



Integrity Systems

red meat customer assurance

Strategic Plan Integrity System 2025 and beyond

November 2018



CEO's foreword

The Integrity Systems Company (ISC) is proud to have initiated the delivery of the Integrity System 2025 Strategic Plan. Our industry has entered a new era where there is tremendous opportunity arising from digital technology, data systems and analytics, so it is critical we capitalise on this and strengthen our integrity system from the new generation of innovation that is available.

Australia has long held a global reputation of strong leadership in the implementation of integrity systems. Nearly 20 years ago, Australia set the international standard for livestock traceability with the implementation of the National Livestock Identification System (NLIS). Five years later, in 2004, the Livestock Production Assurance (LPA) program was introduced, again setting the global standard for on-farm food safety practices. Both NLIS and LPA are complemented by National Vendor Declarations (NVDs), a mechanism that enables the recording and sharing of livestock management and movement history through the value chain. Together these programs make up the Australian red meat integrity system.

Critically, these programs continue to evolve with the needs of our customers around the world. The most recent example was the expansion of LPA to include animal welfare and biosecurity requirements. The NVD has also evolved into an electronic NVD, which strongly aligns with the overall direction of the programs to become digitally enhanced, generating valuable data for industry.

Our integrity system remains one of the industry's most important investments underpinning market access. It provides food safety measures, product assurance, and traceability from paddock to plate. It's time to enhance our programs through data and technology, make it seamless for industry to deliver on their responsibilities to customers, and enable the value chain to be proud of the integrity system and stand by what we sell.

The development of the Integrity System 2025 Strategic Plan has been driven by a number of emerging requirements that need to be addressed. Consumers are more discerning than ever before – they are demanding greater confidence in food safety, want to know more about food provenance, and are seeking assurances about biosecurity and animal welfare practices. This is translating into greater responsibilities being placed on time and resource poor producers, driving the need for a transformation of the current system into one that supports the integration of more effective technology, and establishing automation of traceability with seamless data transfer and reporting.

New technologies are emerging at an increasingly rapid rate, and with this comes opportunities for us to build upon the strengths of our integrity system to not only retain, but also grow, our competitive advantage. We also need to respond to relevant global megatrends and available consumer insights that will drive red meat purchasing decisions in the future.

Ultimately, people who enjoy Australian red meat trust that it is safe to eat, that it has been ethically produced and is of a high quality. This trust is not something left to chance – it has been earned over time and is a direct result of the foresight and investment by industry in developing robust, verifiable systems to underpin the globally recognised credentials of Australian red meat. While our integrity system continues to achieve its intended purpose, it is recognised that our competitors are catching up so we need to proactively embrace innovation and be ready for the future.

The Integrity System 2025 Strategic Plan will prepare industry for the future and guide valuable investment into the integrity system and its programs. The Plan outlines key strategic initiatives, which we need to invest in now to ensure that by 2025 and beyond our integrity system meets our customers' needs, can be efficiently used by the whole value chain, and uses available technology to deliver a responsive, easy to use and effective system.

Importantly, the Plan has been built through extensive consultation with industry and government. Through a series of workshops, an online survey, one-on-one meetings and direct feedback from stakeholders, ISC has engaged with participants from all sectors of the value chain to identify the future opportunities for the integrity system to support Australia's global reputation as a supplier of safe, traceable, quality red meat product.

The Plan has been informed by insights from key megatrends around the world, along with a comprehensive analysis of the current state of the existing programs (LPA, NVDs, NLIS). Using a "design-led thinking" approach, the analysis identified the pain points and gaps within the existing system, along with opportunities for strengthening the programs and the system overall from key stakeholder perspectives.

Engagement and subsequent ownership of the Plan by all stakeholders is a critical driver underpinning its successful delivery. ISC cannot deliver on this plan alone, it will require new partnerships and significant long term collaborative investment.

The Plan will also require regular review and updating to reflect the rapid pace of new technology development and innovation, the growing availability of information and influence through online social media, and the evolving needs of both consumers and the Australian red meat industry.

ISC's evolving role

When ISC set out to develop this Plan with our industry and government partners, it was seen as a vital initiative that would not only shape the red meat integrity system of the future, but would also help to better define ISC's role in supporting the delivery of the future integrity system. While this Plan is dynamic and will require regular review for relevancy and new opportunities, it will provide ISC with a solid roadmap for how to evolve services and direct investments on behalf of industry to support the successful delivery of the future integrity system.

This will include a greater focus on research and development, technology road-mapping, and adoption programs to support industry in transitioning to new technologies and approaches to implementing integrity systems. Additional investment will also be directed towards driving further innovation in the use of data and technology to support improved livestock management and decision making in order to extract further value from our integrity system.

Importantly, ISC will continue to maintain our current integrity system and ensure that it remains robust and effective, whilst taking the necessary steps to transition to the integrity system of the future.

I thank our industry and government partners for the leadership they have provided in developing the Integrity System 2025 Strategic Plan. ISC looks forward to working with industry, national and global R&D partners and government on achieving the outcomes outlined in the Plan. Ultimately we are committed to delivering the next generation integrity system that remains respected and trusted globally by our customers, promotes our industry provenance, is valued by industry, and is proudly embedded in the culture of Australian livestock management.

Yours sincerely



Dr Jane Weatherley
Chief Executive Officer

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Executive summary

It is well recognised that the Australian red meat integrity system is one of the industry’s most important investments and is a critical underpinning of market access for Australian red meat around the globe. It provides food safety measures, product assurance, and traceability from paddock to plate.

There are significant opportunities to grow our competitive advantage through enhancements to the integrity system, while creating real value for all participants within the value chain. By accessing and using the latest technology and data systems, industry’s vision for the integrity system is that it become a seamless and valued tool for the industry, helping to create cost and operational efficiencies, while ensuring that customers have absolute trust in the Australian red meat product.

Together with our industry and government stakeholders, ISC has developed the Integrity System 2025 Strategic Plan to ensure our integrity system remains recognised and trusted globally as delivering a quality red meat product that is produced to rigorous standards, is valued by industry, and is embedded in the culture of Australian livestock management.

