



final report

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Facilitation of the Australian Red Meat Industry Carbon Neutral 2030 Innovation Challenge

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Executive summary

The project required Cicada Innovations to facilitate an innovation challenge/hackathon designed to investigate two key problem areas identified within MLA's Carbon Neutral 2030 Initiative being:-

Challenge 1: reducing or eliminate methane emissions without compromising the digestive efficiency of the animal;

Challenge 2: measuring carbon in soils at depths of at least 1.2m in an accurate, scalable, and cost-effective manner.

The winning novel early stage technology for each Challenge category, provides a solution that can quickly scale for the red meat industry, and into the hands of graziers to enable and support their carbon management practices providing a pathway towards carbon neutrality by 2030.

Each winning solution clearly addressed the Challenge statement offering novel solutions, have the ability to scale in the short term into the hands of MLA members and contribute to the CN2030 goal, and are now in the MLA pipeline for further support and development.

Through a structured and supported 'Hackathon' process delivered by Cicada Innovations and MLA, has proven to provide a validated pathway for identifying and sourcing promising novel early-stage technologies from non-traditional areas which in turn, that can be supported further through MLA's R&D capabilities and commercialised for the benefit of the red meat industry.

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1 Background

The overarching aims of this project is to support the identification of pathways for the red meat industry, farm and processing sector included, to become carbon neutral by 2030.

The project required Cicada Innovations to facilitate an innovation challenge/hackathon designed to investigate two key problem areas identified within MLA's Carbon Neutral 2030 Initiative being:-

Challenge 1: delivering an appropriate supply of 3-nitrooxypropanol (NOP) and/or red asparagopsis algae into the rumen of cattle and sheep in order to reduce or eliminate methane emissions without compromising the digestive efficiency of the animal;

Challenge 2: measuring carbon in soils at depths of at least 1.2m in an accurate, scalable, and cost-effective manner

This report details the project methodology, outcomes and outputs from the Challenge.

2 Project objectives

The project as stated in the research agreement are as follows:-

- Design an appropriate method for facilitating the Australian Red Meat Industry Carbon Neutral 2030 Innovation Challenge;
- Subject to go/no go decision following EOI stage, facilitate the Australian Red Meat Industry Carbon Neutral 2030 Innovation Challenge.

Program Outline is as follows:-

Create an EOI and Invitation to attend “The Challenge Meet up”

The 2 challenges to be addressed under the “MLA 2030 Carbon Neutral Initiative”, together with the 10K cash prize and other “hooks” i.e. an MLA scholarship, free desk space at Cicada etc., will be outlined in an EOI and an invitation for interested parties to attend the Challenge Meet Up where the challenges will be detailed in order to facilitate meaningful EOI responses.

The Invitation and EOI will be targeted and sent through to all networks, including but not limited to, Hacker communities/Meet-ups/Inventors/Student Groups, Entrepreneurship and Research Communities within publicly funded research institutes.

Challenge Meet Up Kick-off Event

Cicada Innovations will hold and host the “Meet-up/ Kick off” where the problem will be framed further by MLA representatives and Cicada Innovations. MLA to contribute /co- design the problem framing session to assist as well as identifying appropriate thought leaders participating in this session.

Challenge applicants will be asked to briefly describe their approach to the problem solution by way of an EOI.

Assessment and Shortlisting of EOIs

Novel and interesting approaches to the problem presented will be shortlisted to progress to the next stage, with the final shortlist to be approved by MLA.

Go/ No Go Stage

Depending on the number and the quality of applicants, MLA can decide not to move forward with the project at this stage. The aim is a minimum of 5-7 quality applicants per challenge.

Support and Development of suggested Approaches

The shortlisted teams and Individuals (aiming for 10 quality projects) will be provided with support from the Cicada mentoring team (support will be in the form of lab and office space as well as weekly check-ins on progress and coaching on design thinking using customer centric approaches) during a period of 2 months leading up to the Hackathon event.

