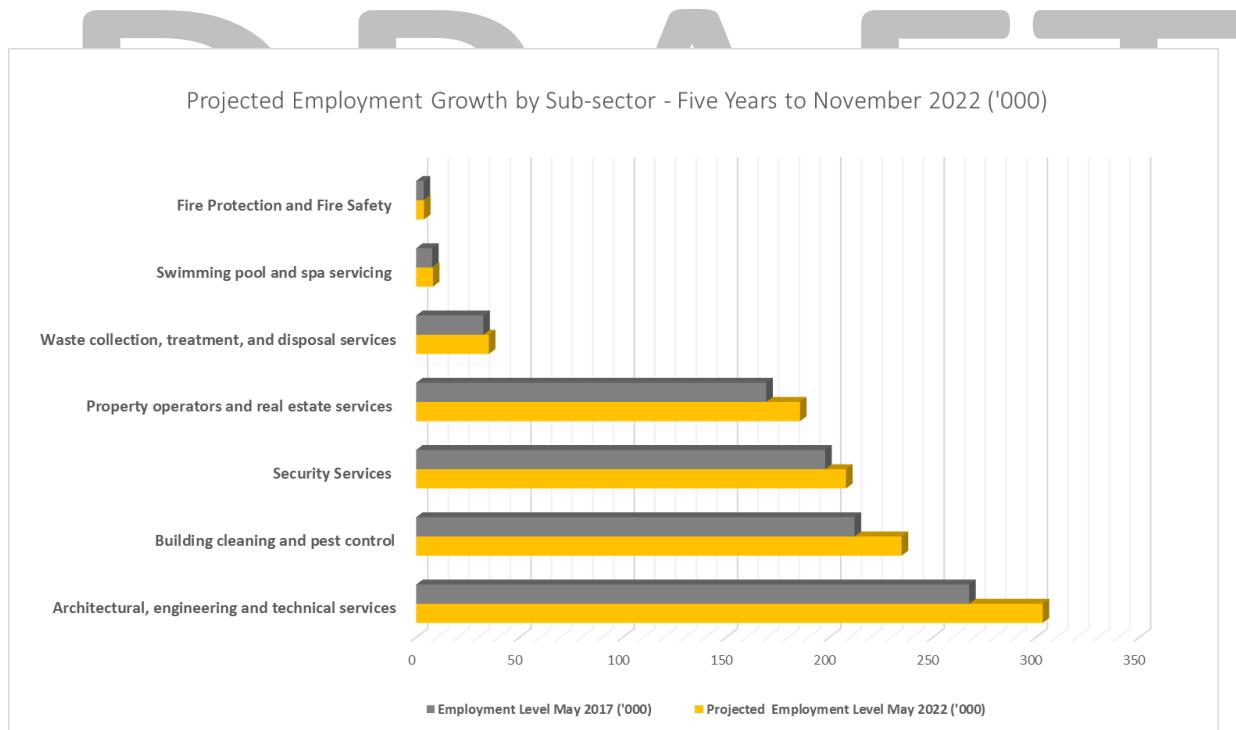
## Employment and Skills Outlook

This section explores current and projected employment levels in the Property Services sector. Current skills shortages and emerging skills needed in the industry are also discussed.

### Employment Outlook

The Property Services training package covers many industries that are growing. The below tables show the sub-sector and occupation employment projections for the next five years in the Property Services Sector.

Graph 1: *Projected Employment Growth by Sub-Sector – Five Years to November 2022*<sup>108</sup>

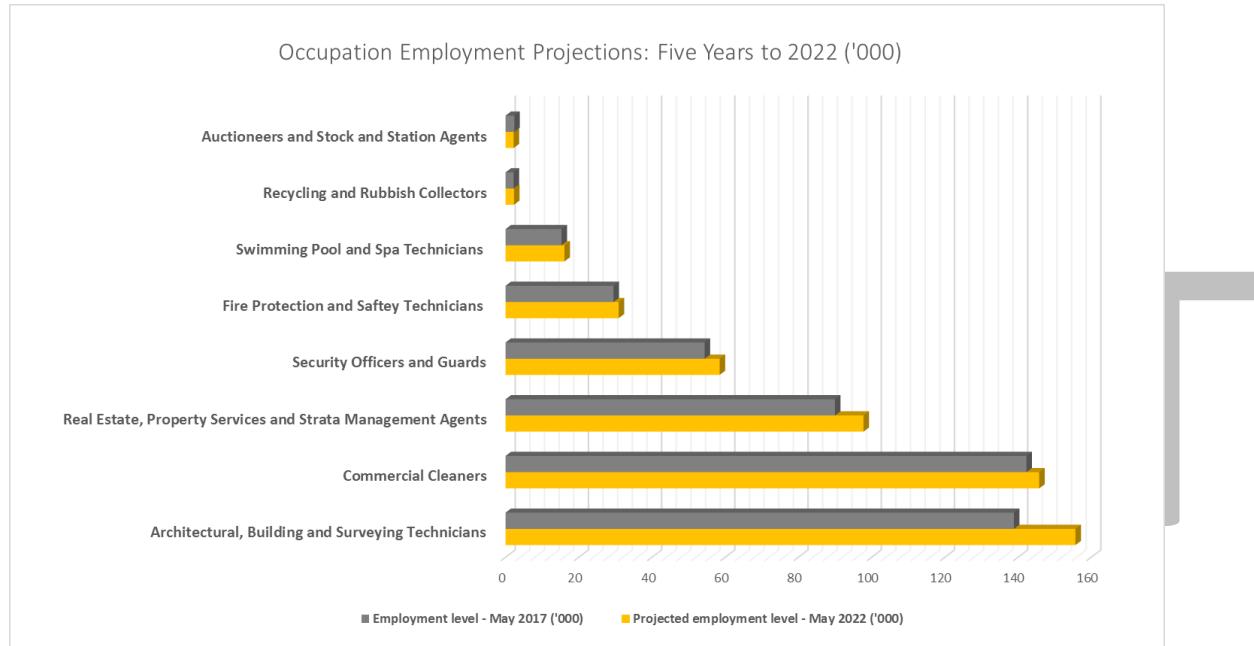


Graph 1 shows that the majority of subsectors are growing. For example, waste collection, treatment and disposal services sub-sector is projected to grow by 8.2% in employment. The property operators and real estate services subsector is projected to grow by 9.6% in employment, while the building cleaning and pest control sectors and the architectural, engineering and technical services sectors are

<sup>108</sup> Labour Market Information Portal, 2017 Industry Projections – five years to May 2022, accessed online 25/01/18 at <http://lmip.gov.au/default.aspx?LMIP/GainInsights/EmploymentProjections>

growing by 10.8% and 9.6% respectively.<sup>109</sup> It should be noted that the Property Services training package does not cover all areas of the architectural, engineering and technical services sub-sector, rather it covers only home sustainability, building design, surveying and spatial services and access consulting, however, as noted in Graph 2, these occupations are projected to grow by 12.2% over the next five years.<sup>110</sup>

Graph 2: *Occupation Employment Projections: Five Years to 2022*<sup>111</sup>



## Key Skills Needed

As part of the *Artibus Innovation CPP Skills Forecast Survey 2018*, respondents were asked the question; '*in the next 3-5 years, what will be the top skills required for work in your sector?*'

There were over 350 answers to this question and the results show that the top five skills needed in the property services industry in the next 3-5 years include:

- Knowledge across variety of industry areas (including environmental sustainability, waste and resource management)
- IT literacy
- Written and Oral Communication
- Knowledge of policy and legislation

<sup>109</sup> Ibid

<sup>110</sup> Labour Market Information Portal, 2017 Occupation projections, accessed online 25/01/18 at <http://lmip.gov.au/default.aspx?LMIP/GainInsights/EmploymentProjections>

<sup>111</sup> Labour Market Information Portal, 2017 Occupation projections, accessed online 25/01/18 at <http://lmip.gov.au/default.aspx?LMIP/GainInsights/EmploymentProjections>

- Customer Service

These results are consistent with the emerging trends that will impact the industry identified in the key drivers for change section. For example, IT literacy will be a required skill in the property services industry due to the increase in digitisation and digital disruption. In addition, 27% of responses to the survey mentioned the need for general knowledge within the property service industry and across industry sectors, suggesting that property services professionals will need to expand their skills and knowledge beyond their specific area of expertise and become T-shaped professionals – having knowledge and skills in a variety of areas due to the convergence and collaboration of industries. For further detail, see the key drivers for change section.

## Ranking of 13 Generic Workforce Skills

The Department of Education and Training has developed a list of 13 generic workforce skills. Each year, Artibus asks stakeholders to rank these skills in order of importance through the *Artibus Innovation CPP Skills Forecast Survey 2018*. This question received 129 responses, and the results are presented in table 2.

**Table 2 List of 13 Generic Workforce Skills in Order of Importance<sup>112</sup>**

12 GENERIC WORKFORCE SKILLS				
2018		Skill	2017	2016
↑1	1	Managerial/Leadership	2	4
↑6	2	Environmental and Sustainability	8	10
↑3	3	Customer service/Marketing	6	7
↑5	4	Financial	9	1
↓1	5	Technology use and application	4	3
↓3	6	Design mindset/Thinking critically/System thinking/Solving problems	3	5
-	7	Communication/Virtual collaboration/Social intelligence	7	11
↑4	8	Science, Technology, Engineering & Maths (STEM)	12	8
↑3	9	Data analysis	11	9
↓5	10	Learning agility/Information literacy/Intellectual autonomy and self-management	5	12
↓10	11	Language, Literacy and Numeracy (LLN)	1	6
↓2	12	Entrepreneurial	10	2
N/A	13	Other (please specify)	N/A	N/A

<sup>112</sup> Artibus Innovation CPP Skills Forecast Survey 2018.