Once endorsed by the ISC board and industry, the Plan will be translated into an implementation plan and will underpin the development of ISC’s Business Plans and annual investment plans (AIPs) for each financial year through to 2025. The Business Plans and AIPs will outline ISC’s annual activities, key performance indicators and budgets.

Figure 1 captures the Integrity System 2025 Strategic ‘Plan on a Page’, the three strategic pillars that form the foundation of the Plan, the outcomes that will be delivered as a result of the Plan’s execution and the priorities around which ISC will work with industry to deliver those outcomes.



Figure 1: Integrity system strategic pillars, outcomes and priorities to 2025 and beyond

About the Integrity Systems Company

A wholly owned subsidiary of Meat & Livestock Australia (MLA), the Integrity Systems Company (ISC) has been given the remit by industry to deliver the red meat industry's on-farm assurance and through-chain traceability programs. These are the Livestock Production Assurance (LPA) program, the National Vendor Declaration (NVD) and the National Livestock Identification System (NLIS), which together make up Australia's red meat integrity system.

ISC's mission is 'Growing red meat value chain opportunities through integrity and information systems innovation'.

Through the management of the integrity programs (LPA, NVDs, NLIS) on behalf of industry and government, ISC plays a central role in equipping industry with the tools that ensure the food safety, animal welfare, biosecurity and traceability of Australian red meat for our domestic and international customers.

ISC is also responsible for the delivery of significant components of MLA's Digital Value Chain Strategy, which will provide the new digital technology and data systems required to strengthen the integrity system programs with the most effective innovations available to industry.

Priority alignment

ISC commenced operations in 2017 in response to the SAFEMEAT Initiatives Review report – *Towards an integrated integrity system*. In this review, the Steering Group recommended the establishment of a streamlined management structure for the delivery of industry's integrity system and that a single Integrity Systems Company be given overall responsibility for the management of the system.

The activities undertaken by ISC are aligned with the *MLA Strategic Plan 2016-2020* and the *Meat Industry Strategic Plan 2020* and are making a significant contribution in the area of Pillar 3: Supply chain integrity and efficiency. To date, the 2020 key performance indicators within these plans are on track to being delivered.

With the initiation of the Integrity System 2025 Strategic Plan, additional key performance indicators will be developed with industry and government, which will form the implementation plan and support delivery of the key priorities identified in the Plan.

Key performance indicator	FY15 Baseline	FY16 Outcome	FY17 Outcome	FY18 Outcome	FY19 (Target)	FY20 (Target)
NLIS awareness	N/A	98%	99%	99%	99%	99%
NVD awareness	N/A	90%	97%	99%	99%	99%
LPA awareness	73%	75%	74%	93%	86%	90%
NLIS movement recording compliance	94.83%	95.14%	95.80%	96.77%	95.75%	95.88%
Livestock consignments accompanied by an eNVD	N/A	0%	0%	11.89%	25%	50%

Operating environment

For a number of years, the Australian red meat and livestock industry has maintained a premium integrity and quality reputation, underpinned by robust integrity systems and on-farm practices that instil confidence in our trading partners and consumers alike. Maintaining and enhancing this position remains both a necessity and an opportunity for our industry to uphold what is a competitive advantage.

Globally, the trade environment is becoming more competitive and volatile. Consumer demands around food safety, ethical production, biosecurity and sustainability are increasing, and unpredictable events such as disease outbreaks impact supply. Insights from CSIRO¹ have provided an understanding of where the integrity system needs to head in the future, these include:

- **Export-orientation** – Australia’s advanced agricultural sector produces a healthy surplus – estimated to feed around 60 million people annually. Our export orientation means the sector benefits from, but is also heavily reliant on, the performance of global markets.
- **A small player** – Despite the significance of the food and agriculture sector compared to other Australian sectors, it is still a small player in the global trade of food and beverages, accounting for only 2.2% of global food trade in 2014. The domestic production market is also not as profitable as it used to be, with increasing costs etc. This is causing businesses to seek new channels to market – from farmers’ markets to advanced e-commerce solutions – and new ways of differentiating their products.
- **Differentiation critical** – Australia needs to focus on our points of differentiation – for the integrity system we are no longer leading the pack. South American countries have caught up, so we need to rapidly evolve and strengthen our systems to maintain our competitive advantage.
- **Opportunities for growth** – The opportunities for growth are focussed on value-added, premium, luxury, safe, natural products from agriculture that will be enabled through traceability and provenance, food safety and biosecurity, market intelligence and access, and skills development.
- **Trust is critical** – Trust remains a critical factor for export markets. Traceability systems provide the opportunity for Australian agribusiness to leverage the nation’s clean, green reputation and also to build a strong image of being environmentally sustainable and socially responsible.
- **Investment required** – Australian businesses will need to invest in both digital and physical technologies that provide greater transparency around product origin, production inputs, suppliers, processing materials, transport and distribution.

CSIRO has also identified five megatrends (refer to *Appendix 1*) evident in global food and agriculture that will have significant impact on the sector over the next 20 years² – these are:

1. A less predictable planet
2. Health on our minds
3. One world
4. Choosy customers
5. Smarter food chains

¹ Extracts from *CSIRO Food and Agribusiness Roadmap, 2017*

² Hajkowicz, S (2015) cited in *CSIRO Food and Agribusiness Roadmap, 2017*. Global Megatrends – Seven Patterns of Change Shaping our Future, CSIRO Publishing, Canberra

The key elements of the megatrends that are relevant to the integrity system are outlined in the following table:

Megatrend	Relevance to our integrity system
Increasing consumer demand for environmental and social credentials	Consumer interest in the environmental and social aspects of food products is growing along with an increased desire to have a greater connection to the producers of their food
Rising importance of food safety	Increased focus on provenance, country of origin and integrity systems that verify best practices ensuring meat safety
Increasingly connected global value chains	Technology advances are enabling greater connections between producers, consumers and other participants through the value chain
Greater international competition	Competitors around the world are implementing integrity systems that are comparable to our current red meat integrity system
Increasing demand for provenance information and accurate vendor claims	Increased consumer demands for verifiable country of origin and product attributes require efficient and robust verification methods
Rise of big data and data analytics	Increased availability of timely and quality data presents opportunities to create insights and drive more efficient business decisions through the value chain.

