AUSTRALIAN MEAT PROCESSING INDUSTRY SECTOR

Industry Reference Committee Work Plan 2016-2019

THE MEAT PROCESSING MANUFACTURING INDUSTRY REFERENCE COMMITTEE WORK PLAN 2016-2019

Purpose

This workforce development and skills needs analysis represents the latest industry intelligence and resulting work plan of the Australian Meat Processing Industry Reference Committee (IRC). It was developed through research of national and industry data sources and ongoing input from IRC members and key stakeholders. The report is designed to provide the Australian Industry and Skills Committee (AISC) on the four-year rolling National Schedule of training product development and review work.

The industry intelligence component covers the following topics:

Sector Overview –analysis of the depth and breadth of the industry and identification of the macro environmental forces that currently challenge and / or provide opportunities for the industry

Employment – review of employment projections by the Department of Employment and an outline of the current workforce profile and supply for the industry

Skills Outlook – insights into the key trends that could potentially drive changes in workplace design and identification of key priority skills and skilled labour shortages for the industry.

The training product review work plan – at the end of the report – draws on the industry intelligence, reports and various points of engagement with industry associations, employers and training providers.

CONTENT

EXECUTIVE SUMMARY

This report provides an overview of workforce development and skills needs for the Australian meat processing industry sector. The report was commissioned to support the Australian Industry and Skills Committee (AISC) in developing the four-year rolling National Schedule of training product development and review work. The report is structured, as per the AISC template, in four main sections as follows: sector overview, employment, skills outlook, and training product review plan. Methods of analysis include research of published national and industry data sources and input from Industry Reference Committee (IRC) members and key stakeholders.

The report draws attention to the fact that a growing demand and export trade for red meat in the global markets provides this industry with the potential for growth and new business opportunities. The opportunities are also shaped by industry's reputations as a supplier of safe, nutritious, ethically produced meat products, current government policies related to Free Trade Agreements, market trends characterised by a growing focus on high quality meat and livestock products, and availability and ongoing development of advanced technologies.

Further, the report describes that compared with other industry sectors the meat processing sector has the advantage of a younger workforce and a balanced age structure under 50 years of age. While ability to attract people to the industry is not an issue for employers, ongoing and structured training is becoming increasingly important in the journey to maintain business viability and competitiveness.

Importantly, employers will increasingly seek high level skills to support more demanding job functions in most workplaces. This occurs because businesses respond to opportunities with new value creation strategies, capital structure strategies, product development, and investments in world-leading technologies, among many other innovations.

Examples of new job functions for operational employees include: management, quality inspection, generation of information/reporting, process improvements, and technical maintenance. Similarly, higher level skills will be required of specialist managers to support strategic developments and targets. Such examples include strategic leadership and change management skills, marketing executive skills, developing investment project skills, global supply chain and logistics skills and other high level skills.

Summary of key points in each section

Sector overview

- The meat processing industry sector can be described as having five sectors: meat processing (abattoirs), poultry processing, smallgoods manufacturing, wild game harvesting and wholesaling and retailing of the above.

- The industry includes 1,215 processing businesses and about 6,000 wholesalers and retailers. The sector employs approximately 350,000 people who are involved either directly or indirectly in the supply chain.

- In general, the sector is characterised by a large number of small and medium-size producers producing for local or niche markets and a smaller number of large producers which often are multinational companies and operate globally. The chicken meat industry is predominantly vertically integrated.

- Total sales turnover of the processing sectors increased by 12 per cent (or $2.6 billion) to $25.5 billion between 2012-13 and 2013-14.

- The industry is represented by about 17 peak organisations at a national and state level, including industry associations, industry services bodies such as R&D corporations, employee associations and regulatory bodies.

- Key regulations for the industry include or are related to: export certification for abattoirs, meat inspection services, licence to operate for all meat processing plants, Australian Standard for the hygienic production and transportation of meat and meat products for human consumption, Food Standards Australia New Zealand, The Biosecurity Act 2015 and various other standards that apply to meat processing.

- The only sector-specific occupation that is regulated[1], requiring a licence to operate is the role of meat inspector. The registration can be with a federal or state authority, depending on the nature of the enterprise.

- Key macro forces which currently challenge and provide opportunities for the industry sectors include:

  - Competitiveness in both domestic and international markets, provided by higher expectations from consumers, retailers and governments of high environmental and ethical standards including food safety and animal welfare, grater diversification of markets, and the emergence of large-scale smallgoods production facilities amongst other challenges.

  - Growing demand for red meat in the global markets and declining prices for livestock, which creates both challenges and opportunities for the Australian red meat and livestock industry sector in relation to finding new pathways for higher productivity and increasing export trade.

  - Australia's social and environmental objectives, which demand continual improvement of sustainable farming practices and stewardship of environmental resources including adaptation to climate variability.

  - Supportive government policies such as Free Trade Agreements, which bring strong benefits to the industry in terms of export tariff reductions which increase international competitiveness.

  - Existing and ongoing development of enabling technologies, which allows for automation of manual tasks including more efficient handling of carcasses, improved resource efficiency, and integrated packaging of boned and sliced product.

Employment

- The employment in meat processing sector is anticipated to remain stable over the five years to November 2020

- About 18 per cent of the industry workforce is likely to retire over the next five years.

- A significant number of the workforce occupies roles specific to the industry including meat and poultry process workers, meat boners and slicers, slaughterers, butchers and smallgoods makers. A significant workforce is also employed to undertake packing and more general roles such as clerical and administrative work. The sector also employs people for a range of other jobs such as forklift drivers, commercial cleaners, metal fitters and machinists, and production managers.

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[1] Regulated occupations have legal (or industry) requirements or restrictions to perform the work. Regulated occupations require a license from, or registration by, a professional association or occupational licensing authority.

The trends in skills demand include:

DRIVER	SKILLS OUTLOOK	TRAINING PACKAGE PROJECT
Introduction of automation and electronic systems in warehousing; customer requirements for whole of chain traceability.	A greater focus will be retained on high level technological skills, warehouse and logistic skills and knowledge for loadout at labourer and general workers level.	Suitable units in warehousing and logistics to be identified and/or developed for inclusion into existing qualifications.
Introduction of automation and electronic systems in warehousing; customer requirements for whole of chain traceability.	Higher level supply chain, logistics and warehousing skills will be essential for senior technicians and supervisors.	Inclusion of suitable warehousing units into AQF level II and III qualifications.
Increased value of and international demand for animal skins and hides.	Growing demand for formal qualifications in stock handling and handling and treating animal skins.	Development of qualifications and units in stock handling and the handling and treating of animal skins.
Growth in wholesale, automated and centralised boning, value-adding and food service businesses	Greater breadth of skills for food service workers and management	In response to the introduction of new technologies, inclusion of diversified skills in boning and slicing in Certificate III in Meat Processing (Food Services), Certificate III in Meat Processing (Smallgoods – General).
Greater levels of automation and emergence of the Internet of Things.	Cross-trade skills in maintenance continue to be required from technical and skilled worker positions; increasing emphasis on formal training in ammonia refrigeration.	Possible units and qualification structures to be identified for non-trade engineering maintenance qualifications at Certificate II, III and IV.
Requirement by European Union for qualified animal welfare personnel to be present at all times when unloading stock.	Employees will need to be qualified in animal welfare. Gaps have been identified, particularly during night or out-of-hours unloading.	Development of an Animal Welfare Assistant Skill Set.
Customer and regulator focus on meat safety, shelf life, and product optimisation through technology, packaging and interventions.	There is a growing need for high level skills in areas of meat micro/food safety, data interrogations, quality systems management skills, energy efficiency, waste water usage, and wholesale value-adding.	Regular review of scope and nature of Quality Assurance qualifications; possible future inclusion of further high level technical units.

International and domestic customer focus on risk assessment and management.	Recent industry audits have revealed a skills gap in addressing Threat and Vulnerability Assessment (TACCP & VACCP) – a requirement for BRC audits.	Identification or development of suitable units to address Threat and Vulnerability Assessment (TACCP & VACCP).
Greater focus on planning, risk assessment and return on investment assessment required of senior personnel as new technologies and systems are developed.	Project management skills will remain critical for management positions, particularly in relation to implementation of new technologies.	Project management skills relevant to abattoirs at AQF 5 and 6.
State regulatory requirements regarding pest management.	Participants in industry network meetings have identified a need to address the area of pest management. Regulatory requirements in every State are different, and most processors outsource the management of their pest control systems to accredited suppliers. Key skills gaps have been identified in the area of pest management monitoring by plant personnel.	Suitable units in pest control monitoring to be identified and/or developed for inclusion in existing qualifications.