Run Hackathon/ Challenge Event

Cicada will run and host of "hackathon/challenge" event onsite providing participants with access to our facilities including the hardware rapid prototyping centre, shared wet labs and facilities during the event.

At the completion of the Hackathon, participants will be required to show "proof of concept" and present their suggested approach to the identified problem to a panel judges (including MLA representatives) and compete for a cash prize.

3 Methodology

Hackathon project timeline:



Cicada Innovations developed and produced an EOI for interested parties to attend a Challenge Launch with MLA representatives to provide detail on the two key challenges identified within MLA's Carbon Neutral 2030 Initiative.

The EOI and Launch Event Invitation were created together with a CN2030 landing page hosted on the Cicada Innovations Website. The CN2030 landing page provided relevant information, links through to MLA [Environment and Sustainability](#) and MLA [CN2030 Mission](#) content, together with links to an Application Form to allow interested parties to apply. The application form links to and populates Cicada's CRM database to provide a record of applications and applicants.

All collateral and materials were developed together collaboratively with input from MLA , and included:-

- Expression of Interest document
- CN2030 Challenge Launch Event Invitation
- Website CN2030 Landing page
- CN2030 Application Form

Cicada Innovations developed and delivered an extensive marketing campaign to both promote the CN2030 Challenge EOI and the Challenge Meetup Launch Session.

The marketing campaign targeted interested parties and potential CN2030 Challenge Participants, including but not limited to, Hacker communities/Meet ups/Inventors/Student Groups, industry, Entrepreneurship and Research Communities within publicly funded research institutes, over 5,000 communiques were delivered to promote the challenge and Meetup. The EOI & Invitation to the Launch Meet Up Event was disseminated and shared broadly through the following channels and platforms:-

- Cicada Innovations website
- Spark event festival line-up
- Eventbrite for meet-up
- Twitter - Cicada and GrowLab
- Emerge exhibitor booth with MLA (or Meat Donor Company)
- LinkedIn posts
- email invitations - to Spark festival event AND for general EOI's
- Shared through networks - CSIRO, Biofoundry (facebook), Ag Science uni Faculties
- Facebook event and posts on relevant groups
- Growlab – cohorts, mentor networks
- Growlab – mailing lists
- Growlab Demo day registrants
- Posters displayed in key student areas and faculties within USYD, UNSW, UTS and ANU.
- Newsletters – Cicada Innovations, MLA, Uni newsletters, startup ecosystem newsletters and blogs.

The Challenge Launch took place at Cicada Innovations on Thursday 1 November 2018, over 100 people registered to attend the Challenge Launch with close to 100 attending the event. Tim Cannon, CEO and Founder of agtech startup LiveStock Labs opened the Launch with a Keynote presentation on LiveStock Labs, an agtech company currently commercialising implantable biometric devices for cattle, in partnership with the MLA.

A panel/information session followed the keynote with MLA representation providing CN2030 Challenge information and answering Challenge questions. MLA representatives were on hand to

provide detail on the two key challenges identified within MLA's Carbon Neutral 2030 Initiative. In addition, a third Challenge category – an open innovation challenge (to improve red meat industry productivity and environmental efficiency) was added to the EOI and addressed by MLA representatives. A networking session followed the formal panel segment and concluded the event.

The CN2030 Challenge Launch Event was successful in terms of the marketing reach communicating the Australian Red Meat’s environmental commitment to become carbon neutral by 2030, and for promoting the Challenge and Launch Event to interested parties and potential applicants.

By the CN2030 EOI application deadline of 15 November 2018, a total of 17 applications were received from around Australia, and one from Africa.

Challenge	Applications
1. Reducing Methane Emissions	5
2. Carbon Measurement	6
3. Open Innovation	6

The applications were tabled, reviewed and assessed together with MLA and it was jointly determined that Challenge 3 - Open Innovation would not go ahead given the quality of the applications, lack of novelty, or solution proposed not addressing the challenge. One applicant had already commenced discussions with MLA in relation to their innovation, and could not be considered as a CN2030 challenge participant.

