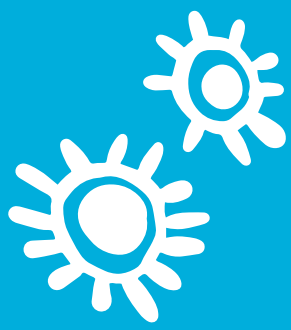
CSIRO

Australia's National
Science Agency

Annual Report 2023–24

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.



Cover top: Wajarri Yamaji man and SKA-Low field technician Lockie Ronan holds one of the 131,072 antennas that will make up the SKA-Low telescope in Western Australia, under Wajarri Yamaji sky and stars.

Being built by the international SKA Observatory (SKAO), SKA-Low will look back in time to the Universe in its infancy, when the first stars and galaxies were born.

The first antenna for the telescope was installed in March 2024 at Inyarrimanha Ilgari Bundara, our Murchison Radio-astronomy Observatory. Read more about our involvement in this mega-science project on page 61. Credit: SKAO.

Cover bottom: Susan Merry, *Our Home*, 2023 (detail).

***Our Home* by Wajarri Yamaji artist Susan Merry was created during the SKAO Council's first visit to Inyarrimanha Ilgari Bundara, our Murchison Radio-astronomy Observatory on Wajarri Country in Western Australia. Council members contributed to the artwork with handprints and detailing under Susan's guidance. In Susan's words, she shares the story of the painting:**

> **"Our home: years ago our old people used to walk everywhere hunting for food and water. Our home: we used to live on Boolardy and go and stay at the top shed. My uncle and brothers and other family members used to go mustering sheep for shearing. Today all you can see are the antennas large and small, with the wildflowers and hands representing that we all come as one on Land."**

We acknowledge the Wajarri Yamaji as Traditional Owners and Native Title Holders of the Inyarrimanha Ilgari Bundara, our Murchison Radio-astronomy Observatory site.

CSIRO Head Office
Clunies Ross Street, Acton ACT 2601
GPO Box 1700, Canberra ACT 2601 Australia

csiro.au | ABN 41 687 119 230

11 September 2024

The Hon Ed Husic MP
Minister for Industry and Science
Parliament House
Canberra ACT 2600

We have pleasure in submitting to you, for presentation to Parliament, the 76th Annual Report of the Commonwealth Scientific and Industrial Research Organisation (CSIRO) for the year ending 30 June 2024. This report has been prepared in accordance with the requirements of the *Science and Industry Research Act 1949*, section 46 of the *Public Governance, Performance and Accountability Act 2013* and the *Public Governance, Performance and Accountability Rule 2014*.

The report was endorsed at the meeting of the CSIRO Board members on 29 August 2024.

Part 5 is a report on the operations of the Science and Industry Endowment Fund (the Fund), which was established under the *Science and Industry Endowment Act 1926*. It also includes a report by the Auditor-General on the accounts of the Fund.

Section 17BE(p) of the PGPA Rule requires CSIRO to report any significant activities and changes that affected the organisation or structure. During the reporting period, CSIRO welcomed new Chief Executive, Dr Doug Hilton, and commenced a focus on simplification and sustainability for increased impact. This includes early work to clarify our research portfolio, simplify our infrastructure management and restructure our Enterprise Services functions. As a result, we have made changes to our Executive Team structure during the reporting period, with further changes to follow to our organisational structure in the coming year.

Importantly, we continued our core work of collaborating with partners to deliver science and solutions for the benefit of Australia. This ranges from agenda-setting research like our energy pricing GenCost report, delivered in partnership with the Australian Energy Market Operator (AEMO), through to research conducted at the vital national research infrastructure we manage for the nation, like biosecurity responses to avian influenza at the Australian Centre for Disease Preparedness (ACDP) in Geelong, Victoria. It also includes work that goes to the heart of the future of science in Australia – science that inspires hope and wonder. This ranges from partnering with schools and universities to strengthen the STEM pipeline at every stage of development through to global partnerships to look further and deeper into the mysteries of our oceans, environments and the universe.

We are very proud of CSIRO's achievements this year and the enormous benefit we deliver to every Australian.

Ms Kathryn Fagg AO
Chair, CSIRO Board

Dr Doug Hilton AO
Chief Executive, CSIRO

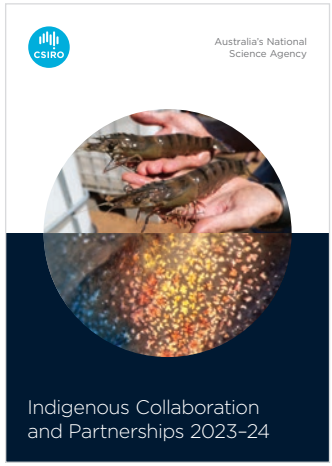
Our annual report

Our annual report provides a summary of our activities and performance for the financial year ended 30 June 2024 against the planned objectives and outcomes in our Corporate Plan 2023–24 and Portfolio Budget Statements and aligned with the Minister's Statement of Expectations and our Statement of Intent. It is prepared in accordance with the requirements of the *Science and Industry Research Act 1949* (SIR Act), section 46 of the *Public Governance, Performance and Accountability Act 2013* (PGPA Act) and the *Public Governance, Performance and Accountability Rule 2014* (PGPA Rule).

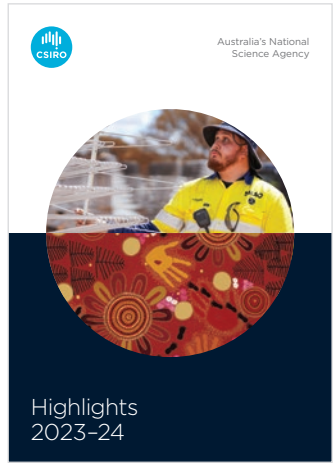
In 2024, our annual report is accompanied by an additional CSIRO Highlights document, which further illustrates the activities and key achievements reported. Both documents together lead a suite of 2023–24 performance reporting across CSIRO (outlined below).

Access the Annual Report 2023–24 along with the rest of the reporting suite being published throughout 2024 at: csiro.au/reportingsuite2024.

CSIRO Annual Report 2023–24

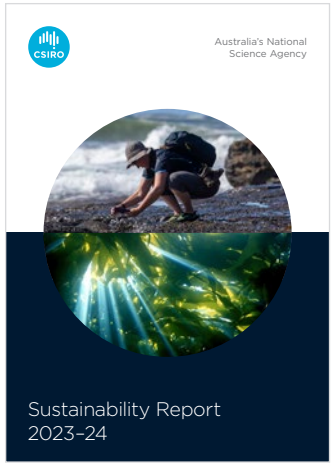


CSIRO Indigenous Collaboration and Partnerships 2023–24

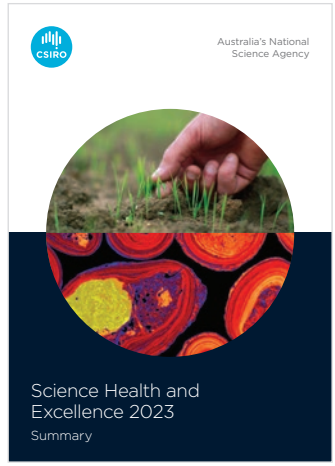


CSIRO Highlights 2023–24

The Value of CSIRO 2024



CSIRO Sustainability Report 2023–24



CSIRO Science Health and Excellence 2023

About us

As Australia's national science agency, CSIRO is solving the greatest challenges through innovative science and technology.

We are one of the largest and most multidisciplinary research organisations in the world, creating a better future for Australia.

Our purpose

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

We are established by and operate under the provisions of the *Science and Industry Research Act 1949* (SIR Act), which sets out our functions and powers. The governance, performance and accountability of our operations, including the use and management of public resources, are set out in the *Public Governance Performance and Accountability Act 2013* (PGPA Act) and *Rule 2014* (PGPA Rule).

We are a corporate Commonwealth entity within the Industry, Science and Resources portfolio. We have a Board and Chief Executive and deliver value aligned to our Portfolio Budget Statement and our Minister's Statement of Expectations.

Our outcome

Our outcome, consistent with our legislation and stated in our Portfolio Budget Statement, is to produce 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 provide the essential scientific research and advice needed by a broad range of stakeholders, including conducting research pursuant to national priorities. We collaborate with innovators to convert discoveries and ideas into technologies, services and best practices that benefit the nation. Our impact extends beyond Australia; we are a regional leader in informing international policy and development for climate, biodiversity, sustainability and food security.

We deliver around $13.3 billion[1] of benefit to the nation each year as a result of our science, securing our future national prosperity as well as environmental and social benefits.

Our vision

CSIRO. Creating a better future for Australia.

1 Source: The Value of CSIRO: The Broader Impact of CSIRO's Portfolio of Activities, 2024 Update. RTI International.

Contents

What we achieved in 2023–24

We engaged with over

3,000

domestic and international, industry and government entities, including 1,440 small- to medium-sized enterprises (SMEs)

We engaged over **100,000 primary, secondary and tertiary students and 6,800 educators** with our education and outreach programs

Aboriginal and Torres Strait Islander Peoples representation

1.8% 2023

2.5% 2024

4 of our leading researchers joined the official Australian Government delegation at the United Nations Framework Convention on Climate Change Conference of the Parties (COP28) in Dubai

RV *Investigator* made its **100th voyage**

We were awarded **Best Employer Brand Initiative** (SEEK Star Awards) and **Diversity Champion and Talent Insights Pioneer** (LinkedIn Talent Awards)

496

CSIRO Early Research Career Postdoctoral and Engineering Fellows joined us, growing the next generation of STEM professionals

Our highest IP revenue total in 9 years with a result of

$61 million

Main Sequence invested in **8 new companies** this year (totalling 63)

For more achievements like these see our accompanying Highlights 2023–24 publication at: csiro.au/reportingsuite2024

How we deliver

Our objectives are our high-level key activities, reflecting our obligations under the *Science and Industry Research Act* (SIR Act) 1949, the Minister's Statement of Expectations, and our response to the national and global innovation system.

Our objectives explain how we will deliver on our purpose. They are underpinned by our values and have a clear set of priorities where we direct our focus and investments. They are outlined in our Corporate Plan 2023–24.

Objective 1
Impact translation

Advance Australia's translation and commercialisation of science through collaborative networks.

Objective 2
Purpose-driven science and technology

Deliver impact at-scale aligned with the challenges we are solving and the portfolios of research directed to them. Invest in the right future science and technology to solve tomorrow's challenges.

Objective 3
Engage and empower talent

Attract world-class talent and strengthen our nation's science, technology, engineering and mathematics (STEM) pipeline. Build a culture that makes us an employer of choice and operate in an adaptable, resilient and responsive way.

Objective 4
World-class infrastructure

Share our world-class national labs and facilities with industry, universities and government.

Foreword by the Chair

The CSIRO Board is pleased to present this Annual Report, which celebrates the expertise, dedication and passion of the people and partners of CSIRO who have worked so hard to deliver outstanding national benefit over the past year. We also congratulate CSIRO's Chief Executive Dr Doug Hilton on these strong results in his first year in the role.

This year has seen significant change at Australia's national science agency, including welcoming Dr Hilton, as well as a number of new Board members. We have also commenced work to make CSIRO simpler and more sustainable to increase its impact, including clarifying the broad span of our research portfolio, considering the dispersed footprint of our diverse infrastructure holistically, and commencing a reshaping of our non-science roles under our enterprise services reform.

These initiatives build on a year of strong performance for CSIRO, as outlined in this Annual Report. The Board is especially pleased to see the continual growth of the independent estimate of the value of CSIRO's science grow from $10.2 billion to $13.3 billion, and the increasing returns from our equity portfolio and our Intellectual Property (IP) exceeding targets to reinvest into our research. These results reflect CSIRO's enduring commitment to science excellence and collaborative partnerships to shepherd breakthrough research into real-world solutions that make life better for every Australian.

CSIRO has continued to work closely with partners across government, industry, research and the community to understand where its research can solve the greatest challenges for Australia. These partnerships are guided by the Australian Government's Statement of Expectations for CSIRO, as well as responding to the government's most pressing priorities, including giving effect to Australia's obligations under the Paris Agreement and aligning with the National Science and Research Priorities. Collaboration is at the heart of our research – from the first stages of co-designing the questions we pose through to considering the needs of the people who will most benefit from our innovation.

As Australia's national science agency, we value the trust placed in us by the Australian people, which remains strong in this year's Annual Report. In recent years, we have been especially focused on our role in reconciliation, outlined in our Reconciliation Action Plan and brought to life in our commitment to meaningful engagement and co-design with Aboriginal and Torres Strait Islanders, Australia's first scientists.

This year, the Board has been impressed with the leadership and values-led behaviour displayed by CSIRO's people through a period of change and commend them for their unwavering focus on delivering national benefit through science and research. We hope Australia is as proud of their national science agency as we are.

Ms Kathryn Fagg AO
Chair, CSIRO Board

Chief Executive's report

Science and CSIRO have never been more important to Australia as the profound challenges we are facing are becoming increasingly urgent and complex. As we confront these challenges, we must also look to seize the incredible opportunities they present. Over the last 12 months it has been a privilege for Kirsten Rose and I to lead this remarkable organisation and the talented and passionate people at the heart of it. We are delighted to present the 2023–24 Annual Report.

Over the past year, we have begun to reshape CSIRO to ensure we can more effectively solve the challenges that matter to Australia and Australians – transitioning our energy system and tackling climate change, more sustainably and productively generating the food the world needs, creating new manufacturing methods and building sovereign capability, supporting the health and wellbeing of all Australians, and better understanding the Universe, from deep space to the rich biodiversity of the lands and oceans.

To maximise the impact of our research, we need to take the strong foundations of CSIRO and become simpler and more sustainable. We need to be able to shape our research portfolio in response to changing circumstances, to ensure our infrastructure is fit-for-purpose and that our enterprise service teams are effective and co-ordinated in their support of our science. We need to continue to effectively partner with industry, government, academia and communities to co-design and co-deliver solutions that are relevant, scalable and sustainable. These changes will allow our people to do their best work and ensure CSIRO and our collaborators can harness the power of science and technology to deliver benefit to the community for the years and decades ahead.

I want to thank CSIRO's people and our partners for the results reported here – we have so much about which to be proud. We are truly humbled to be leading this great organisation in its mission to create a better future for Australia, the region and our world.

Ms Kirsten Rose
Acting Chief Executive | July to September 2023

Dr Doug Hilton AO
Chief Executive | From September 2023

Our Board

Ms Kathryn Fagg AO
Board Chair
Appointment:
2 August 2018
to 13 October 2026

Prof Alex Brown
Member
Appointment:
16 March 2023
to 15 March 2028

Ms Ming Long AM
Deputy Chair
Appointment:
1 May 2024
to 30 April 2028

Prof Emma Johnston AO
Member
Appointment:
22 August 2023
to 21 August 2027

Dr Doug Hilton AO
Chief Executive
Appointment:
29 September 2023

Emeritus Prof Roy Green AM
Member
Appointment:
7 December 2023
to 6 December 2028

Hon Ian Macfarlane
Member
Appointment:
14 October 2021
to 13 October 2024

Mr Terry Moran AC
Member
Appointment:
24 April 2024
to 23 April 2027

Departed Board members active during the reporting period:

Mr David Knox Deputy Chair (non-executive) 5 May 2016 to 13 October 2025, resigned effective 14 September 2023

Prof Edwina Cornish AO Member (non-executive) 26 November 2015 to 25 November 2023

Dr Michele Allan Member (non-executive) 5 May 2016 to 4 May 2024

Prof Tanya Monro AC Member (non-executive) 25 February 2016 to 24 February 2024

Read more about the accountable authority members in Appendix B.

As at 30 June 2024

Our Executive Team

Dr Doug Hilton AO
Chief Executive

Prof Elanor Huntington
Digital, National Facilities and Collections

Ms Kirsten Rose
Deputy Chief Executive

Dr Michael Robertson
Future Industries (Acting)

Prof Bronwyn Fox
Chief Scientist

Ms Marcia Gough
Chief People Officer

Mr Tom Munyard
Chief Operating Officer

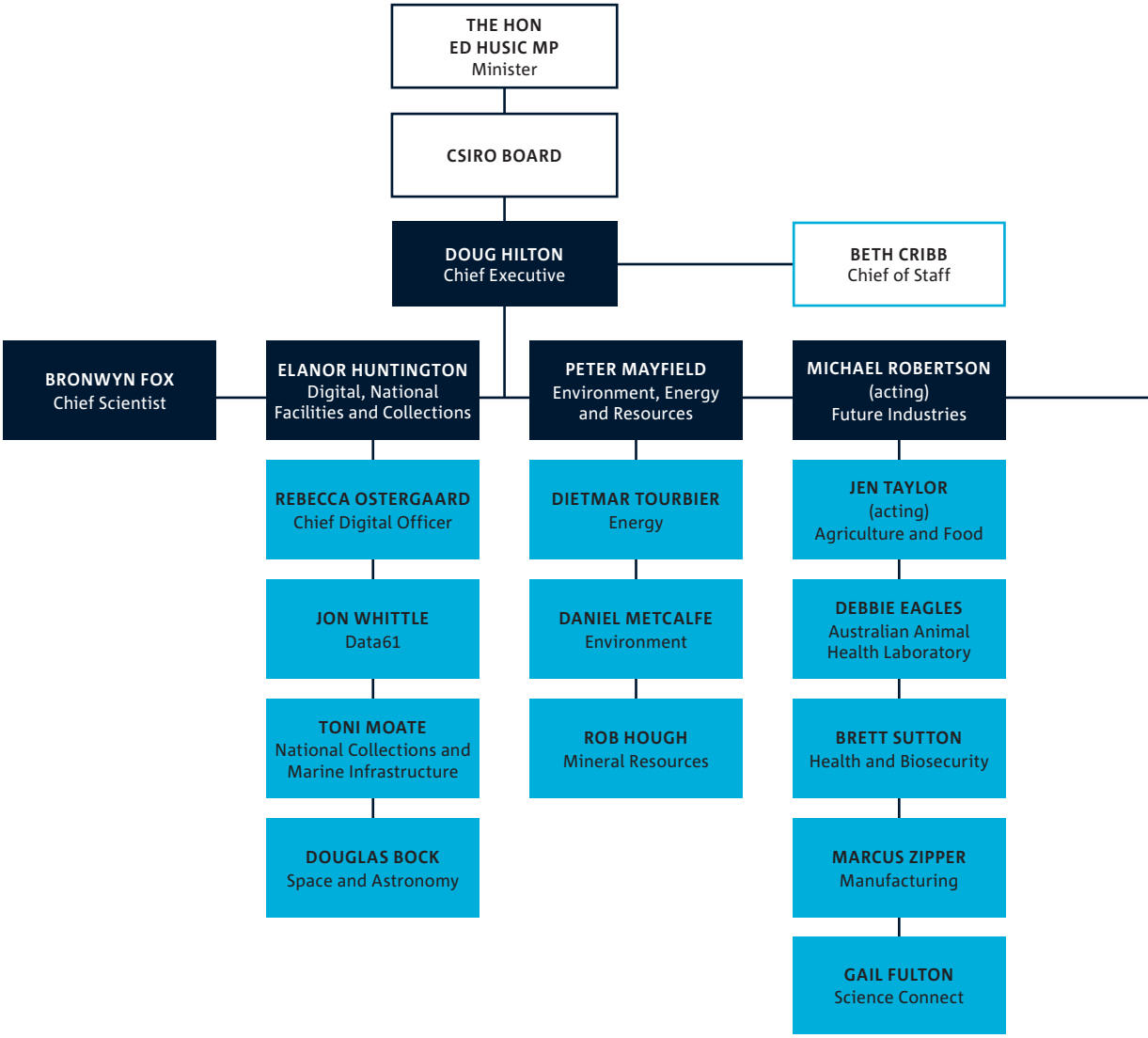
Dr Peter Mayfield
Environment, Energy and Resources

Departed Executive Team members active during the reporting period:

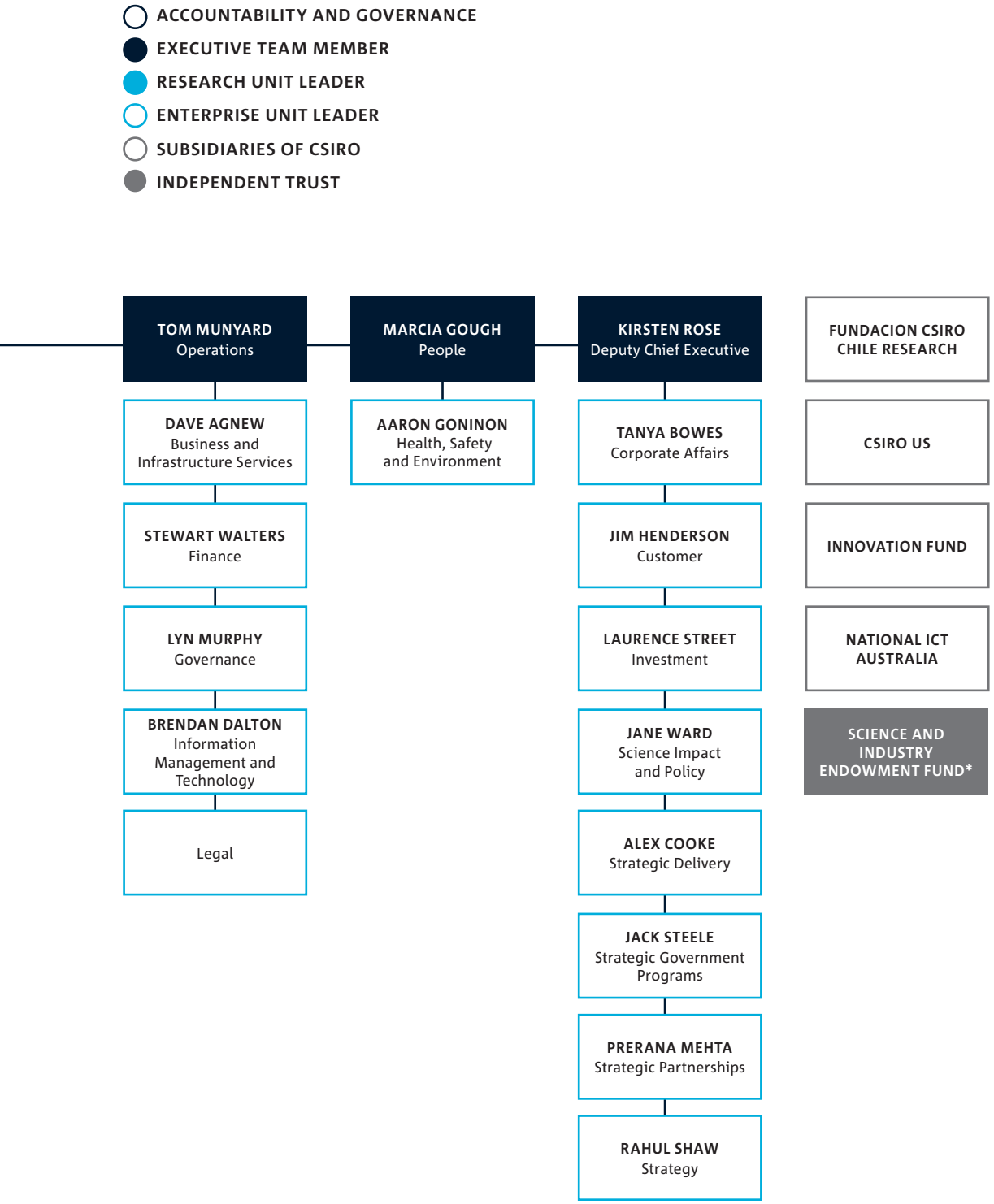
Mr Jonathan Law, Growth, departed April 2024

As at 30 June 2024

Our organisational structure



As at 30 June 2024



*Read about our subsidiaries in Note 3.4 of the Financial statements in Part 4.

Where we work

As at 30 June 2024, we operated 48 sites across Australia and 2 sites overseas. Our people also access desks or small areas of land for research purposes in 35 minor locations. We have one international office in Santiago, Chile, and one laboratory in Montpellier, France.

We have accredited science counsellors attached to the Australian embassies in Singapore, Vietnam, Indonesia and the US.

- CSIRO site
- Global precinct
- National centre
- Collaboration hub
- Testing services
- National facility
- National collection

France
- Montpellier

Chile
- Santiago

CSIRO people work at **sites** throughout Australia and overseas.

Our **global precincts** bring together partners to support research and development of global standing and scale. Our **national centres** are research centres of national standing and scale.

We host Australia's national **research facilities** and scientific **collections** that are available to Australian and international users.

Our **collaboration hubs** are spaces dedicated to translating research outcomes to industry.

Our **testing service centres** provide testing and certification services for industry.

Global precincts

Canberra – National Agricultural and Environmental Sciences Precinct

Brisbane – Ecosciences Precinct

Perth – National Resource Sciences Precinct

Clayton – Australian Manufacturing and Materials Precinct

National centres

Sydney – Digital Services

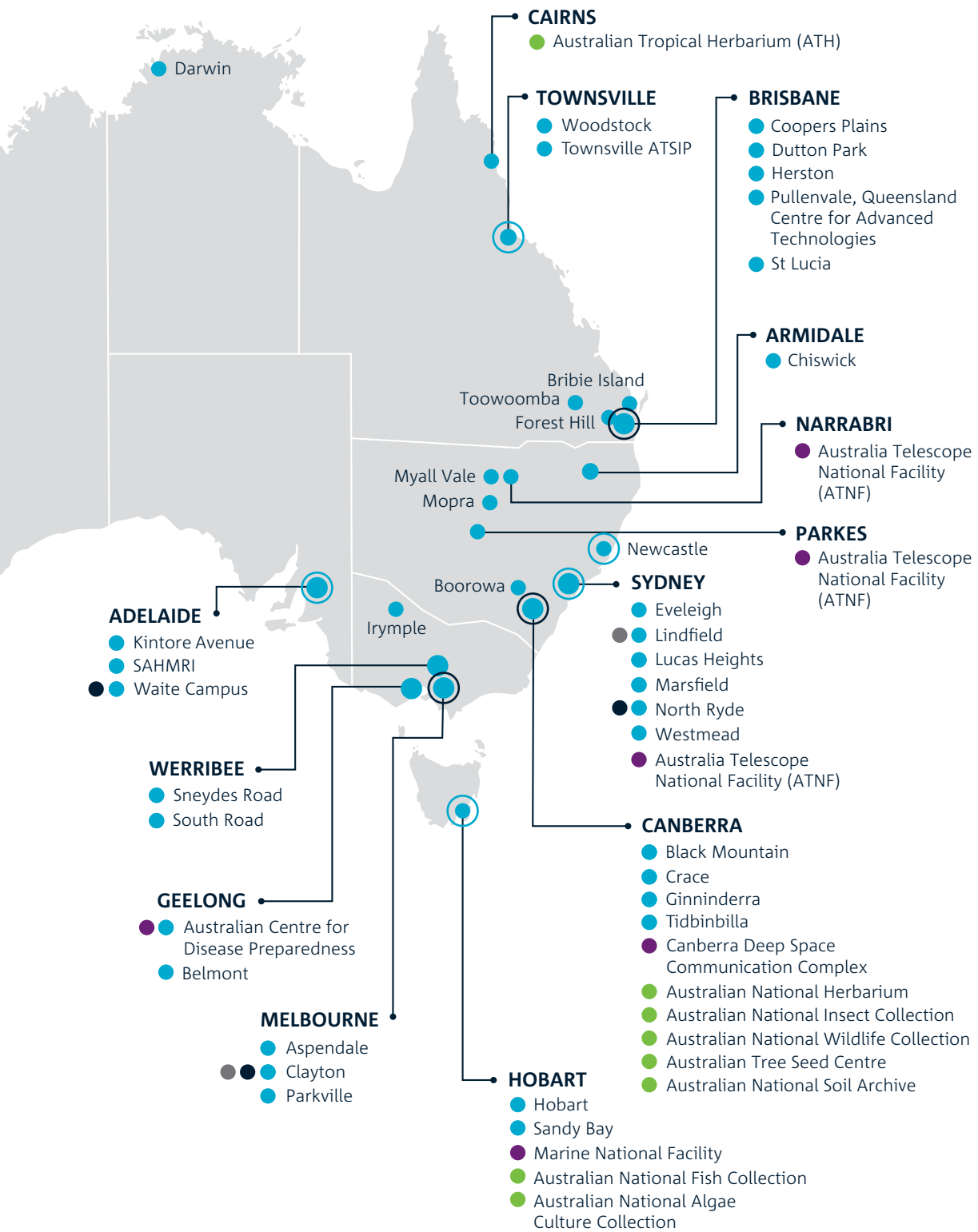
Hobart – Marine and Atmospheric Sciences

Adelaide – Food, Health and Nutrition

Perth – Space Sciences

Townsville – Tropical Innovation

Newcastle – Energy Technology


Darwin
CAIRNS
Australian Tropical Herbarium (ATH)
TOWNSVILLE
Woodstock
Townsville ATSIP
BRISBANE
Coopers Plains
Dutton Park
Herston
Pullenvale, Queensland Centre for Advanced Technologies
St Lucia
ARMIDALE
Chiswick
Bribie Island
Toowoomba
Forest Hill
NARRABRI
Australia Telescope National Facility (ATNF)
Myall Vale
Mopra
PARKES
Australia Telescope National Facility (ATNF)
Newcastle
Boorowa
SYDNEY
Eveleigh
Lindfield
Lucas Heights
Marsfield
North Ryde
Westmead
Australia Telescope National Facility (ATNF)
Irymple
ADELAIDE
Kintore Avenue
SAHMRI
Waite Campus
WERRIBEE
Sneydes Road
South Road
CANBERRA
Black Mountain
Crace
Ginninderra
Tidbinbilla
Canberra Deep Space Communication Complex
Australian National Herbarium
Australian National Insect Collection
Australian National Wildlife Collection
Australian Tree Seed Centre
Australian National Soil Archive
GEELONG
Australian Centre for Disease Preparedness
Belmont
MELBOURNE
Aspendale
Clayton
Parkville
HOBART
Hobart
Sandy Bay
Marine National Facility
Australian National Fish Collection
Australian National Algae Culture Collection

Our strategy

As outlined in our Corporate Plan 2023–24 and Portfolio Budget Statement for 2023–24, our strategy directs how we will achieve our purpose and vision. It comprises the science challenges we set out to solve for the nation, the outcomes that guide our delivery, and the values that underpin how we work.

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

The challenges we are solving

Health and wellbeing	Enhance the health and wellbeing of all Australians.
Food security and quality	Grow the triple bottom line value of Australia's agri-food and fibre industries.
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 values underpinning how we work

People first

Making it real

Our objectives to deliver

Impact translation	Advance Australia's translation and commercialisation of science through collaborative networks.
Purpose-driven science and technology	Deliver impact at-scale aligned with the challenges we are solving and the portfolios of research directed to them. Invest in the right future science and technology to solve tomorrow's challenges.
Engage and empower talent	Attract world-class talent and strengthen our nation's STEM pipeline. Build a culture that makes us an employer of choice and operate in an adaptable, resilient and responsive way.
World-class infrastructure	Share our world-class national labs and facilities with industry, universities and government.

Our vision is to create a better future for Australia

Trusted

Further together

Delivering on our purpose

Below is a snapshot of our 2023–24 performance. Six (6) (55 per cent) out of our 11 key performance indicators were achieved, with four (4) (36 per cent) partially achieved, and one (1) (9 per cent) not achieved. Our performance is provided in detail in Part 2: Annual Performance Statements on page 67.

Our 2023–24 performance

OBJECTIVE	KEY PERFORMANCE INDICATOR	OUTCOME	PAGE
1. Impact translation	Demonstrated uptake and adoption with industry to support Australian innovation	Achieved	72–73
	Enhance innovation translation with Australian industry including SMEs and external partners	Partially achieved	74–79
	Do fewer, bigger things together	Not achieved	80
2. Purpose-driven science and technology	Impact by alignment, design and scale	Achieved	81–82
	Drive future science opportunities	Achieved	83
	Be Australia's trusted advisor	Partially achieved	84–86
3. Engage and empower talent	Have a safe and inclusive workplace for all	Partially achieved	87–89
	Be a destination employer	Achieved	90–91
4. World-class infrastructure	Have shared national labs	Partially achieved	92–94
Operational measures	Financial commitments	Achieved	95–96
	Staff safety	Achieved	97

For more detailed information on our key performance indicators and targets see our Annual Performance Statements on page 67.

Meeting expectations

The Minister for Industry and Science the Hon Ed Husic MP delivered a Statement of Expectations to our Board on 9 December 2022.

Through issuing a Statement of Expectations, Ministers are able to provide greater clarity about government policies and objectives relevant to a statutory authority, including the policies and priorities it is expected to observe in conducting its operations.

The following Objectives and pages highlight how we aligned our strategy and science to the Statement of Expectations.

Objective 1: Impact translation

Page 23

Advancing national interests	Deliver innovative scientific and technological solutions; taking Australian science to the world; maintaining an international presence; collaboration across government, university, industry and community.
Advancing government's policy priorities	Advancing First Nations science; mission-directed research; delivering a future made in Australia through the National Reconstruction Fund.
Translation and commercialisation	Translating science and technology into products and services; supporting SMEs to commercialise and integrate research innovations; supporting government translation and commercialisation programs; building industry connections; supporting the health of Australians; managing research infrastructure.
Promoting STEM	Promoting careers and career paths for early career researchers, students, research and technical staff; communication of CSIRO science and research.
Department	Working collaboratively with relevant government portfolios.

Objective 2: Purpose-driven science and technology

Page 39

Advancing national interests	Deliver innovative scientific and technological solutions; taking Australian science to the world; maintaining an international presence; collaboration across government, university, industry and community.
Advancing government's policy priorities	Advancing First Nations Science; mission-directed research; achieving Net Zero Emissions; becoming a Renewable Energy Superpower; delivering a future made in Australia through the National Reconstruction Fund.
Translation and commercialisation	Translating science and technology into products and services; supporting SMEs to commercialise and integrate research innovations; supporting government translation and commercialisation programs; building industry connections; supporting the health of Australians; Managing research infrastructure and national facilities.
Department	Working collaboratively with relevant government portfolios.

Objective 3: Engage and empower talent

Page 49

Advancing government policy priorities	Advancing First Nations Science.
Organisational performance	Legislative requirements; effective and efficient use of staff and resources; health and wellbeing of staff, pursuing and retaining talent.
Promoting STEM	Promoting careers and career paths for early career researchers, students, research and technical staff; communication of CSIRO science and research.

Objective 4: World-class infrastructure

Page 59

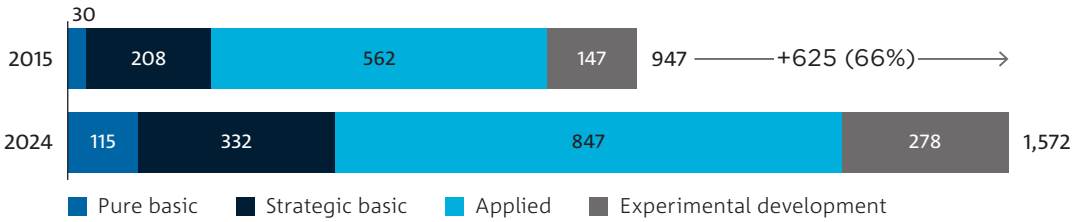
Translation and commercialisation	Managing research infrastructure; building industry connections; supporting the health of Australians.

Our scientific value chain

The figure below shows the proportion of our science using the 4 different research Types of Activity (TOA) from across the period 2015–24. The TOA allow research and development (R&D) to be categorised according to the type of research effort. It is a classification with 4 categories of research: pure basic; strategic basic; applied; and experimental development.

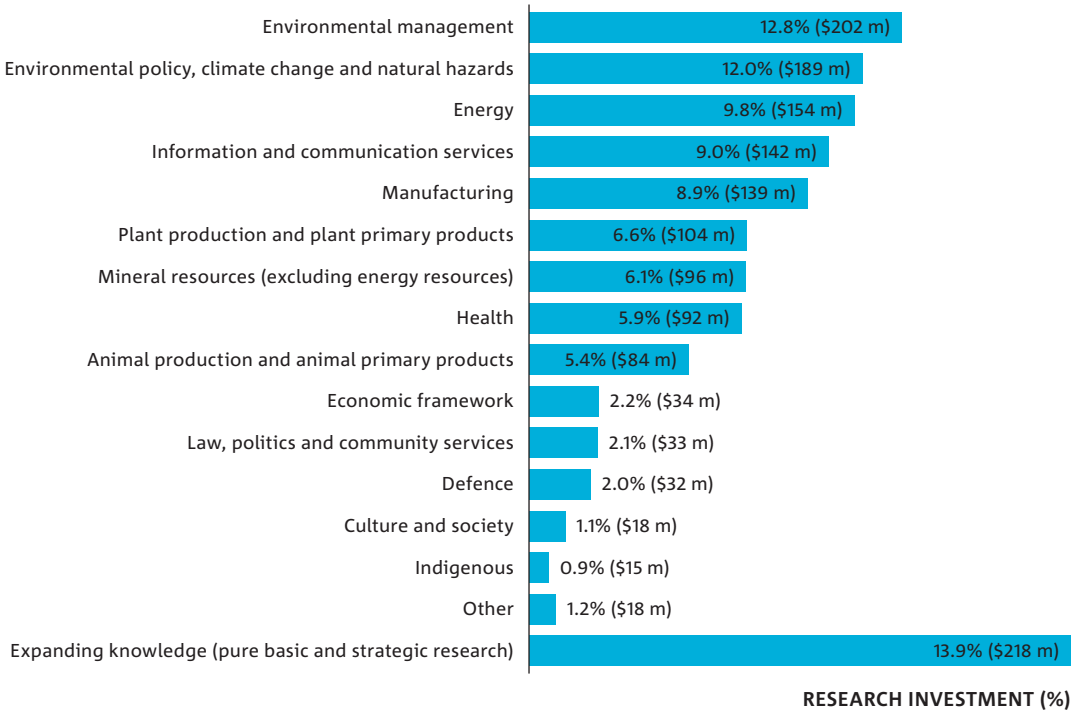
Socioeconomic outcomes allow R&D to be classified according to the intended purpose or adoption. The figure below shows the investment levels of our research portfolio towards Australia's socioeconomic outcomes during the year. Our total R&D investment during the year was just over $1.57 billion.

CSIRO level of investment by Types of Activity (Shift $ million)



Types of Activity: Australian and New Zealand Standard Research Classification (ANZSRC), 2020, Australian Bureau of Statistics (abs.gov.au).

Our research investment (proportion %, $ million spent) by socioeconomic objectives



Other category includes construction, education and training, commercial services and tourism and transport. Research investment includes all business units and National Facilities excluding Science Connect. Expanding Knowledge category mostly includes the R&D that does not have an identifiable socioeconomic objective, which is usually the case for pure basic and strategic basic research types of activity classification.

Returning value to Australia

In 2023–24, we continued tackling research problems aligned to the challenges we are solving for Australia. This work is ensuring our science and technology optimises the benefit from each investment made, as outlined in our 2023–24 Corporate Plan.

Health and wellbeing

Enhance the health and wellbeing of all Australians.

- Support healthier lives
- Infectious diseases prevention and preparedness
- Digital transformation of healthcare
- Health technology solutions

Food security and quality

Grow the triple bottom line value of Australia's agri-food and fibre industries.

- Profitable agricultural production
- Improved crops and animals
- High value foods and feeds
- Sustainable and trusted value chains

Secure Australia and region

Safeguard Australia and our region from threats.

- Biosecurity
- Defence and national security
- Sovereign resilience
- Stable and prosperous region

Resilient and valuable environments

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

- Resilience to climate risks
- Healthy ecosystems
- Resilient communities and built environments

Sustainable energy and resources

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

- Electricity transition
- Industry and transport decarbonisation
- Sustainable prosperity from resources
- Value-added critical minerals

Future industries

Create Australia's future sustainable jobs and industries.

- Future high-tech industries
- Transition to sustainable industry
- Strengthen the innovation system

8.8:1 return on investment

$13.3 billion

annual benefit to the nation[2]

2 The Value of CSIRO: The Broader Impact of CSIRO's Portfolio of Activities, 2024 Update. RTI International.

Our global reach

United States of America 694

Under the Australia and USA leaders level Climate, Critical Minerals and Clean Energy Transformation Compact, we deliver against relevant national priorities including progressing programs of work with National Science Foundation, US Geological Survey and National Renewable Energy Laboratory.

India 97

Under the India Economic Strategy, we progress and develop the India Australia Critical Minerals Partnership; the India Australia Minerals Scholars Network (as part of the India Australia Minerals Partnerships in Green Steel and Critical Minerals); and the India Australia Rapid Innovation and Startup Expansion (RISE) Accelerator.

Southeast Asia 132

We have strategic partnership agreements in place with national science agencies in Singapore, Indonesia, Vietnam and Thailand, supporting the development and delivery of a broad platform of engagement spanning health and biosecurity, materials science, natural resource management, low emissions energy solutions, food security and responsible artificial intelligence (AI).

Japan 155

We are strengthening and building new partnerships in the areas of decarbonisation technologies, energy solutions, critical minerals processing, material sciences, machine learning and artificial intelligence (AI), digital networks and space with partners including: the Japan Organization for Metals and Energy Security (JOGMEC); the Research Institute of Innovative Technology for the Earth (RITE); Central Research Institute of Electric Power Industry (CRIEPI); National Institute of Advanced Industrial Science and Technology (AIST); Institute of Physical and Chemical Research (RIKEN); Japan Aerospace Exploration Agency (JAXA); universities; and industry.