A. ADMINISTRATIVE INFORMATION

Name of Applicable Industry Reference Committee (IRC): :

Australian Meat Processing Industry Reference Committee (IRC)

Name of Applicable Skills Service Organisation:

Skills Impact

B. SECTOR OVERVIEW

Sector Description

The Australian meat processing industry comprises processors, retailers and exporters who together are responsible for guaranteeing the supply of meat to domestic and international markets.

Australia exports $6 billion worth of beef and cattle annually, making this sector one of the country's most valuable farm contributors. Sheep meat and sheep exports are worth around $1.6 billion, and goat meat and goats approximately $55 million. Combined these represent around 23% of total Australian farm exports. Over 70% of red meat production is exported to 110 countries worldwide.

The Australian red meat industry has a total annual value of over $17 billion and is one of the world's largest exporters of red meat and livestock. Approximately 350,000 people are involved either directly in the supply chain or in businesses that service the industry. The Australian domestic market is the industry's largest single market.

The pork industry is focused predominantly on a domestic market whilst maintaining a small export industry to New Zealand and Singapore (valued at $83.5m). Competition with increasing volumes of subsidised imports from North America and Europe continue to be an issue for the industry.

The Australian production system is diverse, offering a wide variety of products to customers and consumers. Products range from high-quality, tenderness-guaranteed eating products, to hides and pharmaceutical ingredients.

The industry is renowned for its efforts in meeting customer requirements. Major international customers for Australian beef are China, Japan, the US and Korea, while the US and the Middle East are the dominant export markets for lamb, mutton and goat meat.

The Australian meat industry has an enviable international reputation as a leader in food safety, animal welfare and disease control. This earns the trust of domestic and international consumers and allows access to all global markets where collectively over three million tonnes or Australian product is consumed each year.

The chicken meat industry is predominantly vertically integrated. This means that generally, individual companies own almost all aspects of production - breeding farms, multiplication farms, hatcheries, feed mills, some broiler growing farms, and processing plants. The poultry processing industry has grown over the past five years due to the popularity of its processed products, with an annual revenue of $7b. Growing demand for chicken meat has been supported by its cheaper price compared with other meats, and aided by dramatic improvements in production efficiencies.[2]

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[2] Source: Ibisworld, June 2016 http://www.ibisworld.com.au/industry/default.aspx?indid=91

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Smallgoods, including sausages, salamis, bacons, hams, pates, and dried, roasted and preserved meat products, are mainly consumed by the domestic market. Ibisworld estimates the total revenue of the industry at $4b with the four top players accounting for less than 50% of total revenue. [3] A significant amount of Australian smallgoods product continues to be manufactured by smaller, speciality processors.

The meat wholesaling sector is a growing sector of newly emerging companies primarily made up of boning rooms and value-adding establishments servicing the hospitality and supermarket industry.

Meat retailers in Australia include traditional independent butchers, supermarkets, butcher shop chains, and gourmet and specialist retail meat outlets. The Australian Meat Industry Council (AMIC) estimates that there are about 2,800 independent butchers throughout Australia, employing about 8,500 people. Woolworths and Coles dominate the supermarket distribution of meat products, with figures produced by Meat and Livestock Australia (MLA) in 2012 indicating that these two organisations accounted for about 58% of beef and lamb sales.

Relevant Training Package Qualifications

The *AMP Australian Meat Industry Training Package* provides current and applicable training across the broad range of meat processing occupations. It comprises 26 Qualifications, sixty Skill Sets, 429 AMP Units of Competency, and a further 211 imported units.

Note: Poultry processing is not currently covered by the *Australian Meat Industry Training Package*. Most processors use the Food Processing Training Package.

AMP QUALIFICATIONS	
Qualification Level: Certificate II	
AMP20115	Certificate II in Meat Processing (Food Services)
AMP20215	Certificate II in Meat Processing (Smallgoods)
AMP20315	Certificate II in Meat Processing (Abattoirs)
AMP20415	Certificate II in Meat Processing (Meat Retailing)
Qualification Level: Certificate III	
AMP30115	Certificate III in Meat Processing (Boning Room)
AMP30215	Certificate III in Meat Processing (Food Services)
AMP30315	Certificate III in Meat Processing (Meat Safety)
AMP30415	Certificate III in Meat Processing (Rendering)
AMP30515	Certificate III in Meat Processing (Slaughtering)
AMP30615	Certificate III in Meat Processing (General)
AMP30715	Certificate III in Meat Processing (Quality Assurance)
AMP30815	Certificate III in Meat Processing (Retail Butcher)
AMP30915	Certificate III in Meat Processing (Smallgoods - General)
AMP31015	Certificate III in Meat Processing (Smallgoods - Manufacture)
AMP31115	Certificate III in Meat Processing (Livestock Handling)

[3] As above

AMP31215	Certificate III in Meat Processing (Packing Operations)
Qualification Level: Certificate IV	
AMP40215	Certificate IV in Meat Processing (General)
AMP40315	Certificate IV in Meat Processing (Leadership)
AMP40415	Certificate IV in Meat Processing (Quality Assurance)
AMP40515	Certificate IV in Meat Processing (Meat Safety)
Qualification Level: Diploma	
AMP50115	Diploma of Meat Processing (Meat Retailing)
AMP50215	Diploma of Meat Processing
Qualification Level: Advanced Diploma	
AMP60115	Advanced Diploma of Meat Processing
Qualification Level: Graduate Certificate	
AMP80115	Graduate Certificate in Agribusiness
Qualification Level: Graduate Diploma	
AMP80215	Graduate Diploma of Agribusiness

Sector Analysis

Sub-sector description and analysis of businesses involved

SUB-SECTOR NAME	ABATTOIRS SECTOR
SCOPE OF WORK	*Beef and veal* Australia is one of the world's most efficient producers of cattle and the world's third largest exporter of beef. The off-farm meat value of Australia's beef industry is $12.75 billion. The gross value of Australian cattle and calf production is estimated at $7.7 billion.[4] Australian cattle slaughter over the next five years is expected to decrease from 9.5 to 8.9 million head, as restocking occurs after a period of drought across northern Australia. Australia exports $6 billion worth of beef and cattle annually, making this sector one of the country's most valuable farm contributors. Over the next five years the major markets will continue to be the United States, Japan, Republic of Korea and China.[5]

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[4] Meat and Livestock Australia (2015 *Australia's beef industry* http://www.mla.com.au/Cattle-sheep-and-goat-industries/Industry-overview/Cattle
[5] ABARES (2015) *Agricultural Commodities*

Sheep meat

Australia is one of the world's leading producers of lamb and mutton, the largest exporter of mutton and live sheep, and second largest exporter of lamb. The Australian public are among the biggest consumers of lamb in the world. The off-farm meat value of the Australian sheep meat industry is $4.2 billion.[6]

Lamb slaughter has been making stepped increases for the past 15 years, with 20 million lambs likely to become the new low, as the prime lamb transition continues, and as breeding ewes become more efficient. This has been exemplified by the recent improvements in national average marking rates. Lamb exports are anticipated to contract year-on-year, underpinned by tighter production.[7]

Changes over the next five years include a gradual replenishing of the national sheep flock after a prolonged period of drought, with numbers expected to increase from 71 million head in 2015 to 76 million in 2019-20.

Sheep meat exports are worth around $1.6 billion, with strong export demand expected to keep prices high at around 510 cents a kilogram. Demand from the US, Middle East and China is likely to remain particularly strong, while the smaller markets of Japan, South East Asia and the European Union will continue as important markets to the Australian industry.

Domestic lamb consumption has been in a long-term decline, from 23.8 kilograms per person in 1971-2 to 8.9 kilograms per person in 2013-14. The current rate of consumption is expected to remain the same over the next few years. [8]

Goat meat

Over the past 20 years the Australian goat meat industry has experienced strong growth, largely underpinned by the sale of goats derived from rangeland or extensive production systems. Australia is the world leader in goat meat exports, with around 95% of Australian goat meat sent offshore (mostly to the US and Asia) and accounting for around 50% of the global goat meat trade.

Around 90% of Australia's meat production is derived from rangeland goats, the majority of which are mustered from semi-arid western regions of the eastern states. The rangeland goat population was estimated to be between 4–6 million head in 2011, but an accurate measure of the population is difficult due to the vast spread of the population and its ability to rapidly reproduce under favourable seasonal conditions.[9]

Pork processing

The pork industry is one of the few Australian food industries operating in a truly global marketplace, maintaining a small export industry to New Zealand and Singapore, and competing with increasing volumes of subsidised imports from North America and Europe. Increasing competition from imports

is regarded as one of the major challenges facing the industry. The industry is currently exploring access to new markets such as China for the export of fresh pork.

