La Trobe Business School (LBS)
Department of Economics and Finance

2018 LBS/NORTHLINK
Innovation in Food and Agribusiness Forum
15/16 November 2018

Summary Report
(December 2018)

Forum Summary

This summary captures a one and a half-day program of presentations, panel discussions, master classes and interactive dialogue at the forum on innovation in food and agribusiness, which took place on 15-16 November 2018 at La Trobe University Melbourne.

The Forum brought together 120 delegates from business, local and state government, academe and industry groups from Australia to explore what it takes to build innovative and sustainable global food production systems and agribusiness into the future. The forum discussed a range of disruption issues faced by the Australian food and agribusiness sector and emphasized the requirement for deep collaboration to drive breakthroughs in innovation. The form is convinced that unlocking value-added opportunities through innovation is the key to sustained growth in this sector whether that be through soil or plant science, the use of apps, sensors, data analytics, artificial intelligence (AI), robotics, GPS tracking devices or the use of drones.

Presenters were asked to address one or more of the following key Forum themes:

- changing consumer demands in the food-related industries
- emerging markets and the power of data analytics
- how science research impacts on food production and agribusiness models
- how advanced technology impacts food manufacturing
- the future of robotics and AI in food production systems
- digitisation of supply chains and the effect of the IoT on Australia's food and agribusiness
- how the application of new business tools and models (lean canvas etc.) can be applied to assist Australia's food and agribusiness value chains.

The Forum promoted a two-way knowledge transfer and dialogue and opportunities for networking and direct access to cutting edge business, science and technology expertise. It also provided a better understanding as to how La Trobe University can contribute in helping businesses to innovate in this industry.

The La Trobe Business School (LBS) and event partner NORTHLink, a peak regional development organisation focused on Melbourne northern corridor, jointly hosted the event. They were supported by our Gold sponsor - Agricultural Victoria and the Food Innovation Network, and, Silver sponsor - Advance Business Manager -ABM. The Forum provided a valuable networking opportunity and set the stage for further cooperation and engagement among participants and potential areas of joint research and collaboration.

The overall discussion was very positive in terms of the opportunities AgTech offers Australian food and agribusiness to meet increasing global demand for food and fibre. However, as the following summary identifies several challenges and current gaps were noted over the course of the Forum that need to be addressed to improve the sector's productivity.

The Forum began with three afternoon presentations which included the first key note address by Mr Allan McCullum, Chair of the CANN and Tassal Groups. This was followed by the official launch cocktail event jointly hosted by the Head of the LBS, Professor Jane Hamilton, and CEO of NORTHLink, Mr Chris James. The Pro Vice-Chancellor, College of Arts, Social Science and Commerce, Professor Simon Evans spoke briefly and then declared the event open. The Forum concluded with an interactive regional panel session that reflected on the Forum discussions and addressed questions that emerged over one and a half days of presentations and discussion.

Forum Schedule

15 November 2018

Session one: First presentation by James Fazzino, former CEO Incitec Pivot.

Building a global business in a period of disruption - lessons from an Australian ASX top 50 business

James provided a case study in management on how Incitec Pivot grew from a southern Australian fertiliser co-op to a global ASX 50 diversified industrial chemicals and fertiliser company over 14 years. James elaborated on Incitec Pivot's strategic growth path and discussed learnings from a CEO's perspective including how the company responded to digital disruption in its core businesses. Driven by a culture of understanding what the customer is prepared to pay for, James detailed how his executive team drove a 'gap to perfect' strategy across the business where any identified gaps (against international best practice) meet with goals and actions to improve daily performance. The categories of focus under the strategy included: safety; engagement and morale (people); quality; environment; delivery; productivity; and, cost. A Daily Management System (DMS) was designed to be measured against milestones to reduce the gap to perfect in these categories, and by constantly lifting the bar (redefining perfect), ensuring improvement was continuous. He also institutionalised a problem solving methodology centred on seeking the root cause to the problems (i.e. gaps to perfect) that involved asking 'why' five times. Jame's insights and experience suggested a strategic approach to management for delegates to consider. After all, what is wrong with striving for perfection!