The Australian red meat industry has the potential to strengthen its position as a world leading producer of clean, safe and natural red meat. Raising the bar of our integrity system will help Australia capture price premiums from discerning consumers and customers who are willing to pay more for higher levels of product assurance, whilst responding to the global megatrends that will influence consumer purchasing decisions in the future.

By enhancing our integrity systems and technologies, we will be able to keep ahead of our competitors and maintain our point of difference, but this will require significant industry disruption in the form of technology adoption to support the verification of our integrity system claims. There will also be a need for significant cultural change and a mindset shift that recognises the power of data in informing and driving decision making. Ultimately it will require the entire value chain to collectively embrace the change and ensure the success of the future integrity system.

Integrity system vision

Our journey to here

In the mid-late 1990's, the Australian red meat industry experienced a number of market failure incidents that impacted Australia's access into several key export markets³. These market closures impacted financially on individual businesses within the red meat industry, and reflected negatively on Australia's reputation for supplying a clean, safe, red meat product.

At the same time, countries around the globe were experiencing significant impacts from exotic diseases such as Foot and Mouth Disease (FMD) and bovine spongiform encephalopathy (BSE), and additional demands for whole-of-life traceability were being placed on Australian product from markets such as the European Union. Recognising the importance of maintaining access into these valuable markets, whilst also protecting the Australian industry from the impacts of exotic diseases, industry (with the support of government) moved to implement significant change and introduce what we now have as our integrity system programs.

NVDs were introduced to capture and share information through the value chain about the food safety status of livestock, NLIS was introduced to support whole-of-life traceability and LPA was established to ensure that on-farm food-safety risks were being appropriately mitigated.

The introduction of these key integrity initiatives was a quantum leap in livestock production in Australia. The changes attracted considerable debate across the country and the new technologies disrupted the way in which livestock needed to be managed through the value chain. This foresight and investment made by industry and government more than 20 years ago ultimately laid the foundation for the benefits that are accrued today from the red meat industry's integrity system.

What success looks like in 2025 and beyond

For our future integrity system, there are three key indicators of success:

1. The integrity system will be simple to use and interact with. In fact, it will be happening automatically in the background.

Using technology and automated verification systems, the integrity system will not require data to be manually recorded or entered into central databases, it will be automatically captured and verified based on algorithms and advanced technology. Appropriate data sharing will help to strengthen value chain partnerships, support significant cost savings and efficiencies across the value chain and will provide a platform to connect producers with consumers. Integrity will become a seamless part of daily livestock management practices reducing the need for manual intervention.

2. Industry participants recognise the value of the integrity system to their individual businesses and are proud of their role in making the integrity system a success

Industry participants will have a clear understanding of the value that the integrity system is delivering to their businesses because it will be assisting with livestock monitoring – location, health and nutrition; it will be supporting business decision making – real-time feedback; and it will be helping to connect producers with their ultimate customers – consumers around the globe. The industry will be proud of their integrity system, recognising that it creates a competitive advantage and adds a significant dimension that allows the red meat industry to stand by what we sell.

³ US and Asia – Endosulphan in 1996, 1998, 2002; Korea – Bioresmethrin in 2001, Europe – HGPs in 1999

3. Consumers are actively seeking out Australian red meat based on their trust in the integrity system

Consumers will be actively seeking out Australian red meat because of the assurances that can be provided through the integrity system. Customers will seek out our product, knowing and trusting that Australian red meat is 100% life-time traceable, produced safely and sustainably, and underpinned by robust automated verification systems. Consumers will be confident about the origin of the product and will have a greater connection with who has produced it.

Industry's vision

To support industry in realising this future vision for the integrity system, a vision statement has been developed to articulate what the integrity system of 2025 and beyond will be delivering:

An integrity system trusted globally as underpinning a quality product, produced to rigorous standards, and embedded in the culture of Australian livestock management

Strategic plan at a glance

Working in partnership with its stakeholders, ISC will help industry unlock opportunities to further increase the value of the red meat integrity system and support the future growth of our markets.

Here's a glimpse of what the future holds:



1. Whole-of-life traceability of livestock is achieved through automated identification of animals and locations. 100% of livestock are identified and traceable from birth to processing. Movement recording is automated and seamless, removing the need for manual reading and movement recording through the value chain.

2. Real-time monitoring and tracking of livestock. New methods for livestock identification enable livestock to be monitored and tracked in real time. Livestock identification is integrated with sensors and monitors to manage health, disease and nutrition. Livestock theft is eliminated, saving the industry more than \$16m annually⁴.



3. NVDs are replaced by automated verification systems. Livestock management data will be captured automatically on farm and linked to individual animals in real time. Market eligibility information (HGP treatments, chemical treatments, pasture/feed treatments etc.) will be automatically verified and available to buyers pre-consignment, providing confidence that product is fit for purpose.

4. The integrity system happens in the background. The value chain does what they do best – breed, grow and produce a quality red meat product. Integrity is achieved through automatic livestock identification and traceability, automated data capture and feedback, and real time verification of market eligibility at processing.



⁴ 2001-2002 National Farm Crime Survey



5. Data and information is used to drive productivity through the value chain.

The fundamental component of the integrity system – individual animal identification – will bring together a timely and complete picture of livestock performance (genetics, productivity, quality) enabling effective decision making through the value chain. Technologies such as business intelligence reporting and machine learning will be applied across the integrity system to create insights and real opportunities for improvement.

6. Data sharing is fundamental to day to day business operations and is driving business efficiencies. Livestock buyers can source market eligibility information ahead of purchase through data platforms that verify and package the credentials of a livestock consignment. Real-time feedback is provided through the value chain on the suitability of individual animals allowing more rapid improvements to be made in terms of product type and quality.



