# Furnishing Industry Reference Committee

## MSF Furnishing Training Package
**Draft Skills Forecast and Proposed Schedule of Work 2018-2022**

**April 2018**

**IBSA MANUFACTURING**

## Administrative Information

**Name of Industry Reference Committee (IRC):**

Furnishing

**Name of Skills Service Organisation (SSO):**

Innovation and Business Skills Australia (IBSA Manufacturing)

## About the Industry Reference Committee

The Furnishing Industry Reference Committee comprises twelve members and was constituted in December 2016.

The 2018 Industry Skills Forecast and Proposed Schedule of Work was reviewed and approved by the membership below:

| | |
|---|---|
| Ms Patrizia Torelli (Chair) | Mr Dean Brakell |
| Mr Randy Flierman | Mr Mark Heydon |
| Ms Kay Gerard | Mr Alex Milne |
| Mr Keith Phasey | Mr Ronald Redman |
| Mr Patrick Gavaghan | Ms Bronwyn Foord |
| Ms Lisa Chapman | Mr Andrew Lewis |

## Industry Reference Committee Signoff

The 2018 Furnishing IRC Skills Forecast and Proposed Schedule of Work was approved as the result of a properly constituted IRC decision.

**IRC Chair:** Patrizia Torelli

**Date:** [Date to be confirmed]

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# Contents

# Executive Summary

The Industry Reference Committee (IRC) Skills Forecast and Proposed Schedule of Work identifies priorities for training package development work to meet the needs of industry. This document is based on research, analysis and consultations with IRC members and other stakeholders and provides evidence of current and emerging industry skills needs.

## What is the Furnishing Industry?

The Furnishing Industry plays an important role servicing urban and regional areas all Australian states and territories. There are major hubs located on the eastern seaboard.

A number of specialised sectors make up the Australian Furnishing Industry including:

- Blinds, awnings, security screens and grills installation
- Flooring technology
- Furniture design and technology also known as Furniture manufacturing
- Furniture finishing also known as French polishing
- Glass and glazing
- Interior decoration and design
- Kitchen/bathroom/cabinet design, manufacture and installation
- Manufacturing of bedding, blinds, awnings, security screens and grills (commercial/residential)
- Picture framing
- Timber and composite machining also known as wood machining.

## Critical workforce challenges and opportunities

For industry and employers, challenges and opportunities exist across a number of areas including:

- traditional skills – which are still required alongside workers' need to upskill in new technologies and new business models offering high levels of customer service
- difficulties in attracting skilled workers – which is limiting growth in the industry due to a lack of applicants with Science, Technology, Engineering and Mathematics (STEM) and Language, Literacy and Numeracy (LLN) skills as the norm, as well as strong employability skills
- negative media about the future of the manufacturing industry which is influencing career decisions
- the large number of SMEs and non-employing businesses in the industry which are further exacerbating the lack of investment in training
- thin markets in some niche areas impacting on the ability to access training delivery for both new entrants and existing workers.

## Forecasting skills priorities

The skills priorities identified in this Forecast have been informed by a number of methods including research, industry surveys, extensive consultations in different jurisdictions and feedback from IRC members.

Current and emerging skills needs identified include:

- new technologies CAD modelling, CNC machining, 3D printing, augmented reality, artificial intelligence, technical drawing, mobile technologies
- soft STEM skills including creative thinking, problem solving, design skills
- online and social media marketing
- customer service, sales, aftermarket care and installation skill sets
- business, contractual and e-commerce skills
- industry standards, regulatory compliance and legislation.

## Training Package priorities

The Proposed Schedule of Work 2018-19 to 2021-22 was developed by the IRC, with support from IBSA Manufacturing, based on identified industry trends. The Schedule lists the priorities over the next four years, the rationale and proposed timeframes for these activities.

The item identified as critical for inclusion as a priority for the 2018-2019 schedule of work and a Case for Change included as part of this Skills Forecast is:

- Furniture Design and Technology

The items proposed for inclusion as a priority for the 2018-2019 schedule of work are:

- Cabinet Making
- Redevelopment of furnishing entry level and pathways qualifications
- Digital skills, new technologies and materials and mobile technologies
- Redevelopment of Diploma of Stained Glass and Leadlighting
- Ergonomics and inclusive design/small house design

# Sector Overview

## Industry Snapshot

The Furnishing Industry operates across all Australian states and territories with enterprises based in city and regional areas and major hubs located in the three eastern states, New South Wales, Queensland and Victoria.

The Furnishing Industry is comprised of a number of specialised sectors including:

- Flooring technology
- Furniture design and technology also known as Furniture Manufacturing
- Furniture finishing also known as French polishing
- Glass and glazing
- Installation of blinds, awnings, security screens and grills
- Interior decoration and design
- Kitchen/bathroom/cabinet design, manufacture and installation
- Manufacture of bedding, blinds, awnings, security screens and grills (commercial/residential)
- Picture framing
- Timber and composite machining also known as wood machining
- Coopering
- Piano tuning

The Furnishing Industry in Australia is coded within the Australian and New Zealand Standard Industrial Classification (ANZSIC) in Divisions C, Manufacturing, E, Construction and S, Other Services. The Industry Reference Committee has selected the following ANZSIC classes of 4 digit industry codes as representative of the industry.

| | |
|---|---|
| 1333 Cut and Sewn Textile Product Manufacturing | 2511 Wooden Furniture and Upholstered Seat Manufacturing |
| 1334 Textile Finishing and other Textile Product Manufacturing | 2519 Other Furniture Manufacturing |
| 1492 Wooden Structural Fitting and Component Manufacturing | 2592 Toy, Sporting and Recreational Product Manufacturing |
| 1494 Reconstituted Wood Product Manufacturing | 3239 Other Building Installation Services |
| 1821 Synthetic Resin and Synthetic Rubber Manufacturing | 3242 Carpentry Services |
| 1912 Rigid and Semi-Rigid Polymer Product Manufacturing | 3243 Tiling and Carpeting Services |
| 1913 Polymer Foam Product Manufacturing | 3245 Glazing Services |
| 1920 Natural Rubber Product manufacturing | 9499 Other Repair and Maintenance nec |
| 2010 Glass and Glass Product Manufacturing | 2512 Metal Furniture Manufacturing |
| 2223 Architectural Aluminum Product Manufacturing | 2513 Mattress Manufacturing |

## Business Landscape

There were nearly 85,000 businesses operating in Australia at June 2016 in the 4 digit ANZSIC classes listed above[1]. The geographic distribution of industry employment closely follows the Australian population distribution. In addition, the largest number of businesses in each jurisdiction offers carpentry services, followed by tiling and carpeting services. The majority (over 50,000 or nearly 60%) of businesses are non-employing, with only about 1,300 or 1.5 % having more than twenty employees[2].

*Figure 1 - Geographic distribution of furnishing businesses in the 4 digit ANZSIC classes with over 10,000 employees at June 2016.*



| | NSW | VIC | QLD | SA | WA | TAS | NT | ACT |
|---|---|---|---|---|---|---|---|---|
| Glazing Services | 1059 | 775 | 613 | 166 | 504 | 69 | 23 | 38 |
| Tiling and Carpeting Services | 4896 | 3547 | 2973 | 1101 | 2166 | 181 | 189 | 274 |
| Carpentry Services | 14686 | 11313 | 8964 | 2484 | 4682 | 622 | 303 | 630 |
| Other Furnishing Manufacturing | 92 | 65 | 46 | 18 | 24 | 5 | 0 | 0 |
| Wooden Furniture and Upholstered Seat Manufacturing | 999 | 1005 | 613 | 257 | 424 | 81 | 14 | 37 |
| Wooden Structural Fitting and Component Manufacturing | 1439 | 1054 | 673 | 238 | 306 | 67 | 14 | 48 |

*Source: ABS, 8165.0 Counts of Australian Businesses, including Entries and Exits, Jun 2012 to Jun 2016*

In a recent survey of small and medium businesses, respondents expressed concerns regarding a lack of work/sales, followed by difficulties in finding and keeping staff[3].

## Furniture Retailing

Furniture retailers face intense competition from department stores and online-only retailers with a number of small unprofitable retailers closing down in recent years. Revenue is projected to grow at an annualised average of 1.8% over the five years through 2022-23, to reach $8.1 billion[4]. Changes in residential building construction and discretionary household income have a direct impact on furniture

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1 ABS, 8165.0 *Counts of Australian Businesses, including Entries and Exits,* Jun 2012 to Jun 2016
2 ABS, 8165.0 *Counts of Australian Businesses, including Entries and Exits,* Jun 2012 to Jun 2016
3 Sensis  Report, *A survey of confidence and behaviour of Australian small and medium businesses,* Feb 2018
4 IBISWorld, *G4211 Furniture Retailing in Australia Industry Report* (Nov 2017)

retailers, with increases in income broadening the type, quality and range of furniture that consumers can afford. Demand varies largely based on trends, with formal lounge and dining furniture declining in recent years as a portion of revenue to outdoor furniture and more casual living which is expected to grow.

Urbanisation is driving higher density living and an ageing population is downsizing to smaller homes with less maintenance. These trends are also affecting furniture design and manufacture. The geographic distribution of furniture retailers follows Australia's population distribution with around 80% located on the eastern seaboard.

*Figure 2 - Furniture retailing products and services segmentation (2017-18)*
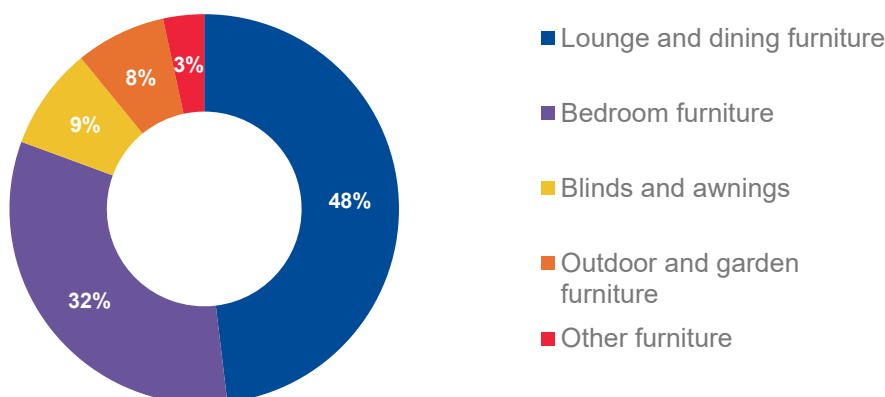


*Source: IBISWorld, G4211 Furniture Retailing in Australia Industry Report (Nov 2017)*

The four largest furniture retailers are using IT specialists to assist with their online presence and sales channels[5]. Point of sale equipment and radio frequency identification (RFID) are being used for sales, stock control and supply chain automation. Online retailing platforms allow click and collect delivery options and augmented reality viewing options offer customers personalised experiences to design and view their own furniture in their homes.

### *Kitchen/bathroom/cabinet design, manufacture and installation[6]*

Demand for kitchens and bathrooms in new homes have declined since reaching a peak in new home starts in 2016. The total number of kitchen installations in new homes is estimated to have declined by nearly 6% 2016/17 and is projected to decline by a further 2.5 per cent in 2017/18. The residential building cycle is expected to decline by a further almost 15% in 2018/19.

The total number of bathroom installations in new homes increased by over 4% during 2016/17 because of an increase in the average number of bathrooms per dwelling. Installations are projected to decline by nearly 8% in 2017/18 and by almost 15% in 2018/19.

Renovations continue to drive demand for new kitchens and bathrooms with over 65% of the renovations performed on homes that are 11 to 20 years old.

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[5] IBISWorld, *G4211 Furniture Retailing in Australia Industry Report* (Nov 2017)

[6] HIA Economics, 2018, *Kitchens and Bathrooms Report Past Growth and Future Prospects* (Extract)

Consumerism is one of the strongest forces affecting the kitchen and bathroom sector and impacts on customer expectations of their personal experiences and sharing online their positive and negative experiences[7].
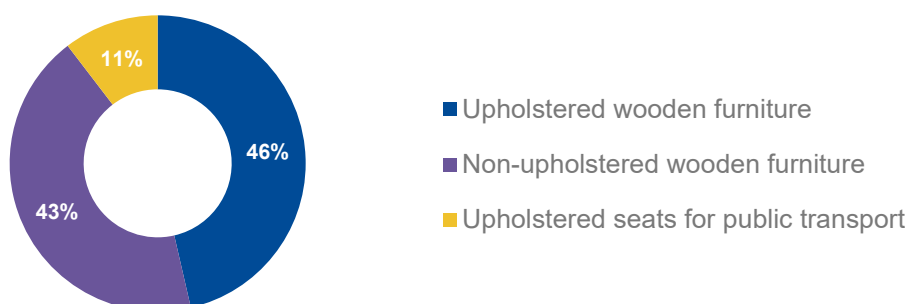
## Wooden Furniture Manufacturing and Upholstery

Flat pack assembly and 'Do It Yourself' continue to provide practical and affordable solutions for many consumers and put pressure on the more traditional businesses in the sector. The reduction and ultimate elimination of tariffs on furniture products and furniture inputs as a result of free trade agreements with major trading partners, most notably China, New Zealand, Vietnam and Malaysia, contribute to increased import penetration of the Australian market. As a result, industry revenue was forecast to decrease at an annualised 0.5% over the five years through 2022-23, to just under $2.5 billion[8].This may need to be revised due to the introduction of the Department of Agriculture's enforcement of the Illegal Logging Regulation, and the ACCC's introduction of more mandatory Consumer Protection Notices (CPN), therefore reducing the level of non-compliant imported products for the foreseeable future. Offshoring of manufacturing operations continues with some local manufactures supplementing local production with furniture sourced offshore[9]. Figure 3 illustrates that upholstered wooden furniture is the largest product segment in this sector. As noted earlier, this will be impacted by the enforcement of the Regulation and updated mandatory standards and CPN's.

Slim profit margins continue to drive businesses to look at cost cutting strategies including reducing wage costs and consolidating manufacturing operations. Wages represent the second largest expense for wooden furniture manufacturing and upholstery businesses after purchases of materials, intermediates components and consumables.

Industry consultations indicate that rising production costs are a key driver in the decision by some manufacturers to import products to augment their range and remain competitive. The number of enterprises in this sub-sector of the industry has declined by over 12% from nearly 4,000 in 2008-09 to just under 3,500 in 2016-17 and employment has declined by nearly 17% for the corresponding period from over 19,000 to just under 16,000[10].

*Figure 3 - Wooden furniture manufacturing and upholstery products and services segmentation (2017-18)*



- Upholstered wooden furniture
- Non-upholstered wooden furniture
- Upholstered seats for public transport

*Source: IBISWorld, C2511 Wooden Furniture and Upholstered Seat Manufacturing in Australia Industry Report (Aug 2017)*

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[7] AWISA, Autumn 2018, *The Magazine*

[8] IBISWorld, *C2511 Wooden Furniture and Upholstered Seat Manufacturing in Australia Industry Report* (Aug 2017)

[9] *Ibid.*

[10] *Ibid.*

Though New South Wales, Victoria and Queensland account for over 75% of the businesses in this sector, Western Australia and South Australia have a disproportionality larger share of activity than their population share, with Western Australia having access to a range of native timbers and South Australia being home to several large-scale manufacturers[11].

While larger scale businesses use electronic cutting equipment and Computerised Numerical Control (CNC) lathes, smaller firms are not always using high technology machinery to its full capacity. Carcass furniture construction, using pre-coated chipboard or medium density fibreboard (MDF), coated melamine and laser edge banding are reducing material costs and improving quality. At the same time, demand for hand crafted furniture products is growing as consumers search for bespoke, unique items as designer pieces.

Environmental protection regulations apply to toxin emissions that may occur during various stages of the manufacturing process, such as finishing, gluing and cleaning and air quality legislation varies by state.

## Furniture and Floor Covering Wholesaling

The primary activities of this sector include blind, floor covering, furniture and mattress wholesaling. Increasingly retailers prefer dealing directly with manufacturers and importers, leaving some wholesalers offering traditional services out of the supply chain. There is a clear trend that more and more retailers are in fact importing directly, therefore moving them into the category of importer/retailer, rather than the traditional retail only model.

Industry revenue is forecast to grow at an annualised average rate of 1.5% for the next five years to 2021-22, to reach over $5 billion[12]. This is as a result of growth in the downstream furniture and floor coverings retail industries and improving demand conditions from the commercial and institutional property markets[13].

## Metal Furniture Manufacturing

The Metal Furniture Manufacturing sector sells metal furniture for various applications, including storage in business premises and for specialist institutional applications in hospitals, and for schools. The sector's performance has steadily deteriorated since the late 2000s, as low-cost imports have gained market share and non-metal furnishings are being substituted by sectors such as office furniture. Advancements in digital technology such as electronic data transfer and storage have also reduced the use of paper records threatening the demand for traditional metal filing cabinets and archive storage systems. The performance of the metal furniture manufacturing sector is closely linked to investment in commercial and industrial construction.

Revenue is projected to decline by an annualised 0.3% over the five years through 2021-22, to nearly $6 million[14]. In contrast, domestic demand for metal furniture products is anticipated to increase by an annualised average rate of nearly 2.5% over this period, to $1.7 billion in 2021-22, supported by positive trends in key building markets[15]. Any government infrastructure projects that are initiated in the coming years will directly impact on this estimate.

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[11] IBISWorld, *C2511 Wooden Furniture and Upholstered Seat Manufacturing in Australia Industry Report* (Aug 2017)

[12] IBISWorld, *F3731 Furniture and Floor Covering Wholesaling in Australia Industry Report* (December 2016)

[13] *Ibid.*

[14] IBISWorld, *C2512 Metal Furniture Manufacturing in Australian Industry Report* (Sept 2016)

[15] *Ibid.*

Although economies of scale exist in metal furniture production, smaller manufacturers generally compete by offering nonstandard (bespoke) products or services (eg. custom colouring). The vast majority of enterprises employ fewer than 20 people (over 90%), with about one-third of businesses having no employees. These small manufacturers generally service the bespoke furniture and repair markets or the top-end designer furniture market[16].