Chile 56

We remain committed to continuing our collaboration with businesses, universities and government departments in Chile following the cessation of formal operations of Fundación CSIRO Chile Research on 30 June 2024.

United Kingdom 406

We have been working with United Kingdom partners – namely UK Research and Innovation (UKRI), UK Space Agency, Rothamsted and Alan Turing Institute – to increase bilateral collaboration on Earth observation (EO), quantum, artificial intelligence (AI), and renewable technologies. This includes supporting commitments to the joint statement of the United Kingdom and Australia on Cooperation in Quantum Technologies, and Australia and United Kingdom Critical Minerals Statement of Intent, both signed in late 2023.
We are also partnering with UKRI through the Energy Systems Catapult to set up the National Energy Analysis Centre (NEAC) Living Lab, and recently announced a bi-lateral partnership with the Australian Space Agency and UK Space Agency. Funding will be provided under the UK-Australia Space Bridge to roll out Australia's new AquaWatch water quality monitoring system to the UK.

Joint publications

Our contribution to international targets

Paris Agreement

Four of our leading researchers joined a 48-person official Australian Government delegation that attended the annual international United Nations Framework Convention on Climate Change Conference of the Parties (COP 28), in Dubai, United Arab Emirates in December. The delegation was among more than 100,000 people who gathered from across the globe to progress action on climate change.

While not part of the official negotiations, our researchers were called on to provide advice to support the meeting's negotiation process. Our people worked with, and supported delegates from, the Australian Department of Climate Change, Energy, the Environment and Water (DCCEEW), which manages Australia's official participation at the meeting.

Our delegates represented Australia in discussions on energy transition, carbon dioxide removal, climate resilience and food system sustainability through more than 20 events, 12 meetings and 8 speaking engagements. Our leadership in the international energy research community was demonstrated through our invited presence at events with the International Energy Agency's global research network and Mission Innovation (MI), a global initiative of 23 countries and the European Commission to accelerate energy innovation toward net zero.

Over 90 professionals working toward net zero gathered at Hobart in June for the CarbonLock 2024 Conference to discuss the critical role of removals in processes or targets in reaching our net zero goal under the Paris Agreement.

Without atmospheric carbon removals, reaching net zero will not be possible. Our CarbonLock Future Science Platform (FSP) is driving innovation and building Australia's science and technology capacity in removals. The FSP goal is to permanently and responsibly remove carbon dioxide from the atmosphere at scale. These new technologies will be needed alongside existing solutions such as nature-based afforestation and large-scale decarbonisation.

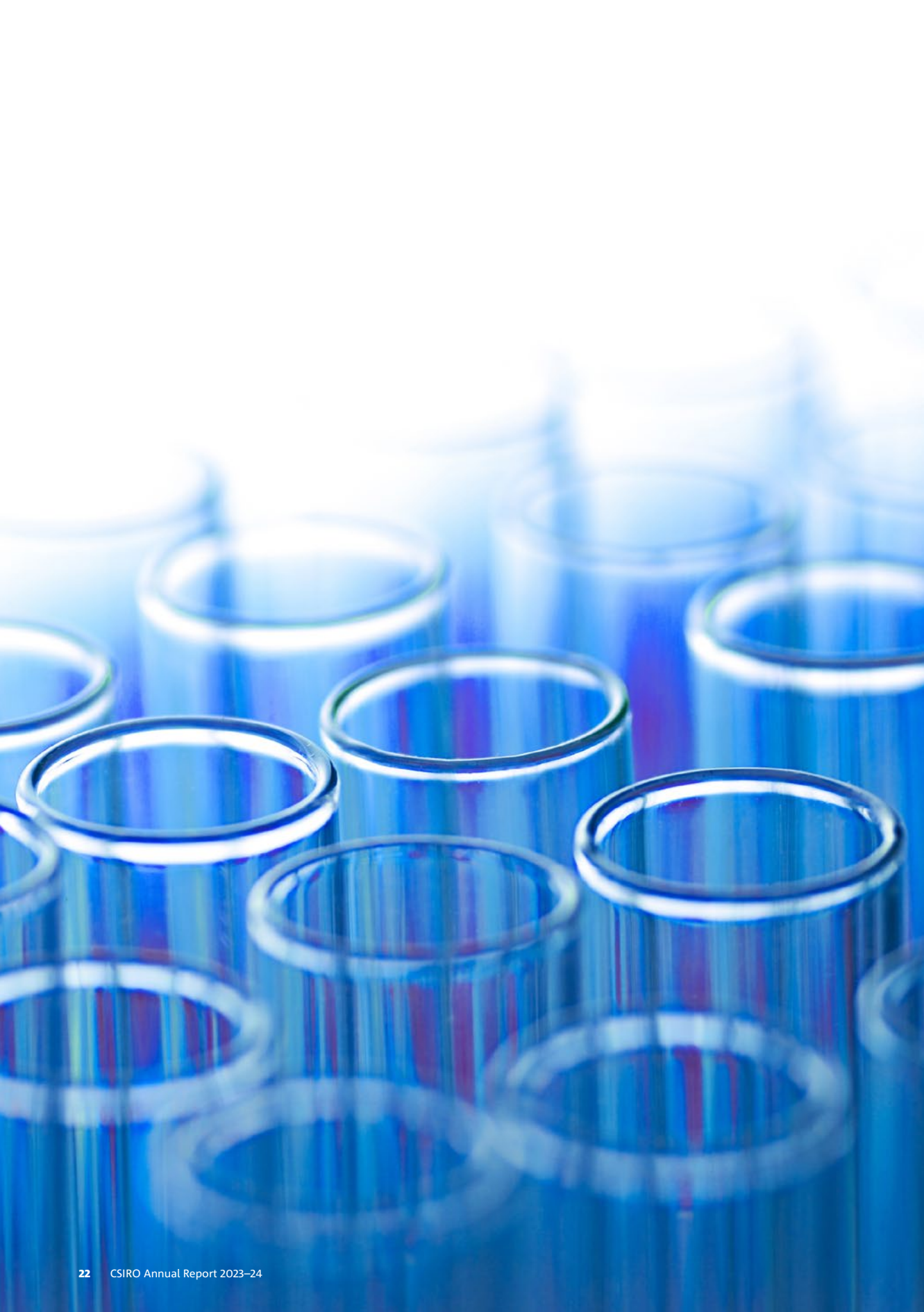
Keynote speakers at the conference unpacked some early thinking around the large scale of removals that would be needed globally. It is estimated that 6–8 gigatonnes of removals – and perhaps more – will be needed globally per year by 2050. What that means for Australia is 60 megatonnes of removals per year, equivalent to at least 10 Great Pyramids of Giza yearly.

To stay within the limit of 2 degrees global warming set out in the Paris Agreement, engineered removals (those being progressed through CarbonLock) would need to work to remove over a thousand times the amount of carbon currently sequestered by our natural land and ocean sinks.

Our atmospheric carbon removal portfolio spans multiple domains of science and technology. CarbonLock encompasses research priorities as broad as direct air capture, enhanced mineralisation, ocean-based carbon uptake and biomineralisation. Realising atmospheric carbon removal at scale in Australia by 2050 will require multi-disciplinary collaboration across the research sector to build a new industry. Doing so effectively could help realise the collective vision for functional, verifiable and permanent carbon removals on a large scale by 2040.

Part 1

Delivering on our strategy



Objective 1

Impact translation

We are advancing Australia's translation and commercialisation of science through collaborative networks.

Accelerate commercialisation

Our approach to commercialisation is to find opportunities in the market, connect those opportunities with science and technology, and create commercialisation pathways to bring solutions to life.

Our commercialisation experts help researchers plan their science investments, so they create market impact and develop optimal commercialisation pathways, where our inventions, science capabilities and facilities have the most positive impact for Australia and the world.

We have prioritised growing research commercialisation performance in collaboration with the higher education sector and industry. We also continue to work closely with publicly-funded research organisations and relevant government departments to scale research commercialisation capability and performance through programs, partnerships and investment. These initiatives aim to enrich innovation, ensure effective translation of knowledge and foster industry collaboration, which is essential for driving impactful commercialisation outcomes and supporting Australia's economic growth.

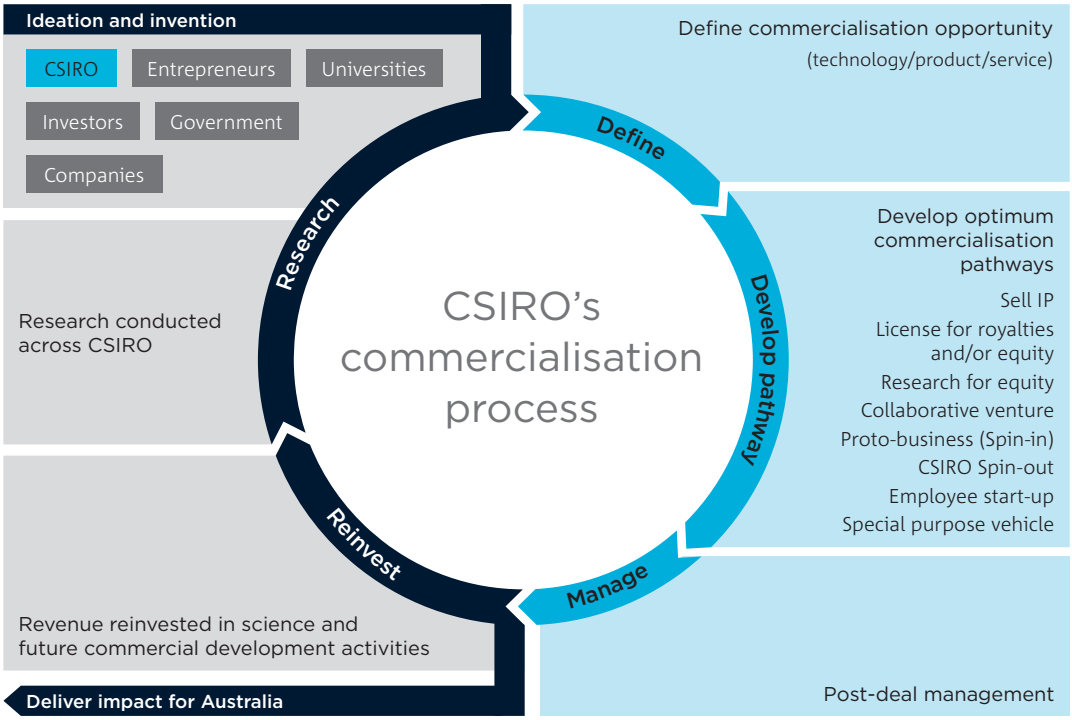


Figure 1.1: How we commercialise research

CSIRO commercialisation program

The focus of this key initiative is to increase the volume, velocity and value of science translation and commercialisation capacity and capability. This includes recruitment and deployment of Innovation Accelerator Funds and the Commercialisation Pathways.

In 2023–24, our commercialisation performance continued to deliver results despite the slow state of the global investment market. The number of active licences in our portfolio was 616, with 74 new licences executed. Our licensing revenues grew to $61 million, representing 22 per cent growth in underlying royalties from 2022–23, and our highest licensing revenue in 9 years. There were no sales of Intellectual Property (IP) in 2023–24.

We became a shareholder in one new spin-out, working with UK-based biotechnology company Oxitec to create Oxitec Australia.

Oxitec Australia will develop a solution to tackle the invasive, disease-spreading Asian tiger mosquito, *Aedes albopictus*, which poses a threat to human health, food security and the environment in Australia and our neighbours. Oxitec Australia is currently in the process of raising capital to initiate operations.

Our direct investments in portfolio companies have continued to grow, with the current direct investment portfolio valued at $243.5 million (representing a 9.6 per cent increase from 2022–23), or $250.8 million if NICTA holdings are included. No material share sales were realised in 2023–24.

Venom unlocks blood clotting advantage

The opportunity

Incomplete blood clotting and sample stability are common issues in laboratories undertaking analysis of blood collection samples. This is especially so for patients on anticoagulant therapy, or when serum tubes are centrifuged before clotting is completed. Several of the blood collection tubes currently available take considerable time to achieve desired clotting. The challenge was to develop a serum tube that rapidly produced high quality and stable serum from the majority of blood samples including anticoagulated bloods and, importantly, could be manufactured using standard industry packaging and tube manufacturing technology.

The solution

To overcome these challenges, Australian med-tech start-up from the University of Queensland, Q-Sera, developed technology to use a protein found in snake venom, which can now be produced synthetically in a lab setting. 'RAPClot' is a fast-acting coagulant that can achieve a consistent and stable blood clot, rapidly, compared to existing agents.

CSIRO collaborated with Q-Sera as part of the CSIRO Kick-Start initiative to leverage funding, expertise and to address the challenge of how to coat the inner surface of blood collection tubes with RAPClot at-scale.

Tubes with RAPClot led to firmer and more complete clots with higher quality serum, reducing re-clotting and improving accuracy. It can achieve a stable clot in under 5 minutes, even at higher concentrations of anti-coagulant – particularly beneficial for blood tests performed in emergency settings, where the coagulation status of a sample may not be known.

The impact

By engaging CSIRO and undertaking their research within Australia, Q-Sera accelerated the production of a commercially ready product within 18 months, resulting in an exclusive license of the technology with a major manufacturer for the Japanese market.

Q-Sera forecasts indicate significant global market shares can be achieved of 10 per cent or more depending on pricing and market segmentation. With the addition of scientific benefits and royalty payments, a benefit cost ratio of around seven is estimated.

This means that for every dollar of investment into the development of RAPClot, at least $7 in benefit is generated for the Australian community. This is in addition to the direct benefit of having he RAPClot rapid serum tubes in the Australian market benefiting patients and laboratories.

CSIRO scientist Paul Pasic in CSIRO's Biomedical Materials Translational Facility, holding one of Q-Sera's blood collection tubes.

Main Sequence – CSIRO's Innovation Fund

Main Sequence, manager of the CSIRO Innovation Fund, invests in translating publicly-funded Australian research into global companies that create jobs and grow Australia's economy. Main Sequence invests in spinouts, start-ups and SMEs with strong links to Australian high-value deep tech opportunities including from Australia's Economic Accelerator.

Between 2017 and 2023, the Australian Government has invested $175 million with Main Sequence, contributing to their total $1 billion in funds under management. Since its inception in 2017, Main Sequence has invested in 63 companies, with 8 of these being new investments this financial year. These companies have created over 2,200 deep technology jobs since inception. At least 20 of these companies have ongoing relationships with CSIRO and 38 have more than 100 separate collaborations with 32 Australian universities. Main Sequence funds' investments attract over $3.50 of co-investment for every dollar spent.

Commercialisation services for the national innovation system

We aim to boost and complement our commercialisation capability and services for the innovation system, including delivering industry programs such as iPhD, ON Prime and ON Accelerate, to uplift the technology readiness level and scale of research.

Industry PhD (iPhD)

The CSIRO Industry PhD (iPhD) Program assists PhD candidates to develop skills to work in and with industry and deepens collaboration between industry and the research sector. The program is part of an Australian Government initiative to better translate university research into commercial outcomes and provides domestic students with the opportunity to undertake a PhD identified and jointly supervised by an industry partner, an Australian university and CSIRO.

Over the past 2 years, we have engaged extensively with Australian universities to support the implementation of the program. As of 30 June 2024, 56 CSIRO iPhD scholarships have been awarded and we expect to have 100 allocated across 30 universities by the end of 2024–25.

We are currently supporting a cohort of 43 (commenced) students, including our 6 pilot program students, and the second round has identified 50 projects with 46 industry partners (mainly small and medium businesses) and 26 universities.

ON Program

We continue to advance research translation skills for the nation through our ON Innovation Program. The program is part of a $37.4 million commitment over 4 years by the Australian Government's University Research and Commercialisation Action Plan (URCAP). This year concludes its second year. ON aims to prepare and train Australian university researchers, publicly-funded research teams and industry to move research into the market through the commercialisation of products and services. Its flagship programs are:

- ON Prime: to undertake customer discovery and market validation.
- ON Accelerate: to validate and develop high-potential innovative ventures.

This year, the ON Program conducted 3 programs, delivering 2 rounds of ON Prime and one ON Accelerate. ON Prime 14 had 144 participants across 48 teams and ON Prime 15 had 113 participants across 33 teams. ON Prime had representation from 28 organisations across universities, research institutes and CSIRO, including 2 dedicated cohorts supporting the iLAuNCH University Trailblazer for the University of Southern Queensland.

We delivered our ON Accelerate 8 program with 47 participants across 10 teams, with an additional 53 participants across 10 teams participating in the ON Accelerate 8 selection Bootcamp. The ON Accelerate experience had representation from 14 organisations across universities, research institutes and CSIRO. Of the 101 teams in these national programs, more than 83 per cent were from the research ecosystem with less than 17 per cent CSIRO-based.

In addition to Prime and Accelerate, ON has delivered a further 16 programs to over 480 individual participants across 10 organisations, including CSIRO. ON has reached a further 1,600 attendees through 17 'innovation ecosystem capability uplift' and engagement events held throughout the year. Combined, this is more than 2,400 people engaging with ON-delivered 'capability uplift' programs and ecosystem events throughout the year.

Through its team-based program, since 2015 the ON Program has helped more than 5,300 people from over 1,350 teams across 59 universities, publicly funded research agencies, medical research institutions and CSIRO. Post-program, ON participants have created 75 companies and over 700 jobs, raising $364 million in investment capital and $326 million in commercialisation grant funding.

Teams participating in the ON Program have representation across all 7 of the National Reconstruction Fund's priority areas. ON offerings continue to be refined and adapted to meet current market needs and the growing innovation capability maturity in the research sector.

Trailblazer Universities Program

As part of the Australian Government's Economic Accelerator initiative, we play an active role in the $242.7 million Trailblazer Universities Program, part of the University Research Commercialisation Action Plan. Through the program, the Australian Government is contributing $45 million towards investing in research infrastructure to foster greater engagement between universities and industry and expedite the commercialisation of university research.

The Trailblazer program was designed to propel specific technologies across the 'valley of death' that separates research from commercialisation, ultimately increasing their technology readiness level (TRL) and facilitating the scaling of research to a point where private sector investment becomes more attractive. Our role is to drive investment in, and use of, the world-class research infrastructure we manage, with the goal of developing technology for commercialisation.

During 2023–24, we progressed with establishing speciality equipment aligned with 6 trailblazer universities: Curtin University, Deakin University, University of Adelaide, University of Queensland, University of New South Wales, and the University of Southern Queensland. Four speciality pieces of equipment were made fully available during the year, and we progressed planning, procurement and commissioning of a further 12 pieces of equipment. The equipment acquired under the Trailblazer program will play a crucial role in supporting various sectors, including defence, space, recycling and clean energy, food and beverage, resources technology and critical minerals processing.

All equipment is strategically located at sites that offer an established knowledge base, further facilitating impactful outcomes in collaboration with our industry partners.

Intellectual property (IP)

We are a key producer of high-utility Australian intellectual property (IP) and Australia's second highest patent filer. We file across a broad range of domains, including biotechnology, food chemistry, polymers, materials and computer technology, and increasingly in the areas of machine learning and quantum technology.

Our registered IP underpins the successful impact of many of our technologies, including by bringing in research projects, licensing and opening other commercialisation pathways.

At June 30, we had 4,181 active patents, 470 active trademarks, 96 active registered designs and 106 active Australian plant breeder's rights. We filed 74 provisional patent applications directed to new inventions and 36 Patent Cooperation Treaty applications (see Table 1.1). There was an increase in new patent filings during the year, partly due to a number of our Future Science Platforms (FSPs) maturing. This is a good indicator of existing technologies making their way through the pipeline and it highlights our continued focus on having IP strategies that support our impact strategies.

National patent network

Our Patent Collaboration Network encompasses all patents that have been filed, accepted, certified or granted with IP Australia, between 2018–22 (Table 1.2). Patent collaboration is an indicator of connection with other entities. It does not necessarily reflect the volume or strength of an institute's patent portfolio. Patent data is measured by calendar year, in arrears.

In 2023 we were ranked first by Degree Centrality (a measure of external connection), second by Betweenness Centrality (a measure of importance as a connector) and third by PageRank (a measure of overall importance in the network).

These rankings reflect a slight decline from 2022 when we were ranked first across all 3 metrics.

Global patent filings

Each year, the World Intellectual Property Organization (WIPO) publishes data on complete patents known as PCT filings. Table 1.3 shows published PCT filing counts from 2020–22 for top government research organisations (limiting the list to the top 30) and their corresponding rank.

It should be noted that the numbers reported in Tables 1.2 and 1.3 differ as our data refers to applications filed during 2022 (Table 1.2) while WIPO reports on PCT applications published during 2022 (Table 1.3). We are currently ranked joint 26th (with two other organisations) down from 19th last year.

While this is a decline (of 7 places) filing counts tend to be volatile and annual changes in ranking of this magnitude are not unexpected.

Table 1.1: Intellectual Property 2023–24

IP CATEGORY	SUB CATEGORY	2020–21	2021–22	2022–23	2023–24
Patents	Provisional applications	53	48	54	74
	Patent Cooperation Treaty (PCT) applications and direct filings	60	49	37	36
	Patent families	658	647	681	693
	Granted cases	2,199	2,499	2,511	2,278
	Live cases	3,754	4,035	4,345	4,181
Trademarks	Australian	266	261	276	255
	Overseas	46	48	54	215
Plant Breeder's Rights	Australian	65	77	89	91
	Overseas	22	19	18	15
Registered designs	Australian	14	15	18	25
	Overseas	17	15	56	71

Table 1.2: Australian Patent Collaboration Network Rankings

INSTITUTION	WEIGHTED DEGREE CENTRALITY	WEIGHTED BETWEENNESS CENTRALITY	WEIGHTED PAGERANK
University of Melbourne	2	4	1
University of Sydney	2	5	2
CSIRO	**1**	**2**	**3**
Newsouth Innovations	4	3	4
Monash University	5	1	5
RMIT	9	8	7
QUT	18	12	9
University of Queensland	12	6	10
Griffith University	14	11	12
Florey Institute	25	16	16

Table 1.3: PCT Filing Count, and Rank of Top Government and Applied Research Organisations Globally

INSTITUTION	ORIGIN	2020	2021	2022	RANK
Shenzhen Institute of Advanced Technology	China	362	396	486	1
Fraunhofer	Germany	428	343	366	2
Commissariat a L'énergie Atomique et aux Énergies Alternatives (CEA)	France	208	182	209	3
Institut National de la Santé et de la Recherche Médicale (Inserm)	France	167	144	130	4
Centre National de la Recherche Scientifique (CNRS)	France	121	116	119	5
Korea Electronics Technology Institute	South Korea	83	74	103	6
US Department of Health and Human Services	USA	48	65	90	7
National Institute of Advanced Industrial Science and Technology	Japan	98	87	89	8
Agency for Science, Technology and Research (A*STAR)	Singapore	142	104	88	9
Max Planck Institutes	Germany	55	57	80	10
Korea Research Institute of Chemical Technology	South Korea	58	48	72	11
Consejo Superior de Investigaciones Científicas (CSIC)	Spain	66	72	71	12
Mayo Foundation	USA	73	60	67	13
Sloan-Kettering Institute for Cancer Research	USA	54	66	65	14
US Government as represented by the Department of Veterans Affairs	USA	15	32	65	14
Riken	Japan	39	49	63	16
Helmholtz	Germany	45	42	62	17
Council of Scientific and Industrial Research	India	46	35	59	18
VTT Technical Research Centre	Finland	57	52	55	19
Battelle Memorial Institute	USA	52	47	52	20
Institute of Microelectronics of the Chinese Academy of Sciences	China	33	42	51	21
German Centre for Air and Space Travel	Germany	26	34	46	22
City of Hope	USA	20	33	46	22
Netherlands Organisation for Applied Scientific Research (TNO)	Netherlands	76	78	45	24
Korea Research Institute of Bioscience and Biotechnology	South Korea	26	32	43	25
CSIRO	**Australia**	**39**	**48**	**40**	**26**
Scripps Research Institute	USA	39	40	40	26
Shanghai Institute of Materia Medica, Chinese Academy of Sciences	China	29	40	40	26
National Institute for Materials Science	Japan	39	43	39	29
National Research Council	Canada	28	37	39	29

Science excellence

Our science excellence must be strong enough to underpin the real-world solutions to the challenges we tackle. We benchmark results in each of our major fields of research ('Units of Assessment') against a list of similar organisations unique to each assessment. This ensures a fair comparison that recognises the different roles science excellence plays in different parts of the organisation and overcomes several limitations in standard citation metrics.

Science is considered of an adequate standard to deliver impact if it is ranked in the top 3 quartiles of peers. We consistently rank in the top quartile of peers, representing excellent research. For more information please see our Science Health and Excellence report available at csiro.au/reportingsuite2024.

CSIRO Publishing

CSIRO Publishing is an editorially independent science publisher that connects researchers, society, government, industry, and citizens of all ages to science.

2023–24 has been a year of change for CSIRO Publishing with new Director Arend Kuster commencing in January. To grow our core author base and business beyond Australia, we are digitising our business workflows and modernising and increasing discoverability for our 28 journals, ensuring our content platform delivers beyond what is expected in the market.

In June 2024, CSIRO Publishing took on the publication of *Cosmos* science magazine and news service for the coming year, supported through funding from CSIRO as well as the Commonwealth and South Australian Governments. This was to ensure vital science information continues to be provided to the Australian community, while it works to explore long-term options for the publication's sustainability.

We have continued to develop our roadmap towards open access with agreements now extending to the United States and United Kingdom. We are planning further collaboration with the National Science and Technology Library in China, where we are actively developing relationships to increase our publishing footprint.

Our award-winning books program continues to grow with children's books through to professional guides and academic texts. We released 27 book titles this year across a range of reading levels. Digital books comprised approximately 15 per cent of sales and we co-published several titles with international partners. Our *Double Helix* magazine continues to inspire a new generation of science-curious kids with hands-on activities and STEM news. We publish 8 magazine issues per year on the latest science and provide additional content online via our e-newsletter, blog and social media. We are working to develop *Double Helix* towards a more digital future.

CSIRO Publishing also provides training on effective written communication for our scientists, equipping them with the skills they need to communicate their research effectively and achieve the desired impact. In 2023–24, over 400 participants, including Masters and PhD students, early career researchers and engineering consultants, participated in our student-centred active learning workshops tailored to the participants' writing needs.

Exponential networks

Collaboration is crucial to our success. We harness the exponential power of our diverse, inclusive customer and partner network to amplify our impact and increase the benefit we deliver.

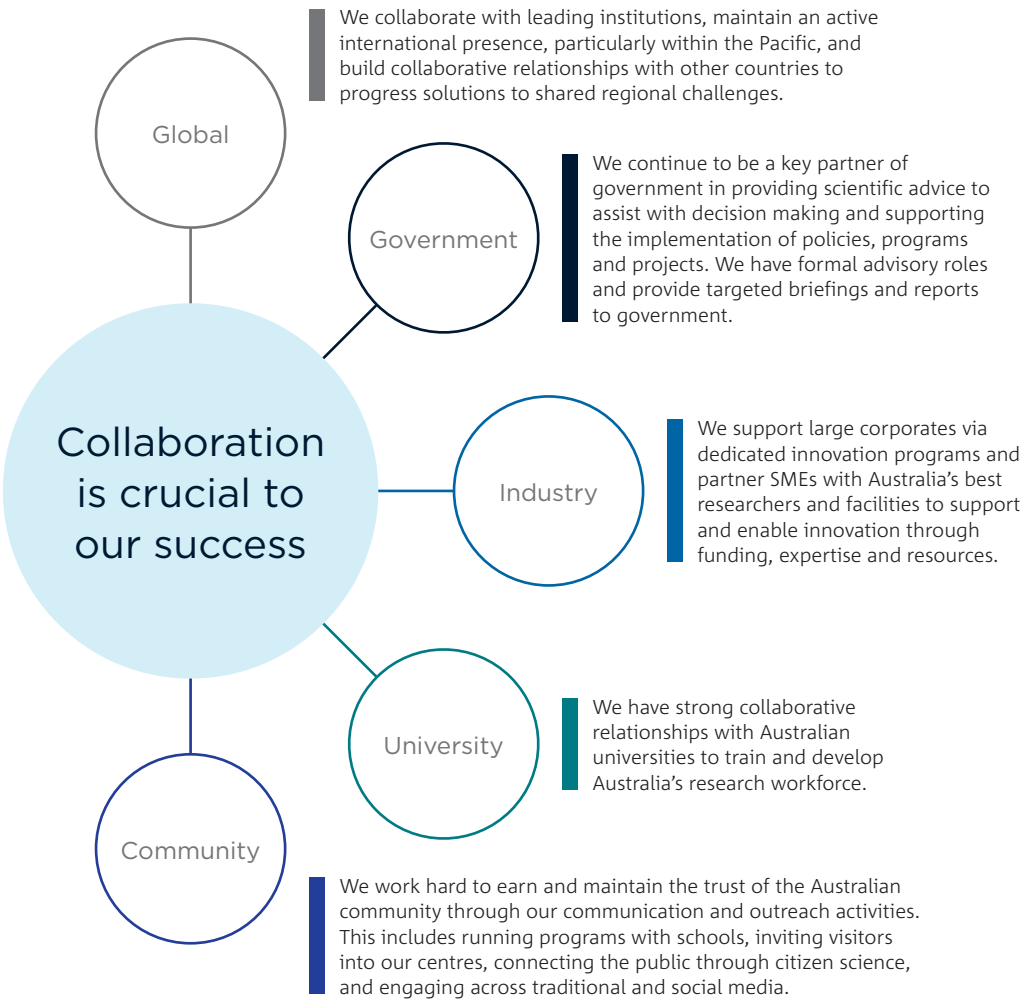


Figure 1.2: How we collaborate

Strategic partnerships

We coordinate and lead cross-disciplinary, major domestic and global programs targeted at delivering organisational growth through addressing market pull at-scale opportunities and developing strategic customer/partner engagements.

Global collaboration

We work to solve the greatest challenges, both for Australia and the world. We do this through maintaining an active international presence and building collaborative relationships that generate positive impacts for today and tomorrow. This opens many opportunities and continues to build impactful pathways for greater translation and adoption of our solutions.

Impacts for our region

As science is called upon to provide solutions to our shared challenges, Australia's research partnerships in the Indo-Pacific have become increasingly important to our bilateral and multilateral relationships in the region. These partnerships include:

DFAT-CSIRO Regional Health Partnership – Helping governments across Southeast Asia and the Pacific to prepare for, and respond to, infectious disease outbreaks.

Partnerships for Infrastructure (P4I) – Assisting the ASEAN Centre for Energy (ACE) and ASEAN Renewable Energy Sub-Sector Network (RE-SSN) in its work developing a Renewable Energy Long-term Roadmap for the region.

Indo-Pacific Biosecurity Research, Development & Extension (RD&E) Partnership – Co-designing a research alliance to boost capacity and capability towards stronger bio-protection in the region.

CSIRO-A*STAR, Singapore Collaboration – Strengthening Singapore-Australia science, technology and innovation collaboration in fields of mutual interest relevant to the green economy via the Master Research Collaboration Agreement with Singapore's national science agency A*STAR.

The Australia-Singapore Initiative on Low Emissions Technologies (ASLET) – partnering with Singapore's Maritime and Ports Authority to deliver the $20 million ASLET initiative for the maritime and ports sector.

Data4Development (D4D), Indonesia Partnership – Empowering high-performing data specialists from partner government agencies in Southeast Asia and the Pacific to use best practice technology to support economic growth and sustainable development.

Aus4Innovation (A4I) Program, **Vietnam** – Supporting Vietnam to develop an innovation-led economy through a 10-year, $33.5 million assistance program, sponsored by the Department of Foreign Affairs and Trade (DFAT), co-funded and managed by CSIRO and delivered in strategic partnership with Vietnam's Ministry of Science and Technology.

Indigenous Science, New Zealand – Building and strengthening connections between Māori scientists and Aboriginal and Torres Strait Islander scientists to enable sharing science journeys, experience and traditional knowledge across the 2 countries.

Climate Change Resilience, Pacific Island countries – Leading integrated physical climate change hazard, vulnerability and risk assessments across 4 countries (Tuvalu, Nauru, Federated States of Micronesia, and Nuie) to serve as an evidence basis for informing each country's national adaptation planning process.

Food and Agriculture Resilience, Samoa – Partnering with Samoan Government, universities and industry to develop a digital tool to support decision-makers navigating the impacts of climate change on the agri-food system.

Government collaboration

We continue to be a key partner of government in providing scientific advice to assist with decision making and supporting the implementation of policies, programs and projects.

We have formal advisory roles in a range of policy priority areas, including artificial intelligence (AI), biosecurity, quantum, sustainable aviation and robotics. We regularly provide targeted briefings and reports to address government requests, briefings on our research of interest to government, and submissions to government consultations. In 2023–24, we engaged with over 42 government consultation processes through a range of submissions, letters and briefings. These covered topics as wide-ranging as water reform, satellites, pandemic preparedness, responsible AI and digital research infrastructure.

We also respond to requests by government to develop and apply decision-making tools such as models and data analytics to support policymakers directly, or to make them available to community sectors (such as farmers) as part of government programs. We can also be called upon to run programs on behalf of government, where programs require specialist expertise or connection such as the following:

- We will receive a further $1.9 million for Sparked, Australia's national Fast Healthcare Interoperability Resources (FHIR) Accelerator Program, which helps accelerate information exchange across Australia's healthcare system. It is being developed by our Australian e-Health Research Centre in close collaboration with the federal Department of Health and Aged Care. This funding is in addition to the $4.6 million received in last year's budget.
- We are engaging with a range of departments and agencies to demonstrate an evidence base for the government's net zero agenda.
- We are sharing our expert insights with the Department of Industry, Science and Resources (DISR) and the National Reconstruction Fund Corporation to support the implementation of the $15 billion National Reconstruction Fund.
- Our senior leaders are members of various ministerial and government advisory panels, including Chief Executive Dr Doug Hilton who is on the National Science and Technology Council.
- Twenty-eight CSIRO researchers attended Science meets Parliament in March 2024, meeting with Parliamentarians and learning more about science informing policy.

Industry collaboration

Large corporations

We support large corporates via dedicated innovation programs to address industry or market challenges. These highly successful programs have led to solutions for our partners and to the establishment of CSIRO-backed IP-based start-up companies focused on market gaps and opportunities that extend beyond any one corporate player. We utilise several commercialisation pathways to translate our research into the market: our IP forms the basis of start-up companies, some of which have attracted large corporate investors; our IP has been licensed or sold to industry; and we provide research for equity that ultimately leads to being able to commercialise IP. Recent large corporate partnership examples include the following:

- Our long-standing strategic partnership with Fortescue, focused on decarbonising hard-to-abate sectors in Australia and globally, has seen the speedy and successful development of several hydrogen technologies from very early to high TRLs, making them ready for real-world use.
- Our Earth Analytics and Science Innovation (EASI) platform has been licensed both in Australia and overseas in a wide range of applications. For example, licensed to a Fortune 500 company, the platform is being used in the US to transform and innovate forestry management and improve sustainable harvesting practices.

We are also collaborating with large organisations to combine our unique capabilities to solve challenges facing Australia. For example, our partnership with Google aims to preserve and restore Australia's Giant Kelp Marine Forests in Tasmania (95 per cent has been decimated due to climate change and rising sea temperatures). Using Google AI, we are conducting genomic research to understand what makes some of the kelp heat resistant, aiming to provide critical data to scientists working to restore and grow the forest, catalyse and accelerate research and impact.

Small- to medium-sized enterprises

Our SME Connect program supports small- to medium-sized enterprises (SMEs) and start-ups, enabling innovation through collaboration, training, facilitation, funding, and access to alternative facilities. This year, SME Connect programs engaged with over 250 SMEs nationally, which injected more than $26 million into research and development.

In June 2024, the Queensland Government's Department of Environment, Science and Innovation announced SME Connect as the delivery partner of a new $7 million program to boost research collaboration in Queensland. Set to start in late 2024 (ending June 2027), the Regional University Industry Collaboration (RUIC) Program will connect regional universities with start-ups and SMEs in Queensland to drive local innovation and economic growth through dollar-matched funding, R&D training and networking events.

This year, we committed an extra $20 million to SME Connect programs, including CSIRO Kick-Start (Kick-Start), Innovate to Grow, and the SME Strategy (former SME Collaboration Initiative) until 2028. We also launched a new program – the India Australia Rapid Innovation and Startup Expansion (RISE) Accelerator – to help Australian companies commercialise technology into India and vice versa.

The following programs were delivered by SME Connect in 2023–24:

- **Kick-Start** – helping eligible businesses access affordable, high-quality expertise through subsidised research. Eligibility was expanded to include businesses with a turnover of up to $10 million (previously $1.5 million), resulting in 47 Kick-Start projects approved with 36 companies. Thirty-seven projects commenced to a total value of $3.2 million ($1.4 million in vouchers, $1.7 million in industry contribution and $100,000 in CSIRO research unit contribution). Eight per cent of projects were from Indigenous-led companies, and over $1 million in investments were allocated to Kick-Start alumni companies through the Indigenous Research Grant Program. In 2023–24 alone, alumni companies raised over $69 million in investments.
- **The India Australia Rapid Innovation and Start-up Expansion (RISE) Accelerator** – purpose-built to help Indian and Australian start-ups and SMEs fast-track their cross-border impact with mature, cutting-edge science-based technology. The program supports Australian start-ups and SMEs who are working on innovative environment and climate technologies and are considering expansion into India. The program also supports Indian start-ups and SMEs to expand into the Australian market.
- **Innovate to Grow** – a 10-week experiential learning program to help SMEs understand the benefits of research and development, work on a real business challenge, and connect with suitable funding programs. The program ran 8 programs for 170 SMEs in the health and medtech, agrifood, advanced manufacturing, ending plastic waste, critical minerals, and cyber security and digital technology sectors. Programs were supported by the Department of Industry, Science and Resources Cybersecurity Skills Partnership Innovation Fund, and the Western Australian Department of Primary Industries and Regional Development. Feedback on the program has been outstanding, with an average 8.5 (out of 10) 'willingness to recommend' score and up to 22 per cent of SMEs initiating research collaboration initiatives in the first year post-program.
- **SME Strategy** (formerly 'SME Collaboration Initiative') – aims to improve understanding of how we can lower the barriers for SMEs to pursue their research and development ambitions with improved and simplified access to innovation services and skills, training and funding. Highlights this year include research with the University of Queensland and Queensland University of Technology, expansion of the SME National Research Ecosystem Community of Practice (to 22 universities and research organisations) and establishment of a network of CSIRO SME Champions to drive greater engagement with SMEs across CSIRO.

Industry organisations engaged in education programs

We engage with STEM industry organisations to support, advocate and provide opportunities in education programs. We define 'engaged' as having a strategic, whole-of-organisation commitment to an education program.

STEM Together – helps young people in Years 5 to 10 and the adults who support them – build their confidence, capability and connection with STEM using evidence-backed, strength-based approaches and real-world learning opportunities. It prioritises opportunities for Aboriginal and/or Torres Strait Islander and female students, and students from regional or lower opportunity areas, strengthening relationships between community and industry, and reinforces STEM engagement. In 2023–24, STEM Together facilitated 198 instances of participation across 18 events and programs, including:

- twenty-five 'Young Future Shapers' and 5 'Adult Future Shapers' who explored and extended their STEM skills and interests through tailored events and opportunities. Eighty-nine per cent of Young Future Shapers indicated increased interest in STEM and 100 per cent increased their interest in pursuing a STEM career. The second annual call for nominations attracted 783 applications (combined Adult and Young Future Shaper programs).
- one hundred and seventy-three educators who attended 13 STEM Together professional learning events, gaining strengths-based approaches and tools for more inclusive, engaged STEM classrooms. Seventy-six per cent of attendees reported an increased confidence in applying these strategies in class.

The Gupta Family Group (GFG) Foundation Student Programme – was delivered to Whyalla, Newcastle, Tahmoor and Georgetown in New South Wales and expanded to Brisbane Queensland. At the end of 2023, 141 Year 7–10 students graduated. Overall findings indicate a positive impact on student engagement and confidence, enterprise skills and awareness of local STEM industry, and an increased interest in learning about STEM and pursuing STEM careers. Students were supported throughout the program by 41 mentors from GFG Alliance businesses.

Generation STEM – hosted its annual 'WithSTEMYouCan' careers expo in Western Sydney, with almost 100 industry professionals representing 24 STEM industry partners showcasing STEM careers to an engaged audience of 320 high school students. The Educate to Innovate breakfast held in May aimed to equip businesses with the tools and knowledge needed to engage with junior talent in STEM fields. Attended by 50 industry and education professionals, the inaugural event focused on the opportunities for industry when engaging with secondary and tertiary education institutions and interns to inspire growing interest, build awareness of career opportunities in their sector, and access and cultivate junior talent.

Cooperative Research Centres (CRCs)

The Cooperative Research Centre (CRC) program supports collaborations between researchers, industry and the community to foster high-quality research and development. The program enables research teams to connect across institutions and industries to inform research priorities and implement research solutions to maximise impact. CRC grants provide successful applicants with access to grant funds for up to 10 years.

