Australian Industry and Skills Committee

PROCESS MANUFACTURING

Case for Change

Name of allocated IRC(s): Process Manufacturing, Recreational Vehicles and Laboratory Industry Reference Committee
Name of the SSO: IBSA Manufacturing

1. Administrative information

*For a list of the products proposed to be reviewed as part of this project, please see **Attachment A**.*

Name of IRC(s):	Process Manufacturing, Recreational Vehicles and Laboratory Industry Reference Committee
Name of SSO:	IBSA Manufacturing

1.1 Name and code of Training Package(s) examined to determine change is required

MSM Manufacturing

2. The Case for Change

*For information on the job roles to be supported through the proposed qualifications updates, enrolments data, completion rates, and the number of RTOs delivering these qualifications please see **Attachment B**.*

2.1 Rationale for change

The Case for Change, which has been guided and informed by the Process Manufacturing, Recreational Vehicles and Laboratory Operations IRC, will investigate an improved structure for qualifications in the process manufacturing stream of the *MSM Manufacturing Training Package*. The work will include the review and redevelopment of four qualifications and 61 units of competency.

The four qualifications are:

MSM10116 Certificate I in Process Manufacturing

MSM20116 Certificate II in Process Manufacturing

MSM30116 Certificate III in Process Manufacturing

MSM40116 Certificate IV in Process Manufacturing

The 61 units of competency are listed at *Attachment A.*

The process manufacturing qualifications in this Case for Change provide skills for workers in process manufacturing production support roles. The qualifications were developed for roles that support the production of goods that are manufactured in bulk quantities from raw materials including refined oil, petrol, chemicals, cement and other manufactured mineral products, plastics and rubber.

The qualifications also apply to employees who operate across more than one area within the process manufacturing sector or those with technical skills for 'specialised processes' who are not required to have the full suite of operator skills.

In total, there were 37,902 businesses in the selected industry classes in 2016–19, with the number of businesses increasing by 4.5% during this period, see data table in *Attachment F.*

Since the process manufacturing qualifications were last updated in 2016, industry practices and skill needs have changed in response to increased levels of automation and advanced manufacturing processes. Increased competition, innovation, and government initiatives such as the ban on waste export and the Modern Manufacturing Strategy is also driving change in the industry. There is increased emphasis on new technology, Lean manufacturing, sustainable practices, and innovative and flexible responses and the process manufacturing qualifications seek to provide skills to support these advances.

The **Modern Manufacturing Strategy**, which provides $1.5 billion to revitalise Australian manufacturing and stimulate the economy through recovery from COVID-19 pandemic, will create further advancements in the sector through the **Modern Manufacturing Initiative** and the **Manufacturing Modernisation Fund**. The strategy intends to create 80,000 direct jobs and 300,000 support roles in the manufacturing sector over the next five years, which is likely to increase the demand for production support roles covered by these qualifications. Occupational Projections released by the Department of Employment, Skills, Small and

Family Business identifies an 8.5% increase in demand for workers in process manufacturing workers for the period May 2019 to May 2024, see *Attachment F.*

Further evidence of an increased demand for process manufacturing qualifications is the inclusion of the *MSM30116 Certificate III in Process Manufacturing* qualification in Western Australia and South Australia list of free TAFE courses under the JobTrainer program.[1]

In addition, similar support roles can be found in other industries such as food, beverages and pharmaceuticals manufacturing. The initial consultation for this Case for Change confirmed that the process manufacturing qualifications are being delivered in construction, manufactured goods, pharmaceuticals, laboratory operations, warehousing, and mining.

This Case for Change provides an opportunity to improve the cross-industry application of the process manufacturing qualifications.

Implications of not implementing change

The risks of not implementing the proposed changes are as follows:

- Training package content will not fully reflect the current and emerging skill needs in industry.
- Training package content will not reflect current work practices.
- Superfluous or low-enrolment qualifications will remain in the training system.
- Unit content which lacks clarity will remain in some training package components.

Therefore, a review of the current process manufacturing qualifications to improve alignment with contemporary job roles is timely. This will provide pathways to skill workers and ensure the Modern Manufacturing Strategy is fully supported.

2.2 Evidence for change

IBSA has undertaken extensive consultation and research since 2018 which has informed this Case for Change. The impact of automation, digitisation and robotics on process manufacturing and the need to redevelop these qualifications to better meet industry need was identified in the development of the 2018 Industry Skills Forecast. This industry imperative was confirmed the following year during consultation in the development of the 2019 Industry Skills Forecast.

Several stakeholder surveys and interviews have also been conducted over the past two years. Feedback obtained through these engagement activities highlighted the value of these qualifications and identified the need to improve the skills alignment to emerging and future job roles and work practice, technologies and systems. In turn these skills can support industry transition to new models in advanced manufacturing, Industry 4.0, digitisation and sustainability.

See Attachments F and G for details of the surveys and Attachment D for a summary of the issues identified, and the suggestion response.

2.3 Consideration of existing products

N/A (This case for change is not proposing to develop new content).

[1] MySkills 2020, Australian Government, accessed 11 January 2021, https://www.myskills.gov.au/jobtrainer

2.4 Approach to streamlining and rationalisation of the training products being reviewed

The current process manufacturing qualifications range from Certificate I through to Certificate IV. The vast majority of enrolments (92.5%) were in certificates III and IV for the period 2016-19 (total 21,673). Therefore, the project will investigate the opportunity to rationalise qualifications and units of competency to better reflect process support worker job roles and uptake of the qualifications.

There are 3 units of competency identified as low use/zero (20 or fewer) enrolments over the last 4 years. *See subject enrolment data in Attachment F.*

This project will consult with stakeholders to investigate why these units have low or no engagement and determine if the components are required, including any impact of deleting them. They will be reviewed and updated to align with industry need or marked for deletion if the skills and knowledge are no longer required by industry.

The project will also invite input from other IRCs with an interest in the cross-industry application of the process manufacturing qualifications.

3. Stakeholder consultation

3.1 Stakeholder consultation undertaken in the development of Case for Change

*For a full list of industry-specific stakeholders that actively participated in the stakeholder consultation process undertaken to develop the Case for Change, please see **Attachment C**.*

In addition to the consultation to inform the development of the 2018 and 2019 Industry Skills Forecasts, targeted consultation was undertaken in preparing this case for change.

This included a webpage, email blasts, surveys, telephone discussions, teleconferences, an industry engagement webinar and email follow up.

The consultation webpage was established in November 2020 to provide broad access to information about the development of this case for change and invite feedback on the training package components. This was promoted to IBSA stakeholders via an email blast. The consultation webpage included an invitation for stakeholders to participate in Industry and RTO Surveys that were open during the period 9 – 20 November 2020. The RTO Survey was also distributed directly to training providers with process manufacturing qualifications on scope.

Follow up phone interviews were undertaken with six survey respondents who agreed to be contacted. This included Fenner Dunlop, who use the process manufacturing qualifications and units to train staff across their operations, and several RTOs. The RTOs have strong industry links and reported that they deliver these qualifications in the process manufacturing, oil and gas and plastics sectors **and** in other industries including construction, manufactured goods, pharmaceuticals, laboratory operations, warehousing and mining.

The Process Manufacturing, Recreational Vehicles and Laboratory Operations IRC held an industry engagement webinar, Delivering modern manufacturing through a skilled workforce, on 1 December 2020. This webinar included a process manufacturing breakout group to discuss issues and future skill needs of the process manufacturing industry.

Finally, the public consultation included broad distribution of the draft Case for Change to 986 stakeholders, including training providers, State Training Authorities, associations, and industry. State Training Authorities distributed the draft case for change to key stakeholders in their jurisdictions to review. No objections from STAs was received. The draft Case for Change was available on the IBSA website from 28 January to 11 February 2021 and was viewed by 129 stakeholders.

The majority of enrolments in the process manufacturing qualifications are in Queensland, NSW, Victoria and Western Australia. The list of organisations consulted in Attachment C demonstrates broad consultation across these states.

The project will undertake targeted consultation across all States and Territories, where these qualifications are delivered. See State/Territory enrolment data table in Attachment F.

3.2 Evidence of Industry Support

*For a list of the issues raised by stakeholders during consultation and the IRC's response to these, please see **Attachment D.***

Consultation undertaken in the development of this Case for Change included IRC representatives, employers and training providers who provided evidence of the need to review and redevelop process manufacturing qualifications and units to better align with current and emerging job roles.

Issues identified by stakeholders highlight that there have been significant changes to work practices and processes since the process manufacturing qualifications were last reviewed in 2016. Manufacturing industries that use the process manufacturing qualifications are experiencing skills shortages due to an ageing workforce and loss of experienced workers exacerbated by the COVID-19 pandemic.

Additionally, the process manufacturing units included in this Case for Change are highly imported across training packages, therefore, standardising their language and terminology will improve cross-sector application. For example, Fenner Dunlop, a leading manufacturer of conveyer belts deliver *MSM10116 Certificate I in Process Manufacturing* to their employees as an entry or foundation qualification to the *Certificate II in Polymer Processing*. They also import MSM units, included in this case for change, in the *Certificate II in Polymer Processing*.

In addition, stakeholders raised the following issues to be addressed in redeveloped process manufacturing qualifications required to support skilling of a new generation of workers:

- The need for process manufacturing qualifications to keep up with new systems and technology in response to increasing levels of automation, digitisation, and robotics due to industry 4.0.
- Increased need for computer and technology skills.
- Need for organisations to work in a safer and more effective and efficient way.
- Industry is increasingly using sustainability principles, Lean manufacturing and technology that is efficient and environmentally friendly.

3.3 Proposed stakeholder consultation strategy for project

*Note: For a full list of industry-specific stakeholders who are planned to be contacted to participate in the stakeholder consultation process undertaken for this project, please see **Attachment E**.*

IBSA Manufacturing follows a training package development model, which supports the development of two drafts and two rounds of public consultation. Below is an overview of the process.

- Details about the project are made available on the IBSA Manufacturing website current projects.
- The IRC nominate Technical Advisory Committee members who will:
    - provide specific subject-matter advice and technical expertise for the development and review of the training package components. The TAC is made up of industry – representing the broad range of users – and RTO representatives.
    - attend regular meetings throughout the project to discuss draft documents, consider issues presented by stakeholders and through public consultation, and to provide expert advice.
- Develop draft training package components.
- Stakeholder consultation strategies include:

- Promoting the project via the IBSA website, newsletters and email notifications to subscribed stakeholders and industry groups at key stages of the project.
- Undertaking industry surveys to obtain feedback about:
  - the job roles of people involved in plastic pipeline design, welding, and installation
  - the key tasks performed in the workplace and the skills and knowledge required to complete the tasks competently
  - whether skills and knowledge have changed over time
  - the amount of evidence industry would want to see to know that a person is competent and ready to perform in the workplace.
- Undertake targeted consultation in South Australia and Western Australia where the Certificate III in Process Manufacturing has been included on the list of free courses under JobTrainer.
- Conducting broader consultation with industry through engagement and meetings with stakeholders, across a number of jurisdictions to collect industry intelligence to inform training package development work.
- The Northern Territory (NT) is geographically where the regional, rural and remote stakeholders have been identified that readily utilise the training package components in this case for change. Targeted consultation will be undertaken in partnership with the NT ITAB.
- Consult with the following manufacturing IRCs that import MSM units under review in this Case for Change; Aerospace, Manufacturing and Engineering, Furnishing, Sustainability and, Textiles Clothing and Footwear.
- Completing two rounds of public consultation of draft components for review and comment via the IBSA Manufacturing website.
  - feedback received during public consultations is tabled in an Issues Register and considered by the TAC.
- Consulting with state and territory training authorities (STAs) throughout the project through:
  - an initial briefing and maintaining open dialogue throughout the project.
  - requesting feedback on Draft 1 and Draft 2/Validation draft components.
  - providing opportunity for STAs to review the components and provide feedback at the conclusion of the project, as provisioned for in the Training Package Development and Endorsement Process Policy.

All feedback will be considered, and competing views dealt with through consultation. The outcomes will be approved in IRC meetings.

See Attachment E which provides a list of stakeholders to be contacted as part of the development of the Case for Endorsement.

4. Licencing or regulatory linkages

The process manufacturing qualifications do not have any links to licencing or regulation.

5. Project implementation

5.1 Prioritisation category

It is proposed that this review is progressed as a complex project.

The review of process manufacturing qualifications and associated units is more difficult due to the cross-sectoral nature of the process manufacturing units included in this case for change which are used across a broad range of training packages and industries. Analysis shows that individual units are extensively imported into qualifications across 19 training packages as listed in *Attachment F.*

Therefore, it will take longer to update these components due to the extent of consultation required to consider impacts of changes across the users of these products.

Add detail as recommended by Lauren once the timelines in 4.2 below have been confirmed.

