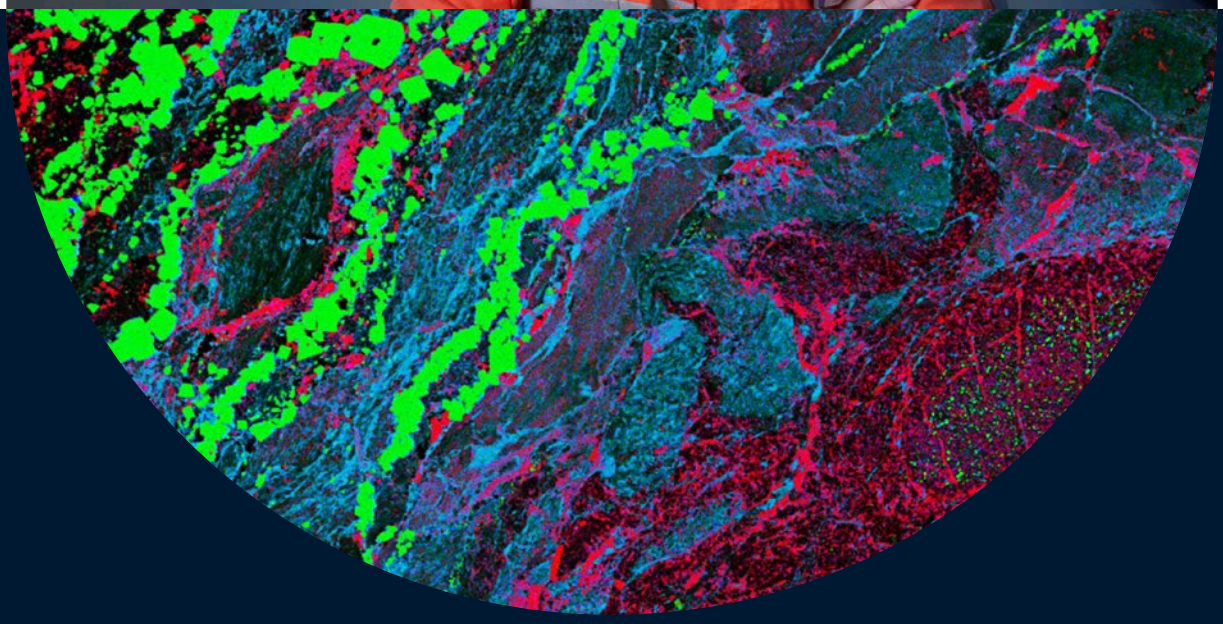
Australia's National
Science Agency



# CSIRO Strategy

## Corporate Plan 2024–25

Cover: (top) CSIRO Senior Experimental Scientist Helen Powell and the team at the Geoscience Drill Core Research Laboratory are providing researchers and their industry partners with the tools to discover and recover Australian mineral resources to power the global energy transition sustainably.

(bottom) Our cutting-edge research tool, the Maia x-ray microprobe detector and imaging system, provides high definition, real-time elemental images of complex natural samples to solve big research problems. The Maia detector is installed at four synchrotrons globally, including at our Geoscience Drill Core Research Laboratory. It is being used by hundreds of researchers across varied disciplines including biological, geological and environmental sciences, material science, medicine and mineral exploration and processing.

Our National Research Collections Australia is working with partners including Google, the University of Tasmania's Institute for Marine and Antarctic Studies and The Nature Conservancy to restore Tasmania's Giant Kelp forests and the ocean ecosystems they create. Our researchers, including Dr Anusuya Willis and Dr Cintia Iha, are using genomics to help breed heat tolerant Giant Kelp and then replanting it to revive the marine ecosystem. They are also using population genetics to ensure the replanted Giant Kelp retains full genetic diversity.

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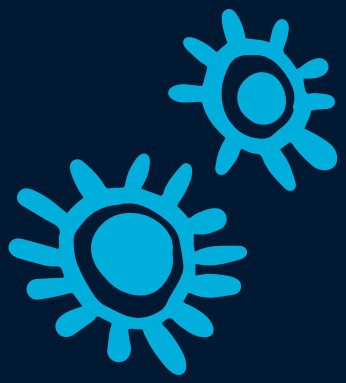
Read the Corporate Plan online at csiro.au/corporate-plan

CSIRO acknowledges the Traditional Owners of the lands, seas and waters, of the area that we live and work on across Australia. We acknowledge all Aboriginal and Torres Strait Islander peoples and their continuing connection to their culture and pay our respects to Elders past and present. CSIRO is committed to reconciliation and recognises that Aboriginal and Torres Strait Islander peoples have made and will continue to make extraordinary contributions to all aspects of Australian life including culture, economy and science.



# 1 Introduction

## 1.1 Opening statement

On behalf of the accountable authority of CSIRO, the CSIRO Board, I am pleased to present our key strategic document, the 2024–25 Corporate Plan (the Plan).

As Australia's national science agency, CSIRO's enduring purpose is to solve the greatest challenges through innovative science and technology. This Plan outlines CSIRO's strategy for continuing to deliver on that purpose for the next 4 years, 2024–25 to 2027–28, as required under paragraph 35(1(b)) of the *Public Governance, Performance and Accountability Act* (PGPA) 2013.

This year's Corporate Plan is the first for our Chief Executive, Dr Doug Hilton, who commenced in September 2023, and signals early shifts in line with his focus on simplification and sustainability for increased impact from CSIRO's science. The CSIRO Board welcomes Dr Hilton's fresh eyes and vision for strengthening CSIRO and looks forward to working with him and CSIRO's Executive Team on further developing this vision. We are confident his passion and expertise will bring out the best in CSIRO's people and their work for the nation.

While new leadership is essential to remaining vibrant, agile and responsive to the world around us, the Board will ensure CSIRO continues to deliver against its legislated responsibilities, those outlined by the Australian Government in its Statement of Expectations and aligned with our responding Statement of Intent. The Board also appreciates the role CSIRO continues to play in the broader research and innovation ecosystem, including delivering evidence-based solutions, like giving effect to Australia's obligations under the Paris Agreement, and contributing to vital policy work, like the National Science and Research Priorities. CSIRO's successes are only possible because of the value it places on its network of stakeholders across government, research, industry and the community, which validate the research problems CSIRO seeks to solve and pave pathways to impact for all Australians.

As Australia's national science agency, it is essential CSIRO renews and revitalises itself to best deliver for the nation. The Board is committed to managing change in line with CSIRO's values and with due consideration for the significant and enduring role of the national science agency, positioning CSIRO to deliver the greatest impact for the nation.

**Kathryn Fagg AO**
Board Chair

# 1.2 Chief Executive's foreword

When I became CSIRO's Chief Executive in September 2023, I knew I was taking on the greatest job in Australia, so it is with great pride and excitement that I introduce my first Corporate Plan as Chief Executive.

As I approach my first anniversary in the role, I am energised by our focus on increasing CSIRO's impact through simplification and sustainability. This 2024 Corporate Plan outlines the first steps towards that vision, while remaining grounded in CSIRO's enduring purpose and role for the nation as Australia's national science agency.

I have long been an admirer of CSIRO – both as a research partner and as an Australian – and since joining the organisation, it has become even clearer to me that we have smart, committed and passionate people doing important scientific and industrial research and we are managing vital research infrastructure for the nation. Equally, in order to do our best work for Australia, we must be clear on our priorities so we can allocate resources well and deliver the best possible outcomes. By focusing on simplification and sustainability, we can increase the impact we have for Australia. Initially, we will be focusing our efforts on 3 areas to improve how we deliver on our purpose:

- We want to manage our **research portfolio** adaptably, making sure the problems we are trying to solve will allow us to achieve the ambitions of our 6 challenges and deliver maximum national benefit.
- We want the **infrastructure** we manage for the nation to be sustainable, safe and fit-for-purpose, today and into the future.
- We want our **Enterprise Services** (ES) teams to be efficient, effective and financially sustainable.

Simplification and sustainability matter for CSIRO's partners and customers as well as for our own people. When we are able to clearly articulate the depth and breadth of our research, we are easier to understand and work with and we can more readily attract partners who share our goals. We are also better able to align with the Australian Government's priorities, like the Future Made in Australia policy. Most importantly, we are more easily understood by, and can better engage with, members of the Australian community. We place importance on transparency and better communication, in line with the commitments in our Reconciliation Action Plan (RAP) to strengthen how we work in partnership with Aboriginal and Torres Strait Islander peoples – responding to their priorities, respecting their knowledge, and co-designing our shared future.