The top responses to the category of 'other' included:

- Adaptability
- Communication and people skills
- Project management skills
- Comprehension of legal & regulatory requirements
- Good work ethic (attitude, reliability, desire to work hard)

## Key Drivers for Change

This section further explores the challenges and opportunities for the property services sector through primary data collected through the *Artibus Innovation CPP Skills Forecast Survey and Submissions 2018* and secondary research.

The *Artibus Innovation CPP Skills Forecast Survey 2018* asked participants to '*indicate what Social, Technological, Environment, Educational, Economic and Political (STEEP) trends will have an impact on their industry in the next 3-5 years*' and the answer choices were derived using AISC's *Future Skills and Training Resource*.<sup>113</sup> The top 3 trends per category as identified by participants are in table 3.

Table 3 STEEP Trend Responses from Artibus Innovation CPP Skills Forecast Survey 2018<sup>114</sup>

Trend	Rating per category	
<b>Social Trends</b>		
Changing work and career values	1	23%
Increased Urbanisation*	2	22%
Ageing population	3	22%
<b>Technological Trends</b>		
Digitisation*	1	31%
Artificial intelligence and machine learning	2	26%
Big Data	3	25%
<b>Economic Trends</b>		
Emerging Markets	1	21%
Changing workplace dynamics	2	19%
Empowered customers*	3	16%
<b>Education Trends</b>		

<sup>113</sup> Australian Industry and Skills Committee 2016, *Future Skills and Training: A practical resource to help identify future skills and training*, accessed online on 11/01/2018 at: <https://www.aisc.net.au/content/future-skills-and-training-resource>

<sup>114</sup> Artibus Innovation CPP Skills Forecast Survey 2018

Knowledge-based economy	1	37%
Skills mismatch	2	34%
VET uptake and completion rates	3	29%
<b>Environmental Trends</b>		
Financial viability	1	32%
International sustainability action*	2	26%
Access to quality internet	3	21%
<b>Political Trends</b>		
Political appetite for reform	1	36%
Innovation ahead of regulation*	2	34%
Political instability & polarisation	3	30%

\*Trend also identified by the IRC and discussed in the key drivers section

The AISC's Future Skills and Training Resource was also used by the IRC to identify the following key drivers for change in the industry and on the CPP Property Services Training Package:

- Increasing urbanisation
- Convergence of industries leading to diverse skill needs
- Empowered customer demands
- Digitalisation
- Sustainability
- Regulation

The majority of these trends were also identified as having an impact on the industry in the next three to five years by participants in the Artibus Innovation CPP Skills Forecast Survey 2018.

### *Increasing Urbanisation*

The increasing urbanisation of major cities presents critical challenges for the property services sector, particularly in areas such as security,<sup>115</sup> infrastructure and building maintenance and the energy efficiency of buildings.<sup>116</sup> The UN projects that by 2030, 4.9 billion people will live in urban centres.<sup>117</sup>

---

<sup>115</sup> PWC, 2016, Five Megatrends and Their Implications for Global Defence & Security, accessed online 31/01/18 at <https://www.pwc.com/gx/en/government-public-services/assets/five-megatrends-implications.pdf>

<sup>116</sup> PWC, 2014, Real Estate 2020: Building the future, accessed online 30/01/18 at <https://www.pwc.com/sg/en/real-estate/assets/pwc-real-estate-2020-building-the-future.pdf>

<sup>117</sup> PWC, Workforce of the future: The competing forces shaping 2030, accessed online 08/02/18 at <https://www.pwc.com/gx/en/services/people-organisation/workforce-of-the-future/workforce-of-the-future-the-competing-forces-shaping-2030-pwc.pdf> (p7)

In developed countries, such as Australia, this could result in infrastructure becoming strained and inefficient as populations expand,<sup>118</sup> an increase in the need for at-home security systems, pest control measures and effective waste services with increased population densities, and the need for buildings to be more eco-efficient in order to combat the effects of carbon emissions.<sup>119</sup> In fact, by 2020, it's likely that all buildings in developed countries will need to have sustainability ratings.<sup>120</sup>

The rapid growth of urban populations may outpace governments' ability to provide the basic services needed, such as infrastructure upgrades and waste management<sup>121</sup> and therefore meeting the challenge of urbanisation will also require the investment and innovation from the private sector.<sup>122</sup> This could include innovation and investment in retrofitting and upgrading existing infrastructure to not only cope with increased use, but also to help cities become more sustainable and more habitable into the future, with the addition of smart grids and better network load balancing<sup>123</sup> as well as investment in recycling and waste services and innovation in the security sector.

### *Convergence of Industries Leading to Diverse Skill Needs*

Tackling large, multifaceted issues such as climate change and rapid urbanisation requires partnership and collaboration from the technology, environmental sustainability and property industries sectors.<sup>124</sup> This cross-sector collaboration and convergence of industries therefore means that the property services industry is being disrupted by the introduction of new technology (see digitisation section below) and the increase in environmental sustainability regulations and standards for buildings. This disruption is leading to a change in the skills profile needed among workers in the industry, as the industry is increasingly needing workers that have technological literacy and a knowledge and comprehension of the environmental sustainability industry and the building codes and regulations it impacts.

This means that the skill and knowledge profile of the workers in the property services sector will need to become more diverse, as well as specific in certain areas. This is called the T-shaped professional, which is a person that has both depth and breadth in their knowledge and skillset, as opposed to an I-shaped professional, who has a narrow skill set in one particular area.<sup>125</sup> A T-shaped professional in the property services industry will therefore have expert knowledge and skills in one particular area

---

<sup>118</sup> PWC, 2016, Five Megatrends And Their Implications for Global Defence & Security, accessed online 31/01/18 at <https://www.pwc.com/gx/en/government-public-services/assets/five-megatrends-implications.pdf>

<sup>119</sup> PWC, 2014, Real Estate 2020: Building the future, accessed online 30/01/18 at <https://www.pwc.com/sg/en/real-estate/assets/pwc-real-estate-2020-building-the-future.pdf>

<sup>120</sup> Ibid

<sup>121</sup> PWC, 2016, Five Megatrends And Their Implications for Global Defence & Security, accessed online 31/01/18 at <https://www.pwc.com/gx/en/government-public-services/assets/five-megatrends-implications.pdf>

<sup>122</sup> Ernst & Young (2016) The upside of disruption: Megatrends shaping 2016 and beyond, accessed online 31/01/18 at [http://www.ey.com/Publication/vwLUAssets/EY-the-upside-of-disruption/\\$FILE/EY-the-upside-of-disruption.pdf](http://www.ey.com/Publication/vwLUAssets/EY-the-upside-of-disruption/$FILE/EY-the-upside-of-disruption.pdf)

<sup>123</sup> Ibid

<sup>124</sup> Ibid

<sup>125</sup> Foltynowicz, Zenon, 2013, T-shaped Professionals, accessed online on 27/03/2018 at: [https://www.researchgate.net/publication/264419889\\_T-shaped\\_Professionals](https://www.researchgate.net/publication/264419889_T-shaped_Professionals)

(for example, property managers), but will also have general knowledge and skills in IT literacy and environmental sustainability practices in order to use new technologies (for example, BIM) in their role and understand and apply environmental regulations and policies.

This awareness of need for a more broad range of skills and knowledge in the industry is also evident from the *Artibus Innovation CPP Skills Forecast Survey 2018*. 27% of responses to the survey mentioned the need for general knowledge within the property service industry and across industry sectors, suggesting that there is an awareness in the property services that professionals will need to expand their skills and knowledge beyond their specific area of expertise and become T-shaped professionals – having knowledge and skills in a variety of areas due to the convergence and collaboration of industries.

### *Empowered Consumer Demands*

Today's consumer is empowered with more knowledge of the products they are consuming and how their consumption affects the world around them. As a result, consumers are driving demand for transparent and competitive pricing, energy-efficient and environmentally friendly products, and flexible, more personalised ways to interact with businesses.<sup>126</sup>

For the property services industry, this means that consumers are helping drive the shift towards the adoption of new technologies and the convergence of services within businesses. Businesses in security services for example, are no longer only providing security solutions for the home, but are also providing home energy management solutions and are also developing and adopting security solutions from smart technologies which gives consumers control and oversight of their home security at the touch of a button.<sup>127</sup>

In addition, as the world moves towards more sustainable practices and ways of living, consumer demand is helping drive the increase in smart and green buildings.<sup>128</sup> According to a study conducted by Dodge Data and Analytics in 2016, client demand and environmental regulations are the top two drivers for green buildings in 2015 globally. This trend can also be seen for Australia, as respondents ranked environmental regulations, the desire for healthier neighbours and client demands as the top three drivers in 2015.<sup>129</sup>

### *Digitisation*

The property services industry in Australia will experience a shift in skills in jobs needed because of significant digital disruption. The major technological advances that will affect the CPP training package are automation and Building Information Modelling (BIM).

---

<sup>126</sup> Ernst & Young (2016) The upside of disruption: Megatrends shaping 2016 and beyond, accessed online 31/01/18 at [http://www.ey.com/Publication/vwLUAssets/EY-the-upside-of-disruption/\\$FILE/EY-the-upside-of-disruption.pdf](http://www.ey.com/Publication/vwLUAssets/EY-the-upside-of-disruption/$FILE/EY-the-upside-of-disruption.pdf)

<sup>127</sup> Ibid

<sup>128</sup> Jadhav, NY, 2016, Green and Smart Buildings, Springer, Singapore

<sup>129</sup> Dodge Data & Analytics, 2016, *World Green Building Trends 2016: Developing Markets Accelerate Global Green Growth*, accessed online 19/01/2018 at <http://www.worldgbc.org/news-media/world-green-building-trends-2016>

## **Automation**

In the Australian labour market, about 40% of current jobs are deemed to be at high risk of automation over the next 10-15 years, yet we are still training people for these jobs. The Foundation for Young Australian's suggest that this is particularly critical for young people, as more than half of young Australian's are trained for jobs that will no longer exist in the same capacity in the future.<sup>130</sup> In the property service industry, PwC projections show that real estate sales agents have an 85.2% probability of being automated.<sup>131</sup>

## **Building Information Modelling (BIM)**

BIM is the digital version of a building, which includes all information on the building through its whole lifecycle – from design, to build, to operations and even demolition and allows property services professionals to access sales and operation information about a building.<sup>132</sup>

BIM has shown to have major benefits for the property services industry, such as 3D walk-through animations for marketing, tracking the building's sustainability rating, records of sales and ownership and building safety planning.<sup>133</sup> BIM is projected to completely replace current Computer-Aided Design (CAD) systems in the global industry. Governments' in Australia have been slow to mandate BIM for public works, but Tier One companies are already well advanced in this area and are starting to require sub-contractors to be able to connect with this technology.

