

ANNUAL 

INVESTMENT

PLAN 2017-18

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INTRODUCTION

This Annual Investment Plan (AIP) has been developed to inform levy payers, peak industry councils, the Australian Government and the wider industry about MLA's planned work program in 2017-18.

MLA is a research, development and marketing service provider to the Australian red meat and livestock industry. Funded by levy payers, the Australian Government and value chain partners, MLA's mission is to increase prosperity, sustainability and global competitiveness within and across the industry's value chain.

AIPs are prepared each financial year to guide the practical delivery of MLA's long-term investment priorities and outcomes, which are set out in MLA's *Strategic Plan 2016-2020*.

These priorities align with the Australian Government's Science and Research Priorities and its Rural Research, Development and Extension Priorities.

They also centre on the six strategic pillars that the Australian red meat and livestock industry has set itself to achieve by the year 2020 through its *Meat Industry Strategic Plan 2020*.

Table 1: MLA's strategic pillars, priorities and outcomes

Pillar	Outcome
 1. Consumer and community support	The community continues to support and trust the Australian red meat and livestock industry, with industry practices in step with community expectations.
 2. Market growth and diversification	Improved access to markets, with marketing programs and value creating innovation driving increased consumer and customer preference and premiums for Australian red meat.
 3. Supply chain efficiency and integrity	Increased returns through the value chain, with participants and customers confident in product quality, pricing and integrity systems.
 4. Productivity and profitability	Productivity gains through the value chain from the adoption of tools and technologies.
 5. Leadership and collaborative culture	Industry participants are confident in industry leadership capability.
 6. Stakeholder engagement	Industry participants are confident that the levy investment is delivering value.

This AIP outlines the programs, sub-programs, product groups, key performance indicators and budgets that will guide MLA's activities in 2017-18. Successful delivery of this plan will act as a stepping stone towards achieving MLA's *Strategic Plan 2016-2020*.

MLA's work plan in 2017-18 has been categorised into:

> 15 programs

>> 30 sub-programs

>>> 108 product groups

This AIP also denotes the sub-programs and product groups carried out by MLA's subsidiaries, MLA Donor Company (MDC) and Integrity Systems Company (ISC). MDC's and ISC's activities are also summarised on pages 59 and 60 respectively.

Table 2 shows the alignment of this plan to the pillars outlined in MLA's *Strategic Plan 2016-2020*.

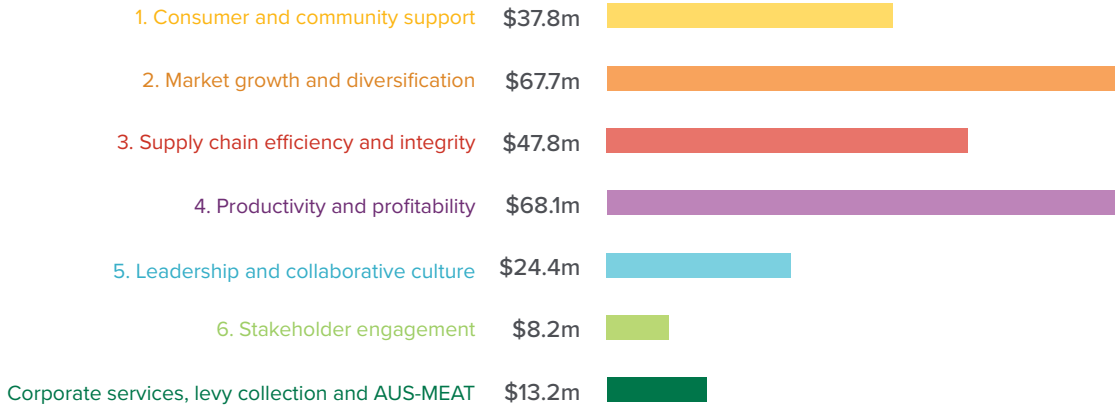
Table 2: Alignment of MLA's programs and sub-programs to pillars

Programs and sub-programs in MLA's AIP 2017-18		MLA's strategic plan 2016-20 pillars						
Program	Sub-program	1. Consumer and community support	2. Market growth and diversification	3. Supply chain efficiency and integrity	4. Productivity and profitability	5. Leadership and collaborative culture	6. Stakeholder engagement	Corporate services
Animal health and welfare	Animal health							
	Animal welfare							
Domestic market	Market knowledge (domestic)							
	Nutrition							
	Marketing and promotion (domestic)							
International markets	Market access							
	Market knowledge (international)							
	Marketing and promotion (international)							
	Livestock export market activities							
	Livestock export research and development							
Eating quality	Eating quality							
Environmental sustainability	Sustainability (off-farm)							
	Sustainability (on-farm)							
Integrity systems	Market access science							
	Integrity systems							
Objective measurement	Objective measurement							
Producer adoption	Producer adoption							
Product and packaging innovation	High Value Food Frontiers							
Value chain information and efficiency	Digital value chain information							
Productivity (off-farm)	Productivity (off-farm)							
	Beef productivity							
	Feedbase production and utilisation							
	Goat productivity							
	Livestock genetics							
Productivity (on-farm)	Sheep productivity							
	Innovation capability building							
Capability building	Industry leadership and capacity building							
	Communication (community)							
Communication	Communication (stakeholder)							
	Corporate services							

BUDGET SUMMARY

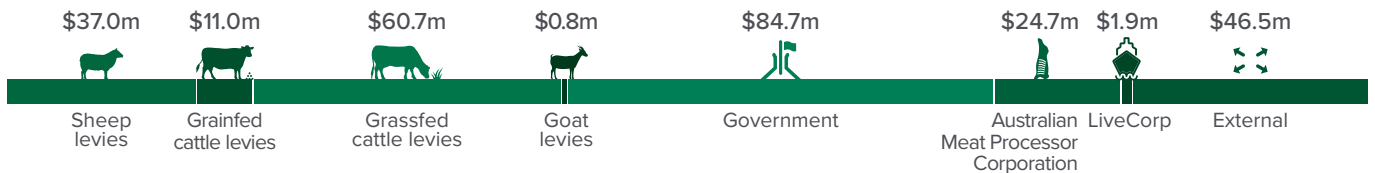
In 2017-18 MLA plans to invest \$267.3 million in research, development and marketing activities across six pillars (together with corporate services) and 15 program areas.

Projected 2017-18 investment by pillar (\$ million)



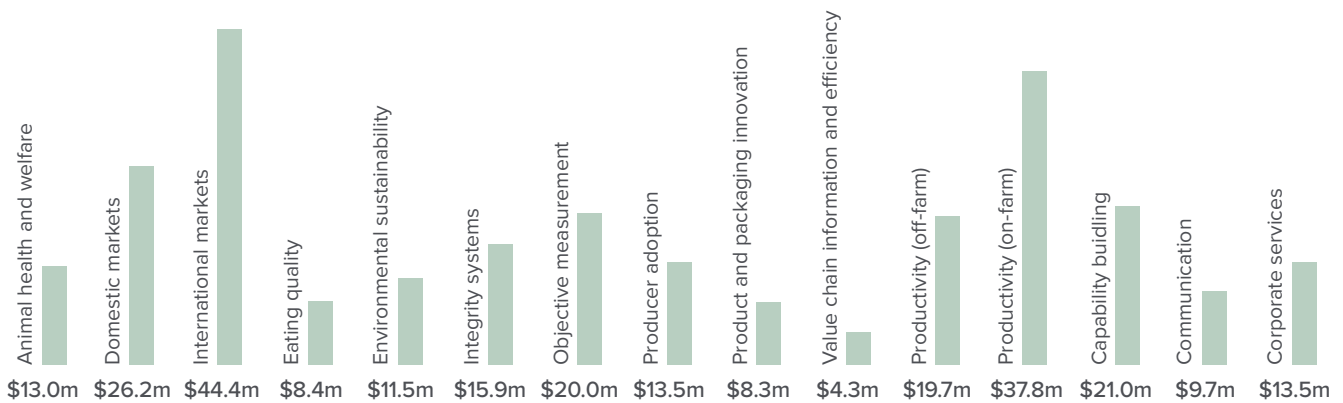
Total investment \$267.3 million | Total may not add up due to rounding.

Projected 2017-18 investment by funding source (\$ million)



Total investment \$267.3 million | Total may not add up due to rounding.

Projected 2017-18 investment by program (\$ million)



Total investment \$267.3 million | Total may not add up due to rounding.

OPERATING ENVIRONMENT

The Australian red meat and livestock industry is operating in a complex and dynamic environment, presenting challenges and opportunities over the life of this Annual Investment Plan.

Fundamentally, demand remains strong for Australian product, underpinned by our integrity systems and our superior reputation for quality in the minds of consumers in our key markets. The global drive for food security is also expected to continue to inject new investment into the Australian red meat and livestock industry.

However, the trade environment is challenging and unpredictable. A changing political landscape and rising nationalism in some major international economies have cast doubt on recent free trade agreements and the prospects for future multilateral trade deals. Market access hurdles remain a frustration and economic conditions in some markets are lukewarm at best. Against this backdrop, international competition from other red meat suppliers is intensifying.

At the same time, Australia's red meat and livestock industry continues to contend with supply constraints and escalating costs, while domestic competition from other lower cost proteins is relentless. Together, these factors present an unprecedented challenge to Australia's processing and retail sectors that may only be relieved by a recovery in the Australian herd and flock, changes to business models and the embrace of productivity-enhancing innovation.

Herd numbers and turnoff should continue to slowly recover over the year ahead although export demand will continue to impose price pressures on domestic beef and lamb consumers. Seasonal conditions, as always, will have a critical impact.

Domestically and in our established international markets, community expectations around environmental and welfare practices remain high. Consumer interest in the provenance of the food they consume continues to grow.

The red meat and livestock industry operates on nearly half the Australian land mass, albeit sparsely, so the industry is under continuous scrutiny for its impact on the environment. However, there is continued opportunity to both protect and enhance the natural resource base while at the same time deliver increased productivity gains. Demonstrating this stewardship of the land is a key opportunity.

The Australian red meat and livestock industry maintains a premium reputation for quality, underpinned by robust integrity systems and on-farm practices that have instilled confidence in our trading partners and consumers alike. Enhancing this position in the face of increasing scrutiny from multiple stakeholders remains both a necessity and an opportunity for our industry to maintain what is also a competitive advantage.

Profitability will remain the central driver of producer and

industry advancement. Producers across all three sectors of the industry – beef, sheepmeat and goatmeat – have enjoyed record prices after enduring decades where prices paid increased at a faster rate than prices received. However, the long-term prosperity of the production sector relies on the maintenance of positive returns and a new emphasis on productivity.

For processors, significant input costs such as labour, transport and energy remain higher than our major competitors and, particularly in the case of energy, continue to escalate. The search for cost savings will remain a critical driver, meaning productivity improvements are essential for the industry to remain profitable and sustainable.

The industry's collective productivity imperative requires research, development and innovation that deliver real commercial outcomes along the entire value chain. Objective measurement technology, processing automation and the capture and shared application of data offer huge economic potential through collaboration between value chain partners.

A critical challenge remains the need for adoption, not just of new research and development, but also those latent opportunities for productivity gains that have already been identified. Adoption in large areas of the industry, particularly in northern beef production, remains unsustainably low. The need for new drivers of adoption coincides with the continued reduction in public extension services. MLA is helping to fill these voids by facilitating adoption and building the capability of private providers, levy payers, and other partners across the value chain.

At the same time, the expanded use of new mobile and online communication tools offers potential that is only constrained by network limitations. As new automation and measurement technologies emerge and as the footprint of digital technologies expand, there will be more ways for MLA to help producers and their value chain partners share information and adopt new practices and business models.

Together, all these factors will drive the increasing globalisation of Australia's red meat and livestock industry.

Each of these trends, potential issues and developments within MLA's operating environment over the next year have been assessed and inform MLA's *Annual Investment Plan 2017-18*. All have been evaluated as a strength, weakness, opportunity or threat (see Table 3).



Table 3: Drivers affecting MLA's operating environment in 2017-18

Driver	Outlook	Outlook assessment
Exchange rates	The Australian dollar is projected to remain below parity with the US dollar. A change to this outlook would reduce the competitiveness of Australian red meat and livestock.	Strength
Global demand growth	Globally, real per capita incomes are expected to grow by 60% to 2030. With per capita red meat consumption and income closely correlated, this means an increase in red meat demand. This is also likely to increase demand for high quality meat and livestock products.	
Safety and integrity	There continues to be increased consumer focus on provenance, country of origin and integrity systems that ensure meat safety.	
Disease freedom	Preserving Australia's freedom from exotic diseases will continue to provide a productivity, welfare and competitive advantage.	
Eating quality	Continuing commitment to superior eating quality through improvement in the MSA Index will allow the further pursuit and differentiation of markets that will pay a premium.	
Domestic supply	Cattle numbers are forecast to bottom out in 2017, before gradually increasing again to 2020. Lamb turnoff is forecast to continue slowly rising.	Weakness
Competitors	Growth in chicken and pork production is expected to continue to outpace growth in red meat production.	
Productivity	On-farm productivity performance remains below the productivity improvements being secured by major international competitors.	
Extension	State government investment in agricultural extension services is likely to remain limited and is expected to decline further.	
Inputs	Red meat processing costs are consistently higher than all of our major competitors and energy prices continue to escalate.	Opportunity
Domestic demand	The domestic market remains the single most valuable destination for Australian red meat. While maintaining domestic per capita consumption will be challenging, the value of sales is expected to remain the same or improve.	
Consumer interest	Consumers care more and want to know where their meat comes from, including knowing about the welfare of the animals and sustainable farming practices.	
Global population	The world's population is forecast to grow by more than one billion by 2030. In the Asia Pacific region alone, the population is expected to increase by nearly 700 million to 4.6 billion.	
New technology	As new disruptive automation and measurement technologies emerge and the digital footprint expands, there will be more ways for producers and their value chain partners to share information and adopt new practices and business models. Improved communication will increase awareness and capacity to embrace technology.	
Adoption	As public adoption services diminish, there are opportunities for new adoption models to emerge and for the increased provision of services by private providers supported by industry.	
Producer demographics and farm ownership	More producers will operate commercial businesses and there will be less operating for lifestyle reasons. Succession in farming businesses provides the opportunity for the influx of new ideas and innovation.	
Collaboration	Increased collaboration with commercial companies – including through MLA Donor Company – has the potential to accelerate the rate of innovation across the value chain.	
Private investment	More private investment in research will see outcomes delivered faster and innovation uptake occur more rapidly.	
Value-based marketing	The adoption of new technology and objective carcase measurement and assurance systems will see a transition from price-averaging systems to pricing based on defined quality, yield and integrity attributes.	
Environmental credentials	The industry will continue to demonstrate its environmental credentials through the sustainability of its production systems and its path to capture productivity gains while reducing emissions.	
Consumer preference	Consumers are expected to seek food products based on their perceived value, nutrition, convenience and versatility benefits	
Communications	New mobile and online communication tools offer potential for MLA to help value chain partners share information and adopt new practices and business models which are only constrained by network limitations.	
Levy resources	With reduced levy income from a lower herd and flock size there may be less opportunity for matched Government funding.	Threat
Business type	The further consolidation of farm businesses means companies will become more vertically integrated which may have implications for the transaction levies that help fund MLA's work.	
Climate variability	Australia's variable and changing climate poses a significant challenge to livestock producers.	
Competitors	Competition from the US and South American countries will continue to pressure Australia in a number of beef markets.	
Global supply	Global meat supply is expected to increase, particularly beef from the US and South America.	
Market access	The trade environment is challenging and unpredictable due to changes in the global political landscape, rising nationalism and non-tariff barriers.	

PILLARS



PILLARS

1. Consumer and community support

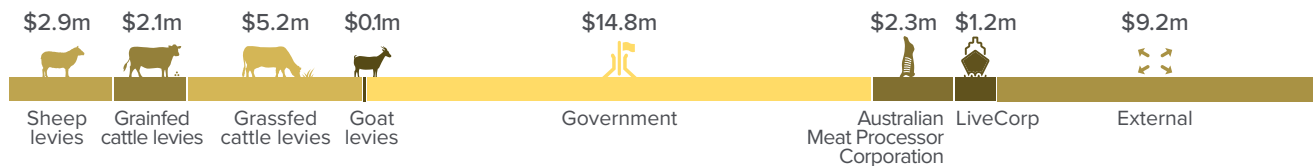


The red meat and livestock industry is a responsible and effective custodian of Australia’s natural resources and the welfare of the animals in its care.

The community places a high – and growing – expectation on the Australian red meat and livestock industry to look after the environment and the welfare of livestock. Meeting these community expectations is essential for the industry to maintain its social licence to operate.

Industry must continue to proactively address and promote the welfare standards for livestock, the environmental impact of livestock practices and the role of red meat in a healthy diet. This pillar invests in research into the superior nutritional properties of red meat. It also invests in research and development to enhance the industry’s animal welfare, disease control and environmental practices. This includes the communication of these actions and commitments by the industry to the community.

Projected 2017-18 investment by funding source (\$ million)



Total investment \$37.8 million | Total may not add up due to rounding.

Alignment to industry and government priorities

Meat Industry Strategic Plan priorities	Australian Government priorities	
	Science and research priorities	Rural research, development and extension priorities
<ul style="list-style-type: none"> Continuous improvement of the welfare of animals in our care Stewardship of environmental resources Role of red meat in a healthy diet 	<ul style="list-style-type: none"> Food Soil and water Environmental change Transport Resources Health 	<ul style="list-style-type: none"> Adoption of research and development Soil, water and managing natural resources Advanced technology Biosecurity

MLA’s 2017-18 programs within this pillar¹ are:



¹Some of these programs extend across other pillars.