Simplification and sustainability also make a difference to how our research delivers national benefit. CSIRO's end-to-end capability – working across science horizons from breakthrough research to translation – and our appropriation funding model underpin our unique role in the Australian innovation system. As the national science agency, we have a duty, not just to do great research, but to support Australian research, whether in industry, government, academia or our communities, to deliver maximum impact.

CSIRO's people are proud to work here. They are driven by a common purpose and passionate about doing and supporting research that the community values. In return, they are trusted and supported by the Australian community. I feel enormous pride, genuine humility and great optimism about our 2024 Corporate Plan and the empowerment it will give our people to do their best work for Australia.

**Dr Doug Hilton**
Chief Executive

# 2 Our purpose and strategy

Our strategy reflects the role CSIRO plays in benefitting society and supporting Australia's national interests. It reflects the priorities outlined by the Minister for Industry and Science and the requirements of CSIRO in the *Science and Industry Research Act 1949* (SIR Act).

## 2.1 Strategy on a Page

Our purpose is to solve the greatest challenges through innovative science and technology

### Our objectives to deliver

| | |
|---|---|
| Purpose-driven science and technology | Invest in the right science and technology to deliver impact at-scale aligned with the challenges we are solving and the portfolio of research directed to them. |
| Infrastructure stewardship | Be stewards of fit-for-purpose and sustainable research infrastructure that stimulates collaborative networks in Australia's innovation ecosystem to deliver long-term national benefit. |
| A stronger national innovation system | Enable system-level coalitions to address national challenges and advance Australia's research translation and commercialisation performance. |
| An enduring and empowered CSIRO | Attract and retain world-class talent and strengthen our nation's STEM pipeline. Strengthen a culture that makes us an employer of choice and operate in an adaptable, resilient and responsive way. |

Our values underpinning how we work

**People first**

**Making it real**

It sets the course to achieve our purpose and realise our vision. It articulates the challenges we are solving, objectives and key initiatives that will enable us to deliver, and our values, which underpin everything we do.

The different sections of our strategy are outlined on pages 6–15.

## The challenges we are solving

| | |
|---|---|
| Health and wellbeing | Enhance the health and wellbeing of all Australians. |
| Sustainable agriculture and food systems | Help grow a sustainable future for Australia's agri-food and fibre sectors. |
| A secure Australia and region | Safeguard Australia and our region from threats. |
| Resilient and valuable environments | Enhance the resilience and value of our natural and built environments. |
| Sustainable energy and resources | Lower emissions to net zero while sustaining Australia's prosperity. |
| Future industries | Create Australia's future sustainable jobs and industries. |

Our vision is to create a better future for Australia

Trusted

Further together

# 2.2 Our purpose, vision and values

## Our purpose

**Solving the greatest challenges through innovative science and technology.**

Our purpose has endured for more than 100 years and will continue to guide us into the future. As one of the world's largest multidisciplinary science and research organisations, we focus on issues that matter the most for Australia's quality of life, the economy and our environment.

## Our vision

**Creating a better future for Australia.**

When we all focus on the big things that really matter, Australian science and technology can solve seemingly impossible problems and create new value and a better future for all Australians. We are working closely with government, research, industry and the community to ensure that science and technology are at the forefront of decision making; to deliver solutions that improve the lives of Australians, contribute to national wellbeing and build our industry, science and research capabilities.

## Values

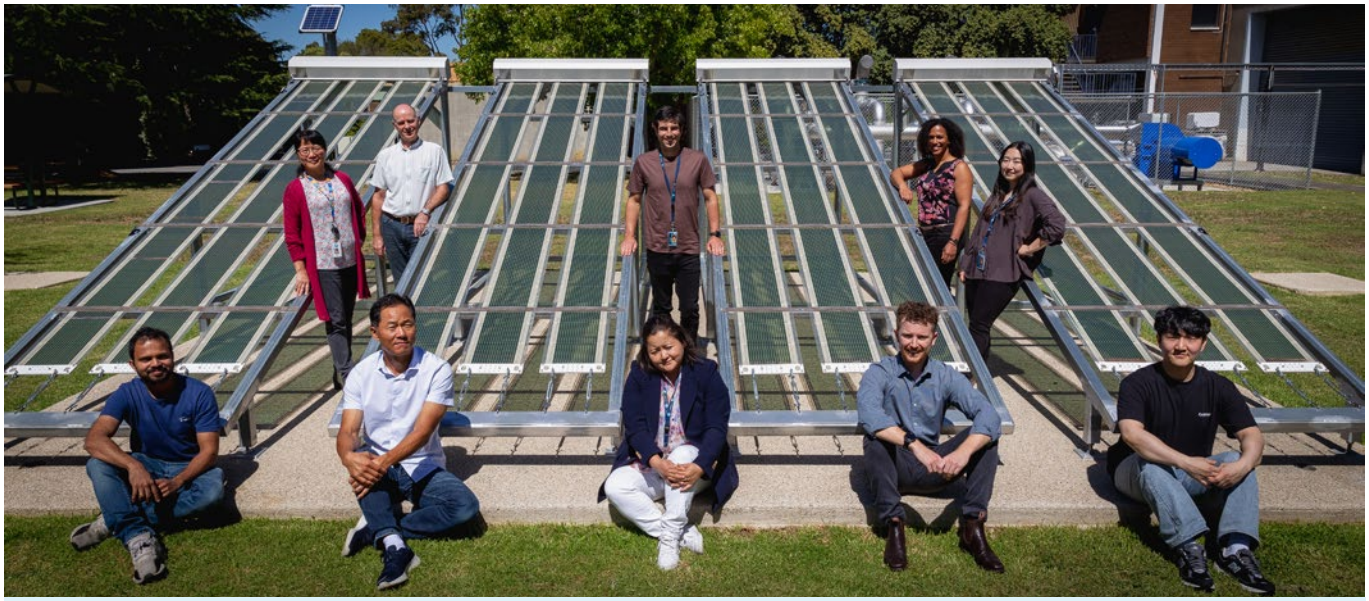
Our values guide behaviours and decision making for all our people. They articulate how we work every day as we deliver on our strategy.

**People first:** Our first priority is the safety and wellbeing of our people. We believe in, and respect, the power of diverse perspectives. We seek out and learn from our differences. We do our very best to get all this right.

**Making it real:** We do science with real impact. We thrive when taking on the big challenges facing the world. We take educated risks and defy convention. We celebrate successes and failures, and leverage them to learn as we strive to be the force for positive change.

**Trusted:** We are driven by purpose but remain objective. We fight misinformation with facts. We earn trust everywhere through everything we do. We trust each other and we hold each other accountable. Together our actions drive Australia's trust in CSIRO.

**Further together:** We achieve more together than we ever could alone. We listen and collaborate in teams, across disciplines and across boundaries. We embrace ambiguity and use discussion and persistence to generate unique solutions to complex problems.



**Our researchers working on printable flexible solar have led an international team to a clean energy breakthrough by setting a new efficiency record for fully roll-to-roll printed solar cells. The collaboration involved researchers from the University of Cambridge, Monash University, the University of Sydney and the University of New South Wales. Printed onto thin plastic films, this lightweight and flexible solar technology will help meet the growing demand for renewable energy by expanding the boundaries of where solar cells can be used.**

## 2.3 Our objectives

Our objectives explain how we will deliver on our purpose. They are the higher-level key activities that reflect the requirements of the SIR Act, Minister's Statement of Expectations and respond to the national and global innovation system. The objectives are underpinned by our values and clearly prioritise where we are directing our focus and investments.

**Our researchers are using advances in molecular biology, plant physiology, genomics and digital technologies to better understand infectious plant diseases and develop new diagnostic tests to support better crop management. Exotic plant diseases pose a significant threat to Australia's multi-billion-dollar plant-based industries and global food security. Our research teams led by Gavin Hunter and Melania Figueroa are exploring molecular and genomic techniques to control invasive weeds, plant diseases and pests such as oat crown rust. Working with our partner Grains Research and Development Corporation (GRDC) and collaborators in Europe, Asia, South Africa and the United States, our researchers aim to deliver genetic resistance to diseases which will make Australia's agriculture industry more resilient.**

## OBJECTIVE 1

# Purpose-driven science and technology

Outcome: Invest in the right science and technology to deliver impact at-scale aligned with the challenges we are solving and the portfolio of research directed to them.

## Strategic priorities

### Advance national ambitions

Shape our portfolio to advance key priorities, such as the National Science and Research Priorities and National Reconstruction Fund, in line with our role under the SIR Act.