## **Sustainability**

With the need for action on climate change and sustainability becoming a focal point globally, so too comes an increased emphasis on the use of renewable energies and green and smart buildings in the property industry. As the world's population is projected to reach 9.7 billion by 2050, natural resource constraints will significantly challenge the established use of non-renewable energies.<sup>134</sup> This is already happening, as the renewable energy is the fastest growing energy source, aided by falling costs and increase in consumer awareness.<sup>135</sup>

In addition, green buildings significantly reduce the negative impact buildings have on the environment by incorporating sustainable design, construction and operational elements. This also translates to healthier buildings for occupants.<sup>136</sup> Similarly, smart buildings are those that incorporate technology and materials that capture data on how the building is performing. This allows for a greater level of control over energy usage, monitoring tenant usage and maintenance and repair needs while

---

<sup>130</sup> Foundation for Young Australians, 2015, *The New Work Order: Ensuring young Australians have skills and experience for the jobs of the future, not the past*, accessed online 06/02/2018 at: <https://www.fya.org.au/report/new-work-order/>

<sup>131</sup> PwC, 2015, *A Smart Move: Future-proofing Australia's workforce by growing skills in science, technology, engineering and maths (STEM)*, accessed online 19/01/2018 at <https://www.pwc.com.au/stem.html>

<sup>132</sup> Construction and Property Services Industry Skills Council, 2014, *Environmental Scan 2014-15*

<sup>133</sup> Azhar, S et al. (2012) 'Building information modeling (BIM): now and beyond', *Australasian Journal of Construction Economics and Building*, **12** (4) 15-28

<sup>134</sup> Ernst & Young (2016) The upside of disruption: Megatrends shaping 2016 and beyond, accessed online 31/01/18 at [http://www.ey.com/Publication/vwLUAssets/EY-the-upside-of-disruption/\\$FILE/EY-the-upside-of-disruption.pdf](http://www.ey.com/Publication/vwLUAssets/EY-the-upside-of-disruption/$FILE/EY-the-upside-of-disruption.pdf)

<sup>135</sup> Ibid

<sup>136</sup> Green Building Council of Australia, 2018, *What is Green Building?* <https://www.gbcia.org.au/about/what-is-green-building/>

also improving safety features.<sup>137</sup> Often, buildings that incorporate green elements also incorporate smart elements and vice versa.

In addition, the waste treatment and disposal industry has been constrained by government regulations such as the National Waste Policy of 2009, that encourage recycling and raise landfill disposal costs.<sup>138</sup>

### *Regulation*

The drivers for change in the property services industry mentioned above are not only going to impact jobs and business models, but are also going to challenge current regulations in fire safety and testing, waste and building sustainability ratings. It will therefore be the challenge of the government to find the right balance between innovation and regulation in order to create regulatory regimes for the future of the industry, which will allow for further innovation and change while making sure standards and policy are adhered to.<sup>139</sup>

## *Impact of Trends on Sub-Sectors and Occupations*

### **Urbanisation, Digitisation and Empowered Customers impact on Property Operators and Real Estate Services and Strata and Facility Management**

Increasing urbanisation is bringing about a greater number of high-density residential properties, which is likely to increase property sale activity and other real estate services.<sup>140</sup> However, consumers are increasingly demanding integrated services that allow them to circumvent the real estate professionals in favour of online channels where information about property history and sales is presented more conveniently. This is projected to be the most significant threat to the industry over the next five years, particularly to the real estate sales and management occupations.<sup>141</sup> According to PWC modelling, real estate agents have an 85.2% probability of being automated in the next 20 years, this would affect 70,673 workers in this occupation.<sup>142</sup>

Furthermore, real estate management is an area of the property services sector that traditionally uses a relatively small amount of technology.<sup>143</sup> A PWC study in 2014 reports that only 40% of asset

---

<sup>137</sup> StartupAUS, 2017, *Digital Foundations: How technology is transforming Australia's construction sector*, accessed online 01/02/2018 at <https://startupaus.org/document/constructiontech/>

<sup>138</sup> IBISWorld, November 2017, IBISWorld Industry Report D2921: Waste Treatment and Disposal Services in Australia, accessed online 01/02/18 at <http://clients1.ibisworld.com.au/reports/au/industry/default.aspx?entid=5024>

<sup>139</sup> Ernst & Young (2016) The upside of disruption: Megatrends shaping 2016 and beyond, accessed online 31/01/18 at [http://www.ey.com/Publication/vwLUAssets/EY-the-upside-of-disruption/\\$FILE/EY-the-upside-of-disruption.pdf](http://www.ey.com/Publication/vwLUAssets/EY-the-upside-of-disruption/$FILE/EY-the-upside-of-disruption.pdf)

<sup>140</sup> IBISWorld, September 2017, IBISWorld Industry Report L6720: Real Estate Services in Australia, accessed online 01/02/18 at <http://clients1.ibisworld.com.au/reports/au/industry/default.aspx?entid=539>

<sup>141</sup> Ibid

<sup>142</sup> PWC, 2015, A Smart Move: Future-proofing Australia's workforce by growing skills in science, technology, engineering and maths (STEM), accessed online 08/02/18 at <https://www.pwc.com.au/pdf/a-smart-move-pwc-stem-report-april-2015.pdf>

<sup>143</sup> IBISWorld, September 2017, IBISWorld Industry Report L6720: Real Estate Services in Australia, accessed online 01/02/18 at <http://clients1.ibisworld.com.au/reports/au/industry/default.aspx?entid=539>

managers are actively involved in social media, other than hosting a website and by 2020, technology will become critical to the job as it will assist with client engagement and data collection and improving operation efficiency.<sup>144</sup> Certain BIM applications such as 3D walk-through animations, information on a building's sustainability rating and records of sales and ownership data will be greatly assist with this.<sup>145</sup> The downside of this shift towards technology for the industry is that is it contributing to the automation of real estate professionals.

### **Industry Convergence, Empowered Consumers, Sustainability and Digitisation impacts on Architectural, Engineering and Technical Services, including Access Consulting**

Clients are increasingly preferring businesses that can offer integrated services, such as architecture, engineering consulting and construction services. This is driving industry convergence, as businesses move towards providing this full suite of services for projects at a lower price.<sup>146</sup>

In addition, the increase in the environmental concerns of consumers is drawing focus towards more sustainable, green buildings and therefore the demand for higher priced sustainable building designs is likely to increase.<sup>147</sup> As a result, businesses have incorporated sustainable building principles into their designs which not only provides consumers with their demanded products, but also secures companies business models into the future.<sup>148</sup>

Finally, technology advances will make eco-efficient green building more practical. Often, buildings that incorporate green elements also incorporate smart elements in order to provide an integrated system that captures data on how the building is operating. This allows for a greater level of control over energy usage, monitoring tenant usage and maintenance and repair needs while also improving safety and access features.<sup>149</sup> These technologies are continually becoming more advanced and affordable, which is increasing their implementation.<sup>150</sup> Other emerging technologies such as BIM will span across many occupations such as architects, engineers and access consultants. BIM will bring about new and more efficient ways of working, as it enables architects, engineers and access

---

<sup>144</sup> PWC, 2014, Real Estate 2020: Building the future, accessed online 08/02/2018 at <https://www.pwc.com/sg/en/real-estate/assets/pwc-real-estate-2020-building-the-future.pdf>

<sup>145</sup> Azhar, S et al. (2012) 'Building information modeling (BIM): now and beyond', *Australasian Journal of Construction Economics and Building*, 12 (4) 15-28

<sup>146</sup> IBISWorld, September 2017, IBISWorld Industry Report M692: Architectural Services in Australia, accessed online 01/01/18 at <http://clients1.ibisworld.com.au/reports/au/industry/default.aspx?entid=550>

<sup>147</sup> Ibid

<sup>148</sup> Ibid

<sup>149</sup> StartupAUS, 2017, *Digital Foundations: How technology is transforming Australia's construction sector*, accessed online 01/02/2018 at <https://startupaus.org/document/constructiontech/>

<sup>150</sup> PWC, Workforce of the future: The competing forces shaping 2030, accessed online 08/02/18 at <https://www.pwc.com/gx/en/services/people-organisation/workforce-of-the-future/workforce-of-the-future-the-competing-forces-shaping-2030-pwc.pdf>

consultants to collaborate and work together more efficiently and therefore will require these professionals learn how to use and incorporate BIM into their practice.<sup>151</sup>

### **Urbanisation, Empowered Consumers and Digitisation Impacts on Public Order and Safety**

Population growth, leading to increasing urbanisation and larger numbers of people in urban areas has increased the need for security measures, particularly around government buildings and public areas.<sup>152</sup> Growing public and consumer fear of terrorism and cybercrime is also increasing the demand for security and investigative services.<sup>153</sup>

In addition, technology is increasingly playing a key role in crime prevention, with closed-circuit television (CCTV) and online security platforms becoming more common place.<sup>154</sup> As a result, industry employment is also expected to decline as increased use of surveillance technology is reducing demand for security personnel.<sup>155</sup>