Since the CRC program commenced in 1991, the Australian Government has funded 238 CRCs. As at June 2024, there were 26 CRCs currently active with CSIRO participating in 17 of these. We are the single biggest research organisation involved in CRCs and have contributed to more than 150 CRCs over time.

CRC Projects (CRC-P) are smaller collaborations with timelines of up to 3 years and grants of up to $3 million. They develop important new technologies, products and services that deliver tangible outcomes. This year, our total cash and in-kind (for example, staff and use of assets) contribution to CRCs and CRC-Ps was $18.05 million.

Rural Research and Development Corporations (RDCs)

Australia's Rural Research and Development Corporations (RDCs) help drive agricultural innovation. They assist the Australian government and primary producers to co-invest in R&D to benefit industry and regional communities. There are currently 15 RDCs.

This year, we engaged with 11 RDCs in new and ongoing commercial and R&D contracts to deliver enduring impact for Australian agriculture. This year we executed 47 new contracts with 11 RDCs worth $89 million in total, including key partnerships with the Grains RDC, Wine Australia, Meat and Livestock Australia, Horticulture Innovation Australia (Hort Innovation), Australian Meat Processor Corporation, Rural Industries RDC (AgriFutures) and Cotton RDC.

University collaboration

Table 1.4 below shows our collaborative scientific publications with the 10 Australian universities who are our most frequent partners, overall and in our major fields of research.

Co-publications with most of these partners have decreased since the 2018–22 period, but this is due to an overall drop in CSIRO's publication output. As a proportion of our publications, these collaborative links have remained as strong as before or have grown stronger.

In addition to these partners, we also have strong collaborative relationships with several Australian universities in specific fields, including:

- James Cook University in environment/ecology and plant and animal sciences
- LaTrobe in agricultural sciences
- RMIT in geosciences, chemistry and materials science
- Swinburne University and Western Sydney University in space science
- University of Technology, Sydney in computer sciences.

Table 1.4: University collaboration

UNIVERSITY	TOTAL NUMBER OF COLLABORATIVE PUBLICATIONS (2018–23)	AGRICULTURAL SCIENCES	ENVIRONMENT AND ECOLOGY	GEOSCIENCES	PLANT AND ANIMAL SCIENCES	SPACE SCIENCES	COMPUTER SCIENCES	MATERIAL SCIENCES	CHEMISTRY	TOTAL CO-SUPERVISED HIGHER DEGREE BY RESEARCH CANDIDATES IN 2023–24
University of Queensland	1,431	101	269	68	254	14	36	41	65	95
Australian National University	1,357	38	185	89	217	107	71	27	27	74
Monash University	1,349	8	81	105	17	32	72	231	194	77
University of Western Australia	1,347	74	204	182	176	333	10	13	21	31
University of New South Wales	1,310	22	132	156	64	33	163	76	62	70
University of Melbourne	1,261	99	149	120	125	41	28	58	56	51
University of Tasmania	1,128	71	286	195	301	74	14	1	8	47
University of Sydney	988	62	88	28	70	174	68	26	27	30
Curtin University	807	23	56	155	49	225	24	15	32	19
University of Adelaide	675	107	103	53	89	19	28	14	19	38

Community collaboration

As Australia's national science agency, we take our social license to operate seriously. We carefully measure community trust using an externally administered Community and Business Sentiment Survey conducted by Roy Morgan, an independent Australian market research and public opinion statistics company. In 2023–24 the survey indicated that public awareness of CSIRO remains extremely high at 92 per cent and positive sentiment remained stable at 75 per cent. Further details about these results are discussed on page 84 in the Annual Performance Statements.

We also have a responsibility to understand public sentiment towards areas of scientific research and innovation to enable uptake of research solutions. Between August and September 2023, in partnership with the Department of Climate Change, Energy, the Environment and Water, we surveyed more than 6,700 people in all states and territories (metropolitan and regional) to understand the public's attitude toward Australia's transition to renewable energy. The results indicated that the public value affordability, energy self-reliance and emissions reduction as highest priorities. Such a representative survey provides crucial insight into the views and values of Australians on the issues we are working to address.

CSIRO aims to lift scientific literacy in the Australian community. One of the ways we do this is through our communication channels. Our *Everyday AI* podcast continued to engage audiences with expert guests sharing their knowledge of AI in an accessible and digestible format.

We also continue to engage and educate Australians through traditional and social media. This year we reached a cumulative audience of 1.7 billion people through print, broadcast and online media. Our social media followers also continued to grow to 965,000 across a range of platforms.

Another way we lift scientific literacy and engagement in the community is through our public-facing facilities and events. The CSIRO Discovery Centre in Canberra offers an interactive journey through Australian science history and showcases our innovative science and technology. In 2023–24, more than 400 schools, 25,500 students and 2,500 teachers participated in programs, mostly from New South Wales, Victoria and Queensland. In addition, around 1,500 community members visited the Centre. We are one of the founding partners of National Science Week, the nationwide initiative to increase awareness of and participation in science. Our 2023 campaign was its most successful on record. Approximately 33,000 students and teachers engaged in a series of 12 virtual and in-person events held across Australia. A comprehensive program of social media content reached an online audience of 1.4 million.

We also work to engage the community in the practice of science. Through the Atlas of Living Australia (ALA), we enable members of the public to engage with real life citizen science. More than 50 per cent of the ALA's over 133 million+ species occurrence records are derived from citizen science. The ALA recently partnered with researchers and government on a myrtle rust citizen science campaign to increase the data on myrtle rust caused by the invasive pathogen *Austropuccinia psidii*. Citizen scientists play a crucial role in invasive species monitoring by reporting observations at a local level. These reports help to inform early detection and long-term management of biosecurity threats. The campaign increased the amount of data, from 500 records to over 7,000, and educated thousands about the spread and impact of this disease on Australia's native flora.

Aboriginal and Torres Strait Islander Peoples

We recognise Aboriginal and Torres Strait Islander Peoples as Australia's First Scientists and we are committed to Indigenous engagement and collaboration in science to build stronger mutually beneficial relationships with Aboriginal and Torres Strait Islander Peoples. We aim to increase the participation of Aboriginal and Torres Strait Islander Peoples in our R&D agenda, and ensure our activities are effective in contributing to solving the challenges and meeting the aspirations of Aboriginal and Torres Strait Islander communities.

This year, we continued our investment in several programs and initiatives to acknowledge the extraordinary contributions Aboriginal and Torres Strait Islander Peoples have made, and continue to make, to our culture, economy and science.

Our **Indigenous Research Grants (IRG) Program** has continued to kickstart our science projects to support Indigenous-led science. The program fosters collaborative partnerships through multidisciplinary science priorities identified by Aboriginal and Torres Strait Islander communities and organisations. In 2023–24, we supported 9 applications in Round 2, and 10 applications in Round 3, bringing the total number of projects to 30. As a result of the program, we had 77 active Indigenous science projects in the 2023–24 financial year.

We developed a new **Indigenous Procurement Strategy** and we continue to support opportunities towards the Australian Government's Indigenous Procurement Policy, spending $19,018,645, this year with Aboriginal and Torres Strait Islander-owned enterprises.

Our **Reconciliation Action Plan (RAP) 2021–2023** concluded this reporting period. Within it were 17 core actions (across 90 deliverables) to build stronger relationships with Aboriginal and Torres Strait Islander Peoples through knowledge sharing, education, employment opportunities and mutually beneficial partnerships. At the end of our Innovate RAP, 71 per cent of those actions/deliverables were in progress and ongoing; 2 per cent required action and 26 per cent had been achieved. Our successful delivery on our Innovate RAP resulted in endorsement from Reconciliation Australia to transition to a Stretch RAP for 2024–27.

A Stretch RAP is the next progression in the RAP RISE framework – Reflect, Innovate, Stretch, Elevate – and is used to embed reconciliation activities within the workplace and expand on impact. Reconciliation Australia outlines 63 mandatory deliverables within a Stretch RAP. We will add to these 63 deliverables to reflect our core business and sphere of influence, building on the foundation of previous RAPs.

This year we developed **Indigenous Cultural and Intellectual Property (ICIP) Principles** for CSIRO to demonstrate our deep commitment to honouring and respecting the cultural heritage of Aboriginal and Torres Strait Islander Peoples.

You can read more about the ICIP Principles and our collaboration with Aboriginal and Torres Strait Islander Peoples in the Highlights 2023–24 document and our Indigenous Collaboration and Partnerships 2023–24 report available at: csiro.au/reportingsuite2024.

Delivery against the Statement of Expectations in Objective 1

ADVANCING NATIONAL INTERESTS	Deliver innovative scientific and technological solutions; taking Australian science to the world; maintaining an international presence; collaboration across government, university, industry and community.
ADVANCING GOVERNMENT'S POLICY PRIORITIES	Advancing First Nations science; mission-directed research; delivering a future made in Australia through the National Reconstruction Fund.
TRANSLATION AND COMMERCIALISATION	Translating science and technology into products and services; supporting SMEs to commercialise and integrate research innovations; supporting government translation and commercialisation programs; building industry connections; supporting the health of Australians; managing research infrastructure.
PROMOTING STEM	Promoting careers and career paths for early career researchers, students, research and technical staff; communication of CSIRO science and research.
DEPARTMENT	Working collaboratively with relevant government portfolios.

Objective 2

Purpose-driven science and technology

We are delivering impact at-scale aligned with the challenges we are solving, and the portfolios of research directed to them. We are investing in the right future science and technology to solve tomorrow's challenges.

Impact focused

We focus on the right problems and shape our research for maximum impact. We support government priorities including areas detailed in the National Reconstruction Fund, contributing expertise and innovation.

Six challenges for greater impact

We affirm and operationalise our future science capability to ensure we are responding to national priorities, informed by market insights and megatrends analysis, delivered through investments in one-CSIRO priorities to achieve greater impact for the nation.

To understand the value of research, it is essential to track the process by which it translates into real-world benefits – economic, environmental, social. When we conduct our research, we also provide robust evidence of the effects of that research on the economy, environment and society.

Using case studies to measure impact is internationally recognised best practice. Every year, we commission 20 impact case studies to account for the resources entrusted to us and to demonstrate how we have applied our research to national challenges. They provide credible evidence of the effects of our research and innovation activities. Our case studies demonstrate the work we do across all science domains and the 6 interconnected and interdisciplinary challenges we seek to solve. Highlights from a number of these case studies are included in the following pages.

Science solutions to solve challenges

We operationalise our impact priorities (such as biosecurity preparedness and resilience, decarbonisation for industry, critical minerals, natural disaster and resilience, future manufacturing) in support of our 6 challenges.

Transforming the productivity of sandy landscapes

The opportunity

Sandy soils are widespread across southern Australia and present challenges for crop productivity. Knowledge of the benefits of soil mitigation and amelioration techniques is necessary to provide informed guidance and increased certainty for grain growers to make decisions about whether, and how, to incorporate these techniques.

The solution

The Sandy Soils project consortium between CSIRO, Grains Research and Development Corporation (GRDC), the University of South Australia, the South Australian Government, regional agricultural consultancies and grain growers improved on-farm diagnosis and soil management to combat sandy soil constraints to crop productivity. Experiments assessed more than 200 soil treatment combinations. They included innovative engineering solutions with lower application risks and easy adaptation for commercial machinery. An interactive web application, Sandbox, was released that allows grain growers to evaluate amelioration options in the context of their soils and climate; to identify their soil constraints; to review experimental results; and to select and optimise machinery options for on-farm testing.

The impact

Adoption of evidence-based amelioration practices has increased crop productivity in sandy landscapes. (At the farm level, benefit cost ration of amelioration ranges from 1.2 to 2.5.) The research approach and amelioration trial designs of the Sandy Soils project have enhanced the knowledge base in the field. Survey results suggest rapid adoption of validated amelioration practices. Fifty-seven grain growers were surveyed. Nineteen per cent of participants used amelioration techniques solely, and 56 per cent used them in conjunction with soil amendments. Few participants (7 per cent) had not treated their land with any solutions but were on the verge of adoption. Communication with participants also suggests the research has contributed to increased acquisition of new amelioration machinery. A recent evaluation of the prospective benefits of Sandy Soils research estimates that for every dollar of investment, $18.90 of benefits could be generated for the broader community.

Implementing paddock-scale deep tillage strip trials in the Victorian Mallee.

A novel membrane technology for water purification

The opportunity

Demand for high-purity and ultrapure water has been growing steadily across the globe. However, low process efficiency and high operational costs, including frequent membrane replacement requirements, have been a constant challenge for the industry.

The solution

GraphAir is CSIRO's patented form of graphene, developed to serve as a novel membrane technology for water purification. It offers a high-flux, long-lasting solution capable of producing ultra-high purity water using membrane distillation (MD).

GraphAir's initial proof-of-concept data demonstrates that it can generate Types 1 and 2 Pure laboratory water in one to two steps, eliminating the need for a complex multi-step process. Unlike regular water filters, GraphAir can filter out extremely toxic chemical compounds while allowing only pure water through. GraphAir has been shown to last at least 6 times as long as conventional MD membranes due to its inherent anti-fouling properties. It is estimated to produce commercially relevant volumes of ultrapure water at an absorbed cost of $0.13 per litre compared to $0.37 per litre for existing technologies. GraphAir has been able to produce pure water from complex mixtures economically, where most existing technologies fail or are exorbitantly expensive. The purification process is thermally driven, instead of the usual pressure-driven mechanism found in the commonly used reverse osmosis. The technology also offers the potential of utilising solar and/or waste heat sources to further reduce operation costs.

The impact

While GraphAir's real-world applications are still being explored, its potential for positive economic, social and environmental impact is promising. It is expected to enhance the health and wellbeing of rural communities (for example, from the improved water provision in remote and arid areas imparted by technology), grow innovation and human capital, and develop a higher-skilled workforce. Technology deployment is also expected to reduce the environmental footprint of damaging wastewaters.

Dr James Cooper, CSIRO Research Scientist, with a GraphAir film synthesised using the scaled chemical vapour deposition (CVD) production process.

A Cost Benefit Analysis (CBA) was conducted and based on conservative assumptions, the CBA estimates a Benefit Cost Ratio (BCR) of 1.5 and a Net Present Value (NPV) of $7.8 million during the assessment period of 10 years (2028–37).

Investment by the Science and Industry Endowment Fund (SIEF) is expected to deliver a BCR of 2.4 and an NPV of $3.3 million. Overall investment in research is estimated to be approximately $15 million. The initiative is expected to deliver other economic benefits in the form of new jobs, new markets and supply chains, and provide improved support to industry (for example hydrogen industry).

Improving Australia's preparedness and resilience to emergency animal disease outbreak

The opportunity

Foot-and-Mouth Disease (FMD) is a high-priority disease of significant socio-economic threat to Australia's livestock industries. An estimate in 2022 indicated a large outbreak of FMD could result in potential direct economic impact of around $80 billion. Despite being FMD-free since 1872, concern remains about the possible increased risk to Australia and scrutiny persists around our preparedness.

The solution

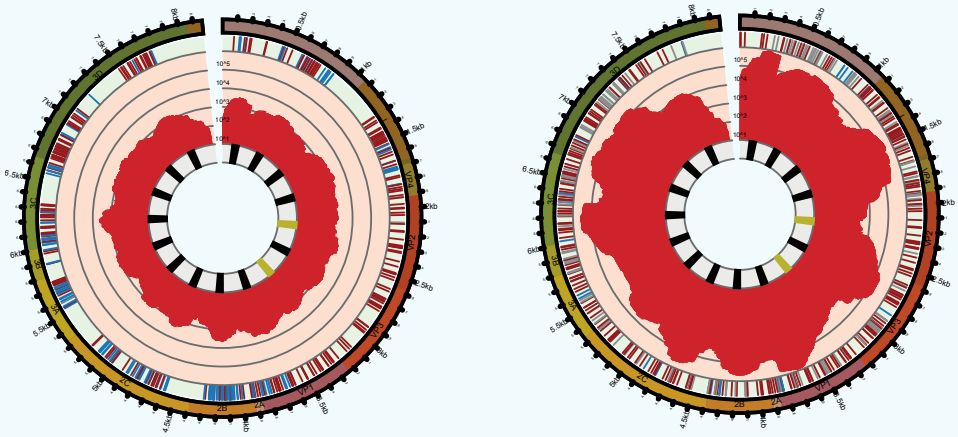
The FMD Ready project (2016–22) aimed to enhance Australia's FMD readiness and expedite trade resumption in the event of an outbreak. By preparing for FMD, Australia would effectively prepare for other animal disease outbreaks as well. The project applied a transdisciplinary approach, emphasising integrated biosecurity through R&D in diagnostic assays, vaccine efficacy, big data analytics, disease pathway and economic analysis, as well as risk profiling and farmer engagement. The multifaceted nature of the project resulted in 4 separate sub-projects designed to examine ways Australia can prevent, control and manage an animal disease outbreak.

This project was supported by Meat and Livestock Australia (MLA), Australian FMD-susceptible livestock (cattle, sheep, goats and pigs) industries, Charles Sturt University, the Bureau of Meteorology, Animal Health Australia and CSIRO.

The impact

FMD Ready has provided response mechanisms for management to limit the extent of outbreaks that may occur. The transdisciplinary nature demonstrated that collaboration between different research disciplines, combined with direct interaction, can deliver solutions to complex problems that may not be possible with less diverse research teams. Project outcomes include improved vaccines and diagnostic tests, insights on risks emanating from FMD endemic regions, implementation of producer-led surveillance systems, development of decision support tools and systems, utilisation of large datasets for better disease modelling, improved capacity for appropriate resource allocation during an outbreak, and advancements in integrated outbreak detection and response systems.

Our involvement in FMD Ready is valued at $53.54 million over 10 years (NPV), with a BCR of 2.48. This reflects the high value to Australia and, because of the research, limits trade restrictions to affected areas only.



Left: Vaccine bank and diagnostics – Standard Method (all RNA sequenced) 10.96% of total reads mapped to virus. Right: Enrichment Method (specifically targets viral RNA) 99.34% of total reads mapped to the virus.

Advancing Earth observation research

The opportunity

Australia has more than 160 national, state and territory government programs dependent on Earth observation (EO) data spanning meteorology, climate, agriculture, natural resources, infrastructure and defence. EO is a critical tool for research and decision making across multiple fields.

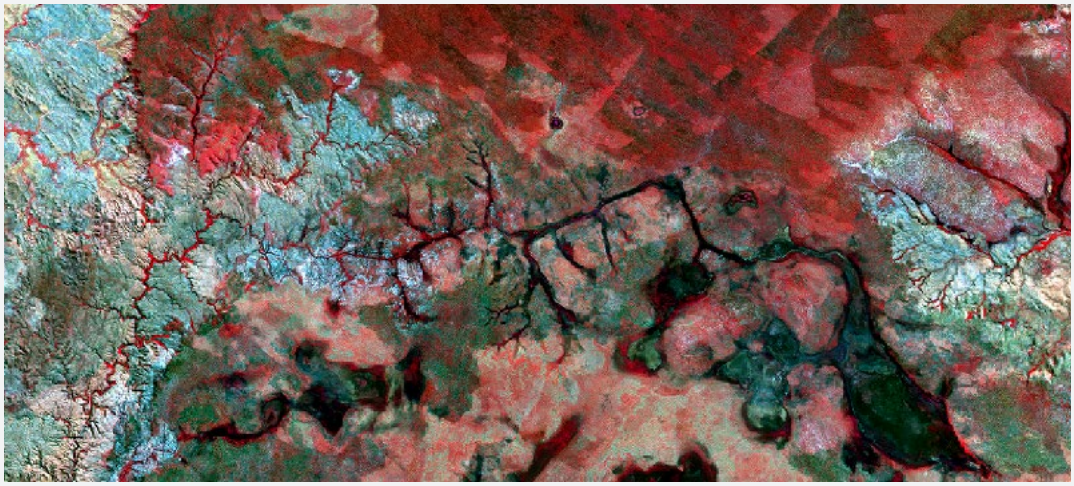
The solution

Our Earth Analytics Science and Innovation (EASI) platform uses state-of-the-art cloud computing resources to produce EO products at high speed with resolution and scope at orders of magnitude higher than what is producible using standard desktop programs. We developed the EASI platform to maximise use of national and international satellite data. EASI is infrastructure built on our collaboration with Geoscience Australia and Digital Earth Australia in developing the Open Data Cube (ODC). EASI builds upon the ODC while incorporating other recent capability developments in EO data distribution. It is a flexible tool for many types of high-quality science that use large datasets.

The impact

Independent interviews were conducted with 18 high-intensity EASI users within CSIRO, encompassing a wide array of scientific areas. Users noted benefits including time and cost savings on pre-processed and centralised data, computing processing speed, dynamic and high-quality products enabled by the platform and collaborative benefits.

EASI staff were also praised for being responsive to user requests and fostering a supportive user community. EASI increases the feasible scale of analysis to include time series and continent-wide geospatial assessments, which enhances the type and quality of products that our scientists can offer. Users suggested that improved support for the platform may be needed to protect the consistent value that users generate from it.



The EASI platform provides the cloud-based computing infrastructure to query this type of imagery across large areas and over time. This image is rendered as a false-colour composite, which uses the infrared wavelength of the satellite to highlight photosynthetically active vegetation (shown as red in this image). It helps map different ecosystems, monitor habitat condition for biodiversity conservation, and understand the influence of land management on the spread of brushfire.

Ikon-ic partnership digs up a Rok-ing result

The opportunity

Decision making across geological research and resource exploration can be hampered when access to earlier research on an area is hard to access. Bringing data together from multiple analyses of an area can improve the predictive power of models used to make these decisions, but there are challenges to doing this.

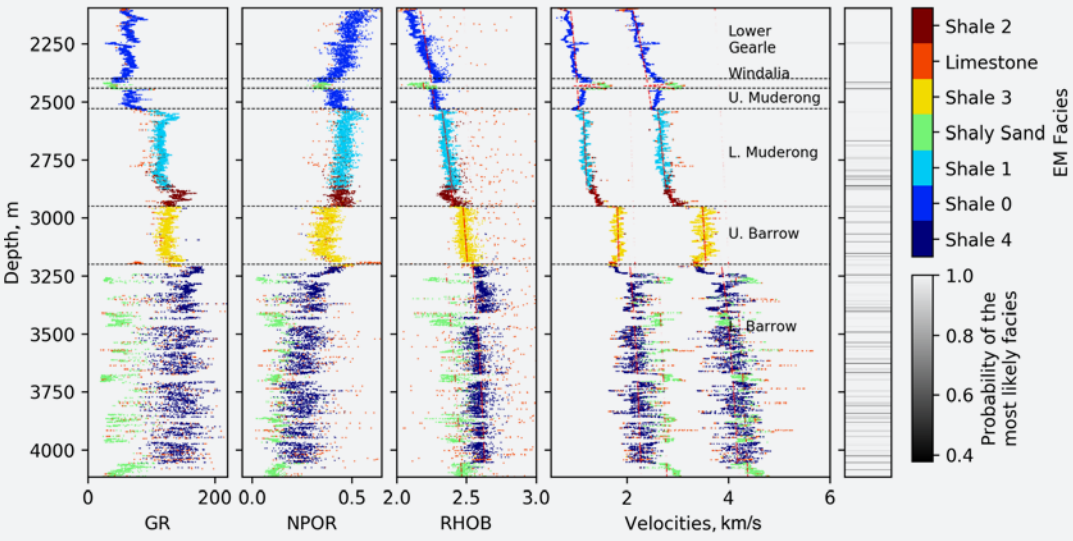
The solution

We developed the Rock Physics Machine Learning (RPML) tool, an algorithm designed to optimise subsurface model selection. It has direct applications for energy companies. RPML incorporates decades of rock physics and petrophysical knowledge into AI and machine learning (ML) methods, avoiding excessive dependence on a specific training dataset and enhancing the robustness of the model's solutions.

We further developed the tool in partnership with Ikon Science, which provides the RokDoc platform for modelling and data quality control to allow improved quantitative prediction of the subsurface. As a result, CSIRO and Ikon commercialised the RPML tool by releasing an updated version of Deep QI, the machine learning feature of RokDoc, which trains data analysis of rock properties.

The impact

An independent prospective assessment found that RPML, via its integration in Ikon Science's RokDoc and Deep QI software, will generate revenue for CSIRO, increase natural gas well productivity and increase discovered energy reserves for Australia, providing environmental benefits from reduced diesel usage on drilling rigs. Over 10 years, RPML is projected to provide between $4.97 million and $29.33 million in net present benefits, across various levels of technology adoption. This corresponds to a BCR between 11.4 and 66.9 over 10 years, meaning that for every dollar invested, RPML may create up to $67 in value for Australians.



Rock Physics Machine Learning Toolkit uses estimated physical rock properties to define the probability of sedimentary facies at particular depths.

A fast, cheap and precise way to collect eDNA

The opportunity

Environmental DNA (eDNA) is a game-changing technology that promises to provide faster, cheaper and more accurate ways to measure our environment at scale. eDNA is genetic material shed by organisms into the environment including soil, water and air. This material can be collected and analysed to identify the presence of specific organisms or to describe biological communities composed of hundreds or thousands of species. The popularity of eDNA technology has surged in recent years for biodiversity monitoring, pest detection and ecological research because it overcomes many challenges associated with traditional surveys.[3]

Conventional eDNA technology involves active filtering of water samples through membranes to collect eDNA. It requires specialised equipment, often requiring access to power, and is time and labour-intensive. This can limit the number of samples that can be collected, restricts where samples can be collected from, and can put it out of reach of groups without access to specialised equipment, like citizen scientists or Indigenous rangers.

The solution

CSIRO scientists have invented a new way of collecting eDNA called 'passive eDNA sampling', which involves directly submerging materials in water rather than filtering the water through membranes. Comparative analysis showed that passive eDNA can survey fish biodiversity just as well as conventional approaches yet requires a fraction of the effort and resources.

The impact

Passive triple bottom line impacts of passive eDNA sampling are multifaceted, with the potential to significantly transform conservation, monitoring and management practices. Interviews with the R&D team and industry experts indicate that passive eDNA sampling, alongside active eDNA sampling, is rapidly becoming integral to biodiversity and biosecurity efforts, with promising applications in pathogen and aquatic health monitoring.

The simplicity and cost-effectiveness of passive eDNA are central to its appeal, making it particularly well-suited for continuous ecosystem monitoring. This approach has the potential to enhance scientific research and hypothesis testing by providing broader biodiversity insights. The technique is expected to boost productivity and efficiency by streamlining data collection, reducing training requirements, lowering barriers for use by non-experts and citizen scientists, and facilitating easier deployment in remote locations, effectively addressing the limitations of traditional eDNA methods. Passive eDNA is likely to become an integral part of the toolkit supporting the next generation of environmental management.

CSIRO researchers invented a novel low-tech way to collect eDNA, making it easier to measure fish species and ocean biodiversity. This photo shows an experiment to test the capacity of different materials to capture eDNA at Ashmore Reef off north Western Australia.

3 https://pubmed.ncbi.nlm.nih.gov/33976849/

Missions program

This year we developed and launched new mission-directed initiatives, and extended the scale of existing missions in partnership with innovation system stakeholders. We continually assess the impact of launched missions to address national priorities.

Building on our work to solve our greatest challenges, our mission-oriented innovation is focused on complex problems that demand broader sociotechnical responses and capability. We leverage capacity across the innovation system by convening, partnering and integrating with others to achieve holistic solutions.

Since announcing our missions program in 2020, we have launched 9 missions with our partners and collaborators, each with an ambitious target to deliver by the end of this decade. In 2023–24, we launched one new mission, **Catalysing Australia's Biosecurity** (CAB). The mission aims to improve long-term national biosecurity outcomes by delivering innovative technologies, digital systems and capabilities that transform performance by 2030.

Future science and technology

We seek to invest in the right revolutionary science and technology to accelerate scientific breakthroughs and solve tomorrow's challenges.

Refinement and ongoing delivery of our future science and technology

We pursue discovery of opportunities spanning science disciplines. We build and leverage these through a globally interconnected capability development program.

This year we updated our future science and technology approach to identify the 2040 science that will ensure we remain future-ready. This approach is a key input into future research strategies and investment, scientific infrastructure needs and capability development. It provides guidance for how our future science makes an impact through interdisciplinary and convergence of our science, including collaborating with the best across the science system to unlock multiple possibilities.

During 2023, we engaged in a 12-month internal and external consultation process. We developed a longlist of science and technology ideas through a desktop review, analysis and consultation across the organisation. We formed science domain working groups to craft more detail, involving numerous scientists from across the organisation, then validated our shortlist with 33 external thought leaders and put it to the full organisation. We then validated with more than 750 staff through focus group sessions, and more than 560 through surveys. Over 700 also actively provided feedback through internal social media platform conversations. Some of the areas of research discussed included Advanced Biological Platforms; advanced materials and manufacturing; climate understanding and engineering; digital, AI/ML, modelling and simulation; energy and net-zero; engineering biology; Indigenous science; multi-omics; quantum; robotics and sensing; social science and responsible innovation; and space research and technology.

Future Science Platforms

One of the ways we have invested in disruptive, cutting-edge and transformative research is through our Future Science Platforms (FSPs). FSPs aim to identify science breakthroughs that provide the potential to reinvent and create new industries for Australia.

As each FSP reaches the end of its planned funding period, the best technologies and capabilities transition into other parts of CSIRO, move to a new phase of development, or are adopted by research or industry partners. To date, we have invested more than $630 million in 20 FSPs, and this year annual investment in FSPs exceeded $110 million.

Supporting mineral exploration through improved model inference

The opportunity

As industry increasingly integrates new technologies and approaches into its functions, the role of geoscientists is rapidly evolving, introducing a need for new skill sets, such as data analytics and quantitative modelling, to optimise exploration and mining activities. Proficiency in statistical methods, data visualisation and data manipulation enable geoscientists to interpret and analyse large datasets derived from drilling, sampling and other data collection activities.

The solution

InLab is a partnership between the Australian National University and CSIRO to create a platform for sharing data, models and tools that can be applied to diverse geoscience inference problems. InLab was conceptualised to support the evolving fields of geosciences and data sciences as geologists leverage new analytical tools to support mineral exploration through improved inference models. It is designed to advance tools for the extraction of natural resources in more economical and environmentally safe ways.

Accessible through InLab are the Common Framework for Inference (CoFI) and the Earth Science Problems for the Evaluation of Strategies, Solvers and Optimizers (Espresso).

CoFI provides an open-source platform for the development, application and testing of inference algorithms. Espresso provides a library of datasets/problems for use with the algorithms and tools available in CoFI. Together, CoFI and Espresso provide a suite of tools developed for geoscientists with specific questions that can be addressed by inference models but who have minimal experience with quantitative geosciences, and data analysts with strong modelling skills but minimal experience with geoscience questions.

The impact

An independent evaluation found that the InLab team and the current projects of CoFI and Espresso have shown economic and social impact and the potential for environmental impact as the tools are adopted by industry. Technology development and adoption has a long time horizon for impact and measuring the economic, environmental and social impacts for the Australian people requires patience and ongoing measurement. Early indicators of impact, specifically the work being funded by industry and other (non-CSIRO) government agencies on applied problems, is an early indication of the potential for significant economic impact. The InLab team has advanced the scientific knowledge base through the dissemination of tools and findings. Continued support for the platform has the potential to have significant impact over the next decade or more.

CoFI – linking geoscience inference problems with tools for their solution.

Science digital transformation

We empower our researchers through leading-edge technologies and skills to optimise and revolutionise the process of science and deliver greater value from digital innovation.

Accelerate and scale digital transformation of the scientific process

We continue to implement the CSIRO digital science program and digitally enabled business platform models, growing our reputation as a digital disruptor of science.

Our **Managed Data Ecosystem (MDE)** program provides the people, technology and supporting structures to improve how we create, collect, share and work with data, analytics and models. The MDE is connecting current and new platforms in seamless ways and improving interoperability to speed up how we digitally deliver to our customers, enhancing our services to progress research faster.

Our **Cloud Right project** has enabled a standardised approach to using cloud services in our research projects. EasiHub, for example, is a high-performance data analytics platform that uses cloud computing to enable researchers to process and integrate data on large scales and at high speed. This enables our customers to provide insights and analytics atop their data while they retain complete control.

Our **AI4Missions** program aims to advance the science and impact of artificial intelligence (AI) to achieve our mission objectives; establish a pool of world-class AI talent within CSIRO to respond to emerging AI opportunities; and leverage Australia's significant AI expertise across industries and universities. A key highlight from the program this year has been setting up a pipeline to generate new antibiotics and antiviral drugs using generative AI in a project led by our manufacturing team. The technology is being refined with new generations of AI-generated compounds. A national event is being organised with the National AI Centre to foster Australian collaboration for AI-based drug discovery.

Delivery against the Statement of Expectations in Objective 2

ADVANCING NATIONAL INTERESTS	Deliver innovative scientific and technological solutions; taking Australian science to the world; maintaining an international presence; collaboration across government, university, industry and community.
ADVANCING GOVERNMENT'S POLICY PRIORITIES	Advancing First Nations Science; mission-directed research; achieving Net Zero Emissions; becoming a Renewable Energy Superpower; delivering a future made in Australia through the National Reconstruction Fund.
TRANSLATION AND COMMERCIALISATION	Translating science and technology into products and services; supporting SMEs to commercialise and integrate research innovations; supporting government translation and commercialisation programs; building industry connections; supporting the health of Australians; managing research infrastructure and national facilities.
DEPARTMENT	Working collaboratively with relevant government portfolios.

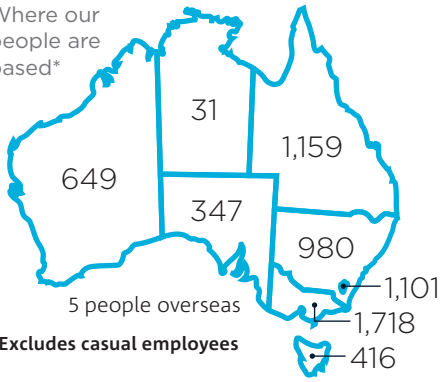
Objective 3

Engage and empower talent

We are attracting world-class talent and strengthening our nation's STEM pipeline. We are building a culture that makes us an employer of choice and operating in an adaptable, resilient and responsive way.

Our people are our most important asset and critical to our success. At 30 June 2024, we employed 6,618 people (full time equivalent of 6,234.13) comprising 4,631 ongoing staff and 1,987 non-ongoing staff (including casual employees). This is an increase of 4.78 per cent (302 people) from the previous year.

Where our people are based*



*Excludes casual employees

We're from
130+ countries

Age
17–80+ years

~28%
from non-English speaking backgrounds

Aboriginal and Torres Strait Islander Peoples representation

1.8% (2023)

2.5% (2024)

134,543 hours
of learning and development

Organisational culture survey
65% response rate

Sydney Gay and Lesbian Mardi Gras
80 marchers

HS-Me Day onsite attendance
3,000

Preferred place to work

We aim to be an employer of choice by driving a culture that enables our people from diverse backgrounds and perspectives to do their best.

CSIRO Culture Program including Diversity and Inclusion

Our people engagement prioritises diversity and inclusion, leadership capability and development initiatives, including embedding our values as the foundation for how we work together at CSIRO.

We remain committed to nurturing a culture that promotes a safe and inclusive workplace, where our outstanding talent can deliver their best for Australia. This year saw significant change across CSIRO with a new Enterprise Agreement and shifts in our Board and senior leadership team. We also introduced a focus on simplifying our operations and enhancing sustainability for greater impact.

Culture

We measured our culture using the same culture assessment we deployed in 2022. The 2024 Culture Survey, conducted in May, saw participation from 4,629 of our people, representing 65 per cent of eligible staff and affiliates.

The survey results highlighted the following key strengths:

- a strong sense of community, teamwork, and mutual care, including taking personal responsibility for each other's safety
- improvements in holding each other accountable for behaviours that don't reflect our CSIRO values
- a commitment to learning through our work and from our customers.

Areas identified for improvement include:

- providing clarity on our long-term vision, direction, and how we will track our progress
- supporting our people's growth and career progression
- effectiveness of behaviours, systems, and processes in:
  - cross-organisation collaboration
  - change management and new ways of working
  - empowering decision making.

A safe and inclusive workplace

We are committed to ensuring the wellbeing of all our people – so everyone goes home safely, every day. Health, safety and environment (HSE) is a shared responsibility, requiring the active commitment and participation of all our people, our leaders and our partners.

In 2023, we were awarded a Leadership Excellence Award by WorkSafe Tasmania for our wellbeing hub of videos, workshops, exercises and educational resources, developed to assist people manage their mental, physical, nutritional and spiritual wellbeing while working on our research vessel (RV) *Investigator*. Such resources are invaluable given that voyages can have staff at sea for up to 60 days in an isolated environment with limited communication with family and friends.

Our sixth annual HS-Me Day, held in October, brought the organisation together in a fun and interactive way to celebrate and prioritise workplace health, safety and the environment. Activities across all sites celebrated the central theme 'Show Up for HSE, for yourself and for others', while organisation-wide webinars supported connectivity through promoting wellbeing, exploring neurodiversity, addressing climate grief and adaptation, safe battery recycling and waste management awareness. There were high rates of engagement throughout the day. Over 3,000 people attended sites, our internal webpage received over 3,000 page views and our internal social media forums saw community growth of over 1,020 active people.

Hazard reports and proactive conversations have increased over 2023–24, reaching 4,242. Doubling the annual target of 2,000, reflecting a greater embedding of proactive safety and environmental culture. Our Total Recordable Injury Frequency Rate (TRIFR) of 2.2 fell below the target of 2.5, reflecting a lower rate of incidents and lost time from work. All our HSE metrics have performed favourably against organisation-wide targets.

The final year of our 2020–24 HSE Plan focused on the continued development of organisation-wide approaches to HSE risk management to support safe science. A highlight was the development of the foundational Psychosocial Safety framework with reporting mechanisms, toolkits and resources designed to help us identify, report, manage and prevent injury due to psychosocial risk. We conducted a review of organisational contractor and biorisk management approaches, guiding updates to procedures and resources.

We developed an integrated digital platform for managing fieldwork activities to further support safe work practices, and we continued our implementation of the foundational HSE management digital solution. Our focus for the future will be on simplified, consistent and embedded application across the organisation.

Inclusion and diversity

Our Diversity, Inclusion and Belonging (DIB) Strategy 2023–26 aims to drive systemic change in the DIB landscape, where everyone contributes to creating a more welcoming, authentic and connected culture, with psychological safety as a cornerstone of inclusion. In the first year of implementation, we have achieved notable systemic changes that will contribute to long-term sustainable outcomes for CSIRO.

- **Governance:** The new DIB governance structure significantly impacts decision-making and project integration, ensuring that those with lived experience are recognised for their contributions to advancing our DIB maturity.
- **Engagement and communication:** Our engagement and communication activities have been well received and supported by our organisation, with further opportunities for connection and online resources planned for 2024–25.
- **Leadership:** Our Executive Team (ET) and senior leaders are actively involved in key aspects of the work and will continue to participate through our governance to set the strategic direction.

We met all of our external inclusion and diversity benchmarking commitments. Below are several enterprise-level action items that we have successfully implemented at a program level:

- Creating inclusive leadership Annual Performance Agreement (APA) criteria.
- Incorporating an inclusion question in exit interviews.
- Optional inclusion of individual's pronouns on the MS Suite and Teams.
- Developing a feedback form for all DIB e-learning modules.
- Centralising 'Speak Up' workshops and delivering across CSIRO.
- Creating psychologically safe environments.
- Introducing Enterprise Agreement procedures addressing DIB challenges, like changes to parental leave, cultural leave, a community language allowance, uncapped domestic family violence and abuse leave, and public holiday substitution.

Our gender pay gap for the 2023 reporting period (calculated by the Workplace Gender Equity Agency (WGEA) and based on 2022 data) was 14 per cent, as it was the previous year. This is based on average male remuneration compared to average female remuneration.

We had 80 CSIRO people march in our fifth appearance at the Sydney Gay and Lesbian Mardi Gras this year. Our research vessel (RV) *Investigator* was lit up in rainbow colours ahead of the parade to celebrate our LGBTQIA+ staff and our commitment to acceptance, diversity and equality. We also participated at the Midsumma Festival (LGBTQIA+ cultural festival) in Melbourne, celebrating our people and the diverse roles they play at CSIRO.

We are very proud to have been recognised for the following in 2023–24:

- Awarded the foundation component for the Australian Workplace Equality Index (AWEI), achieving Bronze status and subsequently Gold employer status with our 'advanced' application.
- Submitted our 2023 update for the Women in STEM Decadal Plan to the Australian Academy of Science as part of our champion responsibilities.
- Submitted 2 Science in Australia Gender Equity (SAGE) Cygnets for formal assessment and awarded a Cygnet for both 'Inclusive Practices' and 'Recruitment of Women into Research Roles'.
- LinkedIn Talent Awards 2022: Winner in Diversity Champion and Talent Insights Pioneer categories.
- Communication & Public Relations Australia Golden Targets 2023: Silver award – Digital, Social and/or Content Campaign.
- SEEK STAR Awards 2024: Winner of Best Employer Brand Initiative.
- GradConnection 2024: Ranked 24th in the Top 100 Grad Employers list and runner-up in the Most Popular Government and Defence Employer Award category.
- Prosple 2024: Ranked 63rd in Top 100 graduate employer list and #1 graduate employer in R&D and manufacturing category.