Technological changes in the sector involve automation and the computerisation of tasks such as rolling and cutting. Technologies such as computer-aided design (CAD) and the use of computed numerically controlled (CNC) machine tools have reduced labour inputs and improved input utilisation and reduced waste. Metalworkers cut or form parts with computer-controlled saws, lasers, shears and presses. This trend toward computerisation has increased the minimum skill level required for workers entering the industry, as many employees now require advanced computer skills to program and maintain the equipment. This feedback was also raised during industry consultations as an issue for the entire Furnishing Industry.

### Mattress Manufacturing[17]

Mattress manufacturers produce a range of sleeping products such as mattresses, pillows and cushions (except those made of rubber), for households, hospitals, hotel and motel accommodation. During 2016-17, there were 65 mattress manufacturing businesses in Australia. This represents a decrease in the number of businesses of nearly 25% from 84 in 2007-08 and a decline in employment over the same period of nearly 15%. This sector has a projected annual revenue growth for the 2017-22 period of 1.5%. Much of this growth is related to the export of products in this category into the Asian market as they are considered a 'health' product and highly valued in regions where locally made products are not deemed to be safe. This group of manufacturers is characterised by several large-scale manufacturers competing with established privately owned and operated smaller manufacturers. Victoria hosts nearly half of the enterprises reflecting access to comparable light manufacturing, a qualified workforce and material inputs.

This sector performance is aligned to the residential building market however; increased demand from tourism and healthcare markets is expected to support moderate growth in some pockets.

### Glass and Glazing

The glass and glass product manufacturing sector comprises two key segments: the glass container segment and the flat glass segment, with an estimated 665 enterprises employing 9,000 people in 2017-18, and over 90% of those businesses employing fewer than 20 people. This includes about 300 non-employing enterprises, which are mainly small-scale fabricators that supply glass products for local residential building applications[18].

Domestic demand for flat-glass products is projected to strengthen over the next five years from 2017 to 2022 due to strong trends in building investment, along with increased production capacity for eco-friendly glass products, and the tightening of building regulations requiring smart-glass products[19]. The building market represents about 65% of the sector, which is made up of downstream building product manufacturers, (nearly 25 %); non-residential construction contractors and developers (over 15%);

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[16] *Ibid.*

[17] IBISWorld, *C513 Mattress Manufacturing in Australia Industry Report* (January 2017)

[18] IBISWorld, *C2010 Glass and Glass Product Manufacturing in Australia Industry Report,* (October 2017)

[19] *Ibid.*

glazing contractors (nearly 10%); residential building contractors and households (nearly 10%)[20]. The highly fragmented providers of glazing services are experiencing mixed demand ranging from lower demand for installation in traditional single unit housing to higher demand from multi-unit apartment sites.

The performance of aluminium door and window manufacturers is aligned with domestic building construction activity with trends in Green Star and National Australian Built Environment Rating System (NABERS) rated buildings influencing many property developers to select aluminium windows and doors as aluminium is recyclable and exhibits energy efficient qualities. Businesses continue to focus on improving operating efficiencies by increasing capital intensity to achieve higher productivity but this is expected to plateau as benefits are realised. Mergers are also becoming commonplace as businesses look for economies of scale to enhance competitiveness. Businesses are spread across Australia largely in alignment with the national population distribution which allows proximity to downstream markets associated with construction activity. Manufacturing is relatively simple with extrusion presses, powder coating and anodising facilities forming the key assets[21].

*Figure 4 - Glass and glazing products and services segmentation (2016-17)*
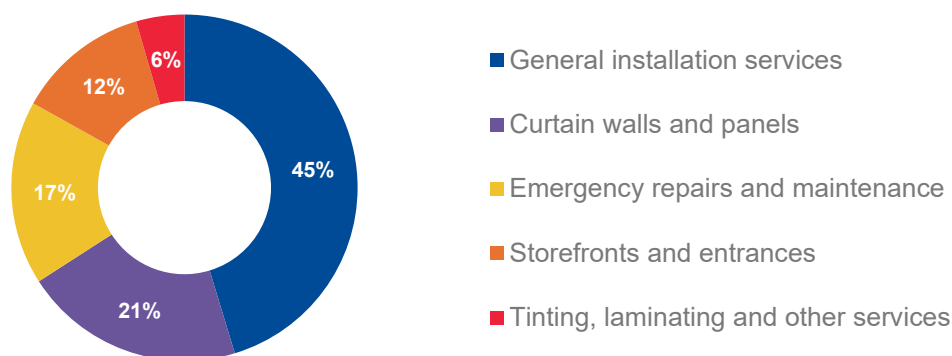


Source: IBISWorld E3245 Glazing Services in Australia Industry Report (Feb 2017)

Glaziers are required to meet standards established under the Building Code of Australia (BCA) and guidelines relating to glass installation and other structural safety requirements. Technology and globalisation have had minimal impact on this sector.

## *Picture Framing*

The traditional small picture framing business is declining in favour of larger groups with multiple outlets, but the numbers of employees in this industry sub-sector are expected to remain static in the short-term. This is largely due to increased establishment and operational costs and increased competition at the low-cost end from large retail chains.

Increases in disposable income combined with growth in new housing and renovations are influencing this sector's performance. The trend towards private printing and art being seen as a fashion item which can be used to update décor is creating demand for specialised skills and knowledge in customised and archival framing and conservation.

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[20] IBISWorld, *C2010 Glass and Glass Product Manufacturing in Australia Industry Report,* (October 2017)

[21] IBISWorld, *C2223 Aluminium Door and Window Manufacturing in Australia Industry Report,* (Sept 2017)

## *Blinds, Awnings, Security Screens and Grilles*[22]

The Blinds, Awnings, Security Screens and Grilles sector is diverse and includes manufacturers, retailers, suppliers, installers and maintenance of internal and external window coverings such as interior blinds, exterior awnings, shutters, grilles and shade sails. Manufacturing in the industry is characterised by small and medium sized  businesses which provide customised and made-to-measure products requiring a range of skills including fabrication, installation and customer service.

Customer service and installation are dominated by several large businesses and feedback in recent industry consultations indicate a growing chasm between retailing and manufacturing. Combined manufacturing and installation businesses are becoming   less common in favour of specialised manufacturers and retail oriented installation and maintenance businesses offering tailored customer service solutions. The removal of tariffs and the increase in low-cost imports place pressure on the sector to seek efficiencies and differentiate through service delivery and aftermarket care.

## *Design*[23]

In recent years there has been a steady and healthy growth in the design-led manufacturing sector where Australian designers are integrating design and sales through market partnerships with manufacturers[24]. The Australian market now includes a number of diverse models in which designers, manufacturers and retailers come together to form a product chain that supports local design and business. Creativity is becoming increasingly important in the highly competitive furniture industry with growing numbers of businesses providing a one-stop-shop by controlling the entire production process from design, development, manufacturing and engineering[25]. Compliance with Australian Standards and regulatory requirements has also influenced this trend.

Interior Designers are increasingly moving towards using 3D modelling software in preference to 2D modelling software. Both Industrial and Interior Designers use project management at a number of levels of software complexity, with some using the full integration of project scheduling and others simply the planning of project tasks as a stand-alone activity. Textile designers are trending away from the common graphic programs to two-dimensional illustration tools.

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[22] IBSA *Case for Change, Blinds, Awnings Security Screens and Grills,* November 2017

[23] Designer Industry Association, 2016, *CAD, Project Management and Accounting Software Use* (with permission)

[24] *<https://www.australia.gov.au/about-australia/australian-story/austn-design>*

[25] *Ibid.*

## Key Industry Stakeholders

The following organisations represent sectors of the Australian Furnishing Industry.

**Australasian Piano Tuners and Technicians Association (APTTA), National**

**Australian Furniture Association (also known as The Australasian Furnishing Association)** – represents businesses in the furniture sector supply chain.

**Australian Glass and Glazing Association** - represents state association members and individual companies covering glass manufacturers, processors, merchants, glaziers and suppliers of supporting machinery, services and materials.

**Australian Timber Flooring Association** - represents contractors, manufacturers and suppliers to the timber floors and the timber flooring industry throughout Australia and New Zealand.

**Australian Window Association** – represents window manufacturers and industry suppliers throughout Australia.

**Australia Woodworking Industry Suppliers Association**- represents woodworking machinery and cabinet makers.

**Blind Manufacturers' Association of Australia** – represents the manufacturers of blinds, awnings and shutters as well as component suppliers throughout Australia**.**

**Cabinet Makers and Designers Association (Victoria)** – represents designers, cabinet makers and installers of all forms of cabinetry for the built environment including kitchens, bathrooms, built-in and free-standing furniture in both residential and commercial developments.

**Design Institute of Australia** - represents design disciplines including interior, industrial, graphic, exhibition, fashion and textiles, and design education and management.

**Furnishing Industry Association of Australia** – represents the furnishing, cabinetmaking and joinery industries.

**Kitchen and Bathroom Designers Institute** – represents kitchen and bathroom designers.

**National Security Screens and Grilles Association** – represent business manufacturing security screens and grilles.

**Piano Tuners and Technicians Guild (of Queensland (PTTG Qld)), (of Victoria (PTTG Vic)),**

**Picture Framers Guild of Australia** - an industry association which includes framers, suppliers and associates of the picture framing industry.

**Queensland Interior Decorators Association –** represents interior decorators and designers, design students and industry associates.

**Specialised Textiles Association** - represents the manufacturers of blinds, awnings and shutters as well as component suppliers throughout.

**Western Australia Furniture Manufacturers Association** - representing Western Australian owned and operated furniture manufacturers.

**Window and Door Industry Council** - a service organisation for timber window and door manufacturers supplying products to the building and construction industry.

# Training Snapshot

## *Learner Training Profile*

Enrolments in Certificate III qualifications, which are largely linked to trades, remain the most popular with Total Vocational Education and Training (VET) Activity steadily increasing over the 2014-16 period, see Figure 5. Total VET Activity Certificate I enrolments declined steadily between 2014 and 2016.

Furnishing Industry feedback is that full Certificate IV and higher qualifications in areas other than Interior Design are not generally sought after but there is growing interest in targeted, robust training in areas such as Computer Aided Design (CAD), design principles and emerging opportunities offered 3D Printing for short run manufacturing. Of the four current MSF Furnishing Diploma and Advanced Diploma qualifications, only the interior design qualifications have significant numbers of enrolments (nearly 5,000 and nearly 400 Total VET Activity enrolments in 2016 respectively).

No enrolments have been reported in the Diploma of Furnishing Technology and very low in the Diploma of Furniture Design and Technology since at least 2011.

For some highly specialised sectors with low employment numbers such as piano tuning and instrument making, industry advice is that training in niche skills is sought after in favour of full qualifications.

*Figure 5 - Program enrolments by qualification level in MSF Furnishing qualifications, 2014 - 2016 Total VET Activity.*
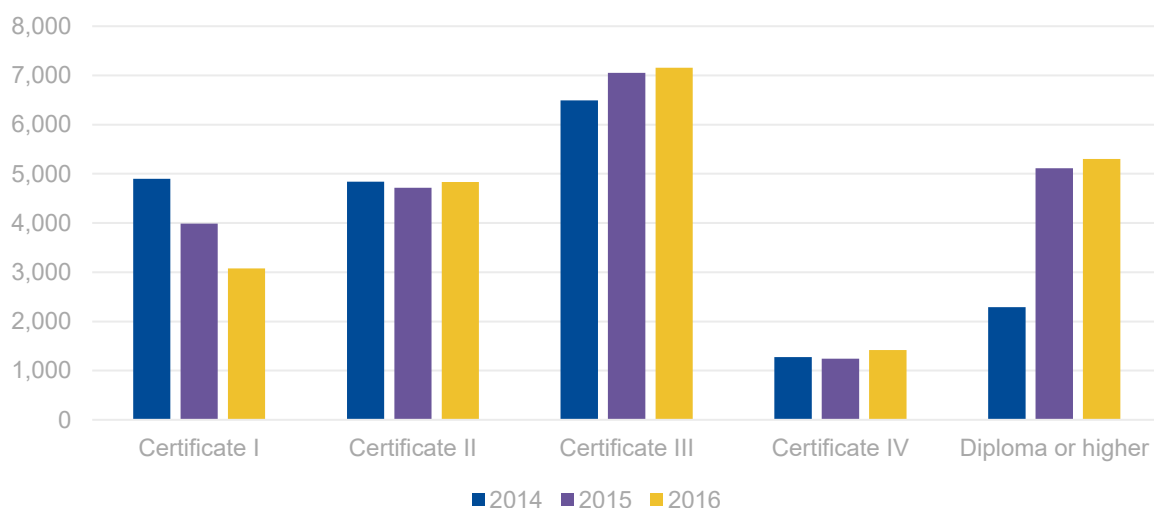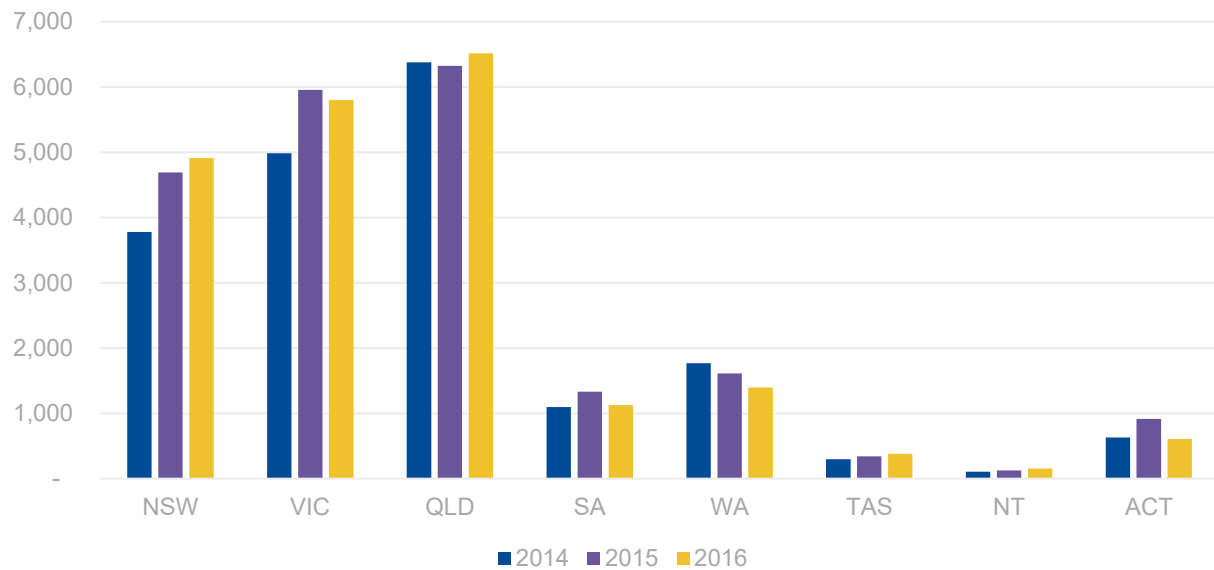


*Source: VOCSTATS <https://www.ncver.edu.au/data/data/vocstats/vocstats>, Government Funded extracted 18/9/2017, Total VET Activity extracted 20/9/2017*

The geographic distribution of enrolments in MSF Furnishing qualifications is largely consistent with the geographic spread of furnishing businesses around Australia, which are predominantly located on the east coast.

Government funded enrolments showed an overall decline over the 2011-16 period with all three of the largest states and Tasmania experiencing a decline in government funded enrolments. It should be noted that Total VET enrolments increased between 2014 and 2016. Overall SA experienced minor growth in Total VET enrolments. The growth in total VET enrolments can be attributed to increase in privately funded MSF Furnishing enrolments over the 2014-16 period. In 2016 privately funded enrolments accounted for 55% of total enrolments.

