



fermentasmania

**The Tasmanian Fermented Food and Drink
Workforce Development Project**

FINAL REPORT
prepared for
Skills Tasmania,
Department of State Growth

by
FermenTasmania
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Executive Summary

This report provides a snapshot of current (late 2017) and anticipated (3-5 years hence) workforce levels in the Tasmanian food and drink fermentation sector.

Participating enterprises were involved in producing value added food and drink comprising beer, cider, mead, vinegar, dairy (e.g. cheese, yoghurt, kefir), kombucha, vegetables (e.g. kimchi, sauerkraut) and bakery (e.g. traditional, sourdough). Enterprises focussing on the production of wine and/or distilled spirits were not included in this report as they are the subject of separate workforce development projects. [It should also be noted that we were not successful in attempts to engage with the largest cheese producer in NW Tasmania or the largest beer and cider producer in southern Tasmania. It is estimated that these enterprises employ around 400 and 90 people respectively.]

For those sectors *from which first hand data was collected and extrapolated*, data indicate that, at the end of 2017:

- There were about 1,100 people employed in the fermentation sector in Tasmania.
- Total employee numbers per enterprise ranged from 1 to 57.
- The median number of employees per enterprise varied between sectors, from three in the cider sector to 12 in the dairy sector.

Extrapolated data suggest the following growth patterns for the fermentation sector over the next 3-5 years:

- **Beer:** there will be a requirement for about **40 new roles** (an overall increase of ~10%), with around 30 of these being in the Specialist and Operations categories, the remainder being Managers/Leaders.
- **Cider:** there will be a requirement for about **45 new roles** (an overall increase of ~20%), about 30 of which will be in the Leader/Manager category, and the remainder evenly spread across Specialist and Operations.
- **Dairy:** there will be a requirement for about **95 new roles** (an overall increase of ~15%), about 50 of which will be in the Specialist category, and the remainder spread relatively evenly across the Leader/Manager and Operations categories.
- **Other¹:** there will be a requirement for about **170 new roles** (an overall increase of ~70%), about 100 of which will be in the Operations category, ~40 Leader/Managers and ~30 Specialists.

These data suggest that organisational focus of these new roles would be:

- ~100 Management/Leadership roles
- ~100 Specialist roles
- ~150 Operations roles.

There was a clear need for workforce development activities across the entire value chain of fermenting-focussed enterprises.

¹ The 'Other' category comprises producers of, amongst other things, fermented condiments; fermented beverages; miso; bread; plant-based cheese; kraut; kimchi; mead; and water kefir.

However, interviewees – who were largely enterprise owners and/or managers – demonstrated a strong preference for workforce development to be focussed on the Operations and Specialist categories.

In saying this, industry members felt that more could be done to map training courses and segments more closely to current industry needs. It was also felt that courses should do more to focus on provision of useful knowledge that underpins current skill requirements. This highlights a perception by industry members that they are somewhat disconnected from curriculum design and priority setting.

There was no clear trend in response to questions regarding the perceived value of training that leads to accredited qualifications. Some industry members discounted the value of these, while others were keen for all training to be mapped against formal qualifications.

Opinion regarding preferred delivery mechanisms covered the range from wholly in-house (by staff and/or external training providers) to wholly external.

There was a clear preference to ‘hire for attitude, and train in-house’. Exploration of this preference highlighted a common belief that each production system was unique, and that externally-provided training was unlikely to provide sufficient return on investment with regard to relevant, practical skills.

It will be a challenge to develop courses that appeal to most enterprises and their staff. The first step will be building trust in the course material, so that the intrinsic value of each course is apparent. Once that trust is built, it is likely that enterprises will show an increased flexibility in accepting different delivery options.

At the time of writing, FermenTasmania has just been awarded initial operational funding support from Food Innovation Australia Ltd. As such, FermenTasmania will be able to:

- take ownership of project recommendations,
- apply resources to their implementation, and
- monitor and evaluate future trends.

Recommendation 1: FermenTasmania to establish a forum comprising industry members and training providers to discuss industry workforce development priorities and delivery options

This project provides a first step in building a cohesive, cross-industry workforce development program. The next step is to build a solid working relationship between industry and training providers so that the drivers and needs of each can be understood and a flexible, sustainable workforce development framework be developed.