5.2 Project milestones

- Key project milestones include:
  - *AISC project approval – April 2021*
  - *Draft 1 consultation – December 2021*
  - *Stakeholder validation – May 2022*
  - *Quality Assurance – July 2022*
  - *Final consultation with states and territories – September 2022*
  - *CfE submitted for approval – October2022*

5.3 Delivery or implementation issues

The Process Manufacturing, Recreational Vehicle and Laboratory Operations IRC is united in its support for this Case for Change. It is also mindful of potential sensitivities and the need to carefully manage a range of issues across the life of the project. These include:

- The need to develop content in ways that recognise and support the many different models of work in industry.
- Impact of changes to units given the extent to which they are used outside the process manufacturing qualifications.
- The need to get the balance of units right in redeveloping the Certificate III and IV qualifications to address the issue raised by employers and learners about the barriers to entry due to the time required to complete.
- The need to ensure change is constructive and mindful of implementation issues for RTOs.

The project consultation will explore stakeholder views and impacts for each of the above issues and draw on the expertise of the Process Manufacturing, Recreational Vehicle and Laboratory Operations IRC and members of the TAC to create balanced solutions that provide the best outcomes for all stakeholders.

6. Implementing the Skills Minister's Priority reforms for Training Packages (2015 and October 2020)

The case for change addresses the following priorities:

Ensure that 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 course choices:

- The Companion Volume Implementation Guide will include information on
  - industry expectations of training delivery
  - cross-industry application of the process manufacturing qualifications
  - alignment of the qualifications and units to advances and trends in process manufacturing and related industries.

Ensure the training system better supports individuals to move more easily between related occupations:

- Transportability of skills will be supported through the redevelopment of qualification packaging rules and the use of specialisations will be considered.

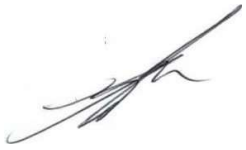
Improve the efficiency of the training system by creating units that can be owned and used by multiple industry sectors:

- Where relevant, the updated training package components will use cross-sector units.
- When reviewing units, consideration will be given to maintaining or improving cross-sector application.

Foster greater recognition of skill sets and work with industry to support their implementation:

- Not applicable.

This Case for Change was agreed to by the PMRVL IRC

Name of Chair	Keith Monaghan
Signature of Chair	
Date	9 March 2021

Attachment A: Training Package components to change

IBSA Manufacturing

Contact details: Antoinette Hewitt, General Manager SSO, Antoinette. Hewitt@ibsa.org.au, +61 3 9815 7000

Date submitted: 9 March 2021

Project number	Project Name	Qualification/ Unit / Skillset	Code	Title	Details of last review *(endorsement date, nature of this update transition, review, establishment)*	Change Required
1	Process Manufacturing	Qualification	MSM10116	Certificate I in Process Manufacturing	Minor IRC upgrade to update imported units 12 Jan 2017	**Update**
1	Process Manufacturing	Qualification	MSM20116	Certificate II in Process Manufacturing	Minor IRC upgrade to update imported units 12 Jan 2017	**Update**
1	Process Manufacturing	Qualification	MSM30116	Certificate III in Process Manufacturing	Minor IRC upgrade to update imported units 4 Sep 2020	**Update**
1	Process Manufacturing	Qualification	MSM40116	Certificate IV in Process Manufacturing	IRC upgrade to update imported units 4 Sep 2020	**Update**
1	Process Manufacturing	Unit	MSMOPS100	Use equipment	Transitioned and updated 2 Jun 2016	**Update**

Project number	Project Name	Qualification/ Unit / Skillset	Code	Title	Details of last review *(endorsement date, nature of this update transition, review, establishment)*	Change Required
1	Process Manufacturing	Unit	MSMOPS101	Make measurements	Minor edits for improved clarity. Range of conditions removed. Duplication between Performance Evidence and Performance Criteria removed. Assessment conditions updated. 5 Dec 2018	**Update**
1	Process Manufacturing	Unit	MSMOPS102	Perform tasks to support production	Transitioned and updated 15 Dec 2015	**Update**
1	Process Manufacturing	Unit	MSMOPS200	Operate equipment	Range of conditions removed. Duplication between Performance Evidence and Performance Criteria removed. Assessment conditions updated. 5 Dec 2018	**Update**
1	Process Manufacturing	Unit	MSMOPS201	Cut polymer materials	Transitioned and updated 2 Jun 2016	**Update**
1	Process Manufacturing	Unit	MSMOPS202	Fabricate polymer products	Transitioned and updated 2 Jun 2016	**Update**
1	Process Manufacturing	Unit	MSMOPS212	Use organisation computers or data systems	Transitioned and updated 15 Dec 2015	**Update**

Project number	Project Name	Qualification/ Unit / Skillset	Code	Title	Details of last review *(endorsement date, nature of this update transition, review, establishment)*	Change Required
1	Process Manufacturing	Unit	MSMOPS363	Organise on-site work	Transitioned and updated 2 Jun 2016	**Update**
1	Process Manufacturing	Unit	MSMOPS400	Optimise process/plant area	Transitioned and updated 2 Jun 2016	**Update**
1	Process Manufacturing	Unit	MSMSUP100	Apply workplace context to own job	Transitioned and updated 15 Dec 2015	**Update**
1	Process Manufacturing	Unit	MSMSUP101	Clean workplace or equipment	Minor edits for improved clarity. Range of conditions removed. Duplication between Performance Evidence and Performance Criteria removed. Assessment conditions updated. 5 Dec 2018	**Update**
1	Process Manufacturing	Unit	MSMSUP102	Communicate in the workplace	Minor edits for improved clarity. Range of conditions removed. Assessment conditions updated. 5 Dec 2018	**Update**
1	Process Manufacturing	Unit	MSMSUP106	Work in a team	Minor edits for improved clarity. Range of conditions removed. Duplication between Performance Evidence and Performance Criteria removed. Assessment conditions updated. 5 Dec 2018	**Update**
1	Process Manufacturing	Unit	MSMSUP200	Achieve work outcomes	Transitioned and updated 15 Dec 2015	**Update**

Project number	Project Name	Qualification/ Unit / Skillset	Code	Title	Details of last review *(endorsement date, nature of this update transition, review, establishment)*	Change Required
1	Process Manufacturing	Unit	MSMSUP204	Pack products or materials	Transitioned and updated 2 Jun 2016	**Update**
1	Process Manufacturing	Unit	MSMSUP210	Process and record information	Minor edits for improved clarity. Foundation skills specified. Range of conditions removed. Duplication between Performance Evidence and Performance Criteria removed. Assessment conditions updated. 5 Dec 2018	**Update**
1	Process Manufacturing	Unit	MSMSUP230	Monitor process operations	Transitioned and updated 2 Jun 2016	**Update**
1	Process Manufacturing	Unit	MSMSUP240	Undertake minor maintenance	Range of conditions removed. Duplication between Performance Evidence and Performance Criteria removed. Assessment conditions updated. 5 Dec 2018	**Update**
1	Process Manufacturing	Unit	MSMSUP273	Handle goods	Transitioned and updated 15 Dec 2015	**Update**
1	Process Manufacturing	Unit	MSMSUP280	Manage conflict at work	Transitioned and updated 15 Dec 2015	**Update**
1	Process Manufacturing	Unit	MSMSUP291	Participate in continuous improvement	Transitioned and updated 15 Dec 2015	**Update**

Project number	Project Name	Qualification/ Unit / Skillset	Code	Title	Details of last review *(endorsement date, nature of this update transition, review, establishment)*	Change Required
1	Process Manufacturing	Unit	MSMSUP300	Identify and apply process improvements	Minor edits for improved clarity. Range of conditions removed. Duplication between Performance Evidence and Performance Criteria removed. Assessment conditions updated. 5 Dec 2018	**Update**
1	Process Manufacturing	Unit	MSMSUP301	Apply HACCP to the workplace	Transitioned and updated 2 Jun 2016	**Update**
1	Process Manufacturing	Unit	MSMSUP303	Identify equipment faults	Transitioned and updated 2 Jun 2016	**Update**
1	Process Manufacturing	Unit	MSMSUP309	Maintain and organise workplace records	Transitioned and updated 2 Jun 2016	**Update**
1	Process Manufacturing	Unit	MSMSUP310	Contribute to the development of workplace documentation	Transitioned and updated 2 Jun 2016	**Update**
1	Process Manufacturing	Unit	MSMSUP330	Develop and adjust a production schedule	Transitioned and updated 2 Jun 2016	**Update**
1	Process Manufacturing	Unit	MSMSUP382	Provide coaching/mentoring in the workplace	Minor edits for improved clarity. Range of conditions removed. 5 Dec 2018	**Update**

Project number	Project Name	Qualification/ Unit / Skillset	Code	Title	Details of last review *(endorsement date, nature of this update transition, review, establishment)*	Change Required
1	Process Manufacturing	Unit	MSMSUP383	Facilitate a team	Transitioned and updated 15 Dec 2015	**Update**
1	Process Manufacturing	Unit	MSMSUP390	Use structured problem-solving tools	Minor edits for improved clarity. Range of conditions removed. 5 Dec 2018	**Update**
1	Process Manufacturing	Unit	MSMSUP400	Develop and monitor quality systems	Transitioned and updated 15 Dec 2015	**Update**
1	Process Manufacturing	Unit	MSMSUP404	Coordinate maintenance	Transitioned and updated 2 Jun 2016	**Update**
1	Process Manufacturing	Unit	MSMENV172	Identify and minimise environmental hazards	Transitioned and updated 2 Jun 2016	**Update**
1	Process Manufacturing	Unit	MSMENV272	Participate in environmentally sustainable work practices	Minor edits for improved clarity. Range of conditions removed. Duplication between Performance Evidence and Performance Criteria removed. Assessment conditions updated. 5 Dec 2018	**Update**
1	Process Manufacturing	Unit	MSMENV472	Implement and monitor environmentally sustainable work practices	Transitioned and updated 15 Dec 2015	**Update**

Project number	Project Name	Qualification/ Unit / Skillset	Code	Title	Details of last review *(endorsement date, nature of this update transition, review, establishment)*	Change Required
1	Process Manufacturing	Unit	MSMPER200	Work in accordance with an issued permit	Transitioned and updated 15 Dec 2015	Update
1	Process Manufacturing	Unit	MSMPER201	Monitor and control work permits	Transitioned and updated 2 Jun 2016	Update
1	Process Manufacturing	Unit	MSMPER205	Enter confined space	Adjustment to Assessment Requirements to meet industry requirements. 12 Jan 2017	Update
1	Process Manufacturing	Unit	MSMPER300	Issue work permits	Addition of information missing from the Assessment Requirements. 12 Jan 2017	Update
1	Process Manufacturing	Unit	MSMWHS100	Follow WHS procedures	Transitioned and updated 2 Jun 2016	Update
1	Process Manufacturing	Unit	MSMWHS110	Follow emergency response procedures	Transitioned and updated 15 Dec 2015	Update
1	Process Manufacturing	Unit	MSMWHS200	Work safely	Mapping information updated. 24 Jun 2019	Update
1	Process Manufacturing	Unit	MSMWHS201	Conduct hazard analysis	Transitioned and updated 2 Jun 2016	Update

Project number	Project Name	Qualification/ Unit / Skillset	Code	Title	Details of last review *(endorsement date, nature of this update transition, review, establishment)*	Change Required
1	Process Manufacturing	Unit	MSMWHS205	Control minor incidents	Transitioned and updated 15 Dec 2015	**Update**
1	Process Manufacturing	Unit	MSMWHS210	Undertake first response to non-fire incidents	Addition of information missing from the Assessment Requirements. 12 Jan 2017	**Update**
1	Process Manufacturing	Unit	MSMWHS216	Operate breathing apparatus	Transitioned and updated 2 Jun 2016	**Update**
1	Process Manufacturing	Unit	MSMWHS217	Gas test atmospheres	Transitioned and updated 2 Jun 2016	**Update**
1	Process Manufacturing	Unit	MSMWHS300	Facilitate the implementation of WHS for a work group	Transitioned and updated 2 Jun 2016	**Update**
1	Process Manufacturing	Unit	MSMWHS400	Contribute to WHS management system	Transitioned and updated 2 Jun 2016	**Update**
1	Process Manufacturing	Unit	MSMWHS401	Assess risk	Transitioned and updated 2 Jun 2016	**Update**
1	Process Manufacturing	Unit	MSMWHS218	Control the risks of falls	Transitioned and updated 2 Jun 2016	**Update**

Project number	Project Name	Qualification/ Unit / Skillset	Code	Title	Details of last review *(endorsement date, nature of this update transition, review, establishment)*	Change Required
1	Process Manufacturing	Unit	MSMWHS212	Undertake first response to fire incidents	Transitioned and updated 2 Jun 2016	**Update**
1	Process Manufacturing	Unit	MSMPER400	Coordinate permit process	Transitioned and updated 2 Jun 2016	**Update**
1	Process Manufacturing	Unit	MSMPER202	Observe permit work	Transitioned and updated 2 Jun 2016	**Update**
1	Process Manufacturing	Unit	MSMSUP406	Identify faults in electronic control	Transitioned and updated 2 Jun 2016	**Update**
1	Process Manufacturing	Unit	MSMSUP405	Identify problems in fluid power system	Transitioned and updated 2 Jun 2016	**Update**
1	Process Manufacturing	Unit	MSMSUP292*	Sample and test materials and product	Transitioned and updated 2 Jun 2016	**Update**
1	Process Manufacturing	Unit	MSMSUP205	Transfer loads	Transitioned and updated 2 Jun 2016	**Update**
1	Process Manufacturing	Unit	MSMOPS401	Trial new process or product	Transitioned and updated 2 Jun 2016	**Update**

Project number	Project Name	Qualification/ Unit / Skillset	Code	Title	Details of last review *(endorsement date, nature of this update transition, review, establishment)*	Change Required
1	Process Manufacturing	Unit	MSMOPS244	Lay out and cut materials	Transitioned and updated 2 Jun 2016	**Update**
1	Process Manufacturing	Unit	MSMOPS301	Treat corrosion	Transitioned and updated 2 Jun 2016	**Update**

Attachment B: Job role, enrolment information, the number of RTOs currently delivering these qualifications

Please set out the job roles to be supported through the updated qualifications, enrolment data over the past three years in which data is available for each qualification, completion rates for each qualification, and the number of RTOs delivering these qualifications.