7. Compliance is implicit within the integrity system. Through automated data capture and verification, compliance monitoring is occurring in real time, with hot spots highlighted for investigation and action. The need for physical audits has reduced, and industry resources have been re-directed into education and technology adoption. Government resources are directed to enforcement activities to address significant non-compliance and legislative breaches.

8. Industry participants are proud of our integrity system and understand the value it delivers to their businesses. From breeders to processors, lot-feeders to backgrounders, all value chain participants can see how the integrity system is adding value to their businesses and are proud of their role in making the system a success. Industry proudly stands by what they sell knowing that the Australian red meat integrity system is like none other in the world.



9. Consumers are actively seeking out Australian red meat based on our integrity system. In-market surveying of consumers demonstrates a clear preference for Australian product attributed to the red meat integrity system. Consumers trust Australian red meat claims more than our competitor's and seek out our product ahead of alternate red meat products.

10. Consumers can verify the origin of Australian red meat. Traceability systems enable Australian red meat to be traced from the dinner plate to the farm where the livestock were bred. Consumers have confidence in the origin of Australian red meat and for those looking for greater assurances, information about how their meat was produced is available on their smart devices.

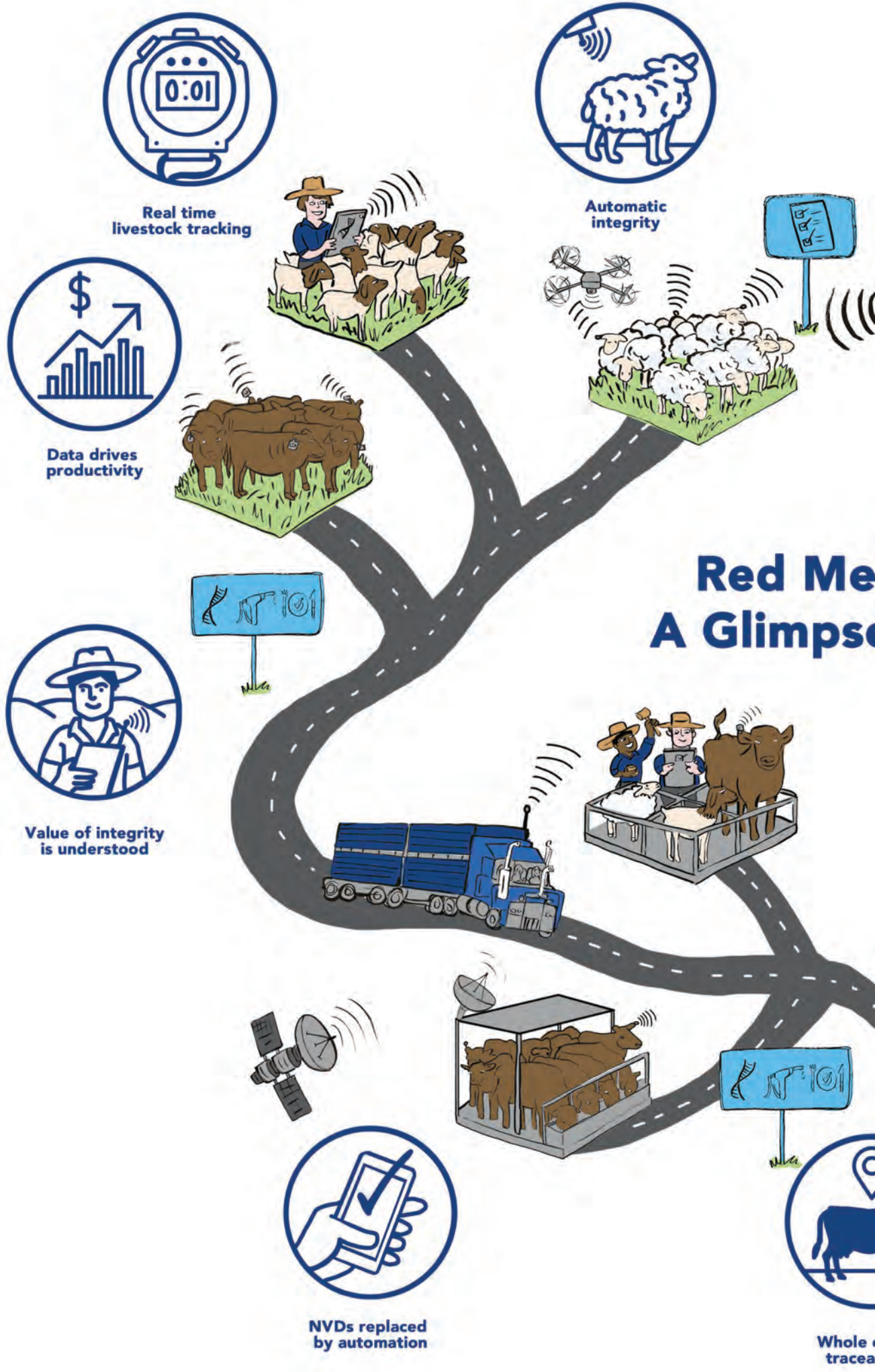


Structure of the plan

Three strategic pillars form the basis of the Integrity System 2025 Strategic Plan and will be key to the delivery of the integrity system – 2025 and beyond: *An integrity system trusted globally as underpinning a quality product, produced to rigorous standards and embedded in the culture of Australian livestock management.*

Each pillar is accompanied with an outcome statement, indicating what will be achieved if the pillar is delivered successfully. Six strategic priorities have been identified to help achieve these outcomes. There are considerable synergies across the three pillars and their underlying priorities, and also across broader MLA programs, such as the Digital Value Chain Strategy.