Challenge 1 and 2 applicants were reviewed and assessed jointly with MLA, and applications that lacked quality or novelty, or where the solution proposed did not address the Challenge criteria were ruled out.

A short list of finalists for each of the 2 challenges were presented to MLA, who determined to move forward with the project given the number and quality of the applications. Thus the Go/No Go point was reached and Go was the decision.

A summary of the Challenge finalists are as follows:-

Challenge 1 – Reducing Methane Emissions

Team	Solution	Why they were accepted
NextGen Supplement Feeder	Smartfeeder to individually administer a volume of supplement to an animal or group of animals over set periods. This would allow a methane limiting supplement to be metered to animals based on criteria such as age, weight, growth cycle, pasture/feed conditions etc.	Great team - diverse, experienced, industry, software & hardware engineering skill sets and seasoned business builders. Innovative approach & open to coaching. Worthy of support.
Rumen	This approach reformulates the	The team uses a multidisciplinary approach

NeoGenesis	rumen microbiome to be methanogen-independent. Synthetically developed or selectively bred bacteria would be an ideal replacement to existing methanogenic Archaea.	to problem solving whilst also having significant experience in microbiology through the Open Insulin project, competing directly with pharmaceutical companies. It is an early stage idea that will change and pivot with coaching and support. We believe the team will be able to make non-obvious progress compared to the state of the art and hence is worthy of support.
AL-Grain	Bioprospecting for new algal strains to be used as a direct replacement for grain in livestock feed. This is both for reduction in methanogenesis as well to increase feed availability.	Passionate and coachable team, their direction can be shaped to commercially useful areas with guidance. They are currently testing the viability of a variety of algae strains to keep all options open. We feel this team is worthy of support.

Challenge 2 – Measuring carbon

Team	Solution	Why they were accepted
Elysian Biosystem	Biodiversity design supported by bespoke measurement tools to optimise pasture design and cattle placement to maximise carbon offset	Diverse team – multi-skilled and disciplined with industry experience. The holistic approach is worthy of support as the focus here is a novel combination of existing technologies whilst also developing new IP.
Platfarm	Geospatial guided soil cores taken using a bespoke and protected ute-mounted drilling rig to take large bore soil cores.	A strong team with agricultural background looking to develop a user-friendly approach to soil sampling. We have confirmed that there is IP pending around the drill rig and given the demand pull already demonstrated we feel we should support and explore this further.
Sydney Soils Squad	Soil carbon in space and time is a function of the soil type, weather, land management and depth. Since we know this relationship, we are able to use these drivers of soil carbon sequestration to determine the soil carbon stocks and its variation through space and time.	A strong, high calibre academic team with proven modelling experience in soil moisture. Very commercially driven and worthy of support.
CO2AI	Build an artificial intelligence convolutional neural network to model and predict carbon sequestration to a depth of 1 M across a range of Australian grasslands and soil types using a mix of Satellite and air drone generated imagery.	The applicant is a tech founder and has relevant expertise in AI.

The Challenge Finalists were notified and worked on their projects with access Cicada Innovations facilities and support, at no charge, for the period 30 November 2018-30 January 2019.

During this period design thinking knowledge sessions were held to allow the Challenge finalists to participate in and apply design thinking principles to their solutions. Challenge finalists received ongoing support and mentoring from the Cicada Team each week, and bi-weekly email communiques to keep the teams focused on the Challenge and their projects.

In addition, Challenge Finalists had the ability to work on their solution at Cicada Innovations in the hardware prototyping lab and had access to a hot desk within the Accelerator Hub in the incubator.

It was during this period that two of the Challenge Finalists, Sydney Soils Squad and Elysian Biosystem came to the realisation that their novel solution would not meet the challenge objectives and withdrew from the Challenge.