Session one: Second presentation by Joann Wilke, First Assistant Secretary of Agriculture Policy Division, Department of Agriculture and Water.

Towards 2030: Innovation and productivity growth in the agricultural sector

Joann began with a snapshot of Australian agriculture and asked if it was it ready to grow? The agricultural sector has set the aspirational target of reaching $100 billion in gross value of production by 2030. Joann suggests that the target is reachable but dependent on accelerating the sector's productivity growth. Innovation will be crucial to accelerating this growth. While we are in a period of growth in trade and demand for Australia's agricultural exports, this is accompanied by increasing competition from other exporting countries, changing consumer expectations and more stringent market access requirements. These factors are set against a background of changing technological possibilities and increasing populations. CSIRO Futures has identified seven social, economic and environmental megatrends that will have a major impact on Australia over the next 20 years. The presentation explored the opportunities and challenges for continued innovation in the agricultural sector relating to: on-farm productivity; AgTech and innovation; transport; regulations; competition; labour markets and workforce; industry structure and governance; and institutions. Australia needs to increase the yield and efficiency of agriculture production while relying on fewer resources and inputs and mitigating variations in climate conditions. This means a focus on getting growers more accurate agronomic insights, forecasting and risk assessment. Producers will also need access to tools to improve their farm businesses' operational efficiency and financial sustainability. Finally, Australia needs to find cost effective ways of responding to the demands of our trading partners and customers. They have rising expectations on provenance and credence, traceability, production systems, safety, and quality assurance.

Session one: 1st Key Note presentation by Mr Allan McCallum, Chair of the CANN and Tassal Groups

AgTech - Agriculture's Disrupter or Saviour?

Allan's presentation focused on the challenge of how to bring an agribusiness concept to market from a start-up to listing on the ASX in a period of rapid disruption. Allan describes how disruptive technology is changing our daily lives and agriculture is not immune from this digital wave. Allan provided examples of how agriculture has always embraced change and used facial recognition technologies in the salmon industry to make his point that it continues to adopt new technology. He suggests that this latest wave of AgTech is bringing more rapid and greater change to food production and agribusiness through innovations that raise productivity and lower costs. At the CANN Group, he has embraced AgTech and set on a path to building a world-class Australian business in the emerging medicinal cannabis industry. The CANN Group has gone from a start-up in 2014, with an IPO raising of $13m, to a $78m capital raising in November 2017. The CANN Group is now an industry leader in the market compliant with the Office of Drug Control in the US. The company is the first company to be issued with a Cannabis Research and Cultivation Licences by the Australian Government's Office of Drug Control (ODC) in early 2017. The licences authorise CANN to cultivate cannabis for research purposes and to produce Australian-grown cannabis (in association with relevant permits) for medicinal purposes. It has had 24 harvests and its products are being used for a Victorian government paediatric epilepsy cohort. An important point that Allan makes is that while AgTech is a key driver for innovation, gaining regulatory approval and working with regulators in this sector mattered just as much.

16 November 2018

Session Two: First presentation by Andrea Koch, Principal of AgTech P/L , Adjunct Associate Professor at the University of Sydney Institute of Agriculture.

Crossing the Chasm

Andrea gives a very insightful and comprehensive overview of the AgTech revolution underway and of the innovation and production possibilities that the food and agribusiness sector have embraced. The digital transformation of the global economy driven by the IoT has seen a proliferation of connected possibilities; from 0.5 billion connected devices to a predicted 50 billion by 2020. Andrea raised the question and problems associated with clarifying data ownership as an aside – but noted it was as a central concern for many in the Australian farming sector. The AgTech sector in Australia has taken off over the past two years and we are now seeing a proliferation of agriculture and food tech accelerators and incubators across the country. Over the next decade, this sector will become increasingly important in driving Australia's agricultural innovation, but it doesn't have green fields to do this. Australia already has a unique agricultural research, development and extension system. However, Andrea sees a divide between what she describes as the 'rural world' and the 'urban world'. On one side of the divide are the users of on farm technology that is the farmers and the 'ecosystem' of rural suppliers, advisors and consultants. On the other side, are the investment and finance community, tech developers, urban based research institutions and the agri-political groups. These worlds are somewhat disconnected and this needs to change. What is required are AgTech incubators that have innovative farmers and farm-supply operators flowing through them. We also need soil-up tech projects envisaged by farmers and their support teams of agronomists, and technologists who are linked up with rapid development technology teams and seed funding. We need targeted research, including privately funded research that complements the body of publicly funded research knowledge. This will require new research funding models, and for the research community to break out of its symbiotic and co-dependent relationship with the public research funding system. Andrea suggests that there are great examples