Pillar	Outcome	Priority
<p>1</p> <p>Ensuring our integrity system continues to deliver</p>	<p>Customers and consumers around the globe prefer Australian red meat based on their trust in our integrity system</p>	<ol style="list-style-type: none"> 1. A collaborative and national approach to integrity 2. Responding to consumer and customer demands 3. Recognising the value of integrity
<p>2</p> <p>Pursuing and adopting new integrity approaches and technologies</p>	<p>Adoption of the integrity system is maximised through the implementation of new technologies and approaches to integrity that simplify the system, and make it easy and cost effective to interact with</p>	<ol style="list-style-type: none"> 4. Pursuing new technologies 5. Driving new technology and system adoption
<p>3</p> <p>Leveraging integrity data to add value through the chain</p>	<p>Industry participants recognise the value of the integrity system to their individual businesses and are proud of their role in making the integrity system a success</p>	<ol style="list-style-type: none"> 6. Effective decision making through integrity data and insights





PILLAR 1

Ensuring our integrity system continues to deliver

The effectiveness of the red meat integrity system relies on all value chain participants doing their part to support product integrity, traceability and food safety objectives. On-going investment in our current integrity system is required to ensure that it continues to meet the expectations of our customers, while new technologies and novel approaches to integrity are explored and implemented.

This pillar will drive towards a national approach to integrity to simplify program requirements, seek efficiencies in compliance and enforcement activities, and ensure that a collaborative and strengthened compliance framework is established between industry and government to underpin continual improvement of the integrity system.

Investment in enhancing and strengthening our integrity system will be a key focus of this pillar to ensure that industry is better able to respond to current demands for safety, traceability and animal welfare, as well as emerging customer requirements in relation to provenance, sustainability and the environment.

A significant investment in communication will be focused on demonstrating the benefits of the integrity system to customers, individual red meat businesses and the industry as a whole. Supported by a distinct culture change, industry participants will understand the importance of the integrity system to their businesses and will be proud to say that they stand by what they sell.

Outcome

Customers and consumers around the globe prefer Australian red meat based on their trust in our integrity system

Priorities

1. A collaborative and national approach to integrity

This priority will focus on streamlining livestock identification and traceability requirements to deliver a truly national integrity system. The integrity system will be underpinned by harmonised business rules and consistent approaches to compliance and enforcement. Government will be engaged in collaboration to support integrity objectives at a national level, working to remove duplication and utilise resources more effectively to support the enforcement of legislative breaches.

2. Responding to consumer and customer demands

With consumers expressing a greater level of interest in the provenance of red meat, the welfare, environmental and sustainability credentials of the product, and a desire to have a closer connection with red meat producers, the integrity system will provide customers and consumers with greater confidence in the origin of the Australian red meat product, and how it has been produced.

This priority will look at ways in which our integrity system can offer a point of difference in the market place to maintain our competitive advantage, and create new market opportunities that leverage the customers' trust in a product that is underpinned by Australia's red meat integrity system. Importantly, this priority will ensure that there is an industry wide approach to integrity that enables the credentials of Australian red meat to be marketed with confidence, knowing that everyone within the industry is committed to ensuring integrity objectives are achieved.

3. Recognising the value of integrity

Investment in communication and education will be key in promoting the benefits that the integrity system delivers to customers, individual red meat businesses and the industry as a whole. Identifying and promoting benefits, while at the same time celebrating industry's achievements in relation to integrity, will instil a greater level of recognition of the importance of the integrity system across the industry.

Knowing that there is a need to support continued development of the current integrity system, while also investing in research and development to achieve the objectives of the integrity system of the future, this priority will develop new investment models that reflect the value and importance of the integrity system to the red meat industry and ensure its sustainability well into the future.

This priority will also focus on strengthening integrity system leadership across the industry in order to drive the cultural shift required to achieve industry's vision for the future integrity system.

**PILLAR
1**

Ensuring our integrity system continues to deliver

Strategic initiatives

Priority	Horizon 1 (1-2 years)	Horizon 2 (2-5 years)	Horizon 3 (5+ years)
<p>A collaborative and national approach to integrity</p>	<ul style="list-style-type: none"> • Achieve a truly national system for livestock identification and traceability • Global review of alternate compliance frameworks • Investigate desktop auditing technologies and reporting tools to drive efficiencies in program compliance activities • Research alternate frameworks for verifying product compliance with market and legislative requirements 	<ul style="list-style-type: none"> • Implement real-time compliance monitoring methodologies • Assess new models for collaboration between industry and government for compliance and enforcement • Align legislation and program rules with new technologies and new approaches in the delivery of the integrity system 	<ul style="list-style-type: none"> • Broad industry adoption of new automated data capture and verification systems • Work with existing and new markets to ensure there is acceptance of new product verification and traceability models
<p>Responding to consumer and customer demands</p>	<ul style="list-style-type: none"> • Surveying model developed to determine consumer preferences for integrity attributes • Assess how the integrity system can integrate sustainability and environmental objectives 	<ul style="list-style-type: none"> • Systems to underpin provenance and country of origin researched and trialed • Proof of concepts for underpinning sustainability and environmental claims developed 	<ul style="list-style-type: none"> • Farm to fork traceability models being adopted across several value chains • Adoption of sustainability and environmental initiatives within the integrity system
<p>Recognising the value of integrity</p>	<ul style="list-style-type: none"> • Communication and adoption strategy developed to underpin the Integrity System 2025 Strategy • Development of a stakeholder consultation and communication framework • Development of a culture and leadership plan to support cultural shift within the industry • Integration of the Integrity System 2025 Strategy into the MISP 2025 planning process • Research and development of investment models for the integrity system • Establish an expert panel/working group to oversee the Integrity System 2025 Strategy 	<ul style="list-style-type: none"> • Integrity system value proposition identified for each segment • Active communication about value proposition and transition across all target audiences • New investment models for the integrity system in place • Review and refresh the Integrity System 2025 Strategy 	<ul style="list-style-type: none"> • Measurable shift in attitudes to the integrity system and the value that it delivers to customers, individual red meat businesses and the industry as a whole • Review and refresh the Integrity System 2025 Strategy

PILLAR 2

Pursuing and adopting new integrity approaches and technologies

To maintain our competitive advantage, the red meat industry must pursue and invest in new technologies and approaches to integrity that address current and future customer requirements. Autonomous, accessible and inexpensive technologies should form the basis of the integrity system to maximise both its value and uptake across the industry.