*Figure 6 - Program enrolments in MSF Furnishing qualifications by State/Territory of student residence, 2014 - 2016 Total VET Activity*



*Source: VOCSTATS <https://www.ncver.edu.au/data/data/vocstats/vocstats>, Government Funded extracted 18/9/2017, Total VET Activity extracted 20/9/2017*

*Figure 6a - Program enrolments in MSF Furnishing qualifications by State/Territory of student residence, 2014 - 2016 Government Funded*
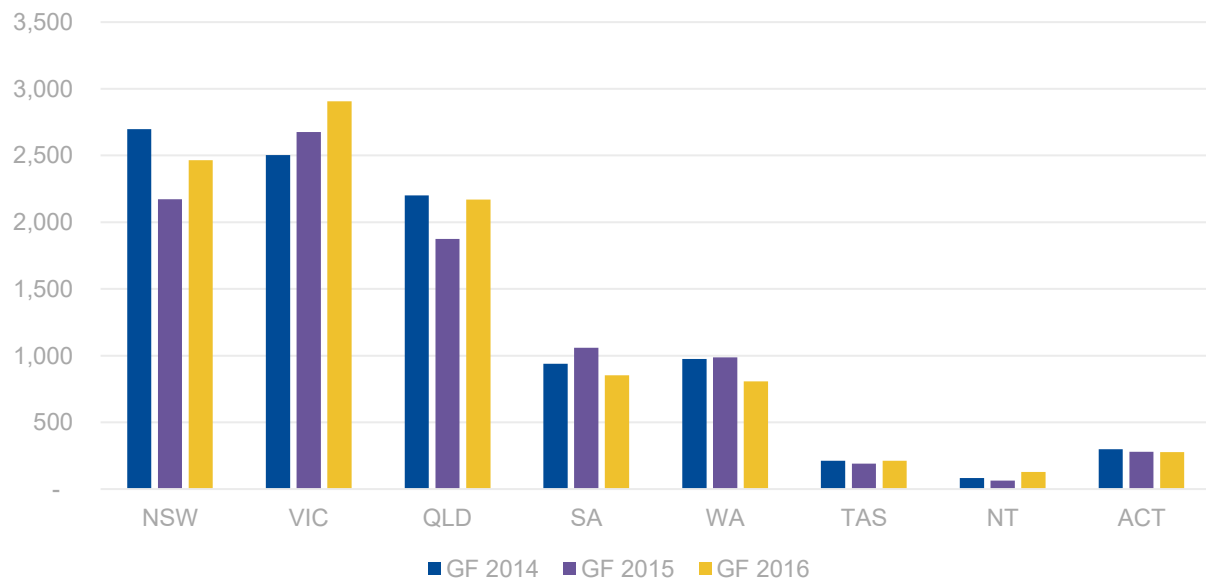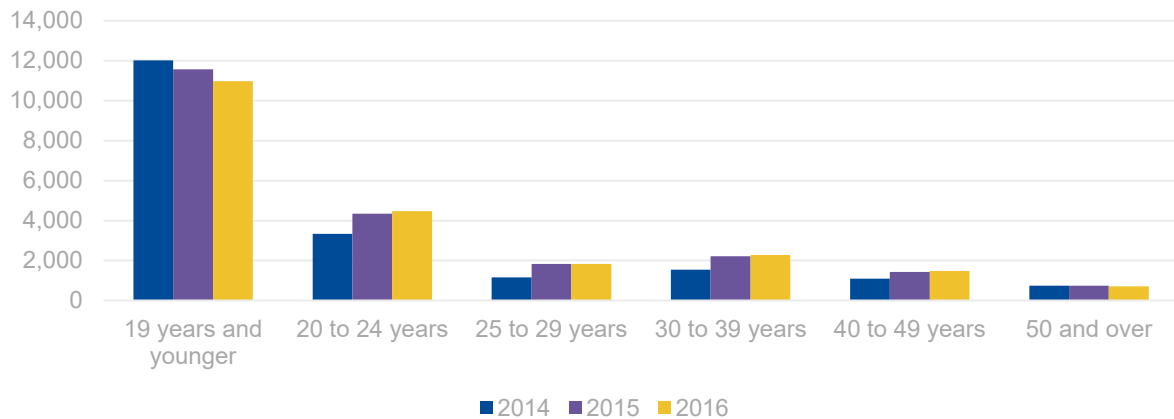


*Source: VOCSTATS <https://www.ncver.edu.au/data/data/vocstats/vocstats>, Government Funded extracted 18/9/2017, Total VET Activity extracted 20/9/2017*

The majority (over 70%) of Total VET Activity for 2016 enrolments are for those aged 24 and younger, who are strongly associated with school leavers, entry level work and trades. Less than 5% of those

engaged in accredited training in MSF Furnishing qualifications in 2016 were aged 50 years and over[26]. Industry feedback suggests that much upskilling happens on the job and that skill sets may provide a means of more formally upskilling existing experienced workers in new technologies.

*Figure 7 - Program enrolments in MSF Furnishing qualifications by Age Group, 2014 - 2016 Total VET Activity*



*Source: VOCSTATS <https://www.ncver.edu.au/data/data/vocstats/vocstats>, Government Funded extracted 18/9/2017, Total VET Activity extracted 20/9/2017*

While the majority of enrolments are males, Figure 8 shows the number of females enrolled in MSF Furnishing qualifications has increased over the 2014-16 period and the number of males has decreased slightly. Females make up over 30% of Total VET Activity enrolments in Furnishing qualifications in 2016.[27]and dominate in some areas, such as Interior Decoration and Design.

*Figure 8 - Program enrolments in MSF Furnishing qualifications by Sex, 2014 - 2016 Total VET Activity*
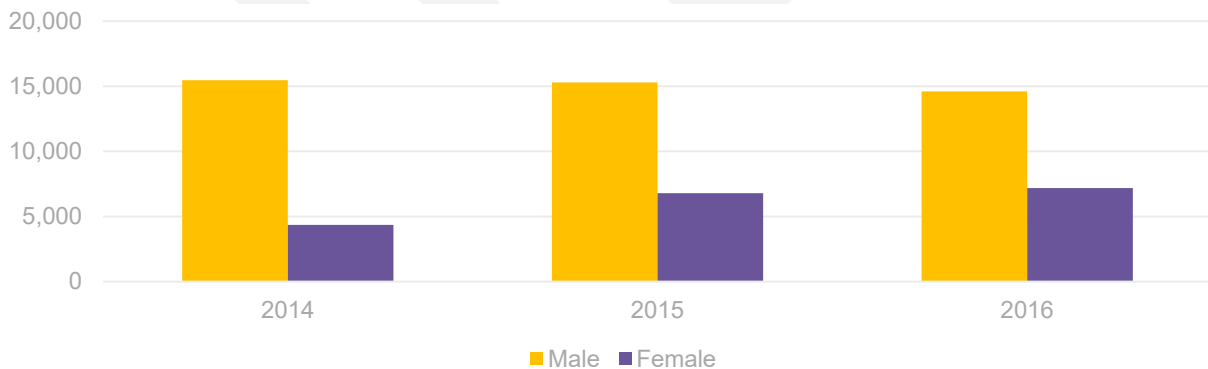


*Source: VOCSTATS <https://www.ncver.edu.au/data/data/vocstats/vocstats>, Government Funded extracted 18/9/2017, Total VET Activity extracted 20/9/2017*

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[26] VOCSTATS *<https://www.ncver.edu.au/data/data/vocstats/vocstats>,* Government Funded extracted 18/9/2017, Total VET Activity extracted 20/9/2017

[27]VOCSTATS *<https://www.ncver.edu.au/data/data/vocstats/vocstats>*, Government Funded extracted 18/9/2017, Total VET Activity extracted 20/9/2017

## *Qualifications Available*

The current **MSF Furnishing qualifications** are:

MSF60113 Advanced Diploma of Interior Design

MSF10113 Certificate I in Furnishing

MSF20113 Certificate II in Furnishing

MSF20213 Certificate II in Furniture Finishing

MSF20313 Certificate II in Furniture Making

MSF20516 Certificate II in Furniture Making Pathways

MSF20413 Certificate II in Glass and Glazing

MSF30913 Certificate III in Blinds, Awnings, Security Screens and Grilles

MSF31113 Certificate III in Cabinet Making

MSF30813 Certificate III in Flooring Technology

MSF30113 Certificate III in Furniture Finishing

MSF30213 Certificate III in Furniture Making

MSF30413 Certificate III in Glass and Glazing

MSF31013 Certificate III in Interior Decoration Retail Services

MSF31213 Certificate III in Piano Technology

MSF30513 Certificate III in Picture Framing

MSF30613 Certificate III in Soft Furnishing

MSF30313 Certificate III in Timber and Composites Machining

MSF30713 Certificate III in Upholstery

MSF40313 Certificate IV in Design of Kitchens, Bathrooms and Interior Spaces

MSF40213 Certificate IV in Furniture Design and Technology

MSF40413 Certificate IV in Glass and Glazing

MSF40113 Certificate IV in Interior Decoration

MSF50313 Diploma of Furniture Design and Technology

MSF50213 Diploma of Interior Design and Decoration

MSF50113 Diploma of Stained Glass and Leadlighting.


The current **MSF Furnishing Skill Sets** are:

MSFSS00001 Piano Tuning Skill Set

MSFSS00002 Insulating Glass Unit Manufacturing Skill Set

MSFSS00003 Insulating Glass Unit Fabricator/Installer Skill Set

MSFSS00004 Kitchen and Bathroom Installer License

MSFSS00005 Fitted Furniture Installer

MSFSS00006 Fitted Furniture Estimator

MSFSS00007 Furniture Products Compliance.

Training Package components undergo regular revisions in response to industry demand. Recent industry discussions indicate that 'on-shoring' in some sectors, for example coopering, is driving demand for skilled tradespeople. These qualifications were removed from the Training Package five years ago due to lack of demand but these skills are now experiencing some resurgence.

## Qualification Uptake

Table 1 shows the MSF Furnishing qualifications with the highest enrolments between 2014 and 2016.

The Certificate I in Furnishing and the Certificate II in Furniture Making are pathway programs and are also offered through the VET in Schools Programs. Government Funded enrolments in the Certificate III in Cabinet Making make up over half the Government Funded enrolments in this Training Package and over 90% of the Total VET Activity for that qualification. The Diploma of Interior Design and Decoration is the fourth most popular qualification, with over 75% of enrolments privately funded.

Completions in the Certificate III in Cabinet Making have declined significantly over the period, while completions in the Diploma of Interior Design and Decoration have remained static.

*Table 1 - MSF Furnishing qualifications with the highest enrolments for the period 2014-2016 and Government Funded enrolment and completions 2011-16*

| Qualification Code and Title | Government Funded Enrolments (2014-2016) | Total VET Activity Enrolments (2014-16) | % of Total VET Enrolments that are Government Funded (2014-16) | Enrolments Government Funded (2014-16) | Completions Government Funded (2014-15) |
|---|---|---|---|---|---|
| MSF20313 Certificate II in Furniture Making | 4,511 | 13,901 | 32.5% | 2014 = 1,557 2015 = 1,384 2016 = 1,570 | 2014 = 440 2015 = 335 |
| MSF31113 Certificate III in Cabinet Making | 11,887 | 12,968 | 91.7% | 2014 = 3,714 2015 = 3,915 2016 = 4,258 | 2014 = 745 2015 = 632 |
| MSF10113 Certificate I in Furnishing | 830 | 11,963 | 6.9% | 2014 = 385 2015 = 201 2016 = 244 | 2014 = 146 2015 = 160 |
| MSF50213 Diploma of Interior Design and Decoration | 2,594 | 11,486 | 22.6% | 2014 = 1,019 2015 = 815 2016 = 760 | 2014 = 276 2015 = 272 |

*Source: VOCSTATS <https://www.ncver.edu.au/data/data/vocstats/vocstats>, Government Funded extracted 18/9/2017, Total VET Activity extracted 20/9/2017. Totals include predecessor qualification enrolments eg. the data for MSF20313 Certificate II in Furniture Making also includes the predecessor Certificate II in Furniture Making qualifications LMF 20302 and LMF20309 enrolments.*

*Qualifications have been linked over time so that enrolments in successor and predecessor qualifications are aggregated. Note that enrolments are not unique occurrences but completions are.*
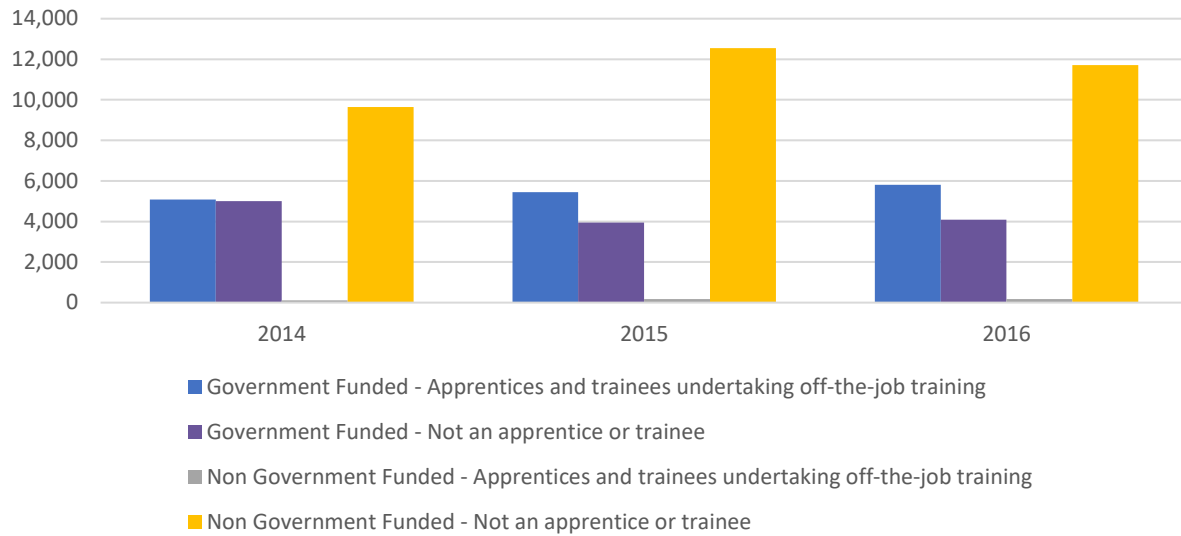
A number of qualifications have had no or low enrolments in recent years. Table 2 indicates the actions that have or are being taken in response.

*Table 2 - MSF Furnishing Qualifications (linked) with the lowest enrolments over time*

| Qualification Code and Title | Activity |
| --- | --- |
| MSF20413 Certificate II in Glass and Glazing | Will be reviewed with entry level qualifications |
| MSF30513 Cert III in Picture Framing | Revised under current activity order |
| MSF30613 Certificate III in Soft Furnishing | Will be reviewed with low enrolment furnishing qualifications |
| MSF30913 Certificate III in Blinds, Awning, Security Screens and Grilles | Review approved under new activity order |
| MSF31213 Certificate III in Piano Technology | Currently in discussions with industry representatives regarding the need for this qualification |
| MSF31313 Certificate III in Kitchens and Bathrooms – Retails Services | Proposed for deletion under current activity order |
| MSF40413 Certificate IV in Glass and Glazing | Revised under current activity order |
| MSF50113 Diploma of Stained Glass and Leadlighting | Proposed to be redeveloped to Diploma of Glass and Glazing, see Proposed Schedule of Work |

Nearly all apprenticeship and traineeship enrolments over the period 2014-2016 were government funded. Government funded apprenticeship and traineeship enrolments increased by nearly 15% between 2014 and 2016, in line with the increases in Total VET apprenticeship and traineeship enrolments. Apprenticeship and Traineeship enrolments accounted for over 50% of all government funded Furnishing enrolments over 2014-2016 and nearly 30% Total VET enrolments, suggesting employers are investing in training to meet their skill needs that is not currently government funded. Government funded non-apprenticeship/traineeship enrolments declined by nearly 20% between 2014 and 2016 while Total VET non-apprenticeship/traineeship enrolments increased by nearly 10%.

*Figure 9 - Program enrolments in MSF Furnishing qualifications by Funding and Apprentice/Trainee status 2014 - 2016 Total VET Activity program enrolments*



- ■ Government Funded - Apprentices and trainees undertaking off-the-job training
- ■ Government Funded - Not an apprentice or trainee
- ■ Non Government Funded - Apprentices and trainees undertaking off-the-job training
- ■ Non Government Funded - Not an apprentice or trainee

*Source: VOCSTATS <https://www.ncver.edu.au/data/data/vocstats/vocstats>, Government Funded extracted 18/9/2017, Total VET Activity extracted 20/9/2017*

Figure 10 shows a decline in apprentice and trainee commencements in the Furnishing qualifications since a peak of nearly 3,000 in 2015. While the numbers of apprentices and trainees in-training have increased since 2014, completions have shown a slight decline recently. The Certificate III in Cabinet Making has the highest proportion (over 65%) of enrolments by apprentices and trainees in training, followed by the Certificate III in Glass and Glazing with over 15%.

*Figure 10 - Apprentice and Trainee Commencements, Completions and In-Training 2013-17 LMF and MSF Furnishing*
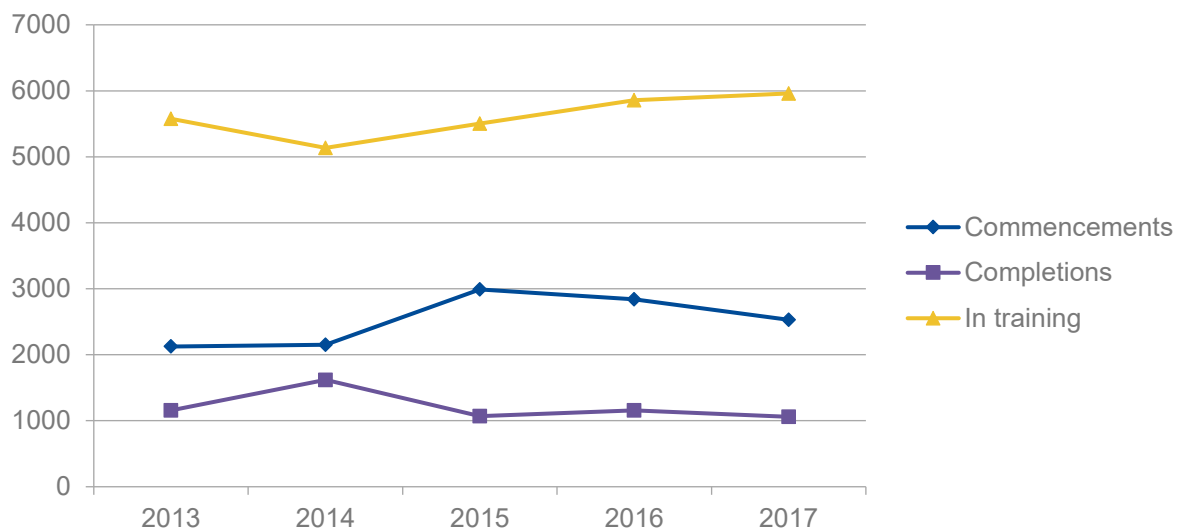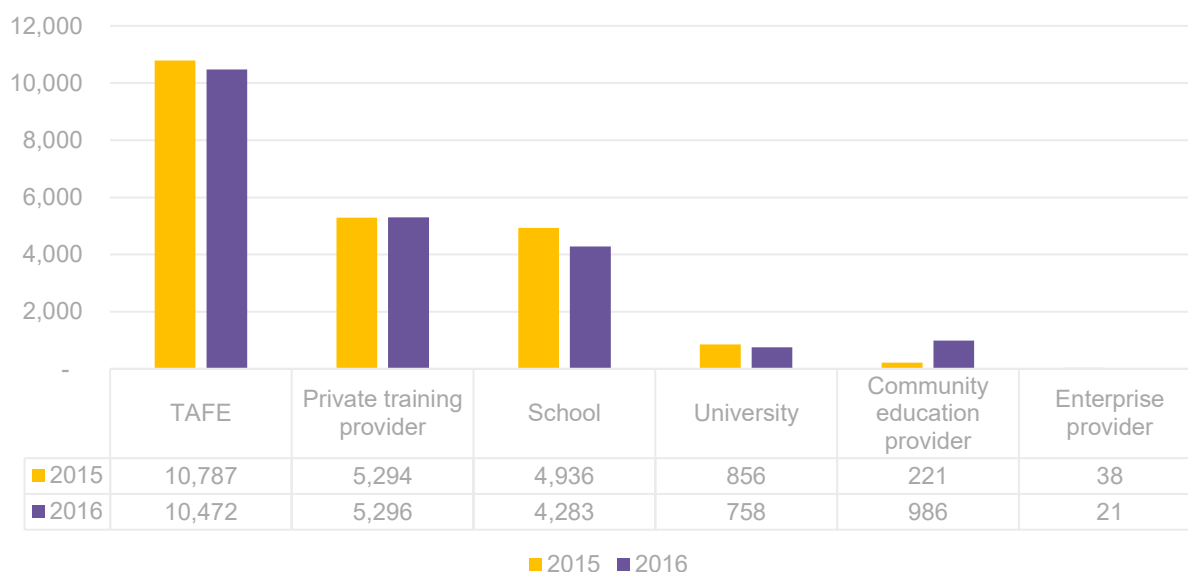


*Source: NCVER 2017, Australian vocational education and training statistics: Data slicer: Apprentices and trainees, June 2017, NCVER, Adelaide.*

## *Training Delivery*

During 2015-16, TAFE provided nearly 70% of all training in the MSF Furnishing qualifications, followed by Private Registered Training Organisations (RTOs) which offered nearly 20%. Enterprise RTOs had only 0.3% of furnishing enrolments largely explained by the large number of small and often non-employing businesses. Furnishing qualifications are a popular VET in Schools offering and along with Community based enrolments provide valuable pathways for new entrants to the Furnishing Industry.