The CN2030 challenge culminated with a hackathon-style final event on Saturday 2 February 2019 where the Challenge Finalists demonstrating proof of concept for judging panel. The five-member judging panel included 2 representatives from MLA, a Cicada Innovations representative, an agtech VC and an AusIndustry Accelerating Commercialisation Case Manager specialising in the agtech space.

The **Hackathon Final** ran as follows:-

Saturday 2 February 2019

10:00-10.30 - Challenge Welcome (MLA and Cicada) and Housekeeping

10.30-11.00 - Teams get to know each other and set themselves set up for the Hackathon in the Hardware Lab

11:00-12.00 Pitch Sessions - finalists present problem/solution pitch (5 minute pitch & 5 minute feedback)

12.00-13.00 Hackathon Lab Session -Finalists work on and present proof of concepts to Judges who will walk around asking questions

13.00-14:00 - Lunch - judges deliberate and determine Challenge winners

14:00 - Winners announced by judges - Event concludes 14.30

The Judging Panel assessed the finalist solutions using the following judging criteria matrix developed jointly between MLA and Cicada Innovation:-

Criteria	Explanation	Score
Novelty of solution	How different is the solution to what has previously been tried?	/5
How well does the solution address the challenge	Does the solution directly address the problem statement	/4
How would you rate the potential impact of the solution	At likely full-scale operations how much does this solution contribute to the CN2030 goal	/5
How feasible is the solution	Is there a likely market within the red meat industry for this solution?	/6
Total Score		/20

With the withdrawal of the 2 finalists in Carbon Soil Measurement Challenge, left two finalists in that category, and 3 finalists in the Methane Emissions Challenge.

The Hackathon Runsheet (above) outlined the elements of the Challenge Final and sequence of events followed on the day. After the welcome and overview of the MLA CN2030 mission challenge, the finalists each presented their solution to the judging panel, Cicada Innovations and other finalists. It was necessarily a closed event due to the IP sensitive nature of the solutions.

Each finalist team pitched for a maximum of 5 minutes using problem/solution format, followed by a 5-minute Q&A session by the judges. This enabled the teams to introduce and inform the judging panel of their early stage solutions, allowing them to focus and direct their efforts on assessing the proof of concept based on the judging criteria.

After the pitching segment, the judges individually met with each of the finalist teams, who had set up their proof of concept displays and models in the Cicada Prototyping Lab. This allowed the judges to drill down on the solutions and road test them against the judging criteria. As with the presentations, each of the finalist teams had gone to great lengths to develop and showcase compelling, professional and viable proof of concepts.

Post the Lab session with the finalists, the judges re-grouped to deliberate and determine a winner for each of the two Challenges.

Through this process two winners were selected:

Challenge 1 – Reducing Methane Emissions – Winner

NextGen Supplement Feeder

Smartfeeder to individually administer a volume of supplement to an animal or group of animals over set periods. This would allow a methane limiting supplement to be metered to animals based on criteria such as age, weight, growth cycle, pasture/feed conditions etc.

The NextGen Team run a cattle property in SE Queensland. They know in the coming years there will be a whole range of things that can be added to cattle feed to reduce greenhouse emissions by animals. They recognised how tough it would be make sure all animals are eating these emission-reducing supplements. Being farmers themselves they came up with a solution built for the real-world conditions of a working property, their precision feeder knows exactly what each animal is eating to give farmers the information they need to manage their emissions.

Challenge 2 – Measuring Carbon in Soil – Winner

Platform

The founder of Platform is a viticulturist in Maclaren Vale South Australia focused on the issue of measuring soil Carbon. The CN2030 challenge inspired the founder to turn Platform's attention from solely vineyard management to helping graziers measure and monitor their soil carbon.

Platform brings together several, separate groups to make soil carbon measurement seamless. From dividing up land into measurement zones, to telling contractors precisely where to go to sample the soil to tracking exactly how the landholders manage that property to sequester atmospheric carbon.

