



## Expression of Interest

### Part 1- General Details

		<b>EOI ID</b>	
<b>EOI Title:</b> (max 80 char)	<b>Stress time thresholds (irrigating for high yielding cotton via canopy temperature sensors)</b>		
<b>Type of Investment</b>	Commercial partnership		
<b>Advertised Date:</b>	12/09/2017	<b>Due Date:</b>	20/10/2017
<b>R&amp;D Manager:</b>	Jane Trindall	<b>EOI Date:</b>	11/09/2017

### Part 2 – Contact details

<b>CRDC R&amp;D Manager Contact Details:</b>					
<b>Title:</b>	Mrs	<b>First Name:</b>	Jane	<b>Surname:</b>	Trindall
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<b>Commercialisation Manager Contact Details:</b>					
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### Part 2 – Background

<p><b>Overview:</b></p> <p>CRDC manages IP to further the dissemination and adoption of results of its investment in research and development for the benefit of the Australian cotton industry and community while effectively managing risks.</p> <p>CRDC is seeking Expressions of Interest for Commercial Partners for implementing novel algorithms for irrigating cotton in high yielding and limited water situations via canopy temperature sensors.</p> <p>CSIRO and CRDC are joint owners in the technology and are seeking to progress the development and commercialisation of the technology within Australia.</p>
<p><b>Technology Background:</b></p> <p>CSIRO, with support from CRDC, has developed algorithms for making decisions regarding irrigation timing in high yielding and limited water situations in cotton via canopy temperature sensors.</p>

Based upon CSIRO's research, producers could expect a 5-10% benefit of water use efficiency (WUE) in climatically challenging seasons. This applies to both fully irrigated and limited water cotton irrigation systems.

The benefits of Canopy Sensory with the optimisation algorithm are:

1. A quantitative means of scheduling irrigations.
2. Cheaper and easier to deploy than alternatives.
3. They can be easily combined with other irrigation management tools.
4. In fully irrigated high yielding cotton crop it can improve the confidence in decisions regarding the timing of irrigations such as delaying or missing irrigations when weather systems permit.
5. A technology that can be easily deployed in limited water skip row systems.
6. Are easily adopted by new growers as no prior knowledge or skills of irrigating cotton is required and no calibration is required.
7. Measures a bigger area than traditional soil moisture sensors and can be fixed to a mast to cover a broader area.

#### **IP Description:**

Canopy temperature sensors provide a novel method for identifying plant stress. However, the use of such sensors has been limited due to the lack of algorithms for furrow irrigated systems critical in determining crop water stress.

The Intellectual Property (IP) assets to be commercialised are specific algorithms for use in evaluation of canopy temperature sensor data. The algorithms are technology agnostic and can be used across any calibrated canopy temperature sensing platform or crop irrigation software system that utilises canopy temperature as a data source.

The Licensees would be provided with algorithm, source code and instructions relating to the IP. The Licensee would then need to develop their own software to integrate with their own systems.

#### **Requirements:**

The proposed requirements of this Licensing process include, but are not necessarily limited to the Applicants supplying:

- i) Provide the relevant details **Part 3 - General Respondent Information.**
- ii) Address **Part 4 – Selection Criteria**

In seeking to commercialise the technology, the Parties will negotiate license arrangements in accordance with the terms as listed in the attached Term Sheet (Part 5). Minimum performance criteria will be based upon the agreed Commercialisation Plan.

The Licence tender will be undertaken as a two-stage procurement process, comprising this Request for Expression of Interest process and then an individual negotiation process (to companies shortlisted from the EOI process).

Note – if an Applicant requires additional information in order to submit an EOI, that is deemed to be Confidential by CRDC, a Non Disclosure Agreement will need to be executed prior to the release of such information to the Applicant.

