

# Breaking new ground

*A report on the state and future of agtech in Australia*





## ACKNOWLEDGEMENT OF COUNTRY

RSM Australia acknowledges the Traditional Owners of the lands and waters on which we live and work. We pay respect to Elders past and present as the custodians of their culture and continuous connection to Country.

*Artwork entitled "Koora-Benang-Bidi" by Michelle Kickett depicts Perth's waterways symbolising RSM's establishment on Whadjuk Country over 100 years ago, and captures the firm's growth across six states and territories of Australia.*



# FOREWORD

**As we approach a transformative era in agriculture, it gives me great pleasure to introduce *Breaking new ground: A report on the state and future of agtech in Australia*.**

This report delves into the dynamic landscape of agricultural technology (agtech), offering insights into the challenges, opportunities and innovations that are shaping this sector. In addition, the role of government in supporting agtech adoption is discussed with recommendations for ways to support adoption of agtech.

Australia's agricultural sector has long been a cornerstone of our economy, providing sustenance, livelihoods and a significant contribution to our GDP. However, with a growing population, pressure on resources and the impacts of climate change, the necessity for advanced solutions that drive productivity, conserve resources and mitigate environmental impact has never been greater.

As our population grows and global challenges such as climate change and resource scarcity become more pronounced, the need to enhance the efficiency, resilience and sustainability of farming practices has never been greater. At the intersection of innovation, sustainability and economic growth, the agtech sector has the potential to shape our nation's agricultural practices for years to come.

With a projected market value of US\$33 billion by 2027, agtech is set to drive innovation across the spectrum of agricultural activities, from precision farming to supply chain management. The convergence of cutting-edge technology with agricultural traditions offers a unique opportunity to harness data-driven insights for optimal resource allocation, reduced environmental impact, and heightened yields.

However, there are challenges ahead, with connectivity gaps in rural areas, concerns about data security and the need for farmer education, a holistic approach is needed to spur agtech adoption.

Providing insights from a bespoke RSM survey, together with expert insights from key RSM industry specialists, and original agtech case studies, this report provides a comprehensive analysis of the state of agtech adoption, key challenges, industry opportunities and future directions.

Agtech is not just an exercise in innovation, it's a beacon of hope for a sustainable, efficient and resilient future for Australia's agricultural landscape.

This report is an invitation to come together and seize the opportunities that agtech offers and help foster a vibrant future for Australian agriculture.

**Mathavan Parameswaran**  
National Leader of Technology, RSM

# SUMMARY OF RSM'S TECHNOLOGY SURVEY

Conducted in July 2023, the survey gathered responses from 41 participants across different parts of the tech industry, providing insights into their business types, roles, revenue projections, concerns, opportunities and perceptions of government policies.

**Managing cash flow, attracting and retaining staff and advancing into new markets are the major areas of focus for tech businesses as they navigate the evolving landscape.**

## Economic outlook is generally positive but challenges remain

Businesses generally have optimistic revenue projections, but the increased concern about cyber threats suggests a recognition of potential risks. The opinions about the National Reconstruction Fund's impact on competitiveness in renewables highlight the complexity of the issue.

Most respondents (71%) are confident in achieving revenue growth in 2023/24 compared to the previous year. However, there are doubts about the National Reconstruction Fund's impact on competitiveness in renewables.

A majority (56%) indicated that the Federal Budget's impact on the tech sector was not what the sector needs. In the last 18 months, when it comes to Australia making inroads in not losing medtech ideas being commercialised overseas, 57% think it's getting worse, while 28% think there's been a slight improvement.

## Federal Budget's impact on the technology sector

**44%**   
Good for sector

**56%**   
Not what the sector needs

Other concerns include the global downturn in tech, the sector being slow to adopt new solutions and the cost of overheads. On the upside, some respondents see increased regulation as an opportunity and the positive impact of climate targets in driving innovation in agtech.

## Biggest risks to businesses

Cashflow, staffing costs and attracting/retaining staff are the top concerns, although interest rates, access to funds and increased scrutiny on the industry also figure in the list of concerns. Cyber threats are a concern for businesses, with 61% reporting increased concern compared to the previous year. Respondents also see a need for increased investment in cybersecurity and better preparedness against threats.