*Figure 11 - Program enrolments in MSF Furnishing qualifications by Training Organisation type 2015 - 2016 Total VET Activity*

|  | TAFE | Private training provider | School | University | Community education provider | Enterprise provider |
|---|---|---|---|---|---|---|
| 2015 | 10,787 | 5,294 | 4,936 | 856 | 221 | 38 |
| 2016 | 10,472 | 5,296 | 4,283 | 758 | 986 | 21 |

■2015  ■2016

*Source: VOCSTATS <https://www.ncver.edu.au/data/data/vocstats/vocstats>, Government Funded extracted 18/9/2017, Total VET Activity extracted 20/9/2017*

Thin markets for some furnishing qualifications make viability a perennial concern for the Furnishing Industry and RTOs. This problem is particularly exacerbated in jurisdictions where the industry is smaller. Some of these qualifications are also currently not readily adopted for entry level jobs by the industry sector such as Picture Framing and Blinds, Awnings, Shutters and Grilles. Industry feedback has provided a variety of reasons for these low enrolments including a lack of:

- awareness by these sectors of the vocational qualifications available
- Registered Training Organisations with the qualifications on scope in their jurisdiction
- access to suitable delivery arrangements that meet industry needs
- access to funding.

The small size of many of the businesses in the furnishings sector is also a factor. Despite this, a number of these sub-sectors are making concerted efforts to get their workforce better qualified by promoting vocational qualifications to provide entry pathways and improve career pathways for their existing workers by supporting Recognition of Prior Learning for their workers.

In some cases, it is a jurisdictional matter, such as in Western Australia where Cabinet Making new apprentice commencements dropped from 270 in 2011[28] to 105 in 2017 and other furniture trades had negligible intakes in 2015 and 2017[29]. The downward trend in Cabinet Makers started in 2016 when the new apprentice intake dropped to nearly 60% of the 2015 intake and continued to decline in 2017, with a further drop to over 80% of the already low 2016 intake. The 2017 intake was just over 50% of the 2015 intake. The other furniture trades almost ceased delivery after training was transferred to the Eastern States[30].

The merging of thin market qualifications into more popular qualifications and an increase in flexibility in packaging rules have been suggested as strategies to meet workforce demand in niche skill areas and enables RTOs to improve viability by aggregating students into bigger cohorts. While this may address some issues, it is unlikely to address the lack of experienced trainers in these niche skill areas or the loss of 'identity of the specialisation when merged into bigger more popular qualifications' which have been raised by industry as concerns.

## Challenges and Opportunities

### For Industry and Employers

### Supply side challenges and opportunities

### Digitisation

The digitalisation of the economy offers great opportunities for Australia, making its traditional geographic distance from world markets less relevant. This is particularly the case with respect to Industry 4.0 and Internet of Things technologies that leverage new digital and machine learning techniques into the production process. This involves combining manufacturing machines with cloud services and Internet of Things sensors to create a 'smart factory'. One of the most exciting innovations is 3D printing, which allows goods to be produced anytime and anywhere[31]. Digitisation opportunities ranked highly in the Future Skills workshop discussions of the Furnishing IRC which were used to inform this Skills Forecast see **Appendix A.**

With an ageing workforce and a large number of non-employing businesses, the furniture industry is still largely digitally immature using basic technologies such as the internet and email and having a website as opposed to advanced stages of digital maturity where businesses not only digitise operations but combine digital technologies including mobile technologies to create digital assets and new business models.

Digitisation opportunities ranked highly in the Future Skills workshop discussions in terms of the potential opportunities and challenges for the Furnishing Industry to respond to change and readily embrace new ways to work.

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[28] Food, Fibre and Timber Industries Training Council (WA) Inc 2018 *Marketing Plan for Furniture Trades* (draft)

[29] *Ibid.*

[30] *Ibid.*

[31] 2017, Advanced Manufacturing Growth Centre, *Submission to innovation and Science Australia.*

## Competition and globalisation

Global competition continues to place pressure on the Furnishing Industry and is leading to changes in both the number of businesses and their operations. Examples include, furniture manufacturers in China no longer focusing on cheap furniture products but also producing a full range of products through to and including high value furniture. This is driving some rationalising of local manufacturers and off shoring[32].

Globalisation also provides access to a global supplier base producing better quality products than were available in the past, as well as access to a wider customer base which is in turn creating opportunities to increase production and reduce operating costs.

## Sophisticated and Empowered Consumers

Customers are showing less brand loyalty and more detailed product knowledge and are seeking more choice and personalised experiences starting with online channels. Ethical sourcing, sustainable design and sustainable living are featuring prominently in the customers' decision making and desire for a unique customer experience.

In the post-production phase of manufacturing, industry contributes value-adding services that support or complement products and foster long-term customer relationships. This shift to offering manufacturing 'as a service' involves focusing on customer needs, potentially by selling a capability, process, component or solution rather than merely a finished item[33]. This trend is evident in the content of websites as well as in the showroom, where virtual reality experiences offer customers a one stop personalised experience.

Skills in customer service, sales and aftermarket care differentiate manufacturers in the market place and provide a means to engage and build customer relationships. Contemporary businesses are investing in better understanding their current and potential customers behaviours through the use of data analytics.

## Automation and Technology

Automation is changing the work of employees involved in overseeing the manufacturing process. Industry consultations indicate that these workers are becoming less and less capable of solving problems as the processes they are overseeing are automated, while on the other hand the nature of their changing work also involves increased complexity and greater levels of responsibility, driving the need for a new mix of skills. Industry consultations summarised these changes as involving an upskilling of some workers and a deskilling of other workers as a result of automation. Technology is also being used to solve problems, streamline processes and deliver superior customer experiences.

In some businesses the true benefits of automation are not being realised due to a lack of skills in workers who traditionally learn on the job as required. Skills in technical drawing and Computer Aided Design (CAD) and Computer Numeric Control (CNC) programming are highly sought after and enable tradespeople to upskill to meet industry requirements. This trend toward higher usage of technology has increased the minimum skill level required for workers entering the industry, as many employers are now seeking advanced computer skills to program, maintain and operate the equipment.

Technology advancements in new materials and componentry and the swift uptake in fashion trends continue to provide opportunities for the furniture industry. Smart kitchens offer a seamless system using motion sensors and automation controlled from a smartphone or tablet.

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[32] Furnishing Industry Association of Australia, *Australia China Free Trade Agreement Paper*
[33] 2017, Advanced Manufacturing Growth Centre, *Submission to innovation and Science Australia.*

Growth in pre-fabricated 'POD' systems for bathrooms and kitchens is creating a need for different skill sets to those required for kitchens/bathrooms built in confined spaces including services connection requirements, CAD measurements and installation.

Recent examples of new materials being used in the Furnishing Industry include concrete benchtops, motorised furniture, carbon fibre materials and extra-low voltage electricals.

## Regulatory Obligations

Manufacturing is impacted by both legislation such as the Competition and Consumer Act and standards that ensure products, services and systems are safe and reliable. Industry consultations indicate that some importers do not realise that the following categories of manufacturing legislation and standards apply to them equally:

> Measurement standards - Businesses that sell products based on measure (weight, volume, length or area) or count (number of items) need to ensure the accuracy of their measurement systems[34]

> Product safety standards - Manufacturers of consumer goods must comply with mandatory product safety standards to legally sell those goods in Australia. Mandatory information standards may also apply, particularly if the labelling is important for consumer safety[35].

The Australian Government is committed to combating the trade of illegally logged timber, which it describes as 'the most significant (by value) environmental crime in the world'.[36] Combined with strong consumer preferences for ethical sourcing to reduce the social and environmental costs (greenhouse gas emissions, wasted resources, loss of ecosystems, and impact on local communities), furniture makers and retailers are under mounting pressure to act within the regulations. KMPG recently conducted an Independent Review, commissioned by the Department of Agriculture, to investigate the impact of the Illegal Logging Prohibition Regulation 2012 (the Regulations) on small business (the Review). Despite being the largest cohort by number, micro businesses imported the least in terms of value (at $344 million) as compared with other business sizes, with furniture imports accounting for over half of this value[37]. Furniture product imports ($332 million) accounted for the largest share by value of small business imports, echoing micro business. Nearly 15% of all businesses interviewed have limited, if any familiarity with the Regulations, and are yet to undertake any due diligence activities, with predictions that over 75% would have failed an audit.

Licensing varies across Australia which poses challenges for business operating and seeking to operate nationally and can be a barrier to entrants.

Sustainable manufacturing processes and the use of sustainable products and product provenance is growing in importance as governments and customers become more environmentally aware and accountable.

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[34] <https://www.business.gov.au/info/plan-and-start/develop-your-business-plans/industry-research/manufacturing-industry-fact-sheet>

[35] Ibid.

[36] Senator Richard Colbeck (undated), 'Our plan to combat illegal logging' Accessed 10 March 2015 at <http://www.richardcolbeck.com.au/home_page_sub_articles/our_plan_to_combat_illegal_logging>

[37] KPMG,2015, Independent Review Impact of the Impact of the Illegal Logging Regulations on Small Business for the Department of Agriculture

Training has a significant role to play in increasing awareness of regulations and compliance for the Furnishing Industry.

## *For Learners and Training Package development*

Opportunities are limited for those trying to enter the workforce due to the prevalence of small and medium sized businesses in the Furnishing Industry which are:

- generally reluctant to take on apprentices and trainees because of the difficulties in managing workloads and pressures during the apprentices 'off the job' training
- time poor when it comes to all of the paperwork
- challenged in accessing suitable quality training
- not confident about their ability to offer meaningful workplace based learning experiences.

Popular qualifications are currently oversubscribed, eg. the Diploma of Interior Design produces a surplus of graduates with limited job prospects at the expense of less popular and less glamorous qualifications which offer meaningful work opportunities. Graduates from these popular qualifications often take jobs requiring a lower skill base which they could have secured with a lower level qualification, resulting in disenfranchisement with training.

Qualifications are being challenged to meet the needs of the variable and changing needs that exist in workplaces offering similar services. An example is that not all glazing service workplaces need to 'move glass by mechanical means' but it is a core unit in the qualification.

Varying funding models between jurisdictions make accessing training complex for businesses operating nationally and for those in thin markets where viability is critical to the training provider to ensure they can provide quality trainers and resources. Disparities also exist in terms of which courses are government funded and the gender mix of the students enrolling.

Consultation feedback indicated that the Furnishing Training Package is largely based on traditional jobs being undertaken in traditional workplaces being delivered by skilled, experienced trainers. A more contemporary approach to skill development is required to attract and retain young people into the new jobs in the Furnishing Industry and upskill existing, experienced workers who are often business owners.

## *Cross industry challenges and opportunities*

### Construction

The performance of the Furnishing Industry is closely aligned to the Construction Industry. The Housing Industry Association (HIA) forecasts a decline of over 25% in new dwelling starts which is equivalent to a reduction of nearly 60,000 in terms of volume[38]. The HIA is forecasting declines in renovations for 2018 before growth resumes in 2019 and continues beyond that in response to ageing house stocks[39]. Kitchen renovations and maintenance are the largest component of renovations work[40] and featured as an area of importance during industry consultations.

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[38] *<https://hia.com.au/-/media/HIA-Website/Files/IndustryBusiness/Economic/fact-sheet/homebuilding-downturn---October-2017.ashx?la=en&hash=8237466F9F30D0C2E7FC996BD3A43FE212BD09D2>*

[39] *<https://hia.com.au/-/media/HIA-Website/Files/IndustryBusiness/Economic/publications/Extract_Renos_Dec17.ashx?la=en&hash=8E0C29F572DBB2A50EEEE36869416136B07C5507>*

[40] *Ibid.*

## Building Technology [41]

Increased costs and reduced availability of onsite labour is pushing builders to use offsite manufacturing to contain costs and shorten build time. Changes in building systems offered by advancements in offsite production machining are delivering gains but require workers with new skill sets. As timber is easy to machine, it features strongly in the current architecture and design trend to use Building Information Modelling and other 3D design technologies.

The new timber-plus-tech approach allows project managers who previously assigned small work packages to multiple trades, to streamline construction projects from design through to installation. Design files can be sent to fabricators, who fine tune the conceptual design into a panelised model, so those digital files can be sent direct to CNC machining. This technology impacts on both design and manufacture of fitted furniture.

Sophisticated small housing design which addresses the needs of both an ageing population and the millennials is increasingly taking advantage of the benefits of offsite manufacturing to reduce onsite labour costs.

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[41] *Australasian Timber Magazine* August 2017.

# Employment and Skills Outlook

## Employment Outlook

Many non-production roles within the manufacturing process such as product design, materials engineering, purchasing and customer service are being outsourced and these workers are often accounted for in the services sector. Modelling by the Advanced Manufacturing Growth Centre (AMGC) indicates these workers could comprise an additional 340,000 people across the entire manufacturing sector[42]. For the Furnishing Industry, outsourcing is common place and allows for specialisation and enables efficiencies but also distorts employment data which may not reflect the entire workforce or skill base.

**Appendix B** illustrates the five largest Furnishing Industry occupational groups (over 15,000 workers) in the 2016 Census.

The following employment trends have been identified from the 2006, 2011 and 2016 census data for the five largest Furnishing Industry occupational groups (over 15,000 workers):

- increases in number of employed in three of the five occupations
- Architectural, Building and Surveying Technicians; Insulation and Home Improvement Installers; Other Miscellaneous Technicians and Trades Workers; and Interior Designers showed consistent increases in the number of workers over the ten-year period
- Product Assemblers showed consistent decreases in the number of workers over the ten-year period.

Between 2011 and 2016, the proportion of females employed in occupations in the Furnishing Industry increased marginally to about 52%[43] The proportion of females employed in some occupations including Fashion, Industrial and Jewellery Designers, Interior Designers and Sales Assistants (General) is over 60% but continues to be disproportionally low (under 3%) for the more traditional furnishing occupations including Floor Finishers, Glaziers and Cabinet Makers.

The Furnishing Industry during consultations reported significant challenges in attracting younger workers and managing an ageing workforce. The table in **Appendix C** provides census data since 2006 that supports this commentary for a number of key furnishing occupations, including three occupations with the largest number of furnishing workers shaded grey. Replacement demand is high for occupations with a relatively older workforce such as Upholsterers and Wood Machinists and Other Wood Trade Workers and this can have training implications with less experienced workers available to train and supervise apprentices and the training lag time not always factored in to avoid future skills shortages[44].

An industry survey conducted by the Western Australian Food, Fibre and Timber Industries Training Council (FFTIT) in late 2017 showed that employers have had difficulty filling job vacancies with skilled applicants in the past twelve months for the following occupations, wood machinists, cabinet makers, glaziers, floor finishers and upholsterers and expect this trend to continue for the next three years in all but the floor finisher occupations. Low apprentice numbers in recent years and a lack of suitable training were offered as explanations for the lack of applicants.

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[42] 2017, Advanced Manufacturing Growth Centre, *Submission to innovation and Science Australia*.

[43] <*https://auth.censusdata.abs.gov.au/webapi/jsf/login.xhtml*>

[44] Shah, C and Dixon, J 2018, *Future job openings for new entrants by industry and occupation*, NCVER, Adelaide.

Broader industry feedback during consultations indicates that employers face difficulties recruiting in specific occupations such as glaziers and picture framers and more generally people who are 'work ready' for the twenty first century.

