



**SARDI**  
Strategic Plan  
2023–28

The Department of Primary Industries and Regions respects Aboriginal people as the State's first people and nations. We recognise Aboriginal people as traditional owners and occupants of South Australian land and waters. We pay our respects to Aboriginal cultures and to Elders past, present and emerging.



Graphic elements on cover and pages 2–5 designed by Ngarrindjeri artist, Jordan Lovegrove.



# From the Chief Executive

– Delivering innovation through collaboration

**It is my great pleasure to present the South Australian Research and Development Institute (SARDI) Strategic Plan 2023–28 (the plan) aimed at enhancing SARDI’s contribution to the sustainability, resilience, and prosperity of South Australia’s primary and natural resource-based industries.**

Through science excellence, global collaboration, and effective transfer of outcomes, the plan aims to support SARDI as a leading research and development institute enhancing sustainable economic growth that puts South Australia at the forefront of innovation, digitisation, and competitive technology development. The plan also recognises the need to develop new opportunities and align SARDI’s future focus with key global trends, reflecting technological change, sustainability and the green transition, industry needs and consumer demand.

SARDI has a valued role in informing the Department of Primary Industries and Regions’ (PIRSA’s) pursuit of advancing the prosperity of the State’s primary industries and regional communities. SARDI’s extensive research capability is divided into four focus areas — aquatic sciences, crop sciences, food sciences and livestock sciences. Each research area

involves practical and experimental research that attracts curious and innovative scientists, many of whom are recognised leaders in their fields, nationally and internationally.

The plan maps the pathway for the next evolution of SARDI and is underpinned by success through collaboration and co-investment, connectivity, and communication to deliver research outcomes that inform and address contemporary issues as they emerge and contribute capabilities to broader State and national research priorities.

By delivering on the plan, which will give South Australia an ongoing competitive edge in the primary resources based and bioscience industries, SARDI will continue to remain relevant and effective in delivering solutions to its core industry and government clients through applied and adaptive science and innovation.

In a changing world, strategic planning must be an ongoing process and I thank SARDI staff and stakeholders for their input into the development of this plan. I welcome further feedback to assist in refining the directions outlined for SARDI’s research and its future programs.

I look forward to working with everyone in delivering on the plan and supporting SARDI in continuing to deliver research excellence as an internationally recognised and agile research institute.

**Prof Mehdi Doroudi**

Chief Executive

Department of Primary Industries and Regions

# Introduction

SARDI is the South Australian Government's key research organisation, delivering research to support economic growth in the primary industries sector.

SARDI's vision is to be a sought after and trusted provider of high-quality science that underpins the prosperity of primary industry and natural resource-based industries.



## Mission

To deliver world class, independent, applied research outcomes that support primary industries, communities and regions to grow and prosper.

### To deliver on the mission SARDI has identified the following strategic pillars:

1. Improved productivity in a changing climate.
2. Enhanced biosecurity preparedness and management.
3. Sustainable management of natural resources that underpin primary production.
4. Increase value of exported products.
5. New partnerships and business models.
6. Impact through adoption.
7. Supporting and valuing our people.

Under each strategic pillar, the plan identifies areas of capability, which we will maintain to continue to respond to challenges. In addition, the plan identifies areas of key focus, in response to emerging industry challenges.

## Values

SARDI staff adhere to the South Australian public sector values, which guide our interactions with each other, our clients, and the community.

### Service

We proudly serve the community and the South Australian government.

### Professionalism

We strive for excellence.

### Trust

We have confidence in the ability of others.

### Respect

We value every individual.

### Collaboration and engagement

We create solutions together.

### Honest and integrity

We act truthfully, consistently and fairly.

### Courage and tenacity

We never give up.

### Sustainability

We work to get the best results for current and future generations of South Australians.

## STRATEGIC PILLAR 1

# Improved productivity in a changing climate

Climate change is having a direct impact on the productivity and profitability of South Australia's primary industries. Designing production systems to meet this challenge is essential, requiring the development and adoption of new technologies.

SARDI, in collaboration with industry and research providers, will access and integrate new technologies to enable producers to maintain and improve profitability in the face of climate challenges – both climate variability and longer-term climate change.



## Building on our strengths

### Cropping, viticulture and horticulture

**Capture opportunities** through best agronomic practice and use of well-adapted varieties.

**Equip farming businesses** to effectively plan for and manage future challenges from a changing climate, drought, soil constraints, weeds, pests, and disease.

### Fisheries and aquaculture

**Inform** sustainable development and utilisation of aquaculture and fisheries resources.

**Improve** data collection, monitoring methods and integrated assessment of the State's aquatic resources.

### Livestock industries (Red meat and wool, pigs and poultry)

**Inform** sustainable and economical animal and mixed farming system development.

**Enhance** the future reproductive success of livestock.

## Key focus

### Advanced production systems

Evaluate and integrate emerging technologies to maintain profitability in future climate scenarios.