of this in the US and the Netherlands, but Australia needs to grow its own agriculture innovation ecosystem to bridge the current chasm.

Session two: 2nd Key Note presentation by Mr Mark Stone AM, Chief Executive Officer Victorian Chamber of Commerce and Industry (VCCI)

VCCI's Agribusiness Taskforce findings

The VCCI Taskforce, comprising agribusiness representatives, academics and industry experts, spent six months investigating the issues and opportunities facing the sector in Victoria in 2017. Agribusiness exports account for some 29 per cent of all Australian food and fibre exports and a significant 47 per cent of all Victorian goods exported. The report called for increased quality, innovation and value capture across the agribusiness supply chain and growing new agribusiness markets. Improving workforce skills and growing jobs builds business capacity and ultimately lowers agribusiness costs. Mark described in detail how the Taskforce identified a need for a stronger focus on innovation in the food and agribusiness industry. He said a rebalance was needed in funding of research away from traditional agriculture to food manufacturing to support wide research and development that has stronger commercial outcomes. This included an emphasis on quality and a priority on early adoption of new technologies, stronger networks, clusters and services to support collaboration, commercialising innovation and research, and developing stronger skills within the sector**.** Infrastructure gaps, particularly transport infrastructure, were identified as holding back agriculture's supply chain productivity. Mark also highlighted examples of where costly and unnecessary 'red tape' was working against the efforts of many producers. The sector is also characterised by an ageing workforce and a comparatively low number of agricultural graduates. Mark argued that this requires measures to address skills shortages and attract more young people to agribusiness careers and this must be a priority both for industry and government.

Session two: Presentation by Joe Manariti, General Manager, Melbourne La Manna Premier Group

Supply challenges and consumer expectations

Joe's presentation offers insights to innovation and research into diseases for different fruit and vegetable varieties from LaManna Premier Group's (LPG) experience. LPG is one of Australia's largest fresh produce supply chain companies which employs 680 people, has 3,400 acres of farms and over 40,000 square meters of warehousing across Australia. Its annual turnover is in excess of $A500 million. LPG continues to invest heavily in research and development, funding new frontiers in horticulture, packaging and cold transport and distribution. The focus is on its people (skills and training), sustainable farming solutions, strategic partnerships, and reducing pest and diseases and food waste. This drives a culture that looks for innovation in protected cropping solutions, resilient fruit and vegetable varieties, and in value adding across the value chain. For example, the company has invested heavily in protected crop solution including three-stage $A50m retractable roof greenhouse facility in Lancaster, Victoria, to produce environmentally sustainable hydroponically-grown gourmet tomatoes. This facility extends the growing session by four month, reduces pest and diseases, minimises power and water usage, and yields 8 times per square metre more product when compared to field grown crop. Joe says the industry needs to continue to search for efficiencies which get products to consumers in the shortest possible time and in the best condition. It needs to gather and analyse data to understand how the growing and harvest processes, transportation and retailers experiences affect consumer choices.

Session three: 1st Panel presentation and discussion

The science and technology possibilities of food production and manufacturing
Panel members:

- Professor Peter Corke, Professor Australian Center for Robotic Vision, QUT
- Professor Tony Bacic, Inaugural Director of La Trobe Institute of Agriculture and Food at La Trobe University.
- Professor Harsharn Gill – Professor Food and Health Biosciences, RMIT Food Research and Innovation Centre.

