EXPRESSION OF INTEREST
For Robotic Sheep Wool Harvesting Product Development Program
2019

PURPOSE
Australian Wool Innovation Limited (AWI) is issuing this Expression of Interest (EOI) world wide for the purpose of obtaining responses from Universities, Entrepreneurs, Engineering Companies, Start Ups and other organisations for the development of Robotic Sheep Wool Harvesting Solutions. This EOI contains a summary of information about AWI, EOI requirements, program timeline and funding of the Robotic Sheep Wool Harvesting Product Development program.

BACKGROUND
AWI is a not for profit company that invests in research, development and marketing along the global supply chain for Australian sheep wool to enhance the profitability, international competitiveness and sustainability of the Australian sheep wool industry. AWI is funded by farmer levies, with matching research and development funds from the Australian Government. https://www.wool.com/about-awi/

Sheep wool harvesting is also known as sheep shearing where the woollen fibres grown by sheep over most of its body in a wool fleece, are cut above the skin level, leaving that fleece to regrow so the sheep can be shorn again in the future. Shearing is most commonly done annually and is universally done by shearsers who are people trained in either the use of a motorised shearing handpiece or blade shears.

Fast facts:

- The Australian Government estimated the value of Australian wool exports in 2016-17 to be around $3.615 billion and in 2016-17, over 74.3 million sheep were shorn in Australia. http://www.agriculture.gov.au/ag-farm-food/meat-wool-dairy/wool
- Australian wool production over the last 10 years averages around 350 million kg https://www.wool.com/market-intelligence/wool-production-forecasts/?Year=0&action=search
- 84% of 2017 surveyed Australian wool producers shear every 12 months
- 16% of producers in that survey shear every 6 to 8 months and this trend is increasing as progress continues breeding sheep which grow wool faster
AWI is investing $10M in optimising the wool harvesting process from better shed design to robotics, in order to improve workplace safety, animal welfare and harvested wool quality, input cost competitiveness and encourage growth of the wool industry.

First steps have been taken to bring “off-the-shelf” robotic technology to shearing by the publishing of a scoping study providing a comprehensive understanding of how modern robotics technology could work within the shearing profession. Final report can be found here [https://www.wool.com/robotics](https://www.wool.com/robotics)

The next phase would be the selection and funding of proposals to develop automatic systems that can enhance, partially replace and/or optimise shearer’s work. In particular, AWI is looking for automated solutions:

- To shear the most valuable component of the fleece (on the trunk of the body). The belly area of the trunk could be optional. Shearing of head and limbs is not required.
- To increase the health and safety of shearers
- To increase the welfare of the sheep by reducing stress, skin cuts and the time of the shearing process
- To increase the value of the fleece by ensuring separation of high value from less value wool from an individual sheep (repeatable between sheep) and facilitating handling of the fleece wool
- To increase the precision and efficiency of shearing

**APPLICATION REQUIREMENTS**

If you consider that a confidentiality agreement is required, AWI will provide you with a non-disclosure agreement for you to countersign and return to AWI. Please contact us for further information.

**ASSESSMENT PROCESS**

A three-stage assessment process will be used:

- **Stage 1: EOI stage**
  All EOIs received will be considered by an Australian wool industry review panel, who will rank the applications based on the assessment criteria. AWI will decide, based on the advice of the review panel, which EOIs to invite to the full proposal stage.

- **Stage 2: Workshop**
  There is the intention to hold a workshop where the applicants accepted through the EOI will have the opportunity to hear from Australian wool industry experts about the specific requirements and challenges of the project. This would offer a unique opportunity to refine the content and objectives of the proposals. Collaboration and partnership between the applicants will be encouraged.
- Stage 2: Full Proposal

Please note that additional guidance for full proposals will be issued at the invitation stage. Details will be released in due course but the template of the standard R&D proposal to apply for funding can be found here.

https://www.wool.com/about-awi/where-we-invest/call-for-proposals/

EVALUATION CRITERIA

All applications will be assessed against the below criteria.

- Research Quality. Established successful and ethical record of relevant technology research. Clear contribution to the challenges stated in the EOI invitation. A strong, multidisciplinary team with the necessary skills to address the challenges.

- Practicability of the solution proposed. Practical aspects of the product aimed to facilitate its adoption will be highly valued (easy to handle, easy to maintain, portable, cost effective, efficient and fast, possibility to integrate with existing shearing workplace infrastructure or Upright Position Shearing Platforms ‘UPSP’ etc.)

- Resources and Management strategy. Demonstration of appreciation of the elements in a clear project management plan that ensures resources are deployed in the most effective way to deliver high quality research outputs. Demonstration of appreciation of the elements of workplace health and safety and animal welfare during the research phase and in a commercial product.

- External investment, partnership and/or collaboration with commercialization companies or with other research organisations will be positively valued.

DECLARATIONS

Please include the following declarations in your formal application to this EOI:

- I declare that the information provided in my response to this EOI are true and correct and disclose all required and relevant details.

- I confirm that no party to this response has been declared insolvent or bankrupt or is subjected to a deed of arrangement with creditors.

- I confirm that I am authorised to lodge this EOI on behalf of the respondent.
KEY TIMEFRAMES AND SUBMISSION DETAILS:

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<th>ITEM</th>
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<tr>
<td>EOI process opens</td>
<td>1st March 2019</td>
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<tr>
<td>EOI submissions due</td>
<td>31st May 2019</td>
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<tr>
<td>Outcome of EOI advised</td>
<td>June 2019</td>
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Completed EOIs should be submitted via email projects@wool.com no later than 31st of May 2019

AWI reserves the right to make changes to the above timeline at any time and shall notify respondents as soon as possible of any changes. Further, AWI reserves the right to withdraw this EOI at any time, or to re-invite responses on the same or any alternative basis as well as the right to choose not to award any contract as a result of the EOI process.

COSTS AND EXPENSES

AWI will not in any circumstances be liable for any costs, expenditure, work or effort incurred by a respondent in carrying out enquiries in relation to, proceeding with, or participating in this EOI process, including if the EOI process is terminated or amended by AWI.

INTELLECTUAL PROPERTY

All intellectual property rights in this EOI and all materials provided by AWI in connection with this EOI are, and shall remain, the property of AWI.

ENQUIRIES

Any enquiries or requests for clarification of any matters arising from this EOI should be sought from:

Joshua Manzie
Project Officer, Farm Automation and Software Development
Joshua.manzie@wool.com
ANNEXURE 1

PRELIMINARY PROPOSAL: AUTOMATED WOOL HARVESTING (Must not exceed five pages)

1. **Project Title**

2. **Research Organisation**

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<tr>
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3. **Principal Investigator**

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4. **Associated/Sub-contracted Organisation(s)**

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5. **Summary**

6. **Outputs and Impacts of Project**: Please, provide detail about the objectives of the project, operation and performance of the solution proposed.

7. **Prior Research/Work**: Relevant research/work history and how previous projects could be linked to this project.

8. **Brief Project Design and Methods**: Please, include detail of significant milestones and timelines

9. **Commercial pathways**: Please, identify if commercialization pathways can be provided or supported by the proponent.

10. **Overall Preliminary Budget**: Please, include detail of Salaries, Travel, Operating and Capital (equipment) costs.

11. **Funding breakdown**: Please include other cash and in-kind contributions from partners.