Aboriginal and Torres Strait Islander Employment

We aim to be an employer of choice for Aboriginal and Torres Strait Islander Peoples by delivering respectful, adaptive, innovative and courageous strategies that build sustainable employment opportunities for and with Aboriginal and Torres Strait Islander Peoples. Aboriginal and Torres Strait Islander representation continues to grow across CSIRO, increasing from 1.8 per cent in 2023 to 2.5 per cent in 2024.

Our **Indigenous Employment Strategy 2022–2024** demonstrates that our commitment to Aboriginal and Torres Strait Islander employment goes beyond numbers. It involves nurturing lasting connections with Indigenous peoples and communities at every level of our organisation and within our workforce.

This year, we focused on delivering systemic changes for Aboriginal and Torres Strait Islander Peoples through the new Enterprise Agreement, including:

- cultural, ceremonial, and NAIDOC leave
- community language allowance
- definition of 'family' to include Aboriginal and Torres Strait Islander Peoples' kinship relationships
- an ability to substitute a designated Public Holiday such as 26 January
- flexible working arrangements requests to consider connection to Country and cultural obligations for Aboriginal and Torres Strait Islander Peoples.

As part of our strategy we have continued to support the pipeline of Aboriginal and Torres Strait Islander STEM students through a new partnership with the National Indigenous Space Academy. We have established a CSIRO Indigenous scholarship program which will support up to 5 Indigenous university students to intern at NASA's Jet Propulsion Laboratory (JPL) in the US.

In 2023–24, the program welcomed a second cohort of 20 Indigenous graduates across the 3 streams, bringing the total number to 33. This includes 2 graduates who transitioned from the development program in cohort one to the fellowship program to undertake PhDs or MPhil. Across the 2 cohorts, 6 graduates have commenced or completed their honours degrees, and a further 12 have commenced a PhD or MPhil as part of the program.

Our **Indigenous Graduate Program** was established to deliver against national priorities that support the Indigenous science and technology sector by building Aboriginal and Torres Strait Islander graduates' capabilities and developing the pipeline of future innovation system leaders. The program offers 3 streams of engagement:

- **Enterprise Services** encourages graduates to work and become leaders in enterprise services or professional fields including but not limited to finance, human resources, law and information technology (IT).
- **Research Development** encourages graduates to understand research work and potential career trajectories in their chosen field while providing the opportunity to pursue an honours degree as part of their program.
- **Research Fellowship** empowers graduates to become independent researchers and pursue postgraduate research qualifications as part of their degree.

World-class talent

We pursue the best global science and technology talent to strengthen Australia's STEM pipeline.

Attract and develop outstanding talent

To become an employer of choice, we are building on our capability and talent pipeline for the Australian innovation system through programs such as Research+, CSIRO Early Research Career (CERC) Fellows, and the 'Impossible Without You' recruitment campaign. We aim to create a differentiated workplace that enables our people to perform at their best and develop their careers.

Our **Research+** internal grants enable strategic investments in our science and engineering excellence and reinforce a culture of impact and innovation. The grants grow and develop talent, from postgraduate students to early- to mid-career researchers, building STEM pipelines and career pathways. Other programs facilitate opportunities to explore cutting-edge science and engineering challenges by supporting vibrant discussions on emerging global topics across scientific, academic and business communities. The portfolio is overseen by the CSIRO Science Council, with outcomes and impact reported in the annual CSIRO Science Health and Excellence report, which can be found in our reporting suite: csiro.au/reportingsuite2024.

Competitive rounds for each program are held each year. In 2023–24 there were:

- 34 PhD top-ups
- 24 CSIRO Early Research Career (CERC) Fellowships
- 5 Julius Career Awards
- 5 cutting-edge symposia.

In addition to the 9 CSIRO Science Leaders engaged by us at the beginning of 2023–24, one new Science Leader commenced in the period, with a further 2 Science Leaders aligned to priority research areas approved to commence/be recruited in 2024–25.

The portfolio and programs undergo continuous review to ensure they remain relevant to our needs and that changes in the internal and external ecosystem are considered.

Our **CSIRO Early Research Career (CERC) Postdoctoral** and **Engineering Fellowship program** provides a differentiated learning, development and training program to develop future leaders of the innovation system. These Fellowships enhance the research and leadership capability of PhD and Engineering masters graduates to equip them for a career in research or beyond.

Figure 1.3 shows the number of CERC Fellows at 30 June each year. As a result of the **'Impossible Without You'** recruitment campaign, which was targeted at attracting early-to-mid-career research talent within Australia, the CERC Fellow numbers have increased to a new high of 496 positions (10 per cent increase from 2022–23). This pipeline of early career talent is exposed to, and promotes, our science and engineering capabilities. It also provides valued succession planning, as well as highly skilled and independent researchers for the wider innovation system. As Fellows have concluded their terms and new Fellows have been appointed during the year, a total of 577 different Fellows in total have been employed throughout the year. On 30 June, we also had 10 Affiliate Postdoctoral Fellows engaged with us.

The **Impossible Without You program** has followed the successful recruitment campaign in the previous year with supporting services for early-mid career researchers. We have continued to provide the enhanced orientation program for new starters, in boundary spanning cohorts, to accelerate their adaptation to working at CSIRO and catalyse multidisciplinary collaboration.

We have also facilitated learning and development opportunities, including in-person impact communication workshops delivered by our ON Program.

Our inaugural **Enterprise Services Graduate Program** commenced 5 February 2024, with 33 graduates. The 18-month structured development program that invests in entry level talent for all Enterprise Unit functions and provides us with a sustainable pipeline of next generation talent. The graduates undertake three 6-month rotations supported by a buddy, mentor and rotation leaders.

Leadership

Our Leading@CSIRO Framework has established clear behavioural expectations and developmental guidance for our leaders. The framework underpins our leadership development programs, which aim to cultivate capabilities and behaviours, and a safe, inclusive and collaborative culture.

Our frontline leadership program, **Leading@CSIRO micro-labs**, has been refined to align more closely with the 6 capabilities in the Framework, offering leaders face-to-face opportunities to build cross-unit relationships. The Leading for Impact program, now underway, is being delivered to 2 cross-unit cohorts of Group Leaders to build their capability to lead other leaders. It includes topics such as emotional intelligence, change and transition, coaching and cultivating performance, and adaptive leadership. Work is currently underway to develop a program to support our Research Directors (and equivalent roles) in building enterprise leadership capability.

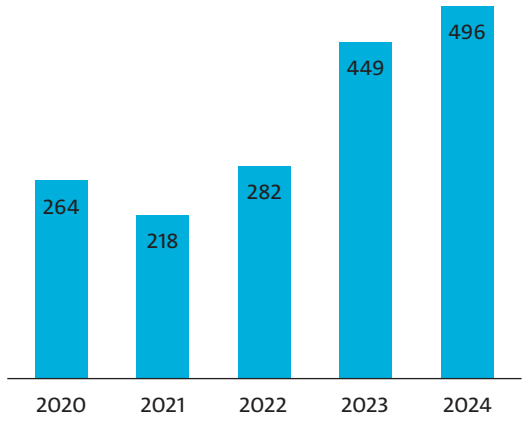


Figure 1.3: CERC Fellows historical trend 2020–24

Elevate is our targeted talent development experience for high-potential senior leaders. In its third year, Elevate is focused on accelerating readiness for critical enterprise leadership roles, that is, Executive Director and Unit Director roles. A key program focus is on building greater individual and collective leadership impact and amplifying this impact across the organisation. Spanning 9 months, Elevate is a transformative, best-in-class senior leadership development experience, anchored in the real opportunities and challenges of enterprise leadership. Elevate 2024 is underway with 17 senior leaders from across CSIRO, supported by strong Board and ET sponsorship and engagement and a vibrant program alumni network.

Learning

The Learning Academy embodies our innovative spirit by transforming our approach to learning and professional development. It provides our people with the resources they require to build their skills and perform at their best.

This year, our staff engaged in 134,543 hours of learning and development in our Learning Management System. Of that time, 21,159 hours were dedicated to mandatory compliance training, achieving a 90 per cent compliance rate. This mandatory training was primarily assigned to our 1,050 new starters, ensuring they are equipped with essential knowledge and skills from the moment they join CSIRO. Our commitment to structured and impactful learning was further demonstrated by 5,481 of our people completing an annual performance agreement (APA) in the last performance cycle.

Our training has been nationally recognised by receiving 2 LearnX Platinum Awards for our Privacy 2022 eLearning Module and the EASIhub onboarding module. These awards validate our approach to creating valuable and effective learning experiences.

Building STEM pipeline

We are growing Australia's future STEM capability through our education and outreach programs. In 2023–24, we engaged over 100,000 primary, secondary and tertiary students and 6,800 educators nationally across our 18 innovative, curriculum-aligned, culturally-responsive and evidence-based education and outreach programs. This year we have actively collaborated across CSIRO to develop:

- educational content that showcases our research, skills and facilities to young people
- connections with our scientists via participation in outreach opportunities with teachers, students and community groups.

We have also continued to build an extensive network with over 200 STEM organisations and community partners that provide opportunities for collaboration and contribution beyond CSIRO.

STEM Professionals in Schools brings real-world STEM into Australian classrooms through bespoke industry-education partnerships. Supported by the Australian Government Department of Education, the program supported 831 partnerships in 664 schools in 2023–24. It connected 1,131 teachers and 953 STEM professionals from more than 320 organisations across Australia. Over 43 per cent of partnered STEM professionals were women, providing visibility of positive female role models in STEM, and 27 per cent of partnerships were in regional and remote areas.

Generation STEM is a 10-year initiative funded by a $25 million endowment from the NSW State Government to SIEF. It attracts, supports and retains NSW students in STEM in further education and employment. The initiative facilitates the following programs:

- **STEM Community Partnerships Program (STEM CPP)** provided opportunities for 4,136 industry-student interactions across over 100 activities and events, including work experience, site visits, careers events and showcases. In 2024, a total of 115 schools and 4,051 students had participated in the first half of the year.

- **Deadly in Generation STEM** engaged 88 students and 56 teachers from 24 schools and 25 STEM professionals in teacher professional learning and student activities to increase the participation of NSW Aboriginal and Torres Strait Islander students in STEM through Culture and on Country activities. In 2023, Deadly in Generation STEM delivered its first Student STEM Camp engaging 17 local Aboriginal students and 5 student ambassadors from the previous year's immersion days.
- **Generation STEM Links** supported by the NSW Government through SIEF, places undergraduate and VET students in paid industry-based placements across New South Wales. In 2023–24, the program facilitated 64 placements in STEM businesses. Over 79 per cent of students have been offered ongoing employment within the host organisation after completion. With over 92 per cent of students being from underrepresented groups, Generation STEM Links increases access for underrepresented students to engage in paid STEM internships.
- **Evidence X** aims to bridge the evidence gap within the STEM ecosystem by providing current, accessible and practical information for the design, implementation and evaluation of STEM programs. A collaboration process was undertaken in 2023–24 to co-design the Evidence X 'solution'.

The **Young Indigenous Women's STEM Academy** celebrated having 600 young women participating in the Academy. Funded by the National Indigenous Australians Agency, and delivered in partnership with CareerTrackers, in 2023–24 the Academy enabled the following:

- A delegation of young women attended the Voices Shaping the Future – Wiyi Yani U Thangani Workshops to contribute to the creation of the First Nations Gender Equality Institute.
- Several young women hosted a yarning circle for the United States Special Envoy for Global Youth Affairs Abby Finkenauer.

The first 2 cohorts of young women (recruited in Year 8) have completed Year 12, achieving a 96 per cent retention rate, compared to the national retention rate for Indigenous female students of 63 per cent (Australian Institute of Health and Welfare, 2023). Twenty-seven young women have graduated from university and are undertaking higher education studies or working in their chosen STEM field. Two of these young women have joined our Graduate Program.

In 2023–24, the **Virtual Work Experience Program** included 3 streams: CSIRO, Defence Industry and Generation STEM. Overall, 152 students from 110 schools participated across 27 STEM projects that covered areas such as scientific computing and coding, mathematical modelling, genetics, geoscience, publishing, marine research, data librarianship, medicinal chemistry/drug development, analytical chemistry and synthetic organic chemistry.

The **Digital Careers** initiative funded by the DISR from 2021–23 closed in early 2024, having engaged 171,145 students, 8,274 educators, 2,642 schools and 159 industry professionals. The program has successfully promoted student interest in digital careers, and the development of foundational skills required for an ever-changing digital world, and teachers to deliver the Australian Curriculum: Technologies.

The **Creativity in Research, Engineering, Science and Technology (CREST)** program builds teacher capacity to facilitate open STEM inquiries. This year, CREST engaged 263 schools and 2,170 students completed investigations in science, technology, and engineering projects.

Living STEM (presented in partnership with Chevron Australia) supports teachers and schools to embed Indigenous STEM knowledge through inquiry-based learning and has increased Indigenous and non-Indigenous students' participation and performance in STEM. In 2023, the program engaged with 10 schools in Karratha, Western Australia with over 80 guests gathering in Karratha in November to showcase and celebrate their Living STEM journey. In 2024, it expanded to 22 schools in 3 clusters across the Pilbara. In addition to workshops, class visits and online supported activities, the program actively supports schools to reach out and engage with local community groups.

Resources and programs drawing talent into CSIRO

The opportunity

For over 40 years, CSIRO has been developing and delivering high-quality science, technology, engineering and mathematics (STEM) education resources and programs for Australian teachers, students and communities. To ensure the effectiveness and impact of these programs continuous rigorous measurement is essential.

The solution

A survey was sent out to 425 CSIRO Early Research Career (CERC) Postdoc or Affiliate Postdoc researchers working at CSIRO in 2023. Fifty-eight CERCs completed the survey, resulting in a response rate of approximately 13 per cent. While the sample size was modest, the survey results presented some suggestive findings.

The impact

Results highlighted the correlation between student attitudes towards STEM and their confidence in their abilities and desire to pursue a STEM career. In addition, education and outreach programs that focus on STEM educators and community outreach may be effective given the reported influence of family members and educators on survey respondents' desire to pursue STEM careers. The survey results provide evidence suggesting that our resources and programs draw talent into CSIRO. Twenty-nine per cent of CERC respondents reported having used or participated in one of our school resources or programs compared to the estimated reach of those programs to the general Australian population (averaging at 150,000 students per year out of 7.8 million youth aged 5 through 19 living throughout Australia[4]). Anecdotally, participants reported their desire to pursue a STEM career at CSIRO was influenced by the Virtual Work Experience Program, Generation STEM initiative, receiving PhD support, and having mentors. *Double Helix* magazine, by CSIRO Publishing, was noted as the best known and most positively influential CSIRO school resource or program asked about.

Participants in the Young Indigenous Women's STEM Academy at Curtin University in Western Australia.

4 Australian Bureau of Statistics, "Regional population by age and sex, 2022," 2023.

Tertiary students

We collaborate with universities, industry and other stakeholders to provide postgraduate studentships, undergraduate traineeships and vacation studentships to strengthen Australia's STEM pipeline.

Our tertiary student programs provide students with the opportunity to work on research projects that provide meaningful learning and development opportunities and supports the increasing demand for STEM capability within Australia. With an emphasis on providing increased collaboration with industry, our programs provide a pathway for students looking for careers outside of academia. In 2023–24, we supported 1,507 undergraduate and postgraduate students through our programs.

Table 1.5 demonstrates student engagement over the past 5 years. The number of students fluctuates within a year and across years, as students start and finish programs at different times of the year. Our student numbers have increased slightly, with a particular increase with postgraduate studentships that we sponsored and supervised. This increase can be attributed in part to the success of the Next Generation scholarship program and Industry PhD Program (see page 26).

Table 1.6 provides a breakdown of the number of students that we supervised, or both supervised and sponsored. These numbers represent a point in time as at 30 June 2024, as distinct from the total number of students over the course of the whole year.

Table 1.5: Our students over the past 5 years

TYPE OF ENGAGEMENT	2019–20	2020–21	2021–22	2022–23	2023–24
Undergraduate students	500[1]	408[2]	371[3]	394[4]	432[5]
Postgraduate students	1,380	1,094	1,022	1,011	1,075
Total	1,880	1,502	1,393	1,405	1,507

1: includes 165 vacation students. 2: includes 201 vacation students. 3: includes 194 vacation students.
4: includes 203 vacation students. 5: includes 207 vacation students.

Table 1.6: Our supervised and sponsored students at 30 June each year

	2020	2021	2022	2023	2024
Sponsored and supervised postgraduates					
PhD	471	435	412	429	451
Masters	8	17	18	17	13
Subtotal	479	452	430	446	464
Supervised postgraduates (not sponsored)					
PhD	311	243	210	203	203
Masters	76	65	51	71	39
Subtotal	387	308	261	274	242
Subtotal postgraduates	866	760	691	720	706
Undergraduates					
Industrial trainees	44	52	38	46	44
Honours students	41	39	20	39	41
Subtotal	85	91	58	85	85
Total tertiary students	**951**	**851**	**749**	**805**	**791**

Our Undergraduate Research Opportunities Program (UROP) facilitates paid placements for undergraduate students at biomedical research organisations in Victoria. The program aims to build and strengthen the nation's STEM pipeline by training the next generation of biomedical scientists and bridging the skills gap between university education and a career in scientific research.

Over 530 students applied for a placement in 2023–24 and 20 students were placed into various Victorian biomedical research teams at the Australian Regenerative Medicine Institute, CSL, Murdoch Children's Research Institute, Peter MacCallum Cancer Centre, RMIT, St Vincent's Institute of Medical Research, WEHI and CSIRO.

Greater adaptiveness

We operate with 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.

Adapt CSIRO's Ways of Working

We have adapted and improved our ways of working with the aim of aligning our impact focus, streamlining processes, creating a culture of empowerment, and enabling greater collaboration, supported by digital systems and insights.

This year we shifted the focus of our 'Ways of Working' program to two areas:

1. The Enterprise Services (ES) Reform, which targets changes in the way work is carried out across our Enterprise Services functions.
2. A series of business projects designed to simplify or improve how work is achieved in our People function. This includes onboarding, global mobility, individual performance technology improvements (APA system) and people services (process automation).

Delivery against Statement of Expectations in Objective 3

ADVANCING GOVERNMENT POLICY PRIORITIES	Advancing First Nations Science
ORGANISATIONAL PERFORMANCE	Legislative requirements; effective and efficient use of staff and resources; health and wellbeing of staff; pursuing and retaining talent.
PROMOTING STEM	Promoting careers and career paths for early career researchers, students, research and technical staff; communication of CSIRO science and research.

Objective 4

World-class infrastructure

We are sharing our world-class national labs and facilities with industry, universities and government.

Shared national labs

We open and share our world-class infrastructure with industry, universities and governments to strengthen Australia's sovereign research capability.

Innovation hubs, ecosystems and precincts

We implement strategically directed innovation hubs such as the National AI Centre, providing global level capability and infrastructure to support the nation's researchers and development of our industries in a sustainable manner.

Our innovation hubs help Australian research and industry collaborate and connect better. We have several precincts that create a mutually supportive culture utilising shared resources and infrastructure for R&D.

We regularly evaluate the collaborative use of these facilities. In 2023–24, we assessed the operative frameworks, business and partnership models for the Hydrogen Technology Demonstration Facility, the Indo-Pacific Plastics Innovation Network and the Australia e-Health Research Centre.

The assessment and evaluations outlined key aspects of the current operative frameworks for those facilities/programs and supported the identification of gaps or potential opportunities to evolve current approaches.

Established in 2021 following the launch of our Hydrogen Industry Mission, our **Hydrogen Technology Demonstration Facility (HTDF)** is situated within our site at Clayton, Victoria. It boasts 66 square metres of internal floor space and a total volume of 627 cubic metres, with a ceiling height of 13 metres. The facility consists of several purpose-built 6 by 4 metre demonstration bays, featuring multiple fit-for-purpose research projects such as the cryogenics facility, high temperature hydrogen electrolyser facility and chemical hydrogen production facility. There is also a hydrogen vehicle refueller located externally to the HTDF in Clayton, Victoria.

The HTDF was established to serve as a hub for producing and developing industrial technology and technological solutions and validating hydrogen value chain projects.

The HTDF stands as one of the 4 main pillars of our hydrogen industry program, equipping researchers, engineers, SMEs, universities and investors with extensive knowledge in hydrogen research, such as hydrogen generation, separation, purification, storage and transport.

Functioning as an Innovation Hub, the HTDF fosters crucial collaboration within our hydrogen industry program ecosystem. Currently, the focus lies on project partnership with interested parties in the hydrogen development phase through our program. Additionally, it provides dedicated support for projects led by other teams within CSIRO and hydrogen start-ups.

Exceeding expectations, the facility has secured $2.3 million in funding for the Hydrogen Refueller and has established networks with over 15 stakeholders for various hydrogen projects.

With the support of our hydrogen industry program, the HTDF aims to support business in the renewable energy ecosystem by accelerating the development and demonstration of their technology. The vision is to create a thriving hydrogen ecosystem co-located at the HTDF, facilitated by partnership services and property leasing to like-minded companies.

The **Indo-Pacific Plastics Innovation Network (IPPIN)** is a collaborative regional network designed to bridge the gap between research, entrepreneurship and investment to redefine the plastic lifecycle and create a circular economy. Launched in 2021 after the successful establishment of an innovation hub to address marine plastics, IPPIN hosts chapters in Indonesia, Thailand and Vietnam, with emerging chapters in Laos and Cambodia. Led by CSIRO, the IPPIN incentivises the acceleration of deep-tech research and the development of new pathways for research impact for both countries.

A co-design process considering strategic partnerships and regional sensitivities was undertaken in 2022. This was followed the same year by the launch of a pilot program in Vietnam via the Aus4Innovation program co-funded and managed by us, alongside a broader Mekong sub-regional co-design process supported by DFAT. In 2023, full Hub programs were in operation in Indonesia, Vietnam and Thailand.

The IPPIN's establishment supports the design and scale-up of disruptive technologies to shift the dial on plastic waste across the Indo-Pacific region.

It aims to support the identification of deep-tech innovation opportunities that can tackle plastic waste; enable the translation of real-world solutions; boost innovation capabilities; enhance stakeholder collaboration; leverage existing (and attract new) investments; and support our Ending Plastic Waste Mission vision to reduce 80 per cent of plastic waste entering the Australian environment by 2030.

Signs of impact are already showing with significant investment in start-ups and SMEs ($150,000 average and $1.5 million total investment pool from those start-ups); investment into Hubs ($11 billion across 3 internationally) and considerable engagement (1,350 people involved in over 18 workshops in 5 different languages). Longer-term outcomes will seek to achieve more significant impact. By 2032, the IPPIN would like to achieve impact such as the use of evidence-based decision making as standard; a measurable reduction in plastic waste entering the environment through substitution and material recovery; and the development of an industry-based pipeline of critical skills and expertise for R&D-based innovation.

The **Australian e-Health Research Centre (AEHRC)** is a national digital health research program established in 2003, with the QLD Department of State Development, to develop and apply digital health solutions to the challenges of creating a robust health IT infrastructure.

The initial vision of the AEHRC was to develop and deploy leading-edge digital innovations in the healthcare domain to improve service delivery, support clinical research, generate commercialisation revenue and expand on digital health expertise in Australia. The original strategy aimed to increase science outcomes and be recognised in the top 3 e-Health research centres globally. Increasing impact through proprietary technology adoption, developing new areas of impact, increasing commercial outcomes and continuing to grow the centre across Australia round out the 5 goals to support delivery of that vision. Such impact is being realised with an average of $5 million annual revenue; the publication of 93 journal articles in 2021–22; more than 120 IP registrations valued at $2 million of revenue; and receipt of numerous awards by the centre and its researchers.

The Centre has the expertise to capture, treat and analyse medical data; genomic and imaging technologies to extract and interpret information from captured images and genomic sequences; new technology to support clinical and healthcare interventions; and simulation and program technology for clinical staff training and accreditation.

To ensure its research focus and connections to the ecosystem remain current, the centre conducts extensive outreach, engaging stakeholders at events such as the Australian e-Health Colloquium and Connectathons (co-design workshops), maintaining a media presence, and exploiting the benefits of physical proximity (co-location in health precincts).

The current focus of the AEHRC is to maximise access to technology, noting that the COVID-19 pandemic has changed the priorities of healthcare dramatically. Looking to the future, the centre will need to capitalise on its unique position at the nexus of digital technology use across healthcare and clinical research. Challenges unique to Australia such as Aboriginal and Torres Strait Islander health outcomes and our ageing population are acknowledged and built into the centre's new strategy. Areas of impact going forward include transforming healthcare and healthcare delivery with data, AI and virtual care; improving health system efficiency and readiness with digital health; and expediting the transition to precision health.

The goal by 2027 is that the AEHRC will have delivered technologies that are enabling the digital transformation of healthcare and the use of precision health in delivering healthcare in Australia and around the world.

From July 2024, the **National AI Centre (NAIC)** will reside within the Department of Industry, Science and Resources (DISR) and no longer within CSIRO.

The National AI Centre (NAIC) was led by us on behalf of the Australian Government to further develop Australia's AI and digital ecosystem.

To support scaling AI literacy and responsible AI across Australia, NAIC launched Australia's inaugural AI Month in November/December 2023, with over 70 events delivered nationwide.

AI Month also saw the delivery of the second AI Leadership Summit for 2023, the delivery of an AI Industry Day, the launch of the second AI Ecosystem Report for 2023, and the establishment of 2 responsible AI mega-projects that gathers Australia's AI ecosystem expertise to develop template approaches to AI strategy, governance, and responsible AI implementation.

In partnership with the Institute for Applied Technology–Digital, NAIC launched a 'Million Microskills' promotion, allowing a million free enrolments in an introductory AI course. Over 10,000 Microskills were completed in the 2 weeks following launch.

Landmark infrastructure upgrades

The **Australian Centre for Disease Preparedness** (ACDP) Part-Life Refit project aims to refurbish the existing ACDP facility and infrastructure services to ensure CSIRO can continue to prevent and respond to exotic and emerging animal and zoonotic diseases in Australia well into the future. Due to the complex and unique design criteria and regulatory requirements of the facility, along with an increase in the cost of goods and services in Australia, the project's scope and budget have been reviewed.

Construction of the new **National Research Collections Australia** building in Canberra is nearing completion, allowing our wildlife, insect and wet collections, most of NRCA's digital equipment and staff to be relocated and operational by early 2025. Our digitisation process has significantly progressed this year with all Australian National Herbarium (ANH) specimens now imaged for access through the Data Access Portal (late 2024). Migration of databased insect collections was completed in January. This will be followed by the ANH's larger data sets in mid-2024.

In 2024, the **Pawsey Supercomputing Research Centre** completed its commissioning of Setonix, a state-of-the-art HPE Cray EX supercomputer housed at Pawsey Centre. The system is built on the same architecture used in alternative exascale supercomputer projects, including Frontier at Oak Ridge National Laboratory and LUMI at CSC Finland. Setonix is the most powerful research computer in the southern hemisphere and the world's fourth greenest supercomputer as ranked in the TOP500 and Green500 lists.

The SKA Project

We continue to manage the site of the international SKA Observatory's SKA-Low telescope, Inyarrimanha Ilgari Bundara, our Murchison Radio-astronomy Observatory, on Wajarri Yamaji Country in Western Australia.

The SKA Observatory (SKAO) is partnering with us to build and operate the SKA-Low telescope, currently under construction alongside the existing observatory facilities. The SKA-Low team, 80 per cent of which are CSIRO employees, has grown substantially with almost 75 staff from both organisations now working across Perth, Geraldton and Murchison.

We also contribute to the global SKA design and construction effort through multiple SKA construction contracts alongside industry and research organisation partners.

This year there has been substantial progress on the SKA-Low telescope, including clearing land, trenching, laying power and fibre, and installing the first of the telescope's 131,072 antennas. Temporary accommodation for construction team members was replaced by a 176-bed purpose-built camp. The camp village was gifted a traditional Wajarri name, Nyingari Ngurra, which means 'home of the zebra finch'.

Significant national infrastructure

Australian Centre for Disease Preparedness

The Australian Centre for Disease Preparedness (ACDP) is a high-containment facility designed to allow scientific research into the most dangerous infectious agents in the world. ACDP research helps protect Australia's multi-billion dollar livestock and aquaculture industries, and the general public, from emerging infectious disease threats.

In 2023–24, ACDP research provided valuable insights to veterinarian authorities and the Australian poultry industry following an unprecedented multi-strain (H7N3, H7N9 and H7N8) outbreak of the highly pathogenic H7 avian influenza in Victoria, New South Wales and the ACT. Three separate outbreaks at once was unprecedented in Australia, and raised concern for biosecurity containment measures in place. Scientists at ACDP ran more than 2,700 tests on samples from all locations, analysing the genome sequence of each sample. By comparing genetic code, they could see the strains were not closely related to each other, but were more closely related to low pathogenic strains in Australian wild birds. Thus each outbreak was likely to have spilled over from wild birds separately.

ACDP has also joined forces with US biotech firm MBF Therapeutics to evaluate their novel DNA vaccine candidate for African swine fever. ACDP is one of the few labs in the world that can safely work with the virus. Our expertise in the field of African swine fever, combined with MBF Therapeutics' innovative T-Max Precision vaccine platform, provides an opportunity to work towards a truly safe and effective African swine fever vaccine.

This year, ACDP continued to maintain compliance with the applicable Australian legislation and regulations, and international Organization for Standardisation accreditations following 4 external re-assessment audits late 2023 against the requirements of ISO9001, ISO14001, ISO17025 and ISO17043.

Auditors remain confident in the facility's quality and environmental management processes and confirmed ACDP's continued accreditation/certification in all areas. They commended ACDP's integration of the 2 management systems (ISO 9001) and (ISO 14001) into a single overarching framework that assures continued delivery of trusted science in a compliant, efficient, and environmentally responsible manner, as well as ACDP's commitment to continually improving the framework to ensure optimal efficiency and effectiveness.

Australia Telescope National Facility

Australia Telescope National Facility (ATNF) develops state-of-the-art radio astronomy instrumentation and operates world-class telescopes for use by Australian and international astronomers based on scientific merit without charge to the end user. A total of 248 refereed papers using observations from ATNF or co-authored by ATNF staff were published in 2023. ATNF facilities also support commercial space tracking activities.

Observing time on the **Murriyang telescope at Parkes Observatory** is allocated competitively by scientific merit through the ATNF Time Assignment Committee, which meets twice per year. A majority of Committee members are Australian researchers external to CSIRO. A total of 108 proposals for observing time were received in 2023–24. Australian astronomers were awarded 49 per cent of the available time and overseas-based astronomers 51 per cent in the year ending March 2024. The large 64-metre-diameter dish and sensitive instruments on Murriyang played a vital role in tracking the Intuitive Machines-1 mission, the first US vehicle to softly land on the Moon since 1972.

Observing time on the **Australia Telescope Compact Array (ATCA)** is also allocated competitively by scientific merit, through the ATNF Time Assignment Committee. A total of 104 proposals for observing time were received in the year ending March 2024. Australian astronomers were awarded 42 per cent of the available time at the ATCA and overseas-based astronomers 58 per cent.

The great majority (95 per cent) of observing time on the **Australian SKA Pathfinder (ASKAP)** is allocated to the major all-sky surveys for which it was constructed. Nine large survey teams comprising around 800 astronomers from 206 institutions in Australia and overseas applied for time in 2021. Allocation of time is made according to the recommendations of an international review panel convened in 2022 to assess these proposals.

ATNF additionally started accepting Guest Science Proposals (GSPs) during 2023–24, comprising the remaining 5 per cent of observing time. In the first such proposal round, ATNF received 7 proposals from 31 Australian and 5 overseas-based researchers.

Earth Observation

We are globally recognised for our capabilities in **Earth Observation (EO)** data analytics and applications development. Our EO infrastructure and facilities supporting this capability include the NovaSAR-1 satellite national facility, unique southern hemisphere satellite calibration and validation facilities, and the alternative EASI data analytics platform. In 2023–24, the **NovaSAR-1 satellite national facility** provided access to more than 3,500 satellite images for almost 600 users from 49 countries and commenced 14 new imaging projects. NovaSAR-1 provides novel S-band SAR (Synthetic Aperture Radar) images to complement other satellite image data used in research and decision making, and in 2023–24 all NovaSAR-1 archive data covering Australia has been processed and made available as 'Analysis Ready Data' (ARD) to the international CEOS-ARD standard, a form which allows immediate analysis with a minimum of additional user effort and interoperability both through time and with other datasets. Images from NovaSAR-1 have been used for applications linked to climate, environment and disaster management, and in 2023–24 NovaSAR-1 imagery was acquired to monitor 8 separate instances of bushfires, storms/floods and landslides across Australia.

The **Earth Analytics and Science Innovation (EASI)** platform provides access to thousands of satellite products comprised of millions of satellite images from decades of global Earth observation. EASI delivers science outcomes with national scale impact for the Australian Government through projects such as the National Bushfire Intelligence Capability and the Habitat Condition Assessment System. See Impact Case Study on page 43.

National Collections and Marine Infrastructure

In 2023–24, the **Marine National Facility (MNF)** met the objectives of 8 research voyages for 4 research organisations. One of these voyages marked a significant milestone for RV *Investigator* – setting sail for the 100th time.

Another voyage highlight was the International Nutrient Inter-Comparison Voyage (INIV) to the Southern Ocean on RV *Investigator* to assess the variability in global ocean nutrient measurements. Over 14 leading international agencies from 12 countries participated. The voyage has enabled global ocean nutrient datasets to now be used in tandem and has progressed best-practice approaches in nutrient measurements at sea. The voyage was endorsed and supported by the United Nations Decade of Ocean Science.

RV *Investigator* also undertook the longest science voyage conducted by a CSIRO research vessel to date, resulting in one of the most comprehensive datasets ever collected in the Southern Ocean. We partnered with the Australian Antarctic Program Partnership to travel south from Hobart, west along the Antarctic ice edge, then north to Fremantle, over 60 days and 12,000 kilometres. At the pre-planned sampling stations, RV *Investigator* collected 100 vertical profiles of ocean properties by lowering and raising equipment that travelled about 700,000 metres through the water, at one metre a second.

The MNF's **Engineering and Technology (E&T) Program** has enabled our multidisciplinary marine research through development of key science and observation systems and digital products and tools for the Australian marine research community and commercial partners. A major focus this year was on the extension of work for the Integrated Marine Observing System (IMOS), which provides sustained marine observation data for Australia to scientists, students, industries and other stakeholders for their use in research and operational activities. This national infrastructure has been extended until 2028, with all major programs continuing, extending collaboration with the Australian Institute of Marine Science, Curtin University and other partners. The E&T also undertook 2 projects with the Australian Antarctic Division this year for their Research and Supply Vessel (RSV) *Nuyina*.

This year, the **Atlas of Living Australia (ALA)** and National Research Collections Australia welcomed the international biodiversity data community to Australia by hosting the Biodiversity Information Standards (TDWG) annual conference in Hobart and the 30th meeting of the Global Biodiversity Information Facility (GBIF) Governing Board in Canberra. We have a long history of association with both organisations, having been involved with TDWG and GBIF since they were established in 1985 and 2001 respectively. This year, the ALA released the Australian Reference Genome Atlas and the Australian Virtual Seedbank platform. It also refreshed the ALA's taxonomic backbone in consultation with the Australian Biological Resources Study and the Australian Plant Census. A second round of the ALA's Australian Biodiversity Data Mobilisation Program funded 6 new projects to support our sector to provide open biodiversity data to the ALA.

Supporting Australia's fire safety ecosystem

The opportunity

Australia has experienced a rapid increase in tunnel infrastructure for transportation since the Sydney Harbour Tunnel opened in 1992. Fire safety is a fundamental consideration for tunnel infrastructure. Fire incidents in tunnels are a major risk because of their potential severity, danger to human life and impact on structural integrity. Testing for fire safety is therefore crucial to ensure confidence in our tunnel infrastructure.

The solution

Our Infrastructure Technologies program offers a suite of services in fire safety testing, certification and consulting for tunnel projects, including for tunnel liners, ventilation systems, fire detection and alarm systems, fire suppression systems, emergency lighting and signage systems, rolling stock and communication systems. Infratech's Laboratories in North Ryde, NSW and Clayton, VIC, have facilities, equipment, and capabilities to conduct testing and consulting services to assess fire safety for tunnel infrastructure components. In this way, we help to ensure that tunnels are resilient in response to fire incidents, thereby limiting damage and repair costs, and ensuring public safety for tunnel passengers and the surrounding public. Infrastructure Technologies also supports the development of fire safety test methods and standards through broad representations with Australian and international standard-setting organisations.

The impact

A recent independent evaluation found that the work by Infrastructure Technologies provides confidence to authorities and the public that Australia's tunnel infrastructure is safe to use. Stakeholders are provided with increased confidence in mitigating project risks associated with public safety, project longevity and resilience to extreme events. The contribution by Infrastructure Technologies towards industry standards and testing procedures creates a more efficient planning and construction process for contractors and state authorities. Infrastructure Technologies also serves as an industry leader for fire safety, ensuring that Australia retains national institutional knowledge about fire safety testing, design and engineering.

The evaluation found that Infrastructure Technologies fire safety, testing and certification services have resulted in a Benefit-Cost Ratio of 9.7 for the period 2015 to 2023. This means that for every $1 invested in the services provided, there are economic, environmental and social benefits of $9.70. Future projections indicate that the benefits from Infrastructure Technologies could be larger as the economic value of planned tunnel projects continues to grow.

CSIRO fire safety engineering team conducts AS 4391 Hot Smoke Tests as part of commissioning requirements for major road and rail tunnel infrastructure across Australia.

National Research Collections Australia (NRCA) is home to 15 million research specimens, supporting the discovery and characterisation of Australia's unique biodiversity. This year, the Australian National Wildlife Collection (ANWC), supported by our CSIRO researchers, invented a technique that surveys historical gene expression via chromatin architecture profiling. This has transformed ANWC's wet collection into a comprehensive and global record of environmental impact on gene expression and phenotype. This new data stream provides essential context for estimating the resilience of contemporary populations to future environmental threats and may reveal the full repertoire of rapid evolutionary responses to challenges, such as climate change and new and emerging pests and pathogens.

Pawsey Supercomputing Research Centre

In 2023–24, the Pawsey Supercomputing Research Centre continued its program to develop a national test bed to advance quantum computing, receiving a $5 million grant from the Australian Government's National Collaborative Research Infrastructure Strategy (NCRIS) program. The 2-year pilot program allows Pawsey to extend its national supercomputing and quantum computing innovation hub. It has also enabled the installation of Australia's first NVIDIA CUDA Quantum platform accelerated by NVIDIA Grace HopperSuperchips. The platform is an open-source hybrid quantum computing service which features powerful simulation tools and capabilities to program hybrid CPU, GPU and QPU systems and additional tools for accelerating quantum computing workflows.

Research infrastructure

We develop collaborative research infrastructure integrated with digital technologies that optimise our safety, efficiency and scientific excellence.

Labs of the Future

We continue to build our Labs of the Future, transforming how we do research by integrating automation, robotics and sensors into our lab environment, as well as Machine Learning and AI, digital twins and cloud labs into our research process.

In early 2024, we launched a second round of small-scale infrastructure projects nominated by our scientists and engineers seeking to digitise and modernise their research processes in the lab and in the field. The learnings from these innovative approaches, alongside initiatives from our Digital Support for Labs program, are helping to define the requirements for modern research infrastructure and practices that inform our Labs of the Future roadmap.

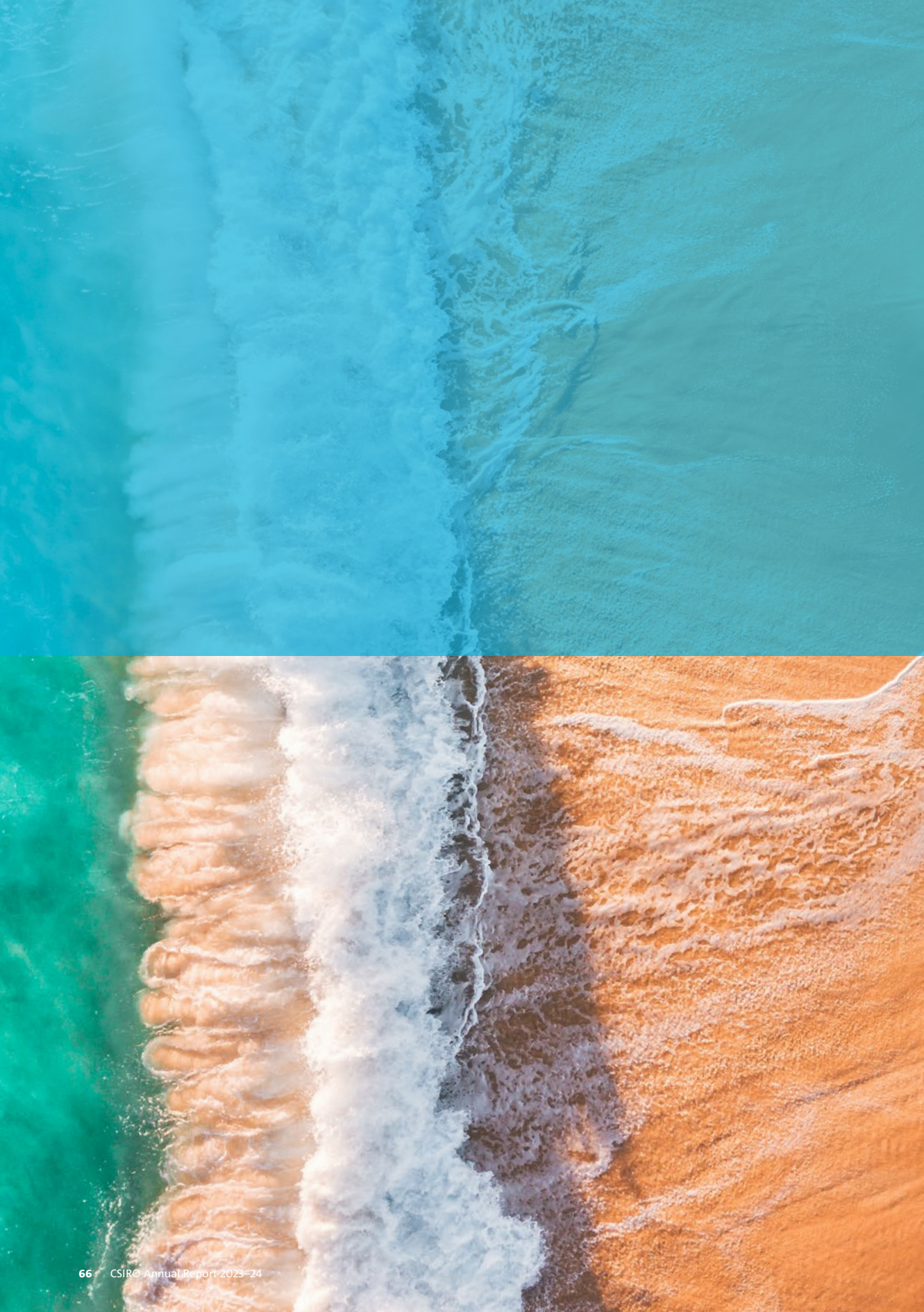
The **Digital Support for Labs (DSL) program** is discovering, testing and delivering smart approaches, infrastructure and technologies to our national labs by adopting digital technologies such as automation and remote access.