ABARES predicts that pig meat production will rise gradually to 410,000 tonnes over the 2015-20 period, with domestic production directed mainly to the fresh market. In 2006, 82% of Australian pig meat production was consumed domestically and imports of frozen pork accounted for approximately one-third of consumption.

Deboned pig meat imports are allowed into Australia from approved countries, subject to specific import conditions, and must be cooked before sale. More than 60% of imports came from the United States and Canada, major users of GM feed grain, with almost all of the remainder coming from Denmark.[10]

Current industry initiatives focused on product quality include: developing and testing of consumer messages of 'how to cook' pork, determining and validating key production, processing, post-slaughter and cooking practices to optimise eating quality of different pork cuts in order to implement a cuts-based eating quality system into industry as well as understanding the effects of low ultimate pH on pork eating quality.[11]

Other species

Australian animals, such as kangaroos, possums, crocodiles and emus, and introduced animals such as rangeland goats, horses and pigs, are the basis of significant commercial industries for human consumption and pet food.

Other species such as ratites (emus and ostriches), deer, crocodiles, llamas and alpacas, mutton birds and rabbits are also processed in Australia. Most of the meat is processed for domestic consummation, although skins, feathers, oils etc. are often specialty export products.

Where they can be harvested humanely and, in the case of native animals, sustainably, wild animals can be profitable supplements or alternatives to domestic animals. Their commercial use can also contribute to pest management objectives.

PROCESSORS The sector is dominated by five major participants, including significant foreign ownership, large scale and multinational operations:

- JBS Australia Limited
- Teys Australia Limited
- NH Foods Australia
- Thomas Foods International
- Fletcher International

[6] Meat and Livestock Australia (2015) *Australia's sheepmeat industry* http://www.mla.com.au/Cattle-sheep-and-goat-industries/Industry-overview/Sheep
[7] Meat and Livestock Australia (2015) *Australian Sheep Industry Projections*
[8] ABARES (2015) *Agricultural Commodities*
[9] Meat and Livestock Australia (2015) *Australian Goat Industry Summary*
[10] ABARES (2015) *Agricultural Commodities*
[11] Australian Pork Limited (2015) *Product quality* http://australianpork.com.au/industry-focus/product-quality/

	However there are over 140 meat processing establishments of varying sizes across Australia.
GEOGRAPHICAL LOCATION	There are processing plants throughout Australia, with the highest concentration on the eastern seaboard. Most processors are located in regional towns, although there are some large processors in the outer-metropolitan areas of Brisbane/Gold Coast and Melbourne. In many cases, the meat processing enterprise will be one of the largest employers in a regional location, and will have a significant impact on the local economy.
AUTOMATION AND DIGITISATION	The sector features a growing level of technological development and computerisation, particularly in relation to WHS and production line efficiencies. A high level of capital investment has been undertaken to reduce the environmental impact of the sector over the past decade through solutions involving energy efficiency, waste-water and biomass systems. As a matter of process, implications and adjustment to the training system are considered and addressed as part of the implementation process. A need for further development has been addressed in the engineering maintenance area. The introduction of automation and digital technologies is placing pressure on maintenance staff, particularly in the area of cross-trade skills, leading to industry demand for broader technical training for maintenance staff.

SUB-SECTOR NAME	**MEAT RETAILING**
SCOPE OF WORK	The meat retailing sector focuses on producing and supplying meat products to meet customer needs, and further processing and value-adding to meat products to meet demands for pre-prepared and pre-cooked products. There is a growing interest in the provenance of livestock such as grass fed and free range. Meat retailers increasingly provide food preparation, storage and cooking advice to customers, in response to a growing resurgence of interest in home cooking and non-traditional meat dishes. There is also a growing trend towards further processing and supplying meat products from a variety of different animal species, including poultry, game meat, rabbits and native animals, and combining meat with other food products to produce specific product to meet local needs. The meat retailing sector is facing increasing regulation particularly in food safety and quality assurance (QA). There are changes in work organisation and work arrangements, including longer opening hours, and increasing skills demands in technology, food safety, QA, workplace health and safety, marketing, customer service and finances.
ENTERPRISES	Meat retailers in Australia include traditional independent butchers, supermarkets, butcher shop chains, and gourmet and specialist retail meat outlets. There are about 3,000 individual enterprises, and most of these are

	represented through their peak body, the Australian Meat Industry Council (AMIC).
GEOGRAPHICAL LOCATION	Meat retailing enterprises are located in nearly every community across Australia.
AUTOMATION AND DIGITISATION	There is a growing trend towards the use of electronic financial systems, and increasing impact of information technologies particularly on marketing and supply of products, e.g. using the Internet and social media.

SUB-SECTOR NAME	**SMALLGOODS MANUFACTURING**
SCOPE OF WORK	Smallgoods are meat products where the meat has been manufactured to form a new product, such as sausages, salamis, bacons, hams, pates, and dried, roasted and preserved meat products. Smallgoods are made from pig meat and other meats, such as poultry, mutton and beef. Pork represents anywhere from 60-80% of the smallgoods sector's meat input, of which 60% comes from imported pig meat. Australian produced smallgoods products are mainly consumed by the domestic market. The largest product segment offered by the industry is bacon. Over the past five years, this product segment has increased from 35.6% to 39.9% of industry revenue.[12]
ENTERPRISES	Australia's $3 billion cured meats and smallgoods industry includes 194 businesses and employs more than 8,200 people. The two major processors are: • Primo Smallgoods (now part of JBS Australia) • George Weston Foods. The industry has experienced significant consolidation over the last five years. However a significant proportion of Australian smallgoods product continues to be produced by smaller speciality processors.
GEOGRAPHICAL LOCATION	The Cured Meat and Smallgoods Manufacturing industry is concentrated along the eastern seaboard, with Victoria, New South Wales and Queensland combined accounting for a little over 70 per cent of the total number of establishments.
AUTOMATION AND DIGITISATION	Technological changes through adoption of new equipment and the computerisation of processes have been implemented in the sector, particularly by the larger businesses with a focus on efficiency of production.

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[12] Ibis World *Cured Meat and Smallgoods Manufacturing in Australia: Market Research Report*

SUB-SECTOR NAME	MEAT WHOLESALING / FOOD SERVICES
SCOPE OF WORK	The meat wholesaling sector is a growing sector of newly emerging companies primarily made up of independent boning rooms and value-adding establishments servicing the hospitality industry and supermarkets. These establishments supply restaurants, fast-food outlets, food chains, hotels, airlines, and supermarkets and also fill niche markets, making specific products, such as portion control products, organic meat products, native meat products, meat patties, pizza toppings, meat products with health benefits, kebabs, and trimmed and pre-packed shelf-ready trays of meat. Ibisworld estimates the sector to generate an annual revenue of $13b across 1,311 businesses, but it should be noted that these figures include poultry and smallgoods wholesaling.[13]
ENTERPRISES	There is an increasing trend for major processors to add boning, wholesale and value-adding processing facilities to their operations, often in more metropolitan locations. Some of the major supermarkets are also moving towards introducing more centralised wholesale meat preparation facilities.
GEOGRAPHIC AL LOCATION	Businesses are increasingly being located in metropolitan areas, close to retail outlets, in VIC, NSW, SA, WA and QLD. There are no dominant businesses.
AUTOMATION AND DIGITISATION	Technological changes through adoption of new equipment and the computerisation of processes have been implemented in the sector particularly by the larger businesses with a focus on efficiency of production. Although there has been no direct need for new units as a result, this has encouraged a greater uptake of the Food Services qualifications.

SUB-SECTOR NAME	WILD GAME HARVESTING
SCOPE OF WORK	A wild game animal is an animal that has not been owned, controlled, herded, penned or confined prior to shooting. This sector includes licensed wild game harvesters and mobile depots which harvest wild game such as kangaroos, wallaby, pigs, goats, deer, rabbits, hares and brushtail possums for both pet food and human consumption, and for a limited export market. This sector does not include farmed game.
ENTERPRISES	For the most part, wild game harvesters are individual operators who cover broad geographical areas such as western Queensland, Northern Territory, western NSW, northern SA and WA. The 'depots' are mobile chillers which receive shot game and transport the product to processors.