## *Workforce Supply Challenges*

### Demography

An ageing workforce is leading to growing shortages in some skilled occupations and regions. A recent survey of the glazing industry showed that 85% of respondents indicated a critical skills shortage of skilled/qualified glaziers, which they expect to continue for the next five years. The survey findings indicate that employers face a lack of applicants or applicants with a lack of skills and experience[45]

As noted previously – the employment of women in many parts of the Furnishing Industry lags behind the employment levels of men. Furthermore, the industry consultations identified that the ageing business owner is often not 'tech savy', looking to retire and has no succession plan in place so businesses are closing. This is a loss to the industry and the workforce as these crafts skills are not passed on.

### Changing workplaces and cultures

Industry feedback indicates that employers in the furnishings sector are increasingly seeking enthusiastic people with sound STEM skills but applicants fall well below expectations. Young, keen starters quickly lose interest in traditional work and learning experiences, which is also evident in the poor completion rates for apprentices and trainees in some furnishing occupations. The proportion of low skilled jobs in manufacturing has decreased resulting in entry into the labour market becoming more difficult for those with no or low skills. Older workers sometimes lack the digital and technology skills required in modern workplaces which can also lead to some workplace tensions with younger more 'tech savy' workers.

Manufacturing has received significant negative press which the industry feels has made it unattractive as a career option despite the fact there are numerous jobs in the Furnishing Industry. Some furnishing sectors recognise they now need to compete for applicants with skills that meet their needs and view accredited training as a pathway to access suitable applicants who in the past were skilled through unaccredited often in-house training. In some sectors there appears to be a move to get existing workers with skills and experience are enrolling in formal qualifications and accessing RPL

Employer feedback reveals the main reasons for using nationally recognised training were to provide skills required for the job (nearly 50% reported this was a factor in their use of nationally recognised training), to meet legislative, regulatory and licensing requirements (over 30%), to meet and maintain professional or industry standards (over 25%), and for staff career development (over 25%). In contrast the main reasons for using unaccredited training which were to provide skills required for the job (over 50%), to meet and maintain professional or industry standards (over 30%) and to meet highly specific training needs (over 20%)[46].

By 2026, the AMGC estimates that Australia's manufacturing workforce will consist of an additional 47,000 high-skill jobs involving elite design or technical expertise, as well as 31,000 more sales and service workers. By contrast, it expects there will be 55,000 fewer manual or narrowly focused production

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[45] 2017, Australian Glass and Glazing Association, *industry Training and Skills Survey*.

[46] NCVER 2017, *Australian vocational education and training statistics: employers' use and views of the VET system 2017*, NCVER, Adelaide.

roles in the lower-skill bracket[47]. Consultations undertaken for this Forecast indicate this trend is likely to hold true in many sectors of the Furnishing Industry.

In terms of specific skill changes – the industry is changing from 'making' to 'assembling' which is leading to a greater demand for assemblers than fabricators. Vendors and the supply chain are also becoming more responsive to industry needs for training in operating and maintaining equipment.

Industry feedback gained through consultations suggests younger industry entrants place different values on work and seek different learning approaches, eg. use phones for their learning and research. The take up of new skills can be blocked by a person's willingness to undertake training as they don't see the benefits for their careers at that point in time. Employers are also becoming less willing to invest in training as their employees won't 'stay long enough' to get a return on investment.

Redeveloping the entry level and pathways qualifications to show the breadth of career options with an emphasis on technical skills and employability and soft STEM skills may better prepare students for the careers on offer in the furniture industry as well as other manufacturing sectors.

### Digital Literacy[48]

Basic digital literacy is of fundamental importance to the Furnishing Industry, yet some existing workers ack the necessary digital skills to adapt to changing technology in the workplace and require upskilling on new equipment used in manufacturing, hand held mobile devices to measure and quote, social media to market the business or cloud-based services.

## Skills Outlook

Furnishing Industry workplaces are changing with fewer traditional manufacturers and more specialisation of services across the supply chain. In the past, skilled tradesmen would measure, design, quote, manufacture and install. In a number of cases, these smaller operators are being squeezed out by the budget end suppliers using imported products at one end and the highly specialised businesses offering unique customer experiences at the other end of the spectrum. Some furnishing manufacturers are importing themselves to ensure they can meet their client needs or subcontracting to access specialised skills and products.

While the need for trades still exists, new skill areas are growing in importance in furnishing like customer service, kitchen and bathroom design, supply chain management and ethical buying.

### *Key Generic Workforce Skills*

Key generic skills in Design mindset/Thinking critically/Systems thinking/Solving problems ranked one for the collective Manufacturing IRCs and two for the Furnishing IRC showing the importance of this skill for today and tomorrows workforce in manufacturing. Customer service/Marketing ranked much more highly for the Furnishing Industry compared to the collective Manufacturing IRCs which reflects the higher level of direct engagement this industry has with its customers compared to larger production environments.

Key generic workforce skills cited by the Furnishing IRC and stakeholders ranked Learning agility/information literacy/intellectual autonomy and self-management the highest. This reflects employers' views that LLN and STEM are fundamental skills applicants should possess **before** they

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[47] 2017, Advanced Manufacturing Growth Centre, *Submission to innovation and Science Australia*.

[48] Digital literacy is the ability to confidently deal with online sources and more generally with new, mobile computer and online media.

apply for work and that they need workers to be able to nimbly seek information, learn new skills and manage their time.

| Combined Manufacturing IRCs | |
|---|---|
| 1 | Design mindset/Thinking critically/Systems thinking/Solving problems skills |
| 2 | Technology use and application skills |
| 3 | Learning agility/Information literacy/Intellectual autonomy and self-management skills |
| 4 | Communication/Collaboration including virtual collaboration/Social intelligence skills |
| 5 | Science, Technology, Engineering and Mathematics (STEM) skills |
| 6 | Language, Literacy and Numeracy (LLN) skills |
| 7 | Data analysis skills |
| 8 | Managerial/Leadership skills |
| 9 | Customer service/Marketing skills |
| 10 | Environmental and Sustainability skills |
| 11 | Entrepreneurial skills |
| 12 | Financial skills |

| Furnishing IRC | |
|---|---|
| 1 | Learning agility/Information literacy/Intellectual autonomy and self-management skills |
| 2 | Design mindset/Thinking critically/Systems thinking/Solving problems skills |
| 3 | Customer service/Marketing skills |
| 4 | Communication/Collaboration including virtual collaboration/Social intelligence skills |
| 5 | Language, Literacy and Numeracy (LLN) skills |
| 6 | Technology use and application skills |
| 7 | Data analysis skills |
| 8 | Managerial/Leadership skills |
| 9 | Entrepreneurial skills |
| 10 | Financial skills |
| 11 | Science, Technology, Engineering and Mathematics (STEM) skills |
| 12 | Environmental and Sustainability skills |

## Priority Areas for Training Package Development

| Rank | Skill | How identified |
|------|-------|----------------|
| 1 | Furniture design mindset and technology | Industry Consultation and research |
| 2 | STEM, soft STEM and employability skills | Industry Consultation and research |
| 3 | Digital skills including technical drawing and CAD modelling and mobile technologies | Industry Consultation and research |
| 4 | Customer service and sales skills | Industry Consultation and research |
| 5 | Glass and Glazing | Industry Consultation and research |

# Key Drivers for Change and Proposed Responses

The Furnishing Industry has and is experiencing significant change in the way it does business and meets customer needs. Global competition and the global marketplace provide both opportunities and challenges which the industry is responding to in various ways. Traditional skills remain important but need to incorporate new technologies, changing workplace structures and contemporary attitudes to work. Analysis of current workplace requirements and job analysis is required to ensure the Furnishing Training Package is relevant to today's business needs and those of the future to ensure the Furnishing Industry can evolve and remain competitive.

The proposed responses are predicated on first looking at the skills bank and other Training Packages to determine the relevance of any identified units of competency to the Furnishing Industry. New units and skill sets will be developed only where required to meet the Furnishing Industry requirements.

| Priority Skills | Key Driver for Change | Proposed Response |
|---|---|---|
| *Technology* | | |
| Soft STEM skills – problem solving, creative thinking, design skills, wok ethics, team work | The need for workers to have underpinning skill required to adapt to the change being experienced by the industry and its need for the workforce to be able to respond. | Embedding of soft STEM skills into existing units of competency for entry level and pathways qualifications |
| Problem solving in manufacture and aftermarket care | Automation | Use of units from other training packages and revision of units to ensure problem solving skills incorporated |
| Fault finding and resolution | Automation | Revision of higher level units to ensure fault finding and resolution incorporated |
| Integration of new technologies and materials | New technologies and materials | Upskilling through post trade skills |
| *Customer Service and Sales* | | |
| Customer differences | Changing consumer behaviour | Addition of units on customer experience |
| Online selling and social media | Digitisation | Addition of units on online selling and social media |
| Data analysis | Need to understand consumer preferences to respond quickly to trends | Addition of units on data analysis of consumer preferences and experience |
| Strategic thinking | Global competition and consumer behaviours driving need to effectively responding to data analysis | Addition of units on strategic responses to data analytics and understanding effectiveness |
| *Digitisation* | | |
| Digital literacy | Increased use of mobile devices and online media in the workplace | Skill sets in digital literacy for upskilling existing workers |
| Use of mobile devices to address customer needs | Increased use of mobile devices to undertake workplace tasks | Analysis of the use of mobile devices in the workplace and the inclusion of skill sets to upskill workers |

| Priority Skills | Key Driver for Change | Proposed Response |
|---|---|---|
| **_Design and creativity_** | | |
| Incorporating virtual reality customer experiences | Consumers seeking personalised experiences | Research on accessing virtual reality experiences using mobile technologies |
| Designing to customer preferences | Customers seeking customised unique solutions | Addition of units on design and creativity |
| Ergonomics and inclusive design/small housing design | Furniture design to meet client commercial and personal changing needs | Addition of units on furniture ergonomics and small housing design |
| Technical drawing and CAD modelling | Need to formalise learning in technical drawing and CAD modelling to enhance the production process and improve quality | Addition of units in technical drawing and CAD modelling |
| **_Business, Contractual and E-Commerce_** | | |
| Ethical buying | Consumer trends in global sustainability and social responsibility imp | Addition of units/skill sets |
| Supply chain management and product governance | Consumer demand for ethical sourcing and increasing global responsibility | Addition of units/skill sets |
| Legislation and Standards | Business sustainability | Industry consultation and research |
| Business and e-commerce | Contemporary work customer relationships | Upskilling of small business tradespeople |
| Developing export markets | Trends in the global marketplace | Skills in identifying, targeting and developing export markets |
| Contractual | Legislation and compliance | Addition of units/skill sets |

# Training Product Review - Current Activities

## 2016-17 Activities

In February 2017 IBSA Manufacturing was commissioned to undertake training package development work on behalf of the Furnishing IRC on the MSF Furnishing Training Package.

The qualifications and associated units which are being reviewed are:

Flooring Technology:

- MSF30818 Certificate III in Flooring Technology.

Glass and Glazing:

- MSF30418 Certificate III in Glass and Glazing
- MSF40418 Certificate IV in Glass and Glazing.

Interior Design:

- MSF31013 Certificate III in Interior Decoration Retail Services
- MSF31313- Certificate III in Kitchens and Bathrooms – Retail Services
- MSF40118 Certificate IV in Interior Decoration
- MSF40318 Certificate IV in I Design of Kitchens, Bathrooms and Interior Spaces
- MSF50213 Diploma of Interior Decoration and Design
- MSF60113 Advanced Diploma of Interior Design.

Picture Framing:

- MSF30518 Certificate III in Picture Framing.

As part of this project 165 MSF Furnishing units have been reviewed to incorporate changes to support alignment to job roles and specialist skills and compliance with the Standards for Training Packages 2012. Changes also focused on improving clarity of evidence requirements and removing superfluous information. New units have been created based on industry needs. In addition, based on industry advice about work practices, some units are proposed for merging or splitting. In a small number of cases, it is proposed that units are deleted from the training package and one qualification.

The Furnishing project in the Glass and Glazing sector is being conducted alongside the review of Fenestration in the MSM Training Package, to allow for proposed units identified as relevant for a Certificate III in Fenestration to also be considered in developing Glass and Glazing qualifications.

The outcome of this work is that:

- there is a reduction in repetition and duplication across the training package
- units are easier to read and understand
- assessment requirements have been strengthened to meet industry needs
- the training package will better reflect the way that people work.

The anticipated completion date is September 2018.

## 2017-18 Activities

In October 2017 IBSA Manufacturing was asked to undertake the development of a Case for Change on behalf on the Furnishing IRC for the MSF30913 Certificate III in Blinds, Awnings, Security Screens and Grilles qualifications.

A Case for Change was submitted recommending the development of new units of competency to address new technologies, as well as skill sets to offer the opportunity for upskilling, recognition of prior leaning and a pathway for new entrants to the sector.

The case for change was approved by the AISC for a review of MSF30913 Certificate III in Blinds, Awnings, Security Screens and Grilles in February 2018.

The project is anticipated to start in May 2018 and is expected to be completed by early 2019.

### *AISC Cross-Sector Projects*

The AISC identified a number of emerging cross-sectoral themes in previous IRC Skills Forecasts. The AISC sought to strategically address these common skills issues and commissioned nine cross-sector projects. The aim of the projects is to address changing skills needs across industries in a coordinated and efficient way and, where opportunities exist, to create flexible and transferable training package components that will benefit industry, learners and the broader VET sector.

There are three cross-sector projects that will potentially directly impact upon the MSF Furnishing training package.

1. The **Automation Skills** Cross-Sector Project focused on current and emerging developments in automated processes were reviewed as part of this project to determine the cross-sector skills required to use robotics, drones and remote operation systems. Outcomes of the project may result in recommendations for updated content for at least one unit of competency in the MSF Furnishing training package.

2. The **Big Data** Cross-Sector Project focused on the increased importance of capturing and interpreting data and reviewed new and emerging roles and skills required to analyse data and make decisions based on that analysis. Outcomes of the project may result in recommendations that one unit of competency from the MSF Furnishing training package be reviewed.

3. The **Inclusion of People with Disability in VET** Cross-Sector Project investigates how the VET sector and industry can address poorer employment outcomes for people with a disability. Outcomes of the project may result in recommendations that one unit of competency from the MSF Furnishing training package be reviewed.

# Training Product Review – Priorities 2018-2022

Following consideration and analysis of the industry challenges and opportunities, current and emerging skills needs and the key drivers for change the Furnishing IRC have identified a number of areas for training product development.  These training priorities are outlined in the IRC Skills Forecast and Proposed Schedule Work 2018-19 to 2021-2022 tables which list the priorities for the next four years. This table also provides a rationale for the priorities, proposed scope and timeframes for these activities.

## Items identified as time critical and to be considered by the AISC as part of the 2018 Industry Skills Forecast and Proposed Schedule of Work

The IRC identified the following training priority as critical and proposed for inclusion as a priority for the 2018-2019 schedule of work:

- Furniture Design and Technology.

A *Case for Change* has been prepared and included as part of this document. The *Case for Change* provides further information on the industry imperatives, consultation plan and proposed scope of the project.

## Items identified as important and to be included in the priorities for 2018-19

The items identified as important and proposed for inclusion as a priority for the 2018-2019 Schedule of Work are:

- Redevelopment of the Cabinet Making qualification
- Redevelopment of furnishing entry level and pathways qualifications
- Digital skills, new technologies and materials and mobile technologies
- Redevelop Diploma of Stained Glass and Leadlighting
- Ergonomics and inclusive design/small house design.

Separate *Case/s for Change* will be prepared and submitted to the AISC for consideration.

## Items identified as priorities over the next three years

The IRC identified the following training priorities to be considered over the next three years:

- Customer service and sales skills
- Skill sets focussed on aftermarket care and fitted furniture
- Identifying and accessing export markets
- Business, Contractual and E-Commerce skills for business owners
- Online and social media marketing
- Design Automated Processes
- Clean, green and sustainable manufacturing
- Low enrolment qualifications and units
- Awareness of Compliance/regulations and Ratings.

# Proposed Schedule of Work 2018-19 to 2021-22

## Furnishing Industry Reference Committee (IRC)

## MSF Furnishing Training Package

**Contact details:** Patrizia Torelli, IRC Chair

**Date submitted to Department of Education and Training:** [Date to be confirmed]

| Year | Items to be included in National Schedule of Work |
|------|---------------------------------------------------|

**2018-19** — *Furniture Design and Technology*

This project will determine the current and future industry skill needs of the Furniture Design and Technology sector to ensure the Training Package products meet industry requirements.

### Rationale

The purpose of the current Furniture Design and Technology qualifications is unclear and the vocational outcomes lack clarity and purpose for the furniture design and technology industry sector. These qualifications have had low enrolments since first offered in 2002 and most recently no enrolments.

See 'Furniture Retailing', page 4; see 'Design', page 10; 'Automation and Technology', page 21; 'Building Technology' page 24.

### Training products impacted:

- MSF40213 Certificate IV in Furniture Design and Technology
- MSF50313 Diploma of Furniture Design and Technology.

This project was identified as time critical and that training package development work be approved as part of this submission.

*Further information on the industry imperatives, consultation plan and proposed scope of the project is provided in the Case for Change following the proposed schedule of work.*

IBSA MANUFACTURING

| *Year* | *Items to be included in* National Schedule *of Work* |
|---|---|

**2018-19**  *Redevelopment of Cabinet Making qualification*

The work will involve the redevelopment of the Cabinet Making qualification to better meet industry best practice and emerging skills needs.

### Rationale

The Certificate III in Cabinet Making covers skills and knowledge required to perform a range of tasks at trade-level for those working in furniture making and those involved in the manufacture and installation of fitted furniture typically in a kitchen, bathroom and related context. Industry consultation highlighted that these sectors are experiencing increased pressure from international competition and employer skill needs are changing in response to this increased competition.