The Platform solution can quickly scale for the red meat industry, and into the hands of graziers to enable carbon benchmarking of their properties now for management towards carbon neutrality by 2030.

The judges were greatly impressed by the quality of the teams, solutions that addressed the Challenges posed and the viability of proof of concepts.

4 Results

The overarching aim of this project is to support the identification of pathways for the red meat industry, farm and processing sector included, to become carbon neutral by 2030.

Prospecting solutions pathways outside of research and academia, through a hackathon-style approach, inviting and harnessing interested parties with diverse skills, expertise and experience to apply their problem-solving skills to tackle climate change challenges facing the red meat industry.

Each winning solution clearly addressed the Challenge statement offering novel solutions, have the ability to scale in the short term into the hands of MLA members and contribute to the CN2030 goal, and are now in the MLA pipeline for further support and development.

Furthermore two finalists – Rumen NeoGenesis (using synthetic biology tools to permanently improve the rumen microbiome) and AI-Grain (bioprospecting new algae strains that both reduce methane emissions and improve nutrients), are promising early-stage technologies that had the opportunity to launch through the CN2030 Challenge and will be nurtured post Challenge.

Through a supported ‘Hackathon’ process delivered by Cicada Innovations and MLA, this pathway has proven the efficacy of sourcing novel and viable solutions worth progressing, from non-traditional sources.

Additionally, the media associated with the MLA CN2030 Challenge, whether through the Expression of Interest or Launch Event element of the project or indeed the extensive media coverage of the Hackathon final and winners, has positively promoted and communicated the Australian Red Meat Industry’s commitment to driving the industry to sustainability to the broader community, a key Australian Industry taking positive and proactive steps towards carbon neutrality and future-proofing the viability of this vital industry to the Australian economy.

In addition to the extensive social media coverage on Twitter, Facebook and LinkedIn, media articles appeared in the following publications:-

- The Australian – print and online editions
- The Land
- Farm Online
- North Queensland Register
- Queensland Country Life
- Stock & Land
- Stock Journal
- Good Fruit & Vegetables
- Farm Weekly

5 Conclusions/recommendations

Through a structured and supported ‘Hackathon’ process delivered by Cicada Innovations and MLA, has proven to provide a validated pathway for identifying and sourcing promising early-stage technologies from non-traditional areas which in turn, can be supported further through MLA’s R&D capabilities and commercialised for the red meat industry.

Critical to the success is the support provided to the finalists as they develop their early stage ideas into proof of concepts. A development cycle of 2 to 3 months is required to formulate and develop novel technologies into early proof of concepts, guided by design thinking workshops, one-on-one mentoring with the Cicada Team, access to rapid prototyping hardware labs, and hot desking within the Cicada Incubator.