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[13] IbisWorld *Meat, Poultry and Smallgoods Wholesaling in Australia: Market Research Report*

SUB-SECTOR NAME	POULTRY PROCESSING
SCOPE OF WORK	Companies in the industry process live poultry (including chickens, ducks and turkeys) into cuts and value-added products. Industry operations begin when live poultry is purchased for processing (usually aged between five and eight weeks) and includes abattoir operation, dressing, frozen poultry manufacturing, poultry meat manufacturing and poultry packing. The industry's involvement ends at the initial point of sale of poultry products.
ENTERPRISES	The four largest industry enterprises account for a little over 65% of industry revenue. Market share concentration has been increasing significantly since the early 1980s due to the continual development and growth in size of the major industry players. The industry is largely dominated by two larger companies (Inghams Australia and Baiada Poultry).
GEOGRAPHICAL LOCATION	Baiada operates eight processing plants and Inghams operates seven processing plants. These, along with several medium to small-size operators, are mostly located in regional areas of Australia.
AUTOMATION AND DIGITISATION	Investment in the automation of processing plants, and the ensuing economies of scale, have contributed to ongoing industry rationalisation.[14]

Relevant stakeholders

The meat processing industry sector is represented at the national level by the following organisations:

INDUSTRY ASSOCIATIONS

Red Meat Advisory Council
Australian Meat Industry Council
Australian Pork Limited
Kangaroos Industry Association Australia

REGULATORY BODIES

Department of Agriculture and Water Resources
PrimeSafe (Vic)
South Australian Meat Hygiene Unit
Meat Branch of NSW Food Authority
Safefood Qld
Department of Health (WA)
Department of Primary Industries and Fisheries (Tas)
Department of Primary Industries and Fisheries (NT)
National Association of Testing Authorities, Australia

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[14] Source: Ibisworld, June 2016 http://www.ibisworld.com.au/industry/default.aspx?indid=91

EMPLOYEES ASSOCIATIONS

Australasian Meat Industry Employees Union

INDUSTRY R&D SERVICES BODIES

Australian Meat Processor Corporation
Meat and Livestock Australia

INDUSTRY SERVICES BODIES

National Meat Industry Training Advisory Council (MINTRAC)

Industry and occupational regulations and standards

Seventy percent of meat consumed in Australia is produced in export-registered abattoirs under the control of the federal Department of Agriculture and Water Resources. The Department of Agriculture and Water Resources regulates export operations in all States and Territories. Apart from export certification the Department of Agriculture supplies both a meat inspection service (including veterinarians and meat inspectors) and a regulatory oversight by Area Technical Managers.

In order to supply meat to the domestic market all meat processing plants must be licensed with the relevant State/Territory authorities. Most authorities have different classes of license depending on the type of animal/ meat being processed.

Since the early 1990's the regulation of the domestic meat industry in each State and Territory has been conducted by State Meat Hygiene Authorities. The extent and methods vary somewhat between the States, but they must all meet the agreed Australian Standards, which are called up by legislation in each State. The responsible bodies are:

- Primesafe-Victoria regulates meat hygiene
- South Australian Meat Hygiene Unit is part of the Department of Primary Industries and Resources (PIRSA)
- The Meat Branch of NSW Food Authority (previously known as Safefood Production NSW) is responsible for meat hygiene regulation
- Safefood Qld incorporates all aspects of food safety in all food products including meat
- In Western Australia meat hygiene is controlled by the Department of Health with input from the Western Australian Meat Industry Authority
- The Department of Primary Industries and Fisheries regulates the Tasmanian meat industry
- In the Northern Territory the Department of Primary Industries and Fisheries regulates the meat industry.

All State and Territory based meat hygiene authorities base their legislation on the Australian Standards in particular the AS4696:2007 *Australian Standard for the hygienic production and transportation of meat and meat products for human consumption.*

The Australian Standards largely apply to wholesale business handling raw meat. Once a product is further processed by cooking, drying or fermentation, it is regulated by food authorities applying the *Australia New Zealand Food Standards Code*, although the AS4696:2007 *Australian Standard for the hygienic production and transportation of meat and meat products for human consumption* also applies.

Most retail activity is controlled by State or Territory food authorities and by local councils.

Australian Standards which apply to meat processing

There are a number of Australian Standards that apply to meat processing. Meat that is further processed by cooking, drying or fermentation must also meet the requirements of the *Australia New Zealand Food Standards Code.*

The Australian Standard that applies to meat processing depends on the type of processing that is occurring. The various Standards and how they apply are listed below:

- AS4696:2007 *Australian Standard for the hygienic production and transportation of meat and meat products for human consumption*
- AS5812—2011 *Australian Standard Manufacturing and marketing of pet food* provides requirements for the manufacture and marketing of pet food intended for consumption by domesticated cats and dogs
- *Australian Standard for the Hygienic Production of Game Meat for Human Consumption* applies to game animals shot in the field and processed at game processing plants
- AS4464:1997 *The Australian Standard for the Hygienic Production of Rabbit Meat for Human Consumption* applies to rabbits and hares, both those shot in the field and raised commercially
- AS 5010:2001 *Australian Standard for the Hygienic Production of Ratite (Emu and Ostrich) Meat for Human Consumption* applies to emus and ostriches processed at specialist abattoirs with full ante-mortem and post-mortem inspection
- AS4464:2005 *Australian Standard for the Construction of Premises and Hygienic Production of Poultry Meat for Human Consumption* applies to all poultry processing including further processing such as boning and packing
- AS4467:2006 *Australian Standard for the Hygienic Production of Crocodile Meat for Human Consumption* applies to all crocodile processing including further processing such as boning and packing
- AS5011:2001 *Australian Standard for the Hygienic Production of Natural Casings for Human Consumption* applies only to casing manufacture from animal intestines, not artificial casings
- AS5008:2007 *The Australian Standard for the Hygienic Rendering of Animal Products* applies to rendering of meat by-products from slaughtering and processing for the production inedible tallow and meat meal.
- *The Biosecurity Act 2015* – This Act has replaced the *Quarantine Act 1908*, and sets up new requirements and regulatory powers that will affect how the department manages the biosecurity risks of goods, people and conveyances entering Australia.

Meat inspection standards

There are three tiers of meat inspection standard in Australia, based on the level and type of meat inspection system in place:

- Tier (1) – Australian Standards
- Tier (2) – Requirements set by overseas governments for access to their markets
- Tier (3) – Market-specific requirements.

Professional accreditations in the industry

The only sector-specific occupation that requires a licence is the role of meat inspector, and the registration can be with a federal or state authority, depending on the nature of the enterprise.

However, this industry also employs electricians, plumbers, and forklift operators which are all licensed occupations.

Challenges and opportunities in the sector

Structured training is becoming increasingly important as companies seek to maintain the viability and competitiveness of all sectors of the industry in both domestic and international markets. Ongoing training is a critical component of addressing customer demands and expectations.

The industry is responding to:

- expectations from consumers, retailers and governments of high environmental and ethical standards, including food safety and animal welfare

- the competitiveness and ever-changing nature of international markets

- the need to continue to innovate in order to remain competitive and ensure the viability of the industry into the future

- the need to attract, develop and retain a productive workforce

- the need to entice a new generation into the industry and to ensure succession planning is in place for the current workforce

- the need to ensure that learning and education opportunities exist for those already in the industry

- the challenges presented by climate and other environmental factors

- marketing and promotion requirements as markets diversify and more meal options become available

- whole-of-supply chain accountability in areas such as animal welfare and traceability

- the impact of social conscience and values, price and health considerations on meal choices

- meeting ever increasing regulatory requirements (including export licensing, food safety, QA, animal welfare, environment, workplace health and safety, and workers compensation)

- the emergence and consolidation of large-scale, factory-based smallgoods production

- customer demands for higher standards of game meat processing

- increasing demand for post-trade training, particularly in the development of business skills, in the meat retailing sector

- the development of leading edge boutique businesses operating across meat sectors.

MARKET AND TRADE COMPONENTS

DEMAND AND TRADE OF MEAT AND MEAT PRODUCTS

Demand for meat and meat products is largely dependent on the demand in the export market. Australia exports approximately 70% of the meat processed. This export demand is a function of:

- the state of the international economy

- the exchange rate

- livestock numbers in our major markets

- increasingly the benefits derived from free trade agreements.

The supply of livestock in Australia to meet this demand is a function of:

- competition from live exporters

- drought impacting on numbers

- industry cycles in rebuilding of herds and flocks

- producers moving out of livestock and into cropping.

While the industry is a relatively small player in global production terms, it does produce around 3% of the world's beef, 5% of the world's sheep meat and 0.5% of global goat meat production. It is on the global export stage that the Australian industry makes a significant contribution to the world's need for high quality protein. In 2014, by value, Australia was the world's largest exporter of beef, sheep meat and goat meat. By numbers, Australia was the world's largest exporter of livestock. [15]

Likewise, the industry makes a vital contribution to Australia's overall trade performance, in 2014-15 generating $16 billion in export earnings and placing the industry in the top five Australian export industries.