1. Peter' Corke's presentation began by reminding us that robotics technology is almost 60 years old –but the best is yet to come. Robotics has revolutionised manufacturing industry but its uptake in many other important industries has been limited until now. Robots are now a commodity technology and have driven productivity and quality grown in manufacturing and logistics. Artificial intelligence, in particular computer vision, has dramatically increased the fields into which robots can be employed. His talk covered robotics, AI and computer vision technologies with particular examples on what they mean for food production. He makes the point that we can now feed ourselves with a fraction of the labour previously required because of advances in these areas and agri-science. The surprising, and inconvenient, truth, however, is that robot systems today are very poor at perception and manipulation. However, Peter says that with vison assisted robotics he can see an alternative future in multiple small (low land pressure) unmanned ground 'agbots' taking the place of very large manned farm machinery (high land pressure) in the near future. Farm machinery control is largely a visual task so we should be able to do it by using a combination of camera and autonomous vehicle technology. A major research project at the Centre for Robotic Vision has demonstrated how vision, inertial sensors and regular GPS can be used to perform many current machine manned tasks on farm. This platform can also carry downward looking cameras that can detect weeds and determine and apply the best solution i.e. physical removal or spraying, in real time. This technology has the potential to reduce pesticide spraying by 90% when perfected. The technology will move along rows of crops, monitoring water levels, soil types and collecting data that can be stored and analysed to help farmers make decisions about harvesting, replanting and pesticide use. When combined with other advances such as virtual fencing and Drones (e.g. in mustering) these types of innovations are leading to major productivity gains in this sector.
2. Harsharn Gill's presentation focused on consumer mega trends and the opportunities and challenges that this presents to the Australian food industry. He reminds us that current research indicates that by 2050 the world's population will be 10 billion and we will need to increase food calorie production by 69% to meet demand. Climate change was also affecting food production particularly on small-scale producers in poorer countries. Globally, we also see an ageing population and a rise of health costs and conditions associated with diet or life-style choices i.e. obesity, diabetes, stomach and colon cancer, etc. At the same time, as incomes rise in developing economies, there is a change in demand for more protein, meat, diary, fruit and vegetables and prepared foods. Other consumer trends in developed economies are for food as medicine, lower sugar, salt and fat content in foods and greater transparency and traceability in food labelling e.g. what is in my food? How was it produced? There is also a trend to more plant-based products which brands such as Tyson Food's beyond meat products are satisfying. Harsharn highlighted Danone's $10.5 billion investment in plant-based dairy-free products as another example. Smart technology in the food industry is also on the rise, including vending machines with facial recognition that know who you are and what you can eat based on your medical record and dietary requirements. There is also smart packaging and labelling that will be able to be scanned by your phone and confirm traceability and match your

medical and dietary requirements etc. As well as plant-based food protein products Harsharn sees great opportunity in Australia to develop gut microbiome food and products that improve health through aiding better digestive function to combat disease.

3. Tony Bacic's presentation provided an overview and facts of global agriculture and Australia's agri-food sector, its challenges, and opportunities. Tony also highlighted the continuing challenge dry-land salinity plays on Australia's agriculture production potential. Another challenge he sees is how to balance and translate paradigm-shifting discoveries into agricultural practice and consumer acceptance when you are working on the cutting edge of agri-science. Tony used the controversy surrounding genetically modified (GM) crops as an example of a discovery that has meet with strong consumer resistance, despite its obvious potential. He uses the example of cotton and canola production in Australia as example of GM success and made the interesting point that GM medicines and drugs seems to be more widely accepted by consumers. Tony discussed another challenge to future agriculture production in the form of abiotic stress. Events such as droughts, floods, extreme temperatures, salinity, pathogen attacks etc. negatively impact growth, development, yield and seed quality of crop and other plants. Therefore, there is an urgency to develop crop varieties that are resilient to abiotic stresses to ensure food security and safety for the years to come. The vision of the La Trobe Institute of Agriculture and Food is to find solutions that enable sustainable agriculture that provide food of quality and quantity to meet increasing global demands. His areas of focus are: soil and agronomy; fit for purpose seeds; quality dietary fibre; and medicinal agriculture. Finally, Tony suggests that part of the solution is for agri-food scientists and health scientists to come together on joint research projects. Issues such as the nutrition of an aging population together with the rise in incidence of life-style diseases such as diabetes, obesity and colon cancers etc. are better addressed by joint research of this nature.