PILLARS

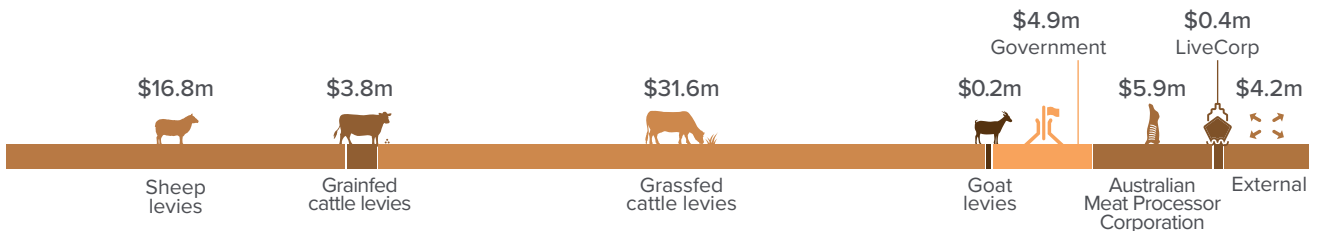
2. Market growth and diversification



Improving market access and demonstrating Australian red meat and livestock's value proposition to consumers and customers are the primary ways for the industry to grow demand and diversify markets. Australia's desirable product attributes and value chain innovation together enables the industry to expand the number of potential customers, be better positioned to command higher premiums and deliver the best return on investment.

This pillar strives to reduce economic and technical barriers to trade, defend existing gains in trade and proactively identify and develop new business opportunities. It also recognises the quality and integrity systems that underpin marketing efforts to differentiate Australian red meat from other red meat competitors and proteins.

Projected 2017-18 investment by funding source (\$ million)



Total investment \$67.7 million | Total may not add up due to rounding.

Alignment to industry and government priorities

Meat Industry Strategic Plan priorities	Australian Government priorities	
	Science and research priorities	Rural research, development and extension priorities
<ul style="list-style-type: none"> Efficiency and value in trade and market access Marketing and promoting Australian red meat and livestock 	<ul style="list-style-type: none"> Food 	<ul style="list-style-type: none"> Advanced technology Adoption of research and development

MLA's 2017-18 programs within this pillar² are:

Domestic market

p18

International markets

p21

Integrity systems

p31

Product and packaging innovation

p39

² Some of these programs extend across other pillars.

PILLARS

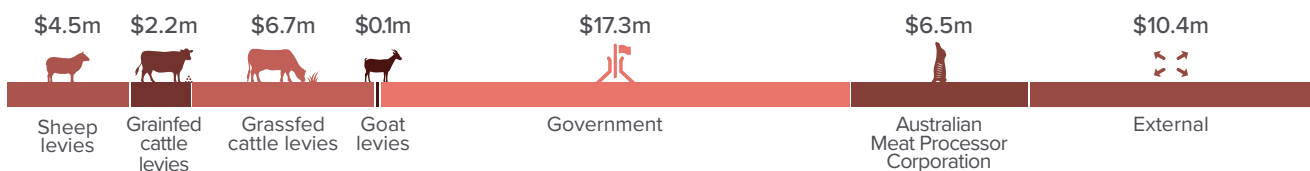
3. Supply chain efficiency and integrity



Satisfied customers and industry partners are signs of a well-functioning value chain. The red meat and livestock industry strives to achieve this through Meat Standards Australia, which guarantees consumers a minimum eating quality in their red meat purchases, and also through integrity systems that underpin clean, safe, natural and traceability claims.

The red meat and livestock industry has an opportunity to enhance this win-win for customers and value chain partners through new measurement technologies, information exchange and value based pricing, where consumers pay the true value of the products they purchase and industry is able to increase the value of each carcase.

Projected 2017-18 investment by funding source (\$ million)

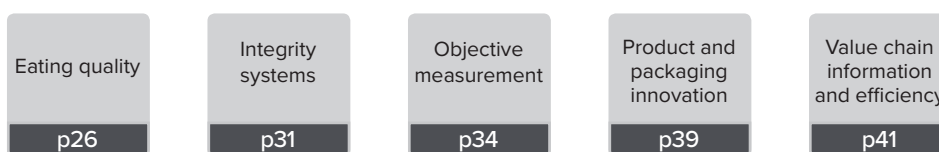


Total investment \$47.8 million | Total may not add up due to rounding.

Alignment to industry and government priorities

Meat Industry Strategic Plan priorities	Australian Government priorities	
	Science and research priorities	Rural research, development and extension priorities
<ul style="list-style-type: none"> Optimising product quality and cost efficiency Guaranteeing product quality and systems integrity 	<ul style="list-style-type: none"> Food Transport 	<ul style="list-style-type: none"> Advanced technology Adoption of research and development Biosecurity

MLA's 2017-18 programs within this pillar³ are:



³ Some of these programs extend across other pillars.

PILLARS

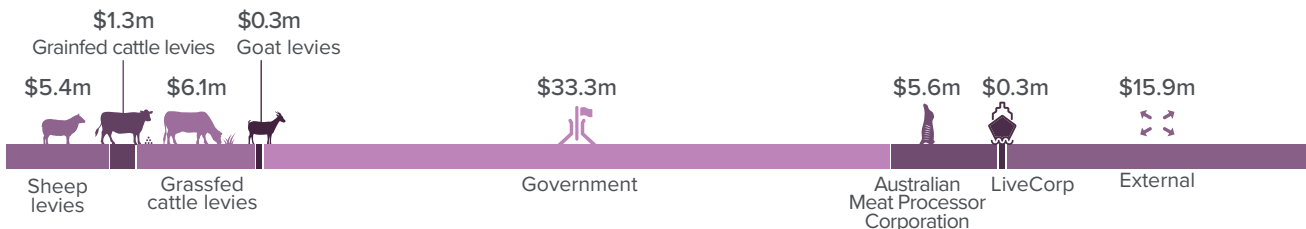
4. Productivity and profitability

Increasing productivity and profitability across the industry will assist red meat and livestock participants to raise their competitiveness and long-term sustainability and help offset the long running cost-price squeeze.

Encouraging the value chain to increase its productivity requires a new approach to adoption. Providing producers, lotfeeders, livestock exporters and processors with compelling commercial benefits to implement research and development is another priority. Also critical is the supply of timely, accurate and relevant tools, technologies and information.



Projected 2017-18 investment by funding source (\$ million)

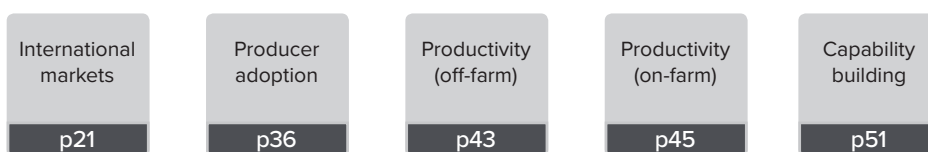


Total investment \$68.1 million | Total may not add up due to rounding.

Alignment to industry and government priorities

Meat Industry Strategic Plan priorities	Australian Government priorities	
	Science and research priorities	Rural research, development and extension priorities
<ul style="list-style-type: none"> Production efficiencies in farms and feedlots Processing productivity Live export productivity 	<ul style="list-style-type: none"> Soil and water Food Transport Environmental change Advanced manufacturing Energy 	<ul style="list-style-type: none"> Advanced technology Adoption of research and development Soil, water and managing natural resources

MLA's 2017-18 programs within this pillar⁴ are:



⁴Some of these programs extend across other pillars.

PILLARS

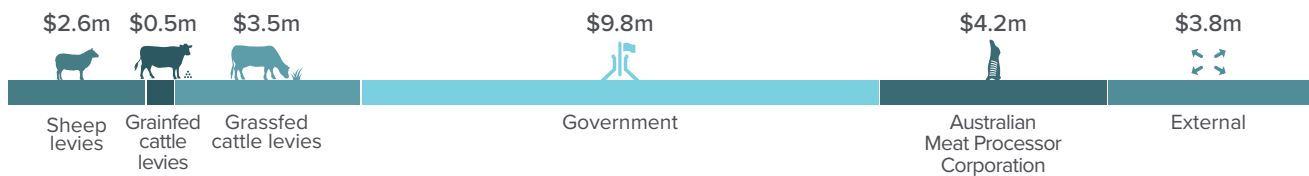
5. Leadership and collaborative culture

Securing the potential of the Australian red meat and livestock industry and delivering on the ambitions of the Meat Industry Strategic Plan requires strong industry leadership, a capable workforce and the ability to attract the best and brightest minds to the industry.

For MLA, the delivery of its own Strategic Plan will rely on the strength of our team and the expertise of our people. Our progress will be continually monitored, objectively measured, and transparently communicated to all stakeholders.



Projected 2017-18 investment by funding source (\$ million)



Total investment \$24.4 million | Total may not add up due to rounding.

Alignment to industry and government priorities

Meat Industry Strategic Plan priorities	Australian Government priorities	
	Science and research priorities	Rural research, development and extension priorities
<ul style="list-style-type: none"> • Building leadership capability • Protecting and promoting our industry 	<ul style="list-style-type: none"> • Food • Environmental change 	<ul style="list-style-type: none"> • Adoption of research and development • Biosecurity

MLA's 2017-18 programs within this pillar⁵ are:

Capability building

p51

Communication

p54

Corporate services

p57

⁵ Some of these programs extend across other pillars.

PILLARS

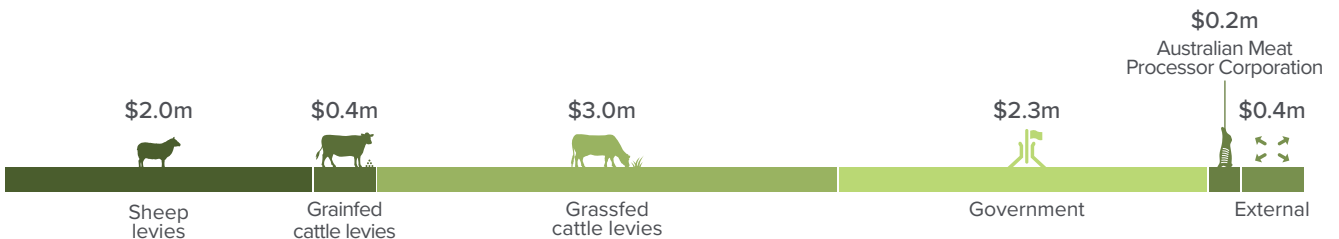
6. Stakeholder engagement



The successful delivery of MLA's Strategic Plan will require an enhanced level of collaboration between MLA and its many stakeholders.

This pillar focuses on extending the breadth and depth of stakeholder engagement across MLA. Genuine two-way consultation and collaboration will provide mutual benefit in the delivery of MLA's marketing, research and development services to industry. This pillar also includes the delivery of MLA's corporate reporting responsibilities within a culture of continuous improvement.

Projected 2017-18 investment by funding source (\$ million)



Total investment \$8.2 million | Total may not add up due to rounding.

Alignment to industry and government priorities

Meat Industry Strategic Plan priorities	Australian Government priorities	
	Science and research priorities	Rural research, development and extension priorities
n/a	<ul style="list-style-type: none"> Food 	<ul style="list-style-type: none"> Adoption of research and development

MLA's 2017-18 programs within this pillar⁶ are:

Domestic market

p18

Capability building

p51

Communication

p54

⁶ Some of these programs extend across other pillars.

Corporate services, levy management and AUS-MEAT

Levy payers and other stakeholders have a clear expectation that levy dollars are invested wisely and that MLA has strict governance processes in place to ensure this.

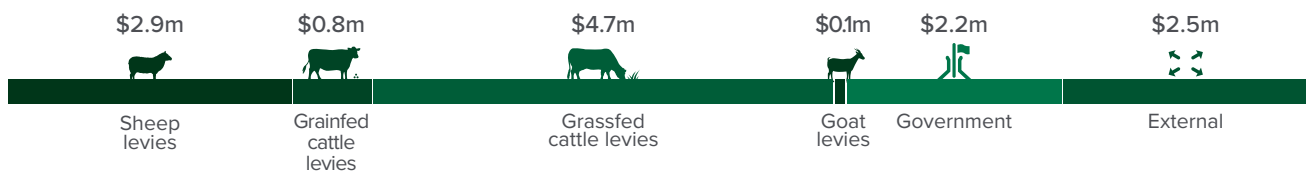
This area covers all the costs associated with services essential to effective management of the levy investments including financial accounting, management accounting, contracting, project management, foreign exchange management, evaluation and reports. This area also covers headcount costs associated with the strategy development and maintenance of MLA's global information technology systems and its inclusive business continuity strategy across more than 10 international locations. The key functions of audit, risk and legal are included in this area and are responsible for the preparation, Board submission and management of approved key work programs, ensuring MLA meets all statutory reporting requirements and is compliant with Australian and all local relevant legislation (including areas such as intellectual property management, trade marks, anti-competitive conduct, advertising standards, work health and safety).

Costs associated with MLA's share of AUS-MEAT management costs and levy administration (including third party verification of voting entitlements) are also included in this area.

MLA will achieve its plan through its people. The ability to attract, develop and retain a diverse and talented workforce is essential. Robust performance management systems, coupled with a focus on development and succession planning are a focus for MLA's HR team (also included within this area).

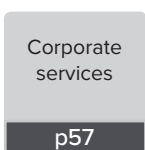


Projected 2017-18 investment by funding source (\$ million)



Total investment \$13.2 million | Total may not add up due to rounding.

MLA's 2017-18 programs within this pillar⁷ are:



⁷ Some of these programs extend across other pillars.

PROGRAMS



Program

Animal health and welfare

Sub-programs

- Animal health
- Animal welfare

Budget

\$ 13.0 million

Alignment to MLA Strategic Plan pillars

- 1 Consumer and community support

MLA's animal health and welfare program assists MLA to foster the prosperity of the Australian red meat and livestock industry by improving the management of livestock's wellbeing by minimising the impact of endemic and emergency disease and by ensuring the continued support and trust of the community.

Operating environment

The community has high and increasing expectations of the industry about the way livestock are treated. These expectations encompass the management of animal health, the application of animal welfare standards, the maintenance of Australia's freedom from exotic diseases and minimising the impact of endemic diseases.

There are significant productivity advantages for the industry as it continues to improve the health and welfare of livestock by enhancing husbandry practices, diagnosis testing and preventive treatment options including the reduction of livestock mortality and the impacts of parasitic disease.

MLA's investments in animal health and welfare research improve the management of the wellbeing of Australia's livestock. Good animal health management amounts to good biosecurity; preventing the incursion of new pathogens and, in the event of a disease occurrence, intervention and containment to prevent spread across boundaries. The term biosecurity has evolved from the days when it was used to signify prevention of the incursion of diseases exotic to Australia, to a recognition today that biosecurity starts at the farm enterprise level.

➤ Animal health

MLA's animal health sub-program works to reduce the impacts of animal disease through:

- faster, cheaper and more accessible diagnosis
- preventative measures which rely less on chemicals and more on exploiting a host's resilience and immunity
- enhanced treatment options.

Further investments will contribute tools and enablers for reducing the impact of disease including disease surveys, decision support tools and epidemiological investigations.

This sub-program aims to achieve this through the following product groups:

Product group	Description
■ Animal health tools and enablers	The 'animal health tools and enablers' product group works to reduce the impact of key livestock diseases. Initiatives include: <ul style="list-style-type: none"> • exploring the epidemiology of conditions such as arthritis, sheep measles and bovine theileriosis • developing decision support tools for parasite management and disease interventions.
■ Animal health diagnostics	The 'animal health diagnostics' product group includes initiatives to improve the diagnosis of sheep footrot and exotic pathogens such as capripox and foot and mouth disease virus.
■ Animal health prevention	Initiatives in the 'animal health prevention' product group include: <ul style="list-style-type: none"> • facilitating the implementation of integrated pest management • avoiding plant toxicities • exploiting a host's immune system against cattle tick, internal parasites and infectious diseases.
■ Feedlot animal health	Initiatives in the 'feedlot animal health' product group include: <ul style="list-style-type: none"> • evaluating bovine respiratory disease vaccination practices for the backgrounding supply chain • evaluating the automated detection of bovine respiratory disease • quantifying the subclinical and clinical economic impact of bovine respiratory disease • evaluating low stress handling techniques (such as feedlot acclimation) on animal performance and health parameters, and feedlot staff morale • developing a feedlot industry antimicrobial stewardship program aligned with the National Antimicrobial Resistance Strategy (2015-2019).

Key performance indicators in 2017-18

- Foot and mouth disease risk management program phase three underway through the Rural R&D for Profit program.
- One project underway to include cattle in ParaBoss.
- At least eight new levy-funded animal health projects emanating from the first two open calls contracted and underway.
- At least six new MDC-funded animal health projects contracted and underway.
- Improved diagnosis and prevention of sheep footrot, resulting in determination of serogroup and virulence from a swab by molecular means.
- A suite of new tick vaccine research underway: protective effect of novel antigens (completed in 2017 – commercialisation potential to be evaluated) and innovative delivery methods for sustained release.
- Commercial evaluation of Remote Early Disease Identification technology completed and reported to industry.
- Commercial evaluation of Bovine Respiratory Disease vaccination practices for the backgrounding supply chain completed and reported to industry.
- Commercial evaluation of feedlot acclimation processes completed and reported to industry.
- Baseline assessment of the economic impact of clinical and subclinical Bovine Respiratory Disease established for the Australian feedlot industry.
- Animal Health Management Plan and training materials developed and made available to industry.

This sub-program includes MDC partnership investment.

Animal welfare

MLA's animal welfare sub-program covers the research, development, adoption, engagement and communication activities that achieve and demonstrate to the community the continuous improvement of the welfare of Australian livestock.