DSL is supporting our labs to adopt digital solutions. We integrate lab equipment with IT systems in a way that is cyber safe and compliant with international and regulatory agency requirements. We work to unlock the potential of the Internet of Things (IoT), robotics, augmented reality, and AI-assisted approaches to the scientific discovery and analysis that occurs in our lab facilities.

The solutions delivered by DSL are standardised across CSIRO labs to make it easier for researchers, instruments and data to move between labs facilitating collaboration. The program is delivering an enterprise Laboratory Information Management System (LIMS) for the whole of CSIRO to address the data management challenge. LIMS will help with lab accreditation and compliance, automate the collection of test data and make reporting easier. It will address and put in place controls to ensure the integrity and quality of data produced through our labs and facilities, while providing a sound base to build digital innovations in lab operations. During 2023–24, we have prototyped a solution to 3 of our labs, also implementing LIMS as the foundation for all our environmental sciences laboratories. We will adapt and take on lessons learnt from this as the rollout continues to the hundreds of labs and facilities that we will operate in the year ahead.

Delivery against Statement of Expectations in Objective 4

TRANSLATION AND COMMERCIALISATION	Managing research infrastructure; building industry connections; supporting the health of Australians.



Part 2

Annual performance statements

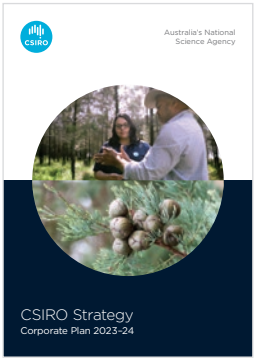
Introductory statement

The CSIRO Board, as the accountable authority of CSIRO, presents the 2023–24 annual performance statements as required under s39 (1) (b) of the *Public Governance, Performance and Accountability Act 2013* (PGPA Act). These annual performance statements are based on properly maintained records and accurately present our performance in achieving our purpose for the year ended 30 June 2024 in accordance with s39 (2) of the PGPA Act.

Ms Kathryn Fagg AO
Chair, CSIRO Board
29 August 2024

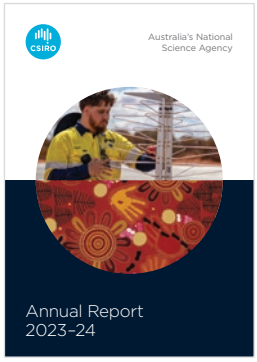
Our performance framework

CSIRO operates within the enhanced Commonwealth Performance Framework in accordance with the PGPA Act.



The PGPA Act requires each Commonwealth agency to produce a Corporate Plan at the beginning of the reporting cycle that sets out its purpose, strategies for achieving its purpose and how success will be measured. Our Corporate Plan 2023–24 is available at: csiro.au/corporate-plan.

Resources are provided to us through the Government budget process as documented in the Portfolio Budget Statements (PBS) for the Industry, Science and Resources Portfolio. The PBS states the outcome for CSIRO and includes high-level performance. The latest PBS for the Industry, Science and Resources Portfolio is available at: industry.gov.au/corporate-governance/budget-statements.



At the conclusion of the reporting cycle, agencies are required to produce an annual performance statement and assess the extent they have succeeded in achieving their purpose. We measured our performance using 11 key performance indicators, with 24 associated metrics, as stated in our Corporate Plan 2023–24 (pages 22–25).

The following section reports our results for 2023–24 against our purpose and performance criteria.

Our methods, data sampling and targets

Methodologies

1. Quantitative counts.
2. 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.
3. 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 evaluation processes 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 csiro.au by default, unless the report is commercial-in-confidence or policy sensitive, for example, where publication may prejudice a commercialisation process, where a government announcement is due related to the evaluation subject matter, or 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, we adopt a similar approach to align with this international standard and carry a global reputation of having a leading edge in the field.

Weightings

All metrics are equally weighted.

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.

Sampling

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: Programs are selected to reflect the breadth of activities undertaken by CSIRO and the type of research. This ensures a more comprehensive picture is available of the performance of our organisation (across provision of national facilities and infrastructure, education services, research, and different impact pathways, that is, commercial, policy, capability building and learning).

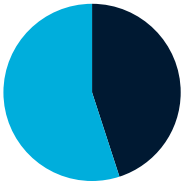
Significance (strategic importance): Programs of work that are strategically significant to the organisation and/or represent large investments (for example, large government initiatives, Missions, FSPs) all undergo impact assessments or evaluations at program close.

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.

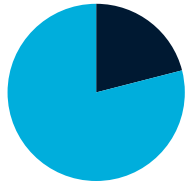
Target setting

All targets are endorsed by the CSIRO Board, with oversight by the Board Audit and Risk Committee (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. (BARC Charter: csiro.au/BARC.)

Analysis of our performance



55%
key performance indicators achieved



79%
individual metrics achieved

TOP PERFORMERS

ADOPTION AND UPTAKE

Achieved our highest result in 9 years for IP revenue
$61 million

Equity holdings grew $21 million to
$243.5 million

INDUSTRY COLLABORATION

1,801
SME engagements
301 over target (1,500)

204 organisations engaged in education programs
122 over target (82)

STAFF SAFETY

4,242 hazards and proactive reports
2,242 over target (2,000)

1.2 Total Reportable Injury Frequency Rate
1.3 under target (<2.5)

When assessing the overall performance of a KPI, those with single metrics are rated either 'achieved' or 'not achieved' in relation to meeting the target. For KPIs with multiple metrics, they are rated either 'achieved', 'partially achieved' or 'not achieved' regarding the collective effort in meeting each individual target.

Integrated performance reporting

This year we implemented an integrated performance framework and reporting cycle. This internal quarterly assessment process was initiated to provide better oversight to leadership of the strategic health of our organisation. The framework integrates several data sources to measure and track the progress of our Corporate Plan 2023–24 objectives. By implementing a more regular reporting cadence we have been able to course correct better where necessary and apply additional resources in the case of delayed performance.

Context of results

In 2023–24, overall, 6 (55 per cent) out of 11 KPIs were achieved, with 4 (36 per cent) partially achieved, and 1 (9 per cent) not achieved.

At the detailed metric level, we met or exceeded 19 (79 per cent) of the 24 metrics (including the 2 operational metrics), with 5 (21 per cent) metrics partially or not meeting set targets.

See the following pages for results and mitigation strategies for the metrics not meeting targets this financial year.

These results indicate we have been largely successful in delivering against our objectives and strategic priorities for the year, demonstrating a solid capacity to deliver against our purpose.

Metrics partially or not achieved

Metrics that have partially or not met set targets are outlined below.

KPI	METRIC	2022–23 TARGET	2022–23 RESULT	2023–24 TARGET	2023–24 RESULT
Objective 1. Deliver impact through innovation					
Enhance innovation translation	**Commenced, cohort growth and graduating iPhDs**	20	13	**30**	**23**
	Mitigation: To avoid the issues experienced this year with delays occurring between the awarding of scholarships and the commencement of studies we will be reporting to our funder (the Department of Education) the cumulative number of scholarships awarded rather than the number of students commenced. Aligning our Corporate Plan metrics to this methodology is also under consideration.				
Fewer, bigger things	**Cross-organisation engagement**	20	22	**20**	**19**
	Mitigation: While this metric still has some use as a measurement of internal collaboration, more suitable methods are under consideration, and it will not be carried into the next Corporate Plan.				
Objective 2. Purpose-driven science and technology					
Be Australia's trusted advisor	**Positive business sentiment**	75	80	**80**	**76**
	Mitigation: To achieve record results again, we will need to consider similar activities to those engaged in 2022–23. Prioritisation of communication and pipeline development programs will be reviewed as part of our 2024–25 Communication Strategy.				
Objective 3. Engage and empower talent					
Have a safe and inclusive workplace	**Staff sentiment – culture**	37th	43rd	**46th**	**37th**
	Mitigation: In response to the 2024 Culture Survey, it is expected that a CSIRO-level action plan (which addresses improvements in communicating our strategic direction and in ways of working through implementation of Enterprise Services Reform) will contribute to an uplift in our future results. Additionally, unit-level actions plans are expected to address local issues and are important to ensure ownership of our culture.				
Objective 4. World-class infrastructure					
Shared national labs	**Infrastructure usage rates**	ATNF 70% Paw. 90%	ATNF 65% Paw. 56%	**ATNF 70%** **Paw. 90%**	**ATNF 67%** **Paw. 55%**
	Mitigation: Pawsey has developed a plan to address issues on a long-term basis, including: • major upgrades to the Setonix Management System (implemented Q3/24) • tighter constraints on use of the scratch storage system (implemented Q2/24) • coordination between Pawsey and astronomy users (ASKAP and MWA) to improve the efficiency of application software, particularly in respect of data transport bandwidth (i/o) (ongoing) • the establishment of a Pawsey User Committee. Some of the above actions have been implemented late in 2023–24 and improvements in utilisation are already being observed with 81% utilisation of Setonix CPU's and 63% utilisation of Setonix GPU's for Q2/24. ATNF and Pawsey are working together at managerial and technical levels to address the HPC issues impacting ASKAP, the refurbishment program at Parkes will be completed in this financial year – both should address performance in the next reporting period. A new data acquisition system at the ATCA is due for installation in early 2025 to replace an ailing system.				

Our performance results

Objective 1: Impact translation

KPI: Demonstrated uptake and adoption with industry to support Australian innovation		
Metric: Total annual Intellectual Property (IP) revenue		
2023–24 target	**2023–24 result**	**Outcome**
≥$40 million	**$61 million**	**Achieved**

IP revenue performed steadily throughout the financial year with 43% of the target being realised in the first quarter and the total value reaching $61 million. This is an increase of $2 million on last year's result ($59 million) and our highest IP revenue total in 9 years.

The outcome is also derived primarily from Licence/Royalties, as opposed to the sale of IP. Therefore, the increase is theoretically $11 million on last year's total, as sales comprised $9 million of last year's total. Cotton royalties have increased by $5.8 million and overall growth is due to several new technologies experiencing commercial success and technologies that have shown increasing sales over recent years continuing that trend.

The number of new, non-revenue bearing licences has fluctuated over recent years, while the number of new revenue bearing licences has risen slightly over each of the past 4 years.

Trend data		
2022–23 result	**2021–22 result**	**2020–21 result**
$59 million	$35 million	$38.9 million
Forward year targets (align with Corporate Plan 2024–25)		
2024–25	**2025–26**	**2026–27**
≥$42 million	≥$42 million	≥$42 million
Type of data (S16EA(d))	**Methodology**	**Data source** (S16EA(b))
Quantitative	Quantitative count – $ million	SAP – Internal system
Quality assurance	**Monitoring**	
Chief Financial Officer	Quarterly reported to CSIRO Executive throughout FY 2023–24 as part of Quarterly Integrated Reporting Framework/Process.	

KPI: Demonstrated uptake and adoption with industry to support Australian innovation		
Metric: Value of CSIRO's equity holdings		
2023–24 target	**2023–24 result**	**Outcome**
$200 million	**$243.5 million**	**Achieved**

Our commercialisation and technology translation continues to play a leading role in the Australian innovation ecosystem with the value of our direct equity portfolio growing to $243.5 million in 2023–24. This is an increase of $21.5 million on last year's portfolio value.

Success has been driven by performance of listed investments, such as Chrysos Corp which saw significant increases in value due to increased PhotonAssay contracts and deployments. Shares were trading at or above $6 per share early in the reporting period, resulting in a $18 million valuation increase. Unlisted PaidRight Holdings Pty Ltd completed a $1.7 million fundraising round, generating over $1.2 million positive revaluation to the investment.

Trend data		
2022–23 result	**2021–22 result**	**2020–21 result**
$221.96 million	$160 million	$124 million
Forward year targets (align with Corporate Plan 2024–25)		
2024–25	**2025–26**	**2026–27**
≥$200 million	≥$220 million	≥$220 million
Type of data (S16EA(d))	**Methodology**	**Data source** (S16EA(b))
Quantitative	Quantitative count – $ million	SAP – Internal system
Quality assurance	**Monitoring**	
Chief Financial Officer	Quarterly reported to CSIRO Executive throughout FY 2023–24 as part of Quarterly Integrated Reporting Framework/Process.	

KPI: Enhance innovation translation with Australian industry including SMEs and external partners		
Metric: Normalised citation index at science field level		
2023–24 target	**2023–24 result**	**Outcome**
>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	**79% in top 2 quartiles** **61% in 1st quartile**	**Achieved**

We benchmark results in each of our major fields against a list of similar organisations unique to each assessment. This ensures a fair comparison that recognises the different roles science excellence plays in different parts of the organisation and overcomes several limitations in standard citation metrics. Our system, Reporting and Improving Science Excellence (RISE), considers our science to be excellent if we are ranked in the top quartile of peers, and strong to adequate if we are ranked in the 2nd or 3rd quartiles.

In 11 assessments, we were ranked in the top quartile of peers, representing excellent research. These units covered 61% of the publications that were included in the evaluation. In a further 6 assessments, we were ranked in the 2nd quartile of peers, covering 18% of the CSIRO publications that were included in the evaluation. In 4 assessments, we were ranked in the 3rd quartile (8% of publications). In only 3 assessments, we were ranked in the bottom quartile. This represented 13% of the CSIRO publications included in the evaluation.

Science is considered of an adequate standard to deliver impact if it is ranked in the top three quartiles of peers. However, our KPI this year is more ambitious: three-quarters of Units of Assessment should be in the top 2 quartiles, on a volume-weighted basis, with no less than 50% in the top quartile. CSIRO met this threshold with 79% in Q1-Q2 and 61% in Q1.

Trend data		
2022–23 result	**2021–22 result**	**2020–21 result**
87% in top 3 quartiles (20 out of 23 units)	N/A	N/A
Forward year targets (align with Corporate Plan 2024–25)		
2024–25	**2025–26**	**2026–27**
Each year – 75% top 2 ranks, no less 50% top rank		
Type of data (S16EA(d))	**Methodology**	**Data source** (S16EA(b))
Quantitative	Quantitative count – # of academic publication citations	Bibliometrics
Quality assurance	**Monitoring**	
Director, Science Impact and Policy	Quarterly reported to CSIRO Executive throughout FY as part of Quarterly Integrated Reporting Framework/Process.	

KPI: Enhance innovation translation with Australian industry including SMEs and external partners		
Metric: Participation in ON program to accelerate research		
2023–24 target	**2023–24 result**	**Outcome**
100	**101**	**Achieved**

We continue to build research translation skills for the nation through our ON Innovation Program. In 2023–24 the ON Program met its target of 100 teams (with a result of 101) participating via ON Prime 14 and ON Prime 15 and ON Accelerate 8. Of those 101 teams more than 83% were from the research ecosystem.

The Program also reached a milestone of over 5,300 participants through the program since its inception in 2015, this year contributing a total of 830 participants to this figure across all ON capability programs.

The ON Innovation Program has reached a further 1,600 attendees through Innovation Ecosystem uplift and engagement events held throughout the year, and collaboration continues with the Department of Education and Australia's Economic Accelerator, and the Department of Industry, Science and Resources' Industry Growth Program and Commercialisation Capability Hub to integrate ON offerings.

Trend data		
2022–23 result	**2021–22 result**	**2020–21 result**
96	N/A	N/A
Forward year targets (align with Corporate Plan 2024–25)		
2024–25	**2025–26**	**2026–27**
100	100	**N/A**
Type of data (S16EA(d))	**Methodology**	**Data source** (S16EA(b))
Quantitative	Quantitative count – # of participants attending ON Accelerate, ON Prime and Bootcamps	O2D – Internal system
Quality assurance	**Monitoring**	
Director, Strategic Delivery	Quarterly reported to CSIRO Executive throughout FY 2023–24 as part of Quarterly Integrated Reporting Framework/Process.	

KPI: Enhance innovation translation with Australian industry including SMEs and external partners		
Metric: Commenced, cohort growth and graduating iPhDs		
2023–24 target	**2023–24 result**	**Outcome**
30 commenced	**23 commenced**	● **Not achieved**

The number of iPhDs commenced (23) fell short of the target of 30. There has been less demand from domestic PhD applicants across the system and the execution of some contracts for projects have taken longer than expected due to the significant increase in the number of universities engaged. We also experienced some delay in identified students commencing their studies.

The program has seen increased aggregate demand year on year, and we expect this to continue in FY 2024–25. This growth reflects our investment in outreach and university engagement. The number of scholarships awarded was in line with the target. However, in the current competitive environment, extended student enrolment timelines resulted in a lower number of students commencing during FY 2023–24.

Mitigation to improve performance

To avoid the issues experienced this year with delays occurring between the awarding of scholarships and the commencement of studies we will be reporting to our funder (the Department of Education) with the cumulative number of scholarships awarded rather than the number of students commenced. Aligning our Corporate Plan metrics to this methodology is also under consideration.

Trend data		
2022–23 result	**2021–22 result**	**2020–21 result**
13	N/A	N/A
Forward year targets (align with Corporate Plan 2024–25)		
2024–25	**2025–26**	**2026–27**
75 cumulative iPhD cohort	100 cumulative iPhD cohort	120 cumulative iPhD cohort, 10 graduating
Type of data (S16EA(d))	**Methodology**	**Data source** (S16EA(b))
Quantitative	Quantitative count – # of student contracts	SAP – Internal system
Quality assurance	**Monitoring**	
Director, Science Impact and Policy	Quarterly reported to CSIRO Executive throughout FY 2023–24 as part of Quarterly Integrated Reporting Framework/Process.	

KPI: Enhance innovation translation with Australian industry including SMEs and external partners		
Metric: Externally validated evaluations of Indigenous science and engagement programs		
2023–24 target	**2023–24 result**	**Outcome**
2 evaluations and lessons learnt	**2 evaluations and lessons learnt**	**Achieved**

Evaluation 1: CSIRO Indigenous Research Grants Program

The independent evaluation for the CSIRO Indigenous Research Grants Program ('Program') was conducted by Yulang Indigenous Evaluation for the second year in a row. The evaluation found it was a carefully structured and thoughtfully applied program that aligns in important ways with aspects of Aboriginal and Torres Strait Islander cultures including protocols and rights. The Program was also found to align with the priority reforms of the National Agreement on Closing the Gap – *(1) formal partnerships and shared decision-making, (3) transforming government organisations* and *(4) shared access to data and information at a regional level.* The Program showcases best practice for a grants program where Aboriginal and Torres Strait Islander Peoples are involved as research participants or business partners. Overall, the evaluation found the Program is having a broad impact for CSIRO while supporting ways of doing science that are appropriate for Aboriginal and Torres Strait Islander Peoples both within and outside of CSIRO.

Evaluation 2: CSIRO's Programs and Processes in relation to the National Agreement on Closing the Gap 2020

This external review was undertaken to expand upon our self-assessment findings (see: csiro.au/reportingsuite2024) regarding our contribution against the National Agreement on Closing the Gap. The review found, at an organisational level, our efforts were assisting the nation towards meeting Closing the Gap targets on an informal basis, which sets the foundations for our efforts to be formalised in a deliberate strategy. It was noted that key documents such as our Portfolio Budget Statement; our Strategy: Corporate Plan 2022–23; Reconciliation Action Plan; Science Health and Excellence Report; Sustainability Report 2023, and Annual Report 2022–23 made no reference to the National Agreement on Closing the Gap. The review provides a list of policy and operational recommendations we can implement that will improve alignment with the National Agreement on Closing the Gap which includes addressing institutional racism. Indigenous science research projects, on-Country programs, and actions and their deliverables undertaken under both the Indigenous Science and Engagement Program and the RAP are, in their different ways, helping the nation to meet various of the socio-economic targets identified in the National Agreement in education and training, employment, connections to land and sea, Country, maintenance of cultural practices and languages, and digital inclusion. CSIRO's Indigenous Science and Engagement Program was found to embody our commitment to Australia's Indigenous peoples, with a broader articulation of that commitment found in the organisation's third RAP.

Trend data		
2022–23 result	**2021–22 result**	**2020–21 result**
2	N/A	N/A
Forward year targets (align with Corporate Plan 2024–25)		
2024–25	**2025–26**	**2026–27**
2 evaluations and lessons learnt	3 evaluations and lessons learnt	Maintain or increase (year on year)
Type of data (S16EA(d))	**Methodology**	**Data source** (S16EA(b))
Quantitative and qualitative	Externally validated evaluations – systematic assessment that critically examines programs	Internal program data and interviews.
Quality assurance	**Monitoring**	
Program Director, Indigenous Science and Engagement	Quarterly reported to CSIRO Executive throughout FY 2023–24 as part of Quarterly Integrated Reporting Framework/Process.	

KPI: Enhance innovation translation with Australian industry including SMEs and external partners		
Metric: Number SME engagements		
2023–24 target	**2023–24 result**	**Outcome**
1,500	**1,801**	**Achieved**

In FY 2023–24, CSIRO delivered 1,801 SME engagements across all states and territories. Twenty-nine per cent of these engagements were for provision of research and development services, demonstrating the strong demand for our expertise and research capability by small and medium enterprises. Thirty-six per cent reflect participation in our programs and initiatives designed to uplift SME innovation capability or facilitate SME innovative products into the market – for example Innovate to Grow, Generation STEM Links, RISE, iPhD, ON programs, Lindfield Collaboration Hub and Science Connect Infrastructure Technologies testing services.

Twenty-four per cent of those 1,801 SMEs engaged with us on multiple occasions, for example pursuing both research and development services, in addition to participating in a program or initiative. This repeated engagement reflects positively on both SMEs' interest in collaborating with us, and our capacity to foster deeper, multi-pronged relationships.

Note: there was a change in the definition of 'engagement' for the 2023–24 reporting period, which explains the difference in 2022–23 and 2023–24 results.

Trend data		
2022–23 result	**2021–22 result**	**2020–21 result**
342	351	N/A
Forward year targets (align with Corporate Plan 2024–25)		
2024–25	**2025–26**	**2026–27**
+10%	+20%	+30%
Type of data (S16EA(d))	**Methodology**	**Data source** (S16EA(b))
Quantitative	Quantitative count – # of SMEs involved in Innovation Connect programs	SAP – Internal system
Quality assurance	**Monitoring**	
Director, SME Connect	Quarterly reported to CSIRO Executive throughout FY 2023–24 as part of Quarterly Integrated Reporting Framework/Process.	

KPI: Enhance innovation translation with Australian industry including SMEs and external partners		
Metric: Number industry organisations engaged in education programs		
2023–24 target	**2023–24 result**	**Outcome**
82 organisations	**204**	**Achieved**

We continuously engage with STEM industry organisations to support, advocate and provide opportunities in education programs. 'Engaged' is defined as having a strategic, whole-of-organisation commitment with an education program.

This metric steadily progressed through the year with 83% of the target achieved by the end of the first quarter. By the end of June, we had engaged with 204 unique organisations engaged in education programs, in a number of capacities including as funders, sources of STEM professionals, host organisations, collaborators, supporters, or contractors.

The organisations ranged from private/not-for-profits, government agencies, universities and philanthropic organisations. The various programs attracting such engagement include STEM Professionals in Schools, Young Indigenous Women's STEM Academy, CyberTaipan, STEM Together, Living STEM, GFG Foundation Student Programme, Virtual Work Experience and Undergraduate Research Opportunities Program.

Trend data		
2022–23 result	**2021–22 result**	**2020–21 result**
82	N/A	N/A
Forward year targets (align with Corporate Plan 2024–25)		
2024–25	**2025–26**	**2026–27**
N/A	N/A	N/A
Type of data (S16EA(d))	**Methodology**	**Data source** (S16EA(b))
Quantitative	Quantitative count – # of organisations working with CSIRO Education and Outreach programs	O2D – Internal system
Quality assurance	**Monitoring**	
Program Director, Education and Outreach	Quarterly reported to CSIRO Executive throughout FY 2023–24 as part of Quarterly Integrated Reporting Framework/Process.	

KPI: Do fewer, bigger things		
Metric: Cross organisation engagement		
2023–24 target	**2023–24 result**	**Outcome**
>20%	**19%**	● **Not achieved**

Cross-organisation engagement measures how we share our talent to enable a multi-disciplinary approach to solving complex problems. In 2023–24 we failed to meet the target of 20%, coming in just under at 19%.

There has been a decline in the number of external projects from 2021–22 (2,130) to 2023–24 (1,835) – representing a decrease of 14% (FY 2022–24). This reduction flows through to a reduced need for exchanging internal talent. The consolidation of some of our research units also reduces the opportunity for cross organisation engagement. Some of the crucial skills and expertise previously accessible only via deployment are now present in the broader units.

Mitigation to improve performance
While this metric still has some use as a measurement of internal collaboration, more suitable methods are under consideration, and it will not be carried into the next Corporate Plan.

Trend data		
2022–23 result	**2021–22 result**	**2020–21 result**
30%	N/A	N/A
Forward year targets (align with Corporate Plan 2024–25)		
2024–25	**2025–26**	**2026–27**
N/A	N/A	N/A
Type of data (S16EA(d))	**Methodology**	**Data source** (S16EA(b))
Quantitative	Quantitative count – research staff allocations	SAP – Internal system
Quality assurance	**Monitoring**	
Chief Financial Officer	Quarterly reported to CSIRO Executive throughout FY 2023–24 as part of Quarterly Integrated Reporting Framework/Process.	

Objective 2: Purpose-driven science and technology

KPI: Impact by alignment, design and scale		
Metric: Return on Investment (as per Portfolio Budget Statement)		
2023–24 target	**2023–24 result**	**Outcome**
20 impact case studies and at least $1.5b worth Net Present Value (NPV) p.a.	**20 impact case studies** **8.8:1 BCR** **$13.26 billion net present value**	**Achieved**

Each year CSIRO commissions impact case studies to demonstrate the value of our research activities and national facilities, collections and services programs. During 2023–24, we completed the targeted 20 impact case studies, that aim to cover the breadth of the organisation's investment portfolio.

Additionally, every 2 years the Value of CSIRO Report is commissioned to estimate the overall value that we deliver to the nation. The assessment largely draws on the findings of 190 impact case studies. This year's report estimates an 8.8:1 return on investment (ROI), indicating that for every $1 invested in CSIRO, at least $8.80 in value is returned to the Australian people. The current portfolio benefit-cost ratio (BCR) of 8.8 is higher than the 8.4 reported in the 2022 Value of CSIRO Report.

Trend data		
2022–23 result	**2021–22 result**	**2020–21 result**
20 impact case studies and $10.2 billion worth NPV p.a.	20 impact case studies and $10.2 billion worth NPV p.a.	20 impact case studies and $10.1 billion worth NPV p.a.

Forward year targets (align with Corporate Plan 2024–25)		
2024–25	**2025–26**	**2026–27**
Both years – 20 impact case studies and at least $1.5 billion worth NPV p.a.		20 impact case studies and at least $2 billion worth NPV p.a.

Type of data (S16EA(d))	**Methodology**	**Data source** (S16EA(b))
Quantitative and qualitative	Mixed methodology – externally conducted and validated impact case studies	SAP, O2D and external interviews

Quality assurance	**Monitoring**
Director, Strategy	Quarterly reported to CSIRO Executive throughout FY 2023–24 as part of Quarterly Integrated Reporting Framework/Process.

KPI: Impact by alignment, design and scale		
Metric: Joint investment with external partners in missions-directed research		
2023–24 target	**2023–24 result**	**Outcome**
$180 million	**$201 million**	**Achieved**

As forecast by our quarterly performance reporting process, the portfolio has exceeded the $180 million target. As it has matured, the proportion of the portfolio's external revenue acquired from activities directly catalysed by the missions has increased to 32% or $36.8 million (up from 26.4% in FY 2023). A 'mission originated' project had an average value of $326,000 for FY 2024 compared with aligned activity, with an average value of $296,000.

Significant contributors to the overachievement against the target include Smart Energy and Critical Infrastructure, as well as the Towards Net Zero and Hydrogen Industry missions.

Trend data		
2022–23 result	**2021–22 result**	**2020–21 result**
$178.4 million	$97.5 million	N/A
Forward year targets (align with Corporate Plan 2024–25)		
2024–25	**2025–26**	**2026–27**
$230 million	Both years – maintain or increase	
Type of data (S16EA(d))	**Methodology**	**Data source** (S16EA(b))
Quantitative	Quantitative count – $ million	SAP – Internal system
Quality assurance	**Monitoring**	
Director, Strategic Delivery	Quarterly reported to CSIRO Executive throughout FY 2023–24 as part of Quarterly Integrated Reporting Framework/Process.	

KPI: Drive future science opportunities		
Metric: IP from Future Science Platforms		
2023–24 target	**2023–24 result**	**Outcome**
>422 registerable and non-registerable IP	**525**	**Achieved**

We have seen an increase of 124 Future Science Platform (FSP) Intellectual Property (IP) listings since the last reporting period. Newer FSPs have moved from the development or ramp-up stages to peak activity and ramp down – it is during these stages that IP is identified, created and registered.

The substantial increase in reported IP from FSPs from 31 December 2022 to 31 December 2023 (401 to 525) is comprised of a 9% increase in registered IP and 34% growth in the non-registerable categories of IP (predominantly in know-how, datasets and proprietary). We expect to see some tapering of IP output in later out-years as no new FSPs have commenced since July 2022.

Trend data		
2022–23 result	**2021–22 result**	**2020–21 result**
401	268	N/A
Forward year targets (align with Corporate Plan 2024–25)		
2024–25	**2025–26**	**2026–27**
>444 registrable and non-registerable IP	>467 registrable and non-registerable IP	>491 registrable and non-registerable IP
Type of data (S16EA(d))	**Methodology**	**Data source** (S16EA(b))
Quantitative	Quantitative count – patents, source code/algorithms/ software and other IP such as know-how	Internal IP registration system
Quality assurance	**Monitoring**	
Director, Science Impact and Policy	Quarterly reported to CSIRO Executive throughout FY 2023–24 as part of Quarterly Integrated Reporting Framework/Process.	

KPI: Be Australia's trusted advisor		
Metric: Positive public sentiment of CSIRO		
2023–24 target	**2023–24 result**	**Outcome**
74%	**75%**	**Achieved**

Our Community Sentiment Survey results showed positive sentiment in the community remains high and stable at 75%. In addition, our trust rating remains consistently high, with a total trust score combining both 'moderately and extremely trustworthy' of 85%. This remains despite a broader environment of neutral/declining trust in government, media and industry (Edelman Trust Barometer, 2024).

Learnings from the survey suggest audiences continue to be receptive to CSIRO communications across a range of platforms, including traditional and social media. Our owned channels continue to grow, with a 10% growth in followers and 38% growth in engagements over the past 12 months. Our focus on highlighting our independence, scientific endeavours and solutions from science is resonating with audiences and is a driver of trust.

Note: an error was identified in last year's survey results after publication. The correct result was 75% and a correction has been made in Appendix H.

Trend data		
2022–23 result	**2021–22 result**	**2020–21 result**
75%	75%	65%
Forward year targets (align with Corporate Plan 2024–25)		
2024–25	**2025–26**	**2026–27**
75%	75%	76%
Type of data (S16EA(d))	**Methodology**	**Data source** (S16EA(b))
Qualitative and Quantitative	Externally conducted online survey	Representative sample of the Australian general population
Quality assurance	**Monitoring**	
Director, Corporate Affairs	N/A – annual metric	

KPI: Be Australia's trusted advisor		
Metric: Positive business sentiment of CSIRO		
2023–24 target	**2023–24 result**	**Outcome**
80%	**76%**	● **Not achieved**
After record Business Sentiment Survey results in 2023, this year's survey indicated positive business sentiment remains however the result failed to meet the target of 80%, coming in slightly below 76%. The significant increase seen across most metrics in 2022–23 has stabilised. Without an equivalent level of business-to-business engagement and recruitment campaigns such as Impossible Without You in 2022–23 which targeted STEM professionals, results such as those achieved in 2022–23 will be challenging to achieve.		
Mitigation to improve performance		
To achieve record results again, we will need to consider similar activities to those engaged in 2022–23. Prioritisation of communication and pipeline development programs will be reviewed as part of our 2024–25 Communication Strategy.		
Trend data		
2022–23 result	**2021–22 result**	**2020–21 result**
80%	73%	79%
Forward year targets (align with Corporate Plan 2024–25)		
2024–25	**2025–26**	**2026–27**
81%	81%	82%
Type of data (S16EA(d))	**Methodology**	**Data source** (S16EA(b))
Qualitative and Quantitative	Externally conducted online survey	Representative sample of the Australian general population
Quality assurance	**Monitoring**	
Director, Corporate Affairs	N/A – annual metric	

KPI: Be Australia's trusted advisor		
Metric: Customer satisfaction measure through Net Promoter Score		
2023–24 target	**2023–24 result**	**Outcome**
>+46	**+54**	**Achieved**
This year, our Net Promoter Score is +54 which exceeds the target of +46. It should be noted, however, that the sample size is insufficient, and the result therefore has little application. There has been general hesitation across the customer community to respond to surveys and this has significantly impacted both the NPS and response rates in recent years. Consideration is underway regarding the use and value of customer survey information. Following the results of this year's customer survey the team continues to look at options for a more consolidated and best practice focused approach to how CSIRO engages with its customers. To test survey options for future years, the team is looking to trial several new approaches (phone surveys, engaging internal key contacts etc) to previously unresponsive customers.		
Trend data		
2022–23 result	**2021–22 result**	**2020–21 result**
+49	+47	+51
Forward year targets (align with Corporate Plan 2024–25)		
2024–25	**2025–26**	**2026–27**
>+48	>+50	>+52
Type of data (S16EA(d))	**Methodology**	**Data source** (S16EA(b))
Qualitative and Quantitative	Externally conducted online survey	Sample of CSIRO customers
Quality assurance	**Monitoring**	
Director, Strategic Delivery	N/A – annual metric	

Objective 3: Engage and empower talent

KPI: Have a safe and inclusive workplace for all		
Metric: Hazards and proactive Health, Safety and Environmental (HSE) reporting		
2023–24 target	**2023–24 result**	**Outcome**
2,000	**4,242**	**Achieved**

Hazards and proactive reports exceeded the target this year by more than double the intended result, following steady performance throughout the year (as measured by our quarterly performance reporting).

Such a result reflects a greater embedding of proactive safety and environmental culture in the way we work and engage with our colleagues. To further demonstrate, one of the final activities in our 2020–24 HSE Plan focused on the development of a foundational Psychosocial Safety framework with reporting mechanisms, toolkits and resources designed to help our organisation identify, report, manage and prevent injury due to psychosocial risk.

Trend data		
2022–23 result	**2021–22 result**	**2020–21 result**
4,314	3,164	N/A
Forward year targets (align with Corporate Plan 2024–25)		
2024–25	**2025–26**	**2026–27**
3,000	4,000	5,000
Type of data (S16EA(d))	**Methodology**	**Data source** (S16EA(b))
Quantitative	Quantitative count – # of reported hazards and safety contacts	DoneSafe (Health and Safety) system
Quality assurance	**Monitoring**	
Director, Health, Safety and Environment	Quarterly reported to CSIRO Executive throughout FY 2023–24 as part of Quarterly Integrated Reporting Framework/Process.	

KPI: Have a safe and inclusive workplace for all		
Metric: Diversity in leadership, defined by proportion of female leaders		
2023–24 target	**2023–24 result**	**Outcome**
43%	**43%**	**Achieved**
This year, we achieved the target of 43% proportion of female leaders. We continue our significant focus on gender equity through accreditation and external benchmarking activities such as SAGE, WGEA, Champions of Change and the Women in STEM Decadal Plan. Under our Diversity, Inclusion and Belonging (DIB) Strategy 2023–26 we are aiming to drive systemic change in the DIB landscape, creating a welcoming and connected culture, with psychological safety as a cornerstone of inclusion. In the first year of implementation, we have achieved notable systemic changes via the establishment of a DIB governance structure, including a Gender Equity Action Plan working group, which is responsible for driving our gender equity work.		
Trend data		
2022–23 result	**2021–22 result**	**2020–21 result**
42.9%	41.1%	37.6%
Forward year targets (align with Corporate Plan 2024–25)		
2024–25	**2025–26**	**2026–27**
44%	45%	46%
Type of data (S16EA(d))	**Methodology**	**Data source** (S16EA(b))
Quantitative	Quantitative count – # females in CSOF 6 and above roles	SAP – Internal system
Quality assurance	**Monitoring**	
Director, Life	Quarterly reported to CSIRO Executive throughout FY 2023–24 as part of Quarterly Integrated Reporting Framework/Process.	

KPI: Have a safe and inclusive workplace for all		
Metric: Staff sentiment toward CSIRO culture		
2023–24 target	**2023–24 result**	**Outcome**
46th percentile	**37th percentile**	● **Not achieved**

This year we ran our full Culture Survey with overall results (37th percentile) falling short of the target (46th percentile).

There are several factors that may have impacted this year's results including changes to leadership and a new organisational focus. There are also strengths to take away, such as our strong sense of community, teamwork, and mutual care; our commitment to personal responsibility, and each other's safety; respect for our values, and our dedication to continued learning through our work. Many teams have focused on values as part of their culture action plans and DIB action plans, focusing on creating environments where people feel safe to speak up about behaviour. Senior leaders discussing values in all-staff forums continue to bring visibility to the importance of our CSIRO Values-based behaviour.

It should also be noted that compared to the first full culture survey in 2021–22 where we scored in the 34th percentile, our results this year have improved by 3 percentile points (37th percentile). This like-for-like comparison provides a more holistic assessment of our culture compared to the Culture Pulse held in 2023.

Mitigation to improve performance

In response to the 2024 Culture Survey, it is expected that an organisation wide action plan (which addresses improvements in communicating our strategic direction and in ways of working through implementation of Enterprise Services Reform) will contribute to an uplift in our future results. Additionally, unit-level actions plans are expected to address local issues and are important to ensure ownership of our culture.

Trend data		
2022–23 result	**2021–22 result**	**2020–21 result**
42nd percentile	34th percentile	N/A
Forward year targets (align with Corporate Plan 2024–25)		
2024–25	**2025–26**	**2026–27**
49th percentile	52nd percentile	55th percentile
Type of data (S16EA(d))	**Methodology**	**Data source** (S16EA(b))
Quantitative and qualitative	Mixed methodology – Externally conducted online survey	CSIRO staff population
Quality assurance	**Monitoring**	
Director, Life	N/A – annual metric	

KPI: Be a destination employer		
Metric: Impossible Without You campaign		
2023–24 target	**2023–24 result**	**Outcome**
95% recruits complete first year of term	**95%**	**Achieved**

Our successful recruitment campaign, Impossible Without You (IWY), continues to position CSIRO as a destination employer. Quarterly monitoring of this metric identified that the target was successfully achieved in March, with 149 recruits completing the first year of their terms. Success is attributed to line managers, mentors and other research leaders supporting the recruits in their roles. The "Possible Experience" delivery, including the orientation program and face-to-face impact and communication, has helped new starters adapt to the organisation and create connections with their cohort peers and colleagues.

Note: this metric was changed in the 2023–24 Corporate Plan from appointment of recruits to retention of recruits.

Trend data		
2022–23 result	**2021–22 result**	**2020–21 result**
51%/48%/0% Men/Women/Neutral 6% Aboriginal and Torres Strait Islander	N/A	N/A
Forward year targets (align with Corporate Plan 2024–25)		
2024–25	**2025–26**	**2026–27**
90% recruits complete second year of term	80% recruits complete third year of term	**N/A**
Type of data (S16EA(d))	**Methodology**	**Data source** (S16EA(b))
Quantitative	Quantitative count – % of recruits complete first year	SAP – Internal system
Quality assurance	**Monitoring**	
Chief Scientist	Quarterly reported to CSIRO Executive throughout FY 2023–24 as part of Quarterly Integrated Reporting Framework/Process.	