Develop and validate novel tools to monitor and manage soil condition (physical and biological) to improve production.

Develop predictive models to understand the impacts of a changing climate on aquatic systems and key fishing species to inform management and investment decisions.

## Outcomes

**Contribute to productivity** increases for Australian agriculture.

**Contribute to productivity** of key fishing species in South Australia.

## Key performance indicators

**SARDI outcomes** adopted by industry and government.

**Positive return** on investment for research portfolio.

**SARDI is a national leader** in the use of emerging technologies to support growers to maintain profitability in broadacre sector.

## STRATEGIC PILLAR 2

# Enhanced biosecurity preparedness and management

Primary industries face increased risks from non-endemic and endemic pests and diseases due to increased domestic and commercial travel, transport and climate change. Managing these threats is essential to maintaining access to key markets and the health, security, and viability of primary industries. Biosecurity management requires effective surveillance, diagnostics, eradication, and management solutions. SARDI is a national leader, with expertise across a wide spectrum of biosecurity solutions and this will continue to be a priority for SARDI's business.



## Building on our strengths

### High throughput diagnostic testing

**Deliver** diagnostic services to assess risk of soilborne pathogens.

**Develop** appropriate sampling strategies to support surveillance for high priority threats.

**Develop** diagnostic tests for high priority threats.

### Early detection

**Deliver** novel technologies and data capture for surveillance of pest and disease threats.

**Provide** science to underpin biosecurity protocols.

**Provide** reporting services and industry training to support early detection and awareness of high priority threats.

### Risk assessment and management for invasive species

**Develop** approaches for targeted use of pesticides informed by monitoring, forecasting, and modelling.

**Explore** opportunities for integrated pest management, including sterile insect technology.

**Develop** control options for established aquatic pests.

### Market access

**Support** export industries to meet market access requirements.

**Develop** and deliver diagnostic services to maintain and enhance market access.

## Key focus

### Advanced biosecurity surveillance

Use smart trapping and sensing technologies to improve early detection.

Develop point of surveillance diagnostic technologies.

Deliver high throughput sampling for priority pests and diseases.

Model pest spread and impacts to inform response and management decisions.

Integrate digital and other technologies with traditional surveillance approaches.