Globally, real per capita incomes will increase by 60% to 2030. With red meat consumption and per capita income being closely related, this translates to an increase in red meat demand of 25% over that period, as well as an increase in demand from markets specifically seeking high quality red meat and livestock products. These forecasts present an enormous opportunity for Australia's red meat and livestock industry in terms of geographical proximity to key markets, and as a recognised supplier of safe, nutritious and ethically-produced products.

A productivity challenge continues to face the Australian industry, both on- and off-farm. Off-farm costs are consistently higher than all of Australia's major competitors, while on-farm productivity performance is now below productivity improvements being secured by major competitors.

When combined with the forecast background of declining real prices for livestock, the onus on the production sectors to exhaust existing and find new pathways to productivity is an on-going challenge for the industry.

Over many years, the industry has invested in the technologies and systems that have built a reputation as a high-quality, safe, ethical and sustainable producer of red meat and livestock. The industry's work and commitment to maintain and improve integrity systems underpins Australia's international reputation. Continuing to invest and innovate in this area is fundamental. The industry requires concerted focus and robust systems to support greater integration through the supply chain, especially with respect to increasing the connectivity and responsiveness of the industry to its customers, and the broader community.

The outlook to 2030 points to on-going nominal growth in the value of the Australian red meat and livestock industry. All other elements being equal, however, the prolonged period of herd rebuilding required to offset the record cattle slaughter levels of 2014 will limit the industry's ability to capitalise on the increase in global demand for red meat products.

DIGITAL TECHNOLOGIES AND MARKET SHIFTS

MISP 2020 states that a key to the industry's success will be the ability to optimise the systems, technologies and practices within immediate control. Of increasing importance is the ability to ensure

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[15] RMAC 2015 *Meat Industry Strategic plan – MISP 2020*

these elements are used to actively align industry practices with consumer and community expectations.

One of the key requirements identified in MISP 2020 is the need for a whole of supply chain electronic data exchange capability that supports industry specification, quality and integrity systems with open and transparent access by all relevant parties.

Through its primary Research Development Corporation (RDC), the Australian Meat Processor Corporation (AMPC), the industry continues to invest in the development of new technologies.[16] AMPC's Processing Technologies program focuses on developing and implementing technologies and solutions that automate manual tasks, increase the use of manual assist technologies, and improve resource efficiency to enhance process value and recovery.

The Australian red meat processing industry works with raw material that is highly variable both in shape and composition. Each carcase is different and the ability to automatically measure characteristics 'online' offers an opportunity to increase processing efficiency and productivity. The AMPC program focuses on developing and implementing systems that can manage these variations to capture the data and images necessary to adjust cutting lines for automation and inform processing decisions according to carcase type, product specification, and customer and market requirements.

The materials handling stream focuses on focuses on developing and implementing cost-effective technologies and solutions to materials handling tasks, including the load out of carcasses, picking and packing boned and sliced product (e.g. primals, subprimals and shelf-ready portions) and cartoned meat.

The value-adding stream focuses on transforming existing products (e.g. improving the eating characteristics of secondary cuts) and creating new ones (e.g. transforming inedible co-products into raw ingredients for other industries).

AMPC ensures that there is a clear link between its Research and Development programs and implementation via the training system through its Extension programs. This means that the need for new/updated training products is identified as part of the implementation process.

FUTURE MARKETS

MISP 2020 identifies the current most valuable export markets as:

United States	$4.0 billion
Japan	$2.0 billion
China	$1.1 billion
Korea South	$1.1 billion
Taiwan	$0.9 billion.

Under MISP 2020 marketing and promotion in export markets will focus on developing markets and the industry's underpinning quality and safety systems. It is expected that commercial parties will undertake the lion's share of effort in developed export markets, underpinned by industry quality and safety systems.

ENVIRONMENTAL

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[16] AMPC 2016 *Request For Proposals (RFPs) FY2016-17*

The industry contributes extensively to Australia's social and environmental objectives. As caretakers of around half the continent's landscape, Australian red meat and livestock producers have a vested interest in continually improving sustainable farming practices. MISP 2020 states that greenhouse gas emissions intensity has been reduced by 14% over the last 30 years while red meat production levels have increased by more than 70% over that period. In addition, the industry has achieved a 42% reduction in emissions associated with vegetation protection and tree planting, and a 65% reduction in water use.

Under the title of 'stewardship of environmental resources', the stated objectives in MISP 2020 are:

- minimising industry impact on the environment
- sustainable management of the natural resource base
- adapting to climate variability.

FREE TRADE

Australia has signed Free Trade Agreements with the USA, ASEAN, Korea, China and Japan. The general consensus across the Australian meat processing industry is that the recently signed Free Trade Agreements bring strong benefits to the industry, predominantly in the form of tariff reductions which increase our international competitiveness. However, MISP 2020 states that as economic barriers fall, there will likely be an increase in technical barriers for both meat and live animals – currently costing $1.3 billion annually – that will require a greater proportion of market access effort over the life of the plan.

FUTURE INVESTMENT

Economic modelling has identified the key investment pillars that stand to yield the greatest value in MISP 2020. The industry's ability to support these investments with appropriate resources, and monitor and communicate their value, will ultimately ensure the economic potential of the plan is fully realised.

MISP 2020 recommended a range of strategic investment priorities specifically related to red meat processing including:

- increased investment in improving information flow and traceability that underpins business decisions through the supply chain
- increased investment on improving livestock and product assurance and specification compliance
- reduced investment in marketing and promotion in developed markets.

C.   EMPLOYMENT

Employment Outlook

The Department of Employment projects[17] that total employment in the meat and meat product industry sub sector will contract by -0.1 per cent over the five years to November 2020 (Table 3).

Table 3: Department of Employment Industry Projections – five years to November 2020[18]

INDUSTRY SECTOR	EMPLOYMENT LEVEL	EMPLOYMENT PROJECTIONS

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[17] Department of Employment, Industry Employment Projections, 2016 Report. Release date: May 2016.
http://lmip.gov.au/default.aspx?LMIP/EmploymentProjections
[18] As above

	Nov 2015 ('000)	Nov 2020 ('000)	Growth ('000)	Growth (%)
Food manufacturing				
Meat and Meat Product Manufacturing	53.6	53.6	0.0	-0.1
Total	**53.6**	**53.6**	**0.0**	**-0.1**

Description of Workforce Supply

Meat and meat product manufacturing is a significant industry sector of the food manufacturing workforce and is a major employer of people in regional areas.

The meat processing sector has had a steady reliance on migration, including 457 visas, as an important source of skilled (and unskilled) workers for the industry, particularly in regional areas with seasonal labour requirements.

Identifiable occupations in the food product manufacturing sector which relate to meat and meat processing sub sector are shown in Figure 2 below.

Figure 2: Occupations and their numbers in the meat and meat processing sector[19]

Occupations	Nov 2015	Projected Nov 2020	Growth Nov 2020	Percentage growth
Meat Boners and Slicers, and Slaughterers	**11.4**	**10.7**	**-0.8**	**-6.8**
Meat, Poultry and Seafood Process Workers	**15.8**	**15.5**	**-0.4**	**-2.4**
Butchers and Smallgoods Makers	**21.3**	**21.4**	**0.1**	**0.5**

The occupations shown in figure 2 account for nearly 90% of employment in the Meat and Meat Product Manufacturing. The remaining workforce occupies roles including factory process workers such as meat inspectors, plant managers, packers, QA managers, and product quality controllers and more general roles such as specialist managers (i.e. business administration managers, marketing and sales managers, production managers, supply and distribution managers), clerical and administrative workers and sales.

For most technical skills and specific knowledge required in the industry sectors, learning occurs mainly 'on the job' through workforce development activities provided by employers.

Although there is currently little data available on the age profile of the meat and meat product manufacturing sector MINTRAC believe that this workforce has a slightly younger profile than other food processing sectors. In 2013 Victorian figures[20] showed that over 40% of the meat processing workforce was under 35 years of age.

Responses from the MINTRAC interviews in 2015 confirmed previous indications that the meat processing industry generally does not have an ageing workforce, with most responders indicating that 80-90% of their workforce was under 50 years of age.[21]

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[20] Victorian Department of Education and Early Childhood Development: *Skills and Training Needs 2013 – Victorian Food and Beverage Manufacturing Industry*, p13
[21] AMPC (2015) Meat Processing Workforce Development Plan - unpublished

MINTRAC 2015 interviews with processors also showed that the proportion of female employees, on average, was about 30% of the total workforce. However, there were some significant variations between companies. While most companies expected these proportions to remain about the same in the future, those planning on adding boning rooms or value-adding operations expected the proportion of female employees to increase.