Three concurrent Master Class Sessions:

In this part of the schedule delegates chose to attend one of three Master Classes on offer:

A. Design Thinking and Start-up Principles

Presented by La Trobe's Professor Alex Maritz, LBS Professor of Entrepreneurship

This master class provided insights into the exploration and exploitation of disruptive innovation, using entrepreneurship tools to facilitate commercialisation and transformation. Alex explores The Lean Startup and Business Model fundamentals; not only for start-ups, but those dynamic organisations wishing to transform methods of operation, creation of customer solutions and value propositions to achieve high growth imperatives. Alex also explored initiatives such as fast iterations, the minimum viable product (MVP), components of lean business models and entrepreneurial ecosystems. Alex concluded by validated learning through testing assumptions associated to food and agribusiness transformation and disruption including Farmwall.

B. Data Analytics for Food and Agribusiness

Presented by La Trobe's Dr Kok-Leong Ong Associate Professor, Program Director (Business Analytics) LBS

This master class provided an introduction into how digital technologies like IoT devices and the digital supply chain can create opportunities to utilise data to help drive the food and agribusiness industry. Aniruddha introduced to delegates to (1) the various digital technologies ripe for use in the industry; (2) how these technologies can enable data analytics to generate important and timely decision support; (3) existing application with examples; and, (4) how the food and agribusiness industry can systematically adapt these digital technologies.

C. Industry 4.0 for Agribusiness.

Presented by La Trobe's Dr Aniruddha A. Desai Director, Centre for Technology Infusion Technology Enterprise Centre

The master class provided an overview of Industry 4.0 and the global trends in advanced manufacturing and automation in context of Agribusiness that are transforming the industry. Supported by case studies from both large and small scale operations, the master class focused on review of technologies that are empowering future connected farms and next generation production equipment from automated tractors and machines to farm to fork traceability and logistics technology of the future.

Session four: presentation by Sera Lee and Geert Hendrix co-Directors Farmwall

How Farmwall uses food to implement sustainable changes from within

According to Sera and Geert the delivery of sustainability is shifting through the rise of the experience economy and the push for health and wellness within our urban landscape and this is being aided by and innovations in Agtech. Farmwall is showcasing how a combination of technology and customer service can bring meaningful experiences through food, with positive social and environmental outcomes. Farmwall is a community-oriented social enterprise that aims to grow fresh, local and natural produce in close proximity to cities and food venues. This concept provides custom design, installation, and maintenance of vertical farms and fresh produce maintenance systems inside restaurants to provide high-value crops at chefs' fingertips. Environmentally, the Farmwall reduces food miles, food waste, pesticide and herbicide usage, water and energy costs, and deforestation. The mindset of staying agile and embracing a disruptive business model has brought the startup one step closer to their vision of creating 'cities that feed our planet'. Their business model is to lease their infrastructure on an end-to-end service model, based on a subscription fee. They have also teamed up with Mirvac property group to challenge the business to come up with ideas for re-using car parking spaces when driverless cars became common and didn't need parking bays. Mirvac is a leading, diversified Australian property group, with an integrated development and asset management capability ($A18 billion in assets). Mirvac has transformed the basement of the EY Centre into an urban farm under its Cultivate pilot program. The farm hosts veggie patches, a hydroponic vertical farm and a vertical 'Farmwall', each growing their own varieties of herbs and leafy greens. It also produces mushrooms, grown in coffee ground waste saved from landfill.