This sub-program aims to achieve this through the following product groups:

Product group	Description
■ Reduce mortality	The 'reduce mortality' product group includes initiatives to reduce mortality rates, particularly perinatal animals and cull females.
■ Relieve and replace painful husbandry practices	The 'relieve and replace painful husbandry practices' product group includes initiatives to deliver pain relief products and replace aversive practices.
■ Animal welfare guides, indices and assurance	Initiatives within the 'animal welfare guides, indices and assurance' product group include: <ul style="list-style-type: none"> • distributing, circulating and promoting existing guides to improve animal husbandry practices • researching new ways of demonstrating high welfare.
■ Animal welfare tools and enablers	The 'animal welfare tools and enablers' product group includes initiatives to develop and maintain effective research, development and adoption capability to respond to emerging welfare issues.
■ Feedlot animal welfare	Initiatives within the 'feedlot animal welfare' product group include: <ul style="list-style-type: none"> • commissioning feedlot bedding and pen surface ameliorant projects to mitigate the impact of wet pens on feedlot cattle comfort. • commissioning projects to improve forecasts of heat load events, best practice nutrition and management strategies to limit the impact of heat load on animal performance and carcass characteristics.

Key performance indicators in 2017-18

- Less than 7% of the community limiting red meat consumption due to animal welfare concerns.
- Welfare strategic partnership launched and at least 10 risky blue sky programs of work soundly established.
- Practical welfare assurance schemes for red meat scoped.
- Commercial track for NumNuts identified
- Heat load forecast service updated and transitioned to commercial funding model.

This sub-program includes MDC partnership investment.

\$ Projected 2017-18 investment by funding source – animal health and welfare (\$ '000)

Sub-Program	Goat R	Goat M	Mutton R	Mutton M	Lamb R	Lamb M	Grassfed cattle R	Grassfed cattle M	Grainfed cattle R	Grainfed cattle M	AMPC R	AMPC M	LiveCorp R	LiveCorp M	External R	Government R	External M	Sum of R	Sum of M	Sum of AIP 2017-18
Animal health	14		43		675		603		350						753	2,439	2,290	4,879	2,290	7,168
Animal welfare	10		25		200		265		600						1,797	2,897		5,795		5,795
Grand total	24		68		875		868		950						2,551	5,337	2,290	10,674	2,290	12,963

Program

Domestic market

Sub-programs

- Market knowledge (domestic)
- Nutrition
- Marketing and promotion (domestic)

Budget

\$ 26.2 million

Alignment to MLA Strategic Plan pillars

- 1 Consumer and community support
- 2 Market growth and diversification
- 6 Stakeholder engagement

MLA's domestic market program assists MLA to foster the prosperity of the Australian red meat and livestock industry by demonstrating the value of red meat to consumers and by targeting the barriers limiting red meat consumption: price (relative to other popular proteins) and negative perceptions around health and production practices.

By addressing these barriers MLA seeks to maintain and enhance the value of domestic red meat sales and slow the historic long-term decline in consumption.

Operating environment

The domestic market remains the single most valuable destination for Australian red meat. It is also the battleground where red meat and other proteins compete for their place on the dinner plate. With tight supply and robust global demand, domestic red meat prices remain close to record highs while pork and chicken prices stay low by comparison. Many retail and foodservice customers are experiencing margin pressures and some look to these and other protein alternatives to balance their books.

Despite low interest rates, consumer confidence remains soft and there is a growing trend towards 'savvy shopping' – buying on promotion, switching proteins, using less expensive cuts and minimising waste. Red meat is seen as having strengths when it comes to hearty and gourmet meal occasions, but among budget conscious and time poor consumers, red meat needs to promote its suitability as the perfect protein for the growing number of 'light' and 'easy' meal occasions.

Red meat's nutritional credentials are well established and health concerns are a question of portion size. Positioning palm-sized portions of red meat three to four times a week as a key component of a healthy diet consistent with the Australian Dietary Guidelines will provide both industry and public health benefits (since average per capita consumption of red meat is below the recommended 65g/day). To be successful, MLA will require policy-makers to accept industry-funded evidence on the role of red meat in a healthy diet to ensure its continued representation in dietary guidelines and nutrition policy.

➤ Market knowledge (domestic)

MLA's market knowledge (domestic) sub-program collects, collates and analyses market information and intelligence, producing market and consumer insights. These aim to inform business decisions across the value chain and underpin domestic marketing strategies.

This sub-program aims to achieve this through the following product groups:

Product group	Description
<ul style="list-style-type: none"> ■ Domestic market insights 	<p>The 'domestic market insights' product group provides economic insights to support the compilation of MLA's industry projections and statistics. Initiatives include:</p> <ul style="list-style-type: none"> • maintaining a data warehouse of relevant statistics • scoping internal/external data transfer • developing market information services IT strategy • developing/piloting producer awareness package • developing leading edge economic insights, including the quarterly industry projections and e-newsletters • delivering industry presentations and insights as required • generating indicators, such as the Eastern Young Cattle Indicator and National Trade Lamb Indicator.

Product group	Description
<ul style="list-style-type: none"> Domestic consumer insights 	<p>The 'consumer insights' product group collects, analyses, interprets and disseminates channel and consumer insights. Initiatives include:</p> <ul style="list-style-type: none"> tracking consumer (via consumer tracking) and shopper (via ACNielsen) reviewing campaign facilitating adoption of insights internally (MLA) and externally (stakeholders) to inform strategy developing category plans in conjunction with the domestic team, to improve the performance of red meat within the protein category gathering data to measure domestic KPIs as required streamlining and improving the efficiency of MLA research.
<ul style="list-style-type: none"> National Livestock Reporting System 	<p>The 'National Livestock Reporting Service' product group produces timely, accurate and independent Australian livestock price data through the network of 27 Livestock Market Officers. Initiatives include:</p> <ul style="list-style-type: none"> capturing a minimum of 70% of each sale collecting weekly over-the-hooks and slaughter data maximising website traffic and data usage reviewing saleyard fee structure annually and updating it accordingly to ensure maximum reach is achieved.

Key performance indicators in 2017-18

- High levels of satisfaction (above 85%) by industry stakeholders with MLA's market information services.
- Move to ISO 9001:2015.
- Deliver Data Capture & Reporting Service upgrade by 30 June 2018.
- High levels of satisfaction (above 85%) by industry stakeholders with MLA's market insights services.

> Nutrition

MLA's nutrition sub-program researches and communicates the health benefits of red meat to health practitioners, policy makers and consumers.

This sub-program aims to achieve this through the following product groups:

Product group	Description
<ul style="list-style-type: none"> Nutrition communication 	<p>Initiatives within the 'nutrition communication' product group include developing and disseminating nutrition education targeting relevant health professionals and media, and developing product information and healthy meal criteria.</p>
<ul style="list-style-type: none"> Nutrition research 	<p>Initiatives within the 'nutrition research' product group include funding and managing research on the role of red meat in a healthy diet and developing effective knowledge transfer pathways.</p>

Key performance indicators in 2017-18

- Eight peer reviewed papers published.
- Eating red meat three or more times a week is recommended by 75-80% of general practitioners and dietitians.
- Balanced media coverage of red meat and health issues (>75% positive and neutral coverage).
- Consumers limit red meat consumption for health reasons (15% beef; 19% lamb).

> Marketing and promotion (domestic)

MLA's marketing and promotion (domestic) sub-program delivers a portfolio of marketing initiatives designed to ensure red meat consumers feel good about their choice and are inspired to eat three to four Australian red meat meals per week.

This sub-program aims to achieve this through the following product groups:

Product group	Description
<ul style="list-style-type: none"> Domestic business development 	<p>Initiatives within the 'domestic business development' product group include:</p> <ul style="list-style-type: none"> ensuring marketing activities are supported by retailer/trade partners developing and implementing bespoke key foodservice and retail account management plans setting appropriate targets for promotional activities and conduct post evaluations.

Product group	Description
<ul style="list-style-type: none"> Domestic brand building 	<p>Initiatives within the ‘domestic brand building’ product group include:</p> <ul style="list-style-type: none"> ensuring marketing activities are targeted against consumer purchase drivers delivering consumer-focused activities along the entire ‘path to purchase’ to build awareness and willingness to pay more for Australian red meat setting appropriate targets for promotional activities and conduct timely post evaluations evaluating the impacts of marketing activity, sharing the results and taking corrective action as required.
<ul style="list-style-type: none"> Domestic CoMarketing Program 	<p>The ‘domestic CoMarketing Program’ product group provides financial support and capacity building programs to assist brand owners to develop their brand proposition/s.</p>

Key performance indicators in 2017-18

- Year-on-year increase in main grocery buyer endorsement of the statement “Willing to pay more for beef/lamb” to 20% (beef) and 22.5% (lamb) from 19% in 2015-16 (beef) and 21% in 2015-16 (lamb).
- Maintain mean number of serves per week: 1.5 – 1.7 for beef and 0.7 – 0.9 for lamb.
- Restrict the percentage of main grocery buyers limiting red meat for health reasons to 15% (beef) and 19% (lamb).
- 70% of participants satisfied with CoMarketing Program.

\$ Projected 2017-18 investment by funding source – domestic market program (\$ ‘000)

Sub-program	Goat R	Goat M	Mutton R	Mutton M	Lamb R	Lamb M	Grassfed cattle R	Grassfed cattle M	Grainfed cattle R	Grainfed cattle M	AMPC R	AMPC M	LiveCorp R	LiveCorp M	External R	Government R	External M	Sum of R	Sum of M	Sum of AIP 2017-18
Market knowledge (domestic)	5	2	16		608	237	1,153	475	105	65	190					2,076	419	4,152	1,198	5,351
Nutrition					82	90	107	58		40	423	196				612		1,224	384	1,608
Marketing and promotion (domestic)		40		129		7,260		9,295		1,014		1,427					65		19,230	19,230
Grand total	5	42	16	129	690	7,587	1,260	9,828	105	1,119	613	1,623				2,688	484	5,376	20,812	26,189

Sub-programs

- Market access
- Market knowledge (international)
- Marketing and promotion (international)
- Livestock export market activities
- Livestock export (research and development)

Budget

\$ 44.4 million

Alignment to MLA Strategic Plan pillars

- 1 Consumer and community support
- 2 Market growth and diversification
- 4 Productivity and profitability

MLA's international markets program assists MLA to foster the prosperity of the Australian red meat and livestock industry by growing demand for Australian red meat and livestock, by maintaining and improving access to global markets, by providing timely insights about global opportunities and by promoting Australia's superior points of difference.

Operating environment

Australian red meat and livestock exports face considerable challenges in international markets. These include increased competition from other red meat suppliers, shifting global trade sentiment to more protectionist policies, ongoing restrictions in key markets due to non-tariff technical barriers and supply constraints in Australia.

Australian beef cattle numbers are recovering from the drought-induced decline in the national herd, meaning supplies remain tight at the same time that key competitors are gaining a foothold in some of our important markets. Australian sheepmeat supplies are similarly tight, yet overall global demand remains strong. Livestock prices have been at record or near record levels.

Despite the challenges, there are still significant opportunities for Australian products in global markets. There are growth opportunities in Asia with rising incomes and the emerging middle class. There is increasing demand for Australian natural, pasture-fed product and optimism about the potential for improved market access to Europe and Britain.

Australia's high quality product and powerful country of origin reputation remain key differentials to many of our competitors in international markets. The maintenance and enhancement of our products' attributes is critical to our continued success in international markets.

MLA's international markets sub-programs and individual market strategies are developed using a portfolio matrix to segment markets and determine the size of the opportunity and the impact of MLA's investments. This portfolio matrix is used to determine the level of investment in each country and each sub-program. These portfolio segmentations and budget allocations are agreed through an annual consultation process with peak industry councils and industry.

➤ Market access

MLA's market access sub-program supports industry and government to defend and maintain existing favourable access conditions, position Australia favourably in trade negotiations and assist with the alleviation of non-tariff (technical) trade barriers (NTB).

This sub-program aims to achieve this through the following product groups:

Product group	Description
<ul style="list-style-type: none"> ■ Economic access 	<p>Initiatives within the 'economic access' product group include:</p> <ul style="list-style-type: none"> • monitoring market access and regulatory conditions in key international markets • maintaining a network of key government and industry stakeholders and advocating for favourable access conditions • monitoring trade reform developments, commission research to evaluate trade issues and provide industry with intelligence and insights into strategy and positioning • developing and implementing industry agreed advocacy plans to support industry positions in trade negotiations (eg. EU, Brexit, RECEP) • representing industry at international and domestic trade forums (IMS, IBA, WFO) to advocate for favourable access conditions.

Product group	Description
<ul style="list-style-type: none"> ■ Technical access 	Initiatives within the ‘technical access’ product group include: <ul style="list-style-type: none"> • monitoring in-market import and food regulations to identify change and developing issues • providing industry with regular communications on developing issues and develop response plans in conjunction with industry • identifying and prioritising non-tariff trade barriers, in conjunction with industry • developing and implementing non-tariff trade barrier alleviation action plans • commissioning technical barrier research as required • identifying livestock export protocol improvements and developing advocacy strategies to improve access • advocating to overseas government departments and key stakeholders Australia’s superior integrity systems and meat safety credentials.

Key performance indicators in 2017-18

- Persuasive and well researched submissions, correspondence and advocacy strategies prepared by MLA are endorsed by industry/peak industry councils; are acknowledged by Government; and support delivery of favourable trade reform outcomes (attribution to MLA).
- High level of satisfaction (above 85%) by industry and government stakeholders with MLA’s contribution to implementing agreed industry strategies aimed at reducing impact of non-tariff (technical) barriers.

➤ Market knowledge (international)

MLA’s market knowledge (international) sub-program delivers up-to-date market intelligence, consumer insights and analysis that support industry in making informed marketing decisions and develop global marketing strategies.

This sub-program aims to achieve this through the following product groups:

Product group	Description
<ul style="list-style-type: none"> ■ International market insights 	Initiatives within the ‘international market insights’ product group include: <ul style="list-style-type: none"> • monitoring market trends, meat movements and competitor activities • developing detailed channel flows and market segmentation analysis • tracking retail and foodservice trends in major MLA markets • providing industry with up-to-date relevant market intelligence.
<ul style="list-style-type: none"> ■ International consumer insights 	Initiatives within the ‘international consumer insights’ product group include: <ul style="list-style-type: none"> • conducting consumer and sector research and analysis • developing detailed market insights on consumer behaviours, preferences and consumption trends • providing industry with valuable consumer insights and analysis • gathering data to measure international KPIs as required • working with in-market teams to build tools to drive adoption of insights and increase the use of insights to inform strategy, internally and externally.

Key performance indicators in 2017-18

- High levels of satisfaction (above 85%) by industry stakeholders with MLA’s international market information.

➤ Marketing and promotion (international)

MLA’s marketing and promotion (international) sub-program builds customer and consumer awareness of Australia’s positive attributes (integrity systems and quality attributes) by supporting a network of strategic partners and delivering promotional activities.

This sub-program aims to achieve this through the following product groups:

Product group	Description
<ul style="list-style-type: none"> ■ International business development 	Initiatives within the ‘international business development’ product group include: <ul style="list-style-type: none"> • building and/or maintaining a network of strategic relationships and key accounts • promoting Australia’s integrity and safety systems to customers and end users • conducting business to business facilitation activities through trade shows and business networking • working with strategic partnerships to develop value chain solutions to improve the performance of Australian product through the provision of educational and product knowledge activities.

Product group	Description
<ul style="list-style-type: none"> International brand building 	Initiatives within the 'international brand building' product group include: <ul style="list-style-type: none"> creating engaging and impactful consumer communications that promote Australia's points of difference conducting consumer marketing activities that build or maintain consumer preference for Australian red meat supporting collaborative promotional activities with key end users and strategic partners that promote Australia's points of difference and build preference for Australian red meat.
<ul style="list-style-type: none"> International CoMarketing Program 	The 'International CoMarketing Program' product group provides strategic advice and financial support and capacity building programs to assist brand owners to develop their brand proposition(s).

Key performance indicators in 2017-18

- Build or maintain customer awareness and preference of Australia's positive attributes (safety, quality) within target range.
- Build or maintain consumer preference for Australian red meat (relative to core competitive set) within target range.

➤ Livestock export market activities

MLA's livestock export market activities sub-program supports the growth, productivity improvements and sustainability of the livestock export industry through the delivery of risk mitigation strategies and extension and adoption of best practice livestock management.

This sub-program aims to achieve this through the following product groups:

Product group	Description
<ul style="list-style-type: none"> Livestock export animal welfare 	Initiatives within the 'livestock export animal welfare' product group include: <ul style="list-style-type: none"> building and maintaining a network of strategic relationships across the supply chain to assist in the communication of Australia's animal welfare systems supporting industry to identify animal welfare risks and develop risk mitigation strategies delivering extension and adoption of best practice livestock management techniques to support industry risk mitigation supporting the implementation of Livestock Global Assurance Program and other initiatives that enhance and secure animal welfare and sustainability of the trade.
<ul style="list-style-type: none"> Livestock export productivity gains 	Initiatives within the 'livestock export productivity gains' product group include: <ul style="list-style-type: none"> delivering projects that improve supply chain productivity and regulatory compliance improvements supporting industry to identify opportunities to reduce the cost of production through the supply chain conducting extension activities to encourage adoption of efficiency and productivity improvements through feedlots, breeding projects and processing of livestock.
<ul style="list-style-type: none"> Exporter co-funding 	Initiatives within the 'exporter co-funding' product group include providing industry with strategic advice and financial support in developing programs that assist commercial parties deliver animal welfare improvements and productivity gains.

Key performance indicators in 2017-18

- High levels of satisfaction (above 85%) by industry stakeholders with MLA's extension and adoption activities.

➤ Livestock export (research and development)

MLA's livestock export (research and development) sub-program provides industry with the tools, technologies, knowledge and capability to improve their productivity, profitability and sustainability at an individual business and industry level.