The 2015 MINTRAC interviews also confirmed that the meat processing workforce had:

- a flat structure consisting of 80% skilled workers and labourers and 20% other workers, and
- on average 30% of its workforce was female employees

One of the major issues in extracting accurate meat processing workforce data lies in the nature of the ANZSCO classifications. With the shift from ASCO to ANZSCO classifications in 2009-10, meat processing occupations (except butchers) were re-classified as level 8312 and 8313. This classification thus causes them to fall outside the scope of the National Skills Shortages lists. In addition, the classification of 8313 Meat, Poultry, and Seafood Process Workers does not enable differentiation of meat process workers from the other two groups. Therefore, gaining accurate estimates of the size of the meat processing workforce is difficult and requires a certain level of estimation.

The *Food and Beverage Workforce study* estimated the meat and meat product manufacturing workforce as 55,800 in 2012, and also states that this sector grew by 5,000 (average of 1.9%) between 2007 and 2012.[22]

However, figures cited in the *AgriFood Environmental Scan* are significantly higher: "According to the 2013 Agrifood Value Chain report, the meat processing sector employs approximately 73,000 persons. This comprises 40,000 people employed in downstream processing such as abattoirs, over 4,000 in wholesale and a further 29,000 people employed in retail as butchers." [23]

Most of the information in this section has been derived from the *Food and Beverage Workforce study,* and therefore reflects the more conservative estimates of employment numbers. From this document, the following meat processing industry workforce characteristics have been extrapolated:

- the proportion of part-time workers is 12.4%[24] and increased by 1.0% between 2007-12[25]

- there is a steady increase in the proportion of female workers[26], with an increase of 6% recorded from 2007-2012[27]

   MINTRAC interviews with processors in 2015 showed that the proportion of female employees, on average, was about 30% of the total workforce. However, there were some significant variations between companies. While most companies expected these proportions to remain about the same in the future, those planning on adding boning rooms or value-adding operations expected the proportion of female employees to increase.

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[22] Australian Workforce Productivity Agency (October 2013) *Food and Beverage Workforce study*, Australian Government, Canberra, p 32
[23] AgriFood Skills Australia, *2015 Environmental Scan of the AgriFood industry*, p 33
[24] Australian Workforce Productivity Agency (October 2013) *Food and Beverage Workforce study*, Australian Government, Canberra, p 35
[25] Australian Workforce Productivity Agency (October 2013) *Food and Beverage Workforce study*, Australian Government, Canberra, Table 27, p132
[26] ditto, p 35
[27] ditto, Table 28, p133

- the average annual growth in the labouring workforce between 2007-12 was 4.3% (note these numbers are for meat, poultry and seafood)[28]

- the average annual growth of meat boners, slicers and slaughterers between 2007-12 was 0.3%, reaching 11,300 in 2012[29]

- MINTRAC has traditionally maintained that the meat processing workforce has a flat structure of roughly 80% labourer/skilled worker, and 20% other. The 2015 interviews confirmed this, however accurate breakdowns were difficult due to the different ways in which individual plants classified their staff.

- There is evidence of a continuing reliance on 457 visas: "In occupations such as Meatworkers there appears to be a high reliance on 457 visas. In 2011, there were 310 visas granted for the Skilled Meat Workers category, although the peak was in 2008 with 670 visas granted. Recent media reports suggest there will be ongoing demand for Meatworkers as new abattoirs are planned to cater for northern Australia beef cattle processing."[30]

  The MINTRAC 2015 interviews confirmed that skilled 457 visa holders continue to be an important component of the meat industry workforce. It was also evident that there is an increasing reliance on temporary (backpacker and casual) workers.

- Despite the Meat and Meat Products Manufacturing sector recording employment growth to 2012, the *Food and Beverage Workforce study* cited DEEWR employment projections which predicted a decline in the years 2012-17 of -3.0%.[31] The major group contributing to this overall decline was expected to be meat boners, slicers and slaughterers, with an expected overall decline of -23.2%[32]. However, these rather alarming figures are not supported by the Australian Workforce Productivity Agency (AWPA) scenario planning statistics, which even when averaged across the four scenarios predicted an overall growth during this period of 0.2%, and a slight decline of meat boners, slicers and slaughterers of -1.0%.[33] The MINTRAC 2015 interviews confirmed that there is an expected growth in this sector.

- There is currently little data available on the age profile of the industry. However, it is believed by MINTRAC that the meat processing workforce has a slightly younger profile than other food processing sectors. Victorian figures in 2013[34] showed that over 40% of the meat processing workforce was under 35 years of age. Responses from the MINTRAC 2015 interviews confirmed previous indications that the meat processing industry generally does not have an ageing workforce, with most responders indicating that 80-90% of their workforce was under 50 years of age.

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[28] ditto, Table 20, p67
[29] ditto, Table 20, p67
[30] ditto, p67
[31] ditto, Table 32, p 139
[32] ditto, Table 33, p 141
[33] ditto, Tables 34 and 35.
[34] Victoria Department of Education and Early Childhood Development: *Skills and Training Needs 2013 – Victorian Food and Beverage Manufacturing Industry*, p13

D. SKILLS OUTLOOK

Current jobs and forecast demand to 2019

Labourers and general workers

- Numbers of employees expected to remain much the same
- Customer requirements will place a greater focus on formal qualifications for stock handlers
- Increased pressure for the provision of accredited training for itinerant and temporary workers
- Expected increase in warehousing and logistic skills and knowledge for loadout; greater requirement for technological skills
- Demand for cross-trade skilling for trades assistants in the maintenance areas
- Greater demand for accredited training in handling and treating animal skins, including new techniques.

Technical, trade and skilled worker positions

- Overall numbers of employees expected to remain much the same
- Customer requirements will place a greater focus on formal qualifications for stock slaughterers
- Expected demand for new Certificate III in Meat Processing (Quality Assurance)
- Transition and RPL options for meat inspectors will be required as the revised qualifications are adopted
- A greater diversification of skills, especially in boning and slicing, will be required as new technologies are introduced
- Engineering tradespersons will require cross-trade maintenance skills, especially when working with new technology
- Increased emphasis on formal training in the management and maintenance of ammonia refrigeration
- Increased requirements for food service qualifications with the increase in independent boning rooms
- Greater demand for Certificate III in Meat Processing (Smallgoods – General) as national consolidation of enterprises is completed.

Senior technical and supervisor positions

- Greater demand for skills and knowledge related to logistics and warehousing
- With the increase in independent boning rooms and greater emphasis on wholesale value-adding, there will be increased demand for the Food Service qualifications at level III
- Increased shift of responsibility and accountability for food safety to plant-based QA personnel resulting in training from the *Australian Meat Industry Training Package* continuing to be important particularly in the areas of meat micro/food safety, data interrogations and quality systems management skills
- Meat processors will continue to be active in seeking solutions in energy efficiency and waste water usage
- Meat inspection training will involve change to species specific and different responsibilities at AQF Levels 3 and 4 due to industry restructuring

Management

- Increased demand for *Australian Meat Industry Training Package* training in Project Management, particularly in relation to implementation of new technologies
- continued demand for formal qualifications such as the Diploma and Advanced Diploma of Meat Processing.

Key priority skills for the sector workforce

It is critical for the industry and the Australian economy to maintain and further support a skilled workforce, particularly in key regions.

The skills currently needed in the meat processing sector include:

Skills shortage

- Technology maintenance and support

- Slaughtering, boning and slicing

- Butchering

- Meat safety inspection

- Maintenance

Skills gaps

- Meat science and associated regulatory and testing systems impacting the QA systems

- Knowledge and understanding of whole-of-chain traceability systems and regulatory and customer requirements

- Ammonia refrigeration systems and maintenance

- Leadership, innovation, project and change management.

- Cross-trade maintenance skills

- Pest control management

- Yield calculation

- Warehousing and logistics.

E.   TRAINING PRODUCT REVIEW PLAN 2016-2019

The IRC Training Product Review Plan 2016 - 2019 for the Australian meat processing industry sector is provided in Appendix A.

Explanation

Time critical issues and interdependencies

None identified at this stage.

Training products scheduled for review more than once in four years

None identified at this stage.

Training products with contentious or lengthy review

None identified at this stage.

F.   IRC SIGNOFF

This Workplan was agreed as the result of a properly constituted IRC decision.

Signed for and on behalf of the **Australian Meat Processing IRC** by its appointed Chair

J Hughes

John Hughes

(Name of Chair)   Signature of Chair

                                                     Date: 29 September 2016

ATTACHMENT A

IRC Training Product Review Plan 2016-19 – IRC for Meat Processing Industry Sector

Contact details: Skills Impact Ltd., 559A Queensberry Street, North Melbourne VIC 3051

Date submitted to Department of Education and Training: 29 September 2016

Important Note: The Meat Industry Reference Committee advises that in addition to the schedule work outlined in this Work Plan, on occasion it may be necessary to seek urgent additional allocation of work for the meat industry to accommodate urgent requirements as a result of legislation or an overseas audit. If an urgent matter arises it will be necessary to seek funding not foreshadowed in the Work Plan in order to enable a timely response that does not inhibit market access.

