

Terms of Reference

Proof of concept trial for monitoring on-board feed and water distribution

Proposal due: COB 28 April 2025

Submit to: nbaker@livecorp.com.au

The Livestock Export Program (LEP)

The Australian Livestock Export Corporation (LiveCorp) is the rural Research and Development Corporation for the livestock export industry in Australia. LiveCorp's mandate is to provide research, development, extension (RD&E) and marketing services that maximise the productivity, sustainability and competitiveness of Australia's livestock export industry.

Meat & Livestock Australia (MLA) is a research development corporation representing Australia's livestock producers.

LiveCorp and MLA have an active collaboration through a joint program known as the Livestock Export Program (LEP). The LEP delivers animal welfare improvements in Australia and overseas markets through funding programs in:

- Livestock management, health and welfare
- Market access and development
- Supply chain improvements
- Communication and stakeholder relationships
- Research, development and extension.

Background and Benefits

Currently, the monitoring of feed and water consumption on livestock vessels is conducted through manual checks performed by crew members, which ensure the animals always have adequate feed and water supplied to them. This process is not only labour-intensive but also susceptible to human error. Currently, feed and water are transported through large steel pipes to each deck, with water delivered either directly to corner nose bowls in each pen or manually hosed into troughs. Feed is manually taken from chutes at the end of the pipes, filling bags, and measured by these manual assessments by on-board stockpersons. However, consumption levels are calculated by hand, relying on a labour-intensive process carried out by trained stockpersons.

To address these challenges, this project seeks to identify and trial a technological partner with a solution capable of measuring and monitoring feed and water consumption in real time. The introduction of an automated monitoring system would provide greater transparency into distribution patterns and ensure accurate data collection.

By leveraging sensor-based technologies, automated volumetric flow meters, or other automated systems, the project aims to generate more accurate data to:

- Improve the accuracy of feed and water distribution records.
- Support regulatory compliance by providing verifiable data on consumption levels.
- Optimise feed and water allocation to minimise waste, enhance animal welfare and performance.
- Generate insights into livestock consumption patterns, enabling better decision-making and management strategies.

By implementing a real-time monitoring solution, the industry can move towards more data-driven and efficient livestock management practices on vessels, ultimately improving both operational efficiency and outcomes for the animals.



Image: Feed flowing through pipes and delivered to the trough manually.

The LEP has developed the Open Innovation Pipeline to allow multiple small-scale technology trials to satisfy the livestock export industry's desire for practical and immediate solutions to common supply chain problems. The Open Innovation Pipeline enables the LEP RD&E Program to leverage existing technology solutions or provide an avenue to trial novel solutions and technology through short, sharp projects. The open innovation approach will ensure that technology solutions can be identified faster and trialed within industry sooner, compared to the traditional research process.

These Terms of Reference (ToR) apply to one of the projects that the LEP will progress as part of the Open Innovation Pipeline. As such, responses to this ToR are expected to outline a three (3) month pilot project or Proof of Concept (PoC) trial, that translates an existing solution to benefit the livestock export industry. The selected technological partner will be working with our delivery partner to design and implement PoC trials.

The intended benefits of this project to the livestock export industry include:

- Report accurate data on feed and water consumption per deck.
- Monitor on-board animal performance on livestock export vessels.
- Reduced shipment expenses and wasted feed and water.

If the Proof of Concept (PoC) trial is successful, it may be selected to progress to a larger scale project, where appropriate.

Objectives

- Assist in the design of the trial to assess the technological solution's potential to measure and monitor feed and water distribution on a livestock vessel, utilising current infrastructure as much as possible.
- Conduct a trial on a livestock vessel to evaluate the selected technology's performance, reliability, and ease of integration.
- Evaluate scalability and implementation feasibility to determine the potential for industry-wide adoption and integration with existing vessel management systems.



Image: Feed flowing through pipes and into trough.

Outputs

Through interaction with stakeholders of the Livestock Export RD&E Program, and liaison with LEP management and the delivery partner, the successful tenderer will provide a potential solution to the problem described in the Project Background (see above). Any solution needs to meet biosecurity requirements for livestock shipments.

The successful tenderer should assist to produce and deliver:

- A final report detailing:
 - The viability and success of the solution
 - Recommendations for the implementation of project outcomes to industry.
- Tenderers must work with the LEP to develop materials in support of extension and adoption of the findings to the LEP's stakeholders.