In this way, the industry will build an understanding of specific skills needed within various enterprises and then work directly with training providers to design and deliver courses that meet these needs. If it is found that the current pool of training providers is not able to deliver against identified needs, then alternative delivery models will need to be explored.

It should be noted that this recommendation aligns with Recommendations 1 and 3 from the Tasmanian Distilling Industry Workforce Report (Skills Tasmania, 2017). FermentTasmania currently is leading discussions regarding providing executive and coordinating roles for a number of Tasmanian industry bodies and anticipates being able to facilitate progress against these recommendations.

Recommendation 2: FermentTasmania to work with industry bodies and training providers to map recognised industry training packages against accredited courses or units

There is currently a range of opinions as to the current value of accredited qualifications within the fermentation workforce. It is also acknowledged that formal qualifications are valued by a sector of the workforce and that enterprises have a duty to provide their staff with opportunities to achieve such.

In this light, mapping recognised and valued courses (for example, those offered by the Institute of Brewing and Distilling: <https://www.ibd.org.uk/qualifications/training/>) against formal Operations, Specialist or Management level qualifications was seen by industry members as an attractive option and should be pursued.

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2 Project Title

The Tasmanian Fermented Food and Drink Workforce Development Project

3 Background

Tasmania is home to an increasing number of world-class fermented food and drink production companies. Current established and nascent enterprises are focused on the production of, amongst other products, beer, cider, mead, vinegar, wine, dairy (e.g. cheese, yoghurt, kefir), kombucha, vegetables (e.g. kimchi, sauerkraut) and bakery (e.g. traditional, sourdough).

Tasmanian fermentation industry members have clearly indicated they consider their individual enterprises are constrained by a lack of access to suitably trained staff.

This project sought to address the need for the Tasmanian fermentation industry to implement a formal structure through which they can plan and prepare for their anticipated need for an increasing number of skilled workforce members.

FermentTasmania (www.fermentasmania.com) is an industry-led, member-based, not for profit (limited by guarantee) company established with the vision of Tasmania being internationally recognised as a go-to region of excellence for the design, production and marketing of fine fermented food and drinks.

4 Project Objective (Approved Purpose for which the grant was provided)

The project was conducted to support identification of current and future workforce development needs within and across Tasmania's fermentation sectors², to investigate the need and viability of developing a workforce development plan.

Additional detail on the approved purpose was included in the Fermentation Tasmania Ltd project proposal provided to Skills Tasmania, Department of State Growth, on 12 April 2017. These were:

- Develop a clear understanding of the job roles, capability requirements and skill needs within the Tasmanian fermentation industry
- Understand gaps and any regional differences
- Enable enterprise managers to make informed decisions relating to workforce and business development
- Use the findings to provide recommendations regarding training curriculum and delivery options.

5 Project Outputs

- Draft and final project reports, which will map current and anticipated workforce needs, present industry priorities for workforce development activities, provide recommendations

² For the purpose of this project, we define different fermentation sectors in terms of specific products, for example, beer, bread, cider, cheese, kombucha, sauerkraut, mead, wine, dairy)

for industry relevant training course focus and delivery, and provide an evaluation model for use in following years.

6 Anticipated Outcomes

- Attitudinal:
 - Increased understanding of the job roles, capability requirements and skill needs of the industry, endorsed by the industry.
- Capacity:
 - Increased understanding and capacity of business owners and managers within the industry of the benefits of workforce development and planning.
- Structural:
 - Improved accessibility of information and resources relating to workforce development tools, techniques, processes and training needs.
 - Improved industry engagement in collaborative workforce development activities, including increased cross-sector cooperation and closer coordination with training providers, including UTAS, TasTAFE and private RTOs.

7 Methods

7.1 First industry consultation

Potential interviewees, drawn from the FermenTasmania stakeholder database were invited to participate by email and follow-up phone calls. All those responding positively to the invitation were interviewed. The initial round of face-to face and telephone interviews were conducted by Tom Lewis in October and November 2017.

It should also be noted that we were not successful in attempts to engage with the largest cheese producer in NW Tasmania or the largest beer and cider producer in southern Tasmania. It has been estimated that these enterprises employ around 400 and 90 people respectively.

