

Select committee on financial technology and regulatory technology

ANSWERS TO QUESTIONS ON NOTICE

Department of Industry, Science, Energy and Resources

Financial Technology and Regulatory Technology

AGENCY/DEPARTMENT: DEPARTMENT OF INDUSTRY, SCIENCE, ENERGY AND RESOURCES

TOPIC: Update for Committee since December 2019

REFERENCE: Question on Notice, 7 July 2020, Written Question

QUESTION No.: 2

Please provide an update for the committee, since the department's submission was lodged in December 2019, on any AgTech initiatives being supported directly or indirectly by the department.

What is the current size and scope of the AgTech sector in Australia? Please provide any available details.

Who is responsible for coordinating Commonwealth policy in relation to the AgTech sector? Is there a need for a unified national policy strategy in this area?

ANSWER

Please provide an update for the committee, since the department's submission was lodged in December 2019, on any AgTech initiatives being supported directly or indirectly by the department.

For the collection of the following information, the Department of Industry, Science, Energy and Resources has considered “AgTech” to encompass novel applications of software or hardware technological capital used in the agricultural production process.

Between 1 December 2019 and 1 July 2020, the department has directly or indirectly supported the following AgTech initiatives:

- Australia’s Chief Scientist, Dr Alan Finkel, on behalf of the National Science and Technology Council (NSTC), commissioned the Australian Council of Learned Academies (ACOLA) to undertake a Horizon Scanning project regarding the future of agricultural technologies. The report is expected to be launched in coming months.
- Through the Regional Collaborations Programme, the department is supporting the *Sustainable and Productive Farming – What can Nanotechnology offer?* workshop. This workshop is expected to be delivered by December 2021. The value of the grant is \$17,000, with non-government contributions totaling \$37,000.
- Through the department’s Small and Medium Enterprises (SME) Export Hubs Initiative the Australian Wagyu Association received a grant of \$801,847 to establish the Australian Beef Capability Development Hub in Armidale, NSW. The hub is assisting SMEs to develop export capability through the implementation and trialling of Japanese Meat Image Japan (MIJ) carcass grading cameras at Australian processing facilities. The cameras will enable optimal quality verification of Wagyu carcasses, improved data management and efficiency and reliability of sorting within brand categories. The grant was awarded to the Australian Wagyu Association in April 2019, and the project is due to finish on 30 June 2022.

- On behalf of the Department of Infrastructure, Regional Development and Communications, the department is managing a \$5m ad hoc grant to the Central Queensland University for the Hinkler Regional Deal Agricultural Technology Facility. The grant will fund development and activities of a new AgTech facility by Central Queensland University in the region. The facility will provide a dedicated space for the trialling and rollout of new technologies to improve Australia’s agricultural productivity.
- The National Farmers’ Federation (NFF) is receiving \$50,000 per year for two years to provide digital support to their small business members, as part of the Small Business Digital Champions Project. The NFF is one of fifteen industry associations that was selected to promote the benefits of ‘going digital’, providing free, sector-specific digital advisory services. This tailored advice ranges from technology trends, adoption, hardware, software, cyber security, digital training, planning and support. The project is contracted with funds paid over the course of the project.
- The Early Stage Venture Capital Limited Partnerships program has made four investments with a value of \$0.9m and Venture Capital Limited Partnerships program has made one investment with a value of \$0.5m into the agriculture, forestry and fishing sector. Reporting for the quarterly period ending 30 June 2020 is incomplete with 12% of returns having been received.
- The National Measurement Institute has provided indirect support through the provision of:
 - Instrument and equipment calibration to Australian industry including the developers, manufacturers, suppliers and repairers of AgTech equipment.
 - Regulation of trade measurement technologies used to measure agricultural products (including water, milk, storage tank sizes, grain quality and sugar content).
 - Analytical laboratory testing supporting the food and agricultural sector, ensuring the end products of AgTech used in food processing and production meet regulatory requirements in Australia and overseas.
 - Environmental analyses to help businesses ensure their agricultural production waste streams comply with regulatory requirement.
 - Undertaking research and development collaborations with universities and research institutes that have an AgTech focus.
- The department has provided funding to five new relevant Cooperative Research Centres Projects (CRC-P) which relate to agricultural innovation and technology:

Cooperative Research Centres Projects (CRC-P)		
CRC-P Leader	CRC-P Description	Grant Amount
Xing Group Holdings Pty Ltd	‘On-Farm Detection Platform; Mastitis-Causing Pathogens in Dairy Cattle’. This project aims to deliver a world leading on-farm cartridge and reader that utilises novel DNA extraction, amplification and detection methodology for the diagnosis of mastitis-causing pathogens in dairy cattle milk.	\$2.4m
Ridley Agriproducts Pty Ltd	Future-proofing the salmon farming industry in the face of climate warming’. This project aims to employ nutritional physiology to increase resilience of salmon at high temperature through the deployment of an innovative new platform for multi-pathogen quantification.	\$3.0m