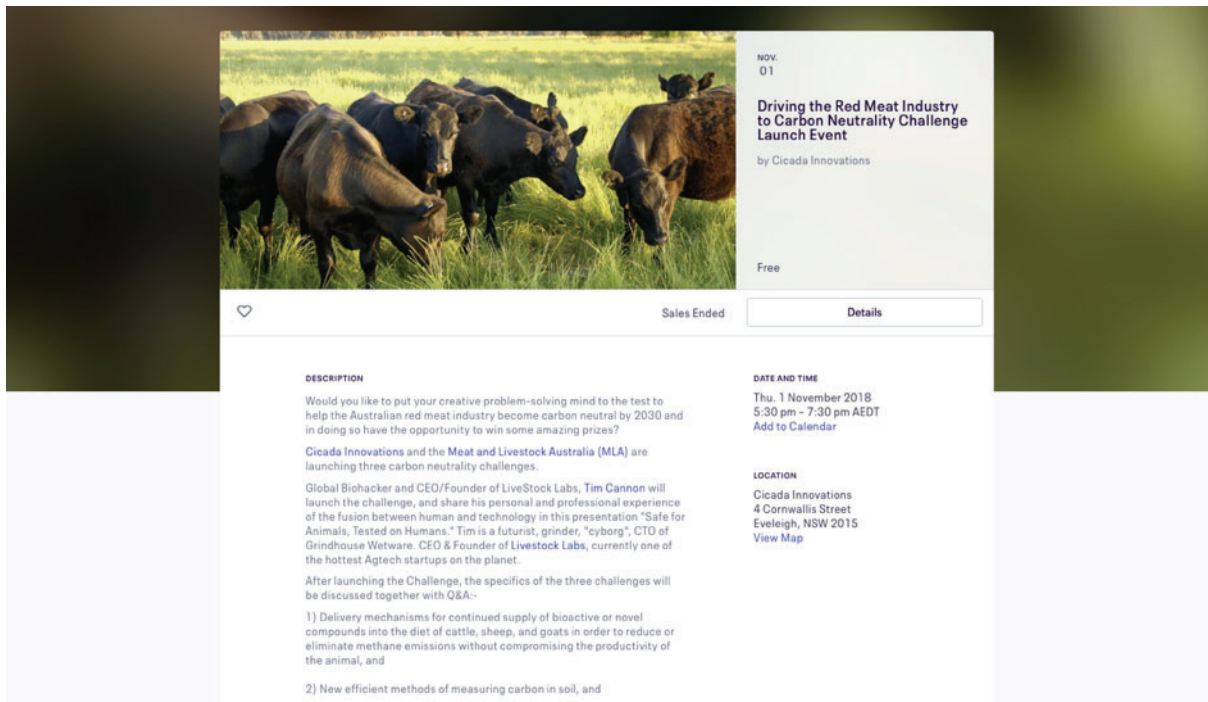
The ‘Hackathon’ model can be used if and when MLA identifies a need to prospect for novel technology pathways outside of research and academia. This report details a validated and proven operational Hackathon-style model delivering the outcomes sought.

6 Appendix

CN2030 Website Landing Page Link

<http://cicadainnovations.com/carbon-neutral-by-2030-innovation-challenge/>

MLA Carbon Neutral 2030 Launch Eventbrite Invitation



The screenshot shows an Eventbrite event page. At the top, there is a header with a date 'NOV. 01' and the event title 'Driving the Red Meat Industry to Carbon Neutrality Challenge Launch Event' by Cicada Innovations. The price is listed as 'Free'. Below the header, there is a 'Sales Ended' status and a 'Details' button. The main content area is divided into two columns. The left column contains a 'DESCRIPTION' section with the following text: 'Would you like to put your creative problem-solving mind to the test to help the Australian red meat industry become carbon neutral by 2030 and in doing so have the opportunity to win some amazing prizes? Cicada Innovations and the Meat and Livestock Australia (MLA) are launching three carbon neutrality challenges. Global Biohacker and CEO/Founder of LiveStock Labs, Tim Cannon will launch the challenge, and share his personal and professional experience of the fusion between human and technology in this presentation "Safe for Animals, Tested on Humans." Tim is a futurist, grinder, "cyborg", CTO of Grindhouse Wetware. CEO & Founder of LiveStock Labs, currently one of the hottest Agtech startups on the planet. After launching the Challenge, the specifics of the three challenges will be discussed together with Q&A:-' followed by two numbered points: '1) Delivery mechanisms for continued supply of bioactive or novel compounds into the diet of cattle, sheep, and goats in order to reduce or eliminate methane emissions without compromising the productivity of the animal, and' and '2) New efficient methods of measuring carbon in soil, and'. The right column contains a 'DATE AND TIME' section with the date 'Thu. 1 November 2018', time '5:30 pm - 7:30 pm AEDT', and a link to 'Add to Calendar'. Below that is a 'LOCATION' section with the address 'Cicada Innovations, 4 Cornwallis Street, Eveleigh, NSW 2015' and a link to 'View Map'. The background of the event card features a photograph of several cows in a green field.