This sub-program aims to achieve this through the following product groups:

Product group	Description
<ul style="list-style-type: none"> Livestock export animal integrity research and development 	The 'Livestock export animal integrity research and development' product group supports the implementation of Livestock Global Assurance Program and other initiatives that enhance and secure animal welfare and sustainability of the trade.

Product group	Description
<ul style="list-style-type: none"> ■ Livestock export animal welfare research and development 	<p>Initiatives within the ‘Livestock export animal welfare research and development’ product group include:</p> <ul style="list-style-type: none"> • supporting research and adoption to improve heat load management in the Middle East • identifying economic and non-invasive animal welfare measures • developing a monitoring and reporting framework to identify problems, enable corrective actions and capture improvements in animal welfare • trialling and developing alternative power loads to operate captive bolt devices • validating acceptable stunning outcomes to comply with ESCAS and Halal standards • conducting research on strategic issues to reduce welfare risks.
<ul style="list-style-type: none"> ■ Livestock export market access research and development 	<p>The ‘Livestock export market access research and development’ product group monitors market access barriers and delivers action plans to support industry to reduce technical and economic barriers to trade and improve market access.</p>
<ul style="list-style-type: none"> ■ Livestock export productivity research and development 	<p>Initiatives within the ‘Livestock export productivity research and development’ product group include:</p> <ul style="list-style-type: none"> • developing a global index for the livestock export industry to assess competitiveness • identifying on board environmental monitoring technologies that support animal welfare indicators • reviewing and identifying opportunities within livestock export supply chains to improve efficiencies and reduce capacity/access infrastructure bottlenecks • improving cost of delivery performance through the livestock export supply chain.
<ul style="list-style-type: none"> ■ Livestock export extension and adoption 	<p>Initiatives within the ‘Livestock export extension and adoption’ product group include:</p> <ul style="list-style-type: none"> • supporting industry extension and adoption of best practice systems and procedures to achieve continuous improvements in animal welfare and mitigate risk of trade closure • communicating research, development and adoption outcomes and program performance to stakeholders • consulting with industry through Live Export Research & Development Advisory Committee • conducting a systems review to improve consultation and project review processes. • conducting extension and adoption activities to improve efficiency and productivity throughout the livestock export supply chain.

Key performance indicators in 2017-18

- Support supplied to allow industry to implement Livestock Global Assurance Program or alternate livestock product assurance programs.
- Annual survey of industry and government stakeholders indicates a high level of satisfaction (above 85%) with the conduct of the livestock export program.
- Global index developed to monitor improvements in efficiency of livestock.
- Export delivery to align with *Meat Industry Strategic Plan* reporting requirements.
- Research project implemented to manage heat stress and mortality during summer in hot/dry Middle East environments.
- Reporting framework developed and trialled to support the animal welfare indicators pilot project and broader research data collection.
- Research projects implemented to identify suitable environmental monitoring technologies for use on board ships.

\$ Projected 2017-18 investment by funding source – international markets program (\$ '000)

Sub-program	Goat R	Goat M	Mutton R	Mutton M	Lamb R	Lamb M	Grassfed cattle R	Grassfed cattle M	Grainfed cattle R	Grainfed cattle M	AMPC R	AMPC M	LiveCorp R	LiveCorp M	External R	Government R	External M	Sum of R	Sum of M	Sum of AIP 2017-18
Market access		12	3	186	32	977	64	1,500		284	108	2,470		347		207	15	414	5,790	6,204
Market knowledge (international)		40		39		526		1,060		345									2,010	2,010
Marketing and promotion (international)		130		305		6,580		18,586		2,053		1,014					1,110		29,778	29,778
Live export market activities		34		171		541		2,364						903					4,012	4,012
Live export research and development			60		240		300						600			1,200		2,400		2,400
Grand total		216	63	701	272	8,624	364	23,509		2,682	108	3,484	600	1,250		1,407	1,125	2,814	41,590	44,404

Program

Eating quality

Sub-programs

➤ Eating quality

Budget

\$ 8.4 million

Alignment to MLA Strategic Plan pillars

3 Supply chain efficiency and integrity

MLA's eating quality program assists MLA to foster the prosperity of the Australian red meat and livestock industry by:

- creating the opportunity for price premiums to be delivered to beef and lamb supply chain participants
- underpinning Australian red meat brands and providing a point of difference from competitor countries and proteins
- encouraging repeat purchases by guaranteeing consumers a satisfying eating experience.

Operating environment

Brand owners cannot afford to dissatisfy their customers in a market of rising red meat prices and fierce competition from alternative proteins.

The world-leading Meat Standards Australia (MSA) eating quality program provides beef and sheepmeat brand owners with a competitive advantage, allowing them to offer a guaranteed eating quality to customers who are faced with greater choice from lower cost products.

The success of the MSA program is evidenced by its continued growth and delivery of returns to the farm gate, with more than three million cattle and five million sheep presented for MSA grading during 2015-16. The program also delivered an estimated additional \$153 million in farm-gate revenue thanks to premiums paid for MSA accredited and compliant cattle, with more than 3,000 additional cattle and sheep producers becoming MSA registered.

However, less than 40% of Australian adult cattle and lambs slaughtered are currently presented for MSA grading, highlighting the opportunity to increase adoption of MSA along the supply chain. There is also potential to raise the national eating quality of MSA eligible cattle – as measured by the MSA Index.

Another opportunity to enhance eating quality is through eating quality tools and technology interventions that directly improve red meat eating quality in both MSA and non-MSA based supply chains.

➤ Eating quality

MLA's eating quality sub-program strives to deliver a world-leading, consumer-focused eating quality program that drives demand and improves the eating quality of Australian beef and sheepmeat. Within this sub-program, MLA also leads global consumer eating quality research and integrity programs through collaboration with domestic and international partners. This area also provides technologies and related tools or enablers that either directly improve eating quality or support this sub-program.

This sub-program aims to achieve this through the following product groups:

Product group	Description
<ul style="list-style-type: none"> ■ MSA business development 	<p>Initiatives within the 'MSA business development' product group include:</p> <ul style="list-style-type: none"> • using MSA science to describe fitness for purpose of all cattle and sheep types to support an alternate eating quality cipher (EQG) in beef industry the language • developing and implementing producer education programs to support understanding of customer specifications within supply chains and increase MSA Index • initiating a strategy to support brand driven implementation of MSA in export markets and supporting educational opportunities of international customers of MSA brands • increasing the volume of beef and sheepmeat delivered to consumers with eating quality predictions.
<ul style="list-style-type: none"> ■ MSA integrity and compliance 	<p>Initiatives within the 'MSA integrity and compliance' product group include:</p> <ul style="list-style-type: none"> • continually improving quality management systems to provide integrity of MSA standards • using MSA to identify eating quality segregation opportunities to reduce product variability between brands • leading the development and, where appropriate, commercialisation of MSA related technology to position MSA as the global standard eating quality language • conducting MSA benchmarking analyses to inform supply chain of seasonal and regional statistics • enhancing data analysis features of the myMSA feedback system to better facilitate optimal decisions.

Product group	Description
<ul style="list-style-type: none"> MSA research and development 	<p>Initiatives within the ‘MSA research and development’ product group include:</p> <ul style="list-style-type: none"> • completing research priorities as identified by the MSA pathways and beef and sheepmeat taskforce committees • identifying alternative funding sources for continued research • leading the collaboration of international eating quality research • developing a cuts-based grading system for lamb and sheepmeat • enhancing grading efficiencies and carcass management through increased emphasis on the potential for objective carcass measurement • identifying on-farm practices that increase eating quality or reduce non-compliance.
<ul style="list-style-type: none"> Eating quality tools and technologies (non MSA) 	<p>The initiatives within the ‘eating quality tools and technologies’ product group include investigating packaging options that improve eating quality, as well as better understanding the consumer acceptance of beef from interactions between pH, meat colour and packaging.</p>

Key performance indicators in 2017-18

- Increase MSA registered producers to 55,000.
- Increase proportion of national lamb slaughter following MSA pathways to 39%.
- Increase proportion of adult cattle slaughter being MSA graded to 45%.
- Improve national MSA Index to 58.81.
- Improve compliance to MSA beef requirements to 94.3%.
- Successfully achieve ISO 9001:2015 certification.
- Successfully pass audit requirements to maintain USDA Process Verified approval.
- MSA Model V1.8 released by pathways committee and approved by MSA taskforce committee for implementation.
- Increase number of MSA brands promoted in export markets to 18.
- Increase the usage of myMSA feedback system to 10,000 visits.

\$ Projected 2017-18 investment by funding source – eating quality program (\$ ‘000)

Sub-program	Goat R	Goat M	Mutton R	Mutton M	Lamb R	Lamb M	Grassfed cattle R	Grassfed cattle M	Grainfed cattle R	Grainfed cattle M	AMPC R	AMPC M	LiveCorp R	LiveCorp M	External R	Government R	External M	Sum of R	Sum of M	Sum of AIP 2017-18
Eating quality			42	295	632	1,012	1,075	2,141	358	615						2,108	152	4,215	4,215	8,431

Program

Environmental sustainability

Sub-programs

- Sustainability (off-farm)
- Sustainability (on-farm)

Budget

\$ 11.5 million

Alignment to MLA Strategic Plan pillars

- 1 Consumer and community support

MLA's environmental sustainability program assists MLA to foster the prosperity of the Australian red meat and livestock industry by creating opportunities for it to efficiently and effectively manage soil health, weeds, invasive animals, water, methane emissions, biodiversity and climate variability.

This program also addresses the industry's priority to maintain or increase community support for the industry's environmental stewardship.

Operating environment

Livestock production relies on natural resources, with forage production dependant on soil, water supply and quality and biological diversity. Changes in climate, regulations, market requirements and community concerns demand that livestock producers and value chain partners continually adapt to this evolving operating environment.

Given its operation on nearly half the Australian land mass and the proximity of its processing facilities to urban communities, the industry is under continuous scrutiny for its impact on the environment. Then there is the ongoing criticism from some regarding tree clearing, greenhouse gas emissions, water and land use and biodiversity loss.

However, the industry has made major inroads on all these issues. Agriculture is contributing more to reducing greenhouse gas emissions than any other sector in the Australian economy. Red meat producers are the major reason for this through their involvement in the Australian Government's Emissions Reduction Fund. Further opportunities exist to substantively reduce the industry's greenhouse gas footprint, including through biodiversity credits.

Industry's long-term prosperity depends on continuing to take a proactive and preventative approach to environmental sustainability – rather than a reactive one which only deals with the symptoms of resource degradation: poor soil and water quality and lack of biodiversity.

The industry can continue to demonstrate its environmental credentials through the sustainability of its production systems and by capturing productivity gains while reducing emissions.

➤ Sustainability (off-farm)

MLA's sustainability (off-farm) sub-program supports enterprises along the supply chain to improve their management of natural resources, greenhouse gas emissions and waste, and contribute to the industry's social license to operate.

This sub-program aims to achieve this through the following product groups:

Product group	Description
■ Sustainability technologies and practices (off-farm)	The 'sustainability technologies and practices (off-farm)' product group works to develop innovative technologies and practices which improve the sustainability of Australian red meat supply chains. Initiatives include anaerobic digestion and advanced water treatment technology.
■ Sustainability tools and enablers (off-farm)	The 'sustainability tools and enablers (off-farm)' product group produces tools that enhance the sustainability of Australian red meat supply chains. Initiatives include developing business case studies, cost/benefit analysis models and e-learning modules.
■ Environment (AMPC managed)	The 'environment (AMPC managed)' product group includes AMPC-funded and managed initiatives that align with the AMPC and MLA strategic plans.

Key performance indicators in 2017-18

- Form one global partnership to provide solutions to increasing environmental performance through supply chain optimisation enabled by enhanced information systems.
- Provide the tools and resources for industry to achieve a 10% reduction in waste or increase in efficiency relative to 2015 levels.
- Provide the tools and resources for industry to achieve a 10% reduction in water and energy use intensity relative to 2015 levels.
- Secure \$2.5 million in partner investment.
- Engage one supply chain in a strategy towards a carbon neutral red meat supply.

This sub-program includes MDC partnership investment.

➤ Sustainability (on-farm)

MLA's sustainability (on-farm) sub-program addresses on-farm natural resource challenges that impact on-farm production and influence community perceptions of the industry.

This sub-program aims to achieve this through the following product groups:

Product group	Description
<ul style="list-style-type: none"> Climate adaptation 	<p>The 'climate adaptation' product group supports producers in their adaptation to variable seasons (while maintaining the integrity of the natural resource base). Initiatives include:</p> <ul style="list-style-type: none"> improving seasonal climate forecasting skill with key products delivered by the Bureau of Meteorology (BOM) via the Managing Climate Variability 5 (MCV5) program and associated Rural Research and Development for Profit/MDC projects maintaining membership of the cross sectoral Water RD&E strategy to inform multi Research and Development Corporations (RDCs) and agency projects and remove duplication, presenting a coordinated/common message on climate adaptation, MCV5 and MLA's related adaption investments designing, researching and demonstrating new grazing systems that incorporate pastures resilient to hotter and more variable climates commissioning basic studies of grasses and legumes that can deal with hotter and more variable climates designing grazing systems that allow animals to stay cooler and reduce loss of intake in periods of heat stress.
<ul style="list-style-type: none"> Environment tools and enablers (on-farm) 	<p>Initiatives within the 'environment tools and enablers (on-farm)' product group include:</p> <ul style="list-style-type: none"> commissioning a 35-year study of the beef industry's impact on the environment providing technical support for Grazing BMP through MLA research projects completing a study into how the industry could become carbon neutral and engage with industry on this issue commence planning for a benchmarking study into on-farm management practices with the endorsement of the RMAC sustainability committee.
<ul style="list-style-type: none"> Natural resource management 	<p>Initiatives within the 'natural resource management' product group include:</p> <ul style="list-style-type: none"> funding a study into the impacts of grazing systems on sustainability and profitability maintaining membership of the cross sectoral Soils RD&E strategy to inform multi RDC and agency projects, removing duplication providing technical support for the RMAC sustainability framework and an industry approach to reporting sustainability.
<ul style="list-style-type: none"> Feedlot sustainability 	<p>Initiatives within the 'feedlot sustainability' product group include:</p> <ul style="list-style-type: none"> commissioning an asparagopsis feedlot feeding trial to reduce enteric methane emissions conducting long-term benchmarking of greenhouse gas emissions for southern and northern Australian feedlots.

Key performance indicators in 2017-18

- More than 60% of new contracts in the Emissions Reduction Fund (ERF) are awarded to red meat properties across Australia and deliver more than \$150 million gross benefit per year to the red meat industry.
- Within the ERF, more than 300,000 head of cattle in projects are covered by the MLA-sponsored Beef Herd Management Method and earn producers in total \$600-900k per year.
- Investigation commenced on sequestration of carbon under managed savanna burning in northern Australia, so as to assess a potential new ERF method.
- Deliver report on ways the red meat industry may be carbon neutral by 2030 for consideration by the Cattle Council of Australia.
- Complete a 35 year update to the 2012 30-year study on the impact of beef on the environment.
- Deliver fortnightly seasonal outlooks for producers from the Bureau of Meteorology by June 2018, including forecasts at 60km scale compared with the current 250km.
- Initiate a University of Melbourne study with input from producer groups to evaluate profitable grazing systems for pastures in hotter and more variable climates.

This sub-program includes MDC partnership investment.

\$ Projected 2017-18 investment by funding source – environmental sustainability program (\$ '000)

Sub-program	Goat R	Goat M	Mutton R	Mutton M	Lamb R	Lamb M	Grassfed cattle R	Grassfed cattle M	Grainfed cattle R	Grainfed cattle M	AMPC R	AMPC M	LiveCorp R	LiveCorp M	External R	Government R	External M	Sum of R	Sum of M	Sum of AIP 2017-18
Sustainability (off-farm)			1		26		26				1,722				3,081	4,857		9,714		9,714
Sustainability (on-farm)			12		178		197		450						22	859	116	1,718	116	1,834
Grand total			13		204		223		450		1,722				3,104	5,716	116	11,431	116	11,548

Program

Integrity systems

Sub-programs

- Market access science
- Integrity systems

Budget

\$ 15.9 million

Alignment to MLA Strategic Plan pillars

- 2 Market growth and diversification
- 3 Supply chain efficiency and integrity

MLA's integrity systems program assists MLA to foster the prosperity of the Australian red meat and livestock industry by protecting its disease-free status and underpinning the marketing of Australian product as clean, safe and natural. It also helps Australia capture price premiums from customers and consumers willing to pay more for higher levels of product assurance.

Operating environment

The Australian red meat and livestock industry faces relentless competition from global suppliers so it must innovate, enhance its operating efficiencies and strengthen its competitive advantages.

A key response is the transformation of the industry's integrity systems – Livestock Production Assurance (LPA), National Vendor Declarations (NVD) and National Livestock Identification System (NLIS) – to ensure Australia maintains its global leadership in red meat product assurance and traceability. This follows the 2015 SAFEMEAT Initiatives Review, *Towards an Integrated Integrity System*, which recommended the establishment of a single entity to streamline their delivery.

MLA's new Integrity Systems Company now has the task of improving the integration between each of the integrity programs, driving efficiencies and implementing enhancements to achieve a more responsive and sustainable red meat integrity system into the future.

At the same time, digital technology and data science are rapidly advancing. Australia's red meat and livestock industry must capitalise on these innovations to strengthen its integrity and traceability systems, validate Australia's unique provenance and provide a single source of truth from the industry's data platforms.

The Integrity Systems Company is investing in new technologies to enhance on-farm food safety and traceability across the value chain. Communication and adoption are another focus for investment to ensure that every value chain participant understands their role and responsibilities in maintaining the industry's integrity systems.

➤ Market access science

MLA's market access science sub-program delivers assurance of product safety to customers and reduce non-tariff (technical) barriers to trade by applying science and technology to the supply chain.

