

Value chain

# Driving industry innovation without levies

In the past 16 years, the MLA Donor Company (MDC) has invested more than \$200 million in research and development (R&D) projects for the benefit of the beef and lamb industry.



Dr Christine Pitt.

This level of investment in innovation within the industry has delivered a range of new technologies and ideas that otherwise would not have been possible.

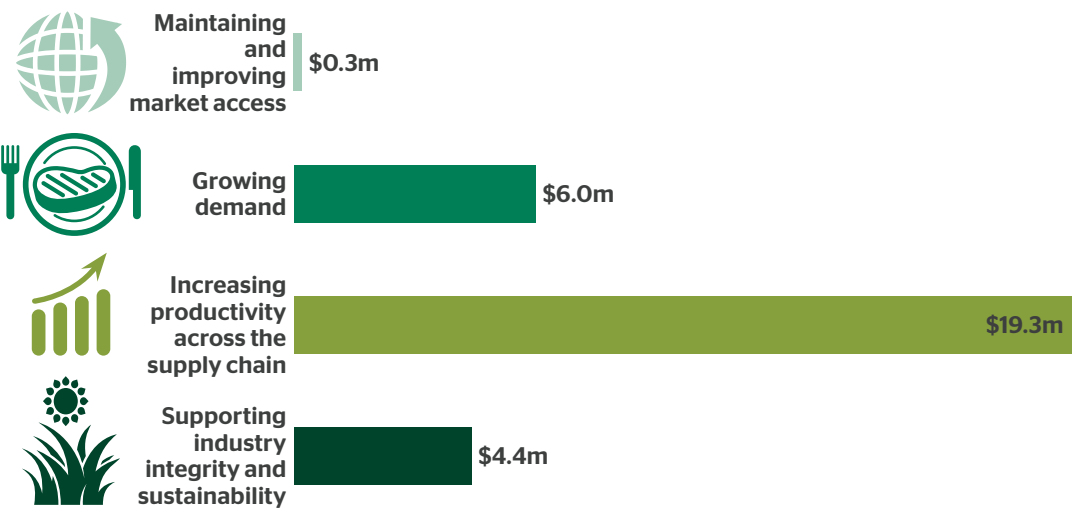
MLA General Manager Value Chain Innovation Dr Christine Pitt (pictured top right) said the funds invested came from a range of industry partners, including breed societies, pastoral companies, processors, value-adders, technology providers and international collaborators, and were co-invested with matching Commonwealth funds.

**“No producer levies are used in Donor Company projects; instead, the MDC attracts investment from commercial partners,” Christine said.**

“This system allows us to fully access the matching funds allocated by the Commonwealth and so greatly increase the amount of money invested in red meat innovation.”

MLA has access to matching Commonwealth funds for the purpose of R&D investment,

Figure 1 MLA Donor Company investment in 2014-15



**Total investment \$30 million** - includes voluntary contributions from investment partners and matched R&D funding from the Australian Government. No MLA producer levies were invested.

but can only match two kinds of dollars:

- money that comes via a levy designated for research purposes
- money that comes as voluntary contributions via a donor company.

“Each year there is a certain amount of matching funds available to MLA - usually from about \$49 million to \$54 million,” Christine said.

“Once we’ve allocated matching dollars to all the levy funds,

there is still money left over.

“The Donor Company enables us to access those left-over funds. It’s a ‘use it or lose it’ system - if we didn’t have the MDC, the excess funding would go back into the Commonwealth’s consolidated revenue and our industry would lose the opportunity to develop innovations that deliver significant benefit to our levy payers and industry stakeholders.”

**Fostering a spirit of collaboration**

According to Christine, a great benefit of MDC partnerships is increased collaboration within the industry and faster adoption of innovation.

“An example is the automated lamb boning project we began in the mid-2000s,” Christine said. (See breakout story on page 7).

“We sought input from a number of sheepmeat processors who came together as a steering group. We then brought in automation technology providers and they formed a collaborative network to develop strategies and prototypes.