Methodology

Applications must detail the methodology that tenderers propose to use in collaboration with the delivery partner to deliver against the project objectives.

Responses must include a description of how the solution will address the challenge outlined in the Project Background within the three (3) month project timeline.

Furthermore, the Tenderer should outline any resources or access to livestock export facilities required to complete the project.

Selection criteria

To align expectations for the three (3) month project timeline, Tenderers are required to respond to the following project selection criteria in addition to the proposed project methodology.

1. How mature is the proposed solution - e.g., how many customers are currently using it (or have used it) in a livestock production environment, and for how long?
2. If relevant, provide the contact details of a reference customer for LiveCorp to contact regarding their experiences using your solution.
3. Describe in reasonable detail how the solution will be adapted to suit the challenge in the context of the livestock export industry.
4. Describe how the solution will be supported during industry implementation, including how urgent/critical issues will be addressed, and by whom.
5. If relevant, describe the process for making changes to the solution, should the pilot project discover there is a need to do so, both during implementation and when operating in a livestock production environment.
6. If the solution collects data, describe the privacy and data collection policies, including who owns and can access the data that is collected, how it will be used, where it will be stored, and if it will be shared with other parties.
7. Indicate if data may be incorporated into other industry databases through an Application Programming Interface (API) etc.
8. Provide indicative pricing for the total annual cost of developing, implementing, and supporting the solution.

Fees and proposal format

The proposal should include an outline of the proposed plan, deliverables and fees in a table with the below elements (this may be elaborated on in keeping with the proposal's design).

Milestones				
Milestone	Milestone Details	Date Complete	Research/ Service Organisation Fees	Expenses
Milestone #	<i>[Insert details of the Milestone that must be achieved, such as the provision of a Service or Deliverable or a particular stage of the Project that must be met]</i>	<i>[Insert the date by which the Milestone will be met]</i>	<i>[Insert the funds payable to the Research Organisation for this Milestone or particular rates/material basis]</i>	<i>[Insert the funds for expenses incurred by the Research Organisation for this Milestone or particular rates/material basis]</i>

If travel fees are to be sought separately from the costs of the project, an estimate of this cost should also be included (which will be reimbursed by LiveCorp based on actual expenditure).

Project timing

It is anticipated that the project will be delivered within 3 months of the signing of the agreement. However, the tenderer should indicate if more/less time will be required.

Budget

The tender response should include all resources and personnel required to undertake the project together with a complete budget. This includes any subcontractors, their details, roles and expected fees.

Capacity to deliver project

Tenderers should demonstrate the skills and qualifications that position the proposed team as being the most appropriate for the project execution. The submission should also detail two examples of previous work completed that is relevant to this project.

Tender selection

In line with governance requirements to deliver value for money, this project will be put out for tender to identify the best-placed consultant to deliver the Terms of Reference.

The LEP RD&E Management Committee will review each proposal. The Management Committee will select the proposal that offers the most appropriate project plan and demonstrates the best value for money. They may also select a short list of tenderers to supply further details (if required).

Resources and skills required

The proposal should include all resources and personnel required to undertake the project together with a complete budget. This includes any subcontractors, their details, roles and expected fees.

Tenderers should demonstrate the skills and qualifications that position the proposed team as being the most appropriate for the project execution.

The submission should also detail two examples of previous work completed that is relevant to this project.

Terms of Agreement

Where no previously negotiated agreement is in place, unless stated otherwise, all terms of the standard agreement (see Appendix 1) will be deemed to be accepted by the tenderer. If the tenderer is proposing any variations to those terms, the tenderer must identify the clause, detail the reasons for non-acceptance and, if appropriate, provide the tenderer's proposed alternative wording to the clause.

The consultant should advise in the proposal if they intend to introduce any background Intellectual Property (IP) or if they intend to seek any ownership of the final IP of this project

Other terms

LiveCorp may seek to use the successful tenderers branding/logo (in line with style guides and branding/logo requirements) on the final outputs.

Confidentiality

The terms and details of any proposal will be treated as confidential.

Conflict of interest

Where tenderers identify that a conflict of interest might arise in the provision of goods or services contemplated by this request for tender, tenderers are to identify that potential conflict of interest in their tender.

Further information

If you have questions regarding this project, contact:

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Appendix 1 – Standard Research & Development Services Agreement