Job role	Qualification to be updated to support the job role	Enrolment data (for the past three years)	Completion rates (for the past three years)	Number of RTOs delivering (for the past three years)
Plastics and Rubber Factory Workers	Certificate I in Process Manufacturing	152	140	1
Chemical Plant Worker	Certificate II in Process Manufacturing	904	340	11
Miscellaneous Factory Process Workers	Certificate III in Process Manufacturing	11,050	7,030	35
Factory Process Workers	Certificate IV in Process Manufacturing	4,452	895	8

Attachment C: List of stakeholders that actively participated in the consultation process of the Case for Change

Name of stakeholder		Title	Organisation	Organisation type (e.g. Employer, peak body, union, RTO, regulator)	Jurisdiction/town/city (e.g. NSW/Sydney)
Jenni	Baker	N/A	Kirana Ed	Training/Education	NSW
Julie	Van Belkom	Training & Quality Manager	National Training Services	Training/Education	VIC
Mike	Keaney	Senior Learning Consultant	The Management Edge	Training/Education	VIC
Nicole	Edwards	RTO Manager	Vative	Training/Education	VIC
Kevin	Smalley	N/A	Formation Training	Training/Education	QLD
Warren	Dennis	CEO	HS Business School	Training/Education	QLD
Adrian	Tanner	National Training Manager	Fenner Dunlop	Employer	WA
Alexandra	Krambousanos	Teacher	TAS TAFE	Training/Education	TAS
Andrew	Carney	Operations Manager	ABC Training	Training/Education	QLD
Caroline	Tung	Journalist	Prime Creative Media	Industry publisher	NSW
Craig	Taylor	Teacher	TAFE NSW	Training/Education	NSW
Gavin	Simpson	Teacher	TAFE NSW	Training/Education	NSW
Katrina	Daniels	VET Manager	CQUniversity	Training/Education	QLD
Leah	Simmons	Industry Lead	TAFE NSW	Training/Education	NSW

Leanne	Reid	Learning & Development Coordinator	Qenos Pty Ltd	Employer	NSW
Leon	Drury	Executive Officer	Manufacturing Skills Australia	Advisory Group to government	NSW
Matthew	Pearson	Teacher	CQ University	Training/Education	QLD
Matt	Horbach	Head of Programs	South Metropolitan TAFE	Training/Education	WA
Michael	Short	Teacher	TAFE NSW	Training/Education	NSW
Nathanael	Green	N/A	Strategix Training	Training/Education	QLD
Nigel	Haywood	Senior Manager	Minerals Council of Australia	Industry Association	NAT
Peter	Milligan	CEO	The Australian Institute For NDT	National Peak Body for NDT & CM	VIC
Troy	Knight	Workplace Trainer	Strategix Training	Training/Education	QLD
Vince	Blanco	Team leader for innovation, manufacturing, robotics and science	TAFE NSW	Training/Education	NSW
William	Roberts	Teacher	TAFE NSW	Training/Education	NSW
			Eagle Training services NT	Training/Education	NT
			Site Skills Training	Training/Education	NT
			Civil Safety	Training/Education	NT
			Industry Skills Advisory Council NT	Training/Education	NT
			All Global Training	Training/Education	NT

Wayne	Lee		Queensland Industry Skills Adviser Manufacturing Education and Training	Training/Education	QLD
Kent	Wyllie	General Manager	Tasmanian Minerals, Manufacturing and Energy Council	Membership based organisation	TAS
			ACT STA	State Training Authority	ACT
			NSW STA	State Training Authority	NSW
			NT STA	State Training Authority	NT
			VIC STA	State Training Authority	VIC
			WA STA	State Training Authority	WA
			TAS STA	State Training Authority	TAS
			QLD STA	State Training Authority	QLD

Attachment D: Issues Raised by Stakeholders during consultation on the development of the Case for Change

Stakeholder Type	Issues Raised	IRC's Response to Issues Raised
Industry Reference Committee (IRC) Representatives	The industry has an aging workforce, leaving due to COVID-19, and it will be difficult to get them back.	Updated qualifications will support skilling of new generation of workers with the skills industry need to grow and innovate to new business models and technologies.
Peak Industry Bodies	N/A	N/A
Employers (Non-IRC)	The need to standardise language between MSM units with PMB units due to the high level of importation. Currently there are conflicting terms across these two training packages which creates issues for delivery and assessment when MSM units are imported into PMB qualifications.	This project will address the difference in wording and terminology so that there is consistence across the two training packages. Ensure wording is clear, concise and uses common industry language. Review qualifications in line with contemporary job role requirements.
	It is unclear to employers what skills and knowledge to expect from individuals with a process manufacturing qualification.	Although qualification flexibility will remain a key focus of the MSM process manufacturing qualifications. The project will make the following improvements: • Review current units of competency across the process manufacturing qualifications and consider the introduction of specialisations. • Provide clear delineation between process manufacturing and other manufacturing roles Consider the introduction of specialisations. • Review qualification descriptors and the range of industries identified to reflect the full extent of their application.

Stakeholder Type	Issues Raised	IRC's Response to Issues Raised
	Increasing levels of automation, digitisation and robotics in the manufacturing industry.	Investigate the impact of automation, digitisation and robotics on process manufacturing occupations and determine the implications for skill development.
	The need to incorporate sustainability principles and Lean manufacturing.	Incorporate Lean manufacturing through the inclusion of units in Competitive Systems and Practices from the MSS Sustainability Training Package. Incorporate sustainability principles, including circular economy, as appropriate.
Regulators	N/A	N/A
Registered Training Organisations (RTOs)	The need for a stronger focus on industry trends such as Lean manufacturing, sustainability and advanced technologies (e.g. by incorporating electives from competitive systems and practices qualifications).	Review selection of qualification elective units from MSM, MEM and MSS in areas such as 3D printing, automation/robotics, hand tools, injection moulding & Lean manufacturing. Incorporate sustainability principles, including circular economy, as appropriate.
	Need to improve units to make them fit-for-purpose.	Review and update units to: • improve the elements and performance criteria • removal of the Range Statement • make foundation skills more explicit • remove duplication of assessment requirements across units.
	Qualification packaging rules incorporate deleted and updated units from PMC, PMA and PMB.	Remove reference to PMC in packaging rules. Review refences to PMA and PMB to reflect updates.
	Length of the Certificate III and IV qualifications is a barrier to enrolment for employers and learners.	Review qualifications in line with contemporary job role requirements.

Stakeholder Type	Issues Raised	IRC's Response to Issues Raised
Training Boards/Other	N/A	N/A
State and Territory Training Authorities (STAs)	N/A	N/A
Unions	N/A	N/A
Please add other categories as appropriate	N/A	N/A

Attachment E: List of stakeholders to be contacted as part of the development of the Case for Endorsement

Name of Stakeholder	Title	Organisation	Organisation type (e.g. Employer, peak body, union, RTO, regulator)	Jurisdiction/town/city (e.g. NSW/Sydney)
Juliana Fitzpatrick		Department for Innovation and Skills	State Training Authority	South Australia
Filippa Ross		Department of Education and Training	State Training Authority	Queensland
Lavenya Rajendra		Department of Industry	State Training Authority	New South Wales
Dianne Campbell		Department of Industry, Tourism and Trade	State Training Authority	Northern Territory
Frances Parnell		Department of Training and Workforce Development	State Training Authority	Western Australia
Jacqueline Spencer		Department of Education and Training	State Training Authority	Victoria
Linda Seaborn		Department of State Growth	State Training Authority	Tasmania
Tim Sealey		Skills Canberra	State Training Authority	Australian Capital Territory

Amanda Hamilton		Resources Industry Training Council	Industry Training Advisory Body	Western Australia
Paul Saunders	Executive Officer	Curriculum Maintenance Management Service – General Manufacturing	Industry Training Advisory Body	Victoria
Yvonne Webb		Industry Skills Advisory Council	Industry Training Advisory Body	Northern Territory
Leon Drury		Manufacturing Skills Australia	Industry Training Advisory Body	New South Wales
Wayne Lee		AiGroup	Industry Training Advisory Body	Queensland
Adrian Tanner	National Training Manager	Fenner Dunlop	Industry	WA
Evelyn Clarke	Director	ECB Training Services PTY LTD	Training Provider	NT Outer Regional
		Manufacturing Australia	Peak Body	National
		Australian Workers Union (AWU)	Union	National
Ian Curry	National Coordinator – Skills, Training & Apprenticeships	Australian Manufacturing Workers Union (AMWU)	Union	National
		National Union of Workers (NUW)	Union	National
		Eagle Training services NT	Training/Education	NT
		Site Skills Training	Training/Education	NT
		Civil Safety	Training/Education	NT
		Industry Skills Advisory Council NT	Training/Education	NT

		All Global Training	Training/Education	NT
Wayne Lee		Queensland Industry Skills Adviser Manufacturing Education and Training	Training/Education	QLD
Kent Wyllie	General Manager	Tasmanian Minerals, Manufacturing and Energy Council	Employer	TAS

