# Executive Summary Report

## Independent Evaluation of RD&A Priorities and Investment Post-ALMTech [Public version]

# Executive Summary

## Background

The Meat and Livestock Australia (MLA) Objective Measurement program is funded by a combination of MLA Donor Company (MDC), commercial and processor contributions, along with producer and processor levies. These have been further increased by grants for the Rural R&D for Profit Program: Advanced Livestock Measurement Technologies for Globally Competitive Australian Meat Value Chains (ALMTech). ALMTech I ran from July 2016 to June 2020, and delivered all of its scientific and industry outcomes for the beef, pork and lamb industries. This success generated enormous momentum in the objective carcase measurement field, enabling extension of ALMTech I into ALMTech II (July 2019 – June 2023).

MLA engaged Beattie Consulting Services, Warren Straw Consulting and Richmond Hill Agribusiness to conduct an independent review of the ALMTech program to assess priorities and delivery mechanisms for ongoing support required to maximise the future return on investment and legacy of the ALMTech program.

## Objectives

This project provides an independent review of the ALMTech program with a focus on post-ALMTech options to ensure the critical functions are supported in such a way to maximise impact of the ALMTech I & II programs. Specific objectives included:

- an independent review of the ALMTech II program to identify the primary functions that require ongoing support;
- recommendations of options and potential financial funding mechanisms for MLA's Objective Measurement program to support post-ALMTech;
- review of the 'laundry list' identified by ALMTech members at the end of year ALMTech annual review in May 2022, where a detailed list of primary functions post-ALMTech were identified (which attendees prioritised);
- develop an MLA business case and MLA Board pitch for critical functions to be supported post-ALMTech II, that will be managed and facilitated by MLA; and
- identify priorities and key investment (levies & MDC) plan for MLA's OM program, identifying key projects and initiatives to invest in and support.

## Methodology

The review involved three key stages. The first stage involved sourcing and reviewing all relevant documents, information and data required for the review. The second stage involved completion of 57 stakeholder interviews, with stakeholders including researchers, Rural Development Corporations (RDCs), producers, retailers, technology providers, AUS-MEAT, consultants and processors. The third

stage of the review involved analysis of the information collected during stages 1 and 2 to develop recommendations for priority activities and support required post ALMTech to maximise the future legacy of the program.

## Key Findings

The review identified key highlights from the ALMTech program as including the value of the collaborative approach it provided in bringing together key players along the supply chain, across species (lamb, beef and pork) and across industry to work toward achievement of shared goals, and the success of the program in fast tracking the development and commercialisation of new objective measurement technologies.

A range of current barriers or obstacles were identified that will need to be addressed for the full potential benefits associated with the use of objective measurement by the red meat industry to be realised. These barriers largely relate to adoption and integration of technology by processors and challenges/barriers associated with enabling technologies such as hook tracking and whole of life traceability.

In 10 years' time, stakeholders envisioned that the legacy of ALMTech will have delivered greater profits for producers, processors and retailers, and increased customer satisfaction with their eating experience, along with a willingness to pay for quality. Underpinning that vision is a seamless flow of trusted data along the supply chain to provide transparency and to support improved decision making.

While acknowledging substantial achievements to date, all stakeholders stated that there is a considerable way to go before their vision for the legacy of ALMTech is fully realised. On average, stakeholders estimated that industry will be around a quarter of the way toward achieving their legacy vision at the end of ALMTech II and, importantly, if priority issues are addressed, around 70 percent of the way toward achieving that vision in seven years' time.

A gap analysis was undertaken to identify the key areas which will limit or constrain ongoing progress toward achievement of the desired ALMTech legacy in 10 years' time, and to identify options for addressing those gaps. Stakeholders identified gaps in five key areas: Strategic; Research and Development; Commercialisation; Technology adoption and integration in plants; and Extracting value from objective measurement data.

In providing recommendations for actions to address identified gaps, the following factors were considered: Stakeholder ranking of key priority areas for addressing RD&E gaps post ALMTech; the relative value propositions provided by each priority area; the relative cost and difficulty involved with addressing each area; and the degree to which each priority represented a 'bottleneck' to unlocking value in other priority areas.

The review encapsulated the investments required over the next seven years into ten priority areas (and thirty recommendations), in addition to recommending a framework for strategic planning, delivery and funding.

## Benefits to Industry

According to findings from the ALMTech Economic Evaluation Exit Report (Griffith, 2023), expected benefits to the red meat industry from maximising the legacy of the ALMTech program will primarily relate to the use of objective measurement data for genetic improvement, and the use of objective measurement of live animals to improve compliance with grid specifications.