MLA Carbon Neutral 2030 Launch Social Media Banners



MLA Carbon Neutral 2030 Launch Event Photos
Thursday 1 November 2018 – Cicada Innovations



Hackathon Final Slide Deck – 2 February 2019

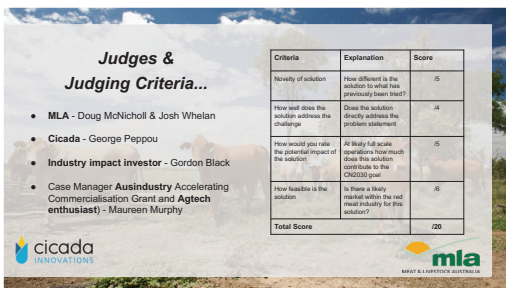


Setting the scene.....



Today's Hackathon Runsheet!

- 10:00-10:30 - Challenge Welcome (MLA and Cicada) and Housekeeping
- 10:30-11:00 - Teams get to know each other and set themselves set up for the Hackathon in the Hardware Lab
- 11:00-12:00 Pitch Sessions - finalists present problem/solution pitch (5 minute pitch & 5 minute feedback)
- 12:00-13:00 Hackathon Lab Session -Finalists work on and present proof of concepts to Judges who will walk around asking questions
- 13:00-14:00 - Lunch - judges deliberate and determine Challenge winners
- 14:00 - Winners announced by judges - Event concludes 14.30



*Team Presentations
Order*

- Rumen NeoGenesis
- NextGen Supplement Feeder
- AL-Grain
- CO2AI
- Platfarm



MLA Carbon Neutral 2030 Launch Event Photos
Saturday 2 February 2019 – Cicada Innovations



Grape grower Oli Madgett helps graziers test soil

SARAH-JANE TASKER

FEBRUARY 6, 2019

South Australian grape grower Oli Madgett has expanded his soil-testing technology beyond the vineyard to help graziers hit an industry target to be carbon neutral in a decade.

Mr Madgett, founder of Platfarm, was inspired to look for different uses for his technology after a challenge was set by deep-tech incubator Cicada Innovations and Meat & Livestock Australia. The two joined forces to find innovative solutions to key problem areas identified with MLA's Carbon Neutral 2030 Initiative.

Mr Madgett said the digital platform he had created helped farmers compliantly baseline their soil's organic carbon levels.

He said for farmers to reach the 2030 target set by MLA, they had to measure today what their soil organic carbon levels were, so they would know in 10 years what they had achieved.

"If they baseline the levels today, they could potentially apply for carbon credits in the - future," he said.

Mr Madgett added it was important for farmers to build up soil organic carbon from an environmentally sustainable perspective.

Increasing soil organic carbon could help mitigate climate change and also improve soil health and fertility. If more carbon is stored in the soil as organic carbon, it would reduce the amount present in the atmosphere.

Mr Madgett highlighted that Australians working on the land were all acutely aware of the threat climate change had on farming operations.

"I'm a grape grower in McLaren Vale in South Australia and we have just come through the hottest January we have ever had," he said.

"Our vineyard hit 46.6C and it burnt a lot of our vines — we are having a tough year, as are livestock farmers."

Mr Madgett said the government had good guidelines in place to sample soil organic carbon levels, but Platfarm had turned those guidelines into a simple digital tool.

"Farmers are interested in addressing the issue but it's about giving them tools to make it easy to start," he said.

He developed his technology through a three-month deep-tech hackathon hosted at Cicada. The hackathon was aimed at ideas to reduce methane emissions from livestock and finding new methods of measuring carbon in soil.

Mr Madgett's team won the \$10,000 cash prize for its approach to solving the challenge of measuring carbon in soil.

He said it was good that the MLA had set an ambitious carbon-neutral target.

"It would position the Australian red meat industry at the forefront of the world when it comes to sustainably producing red meat," he said.

Platform, which is in the process of raising \$1.5 million to progress its technology, will now work with the MLA to create a project to scale its technology solution to the wider industry.