Attachment F: Additional Data to support this Case for Change

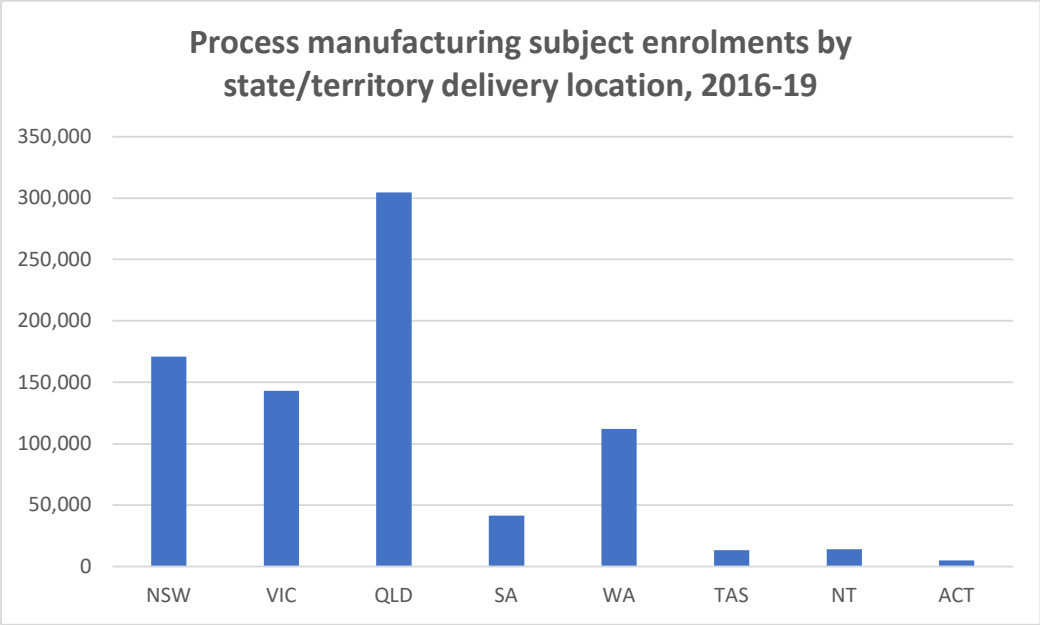
Subject Enrolments 2016-19

Unit of competency	2016	2017	2018	2019	Total
MSMPER200 - Work in accordance with an issued permit	9,285	28,890	39,795	42,175	**120,145**
MSMWHS217 - Gas test atmospheres	3,055	26,005	39,935	44,520	**113,515**
MSMENV272 - Participate in environmentally sustainable work practices	2,135	18,280	21,475	27,715	**69,605**
MSMPER205 - Enter confined space	1,880	16,535	24,390	24,905	**67,710**
MSMWHS200 - Work safely	3,030	15,615	17,185	18,185	**54,015**
MSMWHS216 - Operate breathing apparatus	1,420	10,190	14,750	14,410	**40,770**
MSMWHS201 - Conduct hazard analysis	210	5,000	12,595	13,305	**31,110**
MSMPER202 - Observe permit work	895	7,605	10,815	10,645	**29,960**
MSMPER300 - Issue work permits	295	4,890	10,455	11,350	**26,990**
MSMSUP106 - Work in a team	1,350	6,735	8,170	8,345	**24,600**
MSMWHS110 - Follow emergency response procedures	1,320	5,230	6,450	7,090	**20,090**
MSMSUP102 - Communicate in the workplace	1,660	5,605	6,185	6,150	**19,600**
MSMWHS100 - Follow WHS procedures	670	5,130	5,170	5,800	**16,770**
MSMSUP210 - Process and record information	505	3,765	4,120	5,335	**13,725**
MSMOPS101 - Make measurements	370	3,490	3,925	4,705	**12,490**
MSMSUP100 - Apply workplace context to own job	140	3,210	3,870	4,600	**11,820**
MSMSUP101 - Clean workplace or equipment	165	3,190	3,205	4,740	**11,300**
MSMSUP303 - Identify equipment faults	130	2,580	3,660	4,780	**11,150**
MSMOPS102 - Perform tasks to support production	175	3,410	3,385	4,150	**11,120**
MSMENV472 - Implement and monitor environmentally sustainable work practices	320	3,095	3,500	4,030	**10,945**
MSMSUP291 - Participate in continuous improvement	220	2,705	3,030	4,465	**10,420**
MSMOPS200 - Operate equipment	240	2,680	3,085	3,950	**9,955**
MSMSUP390 - Use structured problem-solving tools	225	3,050	3,785	2,755	**9,815**
MSMSUP383 - Facilitate a team	55	2,125	2,515	3,515	**8,210**
MSMSUP382 - Provide coaching/mentoring in the workplace	5	2,105	2,290	3,195	**7,595**
MSMWHS300 - Facilitate the implementation of WHS for a work group	-	1,995	2,340	3,060	**7,395**
MSMWHS212 - Undertake first response to fire incidents	230	1,635	2,555	2,735	**7,155**
MSMPER201 - Monitor and control work permits	65	1,450	2,760	2,600	**6,875**
MSMSUP200 - Achieve work outcomes	350	1,300	1,145	1,550	**4,345**
MSMSUP300 - Identify and apply process improvements	20	695	910	1,160	**2,785**
MSMOPS100 - Use equipment	125	725	905	910	**2,665**

Unit of competency	2016	2017	2018	2019	Total
MSMENV172 - Identify and minimise environmental hazards	20	175	555	945	**1,695**
MSMWHS205 - Control minor incidents	75	275	660	465	**1,475**
MSMSUP301 - Apply HACCP to the workplace	-	215	560	685	**1,460**
MSMSUP205 - Transfer loads	70	225	230	765	**1,290**
MSMSUP280 - Manage conflict at work	5	190	280	600	**1,075**
MSMSUP273 - Handle goods	15	265	430	275	**985**
MSMOPS400 - Optimise process/plant area	-	240	300	240	**780**
MSMSUP240 - Undertake minor maintenance	45	170	250	290	**755**
MSMOPS212 - Use organisation computers or data systems	50	145	225	200	**620**
MSMOPS244 - Lay out and cut materials	-	95	245	250	**590**
MSMSUP204 - Pack products or materials	35	345	60	150	**590**
MSMSUP309 - Maintain and organise workplace records	45	305	115	45	**510**
MSMSUP400 - Develop and monitor quality systems	-	115	195	200	**510**
MSMSUP310 - Contribute to the development of workplace documentation	100	90	165	130	**485**
MSMSUP292 - Sample and test materials and product	5	65	185	175	**430**
MSMOPS363 - Organise on-site work	30	95	115	160	**400**
MSMOPS301 - Treat corrosion	35	105	75	135	**350**
MSMWHS401 - Assess risk	5	80	100	110	**295**
MSMWHS210 - Undertake first response to non-fire incidents	25	130	105	25	**285**
MSMSUP404 - Coordinate maintenance	-	35	55	105	**195**
MSMWHS400 - Contribute to WHS management system	-	5	60	95	**160**
MSMSUP230 - Monitor process operations	-	40	40	55	**135**
MSMSUP330 - Develop and adjust a production schedule	-	75	30	30	**135**
MSMSUP405 - Identify problems in fluid power system	-	5	30	100	**135**
MSMOPS401 - Trial new process or product	-	20	20	-	**40**
MSMWHS218 - Control the risks of falls	-	15	10	10	**35**
MSMPER400 - Coordinate permit process	-	10	10	-	**20**
MSMSUP406 - Identify faults in electronic control	-	-	5	-	**5**
MSMOPS201 - Cut polymer materials	N/A	N/A	N/A	N/A	**0**
MSMOPS202 - Fabricate polymer products	N/A	N/A	N/A	N/A	**0**
Totals	**31,105**	**202,445**	**273,465**	**303,070**	**810,085**

Source NCVER VOCSTATS, extracted 19 February 2021

Enrolments by state/territory 2016–19



Source NCVER VOCSTATS, extracted 19 February 2021

List of Training Package that import units contained in this Case for Change:

AHC - Agriculture, Horticulture and Conservation and Land Management

AMP - Australian Meat Processing

AUR - Automotive Retail, Service and Repair

BSB – Business Services

FBP - Food, Beverage and Pharmaceutical

FWP - Forest and Wood Products

ICP - Printing and Graphic Arts

MAR - Maritime

MEA - Aerospace

MEM – Manufacturing and Engineering

MSF - Furnishing

MSL – Laboratory Operations

MSS - Sustainability

MST – Textiles, Clothing and Footwear

PMA - Chemical, Hydrocarbons and Refining

PMB - Plastics, Rubber and Cablemaking

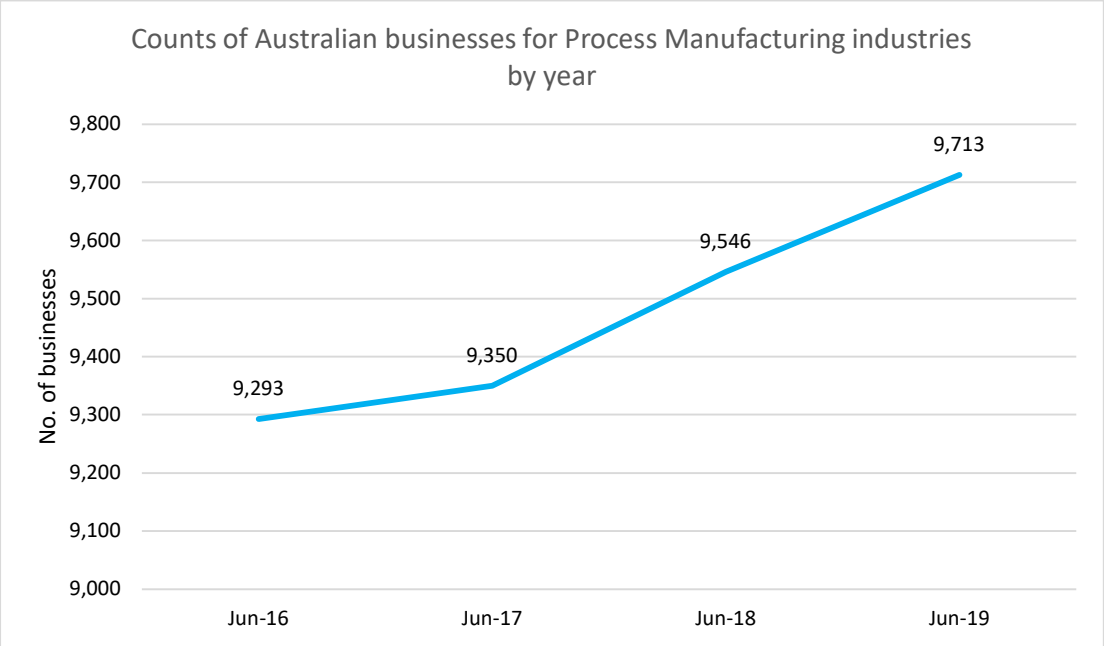
PPM - Pulp & Paper Manufacturing Industry

RII - Resources and Infrastructure Industry

UEG - Gas Industry

Business Data 2016–19

Total number of businesses for Process Manufacturing industries, 2016–19



Top 10 MSM Process Manufacturing industries by total number of businesses and year

"Rigid and Semi-Rigid Polymer Product Manufacturing" and "Other Non-Metallic Mineral Product Manufacturing" accounted for the highest number of businesses in 2016–19.

ANZSIC Industry Class	ANZSIC Industry Label	Jun-16	Jun-17	Jun-18	Jun-19	Total
1912	Total Rigid and Semi-Rigid Polymer Product Manufacturing	1,245	1,249	1,248	1,224	4,966
2090	Total Other Non-Metallic Mineral Product Manufacturing	1,092	1,152	1,247	1,330	4,821
1919	Total Other Polymer Product Manufacturing	832	828	816	837	3,313
2034	Total Concrete Product Manufacturing	795	816	810	805	3,226
2010	Total Glass and Glass Product Manufacturing	698	675	646	625	2,644
1852	Total Cosmetic and Toiletry Preparation Manufacturing	521	545	603	690	2,359
2029	Total Other Ceramic Product Manufacturing	422	410	395	401	1,628
1851	Total Cleaning Compound Manufacturing	395	383	396	404	1,578
1841	Total Human Pharmaceutical and Medicinal Product Manufacturing	338	374	407	433	1,552
1916	Total Paint and Coatings Manufacturing	333	333	340	335	1,341
Totals		**6,671**	**6,765**	**6,908**	**7,084**	**27,428**

Occupation Projections to May 2024[1]

Occupation Code	Occupation	Employment level May 2019 ('000)	Department of Employment, Skills, Small and Family Business Projections		
			Projected employment level May 2024 ('000)	Projected employment growth five years to May 2024	
				('000)	(%)
8392	Plastics and Rubber Factory Workers	3.5	3.2	-0.3	-7.4
8399	Other Factory Process Workers	13.7	14.0	0.3	2.5
8390	Miscellaneous Factory Process Workers nfd	0.2	0.2	0.0	1.8
8999	Other Miscellaneous Labourers	74.7	81.4	6.7	8.9
-	**TOTALS**	**92.1**	**98.8**	**6.8**	**5.8**

[1] Labour Market Information Portal, Australian Government, Occupation Projections – 5 years to May 2024 (Excel), Accessed on 18 January 2021

Attachment G: 2018 Process Manufacturing RTO Survey

Survey Findings Report

Key Findings

The results of the survey show that:

- overall, RTOs are very happy with the process manufacturing qualifications;
- the flexibility of the qualifications is highly valued;
- the majority of RTOs for whom these qualifications are working well are partnering with employers to tailor the qualifications to specific workplace needs;
- strengthening the focus on industry trends such as Lean manufacturing and reducing the length of the Certificate III and IV qualifications may make this group of qualifications more attractive to employers and learners in the future.

About the Survey

IBSA Manufacturing commissioned Ithaca Group to undertake a survey of RTOs with Certificate I, II, III or IV in Process Manufacturing on their scope of registration. The survey was conducted in August–September 2018.

Initially, all 47 RTOs that had any of these qualifications on their scope of registration were contacted in order to determine:

- how many were actually delivering these qualifications
- what the level of demand was
- reasons for not delivering them.

In-depth interviews were then conducted with a selection of these RTOs to learn more about learner cohorts and whether changes are needed to the qualifications.

These survey findings are intended to inform preparation of the 2019 Industry Skills Forecast and Proposed Schedule of Work for the *MSM Manufacturing Training Package*.

Findings of Initial Survey Contacts

Of the 47 public and private RTOs across Australia with one of more of the process manufacturing qualifications on their scope of registration, 30 responded to the initial brief telephone survey. Of these, 22 were delivering one or more of the qualifications.

Further details of which qualifications are and aren't being delivered by these 30 RTOs are outlined in the table below (note that some RTOs deliver more than one of the qualifications).