KPI: Be a destination employer		
Metric: CSIRO Early Research Career Fellow retention rate		
2023–24 target	**2023–24 result**	**Outcome**
≥42%	**43%**	**Achieved**

We contribute to Australia's STEM capability through the facilitation of many programs, one of which is our CSIRO Early Research Career (CERC) Fellow program. Our CERC program provides differentiated learning, development and training to develop future leaders of the innovation system. These Fellowships enhance the research and leadership capability of PhD and Engineering master graduates to equip them for a career in research or beyond.

Our goal is to retain a portion of these researchers to feed into discipline areas that align with our strategic direction, as well as provide the innovation system with highly skilled talent. Our target of 42% was exceeded this year (43%) enabling the broader innovation system access to the remaining 57% of the cohort.

Trend data		
2022–23 result	**2021–22 result**	**2020–21 result**
68%	46%	N/A
Forward year targets (align with Corporate Plan 2024–25)		
2024–25	**2025–26**	**2026–27**
N/A	N/A	N/A
Type of data (S16EA(d))	**Methodology**	**Data source** (S16EA(b))
Quantitative	Quantitative count – % of Fellows retained post contract end	SAP – Internal system
Quality assurance	**Monitoring**	
Director, Launch and Careers and Director, Science Impact and Policy	Quarterly reported to CSIRO Executive throughout FY 2023–24 as part of Quarterly Integrated Reporting Framework/Process.	

Objective 4: World-class infrastructure

KPI: Have shared national labs		
Metric: Externally validated evaluations of collaborative use of CSIRO's facility/hub/precinct/collections		
2023–24 target	**2023–24 result**	**Outcome**
Min 2 evaluations and lessons learnt	**3 evaluations and lessons learnt**	**Achieved**

This year's externally conducted assessments included the **Hydrogen Technology Demonstration Facility (HTDF)**; the **Indo-Pacific Plastics Innovation Network (IPPIN)**; and the **Australian eHealth Research Centre (AEHRC)**. The methodology included desktop review of parameters such as financial model, partnership model, operational framework, services, stakeholder mapping, followed by site visits and workshops and a series of singular interviews with respective stakeholders. The reports outlined key aspects of the current operative frameworks for those facilities/programs and supported the identification of gaps or potential opportunities to evolve current approaches.

Summary of assessment findings

Functioning as an Innovation Hub, the **HTDF** fosters crucial collaboration within the Hydrogen Industry mission ecosystem. Currently, the focus lies on project partnership with interested parties in the hydrogen development phase through the Missions program. Additionally, the HTDF provides dedicated support for projects led by other CSIRO teams and hydrogen start-ups. Exceeding expectations, the facility has secured $2.3 million in funding for the Hydrogen Refueller and has established networks with over 15 stakeholders for various hydrogen projects.

Signs of impact are already showing for the **IPPIN** with significant investment in startups and SMEs ($150,000 average and $1.5 million total investment pool from those start-ups); investment into hubs ($11 billion across 3 internationally) and considerable engagement (1,350 people involved, more than 18 workshops in 5 different languages). Longer-term outcomes will seek to achieve more significant impact.

Impact is being realised for the **AEHRC** with an average of $5 million annual revenue; the publication of 93 journal articles in 21–22; registration of more than 120 IP $2 million (revenue); and receipt of numerous awards by the centre and its researchers.

See pages 59–61, Part 1, Objective 4 for further detail on the outcomes of the evaluations.

Trend data		
2022–23 result	**2021–22 result**	**2020–21 result**
2 evaluations	N/A	N/A
Forward year targets (align with Corporate Plan 2024–25)		
2024–25	**2025–26**	**2026–27**
Min 2 eval./lessons learnt	Min 2 eval./lessons learnt	Min 3 eval./lessons learnt
Type of data (S16EA(d))	**Methodology**	**Data source** (S16EA(b))
Quantitative and qualitative	Mixed methodology – externally conducted and validated evaluations	Internal program data, surveys and external interviews
Quality assurance	**Monitoring**	
Executive Director, Digital, National Facilities and Collections	Quarterly reported to CSIRO Executive throughout FY 2023–24 as part of Quarterly Integrated Reporting Framework/Process.	

KPI: Have shared national labs		
Metric: Infrastructure usage rates (as per Portfolio Budget Statements) **Australia Telescope National Facility (ATNF), Pawsey Supercomputing Centre (Pawsey), National Research Collections Australia (NRCA) and Marine National Facility (MNF)**		
2023–24 target	**2023–24 result**	**Outcome**
ATNF – Min 70% successful observations	**ATNF – 67%**	**Partially achieved**
Pawsey – Min 90% core hours	**Pawsey – 55%**	
NRCA – Min 70% outward loans /5yrs	**NRCA – 70%**	
MNF – Min 90% successful research days	**MNF – 100%**	

The **Australia Telescope National Facility** target aggregates the performance of 3 telescopes. In 2023–24, the result was 67% successful observations, not achieving its target. ASKAP was impacted by Pawsey performance issues that directly paused ASKAP operations and precluded some planned projects from commencing. Major mechanical refurbishments at Murriyang, Parkes radio telescope meant that reduced telescope access was available in 2023–24. Despite reduced availability for astronomy, the science impact of our newest telescope, ASKAP, continues to increase and Parkes radio telescope science, in Murriyang, is stable.

Over the past 2 years there has been a significant capital refresh at **Pawsey** with the replacement of the Magnus and Galaxy supercomputers with a single supercomputer Setonix, procured from Hewlett Packard Enterprise (HPE). Commissioning of Setonix and uplift of existing Pawsey users to Setonix have negatively impacted availability and utilisation of supercomputing resources. For the 2023–24 period additional issues were encountered including a failure of the building cooling system necessitating an Emergency Power Off (EPO) of all Pawsey Compute and Storage infrastructure resulting in a 12-day outage.

National Collections met the target of 70% over 5 years due to manageable enquiry rates, an effective Collection Management System (CMS data system) and responsive staff, despite the outward loans process requiring significant time investment and some requests not complying with international conventions and legislation. NRCA achievement of the target is significant, given that the 2 collections closed for relocation activities were omitted from statistics this quarter.

The **Marine National Facility** also exceeded targets with full utilisation for the 2023–24 period, with the objective of 298 scheduled research days met. MNF research days recognises the percentage of the planned schedule that was successfully delivered, meeting the stated voyage objectives.

Mitigation to improve performance

Pawsey has developed a plan to address issues on a long-term basis, including:

- major upgrades to the Setonix Management System (implemented Q3/24)
- tighter constraints on use of the scratch storage system (implemented Q2/24)
- coordination between Pawsey and astronomy users (ASKAP and Murchison Widefield Array (MWA)) to improve the efficiency of application software, particularly in respect of data transport bandwidth (i/o) (ongoing)
- the establishment of a Pawsey User Committee.

Some of the above actions have been implemented late in 2023–24 and improvements in utilisation are already being observed with 81% utilisation of Setonix CPU's and 63% utilisation of Setonix GPU's for Q2/24.

ATNF and Pawsey are working together at managerial and technical levels to address the HPC issues impacting ASKAP. The refurbishment program at Parkes will be completed this financial year. Both ATNF and Pawsey should address performance in the next reporting period. A new data acquisition system at the ATCA is due for installation in early 2025 to replace an ailing system.

Continued from page 93

KPI: Have shared national labs		
Metric: Infrastructure usage rates (as per Portfolio Budget Statements) **Australia Telescope National Facility (ATNF), Pawsey Supercomputing Centre (Pawsey), National Research Collections Australia (NRCA) and Marine National Facility (MNF)**		
Trend data		
2022–23 result	**2021–22 result**	**2020–21 result**
ATNF – 65% Pawsey – 56% NRCA – 70% / 5 yrs MNF – 98%	ATNF – 68% Pawsey – 94.4% NRCA – 70% / 5 yrs MNF – 80%	ATNF – 76% Pawsey 98.4% NRCA – 70% / 5 yrs MNF – 98%
Forward year targets (align with Corporate Plan 2024–25)		
2024–25	**2025–26**	**2026–27**
Maintain (year on year) →		
Type of data (S16EA(d))	**Methodology**	**Data source** (S16EA(b))
Quantitative	Percentage time	Facility **records**
Quality assurance	**Monitoring**	
Director, Digital, National Facilities and Collections	Quarterly reported to CSIRO Executive throughout FY 2023–24 as part of Quarterly Integrated Reporting Framework/Process.	

Operational measures

KPI: Financial commitments		
Metric: Meet approved net cash operating surplus/deficit ($'000 as per Portfolio Budget Statement)		
2023–24 target ('000)	**2023–24 result ('000)**	**Outcome**
-$32,270	**$194,278**	**Achieved**
In 2023–24, we had an approved operating budget net cash operating deficit of $32.27 million, as per the Portfolio Budget Statements, which was achieved. CSIRO delivered a net cash operating surplus of $194.278 million. The variance was driven principally by non-BAU items which were not budgeted: 1. An increase in reserves of $181.792 million due to a revaluation of land and buildings. 2. An asset donation to Pawsey of $25.729 million. 3. Unrealised equity investment gains of $16.4 million which fluctuated during the year.		
Forward year targets (align with Corporate Plan 2024–25)		
2024–25 ('000)	**2025–26 ('000)**	**2026–27 ('000)**
$214,110	-$60,370	-$52,832
Type of data (S16EA(d))	**Methodology**	**Data source** (S16EA(b))
Quantitative	Surplus/deficit attributable to the Aust Govt + other comprehensive income + depreciation/amortisation expenses for ROU assets – Lease principal repayments = Net cash operating surplus (deficit)	SAP – Internal system
Quality assurance	**Monitoring**	
Chief Financial Officer	Quarterly reported to CSIRO Executive throughout FY 2023–24 as part of Quarterly Integrated Reporting Framework/Process.	

Table 2.1 below summarises our revenue from partnerships, business and commercialisation activities. In 2023–24, we had total expenses of $1,707.6 million, externally generated revenue (from partnerships, business, and commercialisation activities) of $713 million and Government appropriations of $1,009.2 million.

Table 2.1: Financial performance by revenue source $ million

REVENUE SOURCE	2019–20	2020–21	2021–22	2022–23	2023–24
Australian private sector	86.4	88.7	83.9	88.4	76.2
Australian governments	208.8	213.4	269.4	243.4	295.0
Rural industry research and development (R&D) corporations	38.2	35.6	30.3	32.1	42.0
Cooperative Research Centres	9.5	9.6	9.4	9.1	8.3
Overseas entities and international	98.6	75.3	73.2	84.5	96.8
Work in progress/deferred revenue	- 9.2	- 26.7	- 40.5	1.1	- 24.2
Total co-investment, consulting and services	**432.2**	**395.9**	**425.6**	**458.5**	**494.2**
Intellectual property (IP)—royalty and licence revenues	28.6	38.9	49.7	49.7	60.6
Total research and services revenue	**460.8**	**434.8**	**475.3**	**508.2**	**554.8**
Other external revenue	40.6	26.0	25.9	63.3	101.7
Gain/(loss) on sale of assets	1.6	2.6	0.6	9.2	-
Other fair value gains and reversals	40.8	36.2	55.5	85.0	56.5
Total external revenue	**543.8**	**499.6**	**557.3**	**665.8**	**713.0**
Revenue from government	837.9	960.5	949.0	991.1	1,009.2
Total revenue	**1,381.6**	**1,460.1**	**1,506.3**	**1,656.9**	**1,722.3**
Less expenses	1,388.6	1,383.2	1,387.4	1,639.2	1,707.6
Operating result	**- 7.0**	**76.9**	**118.9**	**17.7**	**14.7**

KPI: Staff safety		
Metric: Total reportable injury frequency rate		
2023–24 target	**2023–24 result**	**Outcome**
2.5 incidents	**2.2**	**Achieved**
The Total Recordable Incident Frequency Rate (TRIFR) has come in well under the organisational target of 2.5. The reduction, particularly in lost time injuries, is attributed to an ongoing focus on continuous improvement of safe systems of work (HSE Management System), early intervention and proactive injury management strategies. The commitment of our people, strengthened and celebrated at events such as our annual HS-Me day (which saw over 3,000 staff members attend sites and participate in HSE activities and training), is also crucial to embedding a culture of awareness, proactivity and prioritising workplace health and safety.		
Forward year targets (align with Corporate Plan 2024–25)		
2024–25	**2025–26**	**2026–27**
2.3 incidents	2.1 incidents	1.9 incidents
Type of data (S16EA(d))	**Methodology**	**Data source** (S16EA(b))
Quantitative	Quantitative Rate, number injuries/hours worked x 1 million	DoneSafe (Health and Safety) system
Quality assurance	**Monitoring**	
Director, Health, Safety and Environment	Quarterly reported to CSIRO Executive throughout FY 2023–24 as part of Quarterly Integrated Reporting Framework/Process.	

Figure 2.1 shows the total reportable injury frequency rate from 2019–20 to present. Over the time period we have consistently reduced reportable injury numbers, demonstrating organisational maturity in health and safety.

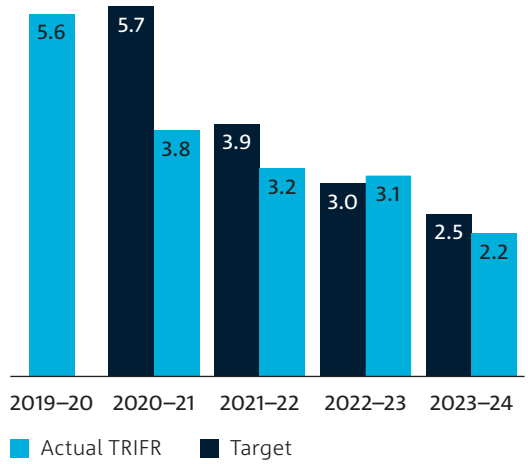
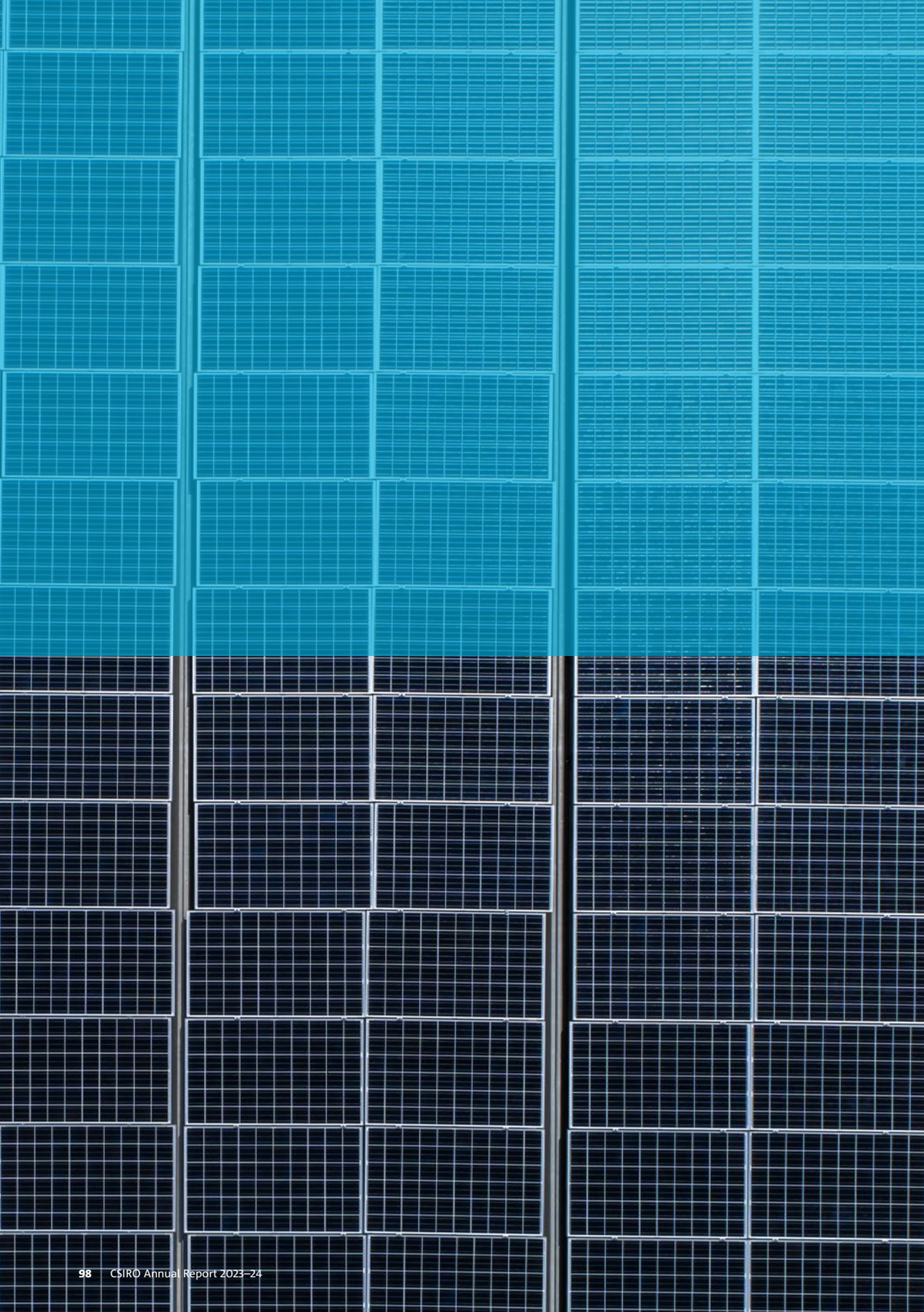


Figure 2.1: Historical TRIFR targets and results 2020–24



Part 3

Our organisation

Operations

Security

We take security seriously, and in an increasingly volatile global security environment, we are focusing on lifting our protections to match, to continue to keep our people, information and assets safe. Our reputation as Australia's trusted national science agency depends on our ability to assure stakeholders that we are a safe partner and custodian.

In 2023–24, we continued to work closely with Government on national security related legislation and policy development to ensure that the research sector's needs are reflected, and working to see how our expertise can contribute to better policy.

We improved our security governance mechanisms with a focus on providing assurance to Government. The uplift delivered a new Security Committee model with a closer focus on guiding security operations and driving a stronger security culture, as well as continuing to implement the recommendations of our Security Governance Review run in 2022. As recommended in the review, this year we put significant effort into improving staff security education and training for staff to ensure consistency across our organisation in the management of complex security issues and meeting legislative obligations. We delivered a substantial program to raise awareness of Defence Export Control requirements, providing guidance to areas carrying higher export control risk, and briefings on upcoming changes to defence trade controls legislation.

We continued to refine and increased delivery of our tailored education offerings, including training on:

- foreign interference
- preparing for complex situations
- pre-travel briefings
- protective briefings for projects with higher security risk.

We delivered a refreshed version of our nationally and internationally recognised tool for managing the risk of foreign interference, incorporating feedback from researchers, the wider research sector and government. Following introduction of the new tool and the accompanying change management and education program, we are seeing a threefold increase in foreign interference risk assessments.

Feedback from counterparts around the sector in Australia and internationally continues to confirm that our process is best practice and a rare example of process maturity in a developing policy space. We undertook an audit into our Australian Government Security Clearance posture, identifying scenarios where roles have become more sensitive, requiring more of our people to apply for security clearances. Our cohort of security cleared staff is increasing year on year, with approximately 1,400 people having a security clearance of some degree.

Cyber security

Our Cyber Security Uplift Program (CSUP) will future-proof our delivery of secure information technology services, safeguarding our core enterprise information and communication technology (ICT) services and systems, and the data they contain from unauthorised access, harm or misuse. While the responsible use of ICT resources and cyber security is everyone's responsibility, our Information Management and Technology (IMT) team are our trusted strategic advisor on cyber security matters, ensuring our people, data and science are protected. In 2023–24, the Cyber Operations team managed 17,835 detections, investigating 175 incidents including inappropriate use of ICT, copyright infringement, malware activity and external cyber breaches of third-party suppliers.

Our CSUP is set to uplift the security posture for our core ICT services and deliver a culture of cyber risk management and awareness. Commencing in 2021, over a 3-year period, our CSUP has aligned practices with industry baselines and standards including the Australian Cyber Security Centre's Information Security Manual and Essential Eight (E8) strategies. The target of CSUP is to align IMT with Maturity Level 1.

Our CSUP was reviewed by the Australian Cyber Security Centre (ACSC) in June 2024. Findings commended the capability and capacity of CSUP to achieve E8 maturity and confirmed that with recommended changes to scope, such an aspiration was achievable.

Consultancy services

We engage consultants where specialist expertise or independent research, review or assessment is required. Consultants are typically engaged to investigate or diagnose a defined issue or problem; carry out defined reviews or evaluations; or provide independent advice, information, or creative solutions to assist in our decision making.

Before engaging consultants, we consider the skills and resources required for the task, the skills available internally and the cost effectiveness of engaging external expertise. The decision to engage a consultant adheres to the Commonwealth Procurement Rules, CSIRO procurement procedures, the *Public Governance, Performance and Accountability Act 2013*, and the CSIRO Delegations and Authority Schedules. Our policy on selection and engagement of consultants is based on the principles of:

- value for money
- open and effective competition
- ethics and fair dealing
- accountability and reporting
- national competitiveness and industry development
- support for other Australian Government policies.

We utilise the Department of Finance Procurement Publishing and Reporting Obligations (RMG 423) to determine consultants.

A consultancy is defined as the engagement of temporary services that meet the following criteria:

- involves the development of an intellectual output that assists with decision making
- the intellectual output represents the independent view of the service provider.

Tables 3.1, 3.2 and 3.3 summarise the consultancies let and the annual spend, the reason for the consultancy and the procurement method. All values include goods and services tax.

Table 3.1: Annual spend on consultancies

YEAR	SPENT ($)	LET ($) (EST. WHOLE OF LIFE)
2017–18	1,648,413	1,625,864
2018–19	1,553,566	1,700,668
2019–20	1,690,411	1,856,563
2020–21	1,068,235	1,419,019
2021–22	583,023	1,225,936
2022–23	199,484	429,736
2023–24	1,283,526	1,778,794

Table 3.2: Summary by reason code for 2023–24

CATEGORY CODE	REASON FOR CONSULTANCY	NUMBER OF CONSULTANCIES	VALUE ($) ACTUAL SPEND
IS	Need of independent study/evaluation	12	1,134,146
PA	Professional assistance to manage and facilitate change and its consequence	1	11,880
SS	Specialist skills not otherwise available	3	137,500
Total		**16**	**1,283,526**

Table 3.3: Summary by procurement method code for 2023–24

CATEGORY CODE	PROCUREMENT METHOD	NUMBER OF CONSULTANCIES	VALUE ($) ACTUAL SPEND
OT	Tenders sought from the market	1	82,500
PM	An existing panel member	5	831,679
ST	Tenders sought from suppliers who have prequalified through some form of previous competitive process.		
RQ	Purchasing was undertaken in accordance with Division 1 of the CPRs and procurement did not require application of Division 2 of the CPRs	6	150,832
EX	Exemption applied that saw CSIRO undertake the procurement as a Limited Tender as defined in Division 2 of the CPRs	4	218,515
Total		**16**	**1,283,526**

Sustainability

We continue to work towards our sustainability and net zero emissions targets set out in our Sustainability Strategy 2020–2030. Our Sustainability Report 2023–24 explains our approach to sustainability and contains detailed reporting against our Sustainability Strategy, including net zero targets and other key sustainability initiatives related to our material sustainability topics (see: csiro.au/reportingsuite2024).

Environmental reporting

Section 516A of the *Environmental Protection and Biodiversity Conservation Act* 1999 (Cth) (EPBC Act) requires that we report annually on how we accord with and contribute to ecologically sustainable development (ESD) including our environmental performance – covering the impact our activities have on the natural environment, how these are mitigated and how they will be further managed. These are covered in our Sustainability Report, but a snapshot of some key metrics is provided below.

Waste and water

A key pillar of our Sustainability Strategy relates to sustainable and efficient resource use, with an initial focus on improving our waste and water management practices. Our water consumption is measured in the following way:

- **for sites owned and managed by us**, water authority account invoice data
- **for sites we lease**, water authority account invoice data and meter reading data provided by landlords, combined with our own calculation of water consumption based on the percentage of net lettable area that we occupy.

Ten per cent of expected water data was unavailable at the time of reporting. The missing consumption data has been estimated and included in Table 3.4.

For 2023–24 our estimated total water consumption is 335 megalitres. An anomaly in the data for one of our sites, has produced significant increase in consumption. This is likely due to data not captured in previous reporting years and is currently under investigation.

Table 3.4: Our 2018–24 water use

RESOURCE AND OPERATIONAL METRICS	2018–19	2019–20	2020–21	2021–22	2022–23	2023–24
Mains water usage (megalitres)	320	345	277	230	282	335

Our waste generation and resource recovery data is provided by our national waste contractor and covers our owned and managed sites, and some waste streams at sites we lease. The resource recovery rate below is based on all waste stream services provided by our contractor including solid waste, commercial liquid waste streams (such as grease traps) and a majority of hazardous waste streams.

The resource recovery rate in Table 3.5 differs from our solid waste diversion from landill target, which is covered in detail in our Sustainability Report.

APS Net Zero 2030 emissions reporting

As a corporate Commonwealth entity we are required to report on our operational greenhouse gas emissions under the APS Net Zero 2030 policy.

The Greenhouse Gas Emissions Inventory presents greenhouse gas emissions over the 2023–24 period. Results are presented based on carbon dioxide equivalent (CO_2-e) emissions. Greenhouse gas emissions have been calculated in line with the APS Net Zero Emissions Reporting Framework, consistent with the Whole-of-Australian Government approach as part of the APS Net Zero 2030 policy. Not all data sources were available at the time of reporting and amendments to data may be required in future reports. Our APS Net Zero 2030 emissions data is provided in Appendix G.

Table 3.5: Our waste generation and resource recovery 2018–24

RESOURCE AND OPERATIONAL METRICS	2018–19	2019–20	2020–21	2021–22	2022–23	2023–24
Waste generation (tonnes)	2,370	2,085	1,721	1,384	1,594	1,473
Resource recovery rate (%)	49	38	36	39	40	38

Property

Our 2019–29 Property Strategy provides investment and divestment principles to ensure our property portfolio provides fit-for-purpose infrastructure that is efficient, affordable and sustainable. As the strategy passed its halfway mark, a midlife review was undertaken to ensure that it is still fit for purpose.

Progress against the 2019–29 Property Strategy this year included the following:

- Our Atherton, Qld and Parkville, Vic sites were divested, reducing our property footprint of over 9,000 m^2 and operating costs by almost $0.4 million, annually.
- Activity Based Working (ABW) across key sites continues. ABW helps us better utilise our office footprint and respond to the needs of our people as they continue to use hybrid working arrangements.
- Master planning of our Clayton, Vic site was completed and has identified opportunities for future investment and consolidation. The master plan will help drive our Clayton site's development for decades to come.
- Stage 1 of the consolidation of our Perth, WA sites has been completed, in line with our sustainability goals to provide more efficient and fit-for-purpose facilities.
- Our new National Collections Building (NCB) at our Black Mountain site in Canberra, ACT was completed. The building will consolidate and house the Australian National Wildlife Collection, the Australian National Insect Collection, the Ethanol Collection, and the Dadswell Wood Collection. The facility, including cryogenics and molecular and digitisation labs, is supported by National Collaborative Research Infrastructure Strategy (NCRIS) funding.
- Divestment planning for several of our other sites, including Ginninderra, ACT and Belmont, VIC continue to progress.
- Planning for a consolidated, more sustainable footprint in Sydney, NSW continues.
- Work continues to ensure our offices remain vibrant, safe and sustainable as ways of working have evolved and the mix of onsite and remote working arrangements have become the accepted norm.

A key consideration for us in making long-term property decisions is whether a solution delivers value for money and longer-term benefits to the organisation.

Managing our heritage

We acknowledge our responsibility to conserve the Commonwealth and National heritage values of the places we own or control. We manage these values under the *Environment Protection and Biodiversity Conservation Act 1999*. Our Heritage Strategy for CSIRO Land and Buildings 2016–26 outlines our objectives and responsibilities and has been endorsed by the Australian Heritage Commission.

This year we completed Heritage Management Plans for the National heritage listed Parkes site in New South Wales; the Commonwealth heritage listed Black Mountain site in Australian Capital Territory; and the State heritage listed Inyarrimanha Ilgari Bundara, the CSIRO Murchison Radio-astronomy Observatory site in Western Australia.

We have also commenced the process for dual Indigenous naming of several rural sites, demonstrating our commitment to recognising and celebrating Indigenous heritage and contributions. The naming process will be finalised later in 2024.

Governance and accountability

None of the extraordinary science and technology solutions we develop could be achieved without strong corporate governance and ethical operations. Best practice is something we strive for in all our functions. Our reputation as a trusted partner and valued employer is paramount.

Our functions, established through the provisions of the *Science and Industry Research Act 1949* (SIR Act), are to carry out scientific research to:

- **assist Australian industry and to further the interests of the Australian community**
- **contribute to national and international objectives and responsibilities of the Commonwealth**
- **encourage or facilitate the application and use of the results of our scientific research.**

Our secondary functions include international scientific liaison, training of research workers, publishing research results, making available scientific facilities, technology transfer of other research, providing scientific services, and disseminating information about science and technology.

We are a corporate Commonwealth Entity under the *Public Governance, Performance and Accountability Act 2013* (PGPA Act), which sets out requirements for how we manage and account for our use of public resources and report on our performance.

We also provide administrative support services to the Trustee of the Science and Industry Endowment Fund (SIEF) consistent with the *Science and Industry Endowment Act 1926*. SIEF has its own governance structure. Read more about SIEF in Part 5.

There were no government policy orders received during 2023–24.

Our Minister

As at 30 June 2024, our responsible Minister was the Hon Ed Husic MP, Minister for Industry and Science.

Under the SIR Act, the Minister has power to expand the purposes for which we carry out scientific research and to provide to the CSIRO Board, in writing, directions and guidelines with respect to the performance of the functions, or the exercise of the powers, of the CSIRO (SIR Act, section 13(1)).

Our responsible Minister and the Minister for Finance may also provide the CSIRO Board with directions with respect to the performance of the functions, or the exercise of the powers, of the Board or the organisation. On 16 April 2024, Minister Husic issued directions to the CSIRO Board relating to strengthening its structural governance arrangements (see Appendix C).

Statement of Expectations

On 14 July 2023, CSIRO Board Chair, Kathryn Fagg AO, provided a Statement of Intent to Minister Husic in response to the Statement of Expectations he issued to CSIRO in the previous financial year, on 9 December 2022. For detail on how we have delivered on these priorities, see page 15.

These documents are available at:
csiro.au/statement-of-intent
csiro.au/statement-of-expectations

Our Board

The CSIRO Board is responsible under the SIR Act and the PGPA Act for the overall strategy, governance and performance of our organisation. Section 12 of the SIR Act sets out the functions of the Board. The Board Charter and other details are available on our website at csiro.au/minister-board.

The Board comprises 7 part-time, non-executive members, including the Chair, and a full-time Chief Executive. At 30 June 2024, there are 2 vacancies on the Board. All non-executive Board members are appointed by the Governor-General. The Chief Executive is appointed by the CSIRO Board, in consultation with the Minister pursuant to s10B of the SIR Act.

In 2023–24, our Board operated in part through 3 standing committees:

- **The Audit and Risk Committee** assists the Board in fulfilling its corporate governance responsibilities regarding financial reporting, audit and risk oversight, reporting obligations, and internal controls and compliance with relevant laws and policies. All members of the Audit and Risk Committee are not CSIRO employees (per s.17 PGPA Rule). The functions of the Audit and Risk Committee are set out in the Committee's charter and members are selected based on their expertise and ability to discharge the Committee's functions in line with the charter (see Appendix E and csiro.au/BARC.
- **The People and Safety Committee** assists the Board to meet its governance responsibilities relating to people, health and safety strategies, obligations, performance and culture.
- **The Science Excellence Committee** assists the Board to fulfil its governance responsibilities regarding science, capability and strategic plans to ensure we maintain our reputation for scientific excellence and capacity to respond to national challenges and opportunities. The Science Excellence Committee held its final meeting in April 2024 and its remit will be absorbed into the normal proceedings of Board meetings, reflecting the Board's ongoing desire to focus on science excellence at the highest level.

Board members are appointed for their expertise and provide an extensive range of skills, knowledge and experience to assist us delivering against our objectives and achieving science impact for Australia. On appointment, Board members are formally inducted in the organisation's functions, operations and activities and in their duties and responsibilities as members of the Board of a corporate Commonwealth entity. Board members are provided with a comprehensive set of documents (legislation, Corporate Plan, Risk Management Framework, and key plans and policies).

Members maintain their professional development and participate in site visits and governance and business briefings, and they engage with staff and external stakeholders. Members may seek independent professional advice and liaise with our senior management in keeping with their duties, responsibilities and obligations as Board members.

Under its Charter and Operating Guidelines, the CSIRO Board examines its performance, composition and skill base regularly to ensure it is operating efficiently and effectively and following the principles of good corporate governance. Board performance was reviewed by self-assessment in March 2024.

The Board holds 6 scheduled meetings and a strategy session each year, with additional meetings held as required. In 2023–24, 6 Board meetings were held. Members of the Executive Team are subject matter experts, attending Board meetings as required to report on matters related to their areas of responsibility and expertise. The Secretary of Department of Industry, Science, and Resources (DISR) attends scheduled Board meetings at the Chair's invitation as an observer. Details of remuneration are reported in Note 3.3 of the financial statements in Part 4, and details of meeting attendance can be found in Appendix F.

Our Executive Team

The Chief Executive is accountable for managing the organisation's affairs according to our strategy, plans and policies approved by the Board and the Board Directions to the Chief Executive (s.10A (3) SIR Act).

The Executive Team (ET) supports our Chief Executive (see page 7). As a team and through their individual roles, ET members lead, direct, coordinate and control our operations and performance in line with the Executive Team Terms of Reference, available at: csiro.au/executive-team-tor.

ET's responsibilities include development of the Corporate Plan, financial plan and annual budgets, annual audit and risk plans, annual science and operational plans, and our organisational risk profile. Newly appointed ET members undergo a formal induction process to ensure they are aware of their responsibilities.

Our ET is assisted by the following:

- **Major Transactions Committee (MTC)** – responsible for managing our involvement in major transactions (as prescribed by the level of risk, type of transaction or value of transaction (over $5 million)) and related matters and investment, to ensure the soundness, strategic alignment and potential risk of such transactions. MTC reviews proposed transactions and advises the ET on matters related to proper and efficient performance of business development, Intellectual Property management and technology transfer activities. During 2023–24, the MTC met 22 times.
- **CSIRO Security Committee** – responsible for ensuring the effectiveness of our security strategies, programs and measures to protect our people, information and assets. The Security Committee held 3 meetings in 2023–24, driving 17 high level actions to improve CSIRO's security posture over the financial year.
- **Sustainability Steering Committee (SSC)** – oversees our strategy's effectiveness to manage social and environmental risks, including management and governance processes. The SSC met twice to discuss progressing the Sustainability Strategy, climate disclosures and net zero targets.
- **CSIRO Leadership Team (CLT)** – made up of our research unit directors, enterprise unit directors and science directors and provides a forum for sharing and discussing issues relating to our management and future strategy. The CLT met 40 times in 2023–24.
- **Research Unit Leaders Forum (RULF)** – made up of our Research Unit Directors. This group provides leadership for our research capability, the impact we deliver from science, and the financial performance of our research portfolio. The RULF meets monthly to discuss organisational matters, strategic activity and alignment, such as the evolution of Challenge strategies and shaping the Research Portfolio priority. The RULF also organises the Research Leaders Forum, an annual gathering of over 100 research leaders from across the organisation.
- **Science Council** – made up of our Science Directors. This group provides strategic advice and guidance to support the quality, relevance and impact of CSIRO research. The council met 9 times this year, reviewing progress of our Future Science Platforms and discussing issues relating to research excellence and integrity, capability development, and national science policy.

Governance

In 2023–24, a series of reforms were initiated to ensure our system of governance is contemporary and fit for purpose. These reforms demonstrate our commitment to achieving our objectives in accordance with legislative requirements and government, ministerial and community expectations. The reforms included:

- initiating an independent review to:
  - consider the effectiveness and completeness of our current system of governance
  - make any necessary recommendations for actions to ensure our operations are consistent with our obligations
  - identify opportunities to introduce better practice arrangements over time
- issuing Accountable Authority Instructions to guide how we meet our legislative obligations
- improving our management of risk
- confirming our system of internal control and prioritising our policy framework.

Child Safe Office

We are committed to building and maintaining a culture of child safety to lower the risk of harm to children involved in our events and activities. Our Child Safe Office is the central point of contact for expert knowledge and advice for all our child safeguarding matters. Key initiatives include:

- improving our systems and processes to increase compliance with child safeguarding requirements and implementing evidence-based education and training for our people and third-party providers
- establishing a Child Safe Allies Network in 2023 to raise awareness of, and compliance with, our child safety obligations and promote a child safe culture throughout CSIRO
- developing internal and external networks to share information and further improve our practices and procedures.

Risk management

The CSIRO Board and Executive promote a positive and sensible approach to risk management and continuous improvement of risk practice across CSIRO. This is in line with section 16 of the PGPA Act and the Commonwealth Risk Management Policy.

In 2023–24, we continued to manage existing risks and our continuous engagement with risk (and the changing risk landscape) contributed to the identification of new risks. The following activities have contributed to our steady progress in improving risk maturity and culture:

- Uplifting risk reporting and information through regular engagements with the business and use of consistent and simplified tools.
- Integrating risk management into governance procedures and performance management processes.
- Uplifting staff capability through implementation of our risk management framework, ongoing learning and development and senior leaders championing risk within their areas of operation.
- Targeting awareness including presentations at leader team meetings and workshops with business areas.

Our risk management approach is set out in CSIRO's Accountable Authority Instruction for Risk Management and the Risk Management Framework, which includes the desired risk appetite and tolerance limits and governance arrangements. Under this framework, we foster a positive risk culture by ensuring our enterprise risk management arrangements are well embedded and understood across our organisation.

Into 2024–25, we will continue to enhance our risk capability and culture through a comprehensive work program, focusing on governance, policy, guidance and direct support for our areas and risk owners.

Our insurance arrangements with Comcover include cover for Directors and Officers Liability, General Liability and Professional Indemnity along with other normally insurable risks. The annual premium attributed to Directors' and Officers' insurance for 2023–24 was $461,493. Our workers' compensation liability is covered through Comcare for which an annual premium is also paid.

There were no instances in 2023–24 that CSIRO sought approval from Comcover for an indemnity outside of the Australian Government policy on issuing and managing indemnities.

Internal controls

Compliance

Our compliance approach underpins our Risk Management Framework and Internal Control Framework and meets our responsibilities defined in the SIR Act and PGPA Act. Improving our compliance maturity is a multi-year commitment as we embed how we manage compliance risks, improve compliance awareness, develop and optimise internal controls, and automate processes.

The Board issued several artefacts that confirm and communicate our duties and compliance obligations, including the Accountable Authority Instructions and policies, Delegations and Authorities Framework, and Code of Conduct.

Our CSIRO Code of Conduct aligns with our values and sets out the standard of behaviour expected of our people and others working in our organisation. It is the subject of mandatory training for all our staff and affiliates.

We have also improved the awareness of these obligations by establishing a contemporary register of legislative and regulatory obligations relevant to our programs, projects and operations to inform compliance and assurance activities.

In addition to the compliance reporting provided to the BARC, an annual compliance due diligence exercise was conducted to provide assurance to the Board of our compliance with the PGPA Act and Accountable Authority Instructions. The outcome of this process supports the Board to:

- determine our compliance with finance law and whether significant non-compliance has occurred
- monitor management of key compliance risks
- provide assurance on the effectiveness of our system of internal control.

Ethics and research integrity

The responsible conduct of our research is vital to maintaining our trusted status. Our Science and Delivery Policy and Code of Conduct enshrine our adoption of the National Health and Medical Research Council's *Australian Code for the Responsible Conduct of Research (2018)*. Our CSIRO Code of Conduct aligns with our values and sets out the standard of behaviour expected of our people and others working in the organisation. It is the subject of mandatory training for all our staff and affiliates.

We have procedures for Ethical Conduct in Human Research and Animal Welfare ensuring compliance with national codes and legislative requirements. We operate several committees to provide independent, expert advice on the appropriate engagement of people and communities in social and interdisciplinary science, health and medical related research, and the use of human data; and the care and wellbeing of animals used during research and compliance with regulatory requirements. In 2023–24, our 2 Human Research Ethics Committees reviewed 334 new projects and provided ongoing monitoring and support for over 845 active projects. Our 4 Animal Ethics Committees reviewed 87 new projects and provided ongoing support and monitoring for more than 188 projects.

We proactively monitor organisational alignment with research integrity standards and provide mandatory training for research staff, committee members and senior leaders in research integrity. We also provide training on specific research conduct issues, access to a network of Research Integrity Advisors, online resources, and individual advice to support best practice.

Non-compliance

Pursuant to section 19 (1) (e) of the PGPA Act, we reported zero instances of significant non-compliance with finance law in 2023–24.