## Environmental considerations

There was an even split (42%) on the question of whether the Federal Government's money allocated to renewables and low emissions technologies would make Australia more competitive. Just 14% think it will make us much more competitive.

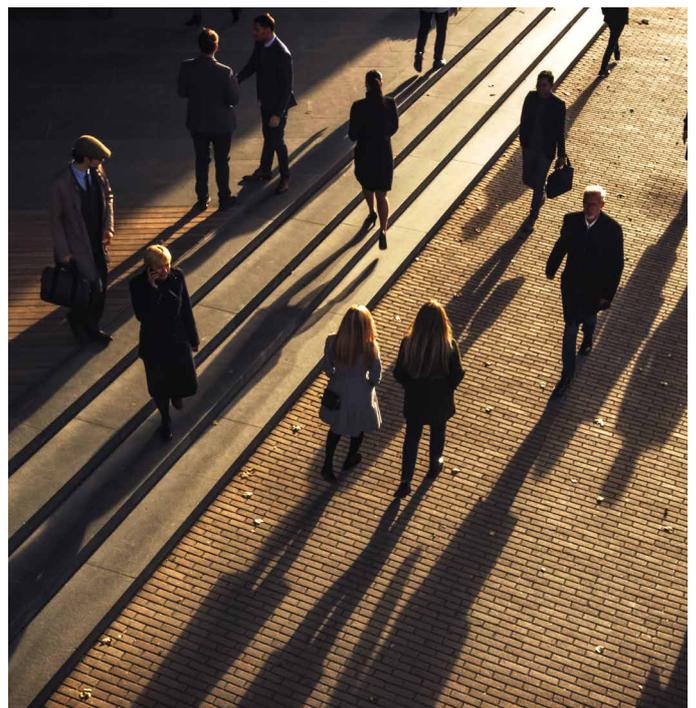
Just over half of respondents reported being unprepared to adopt the new globally consistent sustainability reporting standards.

## Business use of AI

AI is being used for various purposes, including as part of the product offering, testing and trials, documentation and predictive analytics, with some businesses looking to use it to improve software engineering and customer service.

## Gender diversity

A majority of respondents (68%) felt that the measures announced in the Federal Budget were inadequate for improving gender diversity in the tech industry.



Of the businesses polled, almost a third had revenue of \$50m to greater than \$250m, another third with \$10m–\$50m revenue and the remainder had revenue less than \$10m.

### Level of confidence about revenue projections for 2023/24



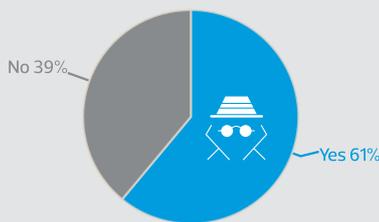
### Top three business risks for 2023/24



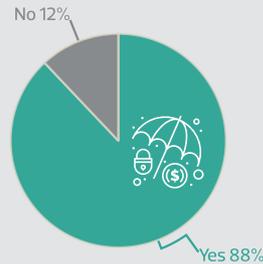
### Biggest opportunity to grow the business in 2023/24



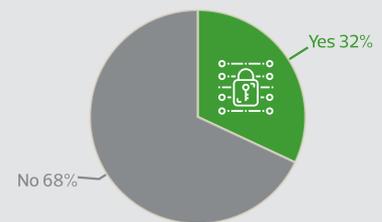
### Are cyber threats more of a concern now than last year?



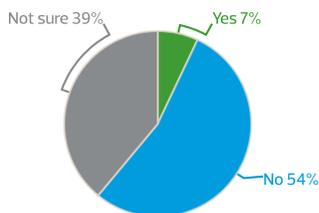
### Will you be increasing investment in cyber security measures in the next six months?



### Are the measures announced in the 2023/24 Federal Budget adequate to improving gender diversity in the technology industry?