“The first prototype has been trialled in one processor’s plant, but the whole group had input. Even now, that spirit of collaboration is continuing, and the processors who have adopted the technology in their plants are willing to show it to other processors.

**“Australia now leads the world in red meat processing automation, with the new technology delivering value and efficiency for the processors, with benefits flowing back to producers.”**

Table 1 MLA and MLA Donor Company comparisons

Company	Owner	Funding sources		
		Producer levies	Government contributions (for R&D projects)	Voluntary contributions from partner investors
MLA	Producers	✓	✓	✗
MLA Donor Company	MLA	✗	✓	✓

# MDC investment snapshots

Christine said an exciting development emerging from the automation program was the ability to objectively measure a range of carcass attributes. (See case studies on page 7).

“This new capability will underpin greater exchange of information along the chain and will become the basis of whole new business models and payment systems,” she said.

## Long-term partnerships

While anyone can be an MDC partner (providing they only invest non-Commonwealth funds) and one-off project suggestions are welcome, Christine said the donor company generally sought to encourage long-term partnerships, as this encouraged a more strategic approach that was more likely to involve multiple projects.

One example is the Beef Information Nucleus (BIN) (see story page 25), which is a portfolio of projects established through the donor company and funded by major breed societies to further develop genetic technologies.



**Dr Christine Pitt, MLA**  
T: 0411 680 520  
E: cpitt@mmla.com.au



For information on how to partner with the MDC:  
Go to: [www.mla.com.au/Research-and-development/Funding-opportunities/Industry-researchers](http://www.mla.com.au/Research-and-development/Funding-opportunities/Industry-researchers)  
Contact MDC manager **Skye Richmond** on 02 9463 9213.

**M**LA Donor Company (MDC) partnerships have delivered a range of benefits to the red meat industry, including:

- improved on-farm and off-farm sustainability
- reduced production costs leading to a more competitive industry
- higher standards of occupational health and safety
- value-added products that have facilitated access to new international markets and increased export earnings
- enhanced supply chain collaboration
- increased innovation capability.

Here are three case study examples of MDC investments.

## Case study: Automated processing technology

**Challenge:** To develop fully automated and semi-automated carcass cutting equipment which:

- adds value to lamb slaughter and dressing
- improves meat yield
- increases processing efficiencies
- delivers operator safety.

**Partners:** MDC, technology providers, processors

**Outcomes:**

### 1. Scott Technology's X-ray guided automated lamb cutting system, LEAP™

This equipment uses X-ray to find specific bones and cut between them. The precise cutting lines increase value of product by not leaving higher-value meat on a lesser-value cut.

There are two systems:

LEAP III - lamb primal system: separates carcasses into shoulder, middle and hindquarters. Increases carcass value by \$1.30-\$1.40/head.

LEAP IV - middle system: breaks the rack barrel into various sub-primal components. Increases carcass value by \$3.20-\$4.20/head.



LEAP III and IV lamb processing automation.

LEAP III and LEAP IV are operating in two Australian processors (JBS and Australian Lamb Company). These multi-million dollar investments typically have less than 12 month payback.

**Information:** [www.scott.co.nz/meat-processing/lamb/lamb-processing](http://www.scott.co.nz/meat-processing/lamb/lamb-processing)

### 2. Machinery Automation Robotics' ovine brisket cutter

This system identifies the navel end of the breast bone and a circular saw cuts the breast bone down the centre of the carcass.

The cutter can deliver savings through:

- decreased labour requirements
- reduced workplace injury
- improved yield and food safety.

A cost/benefit analysis estimates a net benefit of up to 5c/head.

The Robotic Brisket Cutter is commercially available for \$150,000/unit.

**Value chain benefits:** Automated systems give processors the ability to increase product value, improve yield and reduce labour costs, which enable abattoirs to purchase and process more stock, benefiting producers. Economic modelling has revealed that producers capture 24% of the benefit from any increase in productivity by processors.