This sub-program aims to achieve this through the following product groups:

Product group	Description
■ Market access research and development (AMPC managed)	The 'market access research and development (AMPC managed)' product group includes AMPC-funded and managed initiatives that align with the AMPC and MLA strategic plans.
■ Market access technical research	<p>Initiatives within the 'market access technical research' product group include:</p> <ul style="list-style-type: none"> • assessing market-specific product risks • demonstrating low E. coli and Salmonella risk in beef • ensuring Maximum Residue Limits are appropriate • estimating Toxoplasma risk in sheep • demonstrating low Antimicrobial resistance in beef and sheep • determining geographical disposition of sheep offals for Cadmium • demonstrating the shelf life of vacuum packed meat • demonstrating the exceptional shelf life of chilled vacuum pack meat • determining the shelf life of frozen products • determining appropriate post-mortem inspection procedures • investigating new technology for safe products • improving process control in meat processing • developing through-chain quality assurance systems.

Key performance indicators in 2017-18

- Maintaining a high level of satisfaction (above 85%) by industry and government stakeholders with MLA's contribution to reducing impact of non-tariff (technical) barriers.
- Food safety risks associated with Australian product usage in all markets is assessed so that risk management options can be considered.
- Agree with industry on how to approach the use of new genetic technologies by public health authorities.
- Respond to the new South Korean positive list for residues.
- Correlation of Cadmium levels between sheep liver and kidney is reported.
- Chilled vacuum packed shelf life model is validated so as to assist with a more accurate prediction of shelf life.

> Integrity systems

MLA's integrity systems sub-program delivers the industry's on-farm assurance and through-chain traceability systems (NLIS, LPA and NVDs). These integrity systems protect the disease-free status of the Australian red meat industry and underpin the marketing of Australian product as clean, safe and natural.

This sub-program aims to achieve this through the following product groups:

Product group	Description
<ul style="list-style-type: none"> ■ Product assurance and traceability systems 	Initiatives within the 'product assurance and traceability systems' product group include: <ul style="list-style-type: none"> • maintaining the integrity program's rules and standards (LPA, NLIS, device accreditation) • developing and maintaining the integrity program (NLIS, LPA, eNVD) • maintaining LPA on-farm random and targeted audit program and associated compliance activities • delivering integrity system communication, extension and eLearning • providing customer support • producing and managing NVDs • adopting and supporting through-chain integrity technologies (e.g. via the MDC) • funding the administration of the National Feedlot Accreditation Scheme.
<ul style="list-style-type: none"> ■ SAFEMEAT 	Initiatives within the 'SAFEMEAT' product group include: <ul style="list-style-type: none"> • funding the SAFEMEAT Secretariat • funding the Chairs of SAFEMEAT Partners and the Integrity Systems Policy Group • providing strategic research support for SAFEMEAT activities • providing SAFEMEAT communications.

Key performance indicators in 2017-18

- Integrity Systems Policy Group operational and effective.
- Industry endorsement of 2025 Integrity System Strategy.
- Scoping of integrated technical solution for NLIS, LPA and eNVD completed.
- Pilots commenced for new animal identification and traceability technologies.
- Implementation of LPA animal welfare and biosecurity modules.
- Implementation of strengthened LPA recommitment process.
- Integrity system communication, education and training strategy endorsed by industry to support compliance objectives:
 - Livestock consignments accompanied by an eNVD to increase to 15%
 - LPA awareness to increase to 83%.
- NLIS movement recording compliance increased to 95.5%.

This sub-program includes MDC partnership investment and activities of the Integrity Systems Company.

\$ Projected 2017-18 investment by funding source – integrity systems program (\$ '000)

Sub-program	Goat R	Goat M	Mutton R	Mutton M	Lamb R	Lamb M	Grassfed cattle R	Grassfed cattle M	Grainfed cattle R	Grainfed cattle M	AMPC R	AMPC M	LiveCorp R	LiveCorp M	External R	Government R	External M	Sum of R	Sum of M	Sum of AIP 2017-18
Market access science			16		234		352		64		1,139					1,805		3,610		3,610
Integrity systems	10	60	12	80	104	1,305	344	1,926	32	954	579	439	17	20	1,156	2,251	3,026	4,502	7,809	12,311
Grand total	10	60	28	80	338	1,305	695	1,926	96	954	1,717	439	17	20	1,156	4,056	3,026	8,112	7,809	15,921

Program

Objective measurement

Sub-programs

➤ Objective measurement

Budget

\$ 20.0 million

Alignment to MLA Strategic Plan pillars

3 Supply chain efficiency and integrity

MLA's objective measurement program assists MLA to foster the prosperity of the Australian red meat and livestock industry by facilitating the adoption of objective measurement tools across the value chain. Objective measurement of livestock and carcass attributes is an essential enabler for industry to improve productivity and profitability, improve price transparency and develop value-based pricing.

Operating environment

To date, livestock and carcass attributes have been largely assessed using manual, subjective measurement, resulting in a loss of value across the red meat supply chain through inaccurate measurement or appraisal systems.

There is now scope to improve the accuracy of measurements through the adoption of transparent objective measurement technologies.

Over the past three years MLA has worked with industry, research institutes and technology providers to develop the application of DEXA (Dual Energy X-ray Absorptiometry) and other objective measurement tools. MLA now proposes to accelerate the adoption of DEXA technology throughout the red meat industry to create a single scientific measurement of carcass meat, fat and bone (lean meat yield) and the platform to pass this information back to producers.

Sharing the data along the value chain to complement other industry systems will allow all sectors to make more informed business decisions, improve on-farm and processing efficiency and deliver a product which is preferred by consumers.

An independent report has found a \$420 million per annum potential benefit to the Australian red meat industry from full adoption of objective measurement. The benefits related to measuring lean meat yield account for around 65% of the impact, shared between producers and processors. Unless the rollout of the technology is fast-tracked, the report found only \$72 million per annum of benefit is likely to be realised by 2020 on current rates of adoption.

➤ Objective measurement

MLA's objective measurement sub-program develops – and then extends to industry – a range of technologies that measure or estimate lean meat yield and eating quality traits at appropriate points in the value chain for both live animals and carcasses. A key initiative within this sub-program is to fast-track the adoption of DEXA technology as an objective measure of lean meat yield in meat processing plants.

This sub-program aims to achieve this through the following product groups:

Product group	Description
■ Objective measurement technologies ⁸	The 'objective measurement technologies' product group supports the development of technologies that can be applied to live animals or carcasses to measure traits about the value of carcasses.
■ Objective measurement tools and enablers	Initiatives within 'objective measurement tools and enablers' product group include: <ul style="list-style-type: none"> • implementing objective measurement adoption activities through lamb supply chain coordinators and the Rural Research and Development for Profit objective measurement program partner processors • developing the value proposition of objective measurement across the value chain and tools developed under the Rural Research and Development for Profit objective measurement program and associated objective measurement projects.

⁸ Outcomes from this product group are primarily delivered via the Rural Research and Development for Profit objective measurement program as well as MDC investments.

Key performance indicators in 2017-18

- Rural Research and Development for Profit objective measurement program successfully delivered and reporting accepted by the Australian Government.
- DEXA output of carcass lean meat yield delivered in producer feedback from three lamb and three beef abattoirs.
- Mobile CT system developed for DEXA calibration and Research and Development data collection.
- Create tools to enable industry to implement value based pricing models.
- Updated lamb carcass value calculator utilised by four lamb supply chains to develop an improved understanding of variation in carcass value and providing opportunities to improve value chain profit.
- Funding model for DEXA installation in AUS-MEAT accredited plants finalised.

This sub-program includes MDC partnership investment.

\$ Projected 2017-18 investment by funding source – objective measurement program (\$ '000)

Sub-program	Goat R	Goat M	Mutton R	Mutton M	Lamb R	Lamb M	Grassfed cattle R	Grassfed cattle M	Grainfed cattle R	Grainfed cattle M	AMPC R	AMPC M	LiveCorp R	LiveCorp M	External R	Government R	External M	Sum of R	Sum of M	Sum of AIP 2017-18
Objective measurement			51		283		388		78		5,040				3,701	9,541	950	19,083	950	20,033

Program

Producer adoption

Sub-programs

➤ Producer adoption

Budget

\$ 13.5 million

Alignment to MLA Strategic Plan pillars

4 Productivity and profitability

MLA's producer adoption program assists MLA to foster the prosperity of the Australian red meat and livestock industry by building the capability of producers and advisors to increase on-farm productivity and profitability from research and development.

Operating environment

MLA has developed a regional consultation framework following an independent review of MLA's levy investment systems for on-farm research and development. Regional consultation is a transparent, representative and systematic framework to deliver research, development and adoption that meets the priorities identified by producers during the consultation. Now in its second year, the framework has proven to be effective in enhancing transparency and generating genuine two-way engagement between MLA and grassroots producers.

Withdrawal of state governments from extension or adoption services in most Australian jurisdictions has dramatically changed the way research and development is delivered to producers. Today's environment demands the evolution of new commercial business models to deliver adoption services and support red meat producers' decision making. This requires developing private sector capacity and capability to support the continued delivery of high quality adoption services.

These new delivery models need to enable the private sector and transition industry to a (part) user pays approach for adoption services.

Disruptive platforms, technologies and programs such as Livestock Data Link, digital agriculture, objective measurement and MSA enable data sharing throughout the value chain and provide opportunity for new and more sophisticated business models. Data sharing, analytics and reporting create new insights for value chain stakeholders, enabling measurement, monitoring and management opportunities. To assist producers to capitalise on disruptive opportunities, whole of value chain extension and adoption programs will be necessary to link market requirements to on-farm producer and resource capability.

➤ Producer adoption

MLA's producer adoption sub-program aims to build producer capability and service provider capacity and capability to increase on-farm productivity and profitability impact from MLA's investment in research and development.

This sub-program aims to achieve this through the following product groups:

Product group	Description
<ul style="list-style-type: none"> Feedlot adoption 	<p>Initiatives within the 'feedlot adoption' product group include:</p> <ul style="list-style-type: none"> undertaking communication and workshop activities to disseminate outcomes of research and development distributing the Quarterly Feed research and development newsletter to all MLA grainfed members and feedlots aligning the feedlot industry sustainability benchmarking project with RMAC sustainability framework funding a technical services officer position for the feedlot industry aligning the animal health and productivity benchmarking with the Meat Industry Strategic Plan framework funding ALFA-MLA consulting veterinarians and nutritionists to help identify research, development and adoption priorities and accelerate adoption of research and development outcomes.
<ul style="list-style-type: none"> Feedlot consultation and capability building 	<p>Initiatives within the 'feedlot consultation and capability building' product group include:</p> <ul style="list-style-type: none"> consulting with feedlot operators and industry service providers to provide a two-way communication opportunity to establish research, development and adoption funding priorities and disseminate outcomes building capability for the feedlot sector through investment in training for feedlot operators and staff, industry leaders, service providers and researchers, including funding of scholarships for PhDs, the Australian Rural Leadership Program and the Trail Program implementing the Feedlot Industry Training and Leadership Development Strategy.

Product group	Description
<ul style="list-style-type: none"> ■ Adoption tools and enablers 	<p>Initiatives within the ‘adoption tools and enablers’ product group include:</p> <ul style="list-style-type: none"> • conducting program evaluation and producer market research to establish qualitative and quantitative impacts of adoption programs and inform research, development and adoption needs • investing in research and development to support improved regional business and enterprise performance • developing private service provider capacity and capability • conducting adoption research.
<ul style="list-style-type: none"> ■ Create awareness for adoption 	<p>Initiatives within the ‘create awareness for adoption’ product group include:</p> <ul style="list-style-type: none"> • informing producers and delivery partners of the latest and practical research and development messages, and integrated learning opportunities through campaigns and large scale forums • developing educational materials to support producer decision making.
<ul style="list-style-type: none"> ■ Influence and motivate for adoption 	<p>Initiatives within the ‘influence and motivate for adoption’ product group include:</p> <ul style="list-style-type: none"> • engaging producers with training and education opportunities to influence uptake of improved practices and further skill development • developing and delivering strategically targeted workshops and seminars to motivate producers into further skills development and inform decision making • developing online tools and support resources to support producer decision making.
<ul style="list-style-type: none"> ■ Involve and partner to achieve adoption 	<p>Initiatives within the ‘involve and partner to achieve adoption’ product group include:</p> <ul style="list-style-type: none"> • involving and partnering with producers and service providers in integrated adoption programs that deliver transformational change to their business performance • partnering with producers and producer groups to demonstrate, develop and adopt research and development outcomes by validating the commercial value proposition and benefits. • developing and implementing whole of value chain adoption programs for disruptive technologies such as digital agriculture, Livestock Data Link and objective measurement.
<ul style="list-style-type: none"> ■ Regional consultation for research, development and adoption 	<p>Initiatives within the ‘regional consultation for research, development and adoption’ product group include:</p> <ul style="list-style-type: none"> • engaging grassfed beef and sheepmeat producers and research, development and adoption partners in two-way communication with MLA on priority industry research, development and adoption and impacts through regional forums and consultation processes • providing evidence-based advice to the MLA Board on priority research, development and adoption and portfolio balance for sheepmeat and grassfed beef investments.

Key performance indicators in 2017-18

- At least 2,500 sheep and cattle producers engage in influence activities.
- At least 900 sheep and cattle producers engaged in involve and partner activities.
- At least 3,000 sheep and cattle producers engage in awareness activities.
- On average, participant satisfaction and value scores are greater than 7/10 for awareness and influence activities.
- On average, producers participating in influence activities achieve a 75% knowledge and skills improvement score.
- On average, 75% of participating producers make at least one change practice.
- Commence at least 10 new Producer Demonstration Sites.
- At least 200 businesses involved in Profitable Grazing System groups.
- At least one new adoption delivery program based around disruptive technology/platforms.
- At least 30% of MLA sheepmeat and grassfed beef levies are invested in long-term strategic partnerships that address grassroots producers’ and industry research, development and adoption (RD&A) priorities and maintain industry RD&A capacity.
- The Producer Innovation Fast-Track program is fully subscribed (value \$4 million) and 75% of participants express satisfaction with the program benefits.
- Feedlot productivity monitoring framework developed to align with *Meat Industry Strategic Plan (MISP)* reporting requirements.
- Animal health monitoring framework developed to align with MISP reporting requirements.
- Feedlot Industry Training and Leadership Development Strategy and implementation plan approved by MLA and ALFA.

This sub-program includes MDC partnership investment.

\$ Projected 2017-18 investment by funding source – producer adoption program (\$ '000)

Sub-program	Goat R	Goat M	Mutton R	Mutton M	Lamb R	Lamb M	Grassfed cattle R	Grassfed cattle M	Grainfed cattle R	Grainfed cattle M	AMPC R	AMPC M	LiveCorp R	LiveCorp M	External R	Government R	External M	Sum of R	Sum of M	Sum of AIP 2017-18
Producer adoption	15		182		2,225		2,847		698						761	6,728	58	13,455	58	13,513

Program

Product and packaging innovation

Sub-programs

➤ High Value Food Frontiers

Budget

\$ 8.3 million

Alignment to MLA Strategic Plan pillars

- 2 Market growth and diversification
- 3 Supply chain efficiency and integrity

MLA's product and packaging innovation program assists MLA to foster the prosperity of the Australian red meat and livestock industry by

informing value chains and the wider industry about new products, processes, packaging and business models, leading to increased demand and higher value red meat.

Operating environment

Insights gathered from market and consumer research have identified several key emerging global food trends and consumer behaviours that offer clear opportunities for the Australian red meat industry. Key themes include:

- health and wellness
- convenience and 'snacking'
- high protein diets
- targeted demographic needs such as the ageing population and infants.

To capitalise on these opportunities, new value added product and service offerings need to be created through new technologies and business models.

Producing higher value, more desirable red meat products also responds to declining per capita consumption in the domestic market and provides emerging markets with more choice beyond commodity offerings.

➤ High Value Food Frontiers

MLA's High Value Food Frontiers sub-program aims to deliver global innovation strategies to value chains and the wider industry to increase demand and build value chain capability. Through high value innovation, the aim is to drive higher premiums for, and increase customer preference of, Australian red meat and associated products across key global markets.

This sub-program aims to achieve this through the following product groups:

Product group	Description
<ul style="list-style-type: none"> ■ Consumer and market trends and insights* 	Initiatives within the 'consumer and market trends and insights' product group include: <ul style="list-style-type: none"> • analysing global food trends • mapping high valued exports and new designs in China, ASEAN and the Middle East • conducting 'new routes to market' analysis.
<ul style="list-style-type: none"> ■ Develop new products, processes and business models* 	Initiatives within the 'develop new products, processes and business models' product group include: <ul style="list-style-type: none"> • engaging with industry • applying research by developing proof of concepts • engaging with food technology entrepreneurs through I+E CONNECT • building a network of sophisticated design-led innovation capabilities.
<ul style="list-style-type: none"> ■ Product and packaging innovation science and technology* 	Initiatives within the 'product and packaging innovation science and technology' product group include: <ul style="list-style-type: none"> • mapping and analysing new research knowledge for an emerging technology platform • engaging with food technology entrepreneurs through I+E CONNECT • identifying eating quality interventions and impacts which are verified, where applicable, through MSA pathways.
<ul style="list-style-type: none"> ■ Product and packaging innovation (AMPC managed) 	The 'product and packaging innovation (AMPC managed)' product group contains initiatives that align with the AMPC and MLA strategic plans.

Key performance indicators in 2017-18

- Three new red meat value adding technology or packaging solutions identified and undergoing research and development.
- Three new business models validated and ready to launch.

* High Value Food Frontiers is MDC's key mechanism for delivering innovations in support of MLA's market growth and diversification strategic pillar. MDC activities will be complemented by initiatives funded within the Rural R&D for Profit Insights2Innovation grant project.