Fraud control

As a corporate Commonwealth entity, we comply with section 10 of the PGPA Rule (the Fraud Rule) by establishing and maintaining an effective fraud control framework. During 2023–24, the Fraud and Corruption Risk Control Plan (2023–25) was implemented to meet our obligations under the Fraud Rule, the Commonwealth Fraud Control Framework and the *National Anti-Corruption Commission Act 2022*. The plan is aligned and integrated with our Risk Management Framework and Internal Controls Framework and provides a robust system of fraud and corruption risk control underpinned by prevention, detection and response strategies.

We take a systematic approach to how we identify and assess fraud and corruption risks at operational and enterprise levels. We strengthened how we report on these risks and the effectiveness of our control environment to the BARC. We recently updated our mandatory fraud awareness education training module to reflect legislative and policy changes and to improve awareness of fraud and corruption risks across the organisation. Our Fraud Control Team continues to engage with Australian Government departments and agencies in relation to fraud and corruption control best practice.

Modern Slavery Statement

Prior to December 2024, we will be submitting our fourth Modern Slavery Statement to the Australian Border Force Register to meet our reporting obligations under the *Modern Slavery Act 2018* (Cth). The statement reports on the risks of modern slavery in our operations and supply chains and identifies actions to manage, lessen and remove those risks where possible. It will be available on our website: csiro.au/slavery.

Disclosure of interests and related entity transactions

Board members and the Chief Executive declare material interests as required under the SIR and PGPA Acts. The Board Governance document has processes for managing conflicts of interest, including a requirement that members remove themselves from discussions and voting where a member has declared a material personal interest, or where a potential or actual conflict of interest or duty arises.

There was one (1) instance in the reporting period where a Board member declared an interest in an item for consideration. The Board member was not provided access to the relevant paper and excused herself from participating in discussions and the decision process.

We comply with the Commonwealth Procurement Rules. Our system of delegated powers and authorisations for all procurement transactions ensures thorough consideration of all transactions. In accordance with the CSIRO Delegations, as the accountable authority the CSIRO Board approves transactions (commercial, property and procurement) when the overall value (total of all contributions from all parties) is above $20 million, or when transactions that have high risks, are sensitive in nature and/or are long-term strategic commitments by the organisation. Transactions below $20 million and greater than $5 million are approved by the Chief Executive after the MTC has reviewed the transactions against our policies and recommended them for Board or Chief Executive approval. All transactions under $5 million are approved by the suitable delegate in accordance with our procedures and delegations and authority schedules as well as government regulations.

During the reporting period, there were 61 transactions involving entities related to us above $10,000, which came to a total combined value of $70.7 million. Twenty-one (21) transactions were paid to subsidiaries to the value of $51.5 million, and 40 transactions were received from subsidiaries to the value of $19.2 million.

Administrative law

During 2023–24, there were no judicial decisions or decisions of administrative tribunals that have had, or may have had, a significant effect on our operations.

Freedom of information

The *Freedom of Information Act 1982* (FOI Act) provides members of the public with a general right to obtain access to documents held by Australian Government agencies, including us. The general right of access to documents is limited by exceptions, including to protect essential public interests and the privacy or business affairs of those who give information to the agency.

General information about our FOI procedures, including how to make an FOI request, is available on our website: csiro.au/FOI-2023-24.

Part V of the FOI Act provides a right to request that we to amend a document to which lawful access has been granted, where the applicant claims that information in the document:

- contains their personal information
- is incomplete, incorrect, out of date or misleading
- has been used, is being used or is available for use by the agency or Minister for an administrative purpose.

In the reporting year to 30 June 2024, we received 66 requests for documents or requests from other agencies to consider the release of documents relating to CSIRO under the FOI Act. During 2023–24, we received no requests for amendment of personal information under the FOI Act.

Information Publication Scheme

We are required to publish information under the Information Publication Scheme, which promotes open and transparent communication of government information. We provide a plan showing what information we publish in keeping with the Information Publication Scheme requirements on our website: csiro.au/FOI-2023-24.

Members of the public may access scientific and technical publications from CSIRO Publishing and the ePublish Repository. Research data we use is routinely published on the CSIRO Data Access Portal: data.csiro.au.

Archives, privacy and administrative decisions

Our archives collection includes material from the Council for Science and Industrial Research, our predecessor, dating from 1926. In accordance with the *Archives Act 1983* (Cth) (Archives Act), certain CSIRO records are held by the National Archives of Australia. Disposal arrangements for records follow the Archives Act, and access to records over 20 years old is provided in accordance with that Act.

We are bound by the Australian Privacy Principles under the *Privacy Act 1988* (Cth) (the Privacy Act) and have measures in place to manage compliance including our Privacy Management Plan and Data Breach Response Plan.

During 2023–24, we had no Notifiable Data Breaches (NDB) under the Notifiable Data Breaches Scheme.

On 8 May 2023, HWL Ebsworth (HWLE), one of CSIRO's contracted legal services providers, reported a data breach to the Office of the Australian Information Commissioner (OAIC) under the NDB Scheme. HWLE advised CSIRO that certain documents relating to a limited number of CSIRO matters were included in the breach suffered by HWLE. While some personal information was contained in these documents, the majority of such information was of a business nature. Where information of a more personal or sensitive nature was identified, CSIRO has notified the affected individuals directly and provided support and access to services to help them protect their personal information. HWLE took the coordinating role in reporting this matter to OAIC on behalf of its affected client agencies. CSIRO's own systems were not compromised as a result of the HWLE incident.

The *Administrative Decisions (Judicial Review) Act 1977* (Cth) (ADJR Act) enables a person aggrieved by certain classes of administrative decisions made by Australian Government agencies, including CSIRO, to obtain reasons for or to challenge those decisions.

During 2023–24, we received no challenges or requests for statements of reasons under the ADJR Act.

Public Interest Disclosure

We have implemented internal procedures to comply with the *Public Interest Disclosure Act 2013* (Cth) (PID Act) through a Public Interest Disclosure Scheme (the PID Scheme). These procedures and the PID Scheme are in the process of being reviewed and updated to comply with the recent amendments to the PID Act.

The PID Scheme promotes integrity and accountability by encouraging the disclosure of information about suspected wrongdoing, protecting people who make disclosures and ensuring that we take appropriate action. We contributed to the Commonwealth Ombudsman's Annual Report on public interest disclosures (or PIDs), as required by section 76(3) of the PID Act.

In 2023–24, we received, or were allocated by the Ombudsman, 3 PIDs pursuant to section 26 of the PID Act.

National Anti-Corruption Commission

On 1 July 2023, the National Anti-Corruption Commission commenced. Certain circumstances where a PID officer receives an internal disclosure under the PID Act, may trigger a referral obligation under the *National Anti-Corruption Commission Act 2022* (Cth).

No National Anti-Corruption Commission referrals were made by CSIRO during 2023–24.

Policy Framework

Our Policy Framework provides a Board-approved system to ensure we have relevant and effective policies and procedures to meet legislative requirements and organisational obligations. The Policy Framework, comprising of policies, procedures and supporting documentation, confirms Board expectations, our responsibilities and commitments, performance and compliance requirements.

A range of initiatives to improve our policy governance commenced in 2023–24, with the Board confirming its expectations and instructions to the organisation by issuing Accountable Authority Instructions and a revised Policy Framework. Improvements to the processes and systems that underpin the Policy Framework are ongoing. Our policies are mandatory, principle-based statements that define our intent. They are available at csiro.au/en/about/policies.

- research and technology
- science and delivery
- ethical human research
- governance
- finance
- child safety
- shareholding
- privacy.

Remuneration

Enterprise agreements set the terms and conditions of employment for our employees. Two enterprise agreements are in operation: the CSIRO Enterprise Agreement 2023–2026 and the CSIRO Canberra Deep Space Communication Complex (CDSCC) Enterprise Agreement 2018–2021.

The CSIRO Enterprise Agreement 2023–2026 came into operation on 1 April 2024 and reaches its nominal expiry date on 17 November 2026. The CDSCC Enterprise Agreement 2018–2021 started operation on 21 February 2019 and reached its nominal expiry date on 20 February 2022. Determinations under our enabling legislation have been used to provide pay increases since the nominal expiry date, with the latest effective from 21 February 2024. Bargaining for a replacement CDSCC Enterprise Agreement is planned for the second half of 2024.

Remuneration Framework

The Chief Executive evaluates and determines the appropriate level of pay for executive positions in line with our executive remuneration strategy. The base salary is a fixed component based on a range of factors, including work value assessments, individual performance, competence and skill, internal relativities, and external market rates.

Annual remuneration review

Remuneration levels for executives are reviewed annually by the Chief Executive and the Board People and Safety Committee (BPSC), which assesses any increases for the next financial year. The annual remuneration review for 2023–24 considered:

- market competitiveness
- individual performance
- the Public Sector Workplace Relations Policy 2023.

Market-related remuneration package arrangements may increase because of contract provisions aligned with Enterprise Agreement salary increases or by market-related adjustments, which are determined annually by the BPSC.

The BPSC makes recommendations to the CSIRO Board on the Chief Executive's remuneration and performance, including possible key result areas and performance targets. The CSIRO Board determines the Chief Executive's remuneration and any applicable performance payment within the range set by the Remuneration Tribunal after the Tribunal's annual determination of the reference rate.

Remuneration strategy and governance

Our remuneration strategy considers applicable remuneration provisions within the CSIRO Enterprise Agreement 2023–2026. Clauses 11 and 12 of the CSIRO Enterprise Agreement 2023–2026 provides for market-related remuneration and individual flexibility arrangements. The remuneration strategy also considered the Government's Public Sector Workplace Relations Policy 2023.

Key management personnel, executives and other highly paid staff are remunerated in accordance with their contracts of employment and relevant governing provisions. Our remuneration strategy has also considered the APSC Performance Bonus Guidance, including the removal of performance bonuses in line with the Principles within the Guidance.

The Chief Executive is a position within the Commonwealth Principal Executive Officer structure. The Remuneration Tribunal sets the Total Remuneration reference rate and the maximum achievable performance payment.

Remuneration and allowances payable to members of the CSIRO Board are determined by the Australian Government Remuneration Tribunal for Part Time Office Holders. Determinations of the Remuneration Tribunal are established under the *Remuneration Tribunal Act 1973*.

The BPSC assists the Board to fulfil its governance responsibilities for organisational development, people-related activities, and health and safety. In relation to remuneration and performance, this Committee:

- makes recommendations to the Board on the remuneration and performance of the Chief Executive, including possible key result areas and performance targets
- reviews the Chief Executive's decisions regarding the remuneration and performance assessment of Executive Team members, and ratifies these recommendations as appropriate
- exercises oversight of our executive remuneration strategy, including the senior executive remuneration structure (focus on positions, not individuals) and with references to the market
- specifically oversees negotiations with the Chief Executive or nominee regarding terms and conditions of appointment.

Remuneration of key management personnel, executives, and other highly paid staff

Remuneration details are provided as required under the Public Governance, Performance and Accountability Rule 2014 (PGPA Rule). Remuneration of key management personnel, senior executives and other highly paid staff is reported in detail in note 3.2 of the financial statements in Part 5. Annual reportable remuneration includes base salary, benefits and allowances, performance payments, superannuation, termination benefits, long service leave and other short-term and long-term benefits. The remuneration reported has been calculated on an accrual basis and does not equal actual remuneration paid in 2023–24.

Service charter

Our service charter describes the standards of service that we aim to deliver to our customers and our commitment to ensuring these standards are maintained. In summary:

- we believe our customers and partners are essential to our success
- we maintain relevance in our work through input from the public, government, industry and the research community
- we communicate with our customers in a courteous, helpful and professional manner:
  - we respect customer confidentiality
  - we evaluate our services to ensure continuous improvement of our service delivery.

Our complete service charter is available on our website: csiro.au/work-with-us/working-with-csiro/service-charter.

We welcome feedback on our performance. Contact CSIRO Enquiries:

Private Bag 10
Clayton South Vic 3169
1300 363 400
csiro.au/contact

Part 4
Financial statements

INDEPENDENT AUDITOR'S REPORT

To the Minister for Industry and Science

Opinion

In my opinion, the financial statements of the Commonwealth Scientific and Industrial Research Organisation (the Entity) and the Consolidated Entity (the Entity and its subsidiaries) for the year ended 30 June 2024:

(a) comply with Australian Accounting Standards – Simplified Disclosures and the *Public Governance, Performance and Accountability (Financial Reporting) Rule 2015*; and

(b) present fairly the financial positions of the Entity and the Consolidated Entity as at 30 June 2024 and their financial performance and cash flows for the year then ended.

The financial statements of the Entity and the Consolidated Entity, which I have audited, comprise the following as at 30 June 2024 and for the year then ended:

- Statement by the Chair of the Board, Chief Executive and Chief Finance Officer;
- Statements of Comprehensive Income;
- Statements of Financial Position;
- Statement of Changes in Equity - Consolidated;
- Statement of Changes in Equity - CSIRO;
- Cash Flow Statements; and
- Notes to and forming part of the financial statements comprising material accounting policy information and other explanatory information.

Basis for opinion

I conducted my audit in accordance with the Australian National Audit Office Auditing Standards, which incorporate the Australian Auditing Standards. My responsibilities under those standards are further described in the *Auditor's Responsibilities for the Audit of the Financial Statements* section of my report. I am independent of the Entity and the Consolidated Entity in accordance with the relevant ethical requirements for financial statement audits conducted by the Auditor-General and their delegates. These include the relevant independence requirements of the Accounting Professional and Ethical Standards Board's APES 110 *Code of Ethics for Professional Accountants (including Independence Standards)* (the Code) to the extent that they are not in conflict with the *Auditor-General Act 1997*. I have also fulfilled my other responsibilities in accordance with the Code. I believe that the audit evidence I have obtained is sufficient and appropriate to provide a basis for my opinion.

The Board's responsibility for the financial statements

As the Accountable Authority of the Entity, the Board is responsible under the *Public Governance, Performance and Accountability Act 2013* (the Act) for the preparation and fair presentation of annual financial statements that comply with Australian Accounting Standards – Simplified Disclosures and the rules made under the Act. The Board is also responsible for such internal control as the Board determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, the Board is responsible for assessing the ability of the Entity and the Consolidated Entity to continue as a going concern, taking into account whether the entities' operations will cease as a result of an administrative restructure or for any other reason. The Board is also responsible for disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless the assessment indicates that it is not appropriate.

GPO Box 707, Canberra ACT 2601
38 Sydney Avenue, Forrest ACT 2603
Phone (02) 6203 7300

Auditor's responsibilities for the audit of the financial statements

My objective is to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes my opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with the Australian National Audit Office Auditing Standards will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of the financial statements.

As part of an audit in accordance with the Australian National Audit Office Auditing Standards, I exercise professional judgement and maintain professional scepticism throughout the audit. I also:

- identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for my opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control;
- obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Entity and the Consolidated Entity's internal control;
- evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by the Accountable Authority;
- conclude on the appropriateness of the Accountable Authority's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Entity or the Consolidated Entity's ability to continue as a going concern. If I conclude that a material uncertainty exists, I am required to draw attention in my auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify my opinion. My conclusions are based on the audit evidence obtained up to the date of my auditor's report. However, future events or conditions may cause the Entity or the Consolidated Entity's to cease to continue as a going concern;
- evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation; and
- obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Consolidated Entity to express an opinion on the financial report. I am responsible for the direction, supervision and performance of the Consolidated Entity audit. I remain solely responsible for my audit opinion.

I communicate with the Accountable Authority regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that I identify during my audit.

Australian National Audit Office

Jeffrey Hobson

Executive Director

Delegate of the Auditor-General

Canberra

2 September 2024

COMMONWEALTH SCIENTIFIC AND INDUSTRIAL RESEARCH ORGANISATION
STATEMENT BY THE CHAIR OF THE BOARD, CHIEF EXECUTIVE AND CHIEF FINANCE OFFICER

In our opinion, the attached financial statements for the period ended 30 June 2024 comply with subsection 42(2) of the *Public Governance, Performance and Accountability Act 2013 (PGPA Act)*, and are based on properly maintained financial records as per subsection 41(2) of the *PGPA Act*.

In our opinion, at the date of this statement, there are reasonable grounds to believe that the Commonwealth Scientific and Industrial Research Organisation (CSIRO) and its subsidiaries will be able to pay their debts as and when they fall due.

This statement is made in accordance with a resolution of the directors.

Kathryn Fagg AO
Chair of the Board
29 August 2024

Dr Doug Hilton AO
Chief Executive and Board Member
29 August 2024

Stewart Walters
Chief Financial Officer
29 August 2024

CONSOLIDATED FINANCIAL STATEMENTS
STATEMENT OF COMPREHENSIVE INCOME
For the period ended 30 June 2024

		Consolidated		CSIRO	
		2024	2023	**2024**	2023
NET COST OF SERVICES	**Notes**	**$'000**	$'000	**$'000**	$'000
Expenses					
Employee benefits	1.1A	**983,611**	883,018	**982,985**	879,994
Suppliers	1.1B	**546,466**	525,341	**545,472**	561,718
Depreciation and amortisation	2.2A	**169,701**	168,357	**169,701**	168,279
Finance costs	1.1C	**944**	2,551	**929**	2,214
Write-downs and impairment loss on financial instruments	1.1D	**(47)**	1,807	**(47)**	1,807
Write-downs and impairment of other assets	1.1E	**85**	16,544	**85**	16,544
Losses from asset sales	1.1F	**7,691**	3,397	**7,691**	3,397
Foreign exchange losses		**798**	668	**794**	669
Total expenses		**1,709,249**	1,601,683	**1,707,610**	1,634,622
Own-Source income					
Own-source revenue					
Revenue from contracts with customers	1.2A	**549,861**	497,604	**554,785**	508,236
Bank and term deposits interest	1.2B	**49,607**	27,922	**38,220**	22,469
Rental income	1.2C	**7,085**	6,665	**7,085**	6,665
Other revenues	1.2D	**47,251**	28,603	**56,379**	34,214
Total own-source revenue		**653,804**	560,794	**656,469**	571,584
Gains					
Gains from sale of equity investments and IP		**-**	9,173	**-**	9,173
Gains on valuation of equity investments	4.2B	**(2,979)**	124,337	**20,571**	71,104
Gain on revaluation of investment properties	2.2B	**1,875**	(4,606)	**1,875**	(4,606)
Other gains	1.2E	**34,095**	13,938	**34,095**	13,938
Total gains		**32,991**	142,842	**56,541**	89,609
Total own-source income		**686,795**	703,636	**713,010**	661,193
Net cost of services		**(1,022,454)**	(898,047)	**(994,600)**	(973,429)
Revenue from Government	1.2F	**1,009,239**	991,134	**1,009,239**	991,134
Surplus/(deficit) from ongoing operations		**(13,215)**	93,087	**14,639**	17,705
Discontinued Operations					
Deficit for the year from discontinued operations		**(294)**	(717)	**-**	-
Total surplus/(deficit) from all operations		**(13,509)**	92,370	**14,639**	17,705
Surplus/(deficit) for the year is attributable to:					
Non-controlling interest		**(16,890)**	40,988	**-**	-
CSIRO		**3,381**	51,382	**14,639**	17,705
Total surplus/(deficit) from all operations		**(13,509)**	92,370	**14,639**	17,705

The above Statement should be read in conjunction with the accompanying notes

CONSOLIDATED FINANCIAL STATEMENTS
STATEMENT OF COMPREHENSIVE INCOME
For the period ended 30 June 2024

NET COST OF SERVICES (Continued)	Notes	Consolidated 2024 $'000	Consolidated 2023 $'000	CSIRO 2024 $'000	CSIRO 2023 $'000
OTHER COMPREHENSIVE INCOME					
From ongoing operations					
Changes in asset revaluation reserves	1.3A	**181,679**	107,032	**181,679**	107,032
Changes in other reserves	1.3B	**223**	90	**-**	-
From discontinued operations					
Changes in other reserves	1.3B	**(110)**	(43)	**-**	-
Total other comprehensive income		**181,792**	107,079	**181,679**	107,032
Total comprehensive income		**168,283**	199,449	**196,318**	124,737
Total comprehensive income is attributable to:					
Non-controlling interest		**(16,890)**	40,988	**-**	-
CSIRO		**185,173**	158,461	**196,318**	124,737
Total comprehensive income/(loss)		**168,283**	199,449	**196,318**	124,737

The above Statement should be read in conjunction with the accompanying notes.

CONSOLIDATED FINANCIAL STATEMENTS
STATEMENT OF FINANCIAL POSITION
As at 30 June 2024

		Consolidated		CSIRO	
		2024	2023	**2024**	2023
	Notes	**$'000**	$'000	**$'000**	$'000
ASSETS					
Financial Assets					
Cash and cash equivalents	2.1A	**789,569**	801,306	**531,377**	608,910
Trade and other receivables	2.1B	**113,027**	127,787	**109,245**	125,799
Other investments	2.1C	**1,103,726**	1,011,532	**439,618**	371,634
Assets directly related to discontinued operations		**936**	1,343	**-**	-
Total financial assets		**2,007,258**	1,941,968	**1,080,240**	1,106,343
Non-Financial Assets					
Land and buildings	2.2A	**1,798,356**	1,634,884	**1,798,356**	1,634,884
Heritage and cultural	2.2A	**15,576**	10,160	**15,576**	10,160
Plant and equipment	2.2A	**636,157**	563,218	**636,157**	563,218
Intangibles	2.2A	**16,333**	17,020	**16,333**	17,020
Investment properties	2.2B	**48,016**	46,141	**48,016**	46,141
Inventories		**1,136**	1,284	**1,136**	1,284
Other non-financial assets	2.2C	**34,933**	30,596	**34,993**	30,354
Total non-financial assets		**2,550,507**	2,303,303	**2,550,567**	2,303,061
Assets held for sale		**12,882**	41,720	**12,882**	41,720
Total assets		**4,570,647**	4,286,991	**3,643,689**	3,451,124
LIABILITIES					
Payables					
Suppliers	2.3A	**321,999**	386,147	**320,885**	385,068
Other payables	2.3B	**24,189**	23,087	**24,129**	22,979
Deposits	2.3C	**14,580**	17,011	**14,563**	17,321
Liabilities directly associated with discontinued operations		**702**	1,126	**-**	-
Total payables		**361,470**	427,371	**359,577**	425,368
Interest Bearing Liabilities					
Lease liabilities	2.4	**45,692**	58,287	**45,692**	58,287
Total Interest bearing liabilities		**45,692**	58,287	**45,692**	58,287
Provisions					
Employee provisions	3.1A	**275,570**	248,206	**275,447**	248,104
Provision for remediation	2.5	**61,196**	64,606	**61,196**	64,606
Total provisions		**336,766**	312,812	**336,643**	312,710
Total liabilities		**743,928**	798,470	**741,912**	796,365
Net assets		**3,826,719**	3,488,521	**2,901,777**	2,654,759
EQUITY					
Contributed equity		**467,612**	416,912	**467,304**	416,604
Asset revaluation reserves		**1,030,323**	1,702,538	**1,030,323**	1,702,538
Other reserves		**(140)**	(253)	**-**	-
Retained surplus		**1,672,985**	816,357	**1,404,150**	535,617
Non-controlling interest		**655,939**	552,967	**-**	-
Total equity		**3,826,719**	3,488,521	**2,901,777**	2,654,759

The above Statement should be read in conjunction with the accompanying notes.

CONSOLIDATED FINANCIAL STATEMENTS
STATEMENT OF CHANGES IN EQUITY – CONSOLIDATED
For the period ended 30 June 2024

	Retained earnings		Asset revaluation reserve		Other reserves		Contributed equity/capital		Non-controlling interest		Total equity	
	2024	2023	**2024**	2023	**2024**	2023	**2024**	2023	**2024**	2023	**2024**	2023
	$'000	$'000	**$'000**	$'000	**$'000**	$'000	**$'000**	$'000	**$'000**	$'000	**$'000**	$'000
Opening balance	**816,357**	764,975	**1,702,538**	1,595,506	**(253)**	(300)	**416,912**	331,384	**552,967**	424,214	**3,488,521**	3,115,779
Comprehensive income												
Other comprehensive income	**-**	-	**181,679**	107,032	**113**	47	**-**	-	**-**	-	**181,792**	107,079
Surplus/(deficit) for the period	**3,675**	52,099	**-**	-	**-**	-	**-**	-	**(16,890)**	40,988	**(13,215)**	93,087
Total comprehensive income/(loss)	**3,675**	52,099	**181,679**	107,032	**113**	47	**-**	-	**(16,890)**	40,988	**168,577**	200,166
Other movements	**852,953**	(717)	**(853,894)**	-	**-**	-	**-**	-	**-**	-	**(941)**	(717)
Contributions by owners												
Equity injection	**-**	-	**-**	-	**-**	-	**50,700**	85,528	**119,862**	87,765	**170,562**	173,293
Closing balance	**1,672,985**	816,357	**1,030,323**	1,702,538	**(140)**	(253)	**467,612**	416,912	**655,939**	552,967	**3,826,719**	3,488,521

The above Statement should be read in conjunction with the accompanying notes.

Accounting Policy

Other Comprehensive Income

Refer to Note 1.3.

Equity Injections

Amounts that are designated as equity injections for a year are recognised directly in contributed equity in that year.

Non-controlling interests

Non-controlling interests refer to equity in a subsidiary that is not attributable (directly or indirectly) to CSIRO as parent. CSIRO recognises non-controlling interests in the CSIRO Innovation Fund subsidiary entities.

Other Movements

Other movements relates primarily to the transfer of historical valuation adjustments on assets that have been disposed of across to retained earnings, in accordance with the clauses of *AASB 116 Property Plant and Equipment*. It also includes the movements related to discontinued operations.

CONSOLIDATED FINANCIAL STATEMENTS
STATEMENT OF CHANGES IN EQUITY – CSIRO
For the period ended 30 June 2024

	Retained earnings		Asset revaluation reserve		Other reserves		Contributed equity/capital		Non-controlling interest		Total equity	
	2024	2023	**2024**	2023	**2024**	2023	**2024**	2023	**2024**	2023	**2024**	2023
	$'000	$'000	**$'000**	$'000	**$'000**	$'000	**$'000**	$'000	**$'000**	$'000	**$'000**	$'000
Opening balance	**535,617**	517,912	**1,702,538**	1,595,506	**-**	-	**416,604**	331,076	**-**	-	**2,654,759**	2,444,494
Comprehensive income												
Other comprehensive income	**-**	-	**181,679**	107,032	**-**	-	**-**	-	**-**	-	**181,679**	107,032
Surplus/(deficit) for the period	**14,639**	17,705	**-**	-	**-**	-	**-**	-	**-**	-	**14,639**	17,705
Total comprehensive income/(loss)	**14,639**	17,705	**181,679**	107,032	**-**	-	**-**	-	**-**	-	**196,318**	124,737
Other movements	**853,894**	-	**(853,894)**	-	**-**	-	**-**	-	**-**	-	**-**	-
Contributions by owners												
Equity injection	**-**	-	**-**	-	**-**	-	**50,700**	85,528	**-**	-	**50,700**	85,528
Closing balance	**1,404,150**	535,617	**1,030,323**	1,702,538	**-**	-	**467,304**	416,604	**-**	-	**2,901,777**	2,654,759

The above Statement should be read in conjunction with the accompanying notes.

Accounting Policy

Other Comprehensive Income

Refer to Note 1.3.

Equity Injections

Amounts that are designated as equity injections for a year are recognised directly in contributed equity in that year.

Non-controlling interests

Non-controlling interests refer to equity in a subsidiary that is not attributable (directly or indirectly) to CSIRO as parent. CSIRO recognises non-controlling interests in the CSIRO Innovation Fund subsidiary entities.

Other Movements

Other movements relates to the transfer of historical valuation adjustments on assets that have been disposed of across to retained earnings, in accordance with the clauses of *AASB 116 Property Plant and Equipment*.

CONSOLIDATED FINANCIAL STATEMENTS
CASH FLOW STATEMENT
For the period ended 30 June 2024

	Consolidated		CSIRO	
	2024	2023	**2024**	2023
	$'000	$'000	**$'000**	$'000
OPERATING ACTIVITIES				
Cash received				
Receipts from Government	**1,009,239**	991,134	**1,009,239**	991,134
Sale of goods and rendering of services	**629,901**	606,879	**644,994**	586,255
Interest	**50,060**	18,942	**39,005**	14,539
Net GST received	**42,355**	24,780	**41,036**	24,224
Total cash received	**1,731,555**	1,641,735	**1,734,274**	1,616,152
Cash used				
Employees	**955,447**	856,542	**954,778**	853,253
Suppliers	**678,607**	580,353	**675,218**	577,678
Interest payments on lease liabilities	**2,009**	2,122	**2,009**	2,120
Finance costs	**97**	429	**82**	94
Deposits	**2,438**	1,886	**2,765**	2,408
Total cash used	**1,638,598**	1,441,332	**1,634,852**	1,435,553
Net cash from operating activities	**92,957**	200,403	**99,422**	180,599
INVESTING ACTIVITIES				
Cash received				
Proceeds from sales of equity investments and intellectual property	**37**	15,746	**37**	15,746
Proceeds from sales of property, plant and equipment	**37,710**	1,259	**37,710**	1,259
Total cash received	**37,747**	17,005	**37,747**	17,005
Cash used				
Purchase of property, plant and equipment	**201,418**	148,749	**201,418**	148,749
Purchase of equity investments	**93,650**	102,798	**46,003**	45,003
Other selling costs	**79**	28	**79**	28
Total cash used	**295,147**	251,575	**247,500**	193,780
Net cash used in investing activities	**(257,400)**	(234,570)	**(209,753)**	(176,775)
FINANCING ACTIVITIES				
Cash received				
Contributed equity	**170,608**	173,293	**50,700**	85,528
Total cash received	**170,608**	173,293	**50,700**	85,528
Cash used				
Principal payments of lease liabilities	**17,902**	19,421	**17,902**	19,297
Total cash used	**17,902**	19,421	**17,902**	19,297
Net cash from financing activities	**152,706**	153,872	**32,798**	66,231
Net increase (decrease) in cash held	**(11,737)**	119,705	**(77,533)**	70,055
Cash and cash equivalents at the beginning of the reporting period	**801,306**	681,601	**608,910**	538,855
Cash and cash equivalents at the end of the reporting period	**789,569**	801,306	**531,377**	608,910

The above Statement should be read in conjunction with the accompanying notes.

CONSOLIDATED FINANCIAL STATEMENTS
NOTES TO AND FORMING PART OF THE FINANCIAL STATEMENTS

CONSOLIDATED FINANCIAL STATEMENTS
NOTES TO AND FORMING PART OF THE FINANCIAL STATEMENTS

Overview

Objectives of CSIRO and its Subsidiaries (the Group)

CSIRO is an Australian Government controlled not-for-profit entity and is classified as a Corporate Commonwealth entity under the *Public Governance, Performance and Accountability Act 2013*. CSIRO, together with its subsidiaries (referred to as 'the Group'), is a research enterprise that aims to deliver scientific and innovative solutions for industry, society and the environment and deliver on these objectives in accordance with the *Science and Industry Research Act 1949*.

CSIRO is structured to meet the following outcome:

> Innovative scientific and technological solutions to national challenges and opportunities to benefit industry, the environment and the community, through scientific research and capability development, services and advice.

The Basis of Preparation

The financial statements are required by section 42 of the *Public Governance, Performance and Accountability Act 2013* and are general purpose financial statements.

CSIRO and the Group's Consolidated Financial Statements have been prepared in accordance with:

- *Public Governance, Performance and Accountability (Financial Reporting Rule) 2015* (FRR); and
- *Australian Accounting Standards and Interpretations* – including simplified disclosures for Tier 2 Entities under *AASB 1060* issued by the Australian Accounting Standards Board (AASB) that apply for the reporting period.

The financial statements have been prepared on an accrual basis and in accordance with the historical cost convention, except for certain assets and liabilities at fair value. Except where stated, no allowance is made for the effect of changing prices on the results or the financial position. The financial statements are presented in Australian dollars and values are rounded to the nearest thousand dollars unless otherwise specified.

Key Judgements and Estimates

In the process of applying the Group's accounting policies, management has made a number of judgements and applied estimates and assumptions to future events. Information around judgements and estimates which are material to the financial statements are found in the following notes:

- Note 2.5 Other Provisions
- Note 3.1A Employee Provisions
- Note 4.3 Fair Value Measurement

Consolidation

The consolidated financial statements comprise the financial statements of CSIRO and its subsidiaries. The subsidiaries of CSIRO are the Science and Industry Endowment Fund (SIEF), the CSIRO Chile Research Fundación (Fundación), National ICT Australia (NICTA), the Innovation Fund and the US Office. Refer to Note 3.4 for further information.

The consolidated financial statements incorporate the assets and liabilities of all entities controlled by CSIRO as at 30 June 2024 and the results of the controlled entities for the year then ended. Subsidiaries are consolidated from the date on which control is obtained through to the date on which control ceases.

The non-controlling interest in the results and equity of subsidiaries is shown separately in the statement of comprehensive income, statement of financial position and statement of changes in equity of the consolidated Group.

Foreign Currency Translation

The functional currency of CSIRO and its Australian subsidiaries is Australian dollars. The Group has three overseas subsidiary entities, the Fundación and the US Office entities, with their functional currency being Peso CLP and US dollars respectively. On consolidation, those entities:

- Assets and liabilities are translated into Australian dollars at the rate of exchange prevailing at the reporting date; and
- The statement of comprehensive income is translated at the average exchange rate.

The exchange rate differences arising are recognised in the net cost of services.

New Australian Accounting Standards

In the current reporting period there were no new, revised and/or amending standards and/or interpretations issued prior to the signing of these statements that were applicable to the current reporting period that would have any material effect on the financial statements of the Group. There has been no early adoption of accounting standards applicable to future years.

Taxation

In accordance with Section 53 of the *Science and Industry Research Act 1949*, CSIRO is exempt from all forms of Australian taxation except the fringe benefits tax (FBT) and the goods and services tax (GST). The Group pays applicable taxes in overseas countries.

Revenues, expenses, assets and liabilities are recognised net of GST except:

- where the amount of GST incurred is not recoverable from the Australian Taxation Office; and
- for receivables and payables.

The SIEF is exempt from income tax in Australia. The Innovation Fund entities are subject to all applicable taxes in Australia. The Fundación is subject to all applicable taxes in Chile. The US Office is subject to taxes in the United States of America. NICTA is exempt from income tax however NICTA's subsidiaries (including NICTA IPR Pty Ltd) are subject to applicable taxes in Australia. The amounts of income and other tax payable by the Group's subsidiaries is not material to the consolidated statements.

Events after the Reporting Period

In June 2024, the CSIRO Board agreed to transfer ownership of the Lindfield site from CSIRO to the Department of Industry, Science and Resources (DISR) for nil consideration. This transfer is in line with the original intention of the use of the site for the National Measurement Laboratory, which was a CSIRO division until it merged into the National Measurement Institute under DISR in 2004. Transfer of ownership will occur in financial year 2024-25, and will decrease the value of CSIRO's land and building and investment property portfolio by approximately $101.5m. The transfer will also have a minor impact on CSIRO's rental income.

At the time of signing of the financial statements, the Group is not aware of any other significant events occurring after the reporting date.

Future Events

CSIRO continues to explore future commercial opportunities for divestment of the Ginninderra Field Station, a 701 hectares area of land that CSIRO owns in North Canberra. When sale of the land occurs, there is potential that changes in the valuation of the land will have occurred and gains on sale recognised.

1. Financial Performance

This section analyses the financial performance of CSIRO for the year ended 30 June 2024.

1.1. Expenses

	Consolidated		CSIRO	
	2024	2023	**2024**	2023
	$'000	$'000	**$'000**	$'000
Note 1.1A: Employee Benefits				
Wages and salaries	**729,339**	652,412	**726,913**	650,041
Superannuation				
Defined contribution plans	**83,450**	70,072	**83,450**	70,072
Defined benefit plans	**39,857**	38,663	**39,790**	38,611
Leave and other entitlements	**126,388**	118,158	**126,210**	117,994
Separation and redundancies	**10,848**	6,656	**10,848**	6,656
Gross employee benefits	**989,882**	885,961	**987,211**	883,374
Less:				
Employee cost recovery	**(2,360)**	68	**(315)**	(369)
Capitalised labour	**(3,911)**	(3,011)	**(3,911)**	(3,011)
Total employee benefits	**983,611**	883,018	**982,985**	879,994

Accounting Policy

Accounting policy for employee related expenses is contained in *Section 3. People and Relationships.*

Note 1.1B: Suppliers				
Goods supplied	**174,984**	132,685	**174,486**	132,365
Services rendered	**363,450**	387,534	**363,474**	424,642
Total goods and services supplied or rendered	**538,434**	520,219	**537,960**	557,007
Other suppliers				
Short-term leases and leases of low-value assets	**3,116**	154	**2,942**	35
Audit Fees	**719**	1,078	**392**	820
Workers compensation expenses	**4,197**	3,890	**4,178**	3,856
Total other suppliers	**8,032**	5,122	**7,512**	4,711
Total Suppliers	**546,466**	525,341	**545,472**	561,718

Accounting Policy

The above lease disclosures should be read in conjunction with the accompanying notes 1.1C, 1.2C, 2.2A and 2.4.

Short-term leases and leases of low value assets

The Group has elected not to recognise right-of-use assets and lease liabilities for leases of assets that have a lease term of 12 months or less or leases of low value assets (less than $10,000). The Group recognises the lease payments associated with these leases as an expense on a straight-line basis over the lease term.

Audit Fees

The Group is audited by the Australian National Audit Office. Fees for audit of financial statements for the year was $170,000 for CSIRO and $551,000 for the Group exclusive of GST. Audit fees above also includes the cost of internal audit work by other providers.

	Consolidated		CSIRO	
	2024	2023	**2024**	2023
	$'000	$'000	**$'000**	$'000
Note 1.1C: Finance Costs				
Interest on lease liabilities	**847**	2,122	**847**	2,120
Other interest payments	**97**	429	**82**	94
Total Finance costs	**944**	2,551	**929**	2,214

Accounting Policy

The above disclosures should be read in conjunction with the accompanying notes 1.1B, 1.2C, 2.2A and 2.4.

Note 1.1D: Write-downs and impairment loss on financial instruments				
Asset write-downs and impairments from:				
Bad debts written off	**48**	2,404	**48**	2,404
Impairment of trade and other receivables	**(95)**	(597)	**(95)**	(597)
Total write-downs and impairments on financial instruments	**(47)**	1,807	**(47)**	1,807
Note 1.1E: Write-downs and impairment of other assets				
Asset write-downs and impairments from:				
Land and Buildings	**4**	16,544	**4**	16,544
Property, plant and equipment	**-**	-	**-**	-
Impairment of Intangibles	**81**	-	**81**	-
Total write-downs and impairment of other assets	**85**	16,544	**85**	16,544
Note 1.1F: Gain/(loss) from asset sales				
Land and buildings				
Proceeds from sale	**30,147**	**-**	**30,147**	**-**
Carrying value of assets sold	**(29,831)**	**-**	**(29,831)**	**-**
Selling expense	**(51)**	**-**	**(51)**	**-**
Net gain/(loss) from sale of land and buildings	**265**	**-**	**265**	**-**
Plant and equipment				
Proceeds from sale	**479**	1,258	**479**	1,258
Carrying value of assets sold	**(8,407)**	(4,627)	**(8,407)**	(4,627)
Selling expense	**(28)**	(28)	**(28)**	(28)
Net gain/(loss) from sale of plant and equipment	**(7,956)**	(3,397)	**(7,956)**	(3,397)
Total gain/(loss) from asset sales	**(7,691)**	(3,397)	**(7,691)**	(3,397)

1.2. Revenue and Gains

	Consolidated		CSIRO	
	2024	2023	**2024**	2023
	$'000	$'000	**$'000**	$'000
Note 1.2A: Revenue from contracts with customers				
Sale of goods	**14,904**	11,055	**14,904**	11,055
Rendering of services	**474,346**	436,859	**479,270**	447,491
Royalties and licence fees	**60,611**	49,690	**60,611**	49,690
Total revenue from contracts with customers	**549,861**	497,604	**554,785**	508,236

Disaggregation of revenue from contracts with customers

CSIRO derives its revenue under *AASB 15 Revenue from Contracts with Customers* from two main sources, being the sale of goods and rendering of services. Revenue has been disaggregated based on the line of business and further disaggregated based on the types of contracts that exist within the line of business. This disaggregation is considered most appropriate as it enables users of the Group's financial statements to understand the nature, timing and uncertainty of income and cash flows.

Revenue from contracts with customers - line of business:				
Impact Science				
Coinvestment	**281,011**	241,654	**284,356**	250,104
Consulting & Services	**62,026**	58,868	**62,026**	58,868
Royalties and licence fees	**60,324**	49,297	**60,324**	49,297
Total Impact Science	**403,361**	349,819	**406,706**	358,269
National Facilities & Collections				
Coinvestment	**65,989**	68,560	**65,989**	68,560
Consulting & Services	**45,623**	43,677	**45,623**	43,677
Royalties and licence fees	**9**	99	**9**	99
Total National Facilities & Collections	**111,621**	112,336	**111,621**	112,336
CSIRO Services				
Coinvestment	**16,974**	12,335	**16,974**	12,335
Consulting & Services	**13,820**	19,115	**13,820**	19,115
Royalties and licence fees	**279**	293	**279**	293
Publishing revenue	**2,289**	2,120	**2,289**	2,120
Total CSIRO Services	**33,362**	33,863	**33,362**	33,863
Enterprise Support Services				
Coinvestment	**1,392**	1,288	**1,392**	1,288
Consulting & Services	**125**	298	**1,704**	2,480
Total Enterprise Support Services	**1,517**	1,586	**3,096**	3,768
Total	**549,861**	497,604	**554,785**	508,236

Accounting Policy

Revenue from the sale of goods is recognised when control has been transferred to the buyer. A contract falls within the scope of *AASB 15 Revenue from Contracts with Customers* when the criteria for accounting for a contract with a customer is met as per paragraph 9 of the standard. Performance obligations are required by an enforceable contract with the satisfaction of these performance obligations either measured over time or a point in time.