The Certificate III in Cabinet Making ranks as the third highest in regard to the number of enrolments in the MSF Furnishing Training Package with the majority of enrolments Government Funded. This qualification, which attracts a high number of apprentices, is pivotal in attracting new entrants to the Furnishing Industry.

Since the qualification was last reviewed in 2013, job roles and tasks have been significantly impacted by technology and globalisation. It is important to industry to redevelop the Cabinet Making qualification to better meet industry best practice and emerging skills needs.

See 'Training Delivery' page 19, 'Changing workplaces and culture', pages 26-27.

### Training products impacted:
- MSF31113 Certificate III in Cabinet Making.

| *Year* | *Items to be included in* National Schedule *of Work* |
|---|---|

**2018-19**    *Redevelopment of Furnishing Industry entry level and pathways qualifications*

This work will include rationalising the qualifications into two streams; one as a VET in Schools Pathway and one as an entry level qualification for learners to gain wider exposure to the careers offered in the Furnishing Industry. The work will include imbedding of employability, STEM and soft STEM skills which the Furnishing Industry sees as fundamental to employment in this industry.

### Rationale

Industry feedback indicates that traditional furnishing careers are changing and that some careers are not visible eg. Picture Framing, Blinds, Awning, Security Screens and Grilles. By reviewing the entry level pathways and creating flexibility in the package rules, it will be possible for learners to have a better understanding of and preparation for the career options available.

Problem solving, creative thinking and design skills along with work ethic and teamwork are seen as lacking but critical to the Furnishing Industry workforce according to industry survey feedback. These skills were also ranked highly by the Furnishing IRC in the generic skills who also advised that employers expect that applicants will have STEM and employability skills when applying for work. By imbedding these skills into entry level qualifications new workers can develop the necessary work skills to gain meaningful employment in the Furnishing Industry.

See 'Training Delivery' page 19, 'Changing workplaces and culture', pages 26-27.

### Training products impacted:
- MSF10113 Certificate in Furnishing
- MSF20113 Certificate II in Furnishing
- MSF20213 Certificate II in Furniture Finishing
- MSF20313 Certificate II in Furniture Making
- MSF20413 Certificate II in Glass and Glazing
- MSF20516 Certificate II in Furniture Making Pathways

**2018-19** *Digital skills, new technologies and materials and mobile technologies*

This work will include the review and where required development of new units of competency and skill sets on Computer Aided Design (CAD) and modelling and Computer Numerical Control (CNC) machining to support industry requirements. This work will be aligned with the Digital Skills project which also looks at coding-programming and digital-diagnostic skills and analyses the impact of mobile technologies and job roles in relation to new technologies.

### Rationale

Technical drawing and CAD modelling have become an integral part of many businesses undertaking Cabinet-making, Bathroom Cabinetry and Kitchen design, Shop-fitting and Furniture manufacturing in Australia.

Technical drawing/CAD modelling have been identified in past surveys as areas where the majority of users have learnt on the job with no formal recognition of technical drawing and CAD skills. CAD and technical drawing skills are an employability requirement for the job roles of kitchen designer, bathroom designer, interior designer or similar, with evidence to support this in recruitment campaigns, such as Seek advertisements. Existing workers seeking to upskill could undertake skill sets and receive RPL based on demonstrated knowledge and skills.

The Food, Fibre and Timber Industries Training Council conducted STEM Skills research and the increased need for CAD/CNC and design skills was strong.

Technology advancements in new materials and componentry and the swift uptake in fashion trends continue to provide opportunities for the furniture industry. Along with growth in pre-fabricated 'POD' systems for bathrooms and kitchens in lieu of kitchens/bathrooms built in confined spaces, there is a need for different skill sets in furniture making and finishing, for example in services connection requirements, CAD and measurements, installation.

Recent examples of new materials include concrete benchtops, motorised furniture, carbon fibre materials and extra-low voltage electricals which may have new skill requirements.

The impact of mobile technologies such as Google glasses, mobile phones and iPads in the Furnishing Industry workplaces will be determined to see how skills are impacted.

See 'Furniture Retailing', page 4; 'Wooden Furniture Manufacturing and Upholstery', page 6; 'Metal Furniture Manufacturing' page 7; 'Design' page 10; 'Digitisation' page 20; 'Automation and Technology' page 21, 'Building Technology' page 24.

### Training products impacted:
- All MSF Furnishing Training Package products.

| Year | Items to be included in National Schedule of Work |
|---|---|

**2018-19** *Redevelop Diploma of Stained Glass and Leadlighting*

The work will involve the redevelopment of the Diploma of Stained Glass and Leadlighting into a Diploma of Glass and Glazing.

### Rationale

The Diploma of Glass and Leadlighting has had no enrolments since 2013. Industry feedback indicates that a broader focused Diploma of Glass and Glazing with flexible packaging rules would better meet the industry needs and predictions of demand and that stained glass and Leadlighting units of competency could be included as a specialisation.

See 'Training Delivery', page 19.

### Training products impacted:

- MSF50113 Diploma of Stained Glass and Leadlighting.

**2018-19** *Ergonomics and inclusive design/small housing design*

This work will involve a review of the skill needs for ergonomic and inclusive design/small housing design.

### Rationale

The ageing population impacts design perspectives with the need to ensure furnishing and fixtures cater to the growing market of older consumers. Consumers are also 'future proofing' their homes which creates the need for design flexibility to cater to all age groups.

Increasing trends in urbanisation has resulted in more people living in smaller houses.

See 'Furniture Retailing', page 4: 'Building Technology' Page 24.

### Training products impacted:

- MSF40213 Certificate IV in Furniture Design and Technology (addressed in the Case for Change)
- MSF50213 Diploma of Interior Design and Decoration
- MSF50313 Diploma of Furniture Design and Technology (addressed in the Case for Change).

| Year | Items to be included in National Schedule of Work |
|------|--------------------------------------------------|

**2019-20** *Customer Service and Sales Skills*

This work will involve reviewing all customer service units in the Certificate III and Certificate IV qualifications to ensure they meet industry needs.

### Rationale

The presence of more sophisticated business models with a strong emphasis on customer service, sales and building and retaining relationships with customers are required in the Furnishing Industry operating in a globally competitive environment. This work is of particular relevance to job roles requiring workers to be onsite and/or dealing directly with customers.

See 'Furniture Retailing' page 4; 'Picture Framing' page 9; 'Blinds, Awning, Security Screens and Grilles', page 9; 'Sophisticated and Empowered Consumers', page 21.

### Training products impacted:

- MSF30713 Certificate III in Upholstery
- MSF30113 Certificate III in Furniture Finishing
- MSF31313 Certificate III in Kitchens and Bathrooms - Retail Services
- MSF30513 Certificate III in Picture Framing
- MSF31213 Certificate III in Piano Technology
- MSF30213 Certificate III in Furniture Making
- MSF30313 Certificate III in Timber and Composites Machining
- MSF30813 Certificate III in Flooring Technology
- MSF31013 Certificate III in Interior Decoration Retail Services
- MSF30613 Certificate III in Soft Furnishing
- MSF30413 Certificate III in Glass and Glazing
- MSF30913 Certificate III in Blinds, Awnings, Security Screens and Grilles
- MSF31113 Certificate III in Cabinet Making
- MSF40213 Certificate IV in Furniture Design and Technology
- MSF40313 Certificate IV in Design of Kitchens, Bathrooms and Interior Spaces
- MSF40413 Certificate IV in Glass and Glazing
- MSF40113 Certificate IV in Interior Decoration

**2019-20** *Skill sets in Aftermarket Care and Fitted Furniture*

This work will involve the development of skill sets in aftermarket services including installation, maintenance and repair and fitted furniture.

### Rationale

Aftermarket care is becoming increasingly important as competition increases and customers become more empowered through use of social media and technology becomes more sophisticated.

Construction skills have become a requirement of many businesses offering Cabinet-making, Bathroom Cabinetry and Kitchen design, Shop-fitting and Furniture manufacturing in Australia.

Potential units are already available for a skill set in Fitted Furniture' and can be drawn from the kitchen and bathroom suite of units. An understanding of the different licensing implications in NSW around the Kitchen and Bathroom Licensing Requirements (KBLR) and in QLD will also need to be considered in developing this skill set.

See 'Blinds, Awning, Security Screens and Grilles', page 9; 'Sophisticated and Empowered Consumers', page 21.

### Training products impacted:

- MSF30913 Certificate III in Blinds, Awnings, Security Screens and Grilles
- MSF31113 Certificate III in Cabinet Making
- MSF30713 Certificate III in Upholstery
- MSF30813 Certificate III in Flooring Technology
- MSF30113 Certificate III in Furniture Finishing
- MSF30513 Certificate III in Picture Framing
- MSF30813 Certificate III in Flooring Technology.
- MSF40213 Certificate IV in Furniture Design and Technology

| Year | Items to be included in National Schedule of Work |
|------|---------------------------------------------------|

**2019-20**  *Identifying and accessing export markets*

This work will involve review of training package components to ensure skills in identifying, targeting and developing export markets are available to the Furnishing industry to further industry growth.

### Rationale

Some Australian businesses in furnishing sectors, such as carpet and textile floor covering, are being dominated by subsidiaries of international companies. At the same time, there have been examples of some manufacturers successfully exporting Australian manufactured products to China and others operating in the wooden furniture and upholstered seat manufacturing sector, providing an integrated service from design through manufacture to installation and after sales services in South East Asia and the Middle East as well as the domestic market.

Skill development in identifying and accessing export markets is seen as important to large top end manufacturers seeking further industry growth.
See 'Key Drivers for Change', page 16.

### Training products impacted:

- MSF30113 Certificate III in Furniture Finishing
- MSF40313 Certificate IV in Design of Kitchens, Bathrooms and Interior Spaces
- MSF50213 Diploma of Interior Design and Decoration
- MSF40213 Certificate IV in Furniture Design and Technology
- MSF30313 Certificate III in Timber and Composites Machining
- 

**2020-21**  *Business, Contractual and E-Commerce Skills for business owners*

This work will involve importing or contextualising units that deal with business and compliance skills for use in Furnishing Industry qualifications and developing pathways for the development of business skills including the creation of skill sets.

### Rationale

With business models becoming more sophisticated and increased emphasis on compliance, Furnishing Industry qualifications need to be reviewed and redeveloped to ensure appropriate business and e-commerce units are available to upskill existing and future business owners.

Understanding contractual obligations is a skill in demand with the majority of current business owners unaware of their contractual obligations under different acts such as the Home Building Act in NSW. *See 'Regulatory Obligations', Page 22.*

**Training products impacted:**
- MSF50113 Diploma of Stained Glass and Leadlighting
- MSF50213 Diploma of Interior Design and Decoration
- MSF50313 Diploma of Furniture Design and Technology
- MSF60113 Advanced Diploma of Interior Design

**2020-21**   *Online and social media marketing*

This work will involve accessing and/or developing a course in design and implementation of online social media.

The timing is based on expected outcomes from *Consumer engagement through online and social media* Cross-Sector project (post 2019-20) when new skill sets and units will be available.

### Rationale

With an ageing workforce and high levels of business ownership, online social media offers widespread opportunity for growth for businesses in the Furnishing Industry and to upskill existing workers with sought after skills.

*See 'Furniture Retailing' page 4; 'Digitisation' page 20.*

**Training products impacted:**
- MSF30513 Certificate III in Picture Framing
- MSF30813 Certificate III in Flooring Technology
- MSF40113 Certificate IV in Interior Decoration
- MSF40213 Certificate IV in Furniture Design and Technology
- MSF40313 Certificate IV in Design of Kitchens, Bathrooms and Interior Spaces
- MSF40413 Certificate IV in Glass and Glazing
- MSF50113 Diploma of Stained Glass and Leadlighting
- MSF50213 Diploma of Interior Design and Decoration
- MSF50313- Diploma of Furniture Design and Technology
- MSF60113 Advanced Diploma of Interior Design.

| *Year* | *Items to be included in* National Schedule *of Work* |
|---|---|

**2020-21**    *Design automated processes*

This work involves reviewing the skill impacts resulting from the integration and streamlining of design and manufacturing process.

The timing is based on expected outcomes from the *Automation* Cross-Sector project (post 2019-20) when new skill sets and units will be available.

### Rationale

The onus on working drawings for the purpose of manufacture and machining is shifting and there is an increased need for designers to produce machine ready documentation that was previously prepared by someone with a cabinetmaking skill set.

See 'Automation and Technology', page 21.

### Training products impacted:
- MSF30313 Certificate III in Timber and Composites Machining
- MSF31113 Certificate III in Cabinet Making
- MSF40413 Certificate IV in Glass and Glazing
- MSF40213 Certificate IV in Furniture Design and Technology
- MSF40313 Certificate IV in Design of Kitchens, Bathrooms and Interior Spaces
- MSF50313 Diploma of Furniture Design and Technology.

**2020-21**    *Clean, green and sustainable furnishing manufacturing*

This work will involve investigating the environmental skills and knowledge required to apply clean, green and sustainable manufacturing processes as well as the use of sustainable products and product provenance.

The timing is based on expected outcomes from the *Environmental Sustainability Skills* cross-sector project (post 2019-20) when new skill sets and units will be available.

### Rationale

Accountability and sustainability is increasingly important for governments and customers alike.

See 'Wooden Furniture Manufacturing and Upholstery' page 6; 'Sophisticated and Empowered Consumers', Page 21.

### Training products impacted:
- MSF31113 Certificate III in Cabinet Making
- MSF40313 Certificate IV in Design of Kitchens, Bathrooms and Interior Spaces
- MSF50213 Diploma of Interior Design and Decoration
- MSF50313 Diploma of Furniture Design and Technology
- MSF60113 Advanced Diploma of Interior Design

| Year | Items to be included in National Schedule of Work |
|---|---|

**2020-21**  *Low enrolment furnishing qualifications and units*

This work involves investigating furnishing qualifications with low enrolments to ensure they meet industry needs and redevelop training components to meet current and emerging job roles.

### Rationale

Low enrolment qualifications indicate they do meet current industry demand for a number of reasons including no longer being relevant to industry, industry need met through other means such as in-house or non-accredited training, a lack of confidence in RTOs by industry and/or limited access to funding. The Furnishing Industry in Australia is changing rapidly in response to increased competition influencing consumer behaviour, and new technologies and business models. Workplace and skills analysis of current and future industry skill requirements is required to ensure these qualifications meet industry needs. The outcome of this analysis may provide the opportunity to rationalise and/or merge qualifications within the Training Package or across sectors.

See 'Qualification Uptake', page 16; 'Demography', page 26.

### Training products impacted:

- MSF30113 Certificate III in Furniture Finishing
- MSF30213 Certificate III in Furniture Making
- MSF30313 Certificate III in Timber and Composites Machining
- MSF30513 Certificate III in Picture Framing
- MSF30613 Certificate III in Soft Furnishing
- MSF30713 Certificate III in Upholstery
- MSF31213 Certificate III in Piano Technology
- MSF50113 Diploma of Stained Glass and Leadlighting
- MSF60113 Advanced Diploma of Interior Design

**2020-21**  *Awareness of Compliance/Regulations and Ratings -Thermal and other*

This work involves increasing the knowledge of the Furnishing Industry workforce regarding compliance and regulations.

### Rationale

Manufacturers' and importers' responsibilities in terms of compliance with standards and legislation is not always well understood resulting in a lack of exploitation of opportunities and the risk of penalties for businesses and their workers.

See 'Glass and Glazing' page 8; 'Regulatory Obligations', Page 22.

### Training products impacted:

- To be confirmed

# 2018-19 Case for Change

## Furnishing Industry Reference Committee (IRC)

## MSF Furnishing Training Package

**Contact details:** Patrizia Torelli, IRC Chair

**Date submitted to Department of Education and Training:** [Date to be confirmed]

### *Furniture Design and Technology*

| | |
|---|---|
| *Description:* | Analysis and redevelopment of the Furniture Design and Technology training products to meet current and future industry skill needs. The project will examine contemporary and emerging work practices in the Furniture Design and Technology and ensure training products support this sector. |
| *Rationale:* | The purpose of the current Furniture Design and Technology qualifications is unclear and the vocational outcomes lack clarity and purpose for the furniture design and technology industry sector. These qualifications have had low enrolments since first offered in 2002 and most recently no enrolments. The thin market makes effective and viable delivery challenging. |

Australia's design sector is a strong, diverse and vibrant sector with Australian furniture designers being recognised internationally for their innovative and sustainable products. Furniture Design and Technology offers Australian manufacturing businesses the opportunity to be innovative and creative and maximise the opportunities offered through new building technology and current building trends in high density living associated with urbanisation and small housing design for the ageing population.

Stakeholders identified that there is a need to update the technical units in all design qualifications to reflect the new materials and technologies being used in the sector and also to ensure that both Australian and international standards are being met. This work is needed to ensure that Australian furniture designers are able to remain competitive in a global market and to support innovation and sustainability within the industry.

Employer feedback indicates that Computer Aided Design development is a critical skill in an environment where time is so expensive. To be competitive, even when producing one off products, extensive pre-shaping of components and less hands on is important in meeting market price expectations and is the most basic skill that makes a graduate employable. The ability to develop an idea into a realistic image that can first be sold to stakeholders, and then translated into production is seen as highly desirable. These skills need to be complemented by skills and knowledge in market research, understanding materials, the capability of machinery and technologies used to build products competitively and cost effectively. Original design and the design process are seen as important skills as do business skills to estimate, cost and quote.

A better understanding of the services provided by associated occupations such as industrial designers and interior designers is expected to inform and assist to identify demand for and differentiate the skills required of furniture designers.