Interviews were semi-structured, to allow participants opportunity to discuss items that they considered of importance to the project and their sector.

Initial interview questions covered the following topics:

- Current workforce, FTE and roles
 - Is this adequate for current needs?
 - Where are the current gaps?
- Anticipated workforce, FTE and roles in 3-5 years' time
- Threats and opportunities that may affect plans
- Current interaction with the formal workforce development sector
- Anticipated interaction with the formal workforce development sector
- Any other matters.

In addition to collection and analysis of workforce demographic data, interviews canvassed business owners' thoughts and opinions regarding the types of capability-building services that they would value and the delivery styles that would best suit them and their employees' needs.

7.2 Second industry consultation

Collated data, together with preliminary analysis was presented, in draft form, to the initial core group of interviewees in April and early May 2018.

After allowing time for recipients to read and consider the draft report, a second series of consultations (email, phone, face-to-face – to suit the needs of industry members), to test and gather feedback on the contents of the draft paper, was conducted during May 2018.

Information and opinion provided during this consultation round informed the development of this final report

7.3 Training provider consultation

Training providers (private Registered Training Organisations; private non-Registered Training Organisations; UTAS; TasTAFE) were consulted in July 2018 to discuss preliminary findings and to inform initial recommendations for providing more targeted and coordinated engagement with Tasmanian enterprises.

7.4 Project and data constraints

- While this report provides current and anticipated workforce data, obtained through stakeholder interviews, the project itself primarily had a social research focus: to understand and build engagement between industry members and existing workforce development practices and ecosystems. Behavioural change in this regard, supported by enactment of the project recommendations, will become apparent over time, and as such is outside the time-bound scope of this particular project.
- It was neither planned nor feasible to interview all fermenting organisations in Tasmania for this project. We have, therefore, extrapolated the data obtained on a pro-rata basis against the FermenTasmania database of Tasmania fermenters, which is, to our knowledge, the most complete database of this nature available. Data was extrapolated at an enterprise level. For example, in the case of cider enterprises, Table 1 shows that we interviewed five of the seventeen (=29%) cider enterprises on our database and therefore multiplied reported cider industry data by 3.4 to obtain our extrapolated figures for that sector.
- We were unable to engage with two of the largest employers in the fermentation sector in Tasmania – one in the dairy sector and one in the beer sector.
- This report is informed by data obtained from existing enterprises. Given the rapid growth of this sector, it is very likely that new fermenting enterprises will be established during the next 3-5 years, adding to the numbers of new roles that will be required to be filled.
- It is also possible that some rationalisation may occur in all sectors, possibly leading to the loss of some roles and jobs.

8 Current and anticipated industry workforce

Data in this section provides a snapshot of current (2017-18) and anticipated (3-5-year horizon) workforce numbers for the Tasmanian fermentation sector, presented against three categories:

- Number of employees
- Full Time Equivalent employment
- Number of roles.

The first two categories are self-explanatory. The third – number of roles – provides a measure of the diversity of tasks performed across the existing workforce.

8.1 Interviews

Table 1. Number of Tasmanian fermentation producers interviewed, by sector and region

REGION¹						
	North-west	North	South	TOTAL	TAS Fermenters⁴ on our database	% of known sector interviewed
SECTOR						
Beer	1	2	3	6	29	21%
Cider	1	2	2	5	17	29%
Dairy²	-	2	1	3	19	16%
Other³	1	3	6	10	32	31%
SUB-TOTAL	3	9	12	24	97⁵	25%
Wine	-	-	-	-	36	-
TOTAL	-	-	-	-	133	-

1. Regions are those used for economic development activities in Tasmania
2. Sector 'Dairy' consulted in interviews included: cheese; yogurt.
3. Sector 'Other' consulted in interviews included: fermented condiments; fermented beverage; miso; bread; plant-based cheese; kraut; kimchi; mead; water kefir
4. TAS Fermenters – Business that ferment product. Does not include business that just bottle, market, etc
5. Wine sector information provided for completeness. Data analysed in this report does not include the 'Wine' Sector, as this sector has developed its own workforce development plan.