Qualification on Scope	Currently Delivering	Not Currently Delivering
Certificate I	1	3
Certificate II	1	3
Certificate III	15	6
Certificate IV	4	1
Total	22	13

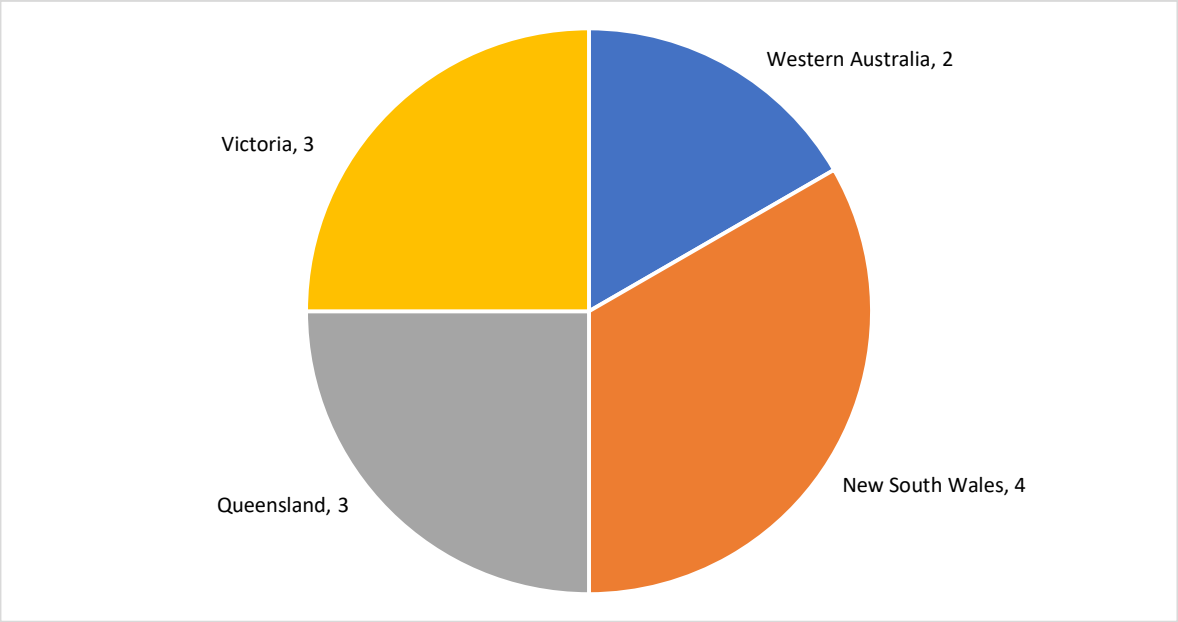
Of the RTOs not currently delivering qualifications on scope, one RTO was planning to deliver all four qualifications within the next year and another was planning to remove the qualifications from their scope.

The most common reasons given for not delivering process manufacturing qualifications on scope were a lack of demand and a lack of skilled trainers.

Findings of In-Depth Interviews

Following the initial scoping conversations, in-depth interviews were conducted by phone or through written responses with a total of ten individuals representing twelve RTOs across Australia.

Figure A: RTO Locations and numbers



Amongst RTOs participating in the in-depth interviews, the most commonly delivered qualification was the Certificate III in Process Manufacturing.

Of the respondents:

- one RTO was currently delivering the Certificate I in Process Manufacturing;
- one RTO was currently delivering the Certificate II in Process Manufacturing;
- eight RTOs were currently delivering the Certificate III in Process Manufacturing; and
- three RTOs were currently delivering the Certificate IV in Process Manufacturing.

Learner Types & Industries

Five of the RTOs involved in the in-depth interviews had between 50 and 100 learners enrol in process manufacturing qualifications in 2018, four RTOs had more than 100, while one RTO had 10–50 learners enrol this year. Two of the RTOs were unable to tell us how many learners they had enrolled in 2018.

Eight of the twelve RTOs delivered these qualifications solely to employees. In some cases, qualifications were offered to both employees and jobseekers, however in these cases the larger proportion of learners (up to 80%) were existing workers. Just two RTOs (out of twelve) delivered process manufacturing qualifications to jobseekers only.

Learners enrolling in these qualifications represented a wide range of job roles generally comprising technicians/operators at the Certificate I–III level and supervisors/team leaders at the Certificate IV level.

Process manufacturing qualifications can be applied to almost any industry. As such, learners also represented an extremely wide range of industries including manufacturing, mining and resources, chemicals, warehouse/logistics, food & beverage, commercial laundries, recycling facilities, water and sewage treatment, hospitals, engineering works, furniture assembly, construction equipment manufacturing, canvas/textile industry, steel products, importing, packaging, plastics industries, concrete supplies and more.

Industry, Employer and Learner Needs

In order to find out how well qualifications within the Process Manufacturing Training Package are currently meeting the needs of industry, employers and learners, respondents were asked to identify what's working well, what could be improved and what's missing in the qualifications that they deliver. Respondents also provided their opinion of the effectiveness of the qualifications in meeting employer and learner needs by rating the qualifications that they deliver on a scale of 1–10.

What is Working Well?

Flexibility, content and skills development were most commonly cited as working well in the current qualifications. These, and other responses, are expanded below.

Flexibility

Overall, the flexibility of the qualifications was viewed as a real benefit by almost all respondents (90%). Reasons cited included:

- Being able to add value from the broad range of units in other packages as electives;
- Their generic nature which allows them to be applied to any number of industries; in comparison, other qualifications were considered too restrictive to allow this;
- Being able to tailor qualifications to meet employer needs.

For many, and particularly RTOs delivering in workplace settings, the real value of flexibility lies in the fact that the packaging rules are open but enable specialisation as well. For example, in tyre manufacturing, the packaging rules allow RTOs to construct qualifications that enable learners to specialise in polymer manufacture.

The broad nature of the qualifications allows them to be packaged up to include a mixture of process manufacturing (MSM) and competitive systems and practices units (MSS). Forklift units were also noted to be in demand.

In the case of the Certificate I, the flexibility of being able to choose electives out of other equivalent qualifications or the Certificate II allows providers to modify the qualification to closely resemble the occupation.

Overall, the flexibility of the qualifications was seen to be of benefit to employers because, as one participant noted, 'It allows us to say, "let's map YOUR processes", which makes it relevant to the employer.' For learners, it is also of benefit because the result is a fully contextualised qualification, relevant to the industry that they are working in.

Content

Approximately half of respondents explicitly identified that the existing core units were good, with one participant extending this to include electives.

Skills Development

Overall, the majority of respondents felt that the qualifications meet the primary skills development needs of employers and learners. Respondents noted that the qualifications:

- Provide a good grounding in employability skills including skills like working in a team;
- Help learners to develop a basic understanding of workplace practices;

- Cover what most employers are looking for, which are the general skills, e.g. make calculations, identify signs, and health and safety; and
- Introduce both the process and maintenance aspects of process manufacturing.

One respondent delivering the Certificate IV felt that the qualification enables a transformational change in thinking and practice that is incredibly valuable both to learners and employers, and which can be applied to any process or industry.

'This is a really good qualification for anyone who does a trade because it steps people into a different mindset, or a new way of thinking about process improvement and sustainability.'

Contextualisation

At their core, these qualifications – particularly at the higher levels – were identified as being about organising people, processes and purpose. These are skills that are universal to all process manufacturing environments. Their focus on problem solving and continuous improvement can also be applied to any process or system. According to respondents, this gives process manufacturing qualifications great relevance as they can be contextualised to nearly any job or industry.

This ability to contextualise training has significant benefits for both employers and learners. By contextualising training material and assessments to the specific workplace, using projects to achieve workplace outcomes that demonstrate continuous improvement, and addressing key topics for all businesses such as WHSE, quality, performance, cost reduction, speed of delivery, teamwork and customer focus, both employers and learners immediately perceive the value of training. As one respondent noted, 'It provides a good "sell-case" to employers as we can approach them and say look at this selection of units: we can make this work for you.'

Ability to Create a Specialised Qualification

One RTO identified that they were currently delivering the Certificate IV in the workplace as a 'specialised' qualification that combines general process manufacturing with a specialised focus, e.g. process plant technology. For this RTO, this provides greater value from an otherwise generic qualification, tailored to the specific needs of employers.

Another respondent suggested that there is significant potential for the process manufacturing qualifications to be packaged up with a combination of MSM, MEM and MSS units (including units such as 3D printing, hand tools, injection moulding) to create a pathway from Cert II and Cert III into higher-level Industry 4.0 qualifications, such as the accredited course being implemented in Victoria.

Training Accessibility

One respondent suggested that because these are generic qualifications, there is no limitation on who can come into training; i.e. it's not tied to industry (people don't need to already have a job) in the way that other qualifications are. This means that the qualification is accessible to anyone and there is no artificial limitation on the number of people coming into training. This helps people to get jobs, rather than restricting access to training only to those who are already employed.

Return on Investment

For some RTOs, an immediate return on investment for both learners and employers was seen to be one of the key benefits of undertaking these qualifications. For employers, having workers complete these qualifications enables an immediate return through improved efficiency and productivity gains, while for learners it enables them to have an immediate value in the workplace (as long as there is supportive middle management). Outcomes that were cited as easily traced and attributed to this program include savings efficiency, increased staff retention, less waste and less time on floor. For learners, the learning from the qualifications helps them address the question, 'What can be done to make this more efficient or useful?'

At lower AQF levels, the fact that qualifications provide milestone certification was identified as giving learners the feeling of having achieved something, while demonstrating competency to employers.

What Could be Improved?

The two most commonly reported areas for improvement in the current process manufacturing qualifications were reducing the volume of learning at the Certificate III level and a desire for greater focus on employer-centric methodologies such as Lean manufacturing within the qualifications.

Length of the Qualification

The size of the Certificate III qualification was the biggest area for improvement noted by the majority of respondents. Reducing the qualification to 15–18 units (from 21 currently) was suggested to be more attractive and realistic for a generic qualification without specific outcomes.

While the core units and qualification overall were perceived to be valuable, reducing the size of the qualification was suggested to be necessary to reduce the big time and cost commitment that present an upfront barrier to employers and learners engaging in training.

'21 units is a lot of units for a Certificate III. 18 units would be more realistic.'

'A major setback of this qualification and one of the reasons why – for our RTO at least – enrolments have decreased is because it is seen to be too long. We lose people. Employers and learners don't want to commit to 2 years. While the units are good, if there is any way that can be found to rationalise and restructure it so that it can be built in terms of the enterprise, this would be good.'

Content

'The qualification could include more lean manufacturing units. This is what the majority of employers that we approach are looking for.'

Some respondents suggested that a greater (or more obvious) focus on employer-centred methodologies such as Lean manufacturing or 'just-in-time' manufacturing could help the qualifications gain employer relevance, as 'this is where manufacturing industries are going around the world.' It is also language that employers understand and recognise.

In order to accommodate this, a suggested improvement to the units on offer is to:

- remove either MSMSUP200 Achieve Work Outcomes or MSMSUP210 Process and Record Information; and
- replace with MSS403033 Map an Operational Process or MSS403010 Facilitate Change in an Organisation Implementing Competitive Systems and Practices.

It was suggested that making these changes would help to set up an overview of what the whole course is about, i.e. lean business.

Another respondent identified that within the Group A electives, there is not much related to chemical, hydrocarbons and refining (the PMA training package). It was suggested that an additional one or two units could be helpful.

However, it was also noted that overall, not too much change was needed to the core units or electives.

Packaging Rules and Assessment Requirements

While overall it was felt that the training package requirements offered significant flexibility, respondents did identify some areas that could be improved. For example, it was suggested that, for those who are employed, the requirement to select five Group A units can be too restrictive. 'It can be hard to find five that are really relevant to the workplace.' It was suggested that reducing this to four may be better.

Likewise, one respondent suggested that the Training Package evidence requirements were restrictive and should be reviewed. Within the Certificate I, the units of competency criteria for some units sometimes repeat, e.g. follow OH&S procedures. In this instance, the RTO concerned consistently received learner feedback to say, 'I've done that before', and suggested a need to make sure that the assessment criteria between core and specific electives don't clash.

Style and Language

At the Certificate II and III level in particular, there is a need to ensure that wording is clear and concise, uses common industry language and avoids 'waffle'.

Specialisation

Alongside the benefits of flexibility, there was some recognition amongst a small number of respondents that too much flexibility can also detract from outcomes and have both positive and negative effects. Respondents were split, however, as to whether defining streams or specialisations within the qualifications (e.g. allowing learners to choose an area of expertise such as process manufacturing – tyre manufacture) could be helpful, or whether this may get in the way of the flexibility of these qualifications.

Positioning

Several respondents identified that improving the way the qualifications are positioned would help.

One respondent identified that improving the marketing, labelling and language used in the Certificate IV would help employers and learners to better understand its relevance. Even though it's about lean methodology – highly attractive for employers – it was felt that this doesn't really come through in the way it is described. 'The pathway is not as sharp or smooth as other qualifications such as Competitive Systems and Processes. It is hard for people to understand. There is a need to take out the dry, uninteresting words from the package and "shine it up a bit"'.

There is also a need to ensure that the qualifications and training package support material fully capture the breadth of scope that these qualifications relate to. For example, one respondent noted that the preamble currently refers to three industries for which the qualification is relevant, however doesn't include food processing, a key industry to which they deliver. This should instead reflect any instance where a process is employed to create a product. Similarly, where applicable job roles are identified, this is limited to production line only, and excludes other important roles such as refining.

What is Missing?

While a significant proportion of respondents (30%) were satisfied with the existing qualifications as is, including the ability to import units from other qualifications, other respondents made specific recommendations. Responses are summarised below.

Clarity

A clear delineation between manufacturing and process manufacturing via training package definitions is needed. One respondent suggested that this would help to clarify unit selection that is relevant to process manufacturing, as currently there is a lot of overlap between the two.