**Information:**

[www.machineryautomation.com.au](http://www.machineryautomation.com.au)



Watch the brisket cutter in action at: [www.youtube.com/watch?v=9jGOexUcOjE](http://www.youtube.com/watch?v=9jGOexUcOjE)



**Christian Ruberg, MLA**  
E: [cruberg@mmla.com.au](mailto:cruberg@mmla.com.au)

**Darryl Heidke, MLA**  
E: [dheidke@mmla.com.au](mailto:dheidke@mmla.com.au)



The ovine brisket cutter.

## Value chain

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### Case study: Pain relief for cattle and sheep

**Challenge:** To improve on-farm animal welfare by developing a safe and effective pain relief method, which has manageable withholding periods, for use during animal husbandry procedures in cattle and sheep.

**Partners:** MDC, Troy Laboratories, CSIRO and industry partners

**Outcomes:** This \$1 million partnership developed a new way to administer the rapidly absorbed non-steroidal anti-inflammatory drug (NSAID) meloxicam, which was originally developed as an injectable for cattle.

Troy Laboratories developed a gel formulation of the drug, ILIUM®Buccalgescic OTM, which can be orally administered to both sheep and cattle.

Following treatment with the drug it takes six or more minutes for effective blood levels to occur, so ideally the drug should be given before the painful procedure.

The hook-nozzle dosing gun has been designed for ease of use and the gel is bright blue so it's easy to see if an animal has been treated. It can be given while the animals are in the race, so the medication is kicking in at the time of operation.

ILIUM®Buccalgescic OTM can be purchased through a veterinarian and costs about \$1/ calf. The sheep product is due for release this year and will cost about 35-45 cents/lamb.

**Value chain benefits:** Meloxicam was previously only available in the form of an



Orally administered pain relief for sheep.

injection, which presented operator safety, carcass quality and animal welfare issues.

**Information:** Jim Rothwell, MLA  
E: jrothwell@mla.com.au

### Case study: Developing new red meat products

**Challenge:** The face of the food industry is rapidly changing. Impacts are being felt as a result of:

- increasing globalisation
- an ageing population
- a move away from traditional meals eaten in the home
- the growth of the foodservice sector, including conference and convention catering, airlines and retirement facilities
- economic growth and the westernisation of China and South-East Asia
- advancements in technologies.

This suite of MDC projects has sought to grow red meat demand by investing in the creation of products for developing markets, new meat processing technologies, developing capability within the industry (by educating butchers, foodservice and processing partners) and researching the forces impacting the market.

**Partners:** MDC, Australian Meat Processing Corporation (AMPC), industry and technology partners

**Outcomes:**

#### 1. High pressure processing (HPP):

This process uses pressure and water to surround the sealed meat product to significantly extend shelf life without the need to freeze or add preservatives. When pressure is also used in combination with



High pressure processing in action.

high temperature HPP can produce tender meat and is ideal for secondary cuts with similar quality to sous vide/slow-cooked dishes, but in 15 minutes rather than six hours.

#### 2. High moisture extrusion cooked:

This process uses extrusion to 'create' a meat product with great texture and fibres made from lean trimmings. It's ideal for pizza toppings, sandwiches and rolls and a range of foodservice uses, and may deliver value chain benefits of up to \$10/beef and \$1/lamb carcass.

**3. Commercial partnerships:** MLA has supported the development of products for particular markets including sizzle steak (using Thin Slice Technology), sausages (fast-chilled NuMeat technology), sous vide-cooked rib fillet (SmartShape™ technology), pulled meats (cooking/shredding processes) and a range of meat-based toddler and baby food products.

**Value chain benefits:** Greater use of secondary cuts and increased value of these cuts, and the development of new markets for Australian red meat.

**Information:** Michael Lee, MLA  
E: mlee@mla.com.au



See beef and goat innovations come to life at [www.youtube.com.au/meatandlivestock](http://www.youtube.com.au/meatandlivestock) (scroll to 'MLA Red Meat Innovation')



Skype Richmond // T: 02 9463 9213  
E: srichmond@mla.com.au



Meat from high pressure processing.