The key areas of benefit from improved genetics relate to: Genetic trait selection for increased lean meat yield (LMY) whilst maintaining or increasing eating quality (EQ) and genetic trait selection for increased EQ while maintaining or increasing LMY; Genetic trait selection for increased LMY and reduced dark cutters (northern beef); and Genetic trait selection for increasing marbling and improving feed conversion efficiency (FCE) (feedlot cattle).

Industry benefits from improving compliance with grid specifications from on-farm measures involves developing, supporting and promoting live animal data capture mechanisms that allow farmers to make improved decisions around compliance with market specifications.

It should be noted that the reviewers concluded that the economic values presented in the ALMTech Economic Evaluation Exit Report for benefits resulting from live animal measurements are considerably overstated, particularly for the sheep meat industry. In addition, the percentage of benefits to various sheep industry sectors are incorrectly reported, and the reviewers consider that the reported proportion of benefits to the processing industry are understated.

## Recommendations

### Priority Area 1: Processor Adoption

**Recommendation 1:** MLA and Australian Meat Processor Corporation (AMPC) to investigate and deliver a suitable process for assisting individual processors to clearly identify the value proposition for adopting objective measurement technologies, including decision making around alternative device options. One recommended opportunity to explore is for the development of a decision support tool for assessing the value proposition for adoption of technology by processors and for providing expertise to individual plants for using this tool as required.

**Recommendation 2:** MLA and AMPC to investigate options for supporting processors to successfully implement hook tracking in plants. This would require input from technology and equipment providers to find solutions to current challenges with the hardware and software systems associated with hook tracking, and also for specific expertise on an individual plant basis to find bespoke solutions for hook tracking integration within individual plants.

**Recommendation 3:** MDC continue to provide support for processors to invest in technological innovation where return on MLA investment is considered sufficient.

**Recommendation 4:** MLA explore the value proposition for co-funding additional innovation specialists embedded within individual plants to drive adoption of objective measurement technology.

**Recommendation 5:** MLA and AMPC to explore opportunities for providing processors with support for change management during the adoption process.

**Recommendation 6:** MLA and AMPC to communicate success stories and learnings from processors who have adopted objective measurement technology e.g., case studies.

## Priority Area 2: Data Flow to & Data Use by Producers/Producer Awareness

**Recommendation 7:** MLA/ISC support processors to develop and enhance data capture, flow and feedback systems for suppliers in a form that supports subsequent improved decision making.

**Recommendation 8:** MLA support processors to develop and deliver communication and extension activities with suppliers that align with MLA extension activities.

**Recommendation 9:** MLA support ALFA to develop and deliver communication and extension activities with feedlots that align with MLA extension activities.

**Recommendation 10:** MLA continue to create producer awareness and understanding of objective measurement technologies and the value they bring to the industry through their producer adoption programs.

**Recommendation 11:** MLA support the upskilling of industry advisors and service providers on the value of objective measurement technologies and supporting use of feedback data by producers e.g., livestock buyers, agents, consultants and state extension services.

## Priority Area 3: Research & Development

**Recommendation 12:** MLA and AMPC to explore opportunities for R&D to further progress devices that showed promise during the ALMTech project. Investment would need to be considered on a case-by- case basis giving consideration to the likelihood of success and the potential return on investment of funds compared to alternative uses of those funds, noting the value of prior investment in these devices through ALMTech.

**Recommendation 13:** MLA and AMPC to explore opportunities for R&D to exploit the full functionality of devices proven through ALMTech e.g., eating quality with lamb DEXA. Again, investment would need to be considered on a case-by-case basis giving consideration to the likelihood of success and the potential return on investment compared to alternative uses of those funds.

**Recommendation 14:** MDC to invest in R&D for objective measures of LMY, EQ and animal wellbeing in live animals. In terms of the scale and scope of investment the following issues should be considered:

- Greater scope for value is likely in the beef industry, specifically the feedlot sector

- The mechanism by which producers will use the information provided by live animal data and their capacity to realise a benefit from that use i.e., what decisions will the data influence, how might it change those decisions in practical terms, and what is the value and risk associated with those changed decisions.
- The scale of the value proposition for using this technology on farm i.e., the cost versus the benefit of adoption by individual farmers. In doing so it is recommended that the findings from the ALMTech Economic Evaluation Report relating to improving compliance with grid specifications from on farm measures be reviewed and revised.
- The likely level of industry adoption of the outcomes from the R&D e.g., consider the adoption levels of other technology that provides objective data to producers, such as eID and pregnancy scanning.

**Recommendation 15:** MLA and AMPC to explore opportunities for investment in R&D to develop integrated technology solutions for objective grading systems.

**Recommendation 16:** MLA and AMPC to provide opportunities for funding of new 'blue sky' research and development on objective measurement technologies.