From Table 1, we can see that the proportion of enterprises on the FermenTasmania database that participated in the consultation process was consistently high across sectors, ranging between 16% (Dairy) - 31% (Other). Importantly, the interview process reached a high level of data saturation (i.e. no new perspectives or explanations were being raised by interviewees) with regards to perceived opportunities and threats being faced by these sectors during the next 3-5 years.

8.2 Enterprise size

8.2.1 Current employee numbers, full time equivalent (FTE) employment and individual roles

For those sectors for which first hand data was collected, the extrapolated data in Table 2 indicate that:

- There were about 1,100 people employed in the fermentation sector in Tasmania
- Total employee numbers ranged from 1 to 57 in those companies interviewed, with third-party estimates suggesting that the largest enterprise had about 400 employees.

- The median number of employees in enterprises varied between sectors, from three in the cider sector to 12 in the dairy sector.

Table 2. Current employees in the Tasmanian fermentation industry

SECTOR	Interview data				Extrapolated ¹
	Current employees	Median employees per business	Minimum employees per business	Maximum employees per business	Total current employees in Tasmania
Beer*	89	6.0	2	57	424
Cider	62	3.0	3	45	214
Dairy*	38	12.0	12	14	224
Other	65	3.5	1	34	210
Overall	254² total	6.1 average	1 lowest	57 highest	1,072 total

1. Total current employees extrapolated based on percentage of known sector interviewed
2. Does not include additional 20 casual staff intermittently employed for festivals or events

***Note** We were not successful in attempts to engage with the largest cheese producer in NW Tas or the largest beer and cider producer in southern Tasmania. It is estimated that these enterprises employ around 400 and 90 people respectively.

For those sectors for which first-hand data was collected, the data in Table 3 indicate that:

- There were about 870 FTE positions in the fermentation sector in Tasmania
- Total FTE numbers ranged from 1 to 57 in those companies interviewed, with extrapolated third-party estimates suggesting that the largest enterprise had about 320 FTEs.
- The median number of FTE positions in enterprises varied between sectors, from 2.5 in the cider sector to 12 in the dairy sector.

Table 3. Current full time equivalent (FTE) employment in Tasmanian fermentation industry

SECTOR	Interview data				Extrapolated ¹
	Current FTE employment	Median FTEs per business	Minimum FTEs per business	Maximum FTEs per business	Total FTE employees in Tasmania
Beer*	81	3.8	1	57	386
Cider	36	2.5	2	25	122
Dairy*	35	12	10	13	206
Other	47	2.4	1	25	152
Overall	199 total	5.1 average	1 lowest	57 highest	866 total

1. Total FTE extrapolation was based on the percentage of known sector interviewed

***Note** These data do not include the largest cheese producer in NW Tas or the largest beer and cider producer in southern Tasmania.

Table 4 provides a summary of data presented above, in addition the ratios between FTE and total employee numbers, and between total roles and total employee numbers. Bearing in mind the

caveat regarding absence of data for two large enterprises, these ratios suggest that the smaller fermentation sector enterprises provide largely close-to-full-time positions (average FTE:employee ratio of 0.8).

The significance, if any, of the average number of roles per employee data is unclear, but it may be that a decreasing ratio is an indication of increasing organisational maturity of a given enterprise.

Table 4. Extrapolated summary of current employees, full time equivalent (FTE) employment and roles in the Tasmanian fermentation industry

SECTOR	Extrapolated to current Tasmanian industry			Current ratios	
	FTEs	Employees	Roles	FTE:employees	roles:employees
Beer*	386	424	490	0.9	1.2
Cider	122	214	217	0.6	1.0
Dairy*	206	224	241	0.9	1.1
Other	152	210	245	0.7	1.2
Overall	866 total	1,072 total	1,193 total	0.8 average	1.1 average

***Note** These data do not include the largest cheese producer in NW Tas or the largest beer and cider producer in southern Tasmania.

Table 5 provides a breakdown of data regarding current and anticipated (3-5-year horizon) roles in the fermentation sector in Tasmania.

We have, informed by the interview raw data, separated these roles into three categories:

- *Leadership/Managerial roles* (e.g. business strategy, business development, compliance, finance, workforce relations, workplace health and safety, marketing)
- *Specialist roles* (e.g. product development, design, production, quality systems, quality control, quality assurance, food safety)
- *Operations roles* (e.g. general labour, cleaning, stock control, retail, food service, packing, maintenance, sales, distribution, administration).