Guided by a responsive technology roadmap, this pillar will invest in solutions to enable integrity data to be automatically captured and verified based on sophisticated data analytics, algorithms and technology. With current manual processes (e.g. tag reading, data uploads, NVDs) replaced by seamless and automated technology solutions, it will be easier for industry participants to comply with the integrity system, and compliance based resources will be redeployed to support education and adoption based activities.

This pillar will drive the adoption of these new technologies, and the system as a whole, in order to maximise the value of the integrity system across the industry.

Outcome

Adoption of the integrity system is maximised through the implementation of new technologies and approaches to integrity that simplify the system, and make it easy and cost effective to interact with

Priorities

4. Pursuing new technologies

A technology road map for the integrity system will be developed to inform technology decisions, and to ensure that technology is aligned with current and future market requirements. By taking a strategic approach to technology planning, this will enable industry to focus on future market needs in order to stay ahead of its competitors.⁵

Recognising the speed with which new technologies are emerging, the technology roadmap for the integrity system will be developed in a way that enables flexibility and adaptability, so as to encourage innovation as both industry and others develop new technologies.

This priority will focus on solutions to simplify the integrity system, and ensure that the integrity system is cost effective, easy to use and interact with by all industry participants, whilst providing customers and consumers with greater confidence in the Australian red meat product.

New methods for livestock identification and traceability will be developed, enabling livestock to be monitored and tracked in real time, removing the need for manual record keeping and human intervention. New technologies, data science and automation will be developed and applied to the integrity system, to enable more efficient and effective livestock tracing, whilst also supporting broader industry productivity objectives related to livestock security, livestock health, pasture management, nutrition, genetics and eating quality.

5. Driving new technology and system adoption

The success of the integrity system will be largely dependent on the speed and effectiveness with which new technologies can be adopted throughout the industry. This priority will focus on identifying the roadblocks to system and technology adoption, developing solutions to overcome those roadblocks and ensuring that industry has the capability to implement and utilise the new technologies throughout the value chain.

Success will only be achieved following significant industry disruption and a cultural and mindset shift that recognises the power of technology and data in informing and driving decision making. It is important that industry is supported through any transitional phases and that the technologies identified as a part of the integrity system technology roadmap represent a clear value proposition for investment, and are fully tested with industry prior to implementation. Success will also be dependent on the value placed by customers on integrity and the value that is captured by each within the value chain.

⁵ *Technology Planning for Business Competitiveness – A Guide to Developing Technology Roadmaps*, August 2001, Emerging industries Section Department of Industry, Science and Resources

Strategic initiatives

Priority	Horizon 1 (1-2 years)	Horizon 2 (2-5 years)	Horizon 3 (5+ years)
Pursuing new technologies	<ul style="list-style-type: none"> • A comprehensive market and technology review to create a technology roadmap for the future integrity system • Global review of identification and tracking technologies to integrate with or replace existing identification methods • R&D into real-time product verification opportunities (e.g. feeding regimes, HGP treatments, chemical residues etc.) 	<ul style="list-style-type: none"> • Implement proof of concept technologies in line with the technology roadmap • Proof of concept real-time livestock tracking systems operating in several supply chains • Proof of concept real-time product verification operating in several value chains 	<ul style="list-style-type: none"> • Roll-out new technologies to support livestock identification, farm to fork traceability and product verification • Implementation of new livestock identification and tracking technologies, underpinned by nationally consistent legislation • Industry wide adoption of new product verification methods
Driving new technology and system adoption	<ul style="list-style-type: none"> • Pool of early adopters identified and working collaboratively on adopting new technologies • Assess likely barriers to adoption of new technologies and develop strategies for uptake 	<ul style="list-style-type: none"> • Transition plan developed to support technology adoption and system uptake 	<ul style="list-style-type: none"> • Broad industry roll-out of new integrity technologies and approaches commences

PILLAR 3

Leveraging integrity data to add value through the chain

The data generated and captured as a part of the red meat integrity system presents significant opportunities to not only drive industry's integrity objectives (farm to fork traceability, product verification, provenance), but will also support market and productivity objectives through data insights that can help inform broader business decisions.

This pillar will invest in initiatives to streamline the capture, transfer and storage of integrity data, encourage strengthened and more effective value chain relationships, and will drive towards increased transparency through co-developed data sharing principles and the use of data analytics across the value chain.

Improved data sharing and transparency will help to achieve broader productivity improvements across the industry, will help to strengthen value chain partnerships and will provide a platform for industry provenance to be showcased so that greater connections between producers and consumers can occur.

Outcome

Industry participants recognise the value of the integrity system to their individual businesses and are proud of their role in making the integrity system a success

Priorities

6. Effective decision making through integrity data and insights

This priority will support the implementation of new technologies and systems to capture and transfer data through the value chain to enable more timely and effective decision making in relation to productivity, market eligibility and market suitability. Buyers will be able to source market eligibility information ahead of purchase, and consumers will have access to information that provides them with greater confidence in where their product has come from and how it was produced.

By linking information captured on-farm, in feedlot, and at processing, to individual animals, and sharing this information up and down the value chain, this will provide greater assurances around the fit for purpose of the product, and will help to identify new market opportunities.

This priority will focus on the integrity system delivering proactive information about livestock history and livestock performance in real time, enabling more effective decision making through the value chain. Whether this be in the form of market eligibility information, or information relating to the timing for livestock turn-off, the integrity system will support the packaging of information in a way that drives better decisions and improved product suitability and quality.