### **Increasing Urbanisation and Industry Convergence Impacts on Fire Protection and Fire Safety**

With increasing urbanisation comes a long-term shift in construction trends towards high-density multi-storey apartment and office developments, which results in increased demand for the fire protection and safety industry as these buildings require the installation of sophisticated fire safety systems.<sup>156</sup> These systems also need regular and ongoing maintenance and repair services to ensure they comply with industry regulations and laws.<sup>157</sup>

In addition, large companies are starting to secure their positions in the industry by providing more than just fire safety services. Companies are also providing a large range of security services including security system design, installation and maintenance, which allows them to reach across multiple markets.<sup>158</sup>

### **Urbanisation, Regulation and Sustainability Impacts on Waste Collection, Treatment, and Disposal Services**

Increasing urbanisation and population growth have driven the expansion of the waste collection, treatment and disposal industry, as more people and higher density suburbs create larger volumes of

---

<sup>151</sup> Bryne, C., 2014, *Building Information Modelling in Australia: Lesson from the UK*, ISS Institute Inc, accessed online 01/02/2018 at: <http://www.issinstitute.org.au/fellowships/fellowship-reports/building-and-construction/>

<sup>152</sup> IBISWorld, January 2017, IBISWorld Industry Report O7712: Investigation and Security Services in Australia, accessed online 01/02/18 at <http://clients1.ibisworld.com.au/reports/au/industry/default.aspx?entid=572>

<sup>153</sup> Ibid

<sup>154</sup> Ibid

<sup>155</sup> Ibid

<sup>156</sup> IBISWorld, May 2017, IBISWorld Industry Report E3234: Fire and Security Alarm Installation Services in Australia, accessed online 01/02/18 at <http://clients1.ibisworld.com.au/reports/au/industry/default.aspx?entid=327>

<sup>157</sup> Ibid

<sup>158</sup> Ibid

waste.<sup>159</sup> As urban centres grow outward and new housing estates and developments are established, waste collection services are also increased in demand.<sup>160</sup> However, with more a concentrated population comes more efficient waste collection routes and increased pickups per vehicle, so the industry may be experiencing an increase in demand, but that may not directly translate to an industry in jobs as the industry innovates and becomes more efficient.<sup>161</sup>

In addition, government regulations that encourage recycling and raise landfill disposal costs have constrained the demand for the waste industry's services.<sup>162</sup> In 2009, the Federal Government brought in the National Waste Policy, which aims to address concerns about the disposal of hazardous waste and increase recycling and recovery rates. This policy has led to increases in regulation at both the state and local level and most states and territories have introduced landfill levies and recycling targets as a result.<sup>163</sup>

### **Regulation, Empowered Consumers and Urbanisation Impacts on Pest Control Services**

There are strict environmental and health and safety regulations in the pest control industry, which restrict how the industry can store, handle and use chemicals.<sup>164</sup> Consumers are also controlling how the industry operates, with increased demand for more environmentally friendly and less toxic chemicals and processes.<sup>165</sup> This is resulting in more effective processes and chemicals that improve pest control outcomes, which in turn, means that the industry is using less chemicals less frequently.<sup>166</sup>

In addition, the growing number of households and office buildings due to increasing urbanisation is leading to a greater demand for the pest control industry's services, as a higher density population brings about more pests and insects and an increased demand for eradication.<sup>167</sup>

### **Sustainability, Urbanisation and Empowered Consumers Impacts on Swimming Pool and Spa Servicing**

Over the last decade, water conservation has become a major focus for Australian consumers, with drought and extreme weather patterns occurring in many states. This is bringing about an increase in

---

<sup>159</sup> IBISWorld, November 2017, IBISWorld Industry Report D2921: Waste Treatment and Disposal Services in Australia, accessed online 01/02/18 at <http://clients1.ibisworld.com.au/reports/au/industry/default.aspx?entid=5024>

<sup>160</sup> IBISWorld, October 2017, IBISWorld Industry Report D2911: Solid Waste Collection Services in Australia, accessed online 01/02/18 at <http://clients1.ibisworld.com.au/reports/au/industry/default.aspx?entid=5023>

<sup>161</sup> Ibid

<sup>162</sup> IBISWorld, November 2017, IBISWorld Industry Report D2921: Waste Treatment and Disposal Services in Australia, accessed online 01/02/18 at <http://clients1.ibisworld.com.au/reports/au/industry/default.aspx?entid=5024>

<sup>163</sup> Ibid

<sup>164</sup> IBISWorld, September 2017, IBISWorld Industry Report N7312: Building Pest Control Services in Australia, accessed online 01/02/18 at <http://clients1.ibisworld.com.au/reports/au/industry/default.aspx?entid=573>

<sup>165</sup> Ibid

<sup>166</sup> Ibid

<sup>167</sup> Ibid

the demand for the swimming pool and spa industry's water-efficient products.<sup>168</sup> In addition, the increase in urban dwellings due to rapid urbanisation also increases the demand for swimming pool and spa equipment, installation and maintenance.<sup>169</sup>

## Proposed Responses and Risks of Not Proceeding

### *Proposed Responses*

#### ***Finalising the transition of the CPP training package to the 2012 standards***

Artibus Innovation's priority is to finalise all current and proposed transitions of the Property Services Training Package to the 2012 standards for training packages as set out by the National Skills Standards Council. This will ensure that the CPP training package keeps in line with the standards of other national training packages, allowing for the easy alignment of imported units relevant to specific qualifications, as well as and collaboration on projects across sectors and training packages. It will also ensure that the CPP training package remains of a high quality and meets the workforce development needs of the property services industry.

#### ***Continuing to update the current training package to respond to new skill needs***

Artibus Innovation will also continue to update the CPP training package to ensure current and emerging skills needs are met. With new technologies and consumers with more knowledge, power and control, the skill and knowledge profile of the workers in the property services sector will need to shift and become more diverse, as businesses adapt their models in alignment with the convergence and collaboration of industries. This T-shaped professional in the property services industry will have expert knowledge and skills in one particular area (for example, property managers), but will also have general knowledge and skills in IT literacy and environmental sustainability practices in order to use new technologies in their role and apply environmental regulations and policies. Continually updating the CPP training package to account for these skill needs is vital to the prosperity of the industry.

### ***Having an eye on the future***

The future of the property services industry is more streamlined, environmentally friendly and cost effective as a result of digitisation, increased consumer demand for sustainable practices and integrated businesses services, leading to a convergence of industry and a shift in skills needs. The workforce will need to be trained, re-trained and upskilled with the skills and knowledge to use new technologies such as BIM and with knowledge across a variety of industries and sub-sectors, such as renewable energies. It is therefore important that the skills and knowledge needed for this future are embedded in the CPP training package. Artibus Innovation aims to continue researching these drivers

---

<sup>168</sup> IBISWorld, August 2017, IBISWorld Industry Report OD4034: Swimming Pool and Spa Equipment Stores in Australia, accessed online 01/02/18 at <http://clients1.ibisworld.com.au/reports/au/industry/default.aspx?entid=4034>

<sup>169</sup> IBISWorld, August 2017, IBISWorld Industry Report OD4034: Swimming Pool and Spa Equipment Stores in Australia, accessed online 01/02/18 at <http://clients1.ibisworld.com.au/reports/au/industry/default.aspx?entid=4034>

for change as part of the cross-sector projects on BIM, automation, big data, cyber security and environmental sustainability, and developing these into cases for change for the training package.

### *Risks of not proceeding*

Not updating the CPP training package as proposed risks a loss of currency and erosion of the knowledge and skills in the training package, and therefore in the property services industry. Emerging technologies and the convergence of industries is likely to have a major impact across the industry, leading to new skill needs and potentially, new jobs. However, in order for these impacts to become opportunities, it is vital that the workforce will need to be trained, re-trained and upskilled with the skills and knowledge to not only use these new technologies, but also for the new jobs and tasks that arise. If this does not occur the CPP training package risks becoming outdated with obsolete skills and knowledge, which could lead to a shortage of skills, knowledge and experience among the workforce in the industry.

DRAFT

# Proposed Schedule of Work

<b>Proposed Schedule of Work</b>	
<b>2018 - 19</b>	<p><b>Cases for Endorsement</b></p> <ul style="list-style-type: none"><li>• CPP40811 Certificate IV in Access Consulting</li><li>• CPP50708 Diploma of Access Consulting</li><li>• CPP80312 Graduate Diploma of Access Consulting</li><li>• CPP40115 Certificate IV in Building Design Drafting</li><li>• CPP50911 Diploma of Building Design</li><li>• CPP30507 Certificate III in Technical Security</li><li>• CPP40707 Certificate IV in Security and Risk Management</li><li>• CPP50611 Diploma of Security and Risk Management</li><li>• CPP30115 Certificate III in Urban Pest Management</li><li>• CPP41312 Certificate IV Swimming Pool and Spa Service</li></ul> <p><b>Proposed Cases for Change/Cross-SSO Projects</b></p> <ul style="list-style-type: none"><li>• Building Information Modelling (BIM)</li><li>• Automation in the built environment</li></ul>
<b>2019 – 20</b>	<p><b>Cases for Endorsement</b></p> <ul style="list-style-type: none"><li>• Update the suite of strata management qualifications.</li></ul> <p><b>Proposed Cases for Change/Cross-SSO Projects</b></p> <ul style="list-style-type: none"><li>• Cyber Security in the built environment</li><li>• Environmental sustainability</li></ul>
<b>2020 – 21</b>	<p><b>Cases for Endorsement</b></p> <ul style="list-style-type: none"><li>• Review and update the suite of spatial and surveying qualifications</li><li>• Big Data in the built environment</li></ul>
<b>2021 – 22</b>	A general review, update and maintenance of a suite of qualifications will be undertaken.