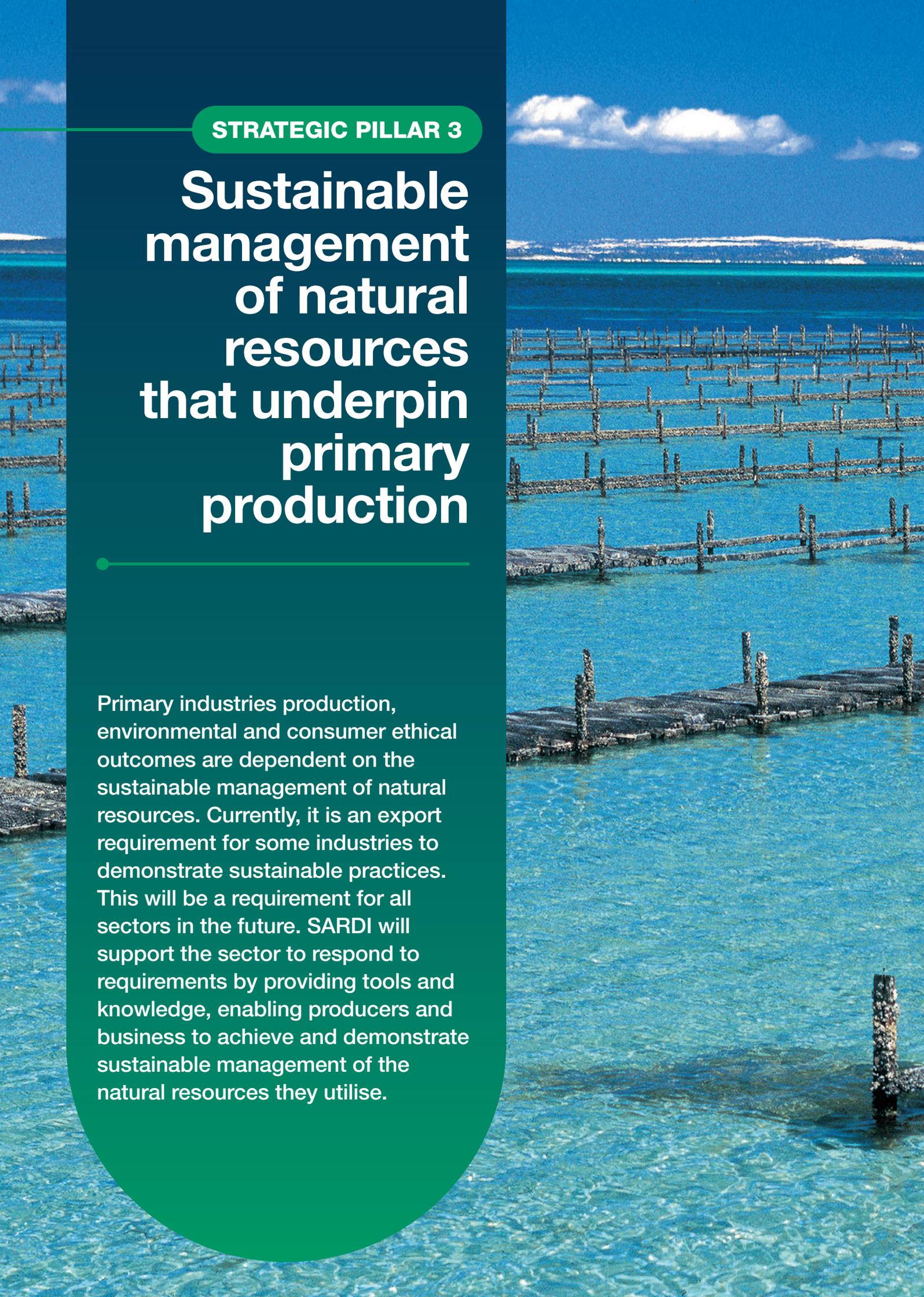
## Outcomes

**South Australia** is a national leader in the delivery of advanced technologies for end-to-end biosecurity surveillance.

## Key performance indicators

**Advanced Biosecurity Surveillance Centre** established.

**New technologies** available to biosecurity agencies.



### STRATEGIC PILLAR 3

# Sustainable management of natural resources that underpin primary production

Primary industries production, environmental and consumer ethical outcomes are dependent on the sustainable management of natural resources. Currently, it is an export requirement for some industries to demonstrate sustainable practices. This will be a requirement for all sectors in the future. SARDI will support the sector to respond to requirements by providing tools and knowledge, enabling producers and business to achieve and demonstrate sustainable management of the natural resources they utilise.

## Building on our strengths

### Provide science to underpin monitoring, assessment, management, and harvest strategies for fisheries

**Provide** science to underpin the ecologically sustainable management of fisheries.

**Provide** ecological modelling to support sustainable development of aquatic resources.

**Provide** science to underpin protected, threatened, endangered and migratory aquatic species management.

### Improve management of aquatic ecosystem development

**Provide** science to underpin water resource management to sustain freshwater dependent ecosystems, natural resources, and irrigated agriculture.

**Undertake** research to support accessing and understanding the value and sustainable use of alternative water sources for irrigation.

### Develop strategies to manage South Australian soils

**Deliver** research on overcoming constraints with novel soil amelioration practices.

**Inform** management of soil constraints such as acidity, salinity and sodicity.

### Manage water for primary industries, communities, and regions

**Inform** decisions about multiple-industrial use of shared marine systems.

**Inform** aquatic resources management through oceanographic modelling.

**Inform** the protection and restoration of aquatic ecosystems.

## Key focus

### Reducing emissions from agriculture

Develop feed supplements and pasture feedbase options to reduce livestock emissions.

Develop a net zero program to support the target of a 50% reduction by 2030 and carbon neutrality by 2050.

Develop and deliver best practice guides for sustainability credentialing to ensure market access.

## Outcomes

**SARDI** is a national collaborator in the sustainable management of fisheries, soils and water.

## Key performance indicators

**Tools and technologies** available to support a 50% reduction by 2030 and carbon neutrality by 2050.

**SARDI** represented at key national primary industries sustainability forums and programs.

**Positive return** on investment for research portfolio.

**Research centres** used to demonstrate zero net emissions strategies at farm scale.

**Industry** has access to science to set benchmarks for sustainability credentials.

## STRATEGIC PILLAR 4

# Increase value of exported products

Global protein shortages and changing consumer preferences are driving the development of alternative plant-based products. Differentiated and value-added products will capture a larger part of the value chain within South Australia. Diversifying the range of end point products will help primary producers to stabilise farm gate prices and improve profits and risk management. South Australia, with its agile production and food sectors, is well positioned to meet this challenge.



## Building on our strengths

Support businesses to develop innovative food and value-added products

Respond to industry needs to develop shelf-stable, safe novel food products

Infrastructure and expertise in grain proteins

Use of seafood industry side-streams

## Key focus

### Develop the Marine Bioproduct Sector

Expand and develop the seaweed aquaculture sector.

Develop value-added products from seaweed and underutilised aquatic resources.