Planned review start (Year)	TP name	TP code	Qualification name	Qualification code	Unit of competency name	UOC code
2016						
2016	Australian Meat Industry Training Package	AMP	Skills Set for Animal Welfare Officer Assistant - to meet European Union regulatory requirements	TBA	Units of competency identified during business case	
2016	Australian Meat Industry Training Package	AMP	Non-trade engineering maintenance qualifications at Certificate II, III and IV	TBA	Possible units and qualification structures to be identified for further industry consultation	
2017						
2017	Australian Meat Industry Training Package	AMP	Certificate II in Meat Processing (Abattoirs) and/or Certificate III in Meat Processing (General)	AMP20315 and/or AMP30615	Suitable units in warehousing and logistics to be identified and/or developed for inclusion into existing qualifications	New TBA

Planned review start (Year)	TP name	TP code	Qualification name	Qualification code	Unit of competency name	UOC code
2017	Australian Meat Industry Training Package	AMP	Certificate III in Meat Processing (General) or (Quality Assurance)	TBA	Identification or development of suitable units to address Threat and Vulnerability Assessment (TACCP & VACCP), a requirement for BRC audits	
2017	Australian Meat Industry Training Package	AMP	Certificate II in Meat Processing (Abattoirs) and/or Certificate III in Meat Processing (General)	AMP20315 and/or AMP30615	Suitable units in pest control management to be identified and/or developed for inclusion into existing qualifications	New TBA
2018						
2018						

4 year rolling unit reviews

2017						
					Units relating to wild game harvesting Skills Sets and meat retailing qualifications. **All cross-sectoral units with a specific view to ensuring that their suitability to nominated sectors.** *All AMPG, AMPR and AMPX units:* AMPG300 Overview wild game meat industry AMPG301 Operate a game harvesting vehicle AMPG302 Eviscerate, inspect and tag wild game carcase in the field AMPG303 Receive and inspect wild game carcases from the field AMPG304 Receive and inspect wild game carcases at a processing plant	

| | | | | | AMPG305 Store wild game carcases
AMPG306 Use firearms to harvest wild game
AMPR101 Identify species and meat cuts
AMPR102 Trim meat for further processing
AMPR103 Store meat product
AMPR104 Prepare minced meat and minced meat products
AMPR105 Provide service to customers
AMPR106 Process sales transactions
AMPR107 Undertake minor routine maintenance
AMPR108 Monitor meat temperature from receival to sale
AMPR201 Break and cut product using a bandsaw
AMPR202 Provide advice on cooking and storage of meat products
AMPR203 Select, weigh and package meat for sale
AMPR204 Package product using manual packing and labelling equipment
AMPR205 Use basic methods of meat cookery
AMPR206 Vacuum pack product in a retail operation
AMPR207 Undertake routine preventative maintenance
AMPR208 Make and sell sausages
AMPR209 Produce and sell value-added products
AMPR210 Receive meat product
AMPR211 Provide advice on meal solutions in a meat retail outlet
AMPR212 Clean a meat retail work area
AMPR301 Prepare specialised cuts
AMPR302 Assess carcase or product quality
AMPR303 Calculate yield of carcase or product
AMPR304 Manage stock
AMPR305 Meet customer needs | |

					AMPR306 Provide advice on nutritional role of meat
					AMPR307 Merchandise products, services
					AMPR308 Prepare, roll, sew and net meat
					AMPR309 Bone and fillet poultry
					AMPR310 Cost and price meat products
					AMPR311 Prepare portion control to specifications
					AMPR312 Bone game meat
					AMPR313 Order stock in a meat enterprise
					AMPR314 Calculate and present statistical data in a meat enterprise
					AMPR315 Utilise the Meat Standards Australia system to meet customer requirements
					AMPR316 Cure, corn and sell product
					AMPR317 Assess and sell poultry product
					AMPR318 Break carcase for retail sale
					AMPR319 Locate, identify and assess meat cuts
					AMPR319 Locate, identify and assess meat cuts
					AMPR320 Assess and address customer preferences
					AMPR321 Collect and prepare standard samples
					AMPR322 Prepare and produce value added products
					AMPR323 Break small stock carcases for retail sale
					AMPR319 Locate, identify and assess meat cuts
					AMPR324 Break large stock carcases for retail sale
					AMPR325 Prepare cooked meat product for retail sale
					AMPX201 Prepare and operate bandsaw
					AMPX202 Clean work area during operations
					AMPX203 Operate scales and semi-automatic labelling machinery
					AMPX204 Maintain production records
					AMPX205 Clean chillers

| | | | | | | AMPX206 Operate forklift in a specific workplace
AMPX207 Vacuum pack product
AMPX208 Apply environmentally sustainable work practices
AMPX209 Sharpen knives
AMPX210 Prepare and slice meat cuts
AMPX211 Trim meat to specifications
AMPX212 Package product using automatic packing and labelling equipment
AMPX213 Despatch meat product
AMPX214 Package meat and smallgoods product for retail sale
AMPX215 Operate tenderiser
AMPX216 Operate mincer
AMPX217 Package product using gas flushing process
AMPX218 Operate metal detection unit
AMPX301 Assess product in chillers
AMPX302 Cure and corn product
AMPX303 Break carcase into primal cuts
AMPX304 Prepare primal cuts
AMPX305 Smoke product
AMPX306 Provide coaching
AMPX307 Provide mentoring
AMPX308 Follow and implement an established work plan
AMPX309 Identify and repair equipment faults
AMPX310 Perform pre-operations hygiene assessment
AMPX311 Monitor production of packaged product to customer specifications
AMPX313 Contribute to energy efficiency
AMPX401 Monitor meat preservation process
AMPX402 Monitor and overview the production of processed meats and smallgoods
AMPX403 Monitor and overview the production of Uncooked Comminuted Fermented Meat (UCFM) | |

						AMPX404 Conduct an internal audit of a documented program AMPX405 Conduct statistical analysis of process AMPX406 Manage or oversee an external audit of the establishment's quality system AMPX407 Oversee export requirements AMPX408 Coordinate contracts AMPX409 Prepare and evaluate resource proposals AMPX410 Facilitate achievement of enterprise environmental policies and goals AMPX411 Foster a learning culture in a meat enterprise AMPX412 Build productive and effective workplace relationships AMPX413 Manage and maintain a food safety plan AMPX414 Assess and evaluate meat industry requirements and processes AMPX415 Specify beef product using AUS-MEAT language AMPX416 Specify sheep product using AUS-MEAT language AMPX417 Specify pork product using AUS-MEAT language AMPX418 Lead communication in the workplace AMPX419 Participate in product recall AMPX420 Participate in the ongoing development and implementation of a HACCP and Quality Assurance system AMPX421 Establish sampling program AMPX422 Develop and implement work instructions and SOPs AMPX423 Supervise new recruits AMPX424 Raise and validate requests for export permits and Meat Transfer Certificates AMPX425 Conduct a document review	

					AMPX426 Undertake chiller assessment to AUS-MEAT requirements AMPX427 Dry age meat	
2018						
					Units relating to Certificate IV, Diploma, Advanced Diploma and Graduate qualifications, all sectors **All Smallgoods qualifications** ***All AMPCOR, AMPS, AMPMGT and AMPA4 units***: AMPCOR201 Maintain personal equipment AMPCOR202 Apply hygiene and sanitation practices AMPCOR203 Comply with Quality Assurance and HACCP requirements AMPCOR204 Follow safe work policies and procedures AMPCOR205 Communicate in the workplace AMPCOR206 Overview the meat industry AMPCOR401 Manage own work performance AMPCOR402 Facilitate Quality Assurance process AMPCOR403 Participate in workplace health and safety risk control process AMPCOR404 Facilitate hygiene and sanitation performance AMPMGT501 Design and manage the food safety system AMPMGT502 Manage new product or process development AMPMGT503 Develop and assess a meat retailing business opportunity AMPMGT504 Develop, manage and maintain quality systems AMPMGT505 Manage maintenance systems AMPMGT506 Manage utilities and energy	

| | | | | | AMPMGT507 Manage and improve meat industry plant operations
AMPMGT508 Manage environmental impacts of meat processing operations
AMPMGT509 Manage, maintain and continuously improve workplace health and safety plans and systems
AMPMGT510 Manage transportation of meat, meat products and meat by-products
AMPMGT601 Benchmark to manage and improve enterprise performance
AMPMGT602 Monitor and manage organisational legal responsibilities
AMPMGT603 Manage meat processing systems to maintain and improve product quality
AMPMGT604 Manage effective operation of meat enterprise cold chain and refrigeration systems
AMPMGT605 Assess and purchase livestock
AMPMGT606 Analyse and develop enterprise systems for new opportunities
AMPMGT607 Establish new markets
AMPMGT801 Manage financial performance
AMPMGT802 Provide strategic leadership
AMPMGT803 Communicate and negotiate in a culturally diverse context
AMPMGT804 Develop and enhance collaborative partnerships and relationships
AMPMGT805 Develop and manage international business operations
AMPMGT806 Commercialise research and technology product or idea
AMPMGT807 Manage change to organisational electronic technology systems
AMPMGT808 Undertake research project
AMPMGT809 Analyse data for business decision making
AMPS101 Handle materials and products | |