Table 5. Summary of current and projected roles in the Tasmanian fermentation industry

SECTOR	Current roles							
	Interview data				Extrapolated to Tasmanian industry			
	Leader/Manager	Specialist	Operations	Total	Leader/Manager	Specialist	Operations	Total
Beer*	15	27	61	103	71	129	290	490
Cider	7	16	40	63	24	55	138	217
Dairy*	10	10	21	41	59	59	124	242
Other	22	12	42	76	71	39	135	245
TOTAL	54	65	164	283	225	282	687	1,194

SECTOR	New roles in next 3 to 5 years							
	Interview data				Extrapolated to Tasmanian industry			
	Leader/Manager	Specialist	Operations	Total	Leader/Manager	Specialist	Operations	Total
Beer*	1	3	4	8	5	14	19	38
Cider	8	2	3	13	28	7	10	45
Dairy*	5	8	3	16	29	47	18	94
Other	13	8	33	54	42	26	106	174
TOTAL	27	21	43	91	104	94	153	351

SECTOR	Total projected roles in next 3 to 5 years							
	Interview data				Extrapolated to Tasmanian industry			
	Leader/Manager	Specialist	Operations	Total	Leader/Manager	Specialist	Operations	Total
Beer*	16	30	65	111	76	143	309	528
Cider	15	18	43	76	52	62	148	262
Dairy*	15	18	24	57	88	106	142	336
Other	35	20	75	130	113	65	241	419
TOTAL	81	86	207	374	329	376	840	1,545

*Note These data do not include the largest cheese producer in NW Tas or the largest beer and cider producer in southern Tasmania.

9 Analysis

9.1 Anticipated industry growth

Recognising the constraints described in the Methods section (page 6), analysis of the data presented above, informed by broader discussions during the two rounds of industry-member interviews, can be summarised as follows.

- The fermentation industry in Tasmania is in a stage of strong growth. Of the 24 Tasmanian fermentation producers interviewed, 18 (75%) indicated that they had plans for growth in the next three to five years and that they would require new roles within their business.
- Extrapolated data suggest the following growth patterns for the fermentation sector over the next 3-5 years:
 - **Beer:** there will be a requirement for about **40 new roles** (an overall increase of ~10%), with around 30 of these being in the Specialist and Operations categories, the remainder being Managers/Leaders.
 - **Cider:** there will be a requirement for about **45 new roles** (an overall increase of ~20%), about 30 of which will be in the Leader/Manager category, and the remainder evenly spread across Specialist and Operations.
 - **Dairy:** there will be a requirement for about **95 new roles** (an overall increase of ~15%), about 50 of which will be in the Specialist category, and the remainder spread relatively evenly across the Leader/Manager and Operations categories.
 - **Other³:** there will be a requirement for about **170 new roles** (an overall increase of ~70%), about 100 of which will be in the Operations category, ~40 Leader/Managers and ~30 Specialists.
- These data suggest that the following would need be filled over the next 3-5 years:
 - **~100 Management/Leadership roles**
 - Industry members felt that training opportunities for this category were readily available.
 - The concept of such courses being offered specifically to those in the agri-food sector was considered attractive in terms of added peer-review and networking possibilities.
 - **~100 Specialist roles**
 - Industry members felt that training to bring ‘work-ready’ specialists into the workforce, and for those already in the industry to gain specialist skills, was lacking.
 - It was felt that capability-building for these roles could be supported through a combination of focussed, non-accredited courses and an increased selection of tertiary-level (TAFE and University) options.

³ The ‘Other’ category comprises producers of, amongst other things, fermented condiments; fermented beverages; miso; bread; plant-based cheese; kraut; kimchi; mead; and water kefir.

- Interviewees encouraged training providers to explore options to integrate industry-recognised training (e.g. from the Institute of Brewing and Distilling) into current or new accredited units.
- **~150 Operations roles.**
 - Interviewees considered that for training for this cohort to be more effective, there was a need for greater engagement between industry members and training providers.
 - A key and consistent point was that industry members considered that production-level training should include the ‘why’ as well as the ‘what’ and ‘how’ of the skills development in question. It was considered that a change of emphasis along these lines would
 - increase operations worker job satisfaction by increasing their understanding of the absolute value of many of their day-to-day tasks and
 - increase employment options and flexibility amongst operations workers.