### Do you expect to benefit from the National Reconstruction Fund (NRF)?



### Impact of Federal Government's move to clear migration backlog and change visa requirements



### Access to capital markets in current environment



*In July/August 2023, RSM Australia surveyed technology leaders comprising CEOs, CFOs, Directors and Department Heads from a cross-section of Australian technology businesses from subsectors such as medtech, cleantech and agtech to gather their perspectives on how the sector was faring.*



# Introduction



## **The agtech sector in Australia is fertile ground for investment, with a wide range of innovative solutions being developed to improve the efficiency, productivity and sustainability of farming practices.**

Driven by the increasing demand for food from a growing population, the need to improve agricultural output and address climate change, the agtech sector is projected to have a market value of US\$33 billion by 2027, according to [BIS Research](#).

This report examines the state of agtech market and future direction alongside bespoke RSM research on the state of tech sectors, including agtech, in Australia. The RSM survey, conducted across June and July in 2023, asked respondents their views on a range of question on business confidence, investment plans, economic challenges and government support.

Business confidence is still strong, with 70% of respondents to the RSM survey forecasting revenue to be higher this financial year than the previous one. However, in the short term, cash flow is seen as the

biggest business risk, followed by the concerns about staffing costs and retention. There are also worries about access to funds along with interest rate rises and looming cyber threats as key concerns.

There are a number of challenges facing the Australian agriculture sector, such as inflation and rising input costs, labour shortages and changing consumer preferences. To address these challenges, agtech is emerging as a valuable way to improve farming practices and business management, and with the right industry support, farmers have the potential to adopt new, innovative tools and technologies to build a more sustainable and profitable future for their businesses.

# SNAPSHOT: Key trends in agtech

The agriculture industry is a major driver of economic growth in Australia, creating jobs and helping to boost the Australian economy.

This growth is driving the development of new technologies and innovations to improve farming practices, with digital technologies estimated to increase the agriculture industry gross value of production by more than \$20 billion annually, according to the Australian Farm Institute.<sup>1</sup>

Agtech solutions can help farmers to improve their yields, reduce costs and become more sustainable, helping to build a secure, resilient food supply for the country and improving incomes for businesses.

There are several key trends in agtech innovation relevant to the Australian context:

## Robotics and automation

Robotics and automation are being used to automate tasks such as planting, harvesting and livestock management, helping to improve the efficiency of farming processes, reduce time and lower labor costs.

## Precision agriculture

Precision agriculture is a farming approach that uses data and technology to target inputs (such as water, fertiliser, pesticides) more precisely, resulting in increased yields, lower input costs and reduced environmental impacts.

<sup>1,2</sup> Department of Agriculture, Water and the Environment: Digital Foundations For Agriculture Strategy report, March 22

## Big data and artificial intelligence (AI)

Big data and AI are being utilised to help farmers to make informed, data-driven decisions about crop production, livestock management and resource allocation.

## Sustainable farming technologies

Sustainable farming technologies are being utilised to help farmers reduce their environmental impact by monitoring and conserving water, feed and fertiliser.

The agtech industry is still in the early stages relative to other global players, but there are a wealth of opportunities to develop new technologies fit for purpose and tailored to Australia's unique climate, growing conditions and supply chains. As we approach 2030, new and emerging technologies will continue to transform the modern agriculture sector into a globally competitive market that is an attractive destination for investment.<sup>2</sup>

"When it comes to controlling cropping inputs, soil testing is essential to identify where fertiliser needs to be applied heavier or where it can be reduced, or determining how much seed needs to be applied for optimum germination for example. It's making sure your inputs are applied to get the best value and helping farmers combat increasing costs."

**Ross Paterson**

National Leader – Agribusiness, RSM

## INNOVATION SPOTLIGHT



### GeneFlow: Precision Genomics for Enhanced Breeding

[GeneFlow](#) specialises in breeding technology that combines genomics with advanced artificial breeding technologies (such as IVF) with the goal of improving the rates of genetic gain and increasing the numbers of superior offspring for sale.

"We are working to improve the IVF systems in Australia and allow us to catch up to the rest of the world and gain that same advantage that the rest of the world sees with IVF," says Keith Hay, Founder, GeneFlow.