					AMPS102 Pack smallgoods product	
					AMPS201 Package product using thermoform process	
					AMPS203 Operate bar and coder systems	
					AMPS205 Select, identify and prepare casings	
					AMPS206 Manually shape and form product	
					AMPS207 Slice product using simple machinery	
					AMPS208 Rotate stored meat	
					AMPS209 Rotate meat product	
					AMPS210 Inspect carton meat	
					AMPS211 Prepare dry ingredients	
					AMPS212 Measure and calculate routine workplace data	
					AMPS213 Manually link and tie product	
					AMPS300 Operate mixer or blender unit	
					AMPS301 Cook, steam and cool product	
					AMPS302 Prepare dried meat	
					AMPS303 Fill casings	
					AMPS304 Thaw product – water	
					AMPS305 Thaw product – air	
					AMPS307 Sort meat	
					AMPS308 Batch meat	
					AMPS309 Operate product forming machinery	
					AMPS310 Operate link and tie machinery	
					AMPS311 Operate complex slicing and packaging machinery	
					AMPS312 Prepare meat-based pates and terrines for commercial sale	
					AMPS313 Prepare product formulations	
					AMPS314 Ferment and mature product	
					AMPS315 Blend meat product	
					AMPA400 Utilise refrigeration index	
					AMPA401 Implement a Meat Hygiene Assessment program	
					AMPA402 Oversee plant compliance with the Australian standards for meat processing	
					AMPA403 Apply meat science	

						AMPA404 Conduct and validate pH and temperature declines to MSA standards AMPA405 Develop and implement Quality Assurance program for a rendering plant AMPA406 Inspect transportation container or vehicle AMPA407 Contribute to abattoir design and construction processes AMPA411 Oversee humane handling of animals AMPA412 Conduct an animal welfare audit of a meat processing plant	
2019							
						Units relating to Certificate III qualifications in the abattoirs sector. ***All AMPA3 units:*** AMPA3000 Stun animal AMPA3001 Stick and bleed animal AMPA3002 Handle animals humanely while conducting ante-mortem inspection AMPA3003 Assess effective stunning and bleeding AMPA3004 Monitor the effective operations of electrical stimulation AMPA3005 Rod weasand AMPA3006 Seal weasand AMPA3007 Ring bung AMPA3008 Seal bung AMPA3009 Split carcase AMPA3010 Overview legging operation AMPA3012 Make first leg opening cuts AMPA3013 Make second leg opening cuts AMPA3014 Perform legging on small stock AMPA3020 Bone neck AMPA3021 Perform 'Y' cut AMPA3022 Skin head AMPA3023 Explain opening cuts AMPA3024 Perform flanking cuts	

| | | | | | AMPA3025 Perform brisket cuts
AMPA3026 Perform rumping cuts
AMPA3027 Perform rosette cuts
AMPA3028 Perform midline cuts
AMPA3029 Scald and dehair carcase
AMPA3030 Operate pelt puller
AMPA3031 Operate hide puller
AMPA3032 Remove pelt manually
AMPA3033 Bed dress carcase
AMPA3034 Eviscerate animal carcase
AMPA3040 Operate brisket cutter or saw
AMPA3041 Eviscerate wild game animal carcase
AMPA3042 Backdown pig carcase
AMPA3043 Prepare head for inspection
AMPA3044 Operate air knife
AMPA3045 Drop sock and pull shoulder pelt
AMPA3046 Undertake retain rail operations
AMPA3047 Prepare and present viscera for inspection
AMPA3048 Bone small stock carcase – leg
AMPA3049 Slice and trim leg – small stock
AMPA3050 Bone large stock carcase – forequarter
AMPA3051 Bone large stock carcase – hindquarter
AMPA3052 Slice and trim large stock forequarter
AMPA3053 Slice and trim large stock hindquarter
AMPA3054 Break carcase using a bandsaw
AMPA3061 Operate leg boning machine
AMPA3062 Operate trunk boning machine
AMPA3063 Bone small stock carcase – shoulder
AMPA3064 Bone small stock carcase – middle
AMPA3065 Slice small stock carcase – shoulder
AMPA3066 Slice small stock carcase – middle
AMPA3067 Bone carcase using mechanical aids (large stock)
AMPA3068 Prepare and despatch meat products | |

						AMPA3069 Perform ante-mortem inspection and make disposition AMPA3070 Perform post-mortem inspection and make disposition AMPA3071 Implement food safety program AMPA3072 Perform carcase meat hygiene assessment AMPA3073 Perform process monitoring for meat hygiene assessment AMPA3074 Perform boning room meat hygiene assessment AMPA3081 Perform offal Meat Hygiene Assessment AMPA3082 Operate batch cooker AMPA3083 Operate continuous cooker AMPA3084 Operate press AMPA3085 Operate wet rendering process AMPA3086 Monitor boiler operations AMPA3087 Operate tallow processing plant AMPA3088 Operate blood processing plant AMPA3089 Produce rendered products hygienically AMPA3090 Render edible products AMPA3091 Implement a Quality Assurance program for rendering plant AMPA3092 Grade beef carcases using Meat Standards Australia standards AMPA3093 Use standard product descriptions – sheep and goats AMPA3094 Use standard product descriptions – beef AMPA3095 Use standard product descriptions – pork AMPA3096 Use standard product descriptions – kangaroos AMPA3100 Perform manual chemical lean testing	

					AMPA3101 Overview of the NLIS for sheep and goats	
					AMPA3102 Overview of the NLIS program utilising RFIDs	
					AMPA3103 Manage NLIS data for livestock in lairage	
					AMPA3104 Manage NLIS data for sheep and goats in lairage	
					AMPA3105 Manage NLIS for direct purchase of stock identified with an RFID	
					AMPA3106 Manage NLIS for direct purchase of sheep or goats	
					AMPA3107 Manage NLIS data for saleyard purchase of livestock	
					AMPA3108 Manage NLIS for saleyard purchase of sheep or goats	
					AMPA3109 Manage, report and upload NLIS slaughter data from RFIDs	
					AMPA3110 Manage, report and upload mob based NLIS data for sheep and goats	
					AMPA3111 Conduct start up procedures and preoperational checks on slaughter floor NLIS data equipment	
					AMPA3112 Manage NLIS data from RFIDs on the slaughter floor	
					AMPA3113 Prepare a kill sheet	
					AMPA3114 Undertake pre slaughter checks of NVDs and PICs for NLIS for sheep and goats	
					AMPA3115 Undertake pre slaughter checks of NVDs, PICs and RFIDs	
					AMPA3116 Supervise meat packing operation	
					AMPA3117 Oversee product loadout	
					AMPA3118 Monitor pH and temperature decline	
					AMPA3119 Apply food animal anatomy and physiology to inspection processes	
					AMPA3120 Perform ante and post-mortem inspection - Ovine and Caprine	

					AMPA3121 Perform ante and post-mortem inspection – Bovine AMPA3122 Perform ante and post-mortem inspection – Porcine AMPA3123 Perform ante and post-mortem inspection – Poultry AMPA3124 Perform ante and post-mortem inspection – Ratites AMPA3125 Perform ante and post-mortem inspection – Camels AMPA3126 Perform ante and post-mortem inspection – Crocodiles AMPA3127 Perform post-mortem inspection– Wild game AMPA3128 Perform ante and post-mortem inspection– Rabbits AMPA3129 Perform ante and post-mortem inspection– Deer AMPA3130 Perform ante and post-mortem inspection– Horses AMPA3131 Identify and report emergency diseases of food animals AMPA3132 Perform ante and post-mortem inspection– alpacas or llamas AMPA3133 Manage NLIS data for pigs in lairage AMPA3134 Overview of the NLIS pork AMPA3135 Perform ante and post-mortem inspection– calves	
2020						
					All units relating to Certificate II qualifications in the abattoirs sector. *All AMPA2 units* **(leave them here)**	