It should be noted that:

- this anticipated growth within the Tasmanian fermentation sector could be stronger than indicated, as only extant enterprises were included in the consultations. Given the rapid increase in the number of fermentation-focussed enterprises during the past few years, it is considered likely that this trend will continue. It is possible also that some rationalisation may occur within some sectors, tempering the observed expansion rate. At present, it is impossible to assess the likelihood, scale or impact of possible new market entrants and/or rationalisation.
- this data relates only to Tasmania. It is likely that other Australian states will be experiencing similar trends, suggesting that demand across Australia for additional, appropriately skilled fermentation-focussed staff is likely to be high in the coming years.

9.2 Training curriculum priorities and options

Table 6 provides a picture of the typical spread of roles along a fermentation-focussed value chain, mapped against Operations, Specialist and Management/Leadership categories.

It was clear through the initial interviews and subsequent industry feedback that there is a need for workforce development activities across the entire value chain of fermenting-focussed enterprises.

However, interviewees – who were largely enterprise owners and/or managers – had a strong preference for workforce development to be focussed on the Operations and Specialist categories.

In saying this, industry members felt that more could be done to map training courses and segments more closely to current industry needs. It was also felt that courses should do more to focus on provision of useful knowledge that underpins current skill requirements. This highlights a perception

by industry members that they are somewhat disconnected from curriculum design and priority setting.

The delivery of courses that support workplace-relevant knowledge and skills was viewed as important by all interviewees. Demand for delivery of accredited qualifications, however, was mixed. There was no clear trend in response to questions regarding the perceived value of training that leads to accredited qualifications, be they Certificates, Diplomas, Associate degrees or Degrees. Some industry members discounted the value of these, while others were keen for all training to be mapped against formal qualifications. It is worth noting that some interviewees saw more value in providing in-house training than engaging with external providers.

9.3 Delivery options

Perhaps unsurprisingly, opinion regarding preferred delivery mechanisms covered the range from wholly in-house (by staff and/or external training providers) to wholly external.

There was a clear preference across interviewees, from smaller and larger enterprises, to ‘hire for attitude, and train in-house’. Exploration of this preference highlighted a common belief that each production system was unique, and that externally-provided training was unlikely to provide relevant, practical skills.

It will be a challenge to develop courses that appeal to most enterprises and their staff. The first step will be building trust in the course material, so that the intrinsic value of each course is apparent. Once that trust is built, it is likely that enterprises will show an increased flexibility in accepting alternative delivery options.

Anecdotal evidence suggests that the larger fermenting enterprises in Tasmania, all of whom are owned by multi-national entities, are unlikely to engage in any substantial way with state-based workforce development activities. These companies have access to their own focussed, in-house workforce development programs.

9.4 Project outcomes

While anticipated project outcomes are expected to be more obvious across a 1-3-year time-scale, it is worth noting that some change was already apparent during the delivery of the project itself.

- Attitudinal changes
 - Discussions during the second industry consultation showed an increased focus on the need for increased formality of enterprise-level workforce development activities.
- Capacity and structural changes
 - There was increased discussion about how organisations like FermenTasmania could work with enterprises on individual and collective bases to develop and deliver workforce development resources and activities.

Table 6: Matrix of roles along a generic fermentation value chain against Operations, Specialist and Management/Leadership categories