Session five: Presented by Scott McKenzie, Chief Executive Officer SensaData

Digitisation of supply chains and the effect of the IoT on Australia's food and agribusiness

Scott presented a case study on his company's Smart-r-Tag, which has gone through successful trials with one of Australia's leading growers and packers of fruit and vegetables. The full-stack system (available commercially next year), which can be used with food and other condition-sensitive goods such as pharmaceuticals, provides complete information on a product's journey from its origin to the end-user. The Smart-r-Tags can be attached to a carton, crate or pallet and will show the product's location, temperature, surrounding air-quality and handling throughout its transit from supplier to wholesaler, distributor and retailer. If a product is damaged or spoiled, the tag will prove where, when and how it occurred. With food-safety regulations being tightened, the Smart-r-Tag is able to prove that a product has been kept in optimum condition at all times, and even provide information on shelf life of goods. The shelf-life of strawberries, for example,

increases from three days to 10 days if they are kept at a constant 1C rather than being exposed to a temperature of 5C. For seafood, the shelf-life increases from one to five days. The tag system is re-useable and decreases costs, spoilage and waste for everyone in the supply-chain from producer to consumer. As food waste is one of the world's biggest carbon emitters and the Smart-r-Tag also helps reduce those emissions. At the heart of this solution is a miniaturised system-on-a-microchip developed by researchers at La Trobe's Centre for Technology Infusion. It also has next-generation wireless communications technology as well as sensing, data logging and on-chip analytics, for maximum functionality at lowest power-use and cost, and allowing cost-effective large scale operational implementations. Data generated by the system is transferred to cloud systems for generation of knowledge and insights through analytics, and presentation to end users and clients for alerts, reporting and re. Opportunity for comparisons with open-source larger data sets will allow and support industry-wide best practice assessments and advances in productivity and outcomes across Australian agriculture industries.

Session six: 2nd Panel discussion

The front-line of innovation application

Panel members:

- Sam Birrell CEO, Committee for Greater Shepparton -facilitator
- Janelle Boynton, Managing Director, Phoenix Life - panel
- Jane Foster, Agribusiness Consultant, ORM - panel
- Aimee Snowden, The Lego Farmer, Little Brick Pastoral - panel
- Associate Professor Ashley Franks, Physiology Anatomy & Microbiology, School of Life Sciences- panel

The following captures some of the views of the panellist and general insights form delegates in the Q&A session.

Sam opened the panel discussion by outlining the themes of the Forum and asked panellists and delegates to consider their implications. Each panellist then introduced themselves and outlined their connection or interest in this industry and the key themes. Aimee Snowden presented on two of her recent initiatives. The first was her aim to make it easier for young people to consider a career in agriculture through her project, Little Brick Pastoral. Little Brick Pastoral which is an education tool for students, teachers and adults to learn more about the agricultural industry and careers in Australia through Lego. The second was the #ThisisAusAg initiative. Eight leaders from the first National Farmers' Federation 2030 Leaders Program came to develop a platform to build leadership capability and awareness in the agricultural sector. The initiative represents the breadth and diversity of the elements that contribute to Australian agriculture and focuses on various social media platforms to convey their message.

Ashley discussed his research and how it explores the underlying genetics relationship between autism and changes to microbes (bacteria) in the digestive system and stomach. Symptoms associated changes mood behaviour, people with Autism Spectrum Disorder (ASD) often have gastrointestinal problems and bacteria, or microbiota, which are known to affect mood and behaviour may be important in these cases. So mapping microbes in the gut and seeing how food affects this may help us to understand how the brain and bacteria interact. This research has the potential to develop treatments that improve mood, behaviour and quality of life.

The general panel discussion then centred on the medicinal cannabis (marijuana) industry and its potential as the next big agriculture industry for Australia. It was suggested that the nation's legal medicinal cannabis market, currently valued at about $17 million annually, could grow to $3 billion within 10 years. It was noted that the cannabis industry could grow even more if the recreational market was legalised. Panel members stressed the recreational and medical cannabis industries are on very separate paths with a major focus now to discover safe ways to treat epileptic seizures, arthritis and inflammation, PTSD and other medical ailments. Also, it was noted that for centuries cannabis had been cultivated for use in a number of different ways, from making paper, rope, sails, cloth, and packaging, to being burnt for fuel and drunk and eaten as food. So this industry offers great potential for highly diversified agribusiness.