Cooperative Research Centres Projects (CRC-P)		
CRC-P Leader	CRC-P Description	Grant Amount
Agent Oriented Software Pty Ltd	'Novel autonomous robotic weed control to maximise agricultural productivity'. This project aims to develop autonomous weed control robots, maximising agricultural productivity by identifying and selectively spraying weeds.	\$2.85m
Riverina Oils & Bio Energy Pty Ltd	Creating high-value canola protein for the global plant protein market'. This project aims to create new canola varieties to extract high-value protein for the global plant protein market.	\$3.0m
Cassegrain Wines Pty Ltd	'Mitigating taint in wine due to vineyard exposure to bushfire smoke'. This project aims to improve the productivity and sustainability of the Australian wine industry by mitigating bushfire smoke taint in wine.	\$0.95m

- The department has provided funding to five relevant projects under the Regional and Remote Communities Reliability Fund which supports feasibility studies looking at microgrid technologies to replace, upgrade or supplement existing electricity supply arrangements in off-grid and fringe-of grid communities located in regional and remote areas (summarised in the following table):

Regional and Remote Communities Reliability Fund		
Applicant	Project Description	Grant Amount
Innovating Energy Pty Ltd	PowerSmart Farm Electricity Generation using Agricultural Renewable Energy. This project will assess the scalability of dairy wastewater treatment and recycling to provide electricity generation, fertiliser production and reusable grey water, completing a circular on-farm economy for a network of dairies. This project will test the feasibility of the InnovE PowerSmart farm electricity generation and technology solution in the dairy industry to build and support a business case for its wider adoption across agriculture in Australia.	\$3.0m
Queensland Farmers' Federation Ltd	Flow On Benefits of Microgrids for Irrigated Agriculture. This project will assess whether microgrids can offer benefits to electricity consumers and networks such as more stable network energy flows, increased network utilisation, increased uptake of distributed energy systems and reduced costs in the rural and irrigation sector to provide a community-based source of affordable, low carbon energy within a geographical boundary.	\$0.655m

Regional and Remote Communities Reliability Fund		
Applicant	Project Description	Grant Amount
Ener-G Management Group Pty Ltd	Yarrabah Microgrid. This project will design and assess a range of distributed energy resources, including a biogas generator powered by bagasse waste from a nearby sugar mill. The project aims to make Yarrabah a knowledge sharing showcase of a self-reliant, sustainable microgrid that can be rolled out to other communities.	\$1.98m
Yurika Pty Ltd	“Developing commercial microgrid models for regional C&I businesses” project. This project will evaluate the commercial and technical feasibility of microgrids across a spectrum of potential use cases across a portfolio of sites including airports, ports, industrial estates, state development areas and agricultural businesses (sugar mills) in existing and developing regional locations.	\$0.968m
Wattwatchers Pty Ltd	“MyTown Microgrid” project. This project targets high-energy consuming businesses with strong ties to the community, including a local timber industry seeking to enhance local economic development through wood waste bioenergy. The project will explore whether a microgrid can deliver benefits for the economy, community and emissions reduction.	\$1.787m

- The Entrepreneurs’ Programme (EP), which includes Accelerating Commercialisation, Growth, Incubator Support, Innovation Connections and Strengthening Business has supported clients with projects relating to the AgTech sector with:
 - 208 new advisory services to businesses in the food and agribusiness sector, including projects with enabling technologies and services aspects
 - Nine new projects providing enabling technologies and services to the food and agribusiness sector funded through its Accelerating Commercialisation offering (summarised in the following table).

Entrepreneurs' Programme – Accelerating Commercialisation Projects		
Applicant	Project Description	Grant Amount
Thinkbio Pty Ltd	Thinkbio, has developed proprietary technology that delivers a sustainable form of nitrogen for agriculture. The technology presents export opportunities as well as improved environmental sustainability in agriculture by allowing growers to maintain or improve crop productivity whilst reducing chemical fertiliser application by up to 40 per cent. EP support will enable Thinkbio to conduct field trials in domestic and international locations to demonstrate benefits in local markets, and to secure local distribution partners. It will also enable product registration and agronomist training to drive local and export revenue growth.	\$219,500
Hydrotech Monitoring Pty Ltd	Hydrotech Monitoring Pty Ltd (trading as HTM Complete) has developed the Farm In ONE application for the horticultural industry. This complete farm management application will bring together data, controls and actionable tasks from monitoring devices; irrigation automation; fertigation; aerial mapping pest scouting; spray scheduling; staff management; and regulatory requirements into one easy to use platform. EP support will help Hydrotech Monitoring Pty Ltd commercialise the Farm In ONE platform and achieve domestic and international market success while helping farmers save money, water, time, power, product, paperwork, stress and the environment.	\$506,293
G & T Technology Pty Ltd	G&T Technology has developed an innovative digital screwcap and blockchain service for the wine industry. This technology will help reduce fraud in the wine supply chain. EP support will help G&T Technology commercialise this product and achieve savings and reduced counterfeiting in Australia's \$40 billion wine industry.	\$150,000
Kilic Engineering Pty Ltd	Kilic Engineering Pty Ltd (Kilic) has developed a mobile stockpile recovery system for the grain industry. The solution will enable faster, simpler and safer collection of grain from stockpiles. EP support will help Kilic commercialise the system, establish Kilic's presence in the international market, and contribute to keeping Australia on the leading edge of innovation in the agricultural sector.	\$478,048
SensorTune Pty Ltd	SensorTune Pty Ltd has developed smart, self-sensing and self-adjusting broadacre seeders, for large scale cropping farms. This smart machine will help to increase crop yields, and decrease fuel burn, in an increasingly challenging climate. EP support will help SensorTune commercialise this technology and achieve validated performance outcomes, for both national and international global benefits.	\$684,000