Leveraging integrity data to add value through the chain

Strategic initiatives

Priority	Horizon 1 (1-2 years)	Horizon 2 (2-5 years)	Horizon 3 (5+ years)
Effective decision making through integrity data and insights	<ul style="list-style-type: none">• Analysis and scoping of integrity system data and data platform opportunities	<ul style="list-style-type: none">• Technology proof of concepts developed to build connections between consumers and producers• Systems developed to enable real-time assessment of market eligibility	<ul style="list-style-type: none">• Real-time, feedforward and feedback mechanisms established to share market eligibility information, product verification and product performance through the value chain

Investment in the strategy

As its primary focus, ISC will continue to invest in the current integrity system as outlined within *MLA's Strategic Plan 2015-2020 and the Integrity System Business Plan (2017-2020)*, to ensure that the integrity system continues to meet the expectations of industry, government and our customers around the globe.

However, for the red meat industry to maintain and grow its competitive advantage in the future, there is a need for us to commence new investment now, so that by 2025 and beyond our integrity system meets our customers' needs, can be efficiently used by the whole value chain, and is underpinned by technology that will deliver a responsive and effective system.

Investment in the Integrity System 2025 Strategic Plan cannot rely on industry levies alone, there will be a need to identify other sources of investment to achieve the step-change proposed by the Plan. It will require a reinvigorated commitment and resources from peak industry councils, the commercial sector, and the state and federal governments.

While the investment strategy will need to take into account a number of challenges:

- Ongoing investment in the current system will be required while the R&D and implementation of the future integrity system is achieved;
- A significant increase in integrity system funding will be needed in order to maintain the current platform while delivering on the Integrity System 2025 Strategic Plan objectives; and
- There will be limited availability of levy resources to conduct both the on-going maintenance and R&D activities;

It also creates the impetus to explore new investment models for the integrity system, such as:

- Opportunities for leveraging government funding (e.g. through the Rural R&D for Profit program, or one-off investment requests); and
- New investment approaches, including the development of R&D consortiums; large strategic partnerships with organisations like CSIRO; partnering with commercial technology providers; and co-investment with other countries in new technologies and systems.

The ultimate guide for investment in the future integrity system will be the measurement of the value that the various strategic initiatives will deliver back to industry. A balance will be required between socialised investment and investment by individual industry participants. The value proposition for the elements of the future integrity system will be key to driving investment in the integrity system throughout the value chain.

Following endorsement of the Plan, a detailed implementation plan and budget will be developed to reflect the expected investment required to successfully deliver the Plan, along with key performance indicators (KPIs) to measure success along the way. The budget will be presented with a proposed investment strategy reflecting the challenges and opportunities outlined above.

Oversight and delivery

To provide oversight of the Plan and its implementation, a working group will be formed comprising industry representatives and technical experts. The working group will monitor progress against the plan and defined KPIs, and will review the relevancy of the Plan over time. ISC will be accountable for the overall delivery of the Plan, but will work collaboratively with industry and government in its delivery.

Barriers and risks to achieving the vision

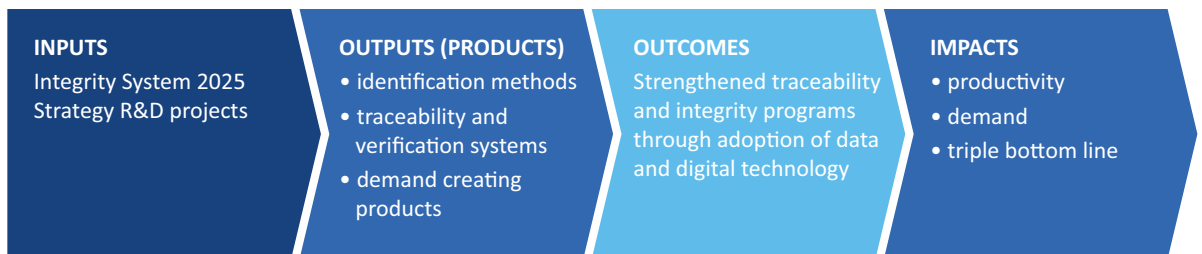
It is recognised that there are a number of barriers to change and risks that may impact on industry's ability to achieve its vision for the Integrity System 2025 Strategic Plan. The following table outlines the known barriers and risks, and proposes mitigation activities to overcome these risks:

Risks and barriers to success	Mitigation
Unwillingness to change within industry	Communication and adoption strategies will be fundamental in underpinning the transition to the future integrity system. The value proposition for the future integrity system will be demonstrated and understood by all industry participants
Confusion between recent system enhancements and what the Integrity System 2025 Strategy is seeking to achieve	Implementation of a communication plan to underpin the promotion of the Integrity System 2025 Strategy (to industry and customers) and keep stakeholders informed about progress on the delivery of the key initiatives outlined in the strategy
Loss of trust with the new system	The development of a technology road-map will ensure that technology decisions to underpin the integrity system are considered and well informed. The entire value chain will be engaged in the development and implementation of new technologies to build trust and ensure that the system satisfies both industry and customer requirements. Risk mitigation plans will be developed to underpin each stage of the transition to the future integrity system
Maintaining government support and confidence	Government will be engaged as a key stakeholder in the strategy and its successful delivery. Benefits that the future integrity system will deliver to government will be identified as a part of the broader value proposition (e.g. public good benefits, resource and budget efficiencies)
Funding security from all sectors	Forward planning for levy investment and co-funding opportunities will be undertaken in the early phase of project implementation planning, and alternate funding models and partnerships will be researched to support a broader base of investors and investment options
Apathy and lack of interest	Segmentation approaches will be used to help ensure that the messaging around the future vision and strategic direction of the integrity system represents value to all within the industry
Leadership to drive long term cultural change	Supported by a comprehensive communication and adoption strategy, industry and government champions will be required at all levels to drive cultural change. Early identification of key leaders will be key to support consistent messaging and create excitement about the opportunities that lay ahead
Consumer perceptions	Customers and consumers will be engaged in the development and implementation of new technologies and systems to underpin the integrity system, in order to build trust and ensure that the system satisfies both industry and customer requirements
Ensuring compliance and enforcement	During both the design and transition phases for the future integrity system there will be a need to ensure that compliance and enforcement activities continue to be maintained and strengthened and that the reliability of the current system is not impacted during the transition to the future integrity system

Monitoring, evaluation and reporting

As a subsidiary of MLA, all investments within ISC are evaluated through the “Path to impact” measurement and evaluation framework. This is based around the input-output-outcome-impact logic model, which is generally considered to be best practice for impact assessment and delivery.