Specific Units and Electives

Respondents suggested several specific units and electives that could enhance process manufacturing qualifications, including:

- Implement Continuous Improvement Based on Standardised Work Practices as an 'other' elective. This can be used to build a process map which makes it easier for the team to see the whole context;
- A laboratory unit at the Certificate III level (in addition to those at the Certificate IV level currently) might provide greater flexibility;
- Mathematics (ability to perform computations) and chemistry;
- A unit on automation and robotics.

OH&S 'Key Risk' Performance Criteria

One respondent indicated that the core OH&S unit performance criteria could be enhanced by including key risks occurring in most occupations. At the moment, this enterprise RTO delivers its own

unit providing critical training in ten things rated by the company as potentially fatal, e.g. load tie down, fatigue management, chemicals and risky personal behaviour. They issue a company certificate for this unit to trainees before they go onto a client's site. It would be useful to apply some of the key cross-occupational risks that fall into this category (e.g. drug and alcohol and fatigue management) to the OH&S core unit too to improve and enhance knowledge needed.

Absorption of Discontinued Training Packages

With the PMC training package being absorbed into the MSM Training Package, it will be important to ensure that those manufactured minerals products are being picked up in the process manufacturing qualifications.

It was noted that the work being done on the PMB Training Package needs to be closely monitored and anything that no longer sits there might need to be captured under the process manufacturing qualifications as well.

Effectiveness in Meeting Employer and Learner Needs

In order to evaluate how effective the current qualifications are in meeting employer and learner needs, respondents rated the qualifications on a scale of 1–10, with 1 representing the lowest possible score and 10 the highest.

Overall, the current qualifications scored relatively highly, as shown below, suggesting that tweaks rather than complete overhaul of the qualifications are what's needed.

Employer Needs

Lowest score: 7
Lower scores were given by one RTO delivering the Certificate III as a generic qualification for jobseekers and one enterprise RTO that has created an additional unit to expand on 'key risks' not covered by the current occupational health and safety unit.

Highest score: 9
RTOs using the flexibility of the training package to deliver specialised qualifications gave the highest ratings.

Average Score (of all responses): 7.9

Learner Needs

Lowest score: 6
The lowest score was given by one RTO due to the duplication of evidence requirements across units.

Highest score: 9
RTOs that gave the highest ratings attributed this to the ability to provide a high level of contextualisation specific to industry and workplace needs, as well as the suitability of the qualifications for learners who may experience learning difficulties (e.g. learners from non-English speaking backgrounds).

Average score (of all responses): 7.8

Attachment G: 2020 Process Manufacturing Industry and RTO Surveys

MSM Industry Survey Report

Preamble

- IBSA Manufacturing sought stakeholder insights to assist in the review of Process Manufacturing qualifications and associated units in the *MSM Manufacturing Training Package*. The review was conducted to better meet workplace requirements in light of emerging technologies and changing skill needs. The process manufacturing qualifications are:
    - MSM10116 Certificate I in Process Manufacturing
    - MSM20116 Certificate II in Process Manufacturing
    - MSM30116 Certificate III in Process Manufacturing
    - MSM40116 Certificate IV in Process Manufacturing
- In total, ten industry stakeholders participated in the survey.
- Please note that all responses in this report have been deidentified.

Below is a summary of the results from the survey.

Findings

Q1: Please identify which category you belong to?

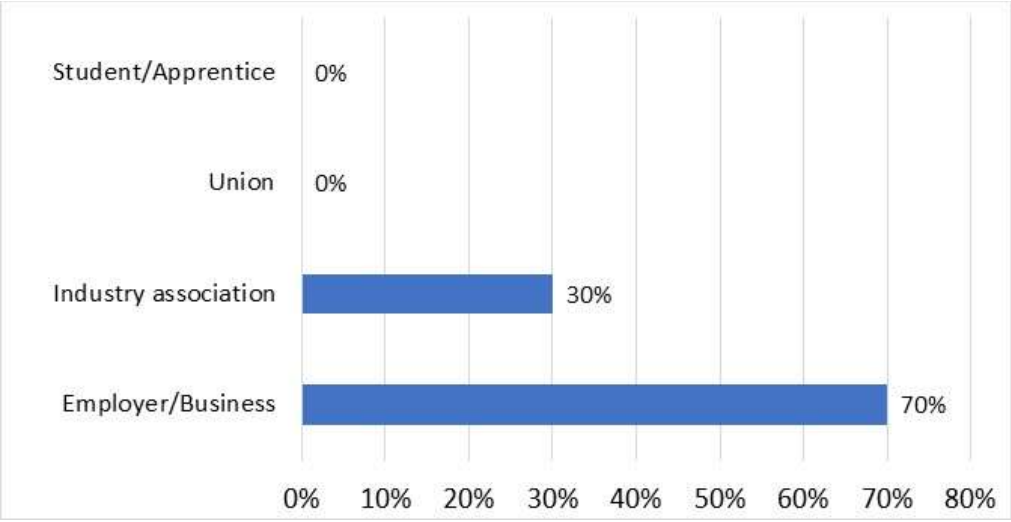


Figure 1: Survey respondents' industry categories

- All the survey participants who completed the MSM industry survey were either industry associations or employers/businesses.

Q2: Could you please provide us with the following details?

- N/A

Q3: Where is your organisation located?

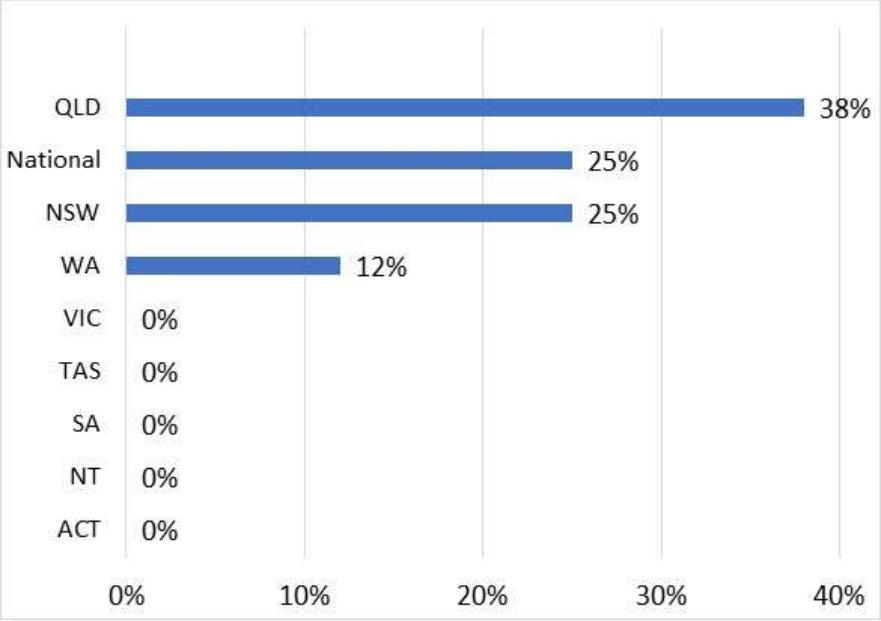


Figure 2: Location of organisation

- Sixty-three percent (63%) of the respondents' organisations were located on the eastern seaboard of Australia (QLD [38%] & NSW [25%]).

Q4: What industry/s do you represent?

(Select as many as apply)

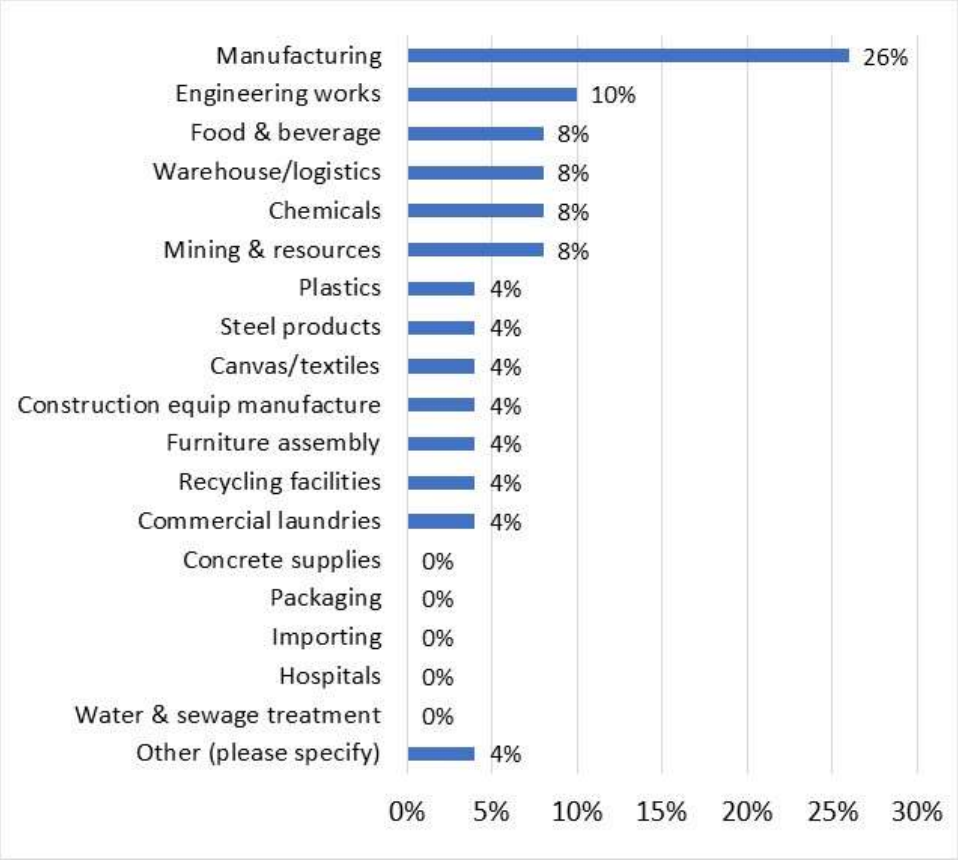


Figure 3: Respondents' industry categores

- With a result of 26%, "Manufacturing" was the best represented industry sector.

(Q5 – Q6 were asked only of Apprentices/ students)

Q5: Could you please provide us with the following details?

- No responses were provided.

Q6: Where is your training institution located?

- No responses were provided.

Q7: There are a range of critical skills required of the MSM Process Manufacturing workforce.

In your own view, what are the skills needed for the MSM Process Manufacturing workforce?

(Select as many as apply)

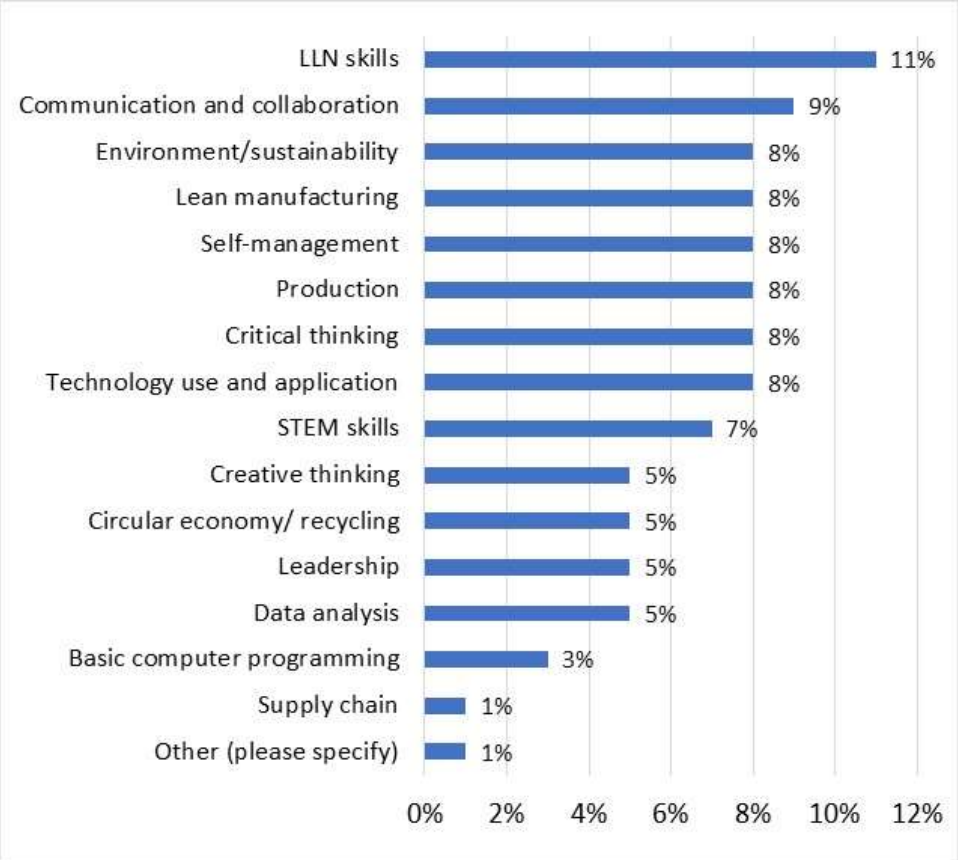


Figure 4: Skills needed for the MSM process manufacturing workforce

- The main critical skills identified by the survey participants were “LLN skills” (11%) and “Communication and collaboration” (9%).