Hay believes Australia still needs, as does the whole world, more base research in animals, particularly now that we're going forward into feed efficiency and climate change-related considerations. "For instance, where heat stress might be a problem, with genomics, you identify a gene that can handle the heat stress or a gene for feed efficiency, you want to multiply that gene through your animal populations. Embryo technologies and genomics go hand in hand to fast track these kinds of improvements and this delivers innovation," he says.

However, one reason Australia has lagged behind is that there aren't that many skilled technicians who can do IVF

here. "The challenge is the IVF labs cost a significant amount of money and there are more moving parts in an IVF system." Furthermore, with the demise of the state agricultural bodies, agriculture has gone backwards in terms of research, in his view, but farmers are always looking for new, innovative solutions.

"Australian farmers are pretty good at adapting new technology, but it has to be mature to deliver consistent outcomes and produce the required results to justify the cost of the investment," Hay says.

With things such as Angus and Wagyu beef, as our consumers' tastes change, there's a need to adapt as part of the commercial meat production. "The challenge with this type of agtech innovation in cattle is that the lead time is roughly two years and then again for the offspring to breed it's three, so it's a three-year generational interval to get a result," he says.



# Challenges in agtech adoption

**Globally, agriculture is less digitised compared with many other industries, consulting firm McKinsey has noted, while land and farming input is constrained and the demand for food is growing.**

Agtech has the potential to significantly improve farming processes and output, yet there are still a number of challenges that need to be addressed to support the adoption of solutions in Australia. In some areas, connectivity infrastructure is lacking and some farms are slow to adopt digital tools, McKinsey has found.<sup>3</sup>

It's vital to understand and address these hurdles to be able to unlock the value of digital adoption, support the uptake of agtech and help farmers and the country reap the benefits.

## Showing clear benefits of agtech solutions

Running a farming business means being time poor, so farmers need to see clear benefits and results to make it worthwhile to change existing processes and practices and adopt agtech solutions. Proven, measurable results and return on investment are vital proof-points for an agtech solution.

## Regulatory considerations

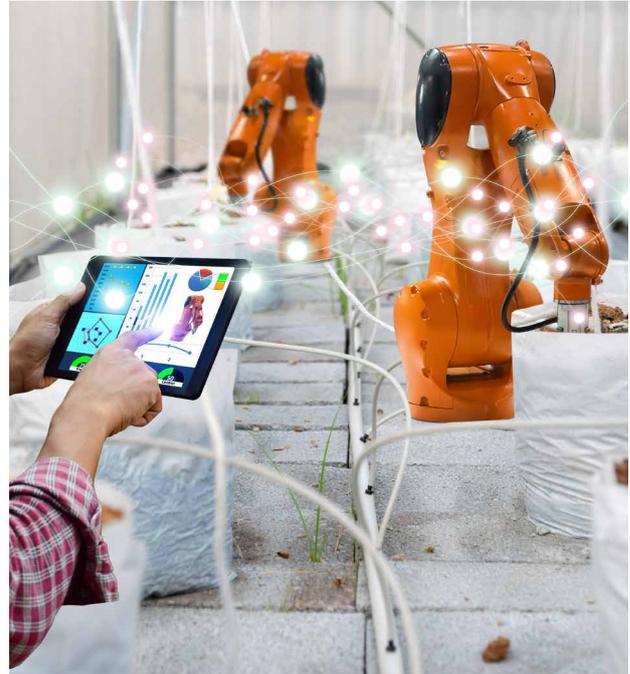
Agriculture and food production is subject to a range of regulation and therefore farmers will need to consider the regulatory settings when considering adopting any agtech solutions across their farms.

## Potential risks associated with agtech solutions

Some agtech solutions can be expensive and complex to implement, and may not deliver the expected results. Farming businesses have high input costs and can't afford to adopt new technologies that won't deliver a return on investment.

## Resistance to changing traditional farming practices

Some farmers are resistant to change and prefer to stick with traditional farming practices, being unsure of the benefits, uncomfortable using new technology or finding it less effort to use tried and tested methods.



## Customisation and integration with existing processes

Farm management systems today are complex. A potential agtech solution will need to be compatible with existing systems while also having scope to be customised to the needs of the farm.

## Limited access to reliable internet and technology infrastructure in rural areas

In some rural areas, a lack of reliable internet or technology infrastructure can make it difficult to implement agtech solutions.