### Research and innovation pipeline

Manage a robust portfolio and pipeline of at-scale research in partnership with the broader innovation system to advance our national ambitions.

### Digital

Empower our people through leading-edge technologies and platforms.

## Key initiatives

| STRATEGIC PRIORITIES | KEY INITIATIVES | 2024–25 | 2025–26 | 2026–27 | 2027–28 |
|---|---|---|---|---|---|
| **Advance national ambitions** | **Challenges for greater impact**<br>Focus on critical challenges of national importance to shape CSIRO's research and capability, contributing expertise and innovation to ensure we are achieving greater impact for the nation. | | | | |
| **Research and innovation pipeline** | **At-scale research programs**<br>Fund at-scale, transgenerational research programs that are built on collaboration and partnerships with innovation system stakeholders to marshal end-to-end capability to deliver on national ambitions. | | | | |
| | **Flexible portfolio adaptation**<br>Establish mechanisms to periodically adapt and refresh the research portfolio to ensure an appropriate mix of research focus and to respond to emerging priorities. | | | | |
| **Digital** | **Digital uplift**<br>Continue to integrate contemporary digital and data capabilities such as automation, robotics, sensors and artificial intelligence into our research practices and laboratories to accelerate the pace and scale of our research impact delivery. | | | | |

Planning Implementation Continuous improvement

## OBJECTIVE 2

# Infrastructure stewardship

Outcome: Be stewards of fit-for-purpose and sustainable research infrastructure that stimulates collaborative networks in Australia's innovation ecosystem to deliver long-term national benefit.

## Strategic priorities

### Research infrastructure

Drive greater connectivity across innovation ecosystems by leveraging our national footprint and research infrastructure to strengthen Australia's sovereign research capability.

### Enabling infrastructure

Rationalise and simplify our infrastructure footprint to optimise our investment, sustainability and impact.

## Key initiatives

| STRATEGIC PRIORITIES | KEY INITIATIVES | 2024–25 | 2025–26 | 2026–27 | 2027–28 |
|---|---|---|---|---|---|
| **Research infrastructure** | **SKA project**<br>Continue to manage the SKA site in Australia, partner with industry and science organisations to build the SKA-Low telescope and operate it in collaboration with the SKA Observatory. | | | | |
| | **Landmark infrastructure upgrades**<br>Continue upgrading our landmark infrastructure (ACDP mid-life refit, National Research Collections building and Pawsey Supercomputing upgrade). | | | | |
| | **Research Infrastructure roadmap**<br>Develop a roadmap for our research infrastructure, aligned to our research portfolio aspirations, to ensure our infrastructure remains relevant and responsive to Australia's current and emerging needs while also encouraging strategic partnerships and allowing end users to engage more effectively. | | | | |
| **Enabling infrastructure** | **Consolidating for impact**<br>Simplify and optimise footprint, facilities and systems aligned with our research, to ensure we have an innovative and vibrant working environment for our people, customers and stakeholders. | | | | |

Planning  Implementation  Continuous improvement

## OBJECTIVE 3

# A stronger national innovation system

Outcome: Enable system-level coalitions to address national challenges and advance Australia's research translation and commercialisation performance.

## Strategic priorities

### System-level coalitions

Convene and/or contribute to coalitions across government, community (including Aboriginal and Torres Strait Islander communities), the research sector and industry to collaboratively own, fund and solve national and international challenges.

### Accelerate commercialisation

Realise impact from CSIRO's research to enable further investment in excellent science, strengthen our financial sustainability and deliver greater impact to Australia.

Boost collaboration with universities and industry to drive Australia's commercialisation outcomes for economic development from science.

## Key initiatives

| STRATEGIC PRIORITIES | KEY INITIATIVES | 2024–25 | 2025–26 | 2026–27 | 2027–28 |
|---|---|---|---|---|---|
| **System-level coalitions** | **Strategic collaborations and partnerships**<br>Harness the exponential power of our diverse and inclusive strategic partnerships with government, research, industry, small and medium enterprises (SMEs) and community (including Aboriginal and Torres Strait Islander communities) to amplify our impact and increase the benefit we deliver to Australia. | ● | ● | ● | ● |
| **Accelerate commercialisation** | **CSIRO commercialisation programs**<br>Increase the volume, velocity and value of science translation and commercialisation capacity and capability, including through expanding the use of digital impact pathways. | ● | ● | ● | ● |
| | **Commercialisation for NIS**<br>Deliver the Industry PhD (iPhD), ON Prime and Accelerate and CSIRO Innovation Fund programs, to uplift research translation across the innovation system including engagement with industry. | ● | ● | ● | ● |
| | **Main Sequence Fund**<br>Expand Main Sequence to invest in spinouts, start-ups and SMEs with strong links to Australian high-value deep technology opportunities including from Australia's Economic Accelerator. | ● | ● | ● | ● |

● Planning ● Implementation ● Continuous improvement

## OBJECTIVE 4

# An enduring and empowered CSIRO

Outcome: Attract and retain world-class talent and strengthen our nation's STEM pipeline. Strengthen a culture that makes us an employer of choice and operate in an adaptable, resilient and responsive way.

## Strategic priorities

### Preferred place to work

Strengthen our culture that makes us an employer of choice and operate in an adaptable, sustainable and responsive way which generates a strong scientific impact for Australia.

### World-class talent

Be the destination employer in Australia for the best global science and technology talent and strengthen Australia's Science, Technology, Engineering and Mathematics (STEM) pipeline.

### Greater adaptiveness

Operate with more adaptability, resilience and responsiveness with a focus on enhancing the experience of our people and working seamlessly across the organisation to drive a more digitally mature, networked, sustainable and impactful CSIRO.

## Key initiatives

| STRATEGIC PRIORITIES | KEY INITIATIVES | 2024–25 | 2025–26 | 2026–27 | 2027–28 |
|---|---|---|---|---|---|
| **Preferred place to work** | **Strengthen CSIRO culture**<br>Implement activities that engage our people, foster diversity, inclusion and belonging, build leadership capability and continue to embed our values as the foundation for how we work together at CSIRO. | ● | ● | ● | ● |
| **World-class talent** | **Attract and develop outstanding talent**<br>Be an employer of choice where people can develop their careers and perform at their best. Build our capability and talent pipeline for the Australian innovation system through programs such as Research+ and CSIRO Early Research Career. | ◐ | ● | ● | ● |
| **Greater adaptiveness** | **Sustainable funding and engagement models**<br>Review and adapt CSIRO's operating model (including financial governance, policies and processes) to optimise for impact, while maintaining sustainable operations, long-term viability and effectiveness. | ◐ | ◐ | ● | ● |
| | **Enterprise Services (ES) reform**<br>Review and enhance the efficiency, effectiveness and agility of our ES functions to ensure our teams are equipped to support CSIRO sustainably and effectively. | ◐ | ● | ● | ● |

● Planning ● Implementation ● Continuous improvement

# 2.4 Our portfolio

As Australia's national science agency and one of the largest and most diverse scientific research organisations in the world, our end-to-end work spans a range of scientific disciplines from basic research to applied solutions. We deliver national benefit by focusing on the greatest challenges and managing national research infrastructure.

## 2.4.1 Research aligned to national challenges

Aligned with the Australian Government's priorities, CSIRO is helping to solve 6 challenges for national benefit. We work with government, research, industry and the community to deliver impact under the challenges through large-scale scientific research initiatives.

### Health and wellbeing

Enhance the health and wellbeing for all Australians.

**Support healthier lives**
Support Australians to achieve a high quality of life by addressing drivers of poor health outcomes and inequities with a focus on primordial and primary prevention.

**Communicable disease prevention, preparedness and response**
Enhance preparedness and resilience by growing capacity to predict, prevent and respond to communicable diseases by controlling emerging pathogens and disease threats more effectively.

**Health system and technology transformation**
Enable health system transformation through data interoperability. Partnering with industry for innovative health product and manufacturing processes.

### Sustainable agriculture and food systems

Help grow a sustainable future for Australia's agri-food and fibre sectors.

**Improved crops and animals**
Deliver crops and animals that are fit for future climates and markets through gene-editing, genetic modification and conventional breeding.

**Profitable agricultural production**
Future-proof our farming systems to proactively manage risk and be resilient to biotic threats, adapt to changing climates and use resources efficiently.

**Sustainable and trusted value chains**
Catalyse the market to value sustainability and ensure that Australian food is trusted.

**Value-added foods and feeds**
Deliver optimal nutrition to our plates through new ingredients and products that generate value along the supply chain.