### **Part 3 – General Respondent Information**

<b>1. Name of respondent.</b>	
<b>2. Structure (eg. partnership, consortium, limited liability company, trust).</b>	
<b>3. Head Office address</b>	
<b>4. Company Locations</b>	
<b>5. Turnover (per annum in \$AUS).</b>	
<b>6. Number of Employees.</b>	
<b>7. Industry sector.</b>	
<b>8. Years in business.</b>	
<b>9. Describe your organisation's key business interests.</b>	

## **Part 4 – Selection Criteria**

In their responses, interested parties must address the following Selection Criteria and in doing so provide evidence and examples of how and why they meet them:

### **Essential**

1. Demonstrated experience in providing technical services to Australian/international cotton industry or allied industries (if appropriate).
2. Demonstrated experience managing the delivery of similar technologies or agricultural commodities in the target territory (ies). This will include defining the competitive or complimentary technologies that are managed by the applicant.
3. In addition to the General Information in Part 3, provide details of key personnel and staffing and financial history for the last 3-5 years, including audited financial statement, where available, otherwise authorised statements from your accountant.
4. Demonstrate experience in successfully establishing and managing the contractual arrangements involving the commercialisation of licensed IP (e.g. the use of grower databases, royalty collection systems, monitoring and enforcing agreements).
5. Demonstrated knowledge and understanding of intellectual property protection of software technologies under the territory's legislation, especially trade secrets.
6. Detail the proposed business model to be used in the commercialisation of the IP. Ensure the following items are addressed:
  - Marketing plan for Canopy sensors and support (including technical support) for customers;
  - Indicative sales model (per Sensor, Ha, Farm etc), including sales price and support fees.
  - Knowledge of the cotton sensor market, channels to market, price points and competition;
  - Outline the market sector/region(s) you intend to target with Canopy Sensors and explain your proposed access to those customers.
  - Indicative sales targets for the first 5 years.
  - A clear outline of the royalty/licencing sharing proposal for the commercialisation of the IP by the applicant.
7. Demonstrated high levels of engagement and communication networks within the proposed territories.

***CRDC reserves the right to decide whether an application is accepted or considered.***

## Part 5 – Example Key Commercial Terms.

<b>Licensor</b>	CSIRO & CRDC
<b>Licensee</b>	Each commercial party that executes a separate Licence with the Licensor in accordance with the minimum conditions of this Term Sheet.
<b>Technology</b>	means “cotton stress time threshold algorithms”
<b>Licensed Intellectual Property (Licensed IP)</b>	The IP (in-house trade secret) means cotton stress time threshold algorithms for use with stationary land based canopy temperature sensors, for making decisions regarding irrigation timing for high yielding and limited water cotton crops using continuous measurement of canopy temperature.
<b>Conditions precedent</b>	Conditions precedent to the Parties entering into the proposed licence agreement are: <ul style="list-style-type: none"> <li>• Licensor’s obtaining all necessary internal approvals as necessary; and</li> <li>• Licensor’s to receive a commercialisation plan that meets minimum performance obligations agreed between the Parties.</li> </ul>
<b>Improvements</b>	means all improvements, developments, enhancements, adaptations and modifications made or acquired by or on behalf of the Licensor during the Term in relation to the Licensed IP.  The Licensor may licence the Improvements on the same terms applicable to, and of the same scope as, the Licensed IP, except that the licences granted for use of the Improvements will be royalty-free.
<b>Licence</b>	A non-exclusive licence to Exploit the Technology, Improvements and Trade Marks in the Field in the Territory.  The Licensor retains all rights to use the Technology and Improvements for research purposes independently or with collaborators.  The Licensor retains all rights to use the Technology and Improvements for any research purposes, exploitation and commercialisation activities outside the Field and Authorised Use within the Territory.
<b>Royalty</b>	Royalties will be agreed with the Licensor and shall be based on either: <ul style="list-style-type: none"> <li>• the gross price of any software or any other products sold that include the Technology and Improvements; and /or</li> <li>• gross price for any annual subscription charged for access and use of software that utilise the Technology and Improvements.</li> </ul>
<b>Territory</b>	Australia.
<b>Field</b>	Cotton.
<b>Authorised use</b>	The Licensee may use the Licensed IP algorithm, software and modules for the following purpose within Australia: <ol style="list-style-type: none"> <li>1. To develop, manufacture, market and sell or otherwise dispose of any products or services comprising or derived from the Technology.</li> <li>2. Provide irrigation and agronomic information to clients specific to the Field including: farmers including corporate farmers, agronomic consultants who service farmers or grower groups directly; Australian Universities, State Governments.</li> </ol> <p>For the avoidance of doubt, activities involving third parties that are, or service the insurance or financial services sectors or agricultural product manufactures or wholesalers and commodity marketing companies are specifically excluded.</p>
<b>Licensee obligations</b>	Obligations on the Licensee will include but are not limited to the obligations to: <ol style="list-style-type: none"> <li>(a) diligently commercialise the Technology and maximise its use within the Australian cotton industry;</li> <li>(b) must comply with the minimum performance standards specified in the Licence;</li> <li>(c) use best endeavours to achieve agreed milestones for commercialisation of the Technology;</li> <li>(d) not promote or develop products competing with the Technology;</li> <li>(e) not file any form of Intellectual Property protection that incorporates or otherwise infringes the Technology and Improvements other than in accordance with the Licence;</li> <li>(f) comply with the reasonable directions of the Licensor in relation to the Technology or Improvements including in relation to standards of application of the Technology with canopy temperature sensors;</li> <li>(g) not represent in any manner that it has any title or right to the ownership or registration of Technology or Improvements;</li> </ol>