Category	Roles					
	Business	Maintenance	Operations	Packaging	Sales and Marketing	Distribution
Operations	<ul style="list-style-type: none"> Administration assistant 	<ul style="list-style-type: none"> Maintenance technician – repair and preventative maintenance 	<ul style="list-style-type: none"> Production operator (daily operations and cleaning) Stock control assistant WHSE representative 	<ul style="list-style-type: none"> Packaging operator Stock control assistant 	<ul style="list-style-type: none"> Marketing assistant Sales representative Brand ambassador Food and Beverage attendant 	<ul style="list-style-type: none"> Delivery driver Stock control assistant Warehouse operator
Specialist	<ul style="list-style-type: none"> Office manager Accounts officer Payroll officer Purchasing officer HR officer 	<ul style="list-style-type: none"> Mechanical fitter/engineer Maintenance planner/supervisor Maintenance inventory controller 	<ul style="list-style-type: none"> Inventory/Stock controller (ingredients, finished goods) Purchasing officer Team leader Storage manager QA/QC manager Food scientist Lab technician Production planner Grower liaison officer 	<ul style="list-style-type: none"> Inventory controller Packaging supervisor Production planner Packaging engineer 	<ul style="list-style-type: none"> Marketing team leader Social media manager Sales team leader Orders and inventory administrator Food and beverage supervisor 	<ul style="list-style-type: none"> Stock control and delivery manager Logistics administrator
Management/Leadership	<ul style="list-style-type: none"> Director HR manager Compliance manager Financial controller CEO Procurement manager 	<ul style="list-style-type: none"> Engineering manager 	<ul style="list-style-type: none"> New Product Development manager Production manager Operations manager Technical manager Food scientist Laboratory manager Operations director WHSE manager Quality manager/s (HACCP, ISO, Food safety) Continuous improvement manager 	<ul style="list-style-type: none"> Packaging manager 	<ul style="list-style-type: none"> Marketing director Marketing manager Brand manager Sales manager Sales director Key accounts manager Venue manager Festivals manager Sponsorship manager Public relations manager 	<ul style="list-style-type: none"> Customer liaison manager Logistic manager Supply manager Supply chain director

10 Recommendations

At the time of writing (September 2018), FermentTasmania has just been awarded initial operational funding support from Food Innovation Australia Ltd. As such, FermentTasmania will be well paced to:

- take ownership of project recommendations,
- apply resources to their implementation, and
- monitor and evaluate future trends.

FermentTasmania's industry-cluster framework (e.g. see http://www.tci-network.org/about_clusters) will facilitate closer collaboration among individual enterprises, industry groups and training providers to design and implement practical, pragmatic interventions to meet anticipated workforce capacity and capability needs.

Data from this project will be an invaluable source of base-line information to inform FermentTasmania's work to support Tasmania's fermentation-focussed enterprises.

Recommendation 1: FermentTasmania to establish a forum comprising industry members and training providers to discuss industry workforce development priorities and delivery options

This project has provided a first step in building a cohesive, cross-industry workforce development program.

The next step is to build a solid working relationship between industry and training providers so that the drivers and needs of each can be understood and a flexible, sustainable workforce development framework be developed.

In this way, the industry will build an understanding of specific skills needed within various enterprises and then work directly with training providers to design and deliver courses that meet these needs. If it is found that the current pool of training providers is not able to deliver against identified needs, then alternative delivery models will need to be explored.

It should be noted that this recommendation aligns with Recommendations 1 and 3 from the Tasmanian Distilling Industry Workforce Report (Skills Tasmania, 2017). FermentTasmania currently is leading discussions regarding providing executive and coordinating roles for several Tasmanian industry bodies and anticipates being able to facilitate progress against these recommendations.

Recommendation 2: FermentTasmania to work with industry bodies and training providers to map recognised industry training packages against accredited courses or units

There is currently a range of opinions as to the current value of accredited qualifications within the fermentation workforce. It is also acknowledged that formal qualifications are valued by a sector of

the workforce and that enterprises have a duty to provide their staff with opportunities to achieve such.

In this light, mapping recognised and valued courses (for example, those offered by the Institute of Brewing and Distilling: <https://www.ibd.org.uk/qualifications/training/>) against formal Operations, Specialist or Management level qualifications was seen by industry members as an attractive option and should be pursued.

11 Evaluation process

The overall success of this and subsequent workforce development projects for the fermentation sector in Tasmania will be measured in terms of:

- workforce-related engagement and cooperation between enterprises within sectors and/or regions,
- workforce training options and training opportunities of relevance to fermentation-based enterprises,
- employment levels within the Tasmanian fermentation industry, and
- numbers of regionally-based workers with the capability to work across fermentation sectors.

FermentTasmania will take responsibility for this evaluation work, as facilitation of workforce development practices will be integral to our efforts to support the growth and resilience of this emerging industry. Activities to gather, analyse and act on relevant data will be incorporated into FermentTasmania's workplan over the coming years.

12 Acknowledgements

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