Program Product and packaging innovation

- Progress towards 2025 goal for the High Value Food Frontiers program of 50% red meat production converted to high value product.
- Communicating the 2Morrow's Food Insights2Innovation market and consumer insights via at least 10 workshops or speaking engagements.
- Meet the agreed, cross-sectoral 2017-18 KPI's for the Rural Research and Development for Profit Insights2Innovation program.

This sub-program includes MDC partnership investment.

\$ Projected 2017-18 investment by funding source – product and packaging innovation program (\$ '000)

Sub-program	Goat R	Goat M	Mutton R	Mutton M	Lamb R	Lamb M	Grassfed cattle R	Grassfed cattle M	Grainfed cattle R	Grainfed cattle M	AMPC R	AMPC M	LiveCorp R	LiveCorp M	External R	Government R	External M	Sum of R	Sum of M	Sum of AIP 2017-18
High Value Food Frontiers	7		31		418		506				156				2,584	3,702	869	7,404	869	8,273

Sub-programs

➤ Digital value chain information

Budget

\$ 4.3 million

Alignment to MLA Strategic Plan pillars

3 Supply chain efficiency and integrity

MLA's value chain information and efficiency program assists MLA to foster the prosperity of the Australian red meat and livestock industry by enabling increased productivity and product value across the value chain. This will occur through capturing, integrating and interpreting the vast and increasing range of data that is being generated through existing and new technologies.

Operating environment

Advances in technology are disrupting the way value chains operate and will continue to do so.

MLA's investment in the red meat's Digital Value Chain Strategy will enable the seamless capture, integration and interpretation of the vast and increasing range of data that is being generated through existing and new technologies. This will, in turn, enable the industry to capture improvements in productivity and product value across the entire value chain.

A key enabler to underpin more effective use of data will be the establishment of a red meat value chain open data system. This will provide a central location for industry data to be stored, analysed and accessed, for the primary purpose of improving and validating the performance of the red meat value chain and strengthening our integrity systems.

It will require technology adoption to support the collection of data and feedback systems from on-farm right through to consumers. This journey will also demand a cultural change that recognises the power of data in informing and driving decision making. Data ownership, rules for data sharing and access are other critical components in developing a collaborative industry strategy that meets the needs of commercial businesses.

Through the consolidation, coordination and use of information across the value chain, this program aims to increase returns by driving efficiency, increasing market opportunities through innovative product assurance and traceability, and maintaining the customer's trust in Australian red meat.

➤ Digital value chain information

MLA's digital value chain information sub-program aims to develop a wide range of digital solutions that will support:

- data collection and analytics to improve decision-making at all/any point(s) along the value chain
- benchmarking between enterprises
- greater efficiencies along the value chain.

The sub-program will focus on the scoping and initiation of an open data system for industry which will provide infrastructure to:

- enable multiple sources of industry data to be stored, linked and analysed
- further validate industry integrity systems
- assist in improving value chain collaboration and performance.

This will be complemented by the identification and implementation of tools and technologies to support adoption of digital solutions as a part of the open data system aimed at:

- enabling the exchange of information between different parts of the value chain (e.g. Livestock Data Link)
- supporting improved data exchange and engagement with end customers and trading partners
- identifying and addressing key capability and cultural change issues.

This sub-program aims to achieve this through the following product groups:

Product group	Description
<ul style="list-style-type: none"> ■ Data system development, delivery, communication and adoption 	<p>Initiatives within the 'data system development, delivery, communication and adoption' product group include:</p> <ul style="list-style-type: none"> • coordinating a red meat data system, covering livestock, carcass and genetics • developing and delivering industry information platforms (Livestock Data Link and myMLA/single sign-on) • communicating and extending digital opportunities to raise awareness and increase industry uptake of technologies • building digital capability across MLA, the red meat value chain and agricultural sectors • coordinating value chain partnerships to drive digital technology uptake and adoption • coordinating MDC-based technology initiatives that contribute to overarching Digital Value Chain Strategy objectives.

Product group	Description
<ul style="list-style-type: none"> ■ Data system enablers 	Initiatives within the 'data system enablers' product group include: <ul style="list-style-type: none"> • funding industry consultation through taskforces, networks and co-development programs • coordinating development around connectivity and digital investment • facilitating the development of industry architecture and rules.

Key performance indicators in 2017-18

- Red meat data system fully scoped and initiated.
- Five projects initiated exploring application of digital technology with industry data.
- Initiate an evaluation program to monitor the impact of digital technologies on compliance rates for industry.
- Phase II of myMLA/single sign-on scoped and initiated.
- Feedback on 10% of industry throughput is available through Livestock Data Link.
- Industry endorsement of the red meat data system principles and rules.
- Digital advocates program initiated.
- Solution provider network established.
- myMLA registrations increase to 15,000.
- Deliver at least one producer facing digital farm management tool.

This sub-program includes MDC partnership investment and activities of the Integrity Systems Company.

\$ Projected 2017-18 investment by funding source – value chain information and efficiency innovation program (\$ '000)

Sub-program	Goat R	Goat M	Mutton R	Mutton M	Lamb R	Lamb M	Grassfed cattle R	Grassfed cattle M	Grainfed cattle R	Grainfed cattle M	AMPC R	AMPC M	LiveCorp R	LiveCorp M	External R	Government R	External M	Sum of R	Sum of M	Sum of AIP 2017-18
Digital value chain information	22		55		425		588		186						853	2,128		4,256		4,256

Program

Productivity (off-farm)

Sub-programs

➤ Productivity (off-farm)

Budget

\$ 19.7 million

Alignment to MLA Strategic Plan pillars

4 Productivity and profitability

MLA's productivity (off-farm) program assists MLA to foster the prosperity of the Australian red meat and livestock industry by working with processors to increase their efficiency and minimise production costs and, in doing so, to help the industry lift its global competitiveness.

Operating environment

The Australian red meat and livestock industry's processing sector operates within a highly competitive international marketplace and an operating environment characterised by high and increasing input costs.

The processing sector operates on tight margins to remain competitive in the face of intense price competition from other red meat suppliers and proteins, limiting the ability of many operators to fund innovations, especially over medium and long-term horizons. Small and medium sized plants face particular challenges in funding new systems and approaches to innovation.

When plants are considering a new innovation, they often face space limitations. The layouts of plants are optimised towards existing processes and procedures, limiting the available space to deploy new cost and time saving equipment.

As operating costs continue to rise, especially for energy, transport and labour, there is a potential threat from foreign owned processors relocating their operations offshore to take advantage of cheaper labour. Should this occur, it would limit value chain innovation and value adding options and opportunities with the Australian industry.

Despite these challenges, accelerating the rate of innovation adoption is an important solution for the Australian meat processing industry to remain globally competitive. Considerable technologies include collaborative and conventional robotics, advanced sensing platforms, internet connectivity and data and information flows.

➤ Productivity (off-farm)

MLA's productivity (off-farm) sub-program works to develop and adopt supply chain technologies that deliver productivity benefits to the off-farm sector. Key focus areas include maximising meat yield, optimising product mix, and addressing labour availability and workplace health and safety issues. Other priorities include broader efficiencies relating to data exchange up and down the value chain, and the efficient use and reduced cost of services. Automation technologies and advanced sensing are the key enabling technologies to achieve this.

This sub-program aims to achieve this through the following product groups:

Product group	Description
■ Productivity and logistics (off-farm)	Initiatives within the 'productivity and logistics (off-farm)' product group include: <ul style="list-style-type: none"> • developing the beef and lamb boning automation program • engaging with global solution providers • commissioning other key activities including supply chain logistics projects such as pack-out and load-out automation.
■ Productivity and logistics tools and enablers (off-farm)	Initiatives within the 'productivity and logistics tools and enablers (off-farm)' product group include developing tools and enablers that support the development of key technologies. These include: <ul style="list-style-type: none"> • developing data driven support tools • conducting ongoing cost benefit analyses on key technologies and programs • in-plant traceability systems • evaluating augmented vision technologies.
■ Processing efficiency (AMPC managed)	The 'processing efficiency (AMPC managed)' product group includes AMPC-funded and managed initiatives that align with the AMPC and MLA strategic plans.

Key performance indicators in 2017-18

- Productivity benefit of technologies adopted in 2017-18 and previous years deliver impact of \$30m per annum.
- 80% of the expected outcomes from productivity and logistics investments are achieved, including:
 - Contract first beef boning sensing and automation module development
 - Production demonstration of lamb LEAP V forequarter processing
 - Additional lamb middle processing modules trialled
 - Prototype demonstration of lamb LEAP II hindquarter processing
 - First automated primal pick and pack plant demonstration
 - First automated carton handling in-plant demonstration.

This sub-program includes MDC partnership investment.

\$ Projected 2017-18 investment by funding source – productivity off-farm innovation program (\$ '000)

Sub-program	Goat R	Goat M	Mutton R	Mutton M	Lamb R	Lamb M	Grassfed cattle R	Grassfed cattle M	Grainfed cattle R	Grainfed cattle M	AMPC R	AMPC M	LiveCorp R	LiveCorp M	External R	Government R	External M	Sum of R	Sum of M	Sum of AIP 2017-18
Productivity (off-farm)											5,508				4,366	9,874		19,747		19,747

Program

Productivity (on-farm)

Sub-programs

- Beef productivity
- Feedback production and utilisation
- Goat productivity
- Livestock genetics
- Sheep productivity

Budget

\$ 37.8 million

Alignment to MLA Strategic Plan pillars

- 1 Consumer and community support
- 4 Productivity and profitability

Grassfed **beef productivity** relies on pasture based systems which are influenced by seasonality and the feedbase. The priorities for the northern beef industry remain live weight gains and increased breeder herd fertility. In the south, where enterprise sizes are smaller and more intensively managed, the priorities are reducing reproductive wastage and the impact of disease carried by pest animals that affect the mortality and fertility of livestock.

Lot feeding remains an integral part of the beef industry given the demand for a consistent supply of quality product for an expanding population. Priorities include the development of tools to increase productivity and reduce costs, such as the introduction of automation and remote monitoring technologies to routine feedlot processes. Integrating technologies such as DEXA to develop carcass end point specifications, based on yield and eating quality attributes together with customised management systems, will allow individual animals to achieve optimum profitability.

Lamb and sheepmeat production has remained stable despite the significant flock decline. On-farm prices remain strong, driven by the demand of a changing market in which exports now consume more than 50% of a limited supply. Production is predominantly pasture-based, exposing it to seasonal fluctuations that also impact the supply-demand equation. There is an opportunity to develop better integrated livestock-cropping systems to increase sheepmeat production in mixed farming regions. Lamb survival remains a significant economic cost and another high priority.

The goat industry remains in its infancy. Record prices are driven by tight and inconsistent supplies and strong export demand. The challenge is to grow supply by increasing producer and animal numbers. Demonstrating 'proof of profit' to entice producers to 'give goats a go' and the provision of support in adding goats as a long-term enterprise within their business are prerequisites. A whole of supply chain approach and data-based decision making that considers best practice and total grazing pressure within each business is also necessary to ensure sustainability.

MLA's productivity (on-farm) program assists MLA to foster the prosperity of the Australian red meat and livestock industry by supporting new research which leads to increased productivity and profitability across the beef, sheepmeat and goat production sectors.

Operating environment

On-farm productivity and profitability gains can be achieved through new research that results in production efficiencies, reduced costs and higher returns on investment.

In the area of livestock genetics, there is an opportunity to increase the rate of genetic gain and improve commercial profitability by aligning genetic investment to value chain outcomes that meet consumer needs. Through this new approach, MLA's investment in genetics will aim to improve overall productivity by addressing key profit drivers such as market specification compliance, costs, growth rates, fertility and livestock production efficiency.

Future increases in animal production depend on efficiently managing the **feedbase** to ensure a stable supply of forage in the face of variable seasons and competition from undesirable plants and pest animals. This will be addressed by new plants and varieties with improved genetic gain, enhanced management of grasses, legumes and shrub-tree combinations, better utilisation (grazing frequency and intensity), and biological controls for pest animal and plants.

➤ Beef productivity

MLA's beef productivity sub-program seeks to increase beef productivity and enterprise profitability through improved and targeted nutrition and supplementation including manipulation of rumen function, enhanced breeder herd fertility, reduced calf loss and optimising the compliance of grass finished cattle to market specifications.

These investments will be complementary to producer adoption activities that will create opportunities to achieve impact and practice change.

This sub-program aims to achieve this through the following product groups:

Product group	Description
<ul style="list-style-type: none"> ■ Feedlot productivity 	<p>Initiatives within the ‘feedlot productivity’ product group include:</p> <ul style="list-style-type: none"> • conducting feedlot cattle composition of gain research to predict days on feed to a set carcass endpoint (including lean meat yield), and potential integration with DEXA composition analysis • conducting pen surface stabilisation research to reduce pen maintenance and improve cattle productivity during wet weather conditions • developing solutions to address dag formation on feedlot cattle • commissioning a feedlot induction automation feasibility study • coordinating the commercial evaluation of ionophore strategies for feedlot cattle • establishing a centre of excellence for feedlot research and development.
<ul style="list-style-type: none"> ■ Market compliance technologies for grassfed cattle 	<p>Initiatives within the ‘market compliance technologies for grassfed cattle’ product group include:</p> <ul style="list-style-type: none"> • quantifying carcass composition through farm-ready objective measurement technologies • improving meat quality through targeted supplementation strategies.
<ul style="list-style-type: none"> ■ Productivity tools and enablers for grassfed cattle 	<p>Initiatives within the ‘productivity tools and enablers for grassfed cattle’ product group include:</p> <ul style="list-style-type: none"> • engaging with producers and northern pastoral groups to share plans and ideas on research directions • benchmarking input and output costs • demonstrating on-farm technologies with potential to benefit farm management practices • developing sterile leucaena for widespread use in north-west Australia • advancing participatory research and development through multi-farm networks (Farm Innovation Network).
<ul style="list-style-type: none"> ■ Productivity practices for grassfed cattle 	<p>Initiatives within the ‘productivity practices for grassfed cattle’ product group include:</p> <ul style="list-style-type: none"> • improving fertility through animal breeding research and development in artificial breeding and nutritional practices • understanding and mitigating calf loss through farm-based research • reducing greenhouse gas emissions through research and development on supplements • achieving growth benefits through research and development on ruminant productivity.
<ul style="list-style-type: none"> ■ Productivity technologies for grassfed cattle 	<p>Initiatives within the ‘productivity technologies for grassfed cattle’ product group include:</p> <ul style="list-style-type: none"> • deploying autonomous vehicles for data collection to improve decisions on-farm • developing animal tracking technologies to collect and analyse location, bodyweight and calving • improving connectivity for optimal use of digital technologies in remote locations.

Key performance indicators in 2017-18

- Rumen manipulation practices that contribute to improved rangeland productivity of 0.5% by 2020.
- Reductions in greenhouse gas emission intensities through new technologies.
- Improved breeder herd fertility and reductions in calf loss resulting in 2% increase in weaning rates.
- Leverage of production systems such as use of Redlands leucaena for northern bioregions that increases turnoff by 1.5% per year.
- Development and demonstration of digital technologies that improve animal and enterprise management.
- Technologies and practices that increase the market compliance by 10%.
- Feedlot induction automation feasibility study completed, reported to industry, and decision made on progression to commercial implementation.
- Business model for feedlot research and development centre of excellence completed.
- Asparagopsis feeding trial completed, reported to industry, and decision made on progression to commercial implementation.

This sub-program includes MDC partnership investment.

➤ Feedbase production and utilisation

MLA's feedbase production and utilisation sub-program aims to support efficient animal production (increased production and reduced costs) by increasing productivity of the feedbase. The sub-program will support the development of better plants, better management and better utilisation of forages, while reducing the impact on the feedbase by pest animals and pest plants.

This sub-program aims to achieve this through the following product groups:

Product group	Description
<ul style="list-style-type: none"> ■ Feedbase productivity research and development 	<p>Initiatives within the 'feedbase productivity research and development' product group include:</p> <ul style="list-style-type: none"> • developing new legume options for northern and southern Australia • demonstrating and evaluating pasture species, their establishment, management, grazing frequency and intensity, or in combination with dual purpose crops, to ensure production efficiencies and market specifications can be achieved.
<ul style="list-style-type: none"> ■ Feedbase tools and enablers 	<p>Initiatives within the 'feedbase tools and enablers' product group include:</p> <ul style="list-style-type: none"> • reviewing and developing new knowledge supporting forage production of species, nutrient efficiency, root disease, pasture management (nutrition, grazing and companions species in the north and south) to ensure a stable feedbase • developing a business case for investing in 'total grazing pressure' across southern rangelands • developing information products and decision tools/guidelines in the above areas.
<ul style="list-style-type: none"> ■ Plant breeding and evaluation 	<p>Initiatives within the 'plant breeding and evaluation' product group include:</p> <ul style="list-style-type: none"> • developing gene markers for difficult traits in annual legumes and phalaris • testing pasture varieties in partnership with the Australian Seed Federation and eight member seed companies.
<ul style="list-style-type: none"> ■ Weed controls 	<p>Initiatives within the 'weed controls' product group include:</p> <ul style="list-style-type: none"> • developing and implementing cost effective weed management options for five weeds of significance (including biological control or low cost/low chemical approaches) • developing interactions between organisations and jurisdictions involved in weed management to improve delivery of products and information to livestock producers. • seeking high-impact solutions at scale.
<ul style="list-style-type: none"> ■ Feral animal controls 	<p>Initiatives within the 'feral animal controls' product group include:</p> <ul style="list-style-type: none"> • developing improved products and delivery processes that address feral animal management and community concerns • utilising the human and physical resources of various jurisdictions involved in feral management to improve efficiency and effectiveness of control programs • ensuring community concerns and the expected obligations of the industry in approaches to feral management are addressed • developing adaptive management – learning by doing (producers, research/advisors/regulators cross jurisdictions).