<https://www.theaustralian.com.au/business/grape-grower-oli-madgett-helps-graziers-test-soil/news-story/63be8a01295257054f54ef99615e205e>

Producers on the job to make beef carbon neutral

Shan Goodwin

8 Feb 2019, 3:30 p.m.

Beef

FROM Adelaide game designers to Sydney micro algae experts, innovative minds around the country are on the job to reduce the carbon footprint of Australia's red meat industry.

Producers, too, are doing their fair share of the heavy lifting on working out ways to reduce methane emissions from livestock and new methods of measuring carbon in soil.

Technology business 'incubator' Cicada Innovations and the beef industry's research and development body Meat and Livestock Australia joined forces to set up a 'hackathon' to come up with solutions to those two key challenges.

MLA is driving the red meat industry's ambitious goal to be carbon neutral by 2030 through a combination of new investment in research, development and adoption, and via policy settings.

The hackathon offered a \$10,000 cash prize and involved months of work on the challenges.

A precision feeder to manage the delivery of carbon-limiting supplement to livestock, the brainchild of a group of producers who run a small breeder operation in South East Queensland, took out the emissions reduction challenge.

Peter Heywood, co-founder of the NextGen Supplement Feeder, said the team – Robert Aisthorpe, Craig Fraser-Grant, Ross McNichol and himself – were in the early stages of developing the combined hardware/software solution.

"Given the feed-additives research currently underway, we anticipate in the coming years there will be a whole range of things that can be added to livestock feed to reduce greenhouse emissions," Mr Heywood said.

“From this we saw a potential opportunity for developing a solution as to how this is managed in the field.

“We had promising results from our initial field testing and to further develop our solution, we entered the hackathon.”

There, they were able to access Cicada’s high-tech facilities and collaborate with other members of the deep tech and agtech community and are now looking forward to ongoing support and guidance from MLA and Cicada Innovations to take the idea from proof of concept to the next stage.

“We support the beef industry’s goal of being carbon neutral by 2030 and want to make a contribution towards achieving this,” Mr Heywood said.

South Australia grape grower Oli Madgett expanded his cutting-edge vineyard soil testing technology to help graziers measure and monitor soil carbon, winning the second hackathon challenge.

Mr Madgett’s Platform brings together several, separate groups to make soil carbon measurement seamless.

From dividing up land into measurement zones, to telling contractors precisely where to go to sample the soil to tracking exactly how the landholders manage that property to sequester atmospheric carbon, Platform will allow graziers to baseline their levels today, so they could potentially apply for carbon credits in the future.

Mr Madgett said carbon credits were really just the cherry on top.

“Understanding our soil organic carbon levels allows us to make soils as healthy and resilient as possible, to retain moisture levels and to grow better fruit,” he said.

“It’s really just good land management strategy, with future potential to have another income source.

“The same is true for pastoralists so moving Platform to the red meat industry was a logical step.”

Hackathon organisers said one of the unique characteristics of the event was the variety of backgrounds of participants.

Teams from outside the agriculture industry were taking skills developed in other disciplines and applying them to help the Australian red meat industry find ways to reduce emissions, they said.

MLA’s manager of supply chain sustainability innovation Doug McNicholl said work undertaken by the CSIRO had led the industry to believe it could be carbon neutral by 2030.

“Initiatives such as this hackathon are designed to encourage new and innovative ideas to address specific challenges identified in our Carbon Neutral by 2030 initiative, whilst also driving productivity gains for industry,” he said.

The story [Producers on the job to make beef carbon neutral](#) first appeared on [Farm Online](#).

Syndicated Fairfax Rural through:

- [The Land](#)
- [Farm Online](#)
- [North Queensland Register](#)
- [Queensland Country Life](#)
- [Stock & Land](#)
- [Stock Journal](#)
- [Good Fruit & Vegetables](#)
- [Farm Weekly](#)