There was agreement that AgTech is driving innovation across Australia's food and agribusiness sector, but this may be more accessible to the top 20% of producers or firms because of their scale and size rather than to smaller operators. But this was challenged by others who saw a future for small scale initiatives such as the Farmwall – who are both highly innovative and have adopted AgTech as part of their offering.

Nonetheless, the discussion suggested that advances in sensor technology and big data, for example, offered the potential for farmers to make better decisions on what crops to grow and how to grow them. This will also leads to more efficient use of inputs (highest area of costs). It was argued that this with better information on changing consumer demand would lead farmers to focus more on grain traits and processor needs (i.e. higher valued end products) and less on always producing the highest yielding crops.

One panellist also commented that climate volatility was also having a significant impact on the viability of broadacre grain farming. In the past most farmers assumed one very good year in three so they could build cash reserves to protect themselves through poorer seasons. However, the increased volatility of weather events was making this far less predictable.

The general view from the presentations is that research across this sector needs to become more join-up, as there are too many researchers and firms operating in isolation. Also, education of the consumers (on product knowledge and benefits) needs to be a major focus in going forward. Similarly, there needs to be an emphasis on a training and skilling development of youth - with an emphasis on a range of new capabilities required in an AgTech and data driven industry.

There were several comments raised in the Q&A sessions around the issue of data rights and ownership in the agriculture industry. The future of big data in agriculture is often promoted for its benefits, but not for the challenges it raises. The adoption of digital data across the farm sector has been slow to embrace because of concerns around data security, privacy, and competition. There are concerns in this sector about how data is to be collected, controlled, used and accessed which yet remains unresolved.

Finally, there was strong support from the panel for La Trobe's newly announced City of the Future initiative with the Victorian state government that will deliver $5 billion over ten years to new investments across the university. This includes a world-class research and innovation cluster which leverages La Trobe's research and innovation strengths in agriculture, food and fibre, health and wellbeing sciences.

Key Takeaways

To maximise innovation in Australia's food and agribusiness discussions centred on bridging critical 'gaps': The gaps include the following:

- 'Gap to Perfect' – As Fazzino suggested driving strategic management of firms to address the gaps between Australian business performance across the value chain and international best business practice;
- Gaps between farm technology (farmers and their 'ecosystem') and the investment and finance community, tech developers, urban based research institutions and the agri-political community;
- Gaps between agriculture and health scientists and researchers;
- Gaps in youth education and training for this sector (i.e. data analytics; AgTech, computer and science literacy)
- Gaps in expectations across customers (demand), producers (supply) and researchers (R&D);
- Gaps in telecommunications and transport infrastructure holding back agriculture's supply chain productivity;
- Gaps in accurate data and agronomic insights for forecasting and risk assessment;
- Gaps in the application of vision assisted capability in farm and manufacturing robotics;
- Gaps in Australia's current AgTech and agricultural science research funding models; and,
- Gaps in the use of agriculture big data use driven by legal, privacy and cultural concerns.

The generally agreed view by delegates and speakers was that these gaps are not insurmountable but in the Australian context require greater private and public collaboration and investment to effectively bridge.

Organising Committee members

Dr Mark Cloney, Professor of Practice Economics, Department of Economics and Finance, La Trobe Business School - convener

Professor Jane Hamilton, Dean La Trobe Business School - member

Mr Chris James, CEO NORTHLink - member

Dr Aniruddha Desai Director, La Trobe's Centre for Technology Infusion - member

Associate Professor Ashley, Physiology Anatomy & Microbiology, School of life Sciences - member

Mrs Sallie Carman, Event Manager La Trobe Events – associate member

This report has been prepared by Dr Mark Cloney, Professor of Practice Economics, Department of Economics and Finance, La Trobe Business School, December 2018.

Artefacts, including NIF schedule, speaker biographies, and presentations are available on the LBS website http://www.latrobe.edu.au/business.

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