**Secure food systems**
Enable food and nutritional security through a whole of food system approach that is environmentally sustainable, socially just and economically viable.

### A secure Australia and region

Safeguard Australia and our region from threats.

**Biosecurity**
Enhance biosecurity resilience by prioritising high-consequence threats that affect human, animal, plant and environmental health.

**Defence and national security**
Enhance Australia's defence and national security capabilities in areas aligned with CSIRO's research strengths.

**Sovereign resilience**
Enhance Australia's sovereign resilience with an all-hazards approach that integrates solutions for cybersecurity, natural disasters and supply chains.

**Our Hydrogen Refuelling Station is a collaboration with the Victorian Hydrogen Hub, enabling research and training to accelerate the Australian hydrogen industry.**

## Resilient and valuable environments

Enhance the resilience and value of our natural and built environments.

**Resilience to climate risks**
Support adaptation, mitigation and resilience decision making at-scale with end-to-end climate science, risk information and resilience solutions.

**Healthy ecosystems**
Inform the sustainable use, conservation, restoration and future management of environmental systems and ecosystem services at-scale with end-to-end and integrated systems science and solutions.

**Resilient communities and built environments**
Underpin long-term investment and planning decisions with integrated biophysical, social and economic science.

## Sustainable energy and resources

Lower emissions to net zero while sustaining Australia's prosperity.

**Value-added critical minerals**
Develop supply chains for critical minerals to meet renewable energy needs and provide access to clean energy technology.

**Electricity transition**
Transition the electricity network to facilitate low-emission electricity, abiding by Australia's emission targets.

**Industry and transport decarbonisation**
Partner with industry to accelerate renewable energy adoption and emission reduction in hard-to-abate industries.

**Sustainable prosperity from resources**
Grow Australia's resource base and technologies, while driving environmental performance towards net zero.

## Future industries

Create Australia's future sustainable jobs and industries.

**Innovative and productive manufacturing**
Strengthen Australia's manufacturing sector by developing advanced production systems and processes for greater productivity, lower cost and higher performance.

**Novel materials and devices**
Commercialise advanced materials, physical products and platform technologies to create high-value products with greatly improved performance.

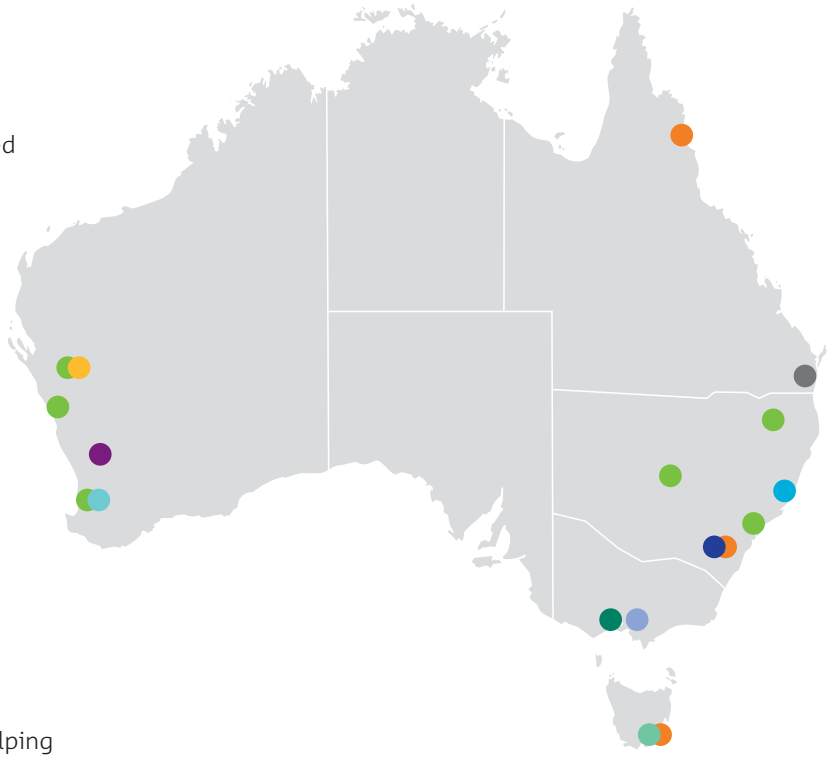
**Digital and emerging technologies**
Create globally competitive industries through the commercialisation of digital products, services and emerging technologies.

**Strong and responsible innovation system**
Strengthen Australia's innovation performance through targeted programs, services, infrastructure and science.

## 2.4.2 Research infrastructure

As Australia's national science agency, we are stewards of a diverse and complex suite of research infrastructure across more than 40 sites to enable the scientific research required to address the national challenges. We are committed to ensuring our infrastructure is sustainable, safe and fit-for-purpose, now and for future generations, supported and strengthened by collaboration across the innovation system.

Some of the key research infrastructure that we maintain and manage includes:



- **Atlas of Living Australia:** a collaborative, digital, open infrastructure that pulls together Australian biodiversity data from multiple sources, making it accessible to support innovative research and decision making.
- **Australian Centre for Disease Preparedness:** a purpose-built biosecurity facility providing Australia's highest level of biocontainment, helping protect our community and valuable livestock and aquaculture industries from emerging infectious animal and zoonotic diseases.
- **Australia Telescope National Facility:** developing and operating state-of-the-art radio astronomy facilities for researchers from across Australia and around the world.
- **Canberra Deep Space Communication Complex:** one of NASA's 3 Deep Space Network stations around the world that provides continuous, two-way radio contact with spacecraft exploring our Solar System and beyond.
- **Marine National Facility:** Australia's dedicated blue water research capability, delivering cutting-edge marine and atmospheric research to support the conservation, prosperity and sustainable use of our vast marine environment and its resources.
- **National Bushfire Behaviour Research Laboratory:** a unique facility in Canberra used to study and test bushfire behaviour and suppression to develop tools to support the prediction and management of bushfires.
- **National Research Collections Australia:** a vital resource for science and conservation that curates and cares for more than 15-million specimens which are used by CSIRO and other scientists for research.
- **National Vaccine and Therapeutics Lab:** a multi-purpose facility that assists SMEs in bridging the gap between benchtop lab research and commercial scale by turning vaccine and drug candidates into manufactured products for clinical trial.
- **Newcastle Energy Centre:** our renewable energy solar facilities focus national research on future low-emission technologies, including sustainable fuels, energy storage and energy system integration. Assets include our National Heating, Ventilation and Air-Conditioning (HVAC) performance test facility, our Renewable Energy Integration Facility and large-scale solar demonstration facilities.

**Researchers from CSIRO and the Australian Antarctic Program Partnership (AAPP) spent more than 60 days onboard RV *Investigator*, in a journey that spanned over 12,000 kilometres, searching for clues about how the Southern Ocean drives climate patterns in Australia and the rest of the globe.**

**We are part of the AAPP, a 10-year research program working to improve understanding of the role of the Antarctic and Southern Ocean within the global climate system and its implications for marine ecosystems. Funded by the Australian Government and led by the University of Tasmania, the program also involves the Institute for Marine and Antarctic Studies, Australian Antarctic Division, Bureau of Meteorology, Integrated Marine Observing System, Geoscience Australia and the Tasmanian Government. Image: Richard Atkinson**

- **New Norcia ground station:** the European Space Agency's deep space ground station in Australia, which is essential for communicating with spacecraft voyaging across our Solar System.
- **Pawsey Supercomputing Research Centre:** a leading-edge, high-performance computing facility accelerating scientific discoveries for Australia and currently serving over 4,000 researchers in domains such as radio astronomy, energy, engineering, bioinformatics and health sciences.
- **Robotics Innovation Centre:** a purpose-built robotics centre that has catapulted Australia's robotics industry to new heights. It features systems that Australian researchers and industry can access to build state-of-the-art robots and sensors.
- **SKA-Low telescope:** part of the international effort to build the world's largest and most capable radio astronomy observatory, designed to enable transformational science for understanding of the Universe.

# 2.5 Our capabilities and collaborations

## 2.5.1 Our capabilities

CSIRO will continue to invest in the right capabilities to ensure we can achieve our purpose of solving the greatest challenges through innovative science and technology. Our Research Units (formerly called Business Units) are the drivers of our capability, working end-to-end across the research spectrum, conducting pure, strategic and applied research to deliver science that will benefit Australia today and into the future. We are also committed to growing our cultural capability across the organisation, as reflected in our Reconciliation Action Plan.