	<p>(h) not knowingly do, or cause, or authorise the doing of, anything which may adversely affect or jeopardise the goodwill in or value of the Technology and any Improvements;</p> <p>(i) pay licence fees and any royalties due to the Licensor and detailed in the License;</p> <p>(j) provide an annual report on sales and projected sales for subsequent year; and</p> <p>(k) unless notified otherwise by the Licensor, acknowledge in any product or material and in a form of wording to be agreed, that the use of the Technology is as a result of the Licence granted.</p>
<b>Minimum performance</b>	<p>The Licensee must provide the Licensor with a commercialisation plan (including regions targeted, volumes, time frame, key milestones and indicative royalty/license fees) for the Territory that is acceptable to the Licensors prior to the execution of the License Agreement.</p> <p>Minimum performance criteria will be based upon the agreed Commercialisation Plan.</p> <p>Commencing after the first anniversary of the commencement of a Licence Agreement, if the Licensee pays less than 60% of the predicted Royalties in two successive years or fails to demonstrate key engagement milestones, the Licensor may terminate the Licence.</p>
<b>Term and termination</b>	<p>The term of the Licence shall commence on the date of signing by the last party to sign and shall continue in full force and effect for five (5) years unless otherwise terminated.</p> <p>The Licensee has an option to negotiate an extension of the license for a further five (5) years. The Licensee must notify (in writing) the Licensor 6 months prior to the conclusion of the existing Licence term their intent to re-negotiate an extension of the licence.</p> <p>The Licensee may terminate the Licence Agreement by providing six (6) months written notice to the Licensor but such termination will not relieve the Licensee of any of its existing obligations to the Licensor at the date of termination or those obligations which survive termination (such as confidentiality).</p> <p>Other standard termination provisions apply (eg insolvency events, breach of agreement, failure to meet minimum performance obligations, etc).</p>
<b>Warranties</b>	<p>The Licensor gives no warranties as to the suitability of the Technology for use or exploitation in the Field of Use or that any regulatory approvals as may be required to use or exploit the Technology will be granted. The Licensor will cooperate with the Licensee in any due diligence exercise by the Licensee, but the Licensee must satisfy itself with respect to its use of the Technology. All costs incurred in undertaking the due diligence are the responsibility of the Licensee.</p>