# 2018-19 Project Details

## PROJECT 1 – Access Consulting

<b>Description</b>	Review and update the suite of Access Consulting qualifications								
<b>Rationale</b>	<table border="1"> <thead> <tr> <th>Driver</th><th>Explanation</th></tr> </thead> <tbody> <tr> <td><b>Policy</b></td><td> <p>Transition and update the qualification to align with the:</p> <ul style="list-style-type: none"> <li>• <i>2012 Standards for Training Packages</i></li> <li>• COAG Industry and Skill Council directives.</li> </ul> </td></tr> <tr> <td><b>Regulations</b></td><td>Update qualification to reflect current Workplace Health and Safety (WHS) standards, practice, protocols and procedures.</td></tr> <tr> <td><b>Industry best-practices</b></td><td>Update the qualification to align with industry best practices regarding tools, equipment, materials and components.</td></tr> </tbody> </table>	Driver	Explanation	<b>Policy</b>	<p>Transition and update the qualification to align with the:</p> <ul style="list-style-type: none"> <li>• <i>2012 Standards for Training Packages</i></li> <li>• COAG Industry and Skill Council directives.</li> </ul>	<b>Regulations</b>	Update qualification to reflect current Workplace Health and Safety (WHS) standards, practice, protocols and procedures.	<b>Industry best-practices</b>	Update the qualification to align with industry best practices regarding tools, equipment, materials and components.
Driver	Explanation								
<b>Policy</b>	<p>Transition and update the qualification to align with the:</p> <ul style="list-style-type: none"> <li>• <i>2012 Standards for Training Packages</i></li> <li>• COAG Industry and Skill Council directives.</li> </ul>								
<b>Regulations</b>	Update qualification to reflect current Workplace Health and Safety (WHS) standards, practice, protocols and procedures.								
<b>Industry best-practices</b>	Update the qualification to align with industry best practices regarding tools, equipment, materials and components.								
<b>Minister's priorities addressed</b>	<p>In comply with COAGs reforms to training package components, Artibus Innovation proposes to redesign the qualification, which includes:</p> <ul style="list-style-type: none"> <li>• removing obsolete, superfluous and duplicative and units from the system.</li> <li>• including information about industry's expectations of training delivery (i.e. duration of training, mode of delivery and learner characteristics)</li> <li>• improving qualification design to enable individuals to upskill and move easily from one related occupation to another</li> <li>• improving the efficiency of the training system through the creation of units of competence that can be owned and used by multiple industry sectors.</li> <li>• fostering greater recognition of skill sets.</li> </ul>								
<b>Consultation plan</b>	<p>The key engagement methods will be as follows:</p> <ul style="list-style-type: none"> <li>• Technical Advisory Groups (TAGs) will be established in accordance with internal policy and procedures to guide the subject matter expertise components of the work</li> <li>• direct correspondence with regulators</li> <li>• direct correspondence with State Training Authorities</li> <li>• direct correspondence with IRC and key stakeholders</li> <li>• Industry associations and other stakeholders will be invited to capital city forums in all state/territories. A copy of forums material will be published on the web and an online forum will also be facilitated</li> </ul>								

## PROJECT 1 – Access Consulting

	<ul style="list-style-type: none"> <li>• RTOs will be engaged through online survey and trainer networks</li> <li>• public web project page updated fortnightly</li> <li>• newsletter survey distribution to 4,200 stakeholders, including all RTOs, regulators, industry associations. Minimum of three newsletter profiles</li> <li>• industry survey on early and late draft material</li> <li>• distribution of survey through TAG networks and Artibus digital channels</li> <li>• social media – twitter and linkedin.</li> </ul>																				
	<p><b>Project timeline</b></p> <table border="1"> <thead> <tr> <th>Details</th><th>Date</th></tr> </thead> <tbody> <tr> <td>Proposed work approved by AISC</td><td>April 2018</td></tr> <tr> <td>Project kick-off</td><td>April 2018</td></tr> <tr> <td>Establish Technical Advisory Group (TAG)</td><td>May – June 2018</td></tr> <tr> <td>Training package components put forward for consultation</td><td>August 2018</td></tr> <tr> <td>Review feedback and update Draft Pack 1</td><td>September 2018</td></tr> <tr> <td>Training package components put forward for validation</td><td>October 2018</td></tr> <tr> <td>Finalisation and Quality Assurance</td><td>November 2018 – January 2019</td></tr> <tr> <td>Training package components sent to STAs for sign-off</td><td>February 2019</td></tr> <tr> <td>Submitted for endorsement training package components to Commonwealth Department of Education and Training</td><td>March 2019</td></tr> </tbody> </table>	Details	Date	Proposed work approved by AISC	April 2018	Project kick-off	April 2018	Establish Technical Advisory Group (TAG)	May – June 2018	Training package components put forward for consultation	August 2018	Review feedback and update Draft Pack 1	September 2018	Training package components put forward for validation	October 2018	Finalisation and Quality Assurance	November 2018 – January 2019	Training package components sent to STAs for sign-off	February 2019	Submitted for endorsement training package components to Commonwealth Department of Education and Training	March 2019
Details	Date																				
Proposed work approved by AISC	April 2018																				
Project kick-off	April 2018																				
Establish Technical Advisory Group (TAG)	May – June 2018																				
Training package components put forward for consultation	August 2018																				
Review feedback and update Draft Pack 1	September 2018																				
Training package components put forward for validation	October 2018																				
Finalisation and Quality Assurance	November 2018 – January 2019																				
Training package components sent to STAs for sign-off	February 2019																				
Submitted for endorsement training package components to Commonwealth Department of Education and Training	March 2019																				
	<p><b>Qualification</b></p> <table border="1"> <thead> <tr> <th>Code</th><th>Title</th></tr> </thead> <tbody> <tr> <td>CPP40811</td><td>Certificate IV in Access Consulting</td></tr> <tr> <td>CPP50708</td><td>Diploma of Access Consulting</td></tr> </tbody> </table>	Code	Title	CPP40811	Certificate IV in Access Consulting	CPP50708	Diploma of Access Consulting														
Code	Title																				
CPP40811	Certificate IV in Access Consulting																				
CPP50708	Diploma of Access Consulting																				

## **PROJECT 1 – Access Consulting**

CPP80312

Graduate Diploma of Access Consulting

### **Units of competency**

- Update CPPACC 53 units of competency.

### **Skill sets**

- Consider the development of approx. 8 skill sets.

# DRAFT

## PROJECT 2 – BUILDING DESIGN

<b>Description</b>	Review and update the suite of Building Design Qualifications							
<b>Rationale</b>	<table border="1"> <thead> <tr> <th>Driver</th><th>Explanation</th></tr> </thead> <tbody> <tr> <td><b>Policy</b></td><td>Transition and update the qualification to align with the:           <ul style="list-style-type: none"> <li>• 2012 <i>Standards for Training Packages</i></li> <li>• COAG Industry and Skill Council directives.</li> </ul> </td></tr> <tr> <td><b>Regulations</b></td><td>Update qualification to reflect current Workplace Health and Safety (WHS) standards, practice, protocols and procedures.</td></tr> </tbody> </table>	Driver	Explanation	<b>Policy</b>	Transition and update the qualification to align with the: <ul style="list-style-type: none"> <li>• 2012 <i>Standards for Training Packages</i></li> <li>• COAG Industry and Skill Council directives.</li> </ul>	<b>Regulations</b>	Update qualification to reflect current Workplace Health and Safety (WHS) standards, practice, protocols and procedures.	
Driver	Explanation							
<b>Policy</b>	Transition and update the qualification to align with the: <ul style="list-style-type: none"> <li>• 2012 <i>Standards for Training Packages</i></li> <li>• COAG Industry and Skill Council directives.</li> </ul>							
<b>Regulations</b>	Update qualification to reflect current Workplace Health and Safety (WHS) standards, practice, protocols and procedures.							
<p><b>Industry best-practices</b></p> <p>Update the qualification to align with industry best practices regarding tools, equipment, materials and components.</p>								
<p>In comply with COAGs reforms to training package components, Artibus Innovation proposes to redesign the qualification, which includes:</p> <ul style="list-style-type: none"> <li>• removing obsolete, superfluous and duplicative and units from the system.</li> <li>• including information about industry's expectations of training delivery (i.e. duration of training, mode of delivery and learner characteristics)</li> <li>• improving qualification design to enable individuals to upskill and move easily from one related occupation to another</li> <li>• improving the efficiency of the training system through the creation of units of competence that can be owned and used by multiple industry sectors.</li> <li>• fostering greater recognition of skill sets.</li> </ul>								
<b>Minister's priorities addressed</b>	The IRC approved consultation process will be undertaken that will ensure all key stakeholders are consulted in the Building Design Project. <i>Detailed description of the process is outlined in Project 1.</i>							
<b>Scope of project</b>	<b>Project timeline</b>							
	<table border="1"> <thead> <tr> <th>Details</th><th>Date</th></tr> </thead> <tbody> <tr> <td>Proposed work approved by AISC</td><td>April 2018</td></tr> <tr> <td>Project kick-off</td><td>April 2018</td></tr> <tr> <td>Establish Technical Advisory Group (TAG)</td><td>May – June 2018</td></tr> </tbody> </table>	Details	Date	Proposed work approved by AISC	April 2018	Project kick-off	April 2018	Establish Technical Advisory Group (TAG)
Details	Date							
Proposed work approved by AISC	April 2018							
Project kick-off	April 2018							
Establish Technical Advisory Group (TAG)	May – June 2018							