### Establish a South Australian Centre for Plant-based Proteins

Support development of a value-added grains sector.

Improve protein level and optimise flavours, colour and other techno-functional properties in plant ingredients.

Support consistent and reliable supply of high-quality raw materials.

Support development of novel products from plant-based protein ingredients.

Evaluate potential of alternative protein sources such as insect protein.

## Outcomes

SARDI supports primary producers to:

**Add value** to commodities through the development of differentiated products.

**Maintain and enhance** market access for South Australian products.

## Key performance indicators

**Value adding** options available for South Australian companies.

**Research partnerships** expanded in food technology.

**South Australia** has national leadership in plant proteins and marine bioproducts.



STRATEGIC PILLAR 5

# New partnerships and business models

SARDI is an applied research and development institute, providing an important linkage between strategic and basic research and industry adoption and commercialisation.

New partnership and business models are required for SARDI to operate effectively in the R&D continuum.

## Building on our strengths

**Strong relationships with industry organisations and producer groups.**

**Strategic partnerships with other research and development providers.**

**Partner in Cooperative Research Centres and other major national and international collaborative programs.**

## Key focus

**Develop fit-for-purpose business and governance models for public-private research partnerships**

**Increase effectiveness of partnerships to create nation leading research centres in South Australia**

## Outcomes

**Effective** local, national, and international partnerships delivering innovative research to South Australian government and industry.

## Key performance indicators

**Diversification** of SARDI funding base.

**Effectiveness** of partnerships supports access to specialist expertise, delivery capacity, staff development, internships, and joint appointments.

**Increase** in South Australian headquartered major primary industry research programs.

**Intellectual** property commercialised.



## STRATEGIC PILLAR 6

# Impact through adoption

For research to be adopted and used, end users require a pathway to integrate the research into production systems, management, or decision-making practices.

Successful adoption requires research that is relevant and solves real issues. Research findings need to be effectively communicated, research outputs made accessible and used by each user, and support provided to users through the adoption process.

## Building on our strengths

### Communicate and extend knowledge

**Maintain** relevant and timely communication, extension, and engagement to extend SARDI's research.

**Co-design** projects with engagement of key stakeholders.

**Train** staff in communication, extension, and co-design.

**Deliver** high quality and accessible publications, presentations, products and tools.

### Measure impact

**Define** the value of our research by measuring return on investment and yield / productivity growth over time.

**Undertake** monitoring and evaluation to demonstrate uptake and impact of science outputs.

### Underpin policy

**Deliver** transparent and independent science to inform primary industries and government policy.

### Implement data governance framework

**Develop** and implement a data governance framework to identify core research data sets and ensure they are accessible.

## Key focus

### Increase impact of research outcomes

- Co-design projects with engagement of key stakeholders.
- Improve SARDI branding and recognition.
- Utilise our regional research network to deliver innovation.

## Outcomes

**SARDI** research outcomes translated into practice change or commercialised products and services.

## Key performance indicators

**Adoption** of SARDI research outputs by end-users.  
**SARDI** brand and impact recognised nationally.

## STRATEGIC PILLAR 7

# Supporting and valuing our people

The success of the plan will be achieved through SARDI's most valuable asset, our people. SARDI is committed to embedding a culture where high performance is achieved through inclusivity, collaboration and continuous improvement of skills and methods.



## SARDI will provide development opportunities and implement a People and Capability Plan that focuses on:

### Supporting staff development

**Support** opportunities for staff at all levels to undertake targeted career development through specific training, internships and career development.

**Support** personal and career development for staff at all levels aligned with business needs.

**Support** flexible working arrangements within business delivery needs.

**Train** staff in incident management and emergency response.

### Ensuring a safety and wellbeing culture

**Ensure** management of WHS risk remains at the forefront of operational planning.

**Foster** a culture of safety.

**Ensure** reporting of all incidents and hazards.

**Induct** and train all staff, contractors, and students.

### Transparent research investment

**Implement** appropriate delivery arrangements with other PIRSA divisions.

**Utilise** the Research Investment Framework to invest funds in priority areas.

### Renew capability and infrastructure

**Maintain** up-to-date succession plans for critical capability.

**Regularly** review across SARDI capability and infrastructure against future needs.

## Key focus

### Improve business systems

Review and improve processes that support SARDI to increase efficiency while ensuring quality of administration.

Support PIRSA to improve efficiency of corporate processes.

## Outcomes

**A safe and supportive** work environment for SARDI staff.

## Key performance indicators

**Staff satisfaction** and retention at all levels.

**Alignment** of capability and capacity with delivery.

**Transparent** investment process of research funds.

**Meet** WHS targets.



**Government  
of South Australia**

Department of Primary  
Industries and Regions

SARDI



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RESEARCH AND  
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