## Data privacy, cybersecurity threats and safeguards

Farming businesses face the rising cybersecurity threats that all businesses must contend with today. In addition, the growing adoption of technology in farming practices is introducing new security concerns. IoT technology, sensors, automated machinery and GPS tracking can open up opportunities for cyber criminals and threat actors to do nefarious things.

Furthermore, agtech systems collect a lot of data about farms and farmers, which can be highly sensitive and valuable, and the concerns about security and privacy risks can stymie the rate of adoption.

<sup>3</sup> [www.mckinsey.com/industries/agriculture/our-insights/agricultures-connected-future-how-technology-can-yield-new-growth](https://www.mckinsey.com/industries/agriculture/our-insights/agricultures-connected-future-how-technology-can-yield-new-growth)



“When it comes to agribusiness, cybersecurity, and even an understanding of IT (information technology), hasn't really been a strong point with the sector. Organisations, before they actually deploy these technologies, need to think about security as part of the deployment process. Security need to be built into the project itself so the technology is being rolled out securely.”

**Ashwin Pal**

Director, Cyber Security and Privacy Risk Services, RSM

**Environmental and ethical implications**

Some farmers may have concerns about the environmental and ethical implications of agtech adoption, with worries about solutions that require the use of more water or pesticides, or other practices.

“In terms of challenges, there are competing priorities in terms of carbon farming projects, potentially taking land out of production and shrinking the food bowl, which is already under pressure from urban sprawl.

And in the current climate, there are certain factors coming into play, inflationary pressures, rising interest rates, increasing wages, and all that takes away the disposable income available to invest. This could see a slowdown in investment to some extent, but it's also tempered by the desire and need to adopt new solutions for combating climate-related issues.”

**Ross Paterson**

National Leader, Agribusiness, RSM

## How agtech can tackle environmental, sustainability and emissions reductions challenges

The adoption of agtech faces two primary challenges, or opportunities, in the agriculture sector. Firstly, a notable shift in consumer preference towards sustainably and ethically sourced products, underscoring a growing predilection for environmental conscientiousness. Secondly, financial institutions are ramping up their scrutiny of the sector, focusing keenly on its sustainability practices and emissions profiles alongside traditional financial considerations. This increased scrutiny coincides with the upcoming IFRS S2 regulations that mandate larger agricultural firms must fully disclose their emission profiles, bringing in a time-sensitive and significant change to how agricultural companies do their sustainable reporting.

In response to these pressing challenges, the agtech sector is developing strategies, particularly emphasising three avenues: emission quantification technology, productivity enhancement technologies, and energy efficient technology and increased engagement with the carbon credit market. With the rapid development of emissions quantification, agricultural technologies are at the forefront, facilitating precise data collection and analysis for reporting. This initiative supports the creation of effective emission reduction strategies and aligns with the growing consumer appetite for eco-friendly products and enhanced market competitiveness.

Concurrently, increased innovations in productivity enhancement for agricultural technologies, aiming to boost output while reducing resource usage, are resulting in significant emissions reductions and the preservation of local natural resources, all while achieving cost savings and superior product quality. Once again, this gives agtech a great opportunity in the competitive market to satisfy consumer demands.

**“Finally, the sector has seen increased engagement with carbon farming initiatives and identifying carbon farming opportunities. Reducing emissions under a carbon farming scheme allows agricultural companies to augment revenue streams whilst advancing sustainability projects through generating voluntary carbon credits. Investing in agtech solutions that identify more carbon farming opportunities will give the sector a better foothold to withstand financial scrutiny.”**  
**Jacob Elkhishin, National Leader, Energy, Resources & Sustainability, RSM**



# Opportunities in the agtech sector

**Looking at where to find business growth in the coming financial year, just over half of respondents in the RSM survey are looking to find the opportunities for growth in new markets, while 20% are looking to specialist technology, with 15% seeing scope for expansion through M&A moves.**

Funding is always vital for business growth, and when it comes to access to capital markets in the current economic environment, there's a fairly even spread. In particular, a quarter of respondents say a lack of access to capital has promoted M&A activity, while another quarter have had to reduce their valuation expectations. Yet 28% are undertaking cost cutting measures, while 22% are struggling to access the funds they require.