## PROJECT 2 – BUILDING DESIGN

	Training package components put forward for consultation	August 2018
	Review feedback and update Draft Pack 1	September 2018
	Training package components put forward for validation	October 2018
	Finalisation and Quality Assurance	November 2018 – January 2019
	Training package components sent to STAs for sign-off	February 2019
	Submitted for endorsement training package components to Commonwealth Department of Education and Training	March 2019
<b>Qualification</b>		
Code	Title	
CPP40115	Certificate IV in Building Design Drafting	
CPP50911	Diploma of Building Design	
<b>Units of competency</b>		
<ul style="list-style-type: none"> <li>• Update CPPBDN 23 units of competency.</li> <li>• Consider developing approx. 7 units of competency.</li> <li>• Total = 30 units of competency.</li> </ul>		
<b>Skill sets</b>		
<ul style="list-style-type: none"> <li>• Consider the development of approx. 8 skill sets.</li> </ul>		

## PROJECT 3 – URBAN PEST MANAGEMENT

<b>Description</b>	Review and update the CPP30115 Certificate III in Urban Pest Management						
<b>Rationale</b>	<table border="1"> <thead> <tr> <th>Driver</th><th>Explanation</th></tr> </thead> <tbody> <tr> <td><b>Policy</b></td><td> <p>Transition and update the qualification to align with the:</p> <ul style="list-style-type: none"> <li>• 2012 <i>Standards for Training Packages</i></li> <li>• COAG Industry and Skill Council directives.</li> </ul> </td></tr> <tr> <td><b>Regulations</b></td><td>Update qualification to reflect current Workplace Health and Safety (WHS) standards, practice, protocols and procedures.</td></tr> </tbody> </table>	Driver	Explanation	<b>Policy</b>	<p>Transition and update the qualification to align with the:</p> <ul style="list-style-type: none"> <li>• 2012 <i>Standards for Training Packages</i></li> <li>• COAG Industry and Skill Council directives.</li> </ul>	<b>Regulations</b>	Update qualification to reflect current Workplace Health and Safety (WHS) standards, practice, protocols and procedures.
Driver	Explanation						
<b>Policy</b>	<p>Transition and update the qualification to align with the:</p> <ul style="list-style-type: none"> <li>• 2012 <i>Standards for Training Packages</i></li> <li>• COAG Industry and Skill Council directives.</li> </ul>						
<b>Regulations</b>	Update qualification to reflect current Workplace Health and Safety (WHS) standards, practice, protocols and procedures.						
<p><b>Industry best-practices</b></p> <p>Update the qualification to align with industry best practices regarding tools, equipment, materials and components.</p>							
<p>In comply with COAGs reforms to training package components, Artibus Innovation proposes to redesign the qualification, which includes:</p> <ul style="list-style-type: none"> <li>• removing obsolete, superfluous and duplicative and units from the system.</li> <li>• including information about industry's expectations of training delivery (i.e. duration of training, mode of delivery and learner characteristics)</li> <li>• improving qualification design to enable individuals to upskill and move easily from one related occupation to another</li> <li>• improving the efficiency of the training system through the creation of units of competence that can be owned and used by multiple industry sectors.</li> <li>• fostering greater recognition of skill sets.</li> </ul>							
<b>Minister's priorities addressed</b>	The IRC approved consultation process will be undertaken that will ensure all key stakeholders are consulted in the Urban Pest Management project. <i>Detailed description of the process is outlined in Project 1.</i>						
<b>Consultation plan</b>	<b>Project timeline</b>						
	<table border="1"> <thead> <tr> <th>Details</th><th>Date</th></tr> </thead> <tbody> <tr> <td>Proposed work approved by AISC</td><td>April 2018</td></tr> <tr> <td>Project kick-off</td><td>April 2018</td></tr> </tbody> </table>	Details	Date	Proposed work approved by AISC	April 2018	Project kick-off	April 2018
Details	Date						
Proposed work approved by AISC	April 2018						
Project kick-off	April 2018						
<b>Scope of project</b>							

## PROJECT 3 – URBAN PEST MANAGEMENT

	Establish Technical Advisory Group (TAG)	May – June 2018
	Training package components put forward for consultation	August 2018
	Review feedback and update Draft Pack 1	September 2018
	Training package components put forward for validation	October 2018
	Finalisation and Quality Assurance	November 2018 – January 2019
	Training package components sent to STAs for sign-off	February 2019
	Submitted for endorsement training package components to Commonwealth Department of Education and Training	March 2019
<b>Qualification</b>		
Code	Title	
CPP30115	Certificate III in Urban Pest Management	
<b>Units of competency</b>		
<ul style="list-style-type: none"> <li>• Update CPPPMT 15 units of competency.</li> <li>• Consider developing approx. 7 units of competency.</li> <li>• Total = 22 units of competency.</li> </ul>		
<b>Skill sets</b>		
N/A		

## PROJECT 4 – SECURITY

<b>Description</b>	Review and update the suite of security qualifications							
<b>Rationale</b>	<table border="1"> <thead> <tr> <th><b>Driver</b></th><th><b>Explanation</b></th></tr> </thead> <tbody> <tr> <td><b>Policy</b></td><td> <p>Transition and update the qualifications to align with the:</p> <ul style="list-style-type: none"> <li>• <i>2012 Standards for Training Packages</i></li> <li>• COAG Industry and Skill Council directives.</li> </ul> </td></tr> <tr> <td><b>Regulations</b></td><td>Update qualification to reflect current Workplace Health and Safety (WHS) standards, practice, protocols and procedures.</td></tr> </tbody> </table>	<b>Driver</b>	<b>Explanation</b>	<b>Policy</b>	<p>Transition and update the qualifications to align with the:</p> <ul style="list-style-type: none"> <li>• <i>2012 Standards for Training Packages</i></li> <li>• COAG Industry and Skill Council directives.</li> </ul>	<b>Regulations</b>	Update qualification to reflect current Workplace Health and Safety (WHS) standards, practice, protocols and procedures.	
<b>Driver</b>	<b>Explanation</b>							
<b>Policy</b>	<p>Transition and update the qualifications to align with the:</p> <ul style="list-style-type: none"> <li>• <i>2012 Standards for Training Packages</i></li> <li>• COAG Industry and Skill Council directives.</li> </ul>							
<b>Regulations</b>	Update qualification to reflect current Workplace Health and Safety (WHS) standards, practice, protocols and procedures.							
<p><b>Industry best-practices</b></p> <p>Update the qualification to align with industry best practices regarding tools, equipment, materials and components.</p>								
<b>Minister's priorities addressed</b>	<p>In comply with COAGs reforms to training package components, Artibus Innovation proposes to redesign the qualification, which includes:</p> <ul style="list-style-type: none"> <li>• removing obsolete, superfluous and duplicative and units from the system.</li> <li>• including information about industry's expectations of training delivery (i.e. duration of training, mode of delivery and learner characteristics)</li> <li>• improving qualification design to enable individuals to upskill and move easily from one related occupation to another</li> <li>• improving the efficiency of the training system through the creation of units of competence that can be owned and used by multiple industry sectors.</li> <li>• fostering greater recognition of skill sets.</li> </ul>							
<b>Consultation plan</b>	<p>The IRC approved consultation process will be undertaken that will ensure all key stakeholders are consulted in the Security project.</p> <p><i>Detailed description of the process is outlined in Project 1.</i></p>							
<b>Scope of project</b>	<b>Project timeline</b>							
	<table border="1"> <thead> <tr> <th><b>Details</b></th><th><b>Date</b></th></tr> </thead> <tbody> <tr> <td>Proposed work approved by AISC</td><td>April 2018</td></tr> <tr> <td>Project kick-off</td><td>April 2018</td></tr> <tr> <td>Establish Technical Advisory Group (TAG)</td><td>May – June 2018</td></tr> </tbody> </table>	<b>Details</b>	<b>Date</b>	Proposed work approved by AISC	April 2018	Project kick-off	April 2018	Establish Technical Advisory Group (TAG)
<b>Details</b>	<b>Date</b>							
Proposed work approved by AISC	April 2018							
Project kick-off	April 2018							
Establish Technical Advisory Group (TAG)	May – June 2018							

## PROJECT 4 – SECURITY

	Training package components put forward for consultation	August 2018
	Review feedback and update Draft Pack 1	September 2018
	Training package components put forward for validation	October 2018
	Finalisation and Quality Assurance	November 2018 – January 2019
	Training package components sent to STAs for sign-off	February 2019
	Submitted for endorsement training package components to Commonwealth Department of Education and Training	March 2019
<b>Qualification</b>		
Code	Title	
CPP30507	Certificate III in Technical Security	
CPP40707	Certificate IV in Security and Risk Management	
CPP50611	Diploma of Security and Risk Management	
<b>Units of competency</b>		
<ul style="list-style-type: none"> <li>• Update CPPSEC 52 units of competency.</li> <li>• Consider developing approx. 15 units of competency.</li> <li>• Total = 67 units of competency.</li> </ul>		
<b>Skill sets</b>		
<ul style="list-style-type: none"> <li>• Consider the development of approx. 8 skill sets.</li> </ul>		