## Priority Area 4: Integration of Technology in Plants

**Recommendation 17:** MLA and AMPC to investigate opportunities to support processors to address current challenges associated with integration of new technology software systems with existing plant database and operational software systems.

**Recommendation 18:** MLA to investigate opportunities for ensuring the ongoing refinement and maintenance of algorithms for DEXA systems in plants.

**Recommendation 19:** MLA and AMPC to investigate needs and opportunities for providing scientific support to processors post adoption to ensure data integrity.

## Priority Area 5: Price Signals (VBP/MSA model for sheep)

**Recommendation 20:** MLA and AMPC to provide support for the ongoing development and commercialisation of the MSA model for sheep meat.

**Recommendation 21:** MLA and AMPC to explore opportunities for providing support for development and delivery of value-based pricing systems by processors. Potential opportunities include:

- support for development of processor software systems that enable data capture and input into new value-based payment systems that incorporate LMY and meat quality attributes;
- support for producer extension in how to use objective carcase feedback to maximise value received under a VBP system e.g., genetics;
- industry extension and promotion to build awareness and understanding of value-based payment systems, how they work, and what the benefits are of using VBP to generate value along the supply chain over the long term;

- support for further development and testing of the calculators and optimisers, including incorporation of new data sets as they become available to increase accuracy;
- funding for the ongoing online maintenance of the optimiser tools; and
- funding to provide individual support for adoption and integration of decision support tools in plants.

## Priority Area 6: Coordinate and Complete Device Accreditation Trials

**Recommendation 22:** MLA and AMPC to provide support for coordination of accreditation trials between tech companies, researchers and processors for devices progressed through the ALMTech program. This could involve an in-kind coordination role from MLA.

**Recommendation 23:** MLA and AMPC continue to provide support for completion of accreditation trials for devices developed through ALMTech that are delivered within 12 months of the ending of ALMTech II, including data analysis and reporting. It is recommended that funding for completion of accreditation trials beyond that 12-month period for devices progressed through ALMTech be funded commercially or with a lower industry contribution on a case-by-case basis.

## Priority Area 7: Data Flow to Genetics

**Recommendation 24:** MLA to continue ongoing support for data flow to genetic evaluation systems and analysis of that data. In addition, MLA to investigate opportunities for further enabling the capture of benefits from the genetic trait selection value propositions from the use of objective data for genetic evaluation.

## Priority Area 8: Language and Standards and the ICWG

**Recommendation 25:** MLA and AMPC to fund the continuation of the Industry Calibration Working Group (ICWG) and the associated Traits Manual.

## Priority Area 9: Extracting Value from Objective Measurement Data by Processors

**Recommendation 26:** MLA and AMPC to identify opportunities to support processors who have adopted objective measurement technology to maximise value from use of that data. This may involve support to:

- identify systems for data collation, analysis and visualisation;
- identify systems for ensuring high data quality and integrity;
- use of data to improve boning room efficiencies;
- use of data to optimise fabrication of purchased livestock; and
- use of data to generate savings from reduced offal rejection.

## Priority Area 10: Capacity and Capability Building

**Recommendation 27:** MLA to continue support for the development of innovation capacity and capability in individual plants through their co-funded resources program.

**Recommendation 28:** AMPC to explore opportunities for supporting innovation and technology capacity and capability building in plants.

**Recommendation 29:** MLA to investigate the reported likelihood of a large gap in R&D capacity and capability in the red meat sector in general over the coming 5 years. Pending the findings of this investigation, MLA to consider re-establishing their PhD scholarship program and including student/PhD roles in new research projects.

## Framework for Central Coordination and Collaboration

**Recommendation 30:** MLA to establish a Red Meat Objective Measurement Technology Strategic Partnership to:

- guide the identification of strategic priorities for the next two years initially;
- guide the identification of strategic priorities for the following 5 years in line with MLA and AMPC strategic planning processes;
- identify and help secure funding sources for investment in identified priority areas;
- provide independent technical oversight and review of R&D and commercialisation activities;
- engage with service providers for delivery of activities and key projects to achieve strategic objectives;
- provide a central point for industry and commercial engagement in objective measurement technology; and
- provide communication and promotion to industry around plans and achievements in relation to objective measurement technology, including ongoing maintenance of the ALMTech website.

The recommendations across the 10 priority areas have been aggregated into five proposed investment pillars to support development of an MLA Board Pitch for future investment:

**Pillar 1:** Generating the Data
**Pillar 2:** Creating Value from the Data
**Pillar 3:** Data Flow and Management
**Pillar 4:** Language and Standards
**Pillar 5:** Exploratory Research