Australia is well-positioned to capitalise on the growing agtech industry, given its strong agricultural sector and thirst for innovations that address our unique needs.

There are a number of emerging areas in agtech, such as precision agriculture, robotics and AI which offer significant growth potential for agtech companies as farmers turn to innovative solutions to help address the challenges of climate change, resource usage and changing consumer preferences.

## Climate change mitigation

Responding to the impacts of climate change is arguably the number one priority across agriculture and farming. Through necessity comes innovation and so agtech is an important avenue to develop tools that help address carbon emissions.

## Sustainable farming practices

Agtech can be used to help farmers adopt more sustainable farming practices, allowing them to reduce the environmental impact of agriculture and make it more resilient to shifting weather patterns, the threat of pests and destructive diseases.

## Data-driven, predictive modelling

As more farm data is collected it provides greater scope for farms to apply analytics and AI-driven predictive

modelling to help identify changing weather patterns, soil characteristics, feed, fertilisers, water and other inputs usage to make data-led decisions and timely adjustments.

## Precision agriculture

Using a range of different technologies, such as crop, soil and environment sensors, drones, IoT tracking, GPS-guided machinery and intelligent modelling, farmers can apply precision management across many different farming systems to monitor crop and soil health, detect changes and help lower the environmental and economic risks of farming.

## Scope for other innovative agtech solutions

There are still a number of areas in the Australian agricultural sector, such as biotechnology, regenerative farming practices, water management and Indigenous land management, which are underserved by agtech solutions. These areas offer potential for agtech companies to develop new products and services to meet the challenges farmers are facing today and into the future.



### The RSM View

"The trend towards automation is one of the ways that drivers have been transforming farming practices over the last 15 years. It started with tractors being wired up with GPS capabilities and that led to auto-steering capabilities. You still needed people in the tractor, but the tractor was basically doing the seeding role. With innovation, it's now become a driverless operation.

"It's fairly new, but there's a lot of activity around soil carbon projects, where farms can generate carbon credits to help offset some of their emissions and potentially use any extra carbon credits that might be generated as a separate revenue stream for the farming business.

"Looking ahead, AI will play a major role in coordinating all of the important data, such as climate forecasts, weather variations, water availability and other things that can impact the growing season allowing the farmer to make informed decisions that reduce production risk.

"Some of the biggest trends reshaping the industry are control systems and automation and this links to big data and the cloud. It's the boost in efficiency and productivity that this delivers to the farm and it's output.

Going hand in hand with the new technologies now on farms is the link with big data. That enables collecting climate data, soil data and other metrics so that it can be analysed and linked to micro-climates. This allows farmers to tailor their approach using insecticides, pesticides and the application of those as efficiently as possible for crop production."

### Ross Paterson

National Leader for Agribusiness, RSM

## INNOVATION SPOTLIGHT



### ORIGO: The importance of a complete agtech product suite

Origo designs and manufactures unique technology for a wide range of farming systems and requirements that enables farmers to monitor and remotely control even very large broadacre and remote livestock operations, including weather stations, tanks systems and cameras.

On the time it takes to establish a brand in the market, Annie Brox, CEO of Origo says it's important to demonstrate what the services and the technology are able to do, and that the best agtech tools are comprehensive product offerings.

"A solution is not a product, and there is a real difference between the two. Just buying bits and pieces from overseas is a solution, it's not a product. A product comes through owning the technology, from the electronics to

the software, owning the platform and developing and owning the services" she says.

"We provide a service with every device. So we see the heartbeat of each one of the numerous devices that we have out there and this comes back to the Origo.ag operation centre."

The size of farms is growing and that means there's great variability across the farm operations and that can be weather patterns, livestock and grains. Inputs such as feed, water and fertiliser, are worth millions of dollars, so managing variation and making inputs much more efficient is extremely important.

Brox says it's vital to provide the information and data that farmers can trust to make those decisions. "An IoT solution like ours goes beyond remote monitoring to have automation on things like water tanks that enables farmers to make significant savings on water resources, for example," she says.