Q8: Do you think that students/apprentices who complete the Process Manufacturing qualifications have adequate "digital skills" to do their jobs?

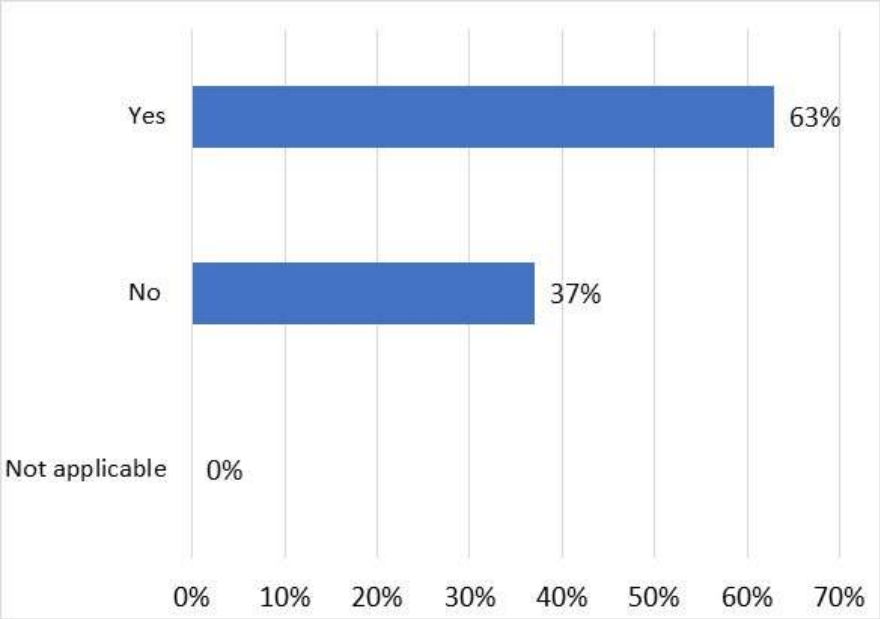


Figure 5: Students/apprentices with adequate digital skills

- Sixty-three percent (63%) of the stakeholders who filled out the survey felt that apprentices/students who complete the MSM qualifications possess adequate digital skills to do their job.

Q9: What digital skills do they need more training in?

(Select as many as apply)

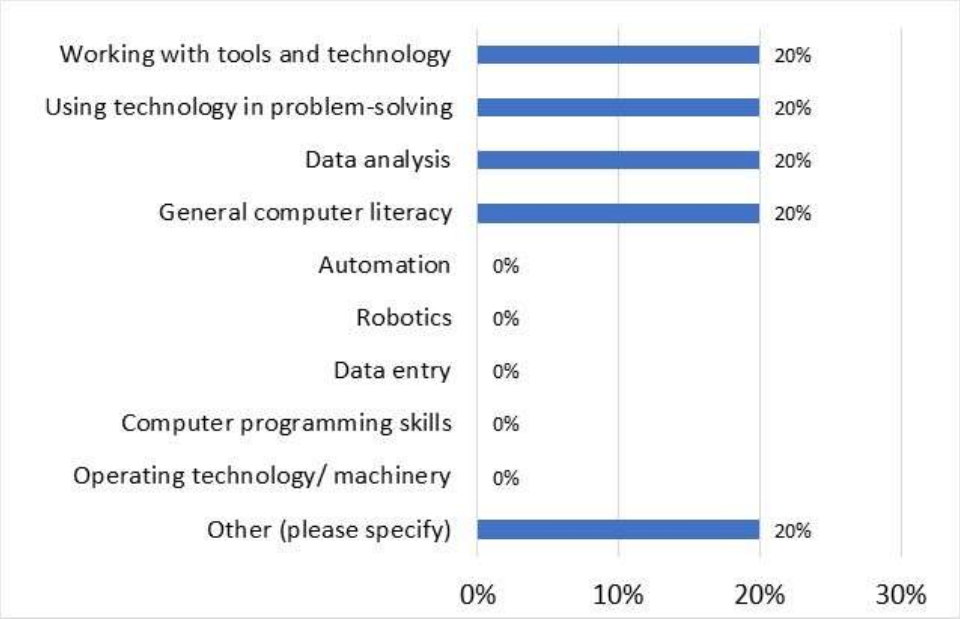


Figure 6: Digital skills areas where training is required

- Of the 37% of respondents who said that MSM graduates do not possess adequate digital skills, they identified "Working with tools and technology", "Using technology in problem-solving", "Data analysis" and "General computer literacy" as the main areas they require training in.

Q10: In your own view, what is the current skill level of the workforce in these areas?

Question options	Low	Medium	High
General computer literacy	100%	0%	0%
Operating technology/ machinery	0%	0%	0%
Computer programming skills	0%	0%	0%
Data analysis	0%	100%	0%
Data entry	0%	0%	0%
Using technology to aid in problem-solving	0%	100%	0%
Robotics	0%	0%	0%
Automation	0%	0%	0%
Working with tools and technology	0%	100%	0%
Other (please specify)	0%	0%	100%

Table 1: Level of current workforce skills

- Generally, most survey respondents felt that the MSM workforce's digital skills are at a "Medium" or average level.

Q11: Are there any new or emerging health and safety risks or issues relevant to Process Manufacturing?

Three survey participants provided a response to this question:

- COVID, not sure that this would translate into a unit however. perhaps response to more extreme weather
- Minimal manning. Require safety monitoring systems and knowledge of such technology.
- Unsure, as it is dependent on sector requirements.

Q12: In your own opinion, how do Process Manufacturing workers upskill and/or train?

(Select as many as apply)

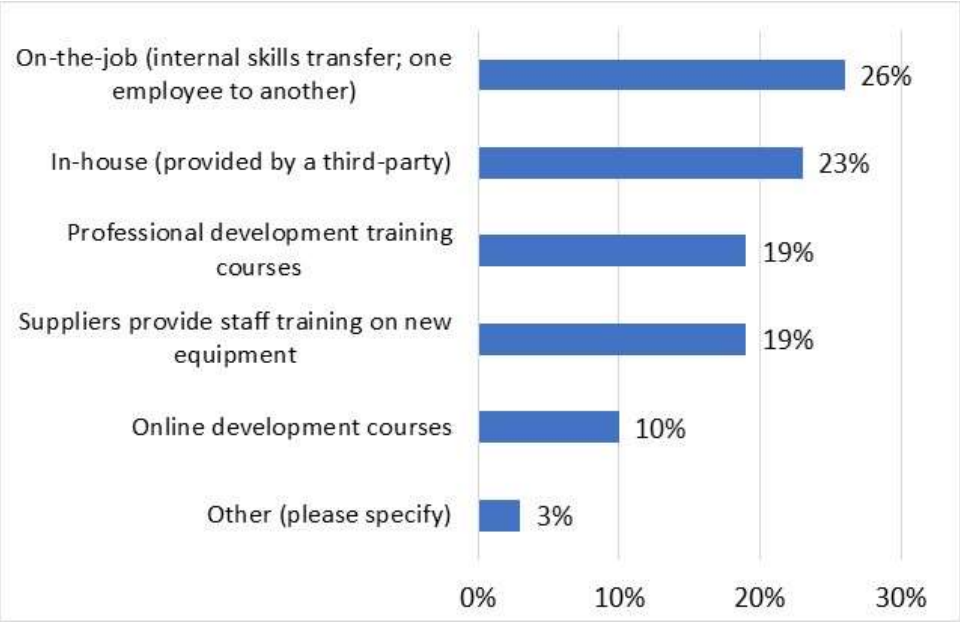


Figure 7: Ways that process manufacturing workers train and upskill

- According to the survey participants, the main ways that process manufacturing workers train and upskill are "On-the-job training" (26%) and "In-house training" (23%).

Q13: Lean manufacturing draws on a range of management philosophies. Are any of the following management philosophies relevant for those completing process manufacturing qualifications?

Lean; Six Sigma; Total Productive Maintenance; Total Quality Management; Operational Excellence; Continuous Improvement; Employee Involvement.

- One-hundred percent (100%) of the survey respondents answered "Yes" to this question.

Q14: Which management philosophies are relevant?

(Select all that apply)

Figure 8: Management philosophies of relevance

- Fifty-six percent (56%) felt that "Continuous improvement", "Employee involvement" and "Lean manufacturing" are relevant for those completing the MSM qualifications.

Q15: Do you have any other views or comments you would like to make about the Process Manufacturing qualifications?

Four survey respondents provided an answer to this question.

- Should consider adding Industry 4.0 principles Unit Data Analysis Application Software Unit.
- We use it as a hybrid between maintenance and PMA processing and it works really well.
- I believe there is a need to include Hydrogen specific units to develop the workforce for the manufacturing of Hydrogen for domestic and export markets.
- Yes, I use the composite materials units as imported electives in MEM quals because there are specific process that are relevant to employers operations which is good for contextualising and customisation of training. eg PMBPROD251.

Q16: Are you interested in being part of the Technical Advisory Committee (TAC) for the process manufacturing qualifications?

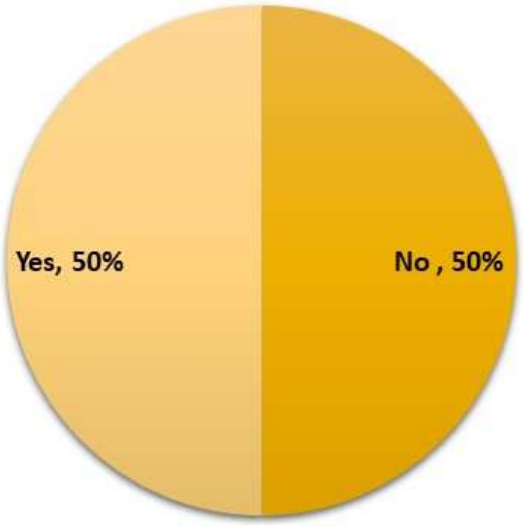


Figure 9: Interest in being part of TAC

- The response to this answer was evenly split.

Q16: Please provide your name and email address.

- N/A

MSM RTO Survey Report

Preamble

- IBSA Manufacturing sought feedback from Registered Training Organisations (RTOs) to assist in the review of MSM Process Manufacturing qualifications and associated units to better reflect industry workplace requirements. This review was conducted in light of emerging technologies and changing skill needs. The MSM Process Manufacturing qualifications include:
    - MSM10116 - Certificate I in Process Manufacturing;
    - MSM20116 - Certificate II in Process Manufacturing;
    - MSM30116 - Certificate III in Process Manufacturing; and
    - MSM40116 - Certificate IV in Process Manufacturing
- In total, eight RTOs participated in the survey.
- Please note that all responses in this report have been deidentified.

Below is a summary of the results from the survey.

Findings

Q1: Could you please provide us with the following details?

- N/A

Q2: Where is your organisation located?

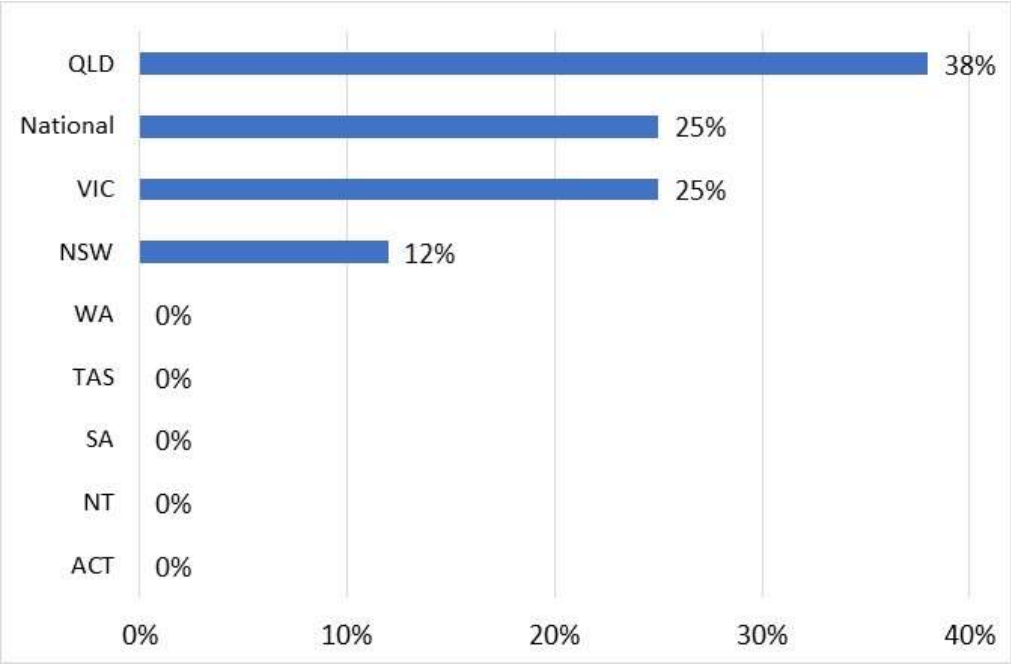


Figure 1: Location of organisation

- Three-quarters of the RTOs are located on the eastern seaboard of Australia.