These qualifications were part of the 2016-17 activity order but the associated Technical Advisory Committee sought to withdraw them following a desk top analysis which included discussions with the four RTOs that have the qualifications on scope. Their findings included:

- concerns that the overall industry purpose of the qualifications is unclear and this needs to be thoroughly re-considered to establish a sound starting point for the qualification design – that is, a clear vocational outcome (is it a Furniture Designer, Designer Maker, Production Manager or all three) and clarification around industry expectations;

- the qualification requires an extensive review of its content and structure in order to add valuable skills to the industry in which employers are desperately seeking to make their businesses more competitive and innovative in the Australian and international markets;

- many units are focused on artisan skills not required by most viable furniture manufacturers with most of the currently limited delivery focused on this designer-maker outcome – and even if it were a viable job role, it is not possible to achieve the outcome in the current structure unless substantial content is added; basically it needs a significant suite of underpinning furniture making skills;

- in reviewing any units of competency, it is important to be clear about industry job functions and skill requirements – as noted above, this clarity does not currently exist; and

- all training providers were adding to or contextualising the qualification to meet local furniture businesses' needs – in one case the confusion around the purpose of the qualification means that its delivery is being discontinued.

Furniture designers develop and prepare furniture for manufacture. They are particularly concerned with those aspects of furniture that relate to human usage and behaviour, product appeal and fashion. The specific ergonomic knowledge that a furniture designer must apply and the specialised construction methods and pre-manufactured components that undergo constant change in the industry make this a large area of specialisation.

Furniture designers explore solutions to meet marketing, manufacturing and financial requirements and arrive at the optimum design of a furniture item. They consider both functional and aesthetic aspects and pay particular attention to ergonomics, those factors that relate to ease of use and human behaviour.

Furniture designers may work as part of a product development team on the overall structure of the product and its appearance and are commonly employed within manufacturing companies that prioritise the development and maintenance of product

lines as a core requirement rather than an occasional need. Fewer furniture designers operate as designer/maker businesses producing limited ranges of their own designs or designing custom furniture for individual clients. This means the packaging rules need to recognise the different skill and knowledge requirements of different types of employers.

The risks of not proceeding with this project include:

- less skilled furniture designers being available for the furniture industry;
- the current lack of skill sets limiting opportunities for existing skilled workers to upskill into creative and innovative careers in furniture design; and
- the Australian furnishing industry;
  - offshoring design work;
  - not remaining at the forefront of furniture design; and
  - not exploiting the opportunities presented by new technologies and materials.

See 'Business Landscape', page 4; 'Furniture Retailing' page 4

See 'Wooden Furniture Manufacturing and Upholstery', page 6

See 'Metal furniture Manufacturing', page 7

See 'Design', page 10.

See 'Cross industry challenges and opportunities', page 23; 'Building Technology' page 24.

| | |
|---|---|
| *Ministers' Priorities Addressed:* | Ministers' Priorities: <br><br> ***Obsolete qualifications removed from the system*** <br><br> The current Furniture Design and Technology qualifications do not meet industry requirements, have no clear vocational outcomes and a history of low enrolments. This review will determine what changes are required to better meet industry requirements. <br><br> ***More information about industry's expectations of training delivery is available to training providers to improve their delivery and to consumers to enable more informed choices.*** <br><br> Updates to the Companion Volume after this work will provide training providers will clarity on vocational outcomes and pathways and discussions with industry will provide the opportunity to promote vocational pathways. <br><br> ***The training system better supports individuals to move more easily between related occupations*** <br><br> The linkages between design qualifications is evident with some overlaps in units and flexible packaging rules allowing customisation of delivery to meet the learner and industry requirements. The Companion Volume updates will show linkages with related occupations. |

IBSA MANUFACTURING

*Improved efficiency of the training system through units that can be owned and used by multiple industry sectors*

Units from other Training Packages will be reviewed for relevance to this industry and used wherever possible to improve efficiency of the training system. Cross sectoral project outputs will be considered and where available incorporated into this work. Skills Impact (SSO) projects on 'Cross Laminated Timber Building Systems and Prefabricated Building Systems Project will be monitored for relevance of their unit development in new technologies.

*Foster greater recognition of skill sets*

Skill sets will be considered as part of this work as they may provide a means of upskilling trade qualified workers.

| | |
|---|---|
| *Consultation Plan:* | IBSA Manufacturing Training Development Projects follow the Training Package Development and Endorsement Process Policy and uses a five-phase methodology. The IBSA Furnishing Industry Manager will coordinate the project and keep the IRC informed on progress. |

**Phase 1 – Initial analysis**

Establishment of a Technical Advisory Committee (TAC) to validate the project scope and contribute to the consultation with the industry to determine the industry need and undertake a job role functional analysis. The IRC will appoint the Technical Advisory Committee to inform this work that will have current skills and knowledge across a broad range of industry job roles such as furniture designer, designer/maker, furniture production, new technologies and materials and people with specialist knowledge of Australian standards relating to design, manufacture and use of furniture and testing procedures for furniture compliance.

Proposed membership will include representatives from:

- Australian Furniture Association AFA
- Cabinet Makers and Designer Association CMDA
- Furniture Industry Association Australia FIAA
- Kitchen and Bathroom Design Institute KBDI
- Western Australia Furniture Manufacturers Association WAFMA
- One or more furniture design practitioners / subject matter experts

**Phase 2 – Draft 1 and public consultation**

Develop first draft of training package components for feedback from the TAC and then the broader furniture industry and RTOs.

**Phase 3 – Draft 2 and public consultation**

Respond to feedback and develop second draft of training package components. Feedback to be sought from the broader furniture industry and RTOs.

*Furniture Design and Technology*

**Phase 4 – Approval process**

Adjust training package components in response to further feedback and seek approval from respective committees, namely the TAC and IRC and endorsement from state training authorities.

**Phase 5 – Submission to Department**

Submit to the Department of Education and Training for AISC approval.

**Consultation Plan**

IBSA will create a project web page to provide project updates, gather feedback from stakeholders and validate training package components.

Proposed consultations include:

- employers such as large furniture manufacturers and specialised furniture manufacturers, furniture, interior and industrial designers to identify the industry and job requirements and trends and work opportunities;
- RTOs with these qualifications on scope and recent or current students if accessible to gain feedback on the actual qualifications and employment outcomes; and
- State Training Authorities to ensure all jurisdictions are engaged.

Phase 1 will see the investigation of contemporary and emerging work practices through analytical work and consultations to inform a Discussion Paper. The paper will be used to stimulate broader discussions with industry around the need for the current qualifications and assist the TAC and IRC in decision making.

| *Scope of Project* |  |
|---|---|
| *Timing* | **Estimated Project Duration:** 12 months<br><br>**Anticipated Start Date:** October 2018<br><br>**Anticipated Completion Date:**<br>Case for Endorsement to be submitted to the Department October 2019 |
| *Training Package* | **Training Package to be developed/revised:**<br><br>MSF Furnishing Training Package |
| *Qualifications* | A total of **2 qualifications** to be developed/revised as part of this project.<br><br>**2 existing qualifications** to be revised:<br><br>- MSF40213 Certificate IV in Furniture Design and Technology<br>- MSF50313 Diploma of Furniture Design and Technology |
| *Skill Sets* | There are currently no skills sets associated with Furniture Design and Technology but **new** skill sets will be identified in consultation with the stakeholders. |

*Furniture Design and Technology*

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|---|---|
| *Units of Competency* | A total of **109 units of competency** to be developed/revised as part of this project. |

N**ew** units of competency will be identified during the development. It is envisaged these will address technical drawing, CAD modelling, new technologies and materials.

**66 existing native units of competency** to be revised:

- MSFAH4001 Advise on security technology, hardware and services
- MSFAH4002 Prepare door hardware schedules
- MSFDN4001 Produce drawings from design concepts
- MSFDN4002 Produce line and component production drawings
- MSFDN4003 Produce patterns and templates
- MSFDN4004 Design, construct and test jigs
- MSFDN4005 Work within a furniture design team
- MSFDN5001 Generate and transfer complex computer-aided drawings and specifications
- MSFFDT4001 Apply finishing techniques to custom furniture
- MSFFDT4002 Assemble custom furniture
- MSFFDT4003 Assess and record the lifecycle of a product
- MSFFDT4004 Assess environmental impact of a design
- MSFFDT4005 Construct and evaluate furniture prototypes and samples
- MSFFDT4006 Determine work health and safety (WHS) implications of designs
- MSFFDT4007 Prepare and present furniture design information
- MSFFDT4008 Produce and evaluate developmental furniture models to scale
- MSFFDT4009 Set up, operate and maintain basic static woodworking machines for furniture designs
- MSFFDT4010 Research and select furniture finishes
- MSFFDT4011 Research and select furniture materials and technology
- MSFFDT4012 Research furniture styles and movements
- MSFFDT4013 Select, use and maintain hand tools for the creation of custom furniture
- MSFFDT4014 Set up and operate a wood-turning lathe to produce off-centre work
- MSFFDT4015 Produce templates and jigs for custom-made furniture
- MSFFDT5001 Apply ergonomics, anthropometrics and proxemic considerations to a product
- MSFFDT5002 Assess and resolve technical integrity of a design
- MSFFDT5003 Develop self as a furniture designer
- MSFFDT5004 Construct custom furniture using advanced techniques
- MSFFDT5005 Design a batch or limited production item of furniture
- MSFFDT5006 Design a furniture product using high volume technology services (HVTS) in production
- MSFFDT5007 Design a one-off item of furniture
- MSFFDT5008 Research and recommend alternative manufacturing processes
- MSFFDT5009 Research and recommend machine technology
- MSFFDT5010 Evaluate furniture design proposals and concepts
- MSFFDT5011 Assess economic impact of a design
- MSFFDT5012 Design for mass production
- MSFFDT5013 Evaluate and participate in design industry networks

*Furniture Design and Technology*

- MSFFDT5014 Investigate legal requirements for design
- MSFFDT5015 Work collaboratively on a design project
- MSFFM4001 Hand carve wood to custom design
- MSFFM4002 Construct joints for custom furniture
- MSFFM4003 Produce curved and shaped components for custom furniture
- MSFFM4004 Produce timber veneered components for custom furniture
- MSFFT4001 Coordinate on-site installation of furnishing products
- MSFFT4002 Customise stock lines
- MSFFT4003 Organise production processes
- MSFFT4004 Establish and monitor production inventory requirements
- MSFFT4005 Install and commission computer numerically controlled (CNC) software
- MSFFT4006 Construct prototypes and samples
- MSFFT4007 Sample, inspect and test products to specifications
- MSFFT4008 Interpret and use workplace information
- MSFFT4009 Match furnishing style and materials to customer requirements
- MSFFT4010 Identify and calculate production costs
- MSFFT4011 Purchase materials and consumables
- MSFFT4012 Prepare a tender submission
- MSFFT5001 Evaluate and select production materials and equipment
- MSFFT5002 Establish and develop production processes and area layout
- MSFFT5003 Manage installation and commissioning of equipment
- MSFFT5004 Develop and document procedures and specifications
- MSFFT5005 Organise enterprise maintenance programs
- MSFFT5006 Plan production
- MSFFT5007 Optimise computer numerically controlled (CNC) operations
- MSFFT5008 Develop, trial and evaluate prototypes
- MSFFT5009 Determine production feasibility of designs
- MSFFT5010 Develop products and related processes
- MSFPF4001 Design and construct ornamental frames
- MSFPF4002 Determine and apply gilding techniques

**43 existing units of competency** from other Training Packages to be reviewed for relevance:

- BSBCRT401 Articulate, present and debate ideas
- BSBCRT402 Collaborate in a creative process
- BSBCRT403 Explore the history and social impact of creativity
- BSBCRT501 Originate and develop concepts
- BSBDES301 Explore the use of colour
- BSBDES303 Explore and apply the creative design process to 3D forms
- BSBDES305 Source and apply information on the history and theory of design
- BSBDES401 Generate design solutions
- BSBDES403 Develop and extend design skills and practice
- BSBDES502 Establish, negotiate and refine a design brief
- BSBDES601 Manage design realisation
- BSBINM501 Manage an information or knowledge management system
- BSBMKG501 Identify and evaluate marketing opportunities
- BSBOHS404B Contribute to the implementation of strategies to control OHS risk

- BSBPMG522 Undertake project work
- BSBSMB403 Market the small business
- BSBSMB404 Undertake small business planning
- BSBSMB407 Manage a small team
- BSBWHS504 Manage WHS hazards and risks
- CUAACD302 Produce computer-aided drawings
- CUAACD303 Produce technical drawings
- CUAANM303 Create digital 3D models
- CUADIG303 Produce and prepare photo images
- CUADIG304 Create visual design components
- CULMS010B Contribute to the preservation of cultural material
- MEM15001B Perform basic statistical quality control
- MEM16006A Organise and communicate information
- MEM16007A Work with others in a manufacturing, engineering or related environment
- MEM16008A Interact with computing technology
- MEM16013A Operate in a self-directed team* (pre-requisite MEM16007A)
- MEM30024A Participate in quality assurance techniques* (Pre=requisite MEM15001B)
- MEM30031A Operate computer-aided design (CAD) system to produce basic drawing elements
- MEM30033A Use computer-aided design (CAD) to create and display 3-D models * (pre-requisite MEM30031A)
- MSMENV272 Participate in environmentally sustainable work practices
- MSMENV472 Implement and monitor environmentally sustainable work practices
- MSS015002 Develop strategies for more sustainable use of resources
- MSS402030 Apply cost factors to work practices
- MSS403030 Improve cost factors in work practices
- MSS404050 Undertake process capability improvements
- MSS404052 Apply statistics to processes in manufacturing
- MSS405031 Undertake value analysis of product costs in terms of customer requirements
- PSPPCM008 Manage contract performance
- PSPPCM011 Plan to manage a contract

# Appendix A: Future Skills Outcomes

The Australian Industry and Skills Committee (AISC) commissioned the Future Skills and Training Resource which summarises data on current and future Australian and international megatrends, to support Industry Reference Committees (IRCs) in developing their Industry Skills Forecasts and Proposed Schedules of Work.

The following trends and considerations are based on Furnishing IRC discussions. This appendix presents the preliminary and developmental thinking of IRC members in order to stimulate broad discussion in industry.

## Trends

### Business and Economics

The key trends affecting the Furnishing Industry are:

**Empowered customers:** Customer behaviour is driving the entire furnishing supply chain. Customers have become more discerning as they gain more detailed product knowledge. They are also showing less brand loyalty, which is driven by **high speed competition**. Digital spaces offer customers more information to make buying decisions and also provide opportunities for new and existing businesses to set up retail showrooms online. Supply chain networks mean manufacturers are more accessible to their customers.

**Skills mismatch/Workforce vulnerability:** There has been a decline in process work as automation takes over. At the same time, this has resulted in an increase in the higher-level trade skills required to operate more sophisticated equipment like computer numerical control (CNCs), maintain equipment and undertake diagnostics, fault finding and problem solving. There is also a skills gap emerging where some older workers need to be more tech savvy to understand social media and digitisation.

A range of other factors exacerbate the vulnerability of the workforce, including:
- The disenfranchisement of entry level workers whose first preference was to attend university and see working in furnishing as second best,
- the challenges in modern workplaces in terms of language, culture, and employee and employer attitudes,
- the casualisation of the workforce resulting in workers who are not committed to a particular employer or career, and
- the focus employers place on training in their own products, which meets immediate needs, as opposed to long term skill improvement.

Skills mismatch and workforce vulnerability is also impacted by 'boom-bust' economic cycles. Boom periods see a focus on output and often result in a narrowing of workforce skills. In contrast, bust periods require a more productive workforce with a broader range of skills but there is a lack of opportunities to undertake training.

## Political and Institutional

The key trends affecting the Furnishing Industry are:

**Innovation ahead of regulation:** In regard to both manufacturing and sales, regulation is not keeping up with movement to new design standards to meet ageing and changing consumer needs. There is a lack of understanding in the industry that importers have the same responsibilities as manufacturers.

Innovative and creative entrants to the industry need **Start up thinking:** as online technologies offer new entrants unprecedented opportunities to reach markets and supply chains.

**Agility of the VET system**: The timeliness for RTOs to get updated qualifications on scope is affecting industry's ability to innovate. This has led to an increasing amount of non-accredited training being delivered to meet employers' needs for 'just in time training', which results in less portability of skills.

**Political appetite for reform:** Too many government policies and the volume of policy changes leads to uncertainty. The changing nature of the manufacturing industry from large conglomerates to niche providers means the industry needs government support and stability.

## Society and Culture

The key trends affecting the Furnishing Industry are:

**Ageing Population:** The ageing population has an impact on business, economic and design considerations with the need to ensure furnishings and fixtures cater to the growing market of older consumers. Some customers are also forward planning to ensure their homes will accommodate them in future years, which creates the need for design flexibility so that it caters to all age groups. There is a trend to design to more stringent building codes as people 'future proof' their homes.

In some sectors, people are remaining in the workforce longer and need to be able to adapt to increasing use of new technologies in the workplace. In other sectors people are leaving earlier due to the physical demands, creating a gap in the workforce as their extensive skills and knowledge leaves with them.

Workshop discussions also highlighted that ageing can also be defined in reference to technology and currency of information, material and product knowledge as even younger generations struggle to pick up skills in key areas.

**Increased participation by women and gender-related disparity:** Although women are not well represented in the majority of sectors of the industry, as evidenced by low participation rates as apprentices, the design and sales sectors of the industry do have a high proportion of women.

Discussion also covered issues related to general industry participation, which is influenced by **global mobility.** Many organisations look to employ workers on short term visas as an avenue to attract new entrants. Manufacturing facilities are also primarily located in urban centres, increasing the trend to **urbanisation**, meaning regional workers find it difficult to get work.

**Changing Work and Career Values**: Industry is changing as seen in the shift from a large number of small manufacturers to a small number of very large manufacturers, which has resulted in an increased demand for assemblers rather than fabricators. Vendors and their supply chains are also becoming more responsive to meet industry needs.