### Pure research

We seek out the best and brightest minds to pursue cutting-edge and emerging fields of research to invent the breakthroughs of tomorrow. Our pure research capability continually updates the foundations of our research to ensure we are future-ready to address Australia's changing needs. Our researchers work on pure research in digital, physical, biological and social systems, including in areas such as quantum, genomics, energy storage, machine learning and artificial intelligence. We accelerate our ability to deliver breakthrough science by continuously building the capabilities that cut across science disciplines, such as engineering, synthetic biology and Indigenous knowledge and science.

### Strategic research

Our multidisciplinary teams aim to deliver on our research portfolio to solve the right problems at-scale by building capabilities aligned with national priorities. Along with investing in boundary-pushing science that is leading to new and the reinvention of existing, industries for Australia, our teams conduct research aligned with Australia's major industries including energy, manufacturing, agriculture, mineral resources and health. This ensures we are well placed to achieve our scientific ambitions, fulfill operational goals, meet the needs of the community and complement the capabilities of our partners.

### Applied research

Our people are driven by the desire to solve big problems with a focus on outcomes that lead to positive impact, new jobs and economic growth. Our mission-directed research aims to develop and deploy innovative solutions to Australia's major challenges such as emissions reduction, clean energy technology, optimising our hydrogen potential and critical energy metals and minerals, as well as the opportunities that biotechnology presents across multiple industry sectors including health, agriculture, the environment and waste reduction. We aspire to achieve the maximum impact of our science through system-level coalitions with the right partners to develop large-scale scientific and collaborative research initiatives aimed at making significant breakthroughs.

### Translational services

In addition to our scientific capabilities, we invest in the skills that support turning our research into real-world impact through translation. This includes capabilities such as commercialisation, intellectual property management, business development and global engagement to support partnerships with businesses of all sizes, with a special focus on strengthening scientific translation in SMEs. Translation also relies on strong relationship-building capabilities, including our commitment to working with Aboriginal and Torres Strait Islander peoples to build Indigenous engagement and collaboration in science.

## 2.5.2 Our collaborations

We collaborate with partners across Australia's national innovation system to deliver on our purpose, working with organisations that share our vision and goals to deliver benefit to the nation. We meet the diverse needs of our many collaborators in a range of ways from strategic advisory and planning, to research and development (R&D), to programs and funding. Our collaborations range from one-to-one partnerships through to building, as well as participating in, system-level coalitions that have bold and ambitious national goals.

We will leverage our extensive and successful work in the national innovation system, our mission-oriented research and vast national infrastructure footprint to engage more effectively with government, industry, research and the community. This enables us to align our work to the national ambitions, build trust, facilitate coalitions at-scale to accelerate scientific discovery and increase our innovation capability at a system level.

**Wajarri Yamaji man Zac George is one of 10 SKA-Low field technicians working to assemble and install the SKA-Low telescope components on site in Western Australia.**

**We have worked alongside the Wajarri Yamaji People for more than 20 years as essential partners in hosting one of the world's largest radio telescopes, SKA-Low, at Inyarrimanha Ilgari Bundara, our Murchison Radio-astronomy Observatory on Wajarri Country in Western Australia. One of 2 telescopes being built by the international SKA Observatory (SKAO), SKA-Low will revolutionise our understanding of the Universe and is the first mega-science project in Australia. We have brought our more than 60 years' experience with radio astronomy, telescope technology and observatory management to help make the SKA-Low telescope a reality and, together with the SKAO, we have also co-developed SKA-Low field technician roles with the Wajarri community to grow employment opportunities on Country, reflecting our vision to create a better future for all Australians.**

### Government

We closely engage with governments at all levels (local councils, state, federal and international) and the associated departments, to provide evidence-based research to support Australia's priorities.  We share our research activities and provide scientific information and advice to inform and advance policy priorities and program implementation.

### Research

We partner with universities and research institutions through co-location, co-publication and collaboration to boost innovation and ensure the best available research is used to solve the greatest challenges and deliver outcomes for Australia and the world. This includes working with universities, publicly funded research agencies, Research and Development Corporations and Cooperative Research Centres.

### Industry

We act as a bridge between the research sector and industry to translate research and partner with industries of all scales to provide funding, expertise and resources for co-creating commercialisation outcomes that deliver impact and economic value for the nation. In particular, we have a strong focus on working with SMEs to increase uptake of R&D through specialised programs, in addition to our work with large corporations, accelerators and innovation funds, startups and venture capital.

### Community

We deliver learning experiences for students, teachers and the community to equip Australians with the knowledge they need to enter the workforce and increase their STEM skills. This includes through outreach programs, STEM education programs and deepening our engagement and co-design with Aboriginal and Torres Strait Islander peoples.

# 2.6 How we measure success

In line with our Portfolio Budget Statement 2023–24, the outcome that we seek to achieve is *innovative scientific and technology solutions to national challenges and opportunities to benefit industry, the environment, and the community, through scientific research and capability development, services, and advice*. We actively review and monitor our performance including the use of performance measures as part of our performance framework.

| OBJECTIVES | KEY PERFORMANCE INDICATORS (KPIs)[a] | METRICS[bcd] |
|---|---|---|
| **1. Purpose-driven science and technology** | **Impact by alignment, design and scale** | Return on investment (as per Portfolio Budget Statement) |
| | | Normalised Citation Impact at science field level |
| | **Be Australia's trusted advisor** | Positive public sentiment of CSIRO |
| | | Positive business sentiment of CSIRO |
| | | Customer satisfaction measure through Net Promoter Score |
| | **Drive future science opportunities** | Intellectual Property (IP) from Future Science Platforms |
| | | Externally validated evaluations of Indigenous science and engagement programs or projects |
| **2. Infrastructure stewardship** | **Have shared national labs** | Externally validated evaluations of collaborative use of CSIRO's facility/hub/precinct/collections |
| | | Infrastructure usage rates:<br>Australia Telescope National Facility (ATNF) |
| | | Pawsey Supercomputing Centre (Pawsey) |
| | | National Research Collections Australia (NRCA) |
| | | Marine National Facility (MNF) |
| **3. A stronger national innovation system** | **Enhance innovation translation with Australian industry including SMEs and external partners** | Joint investment with external partners in missions-directed research |
| | | Number of SME engagements (represented by all contract engagements) – baseline 1,500 |
| | | Participation in ON program to accelerate research (program funded until 2026) |
| | **Demonstrated uptake and adoption with Industry to support Australian innovation** | Total annual IP revenue |
| | | Value of CSIRO's equity holdings |
| **4. An enduring and empowered CSIRO** | **Be a destination employer** | Commenced, cohort growth and graduating Industry PhDs (iPhDs) |
| | | Impossible Without You campaign (program funded until 2026) |
| | | Staff sentiment towards CSIRO's culture[h] |
| | **Financial commitments** | Meet approved net cash operating surplus/(deficit) ($'000 as per Portfolio Budget Statement) |
| | **Have a safe and inclusive workplace for all** | Hazards and proactive Health, Safety and Environmental reporting |
| | | Total Reportable Injury Frequency Rate (TRIFR)[i] |
| | | Diversity in leadership defined by proportion of leaders who identify as women |

| TARGETS[e] | | | |
|---|---|---|---|
| 2024–25 | 2025–26 | 2026–27 | 2027–28 |
| 20 impact assessments[f] and at least $1.5b worth of Net Present Value (NPV) p.a. | → | 20 impact assessments and at least $2b worth of NPV p.a. | → |
| >75% of RISE units of assessment in top 2 rank quartiles, with not less than 50% in the rank 1 (top) quartile, calculated on a volume-weighted basis | Maintain or increase (year-on-year) → | | |
| 75% | 75% | 76% | ≥76% |
| 81% | 81% | 82% | ≥82% |
| >+48 | > +50 | >+52 | >+52 |
| >444 registerable and non-registerable IP | >467 registerable and non-registerable IP | >491 registerable and non-registerable IP | >516 registerable and non-registerable IP |
| Minimum of 2 evaluations with shared lessons learnt | Minimum of 3 evaluations with shared lessons learnt | Maintain or increase (year-on-year) → | |
| Minimum of 2 evaluations with shared lessons learnt | Minimum of 2 evaluations with shared lessons learnt | Minimum of 3 evaluations with shared lessons learnt | Minimum of 3 evaluations with shared lessons learnt |
| ATNF – Minimum of 70% successful astronomical observations | Maintain (year-on-year) → | | |
| Pawsey – Minimum of 90% core hours | Maintain (year-on-year) → | | |
| NRCA – Minimum of 70% outward loans of collections (averaged over 5 years) | Maintain (year-on-year) → | | |
| MNF – Minimum of 90% successful research days | Maintain (year-on-year) → | | |
| $230m | ≥$230m | Maintain or increase (year-on-year) → | |
| Baseline +10% | Baseline +20% | Baseline +30% | Baseline +40% |
| ≥100 teams | ≥100 teams | N/A | N/A |
| ≥$42m | Maintain or increase (year-on-year) → | | |
| $200m | $220m | $220m | ≥$220m |
| 75 cumulative iPhD cohort | 100 cumulative iPhD cohort | 120 cumulative iPhD cohort, 10 iPhDs graduating | 160 cumulative iPhD cohort, 20 iPhDs graduating |
| 90% of recruits complete the second year of their term | 80% of recruits practically complete the third year of their term[g] | N/A | N/A |
| 49th percentile | 52nd percentile | 55th percentile | ≥56th percentile |
| 214,110[i] | -60,370 | -52,832 | -40,838 |
| 3,000 reports | 4,000 reports | 5,000 reports | ≥6,000 reports |
| 2.3 incidents | 2.1 incidents | 1.9 incidents | 1.7 incidents |
| 44% | 45% | 46% | ≥47% |

# 3 Our operating environment

The external insights, collaborative partnerships and risk management framework that influence our strategy.