Q3: Approximately how many students does your RTO currently have who are enrolled across the MSM Process Manufacturing qualifications?

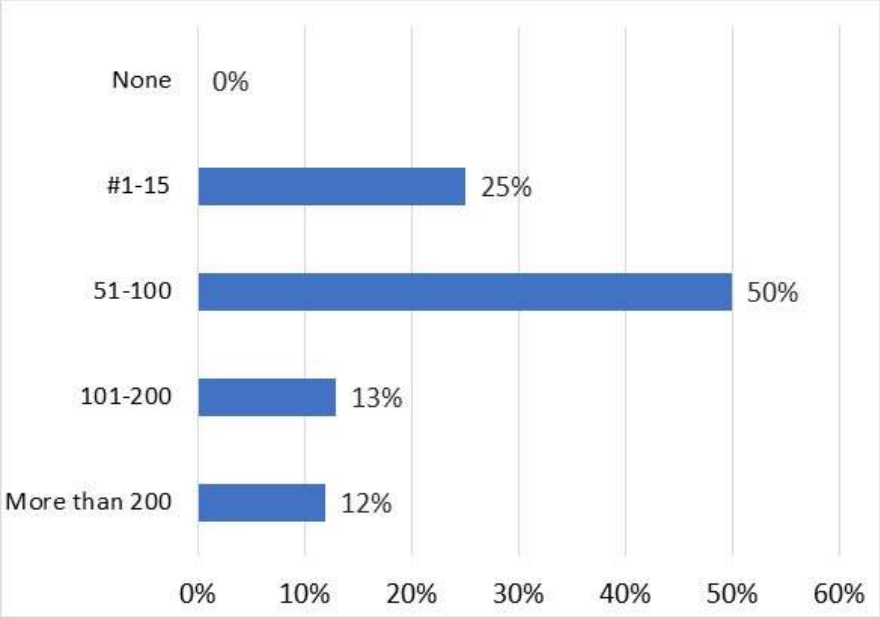


Figure 2: Number of students enrolled in MSM

- Half of the RTOs had between "51 to 100" students enrolled in process manufacturing qualifications.

Q4: Which of the following qualifications do you have in scope?

(Select all that apply)

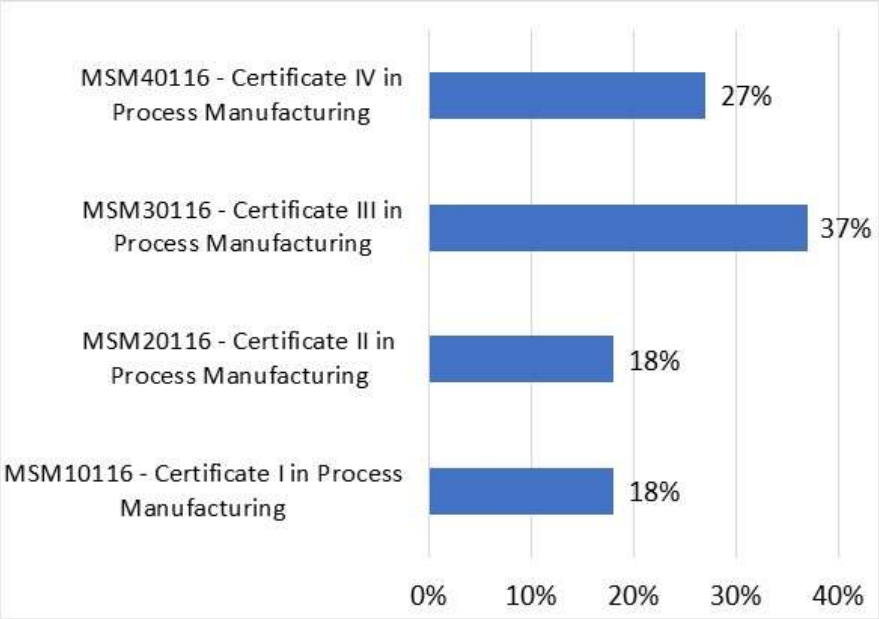


Figure 3: Qualifications in scope

- Certificates III (37%) and IV (27%) were the most common qualifications that RTOs had “in scope”.

Q5: Of the qualifications listed, do you have any qualifications in scope but are not currently delivering?

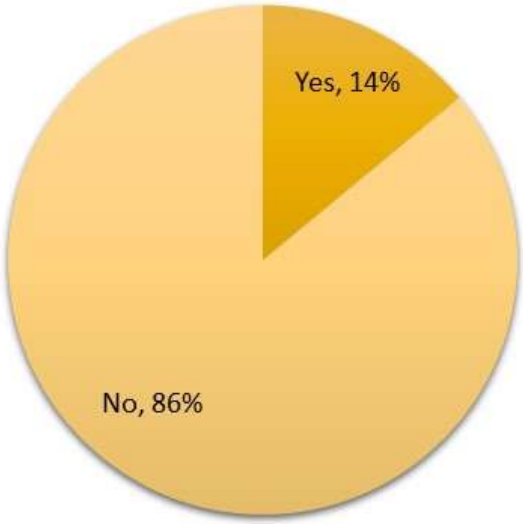


Figure 4: Qualifications in scope but not delivering

- Eighty-six percent (86%) of RTO were delivering the MSM qualifications that they had in scope.

Q6: Which of the following qualifications do you have in scope but are not currently delivering?

(Select all that apply)

- There was one RTO that had a qualification in scope but they were not currently delivering it.
- The qualification not being delivered was MSM40116 - Certificate IV in Process Manufacturing.

Q7: What are the reasons for not currently delivering these qualifications?

(Select all that apply)

- The RTO that had the qualification in scope but was not delivering it cited the following reasons for not offering the qualification:
    - The qualifications are not meeting industry needs;
    - Lack of appropriate trainers and assessors; and
    - Lack of appropriate training resources.

Q8: Please rate how well the following qualifications meet current industry and learner needs overall.

Question options	DOES NOT MEET	MEETS NEEDS (MINIMALLY)	MEETS NEEDS (MODERATELY)	MEETS NEEDS WELL	NOT ON SCOPE
MSM10116 - Certificate I	17%	0%	17%	16%	50%
MSM20116 - Certificate II	17%	0%	17%	16%	50%
MSM30116 - Certificate III	0%	14%	43%	14%	29%
MSM40116 - Certificate IV	0%	0%	33%	17%	50%

Table 1: Qualifications' ability to meet industry and learner needs

- Certificates III and IV have the highest ratings when it came to meeting industry and learner needs.

Q9: Why did you give these ratings for the MSM Process Manufacturing qualifications?

Six RTOs provided a response to this question:

- Flexibility of units allows us to tailor the program to fit the industry needs.
- They are fit for purpose (form the foundation of other qualifications).
- Units seem to sit well across a broad variety of manufacturers.
- they cover the necessities.
- Needs update to maintain relevance to industry technologies.
- The need to value-add to from raw primary industry material (sugar) the demand and the market is not there, and alternative qualifications exist, but only partially meet industry needs.

Q10: Do you have any suggested changes to the structure of the process Manufacturing qualification(s)?

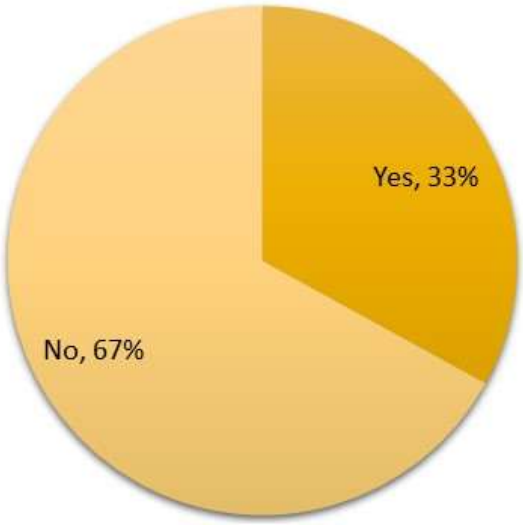


Figure 5: Indication of suggestions for changes to qualifications

- Just 33% of the RTOs had suggestions for changes to the structure of the process manufacturing qualification.

Q11: What are your suggestions?

Two RTOs provided a response to this question:

- Needs update to reflect changing industry technologies and procedures
- Where the manufacturing process should be workplace only for lower AQF levels not simulated and where laboratory or QA/QC is in place a stream is available at AQF 4 and 5. AQF 1 and 3 is not really required due to technology usage.

Q12: Do you have any suggested changes to the units you are delivering as part of the Process Manufacturing qualification(s)?

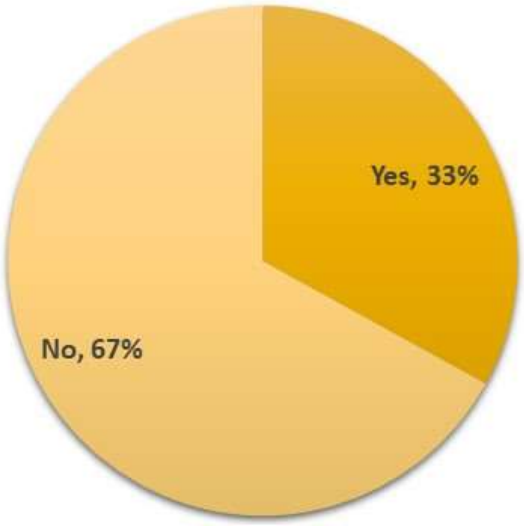


Figure 6: Indication of suggestions for changes to units

- Just 33% of the RTOs had suggestions for changes to the units they were delivering.

Q13: What are your suggestions?

Two RTOs provided a response to this question:

- My business requires units on heavy lifting equipment and winches.
- MSMENV472 - lack clarity on its purpose as it is used in various qualifications making it so general the initial concept of the unit has been lost. There are also other units that could be used as an alternative in other training packages which might be more applicable and reflect industry needs.

Q14: Do you have any other views or comments you would like to make about the Process Manufacturing qualifications?

Two RTOs provided a response to this question

- Align performance criteria and utilise Blooms Taxonomy
- Manufacturing should be more encompassing of the food industry, while a specific training package exists there is a parallelism between the two trying to meet everything for everyone.

Q15: Are you interested in being part of the Technical Advisory Committee (TAC) to inform the review of the Process Manufacturing qualifications?

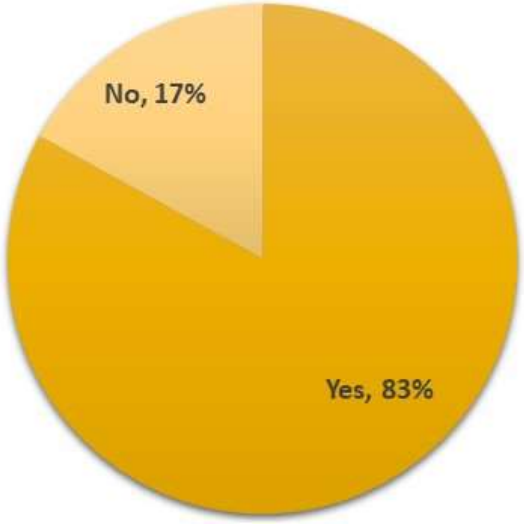


Figure 7: Interest in being part of the TAC

- Eighty-three percent (83%) of the RTOs are interested in being part of a Technical Advisory Committee (TAC).

Q16: Please provide your name and email address.

- N/A

Q17: If you identified issues with the MSM Process Manufacturing qualifications, could we give you a call to discuss your concerns?

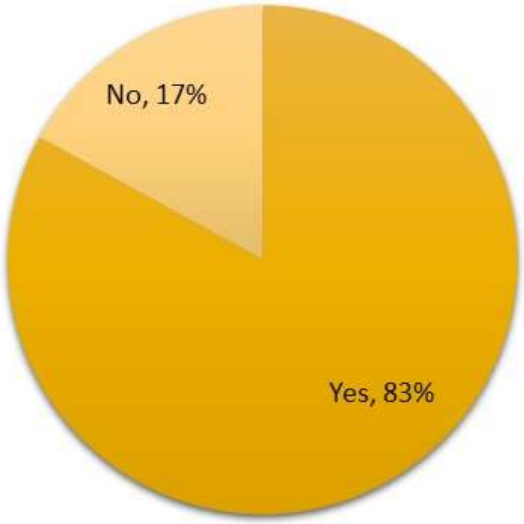


Figure 8: Indication of willingness to discuss issues

- Eighty-three percent (83%) of the RTOs are interested in receiving a phone call from IBSA to discuss their concerns about the MSM process manufacturing qualifications.

Q18: Please provide your name and phone number.

- N/A