Key performance indicators in 2017-18

- New legume options identified that potentially increase dry matter production by 50% in northern and southern Australia production zones.
- Proof of concept of potential 30% reduction in phosphorus costs from more efficient practices and plants.
- Genomic tools for annual legumes/phalaris developed to halve generation interval.
- Hand held biomass sensor piloted and mobile device app ready to be commercialised.
- Seed company partnership in pasture variety testing with > 30 trials in 15 locations covering 10 species.
- Reduced rabbit populations from new K5 calicivirus reported from > 500 sites nationally.
- New pig toxin (sodium-nitrate based) submitted for APVMA registration.
- Prospective biocontrol agents identified for blackberry and silverleaf nightshade.
- Redistribution of biocontrol agents for Parkinsonia, Parthenium and Gorse at > 200 sites partnering with six local governments and five Landcare groups.

This sub-program includes MDC partnership investment.

Goat productivity

MLA's goat productivity sub-program aims to increase on-farm productivity and profitability to underpin the sustainability of goat businesses, through research, development and adoption activities.

This sub-program aims to achieve this through the following product groups:

Product group	Description
<ul style="list-style-type: none"> Goat adoption 	Initiatives within the 'goat adoption' product group include: <ul style="list-style-type: none"> conducting program evaluation and levy payer market research to establish qualitative and quantitative impact of adoption programs and inform research, development and adoption needs monitoring and managing regional business and enterprise performance delivering educational materials to support producer decision making engaging producers with training and education opportunities to influence uptake of improved practices and further skill development delivering strategically targeted workshops and seminars to motivate producers into further skill development and informed decision making involving and partnering with producers and service providers in integrated adoption programs that deliver transformational change to their business performance engaging goat producers in two-way communication with MLA.
<ul style="list-style-type: none"> Goat productivity improvement 	Initiatives within the 'goat productivity improvement' product group include: <ul style="list-style-type: none"> completing trials on goat growth rates delivering projections through the population modelling project and using them to inform strategic messaging back to industry.

Key performance indicators in 2017-18

- Supply estimates, scenario modelling and key messages generated for NSW, leading to informed advice back to industry regarding herd expansion needs providing increased security.
- Benchmarks established for rangeland goat growth rates with and without supplementation, leading to informed and proven advice back to industry to assist with expansion.
- At least 400 goat producers engaged in awareness activities; at least 50 engaged in influence and motivate activities with on average a 75% knowledge and skills improvement score; at least 50 goat producers enrolled in Profitable Grazing System groups with on average 75% making at least one practice change.

Livestock genetics

MLA's livestock genetics sub-program targets improving the rate of genetic progress in the beef cattle and sheep industries.

This sub-program aims to achieve this through the following product groups:

Product group	Description
<ul style="list-style-type: none"> Genetic improvement delivery technologies 	The 'genetic improvement delivery technologies' product group involves delivering Sheep Genetics services: LAMBPLAN, MERINOSELECT and KIDPLAN. It also continues to support of the delivery of BREEDPLAN services.
<ul style="list-style-type: none"> Genetic improvement research and development 	Initiatives within the 'genetic improvement research and development' product group include: <ul style="list-style-type: none"> developing technologies that maintain Australia's position as a world leader in genetic improvement science and application and which underpin genetic improvement across the value chain developing analytical engines for BREEDPLAN and OVIS to help improve single step analysis and multi-breed analysis capabilities.
<ul style="list-style-type: none"> Genetic improvement utilisation and adoption 	Initiatives within the 'genetic improvement utilisation and adoption' product group include: <ul style="list-style-type: none"> implementing the National Livestock Genetics Consortium adoption and extension strategy to address barriers to adoption of genetic improvement technologies providing support for genetic evaluation 'users' through SBTS, TBTS and Sheep Genetics developing a genetics communications strategy.

Product group	Description
<ul style="list-style-type: none"> ■ New phenotypes and infrastructure for genetic improvement 	<p>Initiatives within the 'new phenotypes and infrastructure for genetic improvement' product group include:</p> <ul style="list-style-type: none"> • continuing the Beef Information Nucleus and Resource Flock projects • continuing novel and hard-to-measure phenotype collection • developing a database/open data platform.

Key performance indicators in 2017-18

- Implement single step genetic evaluation for Angus, Hereford and Brahman (incorporates genomics to estimated breeding values).
- Increase the rate of change in the aggregated beef \$ index values by 5% to \$2.64.
- Increase the number of performance recorded beef animals with estimated breeding values from 119,583 to 125,562.
- Develop a nationally coordinated livestock extension and adoption service that increases the effectiveness of use and demand by the commercial producer (managed within MLA).
- Increase the number of animals in the Merino analysis by 5%.
- Increase the numbers in the maternal analysis by 2%.
- Maintain animal numbers in the terminal analysis.

This sub-program includes MDC partnership investment.

➤ Sheep productivity

MLA's sheep productivity sub-program aims to increase on-farm productivity and profitability to underpin the sustainability of lamb and sheepmeat businesses.

This sub-program aims to achieve this through the following product groups:

Product group	Description
<ul style="list-style-type: none"> ■ Sheep productivity practices 	The 'sheep productivity practices' product group develops new knowledge to enable improved management of flocks producing lamb and sheepmeat delivered for incorporation in adoption programs.
<ul style="list-style-type: none"> ■ Sheep productivity tools and enablers 	The 'sheep productivity tools and enablers' product group aims to deliver a benefit cost modelling tool to improve ewe lamb mating decision making. It also supports the value chain through the Lamb Supply Chain Group.

Key performance indicators in 2017-18

- Develop new knowledge to enable producers to increase marking rates by 5% and reduce ewe mortality rates by 1% and deliver through:
 - Guidelines for management of ewe lambs for reproductive success
 - Guidelines for management of modern maternal ewes
 - Guidelines for managing ewes in late pregnancy and early lactation when grazing crops
 - Guidelines for strategic use of lucerne to improve conception rate.
- Delivery of an research, development and adoption investment plan for the mixed farming zone.

This sub-program includes MDC partnership investment.

\$ Projected 2017-18 investment by funding source – productivity on-farm program (\$ '000)

Sub-program	Goat R	Goat M	Mutton R	Mutton M	Lamb R	Lamb M	Grassfed cattle R	Grassfed cattle M	Grainfed cattle R	Grainfed cattle M	AMPC R	AMPC M	LiveCorp R	LiveCorp M	External R	Government R	External M	Sum of R	Sum of M	Sum of AIP 2017-18
Beef productivity							1,625		750						1,284	3,659		7,318		7,318
Feedbase production and utilisation			14		316		577								2,371	3,278	1,022	6,555	1,022	7,577
Goat productivity	308															308		615		615
Livestock genetics					1,966		1,311		101						5,899	9,277		18,553		18,553
Sheep productivity			30		561										1,284	1,874		3,748		3,748
Grand total	308		43		2,843		3,513		851						10,838	18,395	1,022	36,790	1,022	37,812

Program

Capability building

Sub-programs

- Innovation capability building
- Industry leadership and capacity building

Budget

\$ 21.0 million

Alignment to MLA Strategic Plan pillars

- 1 Consumer and community support
- 4 Productivity and profitability
- 5 Leadership and collaborative culture
- 6 Stakeholder engagement

MLA's capability building program assists MLA to foster the prosperity of the Australian red meat and livestock industry by investing in current and emerging industry leaders, innovators and scientists to enhance professional and business skills and build a performance culture.

Operating environment

A skilled and capable workforce is critical to the red meat industry delivering on the ambitious targets set out in its strategic plans – and to building a more profitable and resilient industry.

Innovators and entrepreneurs are needed right across the value chain to fast-track innovation and identify and implement commercially viable solutions. The significant shortfall of early and mid-career scientists and farm advisors with the skills and experience to serve the industry also needs to be addressed. Meanwhile the demands on the peak industry councils continue to increase, in turn demanding the examination of current industry structures and their value proposition to members and non-members.

A plethora of professional development and training programs exist within the industry. However, these are often fragmented and can lack the coordination necessary to convert graduates of these programs to leadership roles within industry bodies, the peak industry councils and other organisations.

An opportunity exists to renew capability building within the industry and develop a coordinated, holistic approach that will improve the return on our stakeholders' considerable investment in this area.

➤ Innovation capability building

MLA's innovation capability building sub-program engages with scientists, researchers, value chain partners and innovators in a range of capability building initiatives to accelerate innovation adoption and increase the industry's investment in innovation.

This sub-program aims to achieve this through the following product groups:

Product group	Description
■ Capability building (industry)	Initiatives within the 'capability building (industry)' product group include: <ul style="list-style-type: none"> • developing food value chain innovators through the Young Food Innovators program • developing industry partner capability as part of the Rural R&D for Profit Insights2Innovation program • developing digital value chain officers.
■ Collaborative Co-Innovation Program	The 'Collaborative Co-innovation Program' product group supports Australian red meat value chains to fast-track their innovation and growth strategies. The program offers an integrated suite of modules that can be customised to match specific business goals.
■ Capability building tools and enablers	The 'capability building tools and enablers' product group includes initiatives such as maintaining memberships to innovation institutes to stay abreast with latest trends and innovations and network with innovators and entrepreneurs.
■ Capability building (education)	Initiatives within the 'capability building (education)' product group include: <ul style="list-style-type: none"> • training PhD level and post-doctoral scientists to provide an enduring career path in red meat research, development and adoption • mentoring post graduate participants within Australian Research Council Industrial Transformation Research Hubs.
■ Capability building (AMPC managed)	The 'capability building (AMPC managed)' product group includes AMPC-funded and managed initiatives that align with the AMPC and MLA strategic plans.

Key performance indicators in 2017-18

- Retention of four to six red meat industry participants in the Young Food Innovators program.
- Recruitment of 8-12 young producers into the Young Food Innovators program.
- Implement a program for a Digital Value Chain Officer with three partners.
- At least three case studies demonstrate innovation capability development through Insights2Innovation program.
- 33% of current Collaborative Innovation Strategies Program partners successfully adopt the next generation Collaborative Co-Innovation Program.

- Delivery of the Intercollegiate Meat Judging (ICMJ) annual conference.
- Delivery of an industry development education program for 20 ICMJ finalists.
- Delivery of an industry insights tour of US and Japan markets for Australian ICMJ team and selected ‘young-guns’.
- Appoint at least five new PhD students.
- At least 10 early career scientists employed in MLA-funded research and development.
- At least 10 farm advisors mentored.
- Delivery of ICMJ program involving a minimum of 120 students

This sub-program includes MDC partnership investment.

Industry leadership and capacity building

MLA’s industry leadership and capacity building sub-program equips industry representatives with the skills, knowledge and confidence to be effective communicators, positive contributors and successful leaders.

While developing the skills base of the current generation, this sub-program also exists to develop emerging talent for succession planning and strategic contributions to industry and the community into the future. The development of capable leaders with a whole of value chain and global perspective will ensure there are highly skilled producers who can represent industry and contribute effectively.

This sub-program also works to build capability within MLA, driving a customer-centric culture and recruiting leading scientists, marketers, entrepreneurial innovators and other professions to further enhance the company’s capacity to effectively service levy payers and the industry.

This sub-program aims to achieve this through the following product groups:

Product group	Description
■ Industry leadership scholarships	The ‘industry leadership scholarships’ product group consists of an annual scholarship program to build expertise and professional capability within the red meat and livestock industry.
■ Industry development	The ‘industry development’ product group consists of a professional development program to equip current and emerging industry leaders and others in key industry and MLA roles. Initiatives include: <ul style="list-style-type: none"> • delivering media, presentation and communication training • facilitating advocacy and community engagement workshops • conducting professional development, training and briefings for state farm organisations.
■ Peak council development	The ‘peak council development’ product area consists of a tailored suite of programs to build skills, leadership capacity and performance within the peak industry councils (PICs). Initiatives include: <ul style="list-style-type: none"> • conducting professional development for current and emerging industry leaders • conducting media, presentation and advocacy training • delivering mentor programs to provide exposure to learnings and best practice within and outside the industry • delivering the Cattle Council of Australia’s ‘building capacity in the grassfed beef industry’ projects • delivering the Sheepmeat Council of Australia’s ‘building leadership capability for the sheep industry’ projects • ensuring effective consultative processes with PICs for key MLA programs and activities • commissioning industry issues research and analysis to assist PICs in policy development.

Key performance indicators in 2017-18

- Conduct a review of the industry leadership scholarships currently provided by MLA to ensure their alignment with achieving MLA’s Strategic Plan objectives and maximum value to industry
- At least 10 industry representatives complete media and/or presentation training
- 40 industry people identified and trained as industry advocates
- Successful implementation of a new ‘Building capacity in the Grassfed Beef Industry’ project, including a governance gap analysis, director training and skills development.
- Eight established sheep industry leaders will have developed high level governance skills through completion of the Australian Institute of Company Director’s course as recipients of a Sheepmeat Industry Governance Scholarship.
- 15 emerging sheep industry leaders will have well developed leadership skills through completion of the second round of the Sheepmeat Industry Leadership Program.

\$ Projected 2017-18 investment by funding source – capability building program, \$ '000

Sub-Program	Goat R	Goat M	Mutton R	Mutton M	Lamb R	Lamb M	Grassfed cattle R	Grassfed cattle M	Grainfed cattle R	Grainfed cattle M	AMPC R	AMPC M	LiveCorp R	LiveCorp M	External R	Government R	External M	Sum of R	Sum of M	Sum of AIP 2017-18
Industry leadership and capacity building			7	58	365	878	536	1,066	32	205						940		1,881	2,207	4,088
Innovation capability building	5		19		159		193		42		4,228				3,802	8,449	7	16,898	7	16,906
Grand total	5		27	58	525	878	729	1,066	74	205	4,228				3,802	9,390	7	18,779	2,214	20,993

Program

Communication

Sub-programs

- Communication (community)
- Communication (stakeholder)

Budget

\$ 9.7 million

Alignment to MLA Strategic Plan pillars

- 1 Consumer and community support
- 5 Leadership and collaborative culture
- 6 Stakeholder engagement

MLA's communication program assists MLA to foster the prosperity of the Australian red meat and livestock industry by ensuring that MLA's marketing, research and development services are known and accessible to levy payers and stakeholders. It also seeks to build confidence in the industry, ensuring the community understands the contribution the industry makes and supports its operation.

Operating environment

The communication program operates in a complex and diverse environment with many stakeholders who have wide-ranging research, development and marketing needs. Understanding these needs is critical for MLA to tailor its services and communications to ensure stakeholders can access the information they need, when they need it, through the channels they prefer. Improved access to enhanced information empowers stakeholders to make more informed decisions and increase their uptake of business-enhancing marketing, research and development.

Understanding our consumers, meeting their expectations and telling our story as an industry helps ensure we maintain the community's confidence – and consumer support. The community has high expectations about animal health and welfare and how the industry manages the natural resources it relies on. Domestic and international consumers are also increasingly interested in the provenance of their food. MLA assists industry to maintain and enhance community confidence and red meat consumption by engaging with consumers to demonstrate the industry is an ethical and responsible custodian of livestock, land and natural resources.

➤ Communication (community)

MLA's communication (community) sub-program works to engage and inform the community about the Australian red meat and livestock industry, with a particular focus on animal welfare and environmental management.

This sub-program aims to achieve this through the following product groups:

Product group	Description
<ul style="list-style-type: none"> ■ Consumer education 	<p>The 'consumer education' product group provides trusted information and targeted communications to inform consumers about the production of red meat and livestock in Australia. Initiatives include:</p> <ul style="list-style-type: none"> • launching and promoting a new online platform for community engagement • updating and transitioning Target 100 content to the new online community engagement platform • conducting an annual benchmarking survey of consumer sentiment to identify current issues and trends • developing and using engaging social media tools and online content to communicate with consumers, stakeholders and producers • using search engine optimisation to ensure ready availability of relevant and factual information about the industry.
<ul style="list-style-type: none"> ■ Consumer engagement 	<p>The 'consumer engagement' product group develops strategic partnerships with major community events to inform consumers about the provenance of Australian red meat, to enhance community confidence in the industry and to promote red meat consumption. Initiatives include:</p> <ul style="list-style-type: none"> • sponsoring and participating in Taste Festivals in Sydney, Melbourne and Perth, Regional Flavours in Brisbane and Gourmet Escapes in Margaret River • partnering with producers at events and in other forums to inform consumers about the sustainable production methods used by the industry • using paddock-to-plate style demonstrations to educate consumers and promote red meat consumption • piloting a 'virtual reality' demonstration of the sustainability of the red meat industry for use at Royal Agricultural Shows in capital cities and at Beef Australia 2018.

Product group	Description
<ul style="list-style-type: none"> School education 	<p>The 'school education' product group engages with schools and teachers through the development of teaching resources on red meat and livestock production that are aligned with the national curriculum. Initiatives include:</p> <ul style="list-style-type: none"> maintaining an active membership with the Primary Industries Education Foundation Australia representing the industry at educational conferences and events with MLA materials distributed for use by participants encouraging the use of MLA educational materials taught directly into schools using video conferencing and 'real life' livestock producers enhancing teachers' uptake of MLA's educational materials in their lesson planning and delivery.

Key performance indicators in 2017-18

- Implementation of a new online community engagement platform incorporated within MLA's Domestic Market Strategy.
- 10% growth in subscribers to and user engagement with MLA's community Facebook page against the 2016-17 benchmark.
- 'Virtual reality' demonstration of the sustainability of the red meat industry trialled and introduced to the consumer engagement program.
- At least two teacher-focused events feature MLA educational resources.
- A minimum of 70 schools engaging with MLA education materials.
- A minimum 750 education resource downloads.
- Development of an additional two primary school resources.

➤ Communication (stakeholder)

MLA's communication (stakeholder) sub-program engages and communicates with MLA members, levy payers and stakeholders across the value chain about MLA's work in its research, development and marketing. This includes activities funded by producer levies and MLA's subsidiary companies.