## 3.1 Trends influencing our strategy

As a globally leading research agency, we leverage our science to develop foresight that contributes significantly to identifying the key trends influencing our strategy. These include *Our Future World: Global megatrends 2022*; *Australian National Outlook 2019*; *COVID-19: Recovery and resilience report*; and our industry roadmaps.

**Researchers at our Australian e-Health Research Centre have used artificial intelligence (AI) to further unlock the genetic secrets to Alzheimer's disease. The AI tools they have developed, VariantSpark and BitEpi, have successfully identified new genes and gene interactions that drive Alzheimer's disease.**

### Rising health burden

Our resources are under constant pressure from an aging population, prevalence of chronic diseases, obesity, increasing animal-borne infectious diseases and ecosystem disruption from climate change. The Australian Government has committed a total of AUD$137.6 billion to health, aged care and sport in 2023–24.[1]

Our Health and wellbeing challenge's goal is to enhance the health and wellbeing of all Australians. See page 12 for more information.

### Growing food insecurity

There is a 56% gap between the amount of food the world produces today and the food we will need by 2050.[2] Australia aims to exceed AUD$100 billion in farm gate output by 2030[3] but current farming practices are reaching production limits, requiring new approaches to maintain viability in many Australian regions.

Our Sustainable agriculture and food systems challenge's goal is to grow a sustainable future for Australia's agri-food and fibre sectors. See page 12 for more information.

### Geopolitical developments

Ongoing disruptive events like wars, cyber-attacks and biosecurity outbreaks require investment and cooperation to protect national sovereignty and public health. The anticipated increase in Australia's defence spending (reaching 2.4% of GDP by 2030s),[4] investment plans outlined in the 2023-2030 Australian Cyber Security Strategy,[5] and our global strategic partnerships such as AUKUS and the QUAD aim to drive collaboration, regional prosperity and deliver a secure region.

Our Secure Australia and region challenge's goal is to safeguard Australia and our region from threats. See page 12 for more information.

**Our Solar Thermal Engineering team has been working with Sparc Hydrogen to advance the innovative Adelaide-based start-up's work to develop next-gen green hydrogen production technology. The company's groundbreaking photocatalytic water splitting (PWS) reactor has the potential to make green hydrogen more efficient and accessible to industry. Our collaboration is continuing to strengthen with the company conducting further testing at the CSIRO Energy Centre.**

## Worsening climate change impact

With both the temperature and $CO_2$ emissions reaching record highs in 2023 globally,[6] the world is not on track to meet the Paris Agreement goals.[7] Weather and climate extremes are projected to be more frequent, significantly impacting the wellbeing of our communities and ecosystems.[8] In 2023, total economic loss attributable to natural disasters reached USD$380 billion globally and almost USD$1.5 billion in Australia.[9]

Our Resilient and valuable environment challenge's goal is to enhance the resilience and value of our natural and built environments. See page 13 for more information.

## Managing energy transition

Emissions by Australia's burning of fuels for energy used directly in the form of heat, steam or pressure (excluding for electricity generation and transport) is projected to be one of the highest of all sectors by 2030.[10] To achieve decarbonisation by 2050, there is a need for accelerated development and application of diversified technologies. Policies such as the Rewiring the Nation Plan and the National Energy Transformation Partnership are focused on accelerating Australia's energy transition.

Our Sustainable energy and resources challenge's goal is to lower emissions to net zero while sustaining Australia's prosperity. See page 13 for more information.

## Australia's plateauing competitive edge

Compared to other advanced economies, Australia has a narrow export base with a heavy reliance on commodities.[11] Its industry also shows a low propensity for new-to-market innovations, ranking 26th out of 34 OECD countries,[12] with 80% of Australian businesses not introducing any (significant) new goods or services in the 2 years ending mid-2021.[13] These conditions make Australia vulnerable to global shocks.

Our Future industries challenge's goal is to create Australia's future sustainable jobs and industries. See page 13 for more information.

## Reduced R&D investment

Australia's R&D investment as a proportion of GDP[14] (1.68% today) has declined over the last 15 years. The reduction is mainly due to the falling government R&D expenditure. Also, the declining business expenditure on R&D from 1.22% to 0.92% in the last decade correlates with a drop in Australia's productivity performance.[15]

We aim to deliver the greatest value within the financial resources at our disposal. Our strategic direction is focused on prioritising the simplification and sustainability of our research portfolio. See pages 12–15 for more information.

**We are proud to host a range of specialist research facilities like the Australia Telescope Compact Array on Gomeroi Country in NSW, which is part of the Australia Telescope National Facility. This six-dish array is used by thousands of researchers each year from universities and research organisations across Australia and around the world.**

## Commitment to science-focused infrastructure

Through the National Collaborative Research Infrastructure Strategy (NCRIS), Australia has committed AUD$4 billion in national research infrastructure over 12 years.[16] The funding aims to manage increasing costs and uplift our current infrastructure network to contribute to the national priorities, specifically the National Reconstruction Fund priority areas.

> We are the stewards of many national assets. Our facilities and collections are available to be accessed and used effectively by the research community and the public to ensure maximum benefit for the nation. See page 14–15 for more information.

## Australia's declining innovation performance

There has been an overall decline in Australia's Global Innovation Index ranking, dropping to 24th in 2023.[17] Australia is less efficient at turning innovation into economic impact, limiting the country's economic complexity and productivity.

Australia also fares poorly in industry-research partnerships, with the rate of collaboration for industries with universities and research institutes the lowest amongst the OECD countries.[18]

> We work to improve Australia's performance and strengthen the national innovation system (NIS) across all stages of the innovation cycle by enabling system-level coalitions and advancing translation of research and commercialisation. See pages 16–17 for more information.

## Fragmentation within the NIS

Research funding in Australia is highly dispersed, with an estimated government funding of AUD$12.6 billion in 2023–24 allocated across 14 Australian government portfolios and the 160 distinct programs within them.[19] Fragmented research capabilities, coupled with an opaque supply and demand for innovation, further limit industry-research in Australia.[12]

> We leverage our strong engagement track record in the NIS, our mission-oriented research and vast national infrastructure footprint to engage effectively with the government, research, industry and community. See page 14–17 for more information.

# 3.2 Risk oversight and management

We manage risks in accordance with the Commonwealth Risk Management Policy and we are committed to developing and promoting a culture of proactive risk management, supported by robust and transparent governance and oversight. Our approach to risk, set out in our Risk Management Framework, provides the foundation, tools and processes to design, implement, monitor, review and continually improve our management of risks. Our commitment to continuous improvement in this area aligns with best practice principles and is consistent with the International Standard ISO 31000:2018 Risk Management – Guidelines.

Our engagement with risk and opportunities are guided by the identification of key risks and the Board's Risk Appetite Statement, which are reviewed regularly and supported through our risk tolerance levels, set by the Executive Team to inform effective risk management and decision making. Our Risk Management Framework, supported by a range of tools, enables our business areas to embed risk management practices into our projects, activities, systems and operations.

We have established appropriate and effective mechanisms to communicate, escalate and report on operational and enterprise risks to drive risk-informed discussions and ensure they remain within our risk appetite, including through key bodies such as the Major Transactions Committee and the Board's standing committees.