## PROJECT 5 – SWIMMING POOL AND SPA SERVICE

<b>Description</b>	Review and update the CPP41312 Certificate IV Swimming Pool and Spa Service								
<b>Rationale</b>	<table border="1"> <thead> <tr> <th>Driver</th><th>Explanation</th></tr> </thead> <tbody> <tr> <td><b>Policy</b></td><td> <p>Transition and update the qualification to align with the:</p> <ul style="list-style-type: none"> <li>• <i>2012 Standards for Training Packages</i></li> <li>• COAG Industry and Skill Council directives.</li> </ul> </td></tr> <tr> <td><b>Regulations</b></td><td>Update qualification to reflect current Workplace Health and Safety (WHS) standards, practice, protocols and procedures.</td></tr> <tr> <td><b>Industry best-practices</b></td><td>Update the qualification to align with industry best practices regarding tools, equipment, materials and components.</td></tr> </tbody> </table>	Driver	Explanation	<b>Policy</b>	<p>Transition and update the qualification to align with the:</p> <ul style="list-style-type: none"> <li>• <i>2012 Standards for Training Packages</i></li> <li>• COAG Industry and Skill Council directives.</li> </ul>	<b>Regulations</b>	Update qualification to reflect current Workplace Health and Safety (WHS) standards, practice, protocols and procedures.	<b>Industry best-practices</b>	Update the qualification to align with industry best practices regarding tools, equipment, materials and components.
Driver	Explanation								
<b>Policy</b>	<p>Transition and update the qualification to align with the:</p> <ul style="list-style-type: none"> <li>• <i>2012 Standards for Training Packages</i></li> <li>• COAG Industry and Skill Council directives.</li> </ul>								
<b>Regulations</b>	Update qualification to reflect current Workplace Health and Safety (WHS) standards, practice, protocols and procedures.								
<b>Industry best-practices</b>	Update the qualification to align with industry best practices regarding tools, equipment, materials and components.								
<b>Minister's priorities addressed</b>	<p>In comply with COAGs reforms to training package components, Artibus Innovation proposes to redesign the qualification, which includes:</p> <ul style="list-style-type: none"> <li>• removing obsolete, superfluous and duplicative and units from the system.</li> <li>• including information about industry's expectations of training delivery (i.e. duration of training, mode of delivery and learner characteristics)</li> <li>• improving qualification design to enable individuals to upskill and move easily from one related occupation to another</li> <li>• improving the efficiency of the training system through the creation of units of competence that can be owned and used by multiple industry sectors.</li> <li>• fostering greater recognition of skill sets.</li> </ul>								
<b>Consultation plan</b>	<p>The IRC approved consultation process will be undertaken that will ensure all key stakeholders are consulted in the Swimming Pool and Spa Service project.</p> <p><i>Detailed description of the process is outlined in Project 1.</i></p>								
<b>Scope of project</b>	<p><b>Project timeline</b></p> <table border="1"> <thead> <tr> <th>Details</th><th>Date</th></tr> </thead> <tbody> <tr> <td>Proposed work approved by AISC</td><td>April 2018</td></tr> <tr> <td>Project kick-off</td><td>April 2018</td></tr> </tbody> </table>	Details	Date	Proposed work approved by AISC	April 2018	Project kick-off	April 2018		
Details	Date								
Proposed work approved by AISC	April 2018								
Project kick-off	April 2018								

## PROJECT 5 – SWIMMING POOL AND SPA SERVICE

	Establish Technical Advisory Group (TAG)	May – June 2018
	Training package components put forward for consultation	August 2018
	Review feedback and update Draft Pack 1	September 2018
	Training package components put forward for validation	October 2018
	Finalisation and Quality Assurance	November 2018 – January 2019
	Training package components sent to STAs for sign-off	February 2019
	Submitted for endorsement training package components to Commonwealth Department of Education and Training	March 2019
<b>Qualification</b>		
Code	Title	
CPP41312	Certificate IV Swimming Pool and Spa Service	
<b>Units of competency</b>		
<ul style="list-style-type: none"> <li>• Update CPPSPS 17 units of competency.</li> <li>• Consider developing approx. 5 units of competency.</li> <li>• Total = 22 units of competency.</li> </ul>		
<b>Skill sets</b>		
N/A		

# References

Australian Industry and Skills Committee 2016, *Future Skills and Training: A practical resource to help identify future skills* and training, accessed online on 11/01/2018 at:  
<https://www.aisc.net.au/content/future-skills-and-training-resource>

Association of Consultants in Access Australia, 2017, Accessibility in the Built Environment, accessed online 07/02/18 at <http://www.access.asn.au/index.php/accessibility-in-the-built-environment>

Artibus Innovation CPP Skills Forecast Survey 2018

Azhar, S et al. (2012) 'Building information modeling (BIM): now and beyond', *Australasian Journal of Construction Economics and Building*, **12** (4) 15-28

Construction and Property Services Industry Skills Council, 2014, *Environmental Scan 2014-15*

Dodge Data & Analytics, 2016, *World Green Building Trends 2016: Developing Markets Accelerate Global Green Growth*, accessed online 19/01/2018 at <http://www.worldgbc.org/news-media/world-green-building-trends-2016>

Ernst & Young (2016) The upside of disruption: Megatrends shaping 2016 and beyond, accessed online 31/01/18 at [http://www.ey.com/Publication/vwLUAssets/EY-the-upside-of-disruption/\\$FILE/EY-the-upside-of-disruption.pdf](http://www.ey.com/Publication/vwLUAssets/EY-the-upside-of-disruption/$FILE/EY-the-upside-of-disruption.pdf)

Foundation for Young Australians, 2015, *The New Work Order: Ensuring young Australians have skills and experience for the jobs of the future, not the past*, accessed online 06/02/2018 at:  
<https://www.fya.org.au/report/new-work-order/>

Foltynowicz, Zenon, 2013, T-shaped Professionals, accessed online on 27/03/2018 at:  
[https://www.researchgate.net/publication/264419889\\_T-shaped\\_Professionals](https://www.researchgate.net/publication/264419889_T-shaped_Professionals)

Green Building Council of Australia, 2018, *What is Green Building?*  
<https://www.gbcia.org.au/about/what-is-green-building/>

IBISWorld, September 2017, IBISWorld Industry Report N7312: Building Pest Control Services in Australia, accessed online 01/02/18 at  
<http://clients1.ibisworld.com.au/reports/au/industry/default.aspx?entid=573>

IBISWorld, October 2017, IBISWorld Industry Report D2911: Solid Waste Collection Services in Australia, accessed online 01/02/18 at  
<http://clients1.ibisworld.com.au/reports/au/industry/default.aspx?entid=5023>

IBISWorld, May 2017, IBISWorld Industry Report E3234: Fire and Security Alarm Installation Services in Australia, accessed online 01/02/18 at  
<http://clients1.ibisworld.com.au/reports/au/industry/default.aspx?entid=327>

IBISWorld, January 2017, IBISWorld Industry Report O7712: Investigation and Security Services in Australia, accessed online 01/02/18 at  
<http://clients1.ibisworld.com.au/reports/au/industry/default.aspx?entid=572>

IBISWorld, September 2017, IBISWorld Industry Report M692: Architectural Services in Australia, accessed online 01/01/18 at  
<http://clients1.ibisworld.com.au/reports/au/industry/default.aspx?entid=550>

IBISWorld, September 2017, IBISWorld Industry Report L6720: Real Estate Services in Australia, accessed online 01/02/18 at  
<http://clients1.ibisworld.com.au/reports/au/industry/default.aspx?entid=539>

IBISWorld, February 2017, IBISWorld Industry Report M6922: Surveying and Mapping Services, accessed online 07/02/18 at  
<http://clients1.ibisworld.com.au/reports/au/industry/default.aspx?entid=551>

IBISWorld, September 2017, IBISWorld Industry Report N7311: Commercial Cleaning Services in Australia, accessed online 07/02/18 at  
<http://clients1.ibisworld.com.au/reports/au/industry/default.aspx?entid=574>

IBISWorld, November 2017, IBISWorld Industry Report D2921: Waste Treatment and Disposal Services in Australia, accessed online 13/02/18 at  
<http://clients1.ibisworld.com.au/reports/au/industry/default.aspx?entid=5024>

IBISWorld, August 2017, IBISWorld Industry Report OD4034: Swimming Pool and Spa Equipment Stores in Australia, accessed online 09/02/18 at  
<http://clients1.ibisworld.com.au/reports/au/industry/default.aspx?entid=4034>

Jadhav, NY, 2016, Green and Smart Buildings, Springer, Singapore

Labour Market Information Portal, 2017 Industry Projections – five years to May 2022, accessed online 25/01/18 at <http://lmip.gov.au/default.aspx?LMIP/GainInsights/EmploymentProjections>

Labour Market Information Portal, 2017 Occupation projections, accessed online 25/01/18 at  
<http://lmip.gov.au/default.aspx?LMIP/GainInsights/EmploymentProjections>

PWC, 2014, Real Estate 2020: Building the future, accessed online 30/01/18 at  
<https://www.pwc.com/sg/en/real-estate/assets/pwc-real-estate-2020-building-the-future.pdf>

PWC, 2015, A Smart Move: Future-proofing Australia's workforce by growing skills in science, technology, engineering and maths (STEM), accessed online 08/02/18 at  
<https://www.pwc.com.au/pdf/a-smart-move-pwc-stem-report-april-2015.pdf>

PWC, 2016, Five Megatrends and Their Implications for Global Defence & Security, accessed online 31/01/18 at <https://www.pwc.com/gx/en/government-public-services/assets/five-megatrends-implications.pdf>

PWC, Workforce of the future: The competing forces shaping 2030, accessed online 08/02/18 at  
<https://www.pwc.com/gx/en/services/people-organisation/workforce-of-the-future/workforce-of-the-future-the-competing-forces-shaping-2030-pwc.pdf>

StartupAUS, 2017, *Digital Foundations: How technology is transforming Australia's construction sector*, accessed online 01/02/2018 at <https://startupaus.org/document/constructiontech/>

Training.gov.au, Qualification details: CPP31212 - Certificate III in Swimming Pool and Spa Service (Release 2), accessed online 30/01/18 at <https://training.gov.au/Training/Details/CPP31212>

Training.gov.au, Qualification details: CPP41312 - Certificate IV in Swimming Pool and Spa Service (Release 2), accessed online 30/01/18 at <https://training.gov.au/Training/Details/CPP41312>