This sub-program aims to achieve this through the following product groups:

Product group	Description
<ul style="list-style-type: none"> Beef and Sheep Industry Sustainability Frameworks 	<p>The 'Beef and Sheep Industry Sustainability Frameworks' product group covers MLA's provision of secretariat support to the Red Meat Advisory Council's (RMAC) Sustainability Steering Group for the implementation of the Australian Beef Sustainability Framework, covering economic resilience, animal welfare, environmental stewardship, people and the community across the value chain. MLA will also assist the sheepmeat industry in developing a forward strategy for sustainability reporting. Initiatives include:</p> <ul style="list-style-type: none"> managing ongoing framework reporting and stakeholder engagement for the beef framework developing an annual framework report for the beef framework commence the development of a sheep industry sustainability framework.
<ul style="list-style-type: none"> MLA communications 	<p>The 'MLA communications' product group provides a targeted suite of print, digital and media communications to effectively inform and advise members, empower on-farm decision makers, promote the role and value of MLA, meet the needs of MLA stakeholders and promote the industry's interests to the Australian community. This product group also provides communications support across MLA and its subsidiaries. Initiatives include:</p> <ul style="list-style-type: none"> conducting media engagement, monitoring and training promoting myMLA and other new online services as secure, reliable and user friendly digital platforms for the red meat industry producing and delivering regionalised, seasonal content (including producer case studies) via MLA's suite of communication channels such as e-newsletters and printed materials developing a new digital/social media strategy with initial focus on increasing MLA engagement with producers delivering MLA's corporate communications strategy to ensure coordinated communications delivered to the right audience via the right channel.
<ul style="list-style-type: none"> MLA corporate reporting 	<p>The 'MLA corporate reporting' product group fulfils MLA's reporting requirements under the <i>Corporations Act 2001</i> and the <i>Australian Meat and Live-stock Industry Act 1997</i> as per MLA's Statutory Funding Agreement with the Australian Government. Initiatives include:</p> <ul style="list-style-type: none"> producing the <i>Annual Report 2017-18</i> producing the <i>Annual Investment Plan 2018-19</i>.

Product group	Description
<ul style="list-style-type: none"> ■ MLA stakeholder engagement 	<p>The 'MLA stakeholder engagement' product group covers MLA's activities to engage with stakeholders. Initiatives include:</p> <ul style="list-style-type: none"> • providing MLA's membership services • gathering and using the views and needs of stakeholders to inform MLA's decision making, strategy and organisational behaviour. Forums include MLA's regional and sector specific consultation councils and the annual setting of MLA's marketing priorities • delivering MLA events such as the company's Annual General Meeting and Red Meat Industry Forum • coordinating MLA's sponsorship program for industry events that increase awareness and adoption of business-enhancing research, development and marketing.

Key performance indicators in 2017-18

- Development of an implementation plan for the Australian Beef Sustainability Framework.
- High levels of producer satisfaction (above 70%) with MLA communications.
- Increase in media volume and promotion of key messages against the 2016-17 benchmark.
- All MLA members with recorded email accounts to be pre-registered for "myMLA" online services.
- Completed registrations to myMLA (MLA members and non-members) to exceed 15,000 – with 50% of users having linked an account through single sign-on.
- mla.com.au content and navigation upgraded.
- 10% growth in subscribers to and user engagement with MLA's Corporate Facebook Page against the 2016-17 benchmark.
- *Annual Report* and *Annual Investment Plan* supplied on time and endorsed by peak industry councils and the Australian Government.
- Stakeholder engagement strategy implemented in line with recommendations of the 2015 ACIL Allen Performance Review.
- High levels of satisfaction (above 70%) recorded by attendees at MLA events.

This sub-program includes MDC partnership investment.

\$ Projected 2017-18 investment by funding source – communication program (\$ '000)

Sub-program	Goat R	Goat M	Mutton R	Mutton M	Lamb R	Lamb M	Grassfed cattle R	Grassfed cattle M	Grainfed cattle R	Grainfed cattle M	AMPC R	AMPC M	LiveCorp R	LiveCorp M	External R	Government R	External M	Sum of R	Sum of M	Sum of AIP 2017-18
Communication (community)		4		38	19	610	19	1,001		367						38		75	2,019	2,095
Communication (stakeholder)	19	7	26	107	601	1,671	519	2,833	56	380	5	53			61	1,288		2,576	5,052	7,627
Grand total	19	12	26	145	620	2,280	538	3,834	56	746	5	53			61	1,326		2,651	7,071	9,722

Program

Corporate services

Sub-programs

Corporate services

Budget

\$ 13.5 million

Alignment to MLA Strategic Plan pillars

5 Leadership and collaborative culture

Corporate services

MLA's corporate services program assists MLA to foster the prosperity of the Australian red meat and livestock industry by:

- effectively managing the levy investments through accounting, contracting, project management, foreign exchange management, evaluation and reporting
- ensuring MLA meets its statutory and legislative requirements through a robust corporate governance framework including audit, risk and legal services
- attracting and retaining a diverse and talented workforce.

Operating environment

Levy income is expected to continue its decline, as drought has driven up the slaughter rate in the past two years. This has caused the national cattle herd and sheep flock to fall to levels not seen in more than 20 years, which will lower future production. Over the past year MLA investments and expenditure have been rationalised in light of this short-term trend. It is expected that levy income will rise gradually from 2017-18 as the cattle and sheep stock levels slowly rebuild.

As the Bureau of Meteorology's climate outlook points to above-average rainfall for much of the country until December 2017, herd rebuilding intentions by restockers are expected to strengthen, which will further constrict production.

Corporate services

Encompassing the Board, executive, finance, legal, human resources, information technology and other MLA-funded initiatives, corporate services provides support services, risk management, governance, budget and planning and reporting functions to MLA management and stakeholders as well as ensuring compliance with statutory and other corporate obligations.

MLA's corporate services sub-program ensures levy dollars are invested wisely by the company and strict governance processes are followed.

This sub-program aims to achieve this through the following product groups:

Product group	Description
■ Board and executive	Initiatives within the 'board and executive' product group include overseeing and determining policies consistent with the MLA Strategic Plan and exercising direction and governance over resources and the way in which the strategies are implemented.
■ Legal and governance	The 'legal and governance' product group provides legal advice and support to the Board and management. Initiatives include: <ul style="list-style-type: none"> • monitoring compliance with statutory and other regulations applicable to the MLA Group of companies • interacting with stakeholders • maintaining the member registry.
■ Crisis management	Initiatives within the 'crisis management' product group include: <ul style="list-style-type: none"> • maintaining the crisis portal • conducting internal crisis simulations • supporting industry crisis simulation.
■ Risk management	The 'risk management' product group ensures MLA's risk management plan is maintained in accordance with the Board's risk appetite and reflects the industry's operating environment.
■ Finance	The 'finance' product group ensures the effective management of levy investments through accounting, contracting, project management and foreign exchange management.
■ Levy management	The 'levy management' product group contains costs associated with MLA's share of levy administration (including third party verification of voting entitlements).
■ Evaluation	The 'evaluation' product group implements and provides oversight of the MLA Evaluation Framework, encompassing the entire suite of MLA's investments.

Product group	Description
■ Commercialisation	The 'commercialisation' product group delivers adoption through the commercialisation of products derived from MLA-funded research and development.
■ Human resources	The 'human resources' product group attracts, develops and engages exceptional people to deliver outcomes that make a difference. Initiatives include: <ul style="list-style-type: none"> • creating solutions that enable a global and agile workforce to succeed • providing a framework to ensure a safe and compliant work environment.
■ AUS-MEAT	The 'AUS-MEAT' product group contains MLA's investment in the standards division of AUS-MEAT (the costs included by the services division – AUS-QUAL – is met from revenues and from previous industry transition capitalisation).

Key performance indicators in 2017-18

- Successful rollout of a program based 'Path to Impact' organisational, reporting and evaluation structure that will maximise industry benefits from MLA's investments.
- Clean audit report received.
- Internal audit program delivered to the satisfaction of the MLA Audit and Risk Committee.
- Operation within the framework of the Statutory Funding Agreement with the Commonwealth and statutory obligations.
- Crisis Portal maintained and reflects the latest Risk Management Plan.
- Risk Management Plan is maintained in accordance with the Board's risk appetite and reflects industry context.

\$ Projected 2017-18 investment by funding source – corporate services program (\$ '000)

Sub-program	Goat R	Goat M	Mutton R	Mutton M	Lamb R	Lamb M	Grassfed cattle R	Grassfed cattle M	Grainfed cattle R	Grainfed cattle M	AMPC R	AMPC M	LiveCorp R	LiveCorp M	External R	Government R	External M	Sum of R	Sum of M	Sum of AIP 2017-18
Corporate services	35	41	64	126	729	2,013	1,112	3,705	355	456						2,295	2,589	4,591	8,931	13,522

MLA DONOR COMPANY

MLA Donor Company Limited (MDC) is a fully-owned subsidiary of Meat & Livestock Australia.

MDC accelerates innovation across the value chain so the Australian red meat and livestock industry can remain competitive on the world stage. It does this by attracting commercial investment from individual enterprises and others that share a mutual interest to co-invest in innovation that will benefit the industry.

MDC supports MLA's strategic purpose of fostering the long-term prosperity of the Australian red meat and livestock industry via:

- extending MLA's strategic priorities into future-focused, transformational impact areas
- facilitating capability and adoption of innovation by industry
- acting as a catalyst to accelerate the development of innovations with new types of provider partnerships
- partnerships that facilitate 'big picture' change in the industry
- engaging leading global providers and entrepreneurs that bring new ideas and new value to the industry
- attracting new investment partners to co-develop key priority areas.

A key MDC initiative in 2017-18 is the continued development of the new innovation and entrepreneurship platform: I+E CONNECT. This platform aims to accelerate the delivery of commercially viable solutions that create unique and competitive positions for the Australian red meat industry. It will seek to tap into new forms of investment from venture capital and private equity funds, develop new partners within the global AgTech and FoodTech accelerator and incubator community, and attract entrepreneurs and start-ups to the industry.

As MDC activities are directly aligned to deliver against MLA's overall strategic plan, key program deliverables have been included in the relevant sections of this *Annual Investment Plan*.

Further detail on MDC areas of investment is provided in the *MDC Strategic Business Plan 2016-20, 2017-18 Investments*:

www.mla.com.au/mdc

\$ Projected 2017-18 investment by funding source – MDC, \$ '000



Total investment \$70.0 million | Total may not add up due to rounding.

INTEGRITY SYSTEMS COMPANY

The Integrity Systems Company (ISC) is a fully-owned subsidiary of Meat & Livestock Australia. ISC aims to grow red meat value chain opportunities through integrity and information systems innovation. This serves to increase returns through the value chain, with participants and customers confident in product quality, pricing and traceability systems.

ISC supports MLA's strategic purpose of fostering the long-term prosperity of the Australian red meat and livestock industry via:

- providing, delivering and administering meat and livestock integrity programs
- integrating, expanding and enhancing meat and livestock integrity programs to improve the quality, efficiency and performance of the programs for the benefit of the meat and livestock industry.
- developing, delivering and administering information technology platforms for the benefit of the meat and livestock industry
- maintaining a framework for consultation with peak industry councils, SAFEMEAT partners, industry committees and government stakeholders
- pursuing commercial opportunities, provided such opportunities do not detract from the provision of the core business of MLA Digital or conflict with the company's not-for-profit status.

As ISC activities are directly aligned to deliver against MLA's overall strategic plan, key program deliverables have been included in the relevant sections of this *Annual Investment Plan*.

\$ Projected 2017-18 investment by funding source – Integrity Systems Company, \$ '000

Program	Sub-program	Goat R	Goat M	Mutton R	Mutton M	Lamb R	Lamb M	Grassfed cattle R	Grassfed cattle M	Grainfed cattle R	Grainfed cattle M	AMPC R	AMPC M	LiveCorp R	LiveCorp M	External R	Government R	External M	Sum of R	Sum of M	Sum of AIP 2017-18
Value chain information and efficiency	Digital value chain information	22		55		425		588		186							1,275		2,550		2,550
Integrity systems	Integrity systems	10	60	12	80	104	1,305	344	1,926	32	954	579	439	17	20		1,096	3,026	2,191	7,809	10,000
Grand total		32	60	67	80	529	1,305	931	1,926	217	954	579	439	17	20		2,371	3,026	4,741	7,809	12,550

INCOME AND EXPENDITURE BY FUNDING SOURCE, 2017-18, \$ '000

Program	Goat R	Goat M	Mutton R	Mutton M	Lamb R	Lamb M	Total sheep R	Total sheep M	Grassfed cattle R	Grassfed cattle M	Total cattle R	Total cattle M	Grainfed cattle R	Grainfed cattle M	Total lewes R	Total lewes M	AMPC R	AMPC M	LiveCorp R	LiveCorp M	External R	External M	Government R	MLA consolidated	
Animal health and welfare	24		68		875		943		868		1,818		950		2,786						2,551	2,290	5,337	12,963	
Domestic markets	705	7716	1,260	9828	105	1119	1,364	10,946	2,075	18,705	613	1,623	613	1623		484	2,688	26,189				4841	2,688.2	26,188.6	
International markets		216	63	701	272	8,624	335	9,324	364	23,509	364	2,682	2,682	600	699	35,731	108	3,484	1,250	1,250		1,125	1,407	44,404	
Eating quality			42	295	632	1,012	674	1,307	1,075	2,141	1,433	2,757	615		2,108	4,064							152	2,108	8,431
Environmental sustainability			13		204		217		223		673		450		890		1,722				3,104	116	5,716	11,548	
Integrity systems	10	60	28	80	338	1,305	366	1,385	695	1,926	791	2,880	96	954	1,167	4,324	1,717	439	17	20	1,156	3,026	4,056	15,921	
Objective measurement			51		283		334		388		465		78		800		5,040				3,701	950	9,541	20,033	
Producer adoption	15		182		2,225		2,407		2,847		3,544		698		5,966						7611	578	6,728	13,513.0	
Product and packaging innovation	6.5		311		418.4		449.5		505.6		505.6				9617		155.8				2,584.4	869.0	3,701.9	8,272.7	
Value chain information and efficiency	22		55		425		480		588		773		186		1,275						853		2,128	4,256	
Productivity (off-farm)																	5,508				4,366		9,874	19,747	
Productivity (on-farm)	308		43		2,843		2,886		3,513		4,364		851		7,557						10,838	1,022	18,395	37,812	
Capability building	5	0	27	58	525	878	551	936	729	1,066	803	1,271	74	205	1,359	2,207	4,228				3,802	7	9,390	20,993	
Communication	19	12	26	145	620	2,280	645	2,425	538	3,834	594	4,581	56	746	1,259	7,018	5	53			61		1,326	9,722	
Corporate services	35	41	64	126	729	2,013	794	2,139	1,112	3,705	1,467	4,161	355	456	2,295	6,342						2,589	2,295	13,522	
Total expenditure	450	371	710	1,533	11,079	23,700	11,788	25,233	14,705	46,010	18,961	52,787	4,255	6,777	31,199	78,391	19,098	5,599	617	1,269	33,776	12,688	84,689	267,326	

INCOME AVAILABLE BY FUNDING SOURCE, 2017-18, \$ '000

	Goat R	Goat M	Mutton R	Mutton M	Lamb R	Lamb M	Total sheep R	Total sheep M	Grassfed cattle R	Grassfed cattle M	Grainfed cattle R	Grainfed cattle M	Total cattle R	Total cattle M	Total levies R	Total levies M	AMPC R	AMPC M	LiveCorp R	LiveCorp M	External R	External M	Government R	MLA consolidated
Levies	516	324	1,085	1,226	9,604	23,361	10,689	24,586	11,235	43,884	2,959	6,075	14,194	49,959	25,398	74,870								100,268
Government																							84,689	84,689
AMPC																	19,098	5,599						24,698
LiveCorp																			617	1,269				1,886
External R																					33,776			33,776
External M																						12,688		12,688
Total income	516	324	1,085	1,226	9,604	23,361	10,689	24,586	11,235	43,884	2,959	6,075	14,194	49,959	25,398	74,870	19,098	5,599	617	1,269			84,689	258,005
Difference (to/from reserves)	66	(47)	375	(308)	(1,475)	(339)	(1,100)	(646)	(3,470)	(2,125)	(1,297)	(702)	(4,767)	(2,828)	(5,800)	(3,521)								(9,321)

Opening reserves	849	527	707	924	11,043	23,480	11,750	24,404	8,393	37,206	4,308	7,958	12,701	45,164	25,300	70,096								
Closing reserves 2017-18	916	480	1,082	616	9,568	23,141	10,650	23,758	4,923	35,081	3,011	7,256	7,935	42,337	19,500	66,575								
% of revenue	177%	148%	100%	50%	100%	99%	100%	97%	44%	80%	102%	119%	56%	85%	77%	89%								

ACRONYMS

ALFA	Australian Lot Feeders' Association
AMPC	Australian Meat Processor Corporation
APVMA	Australian Pesticides and Veterinary Medicines Authority
ASEAN	Association of South East Asian Nations
DEXA	Dual Energy X-ray Absorptiometry
eNVD	Electronic National Vendor Declaration
ERF	Emissions Reduction Fund
ESCAS	Exporter Supply Chain Assurance System
ICMJ	Intercollegiate Meat Judging
ISC	Integrity Systems Company
LPA	Livestock Production Assurance
M	Marketing dollars
MCV	Managing Climate Variability
MDC	MLA Donor Company
MSA	Meat Standards Australia
NLIS	National Livestock Identification System
PICs	peak industry councils
R	Research, development and adoption dollars
RD&A	Research, development and adoption
RD&E	Research, development and extension
RDCs	Research and Development Corporations
RMAC	Red Meat Advisory Council
SBTS	Southern Beef Technology Services
TBTS	Tropical Beef Technology Services



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