During 2024–25, we will continue to mature our risk management approach to ensure it is fit for purpose and continues to enhance and embed the integration of risk management into existing processes and decision making. We are improving our risk capability by implementing a Governance Risk and Compliance (GRC) system to improve our risk governance and provide an integrated enterprise approach for how we capture, monitor and manage risks.

**Robots could be used to scout areas ahead of bushfires where fire fighters cannot safely go.**

**Scientists from Data61's Queensland Centre for Advanced Technologies are working on robots that could travel into fire fronts and relay valuable information to fire-fighting headquarters. This includes where a fire is, where it is heading and how much fuel is in its path. This work is part of an international effort to develop new technologies for fighting fires.**

## Key risks and mitigation strategies

We perform an integral role in the NIS and operate in a dynamic and complex environment. The Board has identified 12 key enterprise risks that may impact our ability to achieve our purpose and these are managed in line with our Risk Management Framework.

| | RISK CATEGORIES AND KEY RISKS | RISK MANAGEMENT AND MITIGATION STRATEGIES |
|---|---|---|
| INNOVATION | **Alignment to national challenges**<br>Failure to anticipate global and national challenges affecting Australia and prioritising our science and investments accordingly. | We employ several strategies to anticipate future challenges and inform national priorities including:<br>• active horizon scanning for emerging trends in scientific advancements and technology and conducting research on potential future scenarios and genuine engagement with stakeholders in the NIS to define, understand and influence key national challenges faced by Australia.<br>• active management of the portfolio to ensure we continue to focus our research on future science and technology aligned to the key areas of government and national priorities. |
| | **Science and technology**<br>Inability to adapt to emerging technologies that support leading-edge research and innovation. | CSIRO faces a significant challenge to stay adaptable in a fast-paced world of emerging technologies, but we manage this risk by:<br>• articulating a clear strategic direction for our research portfolio, including the Challenge strategies, impact priorities, infrastructure and capabilities.<br>• adapting, managing and regularly reviewing our research portfolio to prioritise investments in transformative, cross-cutting future science, technology and infrastructure, enabled by an integrated digital ecosystem to deliver impact at-scale. |
| | **Role clarity**<br>Failure to get clarity around CSIRO's role in an increasingly competitive and fragmented NIS. | We have a unique role in solving the nation's greatest challenges and ensure we are contributing to the national priorities by:<br>• being agile and adaptable to the changing needs of the NIS and focusing our research on key areas of government and national policy priority.<br>• clearly articulating the research we are doing and the outcomes we are delivering for the nation. |
| | **Critical scale**<br>Inability to leverage the scaled research capability and programs and grow sub-scale efforts to reach critical mass. | We continue to optimise our research portfolio for maximum impact and innovation by:<br>• regularly reviewing and prioritising our research portfolio to realign our capabilities and achieve better resource allocation.<br>• funding at-scale transgenerational end-to-end programs at critical mass that deliver on our ambitions. |
| INTEGRITY | **Social licence to operate**<br>Failure to conduct our science and research with integrity and in a manner that upholds our Code of Conduct and meets the legislative requirements, along with not communicating transparently, leading to CSIRO losing its place as a trusted advisor. | We value and strive to maintain our role as a trusted advisor in Australia and a strong advocate of the power of science by:<br>• regularly reviewing our research and technology programs to ensure they are addressing the needs of our society.<br>• having strict procedures in place to ensure ethical research.<br>• regularly engaging and communicating with the community about our scientific research and the impact we are delivering. |
| COLLABORATION | **System-level coalitions**<br>Failure to enable and catalyse system-level coalitions and engage and manage relationships to address large-scale, important, national challenges. | Collaboration is vital to address large-scale national challenges and deliver maximum impact, that is why we prioritise:<br>• developing strategic collaborations and partnerships with the stakeholders of the NIS aimed at making significant breakthroughs and accelerating the pace and scale at which the nation can solve challenges.<br>• fostering greater collaboration with international partners and managing our offshore market entry, including international footprints and/or programs. |
| | **Research infrastructure**<br>Failure to play a role in the provision of national infrastructure that drives greater connectivity across the ecosystem. | We leverage and aim to maintain seamless connectivity across the ecosystem to meet the needs of the NIS by:<br>• continuously reviewing our infrastructure portfolio to assess strategic alignment, impact delivery, operating model and financial sustainability.<br>• partnering with government, universities, research institutions and industry to ensure we maximise the sustainable use of national research facilities and collections by Australian and international researchers.<br>We are developing a roadmap for our research infrastructure that is aligned to our research portfolio and will focus on enhancing collaboration, innovation and knowledge exchange across the ecosystem. |

| | RISK CATEGORIES AND KEY RISKS | RISK MANAGEMENT AND MITIGATION STRATEGIES |
|---|---|---|
| SUSTAINABILITY | **Organisational resilience**<br>Failing to maintain a resilient organisation and safe and secure operating environment that protects our people, research and assets from unprecedented challenges such as espionage and foreign interference. | We leverage the Three-Lines governance model to maintain a resilient and safe operating environment along with a combination of strategies such as:<br>• application of security strategies based on the Protective Security Policy Framework.<br>• investing in cybersecurity measures focused on preventing cyber security incidents and foreign interference.<br>• regularly testing and updating resilience plans of our physical and personnel security environments.<br>• building our health and safety maturity and supporting processes, systems and frameworks. |
| | **Comprehensive portfolio agility**<br>Failure to anticipate decadal challenges and adequately adapt our research portfolio (including infrastructure and capabilities) to respond to changing external factors and invest in new opportunities. | We maintain a clear view of our current portfolio through regular monitoring and evaluation processes coupled with robust risk identification and mitigation measures such as:<br>• strengthening our future-focused thinking by cultivating a culture of strategic foresight through systematic horizon scanning for emerging trends and potential challenges.<br>• designing our research programs and organisational structures to be adaptable and responsive to change, including fostering a culture of collaboration and knowledge sharing which encourages our researchers to think creatively and explore new approaches.<br>• phasing of portfolio adjustments by balancing long-term commitments with the need to adapt. |
| | **Sustainable operating model**<br>Failure to adapt CSIRO's operating model to optimise for impact, while maintaining sustainable operations, sites and infrastructure. | We regularly review our role in the NIS, budget, investments and operations by:<br>• working closely with the government to assess areas of scientific focus, corporate services, large-scale capital and operating costs.<br>• engaging closely with the industry globally to generate external revenue to complement government appropriation.<br>• maintaining oversight of associated risks through our governance committee structure. |
| PEOPLE | **Culture that can manage change**<br>Inability to embrace a culture that enables the agility required to successfully achieve relevance and impact. | We promote a more adaptive and resilient culture that is better equipped to thrive in an ever-evolving environment by:<br>• fostering a positive culture of continuous learning, openness and transparency.<br>• providing support services and resources to assist staff during times of change.<br>• building trust and focusing on psychological safety. |
| | **Talent management**<br>Inability to maintain the right mix of contemporary talent (nationally and globally) in strategically important areas to deliver impact at-scale. | Our people are at the heart of our impact, so we work to attract and retain the best talent by:<br>• partnering with universities to attract early career researchers and scientists.<br>• developing learning programs for the staff to continuously update their skills and capabilities and leveraging flexible work arrangements to attract a wider range of talent.<br>• encouraging a culture of innovation and creativity to attract and retain high-performing individuals. |

# 4 Appendices

## 4.1 CSIRO subsidiaries

Our subsidiaries play a critical part in our ability to achieve our purpose. We have offshore representation that supports our global engagement and funds that invest in science areas to create new opportunities for Australian innovation.