Younger industry entrants have different work expectations and seek different learning approaches, including the use of mobile technology as a learning tool. The uptake of new skills is related to a person's willingness to undertake training where they see the benefits for their careers at a particular point in time. However, employers are becoming less willing to invest in training as their employees won't 'stay' long enough to get a return on investment.

*The social trends impacting the market are dictating to industry what the customer wants and what to make. This, in turn, dictates the tools used and the technology needs.*

## Technology

The key trends affecting the Furnishing Industry are:

**Mobility and connectivity-Digitisation** are both trends underpinned by **Big Data**. The increased use of cloud-based services is largely determined by customer access to high speed data networks, which is impacted by distance and distribution. Some uncertainty exists about data security.

**Cross-disciplinary science-Optimising the brain:** Increasing digitisation in the industry has resulted in an increased focus on digital literacy, as well as generic skills such as critical thinking, research and problem solving.

Industry needs a workforce that is aware of what technology exists and has a preparedness to recognise any equipment issues and know who to ask to have it rectified.

**Artificial intelligence (AI) and machine learning-Augmented reality (AR) and Virtual reality (VR):** AR and VR opportunities are being utilised by some sectors of the industry, such as virtual showrooms and equipment repairs. The trend towards digitisation, AI and machine learning, and the use of emerging technologies rests predominately with larger organisations, as small players find it difficult to get into this space due to prohibitive costs involved.

## Resources and Environment

The key trends affecting the Furnishing Industry are:

**Access to quality internet**: Reliable access to the internet, at an efficient speed, is important to the industry, particularly as more customer service and training is delivered online. These challenges are compounded by a lack of experienced trainers, the loss of integrated soft skills and the risk to assessment integrity.

**Ethical sourcing of new materials:** As ethical sourcing of new materials and legislative requirements slowly takes hold there is an increased requirement for 'Chain of Custody' documentation. Some industry sectors perceive the required changes to business processes to meet ethical sourcing requirements as a potential challenge. Some companies are implementing the 'Cradle to Cradle' principles when designing new furniture, and it is anticipated to become more prevalent in Australia based on the example set by international markets. European manufacturers, for example, are required to demonstrate how they meet this principle before furniture or products can be taken to market.

## Considerations for Training

### Employers / Industry

Employers and industry need to consider:

- engagement with the supply chain and vendors and encourage partnerships with RTOs in regard to training on new technologies.
- encouraging development of soft skills (creativity, problem solving and innovation) in the workplace to meet the increasing demand for digital and related skills.
- how to invest and engage younger and new industry entrants in undertaking skills development so workers can see and feel the benefits in completing training.
- better succession planning and knowledge transfer (both ways) from new entrants and ageing workers.
- the appropriate skills set of workers in the Furnishing Industry to support them to work in the building industry during low periods.

### Learners / Workers

Training for workers needs to be more aware of different building codes in relation to future applications.

Assembly skill sets could be used to assist fabricators to build on existing qualifications to meet industry demand.

### Government

Both federal and state governments need to continue to work on harmonisation of training regulations and standards across states to assist with consistent national skills standards, as well as:

- improving the Training Package development process to ensure technology developments are integrated in a timelier fashion
- supporting systems so that accurate career advice is available and promoted
- being more proactive to assist RTO's timeliness in obtaining new qualifications on scope.

### Education and training

The VET system needs to ensure that:

- soft skills are incorporated in formal training delivery in response to demands for digital and related skills increasing

- online delivery and assessment is undertaken appropriately to meet industry needs
- appropriate trainer capability with respect to new technologies, as it is an important factor to deliver skills to industry
- opportunities to map non-accredited and vendor training to the national standards to assist with skills portability, and
- Training Packages are more adaptive, responsive, meaningful and relevant to work, employers and skill development.

# Appendix B: Employment in Furnishing Occupations

Employment trends for Furnishing occupations with more than 15,000 persons employed in May 2017: 2006, 2011 and 2016 census and May 2017 Labour Force Survey.

| ANZCO Code and Title | Employment trend 2006, 2011, 2016[49] | Skill Level | Employment May 2017 | Projected Employment Growth May 2017 to 2022 (%) |
|---|---|---|---|---|
| 3121 Architectural, Building and Surveying Technicians | | 2[50] | 66,200 | 10% |
| 3941 Cabinetmakers | | 3[51] | 31,900 | -2.1% |
| 8322 Product Assemblers | | 5 | 29,000 | -20.9% |
| 8214 Insulation and Home Improvement Installers | | 4 | 25,500 | 30.1% |
| 3999 Other Miscellaneous Technicians and Trades Workers | | 3 | 16,100 | -4.6% |
| 2325 Interior Designers | | 1 | 15,200 | 16.3% |

*Source: <https://auth.censusdata.abs.gov.au/webapi/jsf/login.xhtml>*
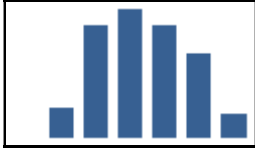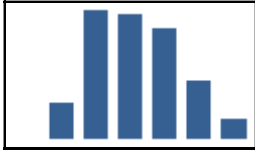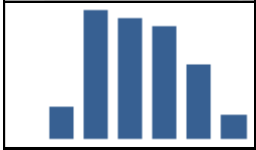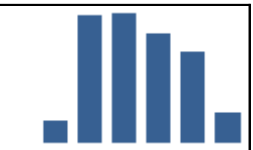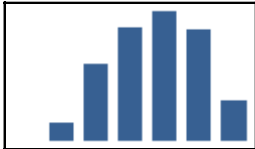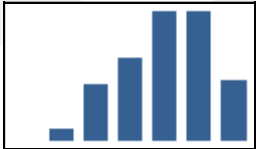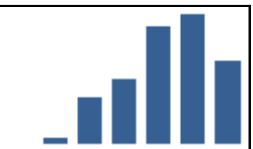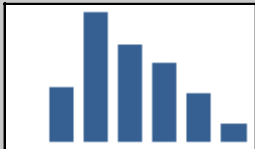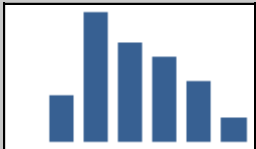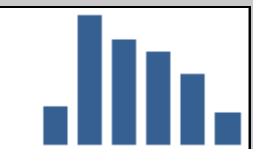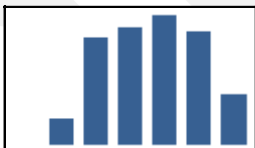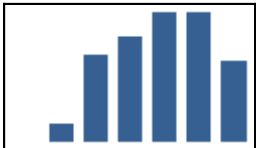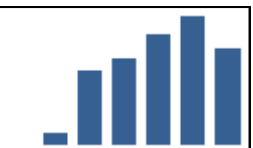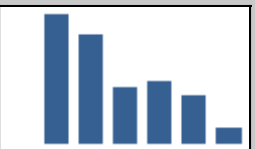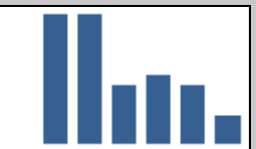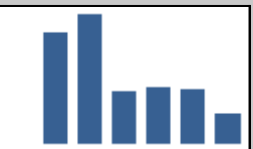
[49] ABS Census of Population and Housing; 2006, 2011 and 2016 available at <https://auth.censusdata.abs.gov.au/webapi/jsf/login.xhtml>

[50] Skill Level 2 is commensurate with an Advanced Diploma or Diploma.

[51] Skill Level 3 is commensurate with a Certificate IV or III (including at least 2 years on-the-job training).

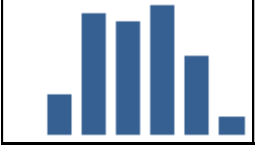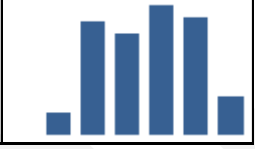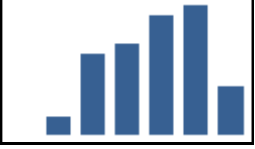# Appendix C: Employment in Furnishing Occupations by age group
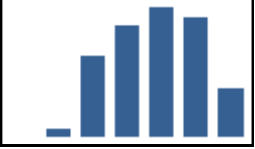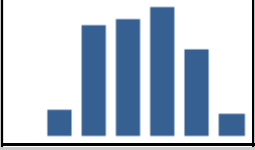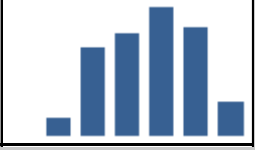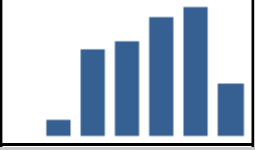
Age profile of employment in furnishing occupations: 2006, 2011 and 2016 Census with estimated May 2017 employment[52].

| Occupation Code and Title and *May 2017 employment*[53] | 2006 Age Profile[54] | 2011 Age Profile | 2016 Age Profile |
|---|---|---|---|
| 3321 Floor Finishers 12,700 | | | |
| 3331 Glaziers 9,800 | | | |
| 3933 Upholsterers 3,000 | | | |
| 3941 Cabinetmakers 31,900 | | | |
| 3942 Wood Machinists and Other Wood Trades Workers 4,800 | | | |
| 6211 Sales Assistants (General) 529,400 | | | |

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[52] *ABS Census of Population and Housing; 2006, 2011 and 2016 available through: <https://auth.censusdata.abs.gov.au/webapi/jsf/login.xhtml>*

[53] *Department of Jobs and Small Business Labour Market Information Portal (LMIP) Occupation Employment Projections May 2017 – May 2022*

[54] Note age groups from left to right are 15-19 years, 20-29 years, 30-39 years, 40-49 years, 50-59 years, 60 years +

| Occupation Code and Title and *May 2017 employment*[53] | 2006 Age Profile[54] | 2011 Age Profile | 2016 Age Profile |
|---|---|---|---|
| 7115 Plastics and Rubber Production Machine Operators<br><br>*9,200* | | | |
| 8322 Product Assemblers<br><br>*29,900* | | | |
| 8392 Plastics and Rubber Factory Workers<br><br>*2,300* | | | |

*Source: <https://auth.censusdata.abs.gov.au/webapi/jsf/login.xhtml>*

# Appendix D: Occupation Classifications

The following Australian and New Zealand Standard Classification of Occupations (ANZSCO) codes have been used in the employment analysis provided in section on Employment and Skills Outlook for the Furnishing Industry Skills Forecast.

| ANZSCO Unit Group | ANZSCO Unit Group and Description | ANZSCO Occupations | ANZSCO Occupation Title |
| --- | --- | --- | --- |
| 2323 | Fashion, Industrial and Jewellery Designers | 232312 | Industrial Designer |
| 2325 | Interior Designers | 232511 | Interior Designer |
| 3121 | Architectural, Building and Surveying Technicians | 312112 | Building Associate |
| 3321 | Floor Finishers | 332111 | Floor Finisher |
| 3331 | Glaziers | 333111 | Glazier |
| 3933 | Upholsterers | 393311 | Upholsterer |
| 3941 | Cabinetmakers | 394111 | Cabinetmaker |
| 3942 | Wood Machinists and Other Wood Trades Workers | 394211 | Furniture Finisher |
| 3942 | Wood Machinists and Other Wood Trades Workers | 394212 | Picture Framer |
| 3942 | Wood Machinists and Other Wood Trades Workers | 394213 | Wood Machinist |
| 3942 | Wood Machinists and Other Wood Trades Workers | 394214 | Wood Turner |
| 3942 | Wood Machinists and Other Wood Trades Workers | 394299 | Wood Machinists and Other Wood Trades Workers nec |
| 3995 | Performing Arts Technicians | 399515 | Musical Instrument Maker or Repairer |
| 3999 | Other Miscellaneous Technicians and Trades Workers | 399912 | Interior Decorator |
| 3999 | Other Miscellaneous Technicians and Trades Workers | 399916 | Plastics Technician |

| ANZSCO Unit Group | ANZSCO Unit Group and Description | ANZSCO Occupations | ANZSCO Occupation Title |
|---|---|---|---|
| 6113 | Sales Representatives | 611314 | Sales Representative (Personal and Household Goods) |
| 6211 | Sales Assistants (General) | 621111 | Sales Assistant (General) |
| 7115 | Plastics and Rubber Production Machine Operators | 711513 | Plastics Fabricator or Welder |
| 7115 | Plastics and Rubber Production Machine Operators | 711514 | Plastics Production Machine Operator (General) |
| 7115 | Plastics and Rubber Production Machine Operators | 711515 | Reinforced Plastic and Composite Production Worker |
| 8214 | Insulation and Home Improvement Installers | 821412 | Home Improvement Installer |
| 8322 | Product Assemblers | 832211 | Product Assembler |
| 8392 | Plastics and Rubber Factory Workers | 839211 | Plastics Factory Worker |
| 8392 | Plastics and Rubber Factory Workers | 839212 | Rubber Factory Worker |
| 8399 | Other Factory Process Workers | 839914 | Fabric and Textile Factory Worker |
| 8399 | Other Factory Process Workers | 839916 | Glass Processing Worker |

*Source: ABS publication 1220.0 - ANZSCO -- Australian and New Zealand Standard Classification of Occupations, 2013, Version 1.2*

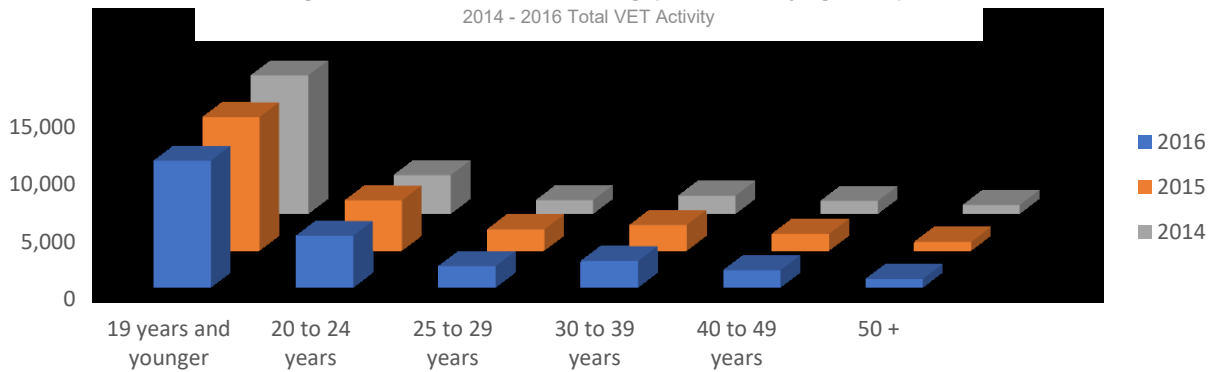# Appendix E: Training Package Enrolment Snapshot

Program enrolments in MSF Furnishing qualifications by State/Territory of student residence
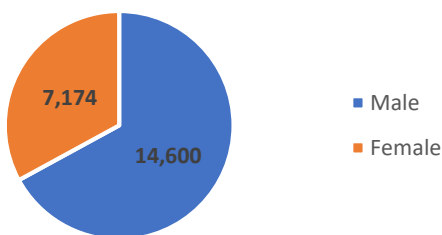2016 Total VET Activity
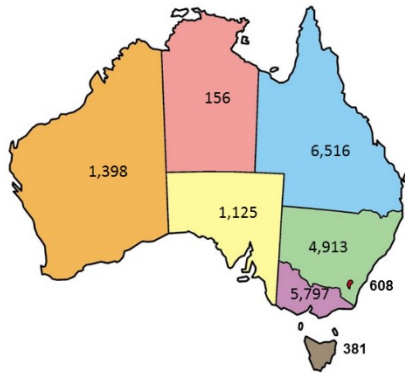


Program enrolments in MSF Furnishing qualifications by Training Organisation Type
2015 - 2016 Total VET Activity

| Training Organisation Type | 2015 | 2016 |
|---|---|---|
| TAFE | 49% | 48% |
| University | 4% | 3% |
| Enterprise provider | 0% | 0% |
| Private training provider | 24% | 24% |
| School | 22% | 20% |
| Community education provider | 1% | 5% |

Program enrolments in MSF Furnishing qualifications by Age Group
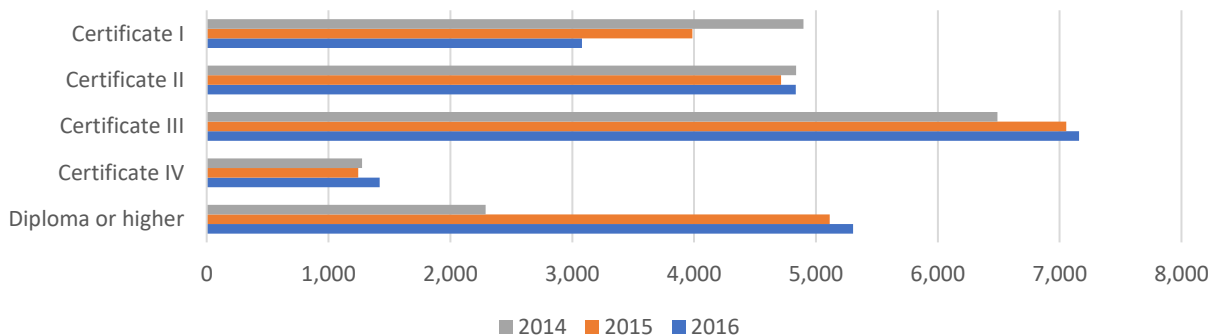2014 - 2016 Total VET Activity



Program enrolments in MSF Furnishing qualifications by Sex
2016 Total VET Activity



Program enrolments in MSF Furnishing qualifications by Apprentice/Trainee
Undertaking off-the-job training



Program enrolments by qualification level in MSF Furnishing qualifications
2014 - 2016 Total VET Activity