When government is looking at how to support the industry, they need to understand that a small percentage of the business they're supporting will get to a large scale or even medium scale, and supporting the business through the whole growth cycle, and not only the initial stages, is important when businesses show success.

"They need an understanding of the different principles behind what the business is trying to do, especially when it's aiming to develop a full product suite, rather than just being a consulting business and a solution provider."



# Government support and cross-sector collaboration

**The Australian government is providing support for agtech innovation through a number of initiatives, including \$30 million for a new National Centre for Digital Agriculture and funding regional Innovation Hubs to assist digital uptake.<sup>4</sup>**

It's also working to have a more coordinated approach across government and industry to improve digital technology across the economy, which includes the Digital Economy Strategy and plans to support AI, critical technologies and simplifying trade ICT systems.<sup>5</sup>

Cross-sector collaboration also plays a role in the growth of agtech in Australia, with the Food Agility Cooperative Research Centre one example of researchers, farmers and businesses working to develop new agtech solutions. Together, these initiatives are helping to build a more supportive environment for agtech startups and businesses.

Businesses across a range of sectors don't view the recent Federal Budget favourably, with 56% regarding it as not what the sector needs, the RSM survey found. Respondents shared a range of views, both favourable and not favourable.



## SURVEY SNAPSHOT: Thumbs down for the budget

- » "It limits technological advancement."
- » "No new negative tax positions, but also no relief from the continual overreach of the ATO as compared to other countries."
- » "Ultimately the tech sector needs tax concessions and more liberal employment policies – we have neither from this year's budget."
- » "Nothing for the sector in terms of incentivising startups and building the businesses of the future."
- » "So many great programmes are being discontinued at both State and Federal level."
- » "Supply chain seems to be an area which doesn't seem high on the agenda."

- » "More funding should have been allocated towards increasing innovation activities in order to help businesses drive productivity, digitisation and adoption of generative AI."
- » "Should have more funding for bolstering cybersecurity for business."



## SURVEY SNAPSHOT: Thumbs up for the budget

- » "It is great to see support schemes defined for key areas like AI that could allow more Australian companies to become competitive."
- » "Increased estimates of skilled immigration into the country will assist in bridging the skills gap that is existing across the nation."
- » "Investment in renewable energy is a positive step, especially investment in grid infrastructure."
- » "Increase in funds for start-ups to commercialise their ideas and grow operations."
- » "Although the budget is not focused on the tech sector, it does however cover a number of related areas including quantum, AI, EV and support for startups/SMEs."
- » "Focus on carbon emission reduction activities is positive."

### National Reconstruction Fund

The National Reconstruction Fund is helping fund projects that diversify and transform Australia's industry and economy, offering loans, equity investment and guarantees. The goal is to take advantage of opportunities in a net zero economy, address supply chain vulnerabilities and help industry become more productive. However, 53% of respondents to the RSM survey don't expect to benefit from the fund, and 40% are unsure at this point, while only 7% can see how it will help in their particular business.

One of the Federal Government's commitments is to help clear the migration backlog and change visa requirements, and just over two-thirds are starting to or expect to see an impact, while two-thirds say it has not yet impacted the skills shortage.

<sup>4,5</sup> Department of Agriculture, Water and the Environment: Digital Foundations For Agriculture Strategy report, March 22

## The RSM View

Led by the National Reconstruction Fund, the recent budget committed substantial spending on the tech sector, yet there is some confusion about exactly who will benefit and how the funds will help improve sectors such as agtech. What's clear from the RSM survey is how far behind Australia is in agtech adoption.

“Asset write-off has enabled farmers to accelerate the adoption of new technology for their farming business. It's brought forward a whole lot of investment in plant and technology and so on. When it comes to the adoption of new technologies, farmers are looking to see practical applications where they can see it will save time, reduce dependence on labour or save money.”

**Ross Paterson**

National Leader, Agribusiness, RSM

## INNOVATION SPOTLIGHT



### LACONIK: Demonstrate how agtech solves farm challenges

[Laconik](#) is an agriculture specialist in the industry for over 30 years that enables on-farm trials to be easily created, data collected and results analysed, using the hardware and software which comes standard in every modern farm machine to put a trial in a paddock.