| NAME OF ENTITY | JURISDICTION OF OPERATION | EQUITY HOLDING | GOALS/FUNCTION | CONTRIBUTION TO CSIRO'S PURPOSE |
|---|---|---|---|---|
| **Fundacion CSIRO Chile Research** | Chile | 100% founder interest | Created in October 2013 to provide research services and collaborate with the Chilean innovation ecosystem. | Chile Fundación closed 1 July 2024. CSIRO will continue to partner with the Chilean innovation ecosystem, with research delivered in partnership with CSIRO's researchers in Australia. |
| **CSIRO USA** | Delaware, USA | 100% Sole membership company | Establishment of an office for CSIRO operations in the USA. | Previously created as an operating entity for commercialisation. The entity will close in 2024. CSIRO will continue to have US representation in San Fransisco and Washington DC based out of the Australian Government offices. |
| **Innovation Fund trading as Main Sequence** | Primarily Australia | The Innovation Fund is a group of entities, including the CSIRO Fund of Funds, the CSIRO Innovation Holding Trust, the CSIRO Innovation Fund 1, LP, the CSIRO Innovation Follow on Fund 1, the CSIRO Innovation Fund 2, LP, the CSIRO Innovation Follow on Fund 2, the CSIRO Innovation Co-investment Fund, the Main Sequence Core Fund 3, the MSV Parallel Fund, the Main Sequence Opportunity Fund 3, the Main Sequence NGS Co-investment Fund and Main Sequence Atmosphere Fund.<br>Through the CSIRO Fund of Funds and the CSIRO Innovation Holding Trust CSIRO is an investor in the CSIRO Innovation Fund 1, LP, the CSIRO Innovation Follow-on Fund 1, the Main Sequence Core Fund 3, the MSV Parallel Fund and The Main Sequence Opportunity Fund 3. | Provides venture capital backing to deep technology companies with connections to the Australian publicly funded research sector. | Invests in translating publicly funded Australian research into global companies.<br>Since it commenced, the Fund has helped to create more than 2,120 deep technology jobs and helped to build 59 deep tech companies including Samsara Eco, Quasar Sat, Emesent, Q-CTRL and MGA Thermal. |
| **Science and Industry Endowment Fund** | Independent trust | Nil | The Fund makes strategic investments in scientific research that addresses issues of national priority for Australia. | Provides grants to science and scientists for the purposes of assisting Australian industry, furthering the interests of the Australian community and contributing to the achievement of Australian national objectives. |

# 4.2 List of requirements index

The Corporate Plan has been prepared in accordance with the requirements of:

- subsection 35(1) of the PGPA Act
- the PGPA Rule 2014.

These are the required sections and the page reference(s) that show how our Corporate Plan meets these expectations.

| REQUIREMENT | PAGE/S |
|---|---|
| **Introduction** | 2–3 |
| Statement of preparation | 2 |
| The reporting period for which the plan is prepared | 2 |
| The reporting periods covered by the plan | 2 |
| **Purpose** | 4, 6 |
| **Operating context** | 20–25 |
| Environment | 20–22 |
| Risk oversight and management | 23–25 |
| Subsidiaries | 26 |
| **Capability** | 16 |
| **Cooperation and collaboration** | 16–17 |
| **Performance** | 18–19 |
| **Key activities** | 7–11 |

**Our researchers are working with partners across the environment sector to deliver solutions that support the resilient and sustainable management of our natural resources, fundamental to Australia's development and prosperity. For example, we work with the Great Barrier Reef Marine Park Authority and Australian Institute of Marine Science (AIMS) to monitor and assess the health of the Great Barrier Reef, delivering reports like the Reef Snapshot 2023–24 which identified wide-spread coral bleaching and cyclone impacts over the summer.**

# 4.3 References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3. National Farmers' Federation, 2021, '2030 Roadmap'
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8. Bureau of Meteorology and CSIRO, 2022, 'State of the Climate'
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10. Australian Government, Department of Climate Change, Energy, the Environment and Water, 2023, 'Australian emissions projections'
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13. Australian Government, Productivity Commission, 2023, '5-year Productivity Inquiry: Innovation for the 98%'
14. Australian Bureau of Statistics, 2023, 'Research and Experimental Development, Businesses, Australia FY2021–22'
15. Group of Eight Australia, 2023, 'Australian Universities Accord Panel Discussion Paper Consultation – 15 ideas to deliver a seamless tertiary education system'
16. Australian Government, Department of Education, 2021, 'NCRIS factsheet'
17. World Intellectual Property Organization, 2023, 'Global Innovation Index 2023 – Innovation in the face of uncertainty'
18. Organisation for Economic Co-operation and Development, 2023, 'OECD Business innovation and statistics indicators'
19. Department of Industry Science and Research, 2024, 'Science, research and innovation (SRI) budget tables 2023–24'

**We are committed to developing the STEM pipeline and one of the best ways of doing that is by building a love of STEM among the young. Supported by BHP Foundation, our Young Future Shapers Program helps those in Years 5-10 to get greater access to opportunities and strengthens their confidence, capability and connection with STEM. We choose 25 Young Future Shapers annually to get personalised support, attend a STEM camp where they meet like-minded kids and experts, embark on a learning adventure or create their own prize pack. We prioritise opportunities for under-represented groups in STEM, including girls, Indigenous students and those from lower opportunity schools or regional areas.**

## Endnotes

a. **Methodologies:**
   i. Quantitative counts;
   ii. Survey method is used to consistently measure and rigorously validate how we are performing over time. All survey findings are conducted, analysed and reported by independent providers to adhere to National Ethics Standards, avoid bias and ensure credible performance reporting in accordance with the PGPA Rule; and
   iii. Impact assessments and evaluations are conducted by third-party providers on CSIRO's procurement panel or undertaken internally and validated by external experts to ensure the evaluation process and analyses are rigorous and the findings are defensible. CSIRO's evaluation guide, which is publicly available, is the reference document for all impact assessments. CSIRO impact assessments are published on www.csiro.au by default, unless the report is commercial-in-confidence or policy sensitive – e.g. where publication may prejudice a commercialisation process, where a government announcement is due related to the evaluation subject matter, where an external partner has agreed to the evaluation for internal purposes only, or similar. In such cases the options are to delay publication for a time or publish a high-level summary only or both. As part of the recent review of CSIRO's performance framework, an international analysis of performance reporting approaches of peer research organisations was conducted which highlighted that in-depth, rigorous and validated case studies are a universally accepted way of demonstrating research organisations are delivering against their intended purposes. Therefore, CSIRO adopts a similar approach to align with this international standard and carries a global reputation of being leading-edge in the field.

b. **All metrics are equally weighted.**
   - **KPI assessment:** CSIRO is a large, complex agency which requires a sophisticated and integrated performance framework to capture progress against our Corporate Plan. Therefore, we embrace the mixed methods approach to performance management, supported by the PGPA Act and Rule, as it provides greater insight into progress and performance across the organisation. Our aim is to comprehensively monitor and report the diversity of contribution to our performance goals and expectations. When assessing the overall performance of a KPI, those with multiple metrics are rated either 'met', 'partially met' or 'not met' in regard to achievement of set targets. For KPIs with single metrics, they are rated either 'met' or 'not met' in relation to achieving targets.

c. **Data sources:** Internal systems with access to SAP, Opportunity to Delivery (O2D), Human Resources, Health and safety, Financial, IP, contract and engagement platforms. External surveys, impact assessment and evaluation data are sourced by third party providers or requested from CSIRO systems.

d. Metrics removed from previous Corporate Plan:
   - **Number of industry organisations engaged in education programs**: now included in SME engagement metric count.
   - **Cross organisation engagement:** inward focused and input level metric, not capturing outcomes.
   - **CSIRO Early Research Career Fellows retention rate:** has retained target levels for 8 years, metric still retained in Portfolio Budget Statement KPIs.

e. **All targets** are endorsed by the CSIRO Board, with oversight by the Board Audit and Risk Committee (Charter available: www.csiro.au/about/corporate-governance/minister-and-board/barc), which assists CSIRO and its Board in the areas of financial management, risk management, internal control and compliance. Targets are set to drive growth, establish new baselines in which forward goals can be agreed, or to maintain high performance.

f. Impact assessments and evaluations are planned ahead of commencement of program level investment to prevent the potential for bias. Preselection ensures research is adequately evaluated regardless of investment results. Additional methodological considerations for the selection of evaluations include:
   - **Representativeness:** Selected to reflect breadth of activities undertaken by CSIRO and the type of research undertaken. This ensures a more comprehensive picture is available of the performance of the organisation (across provision of national facilities and infrastructure, education services, research and across different impact pathways, i.e. commercial, policy, capability building and learning).
   - **Significance (strategic importance):** Programs of work that are strategically significant to the organisation and/or represent large investments (e.g. large government initiatives, Missions, FSPs) and all undergo impact assessments or evaluations at program close.
   - **Evaluation readiness:** The availability and accessibility of evidence for analysis to substantiate impact realised or expected in future, including the willingness of CSIRO partners/customers to participate in the evaluation determines if an assessment is shortlisted to proceed to evaluation.

g. **Practical completion of the term** (for a CERC fellow) means that they have completed their project/training.

h. **Staff sentiment towards CSIRO's culture** is defined by the summative survey result related to the Core Values Index.

i. **Meet approved net cash operating surplus/(deficit):** The operating surplus is driven by the expected sale of property in 2024–25.

j. **Total Reportable Injury Frequency Rate:** The total number of recordable work-related incidents resulting in a medical treatment injury, lost time injury, fatality or rated as a significant incident, per million hours worked.

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