DRAFT

# Appendix A – Unit of Competencies

<b>Project 1 Access Consulting</b>	
CPPACC4001A	Apply disability awareness to assessing access situations
CPPACC4002A	Apply building control legislation to assess small-scale buildings for access
CPPACC4003A	Assess construction plans
CPPACC4004A	Communicate effectively as an access consultant
CPPACC4005A	Conduct a building access audit
CPPACC4006A	Conduct a playground access audit
CPPACC4007A	Conduct a streetscape access audit
CPPACC4008A	Conduct a transport conveyance and boarding device access audit
CPPACC4009A	Conduct a transport premises access audit
CPPACC4010A	Conduct an aged care facility access audit
CPPACC4011A	Conduct an educational facility access audit
CPPACC4012A	Conduct an outdoor recreation area access audit
CPPACC4013A	Contribute effectively to building development teams
CPPACC4014A	Facilitate the development of Disability Discrimination Act Action Plans
CPPACC4015A	Follow site occupational health and safety requirements
CPPACC4017A	Prepare access reports
CPPACC4019A	Provide access advice on building fitout
CPPACC4020A	Provide access advice on building renovations
CPPACC4021A	Provide access advice on the provision of services
CPPACC4022A	Work effectively as an access consultant
CPPACC5003A	Apply anthropometric principles to accessible building design and fitout
CPPACC5006A	Apply ergonomic principles to accessible building design and fitout

CPPACC5007A	Apply mechanics of human body functions to accessible building design and fitout
CPPACC5008A	Assess the construction of existing buildings and new building work required to be accessible
CPPACC5009A	Evaluate materials for the construction of buildings for access
CPPACC5010A	Provide access advice on the design of the built environment
CPPACC5011A	Prepare a concept design for accessible building work
CPPACC5012A	Prepare a design brief for accessible building work
CPPACC5013A	Prepare and administer tender documentation for accessible building work
CPPACC5014A	Prepare contract documentation for accessible building work
CPPACC5015A	Prepare specification documentation for accessible building work
CPPACC5016A	Provide expert access advice on renovations to private dwellings
CPPACC5017A	Provide expert access advice on building renovations
CPPACC5018A	Provide expert access advice to a complainant or respondent
CPPACC5020A	Undertake research on access issues
CPPACC6001A	Participate as an access expert on an Access Panel
CPPACC6002A	Apply performance-based codes and risk management principles to assessing buildings for access
CPPACC6003A	Apply unjustifiable hardship principles to Alternative Building Solutions for access
CPPACC4018A	Prepare, deliver and evaluate public education sessions on access
CPPACC5001A	Assess documentation of building work for access compliance
CPPACC5002A	Inspect access compliance during the building process
CPPACC5004A	Apply building codes and standards to accessible largescale buildings
CPPACC5005A	Interpret and apply building control legislation when assessing large-scale buildings for access

CPPACC5019A	Coordinate the development and implementation of Disability Discrimination Act Action Plans
CPPACC4016A	Manage risk
CPPACC8002A	Research and analyse access solutions for the built environment
CPPACC8003A	Provide advice on solutions to access and use issues
CPPACC8004A	Develop policies and briefs relating to access to and use of the built environment
CPPACC8005A	Develop and advise on policies and procedures to enable access for people with disabilities Develop and advise on policies and procedures to enable access for people with disabilities E15
CPPACC8006A	Give evidence relating to access and use
CPPACC8007A	Audit built environment and infrastructure for accessibility compliance and propose solutions
CPPACC8008A	Contribute to design of accessible built environment and infrastructure
CPPACC8001A	Research and analyse access and use requirements for people with diverse disabilities
<b>Project 2 Building Design</b>	
CPPBDN5011A	Produce compliant client-approved working drawings for small-scale residential buildings
CPPBDN5009A	Produce compliant client-approved designs for small-scale building design projects
CPPBDN5008A	Develop concepts for small-scale building design projects and finalise solutions with clients
CPPBDN5005A	Recommend sustainability solutions for small-scale building design projects
CPPBDN5003A	Research compliance requirements for small-scale residential building design projects
CPPBDN5001A	Research construction materials and methods for small-scale residential building design projects

CPPBDN5002A	Research construction materials and methods for small-scale non-residential building design projects
CPPBDN5004A	Research compliance requirements for small-scale non-residential building design projects
CPPBDN5006A	Consult with clients to produce approved small-scale building project design briefs
CPPBDN5007A	Inspect and analyse sites and produce measured drawings for small-scale building design projects
CPPBDN5010A	Negotiate and finalise planning approval for small-scale building design projects
CPPBDN5012A	Produce and present 3-D models of small-scale building designs
CPPBDN5013A	Develop and collaborate on building information models for small-scale building design projects
CPPBDN5014A	Contribute to construction and building design project finalisation processes
CPPBDN5015A	Produce compliant client-approved working drawings for non-residential buildings
CPPBDN5016A	Produce and present rendered animations of 3-D models of small-scale building designs
CPPBDN8003A	Scope and initiate large and complex building design projects
CPPBDN8001A	Research and evaluate construction materials and methods for complex building design projects
CPPBDN8002A	Research compliance requirements for complex building design projects
CPPBDN8007A	Manage the design of Type A constructions
CPPBDN8004A	Lead the building design team
CPPBDN8005A	Manage the tendering and construction process for a client
CPPBDN8006A	Identify and manage new building design technologies
<b>Project 3 Urban Pest Management</b>	
CPPPMT3002A	Assess pest management options

CPPPMT3005A	Modify environment to manage pests
CPPPMT3006A	Apply pesticides to manage pests
CPPPMT3007A	Implement pest management plans
CPPPMT3009A	Advise clients on pest management options
CPPPMT3017A	Repair and maintain service equipment
CPPPMT3018A	Maintain equipment and chemical storage areas
CPPPMT3026A	Select and obtain pest management vehicles, equipment and materials
CPPPMT3043A	Prepare and present pest management proposals
CPPPMT3008A	Inspect and report on timber pests
CPPPMT3010A	Control timber pests
CPPPMT3011A	Conduct fumigation
CPPPMT3019A	Organise and monitor pest management operations
CPPPMT3029A	Plan and schedule pest management operations
CPPPMT3042A	Install physical termite barriers
<b>Project 4 Security</b>	
CPPSEC3021A	Maintain and use security database
CPPSEC3023A	Coordinate biometric equipment and systems
CPPSEC3024A	Install biometric equipment and systems
CPPSEC3026A	Work effectively in investigative services
CPPSEC3027A	Develop investigative plan
CPPSEC3028A	Compile investigative report
CPPSEC3029A	Provide quality investigative services to clients
CPPSEC3030A	Conduct surveillance
CPPSEC3031A	Organise and operate a surveillance vehicle

CPPSEC3032A	Gather information by factual investigation
CPPSEC3033A	Conduct interviews and take statements
CPPSEC3034A	Operate information gathering equipment
CPPSEC3035A	Identify technical security requirements
CPPSEC3036A	Program security equipment and system
CPPSEC3037A	Test installed security equipment and system
CPPSEC3038A	Commission and decommission security equipment and system
CPPSEC3039A	Identify and diagnose electronic security equipment and system fault
CPPSEC3040A	Plan and coordinate installation of security equipment and system
CPPSEC3041A	Maintain and service security equipment and system
CPPSEC3042A	Identify and diagnose CCTV equipment and system fault
CPPSEC3043A	Establish and set up electronic monitoring parameters
CPPSEC3044A	Maintain and repair mechanical lock and locking system
CPPSEC3045A	Determine security equipment and system modifications
CPPSEC3046A	Configure a security system
CPPSEC3047A	Provide estimate and quote on security system
CPPSEC3048A	Maintain effective relationships with security clients
CPPSEC3049A	Modify and repair security equipment and system
CPPSEC4001A	Manage a safe workplace in the security industry
CPPSEC4002A	Implement effective communication techniques
CPPSEC4003A	Advise on security needs
CPPSEC4004A	Monitor and review security operations
CPPSEC4005A	Facilitate workplace briefing and debriefing processes
CPPSEC4006A	Assess risks

CPPSEC4007A	Assess threat
CPPSEC4008A	Prepare a detailed tender
CPPSEC4009A	Interpret information from advanced security equipment
CPPSEC4010A	Manage monitoring centres
CPPSEC4011A	Coordinate field staff activity from control room
CPPSEC4012A	Identify and assess security of assets
CPPSEC4013A	Undertake case management of investigations
CPPSEC4014A	Commission and decommission networked security system
CPPSEC4015A	Maintain networked security system
CPPSEC4016A	Install networked security system
CPPSEC4017A	Determine security system configurations
CPPSEC4018A	Configure security devices on IT networks
CPPSEC4019A	Identify and diagnose security system or network fault
CPPSEC5001A	Establish and maintain an Occupational Health and Safety system
CPPSEC5002A	Coordinate security operations
CPPSEC5003A	Assess security risk management options
CPPSEC5004A	Prepare security risk management plan
CPPSEC5005A	Implement security risk management plan
CPPSEC5006A	Determine strategy for the implementation of biometric technology
<b>Project 5 Swimming Pool and Spa Service</b>	
CPPSPS4001A	Assess and treat water problems in swimming pools and spas
CPPSPS4002A	Install, service and repair swimming pool and spa circulation and filtration systems
CPPSPS4003A	Install, service and repair swimming pool and spa dosing systems

CPPSPS4004A	Install, service and repair swimming pool and spa cleaning and vacuuming systems
CPPSPS4005A	Install, service and repair swimming pool and spa heating systems
CPPSPS4006A	Install, service and repair low voltage swimming pool and spa lighting systems
CPPSPS4007A	Inspect, service and repair aquatic facility plant and equipment
CPPSPS4008A	Install, service and repair spas
CPPSPS4009A	Estimate cost of swimming pool and spa products and services
CPPSPS4010A	Manage own role as a swimming pool and spa technician
CPPSPS4011A	Comply with regulatory requirements for swimming pool and spa servicing
CPPSPS4012A	Design, install and service automated systems for swimming pools and spas
CPPSPS4013A	Establish maintenance plans for swimming pools and spas
CPPSPS4014A	Drain and acid wash swimming pools and spas
CPPSPS4015A	Maintain spa water quality
CPPSPS4016A	Advise on swimming pool and spa products and services
CPPSPS4017A	Detect leaks in swimming pools and spas