Outcomes and impacts relating to ISC investments in the integrity system will be measured by a variety of approaches including ex ante (forecast) and ex post (actual) independent cost-benefit analyses. While impact measurement is primarily focused on productivity and demand creation benefits across the Australian red meat industry, other economic, sustainability and environmental benefits are also considered both at an individual product, product group and pillar level.



Final word

The development of the Integrity System 2025 Strategic Plan is the beginning of a very exciting journey for both the red meat industry and ISC. We are proud of the role that ISC has played in helping industry develop its vision for the future integrity system, and are excited to be charged with driving our integrity system into what is a new era of unprecedented innovation and change.

There are significant opportunities to grow our competitive advantage through enhancements to the integrity system, while creating real value for all participants within the value chain. By accessing and using the latest technology and data systems, the integrity system will become a seamless and valued tool for the industry, helping to create cost and operational efficiencies, while ensuring that customers have absolute trust in the Australian red meat product.

Together with our industry and government stakeholders, ISC will ensure that the vision outlined in the Integrity System 2025 Strategic Plan becomes a reality for the Australian red meat industry, supporting its prosperity for many decades to come.

Appendix 1 – Global megatrends

CSIRO has also identified five megatrends evident in global food and agriculture that will have significant impact on the sector over the next 20 years⁶ – these are:

1. A less predictable planet
2. Health on our minds
3. One world
4. Choosy customers
5. Smarter food chains

The megatrends that are relevant to the integrity system are highlighted in bold text in Figure 2.

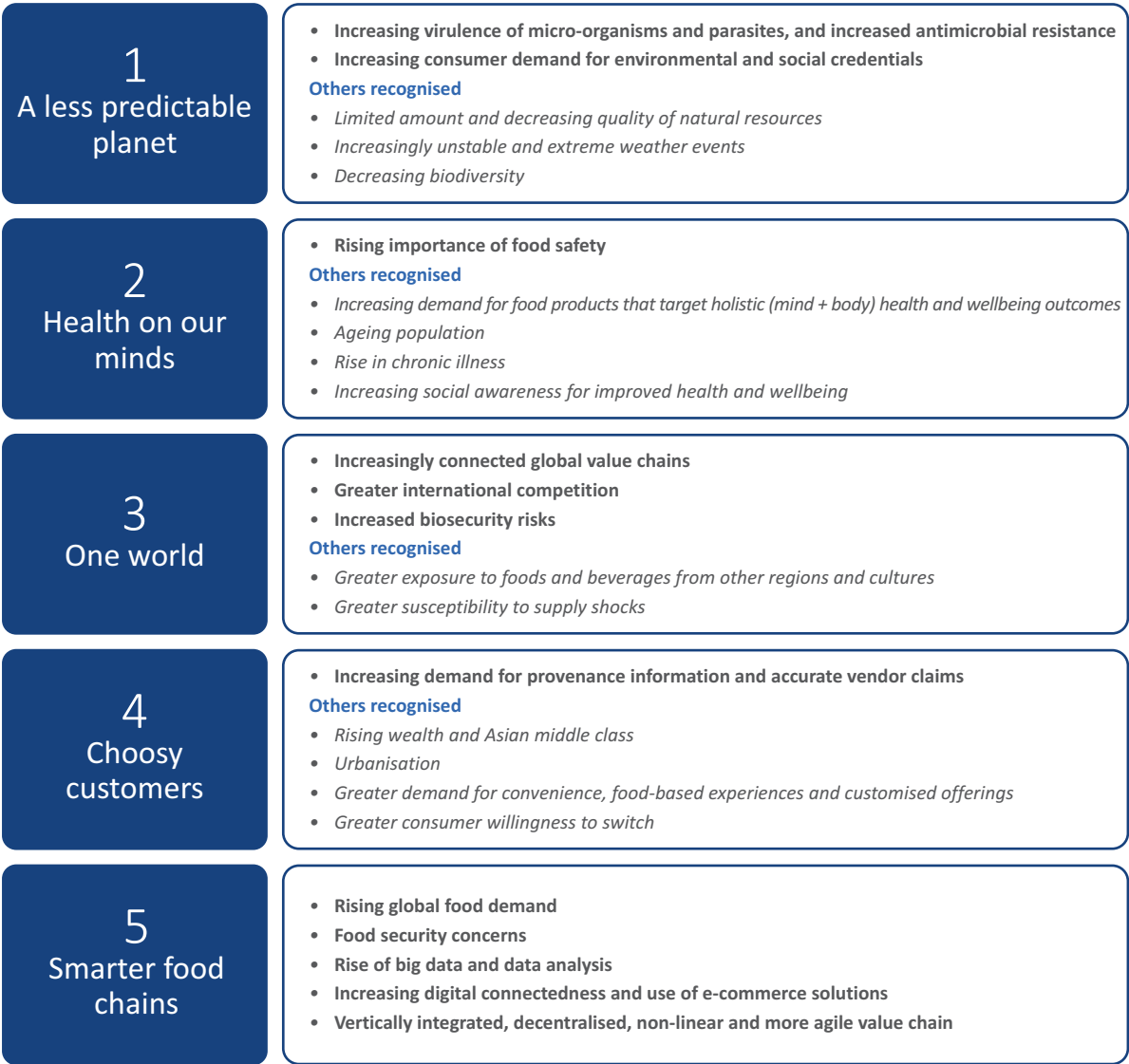


Figure 2: Megatrends specific to integrity

⁶ Hajkowicz, S (2015) cited in *CSIRO Food and Agribusiness Roadmap, 2017*. Global Megatrends – Seven Patterns of Change Shaping our Future, CSIRO Publishing, Canberra



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