Entrepreneurs' Programme – Accelerating Commercialisation Projects		
Applicant	Project Description	Grant Amount
C & J Lab Pty Ltd	C&J Lab has developed a Green Feed Additive (GFA) to replace the use of antibiotics in the livestock and aquaculture feed industries. Reducing the use of antibiotics in the stock feed will limit antibiotic resistance and food safety issues while benefiting agricultural sustainability and animal welfare. EP support will help C&J Lab to commence regulatory compliance within Australia, to optimise production processes and prepare for market.	\$250,000
Capsular Technologies Pty Ltd	Capsular Technologies is the proprietor of a biopolymer-based vaccine encapsulation technology for the delivery of animal health therapeutics via a single-dose injection which enables sustained release of vaccine. This proven delivery platform will significantly improve productivity and animal health & welfare in the livestock industry. EP support will be used to establish a pilot-scale production facility to supply biopolymer-based vaccines to the licensee to support preclinical and clinical trials, which will lead to the successful registration of the vaccine with APVMA and ultimately with sales of Australian-made vaccines.	\$165,000
Organic Holdings Pty Ltd	Organic Holdings has developed new technology and processes to produce a frozen paneer product that closely resembles the traditional style, flavour and mouthfeel of fresh paneer. The product will have a twelve-month shelf-life, allowing consumers and restaurateurs to enjoy the benefits of long-term storage without sacrificing on quality. EP support will help Organic Holdings test and validate the process at commercial scale and prepare the supply chain for domestic and international markets	\$320,731
Safe Ag Systems Pty Ltd	Safe Ag Systems has developed a real-time digital certification tool for the agricultural industry. This technology will streamline the workflow between the grower, through auditor and onto the certification body allowing an agribusiness to obtain and hold multiple certifications will ease. EP support will help Safe Ag Systems commercialise the product and give thousands of growers the ability to improve and present themselves as quality food producers.	\$614,391

- The Entrepreneurs' Programme has supported five new incubator projects funded through the Incubator Support offering supporting AgTech start-ups as part of their service offering (summarised in the table below):

Entrepreneurs' Programme – Incubator Support Projects		
Applicant	Project Description	Grant Amount
SBE Australia Limited	SBE Australia is a not-for-profit accelerating female entrepreneurs by providing the skills, knowledge, confidence and networks required to grow and scale their businesses in a sustainable manner, with an emphasis on capital raising and international expansion. SBE will be supporting AgTech start-ups as part of their service offering.	\$250,000
Canvas Coworking Inc.	Canvas Coworking Inc. will establish the FLAIR Incubator for five female-led, regionally based businesses that aspire to trade internationally, including AgTech start-ups. The program will be delivered in-person and virtually in order to overcome barriers to participation by regional women.	\$86,450
Maker & Co Collective Pty Ltd	Maker & Co's 'Maker Nest' project offers tiered incubation programs to assist start-ups – including AgTech start-ups - by connecting them with a global community of inventors, creatives, entrepreneurs and innovators.	\$206,050
The Exchange Dubbo Pty Ltd	The Exchange Dubbo's ' <i>Design Thinking and Inspiring the Orana to Start, Scale and Succeed</i> ' Expert-in-Residence project will assist a number of AgTech start-ups.	\$49,760
Enterprize Tasmania Ltd	Enterprize Tasmania's ' <i>Startup Growth, Fundraising & Pitching expert for Enterprize Tasmania</i> ' Expert-in-Residence project will assist a number of AgTech start-ups.	\$23,375

What is the current size and scope of the AgTech sector in Australia? Please provide any available details.

This question is best directed to the Department of Agriculture, Water and the Environment as policy owner of AgTech.

Who is responsible for coordinating Commonwealth policy in relation to the AgTech sector?

The Department of Agriculture, Water and the Environment is responsible for coordination Commonwealth policy in relation to the AgTech sector.

Is there a need for a unified national policy strategy in this area?

This question is best directed to the Department of Agriculture, Water and the Environment as policy owner of AgTech.