The Laconik Trial product is strip trials done properly, scientifically and replicated, and Laconik Combine is an enabling technology where a 'swarm' of trials are randomly placed across whole paddocks. “Having the ability to put a trial in a paddock and measure any input, whether that's fertiliser, fungicide, or a biological input, that a farmer uses to grow a crop is where the value is,” says Dr Darren Hughes, Founder, Laconik.

The business has focused on the direct-to-grower market because Laconik believes there's an opportunity to service growers who want to do trials on their farms. “With agtech, it's 99% hype and 1% reality. But that 1% really will produce some pretty cool innovations. For us, the improvement in image recognition technology has now enabled green-on-green demarcation, which gives us the ability to identify and spray a green weed on a green crop,” Hughes says.

Genuine agtech is in the deep tech bucket. It takes years and lots of validation to bring new technology to market. It doesn't happen overnight. But over the five to 10-year timeframe, that's when we'll see some very cool technologies come to market.

“It takes patient investors not looking for quick, short-term gains. But it's challenging because you've got to find a product-to-market fit as quickly as possible,” he says.

**“And rule 101 is to know your customer.”**

Hughes says there are unique challenges in developing products for this market; for example, with grains there is just one chance a year to evaluate and test the product and the business model because it has to fit with the natural iterations of the seasons. “Government can help to facilitate an environment in which innovation can happen, such as creating favourable tax parameters and providing a policy framework to encourage capital into high-risk ventures,” he says.

He knows farmers are fairly conservative, but they know if they don't adopt technology, innovation and new research, they're going to fall behind. “It's vital to be able to demonstrate the return on investment in an environment where investing in new technology can potentially save a farmer hundreds of thousands of dollars.”

“The magic formula in innovation adoption is that you have to deliver 10 times value to your customer for an innovation to be adopted. And you have to get enough examples and feedback from customers that you can demonstrate essentially that exponential return because there is a risk in adopting new technology.”

So that reward premium for adopting the new technology needs to be significantly above the risk component. You can't just deliver one or two times the benefit – it's got to be 10 times better.

“There are some great things happening, but give the industry time to mature. There will be some innovative technologies that will drive this industry forward, and achieve the National Farmers Federation \$100 billion industry target by 2030. Agtech is going to play a very significant role in that. But it's going to take us time to develop the technologies to create that sort of value,” he says.

“If you're got a technology that may not create value for four or five years, how are you going to fund your way through that? And how are you going to be able to demonstrate to an investor that it is going to generate returns?”

“You have to have the mindset of being a long-term problem solver and a lover of agriculture.”



## Conclusion

**With the National Farmers Federation charting a plan for the industry to be worth \$100 billion by 2030, the agtech sector is poised for ongoing growth in Australia and as the challenges to adoption are addressed, it will open up new opportunities for agtech companies to grow and succeed.**

With government funding and cross-sector collaboration, the agtech sector can help to support a sustainable, flourishing future for Australian agriculture.

### The RSM View

“There are a lot of opportunities in the agtech market for investors and it has a lot to offer in terms of environmental, social and governance (ESG) credentials. Farmers are keen to see their business being carbon neutral and it has a role to play in reducing emissions for other emitters.”

**Ross Paterson**

National Leader, Agribusiness, RSM

### Recommendations

Based on the findings of this report, we recommend the following actions to support the growth of agtech in Australia

#### Increase awareness and education about agtech solutions

The Australian government and industry associations should work to increase awareness and education about agtech solutions among farmers, utilising workshops, webinars and other outreach activities.

#### Address the potential risks of agtech

The Australian government should work with agtech companies to address the potential risks of agtech, such as data security and privacy. This can be done through the development of industry standards and best practices.



The outlook for agtech in Australia is positive. The sector is expected to continue to grow rapidly in the coming years, driven by the demand for food and agricultural products, the need to improve agricultural productivity and sustainability and the development of new technologies.





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## ACKNOWLEDGEMENTS

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**Keith Hay** *Founder, GeneFlow*

**Annie Brox** *CEO, Origo*

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