The transaction price is the total amount of consideration to which CSIRO expects to be entitled in exchange for transferring promised goods or services to a customer. The consideration promised in a contract with a customer may include fixed amounts, variable amounts or both. Payment terms are specified in contracts, but are generally 30 days after the customer has been billed.

The following is a description of principal activities from which CSIRO generates its revenue:

Coinvestment Revenue

CSIRO conducts research and facilitates the uptake of scientific technology solutions with a partner or customer to deliver a positive impact to Australia. Performance obligations are typically satisfied over time, as the customer simultaneously receives and consumes the benefits associated with CSIRO conducting scientific research or CSIRO is creating/enhancing an asset (usually Intellectual Property) that an end customer controls as the asset is created or enhanced. The progress towards the completion of a performance obligation are typically measured using either milestones reached or time elapsed. In the absence of an observable output method, an input method is used to measure the progress towards the completion of the performance obligations.

Consulting & Services

Consulting services are where CSIRO applies existing research to a customer's data or assets to enhance the customer's intellectual property or processes. CSIRO is also a provider of a range of specialised laboratories, scientific and testing equipment, and other research facilities. Services revenue includes facility management fees, and testing and calibrations services.

Performance obligations are satisfied at a point in time or over time depending on the nature of services provided. The methods used to measure the progress towards completion of a performance obligation are dependent on the services provided and generally follow either a milestones reached or time elapsed assessment.

Royalties & Licensing

CSIRO provides a license to a customer which gives the customer a right to access or a right to use CSIRO intellectual property. If the licence provides the customer with the right to access CSIRO intellectual property as it exists throughout the license period, performance obligations are satisfied and revenue recognised over time. If the license provides the customer with the right to use CSIRO intellectual property when the license is granted, performance obligations and revenue is recognised at a point in time.

Publishing Revenue

CSIRO Publishing publishes and distributes scientific, technical and health science books, magazines and journals from Australia to a worldwide audience. Performance obligations are satisfied at a point in time as the customer purchases and receives the goods.

	Consolidated		CSIRO	
	2024	2023	**2024**	2023
	$'000	$'000	**$'000**	$'000
Note 1.2B: Bank and term deposits interest				
Bank and term deposits	**49,607**	27,922	**38,220**	22,469

Accounting Policy

Interest revenue is recognised using the effective interest method as set out in *AASB 9 Financial Instruments*.

	Consolidated		CSIRO	
	2024	2023	**2024**	2023
	$'000	$'000	**$'000**	$'000
Note 1.2C: Rental Income				
Lease income from operating leases	**7,085**	6,665	**7,085**	6,665

CSIRO has operating lease income receivables from the sub-leasing of offices and scientific research accommodation. The amounts below are GST exclusive.

Maturity analysis of operating lease income receivables are as follows:

Within 1 year	**5,536**	5,891	**5,536**	5,891
One to two years	**4,654**	1,750	**4,654**	1,750
Two to three years	**715**	1,225	**715**	1,225
Three to four years	**460**	813	**460**	813
Four to five years	**405**	460	**405**	460
More than 5 years	**775**	1,277	**775**	1,277
Total undiscounted lease payment receivable	**12,545**	11,416	**12,545**	11,416

Accounting Policy

The above lease disclosures should be read in conjunction with the accompanying notes 1.1B, 1.1C, 2.2A and 2.4.

Note 1.2D: Other revenues				
Sale of primary produce	**1,761**	2,312	**1,761**	2,312
Donation	**8**	29	**8**	29
Capital contributions	**40,363**	22,128	**49,821**	27,750
Education programs and subscriptions	**299**	264	**299**	264
Other	**4,820**	3,870	**4,490**	3,859
Total other revenues	**47,251**	28,603	**56,379**	34,214

Accounting Policy

Capital contributions includes income recognised from external parties when (or as) CSIRO has satisfied its obligation from the transfer of a financial asset.

Other includes the sale of CSIRO publications and products, conferences and funding for costs of suppliers and external service providers.

Note 1.2E: Other gains				
Insurance proceeds	**8,366**	-	**8,366**	-
Assets received free of charge	**25,729**	13,938	**25,729**	13,938
Total other gains	**34,095**	13,938	**34,095**	13,938

Accounting Policy

Assets Received Free of Charge

Contributions of assets at no cost of acquisition or for nominal consideration are recognised as gains at their fair value when the asset qualifies for recognition, unless received from another Government entity as a consequence of a restructuring of administrative arrangements.

	Consolidated		CSIRO	
	2024	2023	**2024**	2023
	$'000	$'000	**$'000**	$'000
Note 1.2F: Revenue from Government				
Corporate Commonwealth Entity payment	**1,009,239**	991,134	**1,009,239**	991,134

Accounting Policy

Revenues from Government

Revenues from Government were received from the Australian Government Department of Industry, Science, Energy and Resources (appropriated to CSIRO as a Corporate Commonwealth Entity payment item).

1.3. Other Comprehensive Income

Items that will not be classified to net cost of services				
Note 1.3A: Change in asset revaluation reserves				
Revaluation of land and buildings	**160,539**	107,032	**160,539**	107,032
Revaluation of plant and equipment	**21,931**	-	**21,931**	-
Revaluation of heritage and cultural assets	**5,416**	-	**5,416**	-
Revaluation of makegood	**(6,207)**	-	**(6,207)**	-
Net increase in asset revaluation reserves	**181,679**	107,032	**181,679**	107,032
Items that may be reclassified to net cost of services				
Note 1.3B: Change in other reserves				
Net change arising from foreign exchange movements on conversion of subsidiary accounts	**113**	47	**-**	-
Net (decrease) in other reserves	**113**	47	**-**	-

Accounting Policy

Discontinued Operations

The above disclosures include the impact of discontinued operations – being a change in other reserves of $110k.

2. Financial Position

This section analyses CSIRO's assets used to generate financial performance and the operating liabilities incurred as a result. Employee related information is disclosed in the People and Relationships section.

2.1. Financial Assets

	Consolidated		CSIRO	
	2024	2023	**2024**	2023
	$'000	$'000	**$'000**	$'000
Note 2.1A: Cash and Cash equivalents				
Cash at bank and on hand	**219,169**	270,506	**63,777**	150,110
Term deposits	**570,400**	530,800	**467,600**	458,800
Total cash and cash equivalents	**789,569**	801,306	**531,377**	608,910

Accounting Policy

Cash is recognised at its nominal value. Cash and cash equivalents includes:

a) cash on hand;

b) demand deposits in bank accounts with an original maturity of 12 months or less that are readily convertible to known amounts of cash and subject to insignificant risk of changes in value.

Note 2.1B: Trade and other receivables				
Goods and services receivable				
Goods and services	**66,147**	84,011	**62,983**	82,397
Interest	**10,111**	10,564	**8,529**	9,314
Contract assets	**32,779**	32,638	**32,779**	32,638
GST receivable	**3,952**	528	**3,762**	(97)
Other receivables	**512**	614	**1,256**	1,706
Total trade and other receivables (gross)	**113,501**	128,355	**109,309**	125,958
Less: expected credit loss allowance	**(474)**	(568)	**(64)**	(159)
Total trade and other receivables (net)	**113,027**	127,787	**109,245**	125,799
Trade and other receivables (gross) aged as follows:				
Not overdue	**104,231**	116,555	**100,576**	114,158
Overdue by				
0 to 30 days	**4,542**	8,575	**4,540**	8,575
31 to 60 days	**3,057**	1,731	**3,041**	1,731
61 to 90 days	**323**	590	**323**	590
More than 90 days	**1,348**	904	**829**	904
Total receivables (gross)	**113,501**	128,355	**109,309**	125,958
Reconciliation of impairment loss allowance				
Opening balance	**568**	1,166	**159**	756
Increase /(decrease) recognised in net surplus	**(94)**	(598)	**(95)**	(597)
Closing balance	**474**	568	**64**	159

Accounting Policy

Financial assets

Trade receivables, loans and other receivables that are held for the purpose of collecting the contractual cash flows where the cash flows are solely payments of principal and interest, that are not provided at below-market interest rates, are subsequently measured at amortised cost using the effective interest method adjusted for any loss allowance. Receivables for goods and services, which have 30 day terms, are recognised at the nominal amounts due less any impairment.

Contract assets are associated with services that have been transferred to the customer by CSIRO but there are remaining services to be performed in order to invoice the customer. Refer to Note 2.3A for information relating to contract liabilities.

Accounting Policy (continued)

Impairment of Financial assets

The simplified approach for trade, contract and lease receivables is used. This approach always measures the loss allowance as the amount equal to the lifetime expected credit losses. A write-off constitutes a de-recognition event where the write off directly reduces the gross carrying amount of the financial asset.

	Consolidated		CSIRO	
	2024	2023	**2024**	2023
	$'000	$'000	**$'000**	$'000
Note 2.1C: Other Investments				
Listed companies	**133,058**	109,221	**133,058**	109,221
Unlisted companies	**117,660**	124,796	**111,015**	113,288
Innovation Fund	**846,960**	771,102	**189,497**	142,712
Uniseed Investment	**6,048**	6,413	**6,048**	6,413
Total investments	**1,103,726**	1,011,532	**439,618**	371,634

Accounting Policy

CSIRO has investments in a number of unlisted start-up companies over which it does not have significant influence or control. These companies have been established for the purpose of commercialisation of CSIRO's intellectual property. CSIRO also has some investments in companies which have been listed on the Australian Stock Exchange and in the Uniseed trust. CSIRO, as part of the National Innovation and Science Agenda, has also established and invested in an Innovation Fund to invest in the development of early stage technology opportunities. Refer to Note 3.4 Related Party Disclosures for more information.

CSIRO's other investments are accounted for in accordance with *AASB 9 Financial Instruments*. See note 4.2 and 4.3 for further information.

Movements within each of the above categories between financial years are a result of acquisitions, disposals of investments or movements within the fair value of the investments.

2.2. Non-Financial Assets

Note 2.2A: Reconciliation of the opening and closing balances of Land and Buildings, Plant and Equipment and Intangibles

(a) Reconciliation of the opening and closing balances of Land and Buildings, Plant and Equipment and Intangibles for 2024 - Consolidated

	Land $'000	Buildings $'000	Total land and buildings $'000	Plant and equipment $'000	Heritage and cultural $'000	Intangibles $'000	Total $'000
As at 1 July 2023							
Gross book value	**380,064**	**3,188,990**	**3,569,054**	**1,412,685**	**150,269**	**64,218**	**5,196,226**
Accumulated depreciation and amortisation	-	**(1,934,170)**	**(1,934,170)**	**(849,467)**	**(140,109)**	**(47,198)**	**(2,970,944)**
Net book value as at 1 July 2023	**380,064**	**1,254,820**	**1,634,884**	**563,218**	**10,160**	**17,020**	**2,225,282**
Additions:							
By purchase	-	**88,734**	**88,734**	**110,307**	-	**2,378**	**201,419**
Right-of-use assets	-	**4,864**	**4,864**	**443**	-	-	**5,307**
Assets first recognised through a gain in net cost of services	-	-	-	**25,729**	-	-	**25,729**
Reclassification	-	**383**	**383**	**(382)**	-	**(1)**	-
Revaluations recognised in other comprehensive income	**91,279**	**69,260**	**160,539**	**21,931**	**5,416**	-	**187,886**
Impairments recognised in net cost of services	-	-	-	-	-	**(81)**	**(81)**
Write-offs and impairments on right-of-use assets recognised in net cost of services	-	-	-	**(3)**	-	-	**(3)**
Depreciation expense	-	**(73,416)**	**(73,416)**	**(75,841)**	-	**(2,983)**	**(152,240)**
Depreciation on right-of-use assets	-	**(16,639)**	**(16,639)**	**(822)**	-	-	**(17,461)**
Total depreciation and amortisation	-	**(90,055)**	**(90,055)**	**(76,663)**	-	**(2,983)**	**(169,701)**
Disposals	**(130)**	**(863)**	**(993)**	**(8,407)**	-	-	**(9,400)**
Disposals of Right-of-Use Assets	-	-	-	**(16)**	-	-	**(16)**
Net book value as at 30 June 2024	**471,213**	**1,327,143**	**1,798,356**	**636,157**	**15,576**	**16,333**	**2,466,422**
Net book value as at 30 June 2024 represented by:							
Gross book value	**471,213**	**3,681,965**	**4,153,178**	**1,470,765**	**162,657**	**66,478**	**5,853,078**
Accumulated depreciation and amortisation	-	**(2,354,822)**	**(2,354,822)**	**(834,608)**	**(147,081)**	**(50,145)**	**(3,386,656)**
Total as at 30 June 2024	**471,213**	**1,327,143**	**1,798,356**	**636,157**	**15,576**	**16,333**	**2,466,422**
Carrying amount of right-of-use assets	-	**94,993**	**94,993**	**813**	-	-	**95,806**

(b) Reconciliation of the opening and closing balances of Land and Buildings, Plant and Equipment and Intangibles for 2024 - CSIRO

	Land $'000	Buildings $'000	Total land and buildings $'000	Plant and equipment $'000	Heritage and cultural $'000	Intangibles $'000	Total $'000
As at 1 July 2023							
Gross book value	**380,064**	**3,188,990**	**3,569,054**	**1,412,685**	**150,269**	**64,218**	**5,196,226**
Accumulated depreciation and amortisation	**-**	**(1,934,170)**	**(1,934,170)**	**(849,467)**	**(140,109)**	**(47,198)**	**(2,970,944)**
Net book value as at 1 July 2023	**380,064**	**1,254,820**	**1,634,884**	**563,218**	**10,160**	**17,020**	**2,225,282**
Additions							
By purchase	**-**	**88,734**	**88,734**	**110,307**	**-**	**2,378**	**201,419**
Right-of-use assets	**-**	**4,864**	**4,864**	**443**			**5,307**
Assets first recognised through a gain in net cost of services	**-**	**-**	**-**	**25,729**	**-**	**-**	**25,729**
Reclassification	**-**	**383**	**383**	**(382)**	**-**	**(1)**	**-**
Revaluations recognised in other comprehensive income	**91,279**	**69,260**	**160,539**	**21,931**	**5,416**	**-**	**187,886**
Impairments recognised in net cost of services	**-**	**-**	**-**	**-**	**-**	**(81)**	**(81)**
Write-offs and impairments on right-of-use assets recognised in net cost of services	**-**	**-**	**-**	**(3)**	**-**	**-**	**(3)**
Depreciation expense	**-**	**(73,416)**	**(73,416)**	**(75,841)**	**-**	**(2,983)**	**(152,240)**
Depreciation on right-of-use assets	**-**	**(16,639)**	**(16,639)**	**(822)**	**-**	**-**	**(17,461)**
Total depreciation and amortisation	**-**	**(90,055)**	**(90,055)**	**(76,663)**	**-**	**(2,983)**	**(169,701)**
Disposals	**(130)**	**(863)**	**(993)**	**(8,407)**	**-**	**-**	**(9,400)**
Disposals of Right-of-Use Assets	**-**	**-**	**-**	**(16)**	**-**	**-**	**(16)**
Net book value as at 30 June 2024	**471,213**	**1,327,143**	**1,798,356**	**636,157**	**15,576**	**16,333**	**2,466,422**
Net book value as at 30 June 2024 represented by:							
Gross book value	**471,213**	**3,681,965**	**4,153,178**	**1,470,765**	**162,657**	**66,478**	**5,853,078**
Accumulated depreciation and amortisation	**-**	**(2,354,822)**	**(2,354,822)**	**(834,608)**	**(147,081)**	**(50,145)**	**(3,386,656)**
Total as at 30 June 2024	**471,213**	**1,327,143**	**1,798,356**	**636,157**	**15,576**	**16,333**	**2,466,422**
Carrying amount of right-of-use assets	**-**	**94,993**	**94,993**	**813**	**-**	**-**	**95,806**

	Consolidated		CSIRO	
	2024	2023	**2024**	2023
	$'000	$'000	**$'000**	$'000
Contractual commitments for fixed assets:				
Capital commitments comprise outstanding payments for buildings under construction and commitments for purchase of plant and equipment. Commitments are reported inclusive of GST.				
Land and buildings	**42,647**	135,085	**42,647**	134,284
Plant and equipment	**14,277**	11,089	**14,277**	11,089
Intangible Assets	**252**	1,186	**252**	1,186
Total commitments payable	**57,176**	147,360	**57,176**	146,559
Within 1 year	**41,546**	100,206	**41,546**	99,735
Between 1 to 5 years	**15,424**	38,462	**15,424**	38,132
More than 5 years	**206**	8,692	**206**	8,692
Total commitments payable	**57,176**	147,360	**57,176**	146,559

Accounting Policy

Acquisition of Assets

Assets are recorded at cost on acquisition except as stated below. The cost of acquisition includes the fair value of assets transferred in exchange and liabilities undertaken. Assets acquired at no cost or for nominal considerations are initially recognised as assets and revenues at their fair value at the date of acquisition.

Asset Recognition Threshold

Purchases of property, plant and equipment are recognised initially at cost in the Statement of Financial Position, except for purchases costing less than $5,000, which are expensed in the year of acquisition (other than where they form part of a group of similar items which are significant in total).

Lease Right of Use (ROU) Assets

Leased ROU assets are capitalised at the commencement date of the lease and comprise of the initial lease liability amount, initial direct costs incurred when entering into the lease less any lease incentives received. These assets are accounted for by CSIRO as separate asset classes to corresponding assets owned outright, but included in the same column as where the corresponding underlying assets would be presented if they were owned.

Revaluations

Following initial recognition at cost, property, plant and equipment (excluding intangibles and ROU assets) are carried at fair value less accumulated depreciation and accumulated impairment losses. Valuations are conducted with sufficient frequency to ensure the carrying amount of assets do not differ materially from the assets' fair value as at reporting date. Valuations are conducted every three years for assets that fall within the following classes - land, buildings, plant and equipment and heritage and cultural. Investment properties are valued every year.

Revaluation adjustments are made on a class basis. Any revaluation increment is credited to equity under asset revaluation reserve, except to the extent that it reverses a previous revaluation decrement of the same asset class that was previously recognised in the surplus or deficit. Revaluation decrements for a class of assets are recognised directly through the Statement of Comprehensive Income except to the extent that they reverse a previous revaluation increment for that class.

Any accumulated depreciation as at the revaluation date is restated proportionately with the change in the gross carrying amount of the asset so that the carrying amount of the asset after revaluation equals its revalued amount.

Fair value for each class of asset subject to the fair value model is determined as follows:

- Land, which will continue to be used to further the Group's objectives for research activity, is valued by independent valuers at fair value (highest and best use). Highest and best use is determined from the perspective of market participants. An entity's current use of a non-financial asset is presumed to be its highest and best use unless market or other factors suggest otherwise. Land underwent a full revaluation as at 30 June 2024 by Jones Lang LaSalle (JLL).
- Buildings and leasehold improvements, which will continue to be used to further the Group's objectives, are valued by independent valuers at fair value (highest and best use). Building valuations include plant, fit-outs, fixtures and fittings, which form an integral part of buildings. Buildings underwent a full revaluation as at 30 June 2024 by JLL.
- Plant and equipment which will continue to be used to further the Group's objectives, are valued by independent valuers at fair value (highest and best use). Plant and equipment underwent a desktop revaluation as at 30 June 2024 by JLL.

Accounting Policy (continued)

- Properties held for sale are valued at the lower of their carrying amount and fair value less cost to sell. An assessment is undertaken annually of any properties held for sale.
- Heritage and cultural assets are valued by independent valuers at their depreciated replacement cost. Heritage and cultural assets underwent a full revaluation as at 30 June 2024 by JLL.

In addition to independent valuations conducted, CSIRO makes an internal assessment at balance date considering any major events, market changes or indicators of impairment that may impact on fair value.

Depreciation and Amortisation

Depreciable property, plant and equipment assets are written-off to their estimated residual values over their estimated useful lives using, in all cases, the straight-line method of depreciation. Leasehold improvements are depreciated on a straight-line basis over the lesser of the estimated useful life of the improvements or the unexpired period of the lease. Land is not depreciated. The depreciation rates for ROU assets are based on the commencement date to the earlier of the end of the useful life of the ROU asset or the end of the lease term.

Depreciation/amortisation rates (useful lives), residual values and methods are reviewed at each reporting date and necessary adjustments are recognised in the current, or current and future reporting periods, as appropriate.

Depreciation rates applying to each class of depreciable asset are based on the following useful lives for 2023-2024 and 2022-2023:

Asset Class	Class of Depreciable Asset	
Land and Buildings	Buildings on freehold land	40 to 80 years
Land and Buildings	Leasehold Improvements	Lease term
Right of Use Asset	Buildings under lease	Lease term
Right of Use Asset	Equipment under lease	Lease term
Plant and Equipment	Passenger vehicles	7 years
Plant and Equipment	Agricultural and transport equipment	8 to 20 years
Plant and Equipment	Computer Equipment	2 to 5 years
Plant and Equipment	Scientific Equipment	5 to 20 years
Plant and Equipment	Furniture and office equipment	5 to 15 years
Plant and Equipment	Workshop equipment	20 to 25 years
Plant and Equipment	Research vessel	25 years
Plant and Equipment	Australia telescope	15 to 58 years
Heritage and Cultural	Heritage and Cultural	Indefinite

Impairment

All assets were assessed for impairment as at 30 June 2024. Where indicators of impairment exist, the asset's recoverable amount is estimated and an impairment adjustment made if the asset's recoverable amount is less than its carrying amount.

The recoverable amount of an asset is the higher of its fair value less costs to sell and its value in use. Value in use is the present value of the future cash flows expected to be derived from the asset. Where the future economic benefit of an asset is not primarily dependent on the asset's ability to generate future cash flows, and the asset would be replaced if the entity were deprived of the asset, its value in use is taken to be its depreciated replacement cost.

Derecognition

An item of property, plant and equipment is derecognised upon disposal or when no further future economic benefits are expected from its use or disposal. Any gain or loss arising on the disposal or retirement of an item of property, plant and equipment is determined as the difference between the sales proceeds and the carrying amount of the asset and is recognised in profit or loss.

Heritage and Cultural Assets

Heritage and cultural items include buildings of historical or cultural significance. CSIRO has classified them as heritage and cultural assets as they are primarily used for purposes that relate to their cultural significance and original purpose. Heritage and cultural assets are stored and managed in ways to preserve their heritage and cultural value over time. Where conservation and preservation activities, specified in an asset's Heritage Management Plan, demonstrate that an asset will be maintained for an indefinite period, these items are considered to have indefinite useful lives and therefore, not subject to depreciation. Copies of the Heritage Management Plans may be obtained by contacting enquiries@csiro.au.

Accounting Policy (continued)

Intangibles

Intangibles are internally developed and acquired software for internal use. These assets are carried at cost, less accumulated amortisation and impairment losses, except where the estimated cost of software is less than the $250,000 threshold and expensed in the year of acquisition. Software are amortised on a straight-line basis over their anticipated useful lives. The useful lives are 2 to 10 years (2022-23: 2 to 10 years). All software assets were assessed for indications of impairment as at 30 June 2024.

Properties Held for Sale

Properties which are expected to be recovered primarily through sale rather than through continuing use are classified as 'properties held for sale'. Immediately before classification, the properties are remeasured in accordance with the Group's accounting policies. Thereafter, at reporting date the properties are measured at the lower of their carrying amount and fair value less cost to sell.

Impairment losses on initial classification as held for sale are recognised in the Statement of Comprehensive Income.

	Consolidated		CSIRO	
	2024	2023	**2024**	2023
	$'000	$'000	**$'000**	$'000
Note 2.2B: Investment properties				
Reconciliation of the opening and closing balances of investment properties				
As at 1 July	**46,141**	50,747	**46,141**	50,747
Net gain/(loss) from fair value adjustments	**1,875**	(4,606)	**1,875**	(4,606)
Total as at 30 June	**48,016**	46,141	**48,016**	46,141

Accounting Policy

Investment properties are measured initially at cost, including transaction costs. Subsequent to initial recognition, investment properties are stated at fair value. Gains or losses arising from changes in the fair values of investment properties are recognised in profit or loss in the year in which they arise.

Investment properties are derecognised either when they have been disposed of or when the investment property is permanently withdrawn from use and no future economic benefit is expected from its disposal. Any gain or losses on disposal of an investment property are recognised in profit or loss in the year of disposal.

Investment properties were valued as at 30 June 2024 by JLL utilising available market evidence, cross referenced capitalisation of net income and discounted cash flows approaches. Rental income from investment properties is included in the lease income disclosed in Note 1.2C and was $3.7m for 2024 (2023: $3.2m). Both investment properties are owned by CSIRO.

Note 2.2C: Other non-financial assets				
Prepayments	**34,933**	30,596	**34,993**	30,354
Total other non-financial assets	**34,933**	30,596	**34,993**	30,354

2.3. Payables

	Consolidated		CSIRO	
	2024	2023	**2024**	2023
	$'000	$'000	**$'000**	$'000
Note 2.3A: Suppliers				
Suppliers payable	**69,007**	106,167	**67,893**	105,088
Contract liabilities	**252,992**	279,980	**252,992**	279,980
Total suppliers payable	**321,999**	386,147	**320,885**	385,068

Accounting Policy

Contract liabilities are associated with consideration that has been received from the customer but services are yet to be performed by the Group. Refer to Note 2.1B for information relating to contract assets.

Note 2.3B: Other Payables				
Accrued salaries and wages	**23,947**	22,944	**23,920**	22,853
Other creditors and accrued expenses	**242**	143	**209**	126
Total other payables	**24,189**	23,087	**24,129**	22,979

Note 2.3C: Deposits				
STEM Academy	**11,088**	13,876	**11,088**	13,876
Other	**3,492**	3,135	**3,475**	3,445
Total deposits	**14,580**	17,011	**14,563**	17,321

Accounting Policy

Deposits represent monies held on behalf of third parties. If the amounts are not spent for their specified purpose they will be returned to the third party.

2.4. Interest Bearing Liabilities

	Consolidated		CSIRO	
	2024	2023	**2024**	2023
	$'000	$'000	**$'000**	$'000
Note 2.4: Leases				
Lease liabilities				
Buildings	**44,856**	57,047	**44,856**	57,047
Plant and equipment	**836**	1,240	**836**	1,240
Total Leases	**45,692**	58,287	**45,692**	58,287
The maturity analysis for contractual undiscounted cash flows is as follows:				
Within 1 year	**16,180**	15,805	**16,180**	15,805
Between 1 to 5 years	**27,572**	38,706	**27,572**	38,706
More than 5 years	**4,295**	6,381	**4,295**	6,381
Total Leases	**48,047**	60,892	**48,047**	60,892

The cash outflow for leases for the year ended 30 June 2024 was $16.9m (2023: $13.9m) for CSIRO and the Group. CSIRO and the Group have multiple leasing arrangements relating to land, buildings and equipment.

Accounting Policy

The above lease disclosures should be read in conjunction with the accompanying notes 1.1B, 1.1C, 1.2C, 2.2A.

For all new contracts entered into, CSIRO considers whether the contract is, or contains, a lease. A lease is defined as 'a contract, or part of a contract, that conveys the right to use an asset (the underlying asset) for a period of time in exchange for consideration'.

Once it has been determined that a contract is, or contains a lease, the lease liability is initially measured at the present value of the lease payments unpaid at the commencement date, discounted using the interest rate implicit in the lease, if that rate is readily determinable, or the incremental borrowing rate.

Subsequent to initial measurement, the liability will be reduced for payments made and increased for interest. It is remeasured to reflect any reassessment or modification to the lease. When the lease liability is remeasured, the corresponding adjustment is reflected in the right-of-use asset or profit and loss depending on the nature of the reassessment or modification.

2.5. Other Provisions

Note 2.5: Provision for Remediation				
Provision for Remediation	**61,196**	64,606	**61,196**	64,606
Total Provision for Remediation	**61,196**	64,606	**61,196**	64,606
Provision for Remediation Reconciliation				
As at 1 July	**64,606**	65,366	**64,606**	65,366
Additional provisions made	**7,776**	5,644	**7,776**	5,644
Amounts used	**(4,052)**	(6,007)	**(4,052)**	(6,007)
Amounts reversed	**(7,361)**	-	**(7,361)**	-
Unwinding of discount	**227**	(397)	**227**	(397)
Total as at 30 June	**61,196**	64,606	**61,196**	64,606

Accounting Judgements and Estimates

CSIRO currently has provisions for remediation associated with restoring land and decontaminating land; and restoring leased CSIRO sites to their original condition at the conclusion of a lease (makegood obligations).

The provision for restoring and decontaminating land is based on estimates provided by internal and external qualified experts. The provision is predominately based on externally provided costings, with additional amounts derived from comparable remediation works. The provision is based on the scope of work as it currently stands as at 30 June 2024, where the effect of the time value of money is deemed immaterial. As remediation work progress, the scope and costs may be subject to change. The work is expected to take several years to reach completion.

The provision for the makegood and restoration costs at leased CSIRO sites are based on rates provided by an external valuer.

3. People and Relationships

This section describes a range of employment and post employment benefits provided to our people and our relationship with other key people.

3.1. Employee Provisions

	Consolidated		CSIRO	
	2024	2023	**2024**	2023
	$'000	$'000	**$'000**	$'000
Note 3.1A: Employee Provisions				
Annual leave	**77,972**	71,316	**77,849**	71,214
Long service leave	**179,671**	164,689	**179,671**	164,689
Separation and Redundancy	**4,449**	2,277	**4,449**	2,277
Severance pay	**13,478**	9,924	**13,478**	9,924
Total employee provisions	**275,570**	248,206	**275,447**	248,104

Accounting Policy (including Accounting Judgements and Estimates)

Liabilities for short-term employee benefits (as defined in *AASB 119 Employee Benefits*) and termination benefits due within twelve months of the end of the reporting period are measured at their nominal amounts. The nominal amount is calculated with regard to the rate expected to be paid on settlement of the liability.

Other long-term employee benefit liabilities are measured at the present value of the estimated future cash outflows to be made in respect of services provided by employees up to the reporting date.

Leave

The liability for employee benefits includes provisions for annual leave and long service leave. No provision has been made for sick leave as all sick leave is non-vesting and the average sick leave taken in future years by employees is estimated to be less than the annual entitlement for sick leave.

The leave liabilities are calculated on the basis of employees' remuneration at the estimated salary rates that will apply at the time the leave is taken, including the employer superannuation contribution rates to the extent that the leave is likely to be taken during service rather than paid out on termination.

The liability at 30 June 2024 for long service leave and annual leave has been determined by the short hand method and reference to the work of the Australian Government Actuary (AGA). The estimate of the present value of the liability takes into account attrition rates and pay increases through promotion and inflation.

Separation and Redundancy

Provision is made for separation and redundancy benefit payments. A CSIRO plan of termination is binding when the following criteria are met (a) actions required to complete the plan indicate that it is unlikely that significant changes to the plan will be made; (b) the plan identifies the number of employees whose employment is to be terminated; and (c) the plan established the termination benefits that employees will receive.

Superannuation

Employees of CSIRO are members of the Commonwealth Superannuation Scheme (CSS), the Public Sector Superannuation Scheme (PSS), the PSS accumulation plan (PSSap) or industry schemes. The CSS and PSS are defined benefit schemes for the Australian Government. The PSSap is a defined contribution scheme.

The liability for defined benefits is recognised in the financial statements of the Australian Government and is settled by the Australian Government in due course. This liability is reported in the Department of Finance's administered schedules and notes.

CSIRO makes employer contributions to the employee superannuation schemes at rates determined by an actuary to be sufficient to meet the cost to the Government of the superannuation entitlements of the Group's employees. CSIRO accounts for the contributions as if they were contributions to defined contribution plans.

The liability for superannuation recognised as at 30 June 2024 represents outstanding contributions for the financial year.

3.2 (a) Key Management Personnel Remuneration

CSIRO Key Management Personnel Remuneration		Base Salary	Salary at risk payments	Other Benefits and Allowances	Super-annuation Contributions	Long Service Leave	Other Long Term Benefits	Termination Benefits	Total Remuneration
Name	**Position**	**$**	**$**	**$**	**$**	**$**	**$**	**$**	**$**
Doug Hilton	Chief Executive	588,810	-	18,786	25,787	6,365	-	-	**639,748**
Kirsten Rose	Chief Executive (Acting)	163,984	46,202	6,029	2,055	4,607	-	-	**222,877**
Kirsten Rose	Executive Director - Future Industries	362,136	-	16,016	23,289	13,361	-	-	**414,802**
Kirsten Rose	Deputy Chief Executive	71,768	-	2,875	2,915	1,730	-	-	**79,288**
Tom Munyard	Chief Operating Officer	364,585	-	24,920	73,376	18,920	-	-	**481,801**
Peter Mayfield	Executive Director - Environment, Energy & Resources	518,765	-	24,920	87,405	21,202	-	-	**652,292**
Michael Robertson	Executive Director - Future Industries (Acting)	109,686	-	7,946	22,681	14,696	-	-	**155,009**
Elanor Huntington	Executive Director - Digital, National Facilities and Collections	487,821	-	24,920	90,694	7,114	-	-	**610,549**
Total remuneration for CSIRO Key Management Personnel		**2,667,555**	**46,202**	**126,412**	**328,202**	**87,995**	**-**	**-**	**3,256,366**
CSIRO Subsidiary Key Management Personnel									
Orlando Jimenez	Fundación CEO	293,754	-	4,300	-	-	-	-	**298,054**
Total remuneration for Fundación		**293,754**	**-**	**4,300**	**-**	**-**	**-**	**-**	**298,054**
Total Consolidated Remuneration for Key Management Personnel		**2,961,309**	**46,202**	**130,712**	**328,202**	**87,995**	**-**	**-**	**3,554,420**

Accounting Policy

Key management personnel are those persons having authority and responsibility for planning, directing and controlling the activities of CSIRO, directly or indirectly, including any director of CSIRO. Those key management personnel along with their remuneration are reported in table above. Board remuneration is reported at Note 3.3.

This note has been prepared on an accrual basis for substantive and long term acting key management personnel during the period. Individuals included in the above table were employed in their positions for the reporting period (1 July 2023 to 30 June 2024) except for the below:

Dr Doug Hilton AO commenced as Chief Executive from 30 September 2023.

Ms Kirsten Rose was acting Chief Executive for the period 1 July 2023 to 29 September 2023, Executive Director – Future Industries for the period 30 September 2023 to 19 May 2024 and Deputy Chief Executive from 20 May 2024 onwards.

Mr Michael Robertson was acting Executive Director – Future Industries for the period 1 July 2023 to 29 September 2023 and from 3 June 2024 onwards.

Short term benefits remuneration includes:

• Base salary includes salary paid and accrued, salary paid while on annual leave, salary paid while on personal leave, annual leave accrued and higher duties allowances.

• Salary at risk payments represent remuneration amounts at risk within employment contracts. Actual performance payment amounts are decided by the board following the end of year.

• Other benefits and allowances include monetary benefits such as car allowances.

Post employment benefits paid to staff include superannuation contributions, being CSIRO's superannuation contributions, including productivity components, for the period.

Other long term benefits includes long service leave comprises the amount of leave accrued, leave taken in the period and the impacts of a reduction in the net discount rate. Other long term benefits is the amount of long service leave accrued and deferred.

Termination payments are included in the above table based on the relevant period in which the decision was made to make the payment.

3.2 (b) Senior Executive Staff Remuneration

Remuneration Band	Number of Senior Executive Staff	Average Base Salary $	Average salary at risk payments $	Average Other Benefits and Allowances $	Average Super-annuation Contributions $	Average Long Service Leave $	Average Other Long Term Benefits $	Average Termination Benefits $	Average Total Remuneration $
$0 - $220,000	4	86,575	-	7,713	12,326	6,135	-	-	**112,749**
$270,001 - $295,000	1	224,115	-	16,975	42,334	6,994	-	-	**290,418**
$320,001 - $345,000	2	264,730	-	22,789	31,036	14,653	-	-	**333,208**
$345,001 - $370,000	1	264,060	-	23,003	36,412	36,068	-	-	**359,543**
$370,001 - $395,000	4	303,277	58	24,920	45,482	13,301	-	-	**387,038**
$395,001 - $420,000	1	323,822	-	24,920	30,586	15,918	-	-	**395,246**
$420,001 - $445,000	1	331,212	-	24,920	50,969	13,919	-	-	**421,020**
$445,001 - $470,000	2	345,320	-	41,136	58,295	19,477	-	-	**464,228**
$495,001 - $520,000	1	436,532	-	24,240	26,739	12,121	-	-	**499,632**
$620,001 - $645,000	1	525,666	23,250	24,920	30,801	18,806	-	-	**623,443**
$720,001 - $745,000	1	272,726	-	18,594	51,895	33,525	-	367,378	**744,118**
Total remuneration for CSIRO Senior Executive		**3,378,035**	**23,308**	**254,130**	**416,875**	**190,917**	**-**	**367,378**	**4,630,643**

Accounting Policy

This table reports the average total average remuneration of senior executives who received remuneration during the reporting period. This table has been prepared on an accrual basis for substantive and long term acting senior executive personnel during the period.

Short term benefits includes:

• The average base salary includes salary including paid and accrued, salary paid while on annual leave, salary paid while on personal leave, annual leave accrued and higher duties allowances.

• The average salary at risk payments which represent remuneration amounts at risk within employment contracts.

• The average of other benefits and allowances include monetary benefits such as car allowances.

Post employment benefits are superannuation contributions and includes the average of CSIRO's superannuation contributions, including productivity components, for the period.

Other long term benefits includes the average of long service leave comprises the amount of leave accrued, leave taken in the period and the impacts of a reduction in the net discount rate. Other long term benefits is the average amount of long service leave accrued and deferred.

Termination payments are included in the above table based on the average amount and the relevant period in which the decision was made to make the payment.

3.2. (c) Remuneration of other highly paid staff

Remuneration Band	Number of Highly Paid Staff	Average Base Salary $	Average salary at risk payments $	Average Other Benefits and Allowances $	Average Super-annuation Contributions $	Average Long Service Leave $	Average Other Long Term Benefits $	Average Termination Benefits $	Average Total Remuneration $
$250,000 - $270,000	62	199,715	1,434	12,564	34,348	10,881	-	-	**258,942**
$270,001 - $295,000	50	213,580	902	16,980	36,800	10,846	-	3,195	**282,303**
$295,001 - $320,000	22	229,742	1,062	23,417	36,479	8,864	-	5,376	**304,940**
$320,001 - $345,000	11	240,401	3,355	22,411	40,183	18,953	-	8,999	**334,302**
$345,001 - $370,000	11	263,059	-	24,797	37,469	12,679	-	18,264	**356,268**
$370,001 - $395,000	4	240,647	-	18,690	41,860	17,610	-	58,783	**377,590**
$395,001 - $420,000	5	311,698	-	26,593	51,865	18,426	-	-	**408,582**
$420,001 - $445,000	1	345,340	-	24,920	50,044	7,996	-	-	**428,300**
$445,001 - $470,000	1	393,748	-	-	55,838	5,597	-	-	**455,183**

Accounting Policy

This table reports the average total average remuneration of highly paid staff who received remuneration during the reporting period over the reporting threshold. This table has been prepared on an accrual basis.

Average short term benefits includes:

- The average base salary includes salary including paid and accrued, salary paid while on annual leave, salary paid while on personal leave, annual leave accrued and higher duties allowances.
- The average salary at risk payments which represent remuneration amounts at risk within employment contracts.
- The average of other benefits and allowances include monetary benefits such as car allowances.

Post employment benefits comprise superannuation contributions. Reported above are the average of CSIRO's superannuation contributions, including productivity components, for the period.

Other long term benefits includes the average long service leave, being the amount of leave accrued, leave taken in the period and the impacts of a reduction in the net discount rate. Other long term benefits is the average amount of long service leave accrued and deferred.

Termination payments are included in the above table based on the average amount and the relevant period in which the decision was made to make the payment.

3.3. Remuneration of Board Members

Board member	Base Salary $	Other benefits and allowances $	Super-annuation Contributions $	Total 2023-24 Remuneration $
Dr Michele Allan AO	67,647	14,718	9,501	**91,866**
Prof Alex Brown	79,904	-	9,668	**89,572**
Prof Edwina Cornish AO	32,269	8,538	4,489	**45,296**
Kathryn Fagg AO (Chair)	159,788	-	19,389	**179,177**
Emeritus Professor Roy Green	45,176	3,046	6,309	**54,531**
Prof Emma Johnston AO	64,538	-	8,005	**72,543**
David Knox	16,595	-	2,556	**19,151**
Ming Long AM	615	-	95	**710**
Ian Macfarlane	79,904	17,587	11,894	**109,385**
Terry Moran AC	615	-	95	**710**
Total remuneration for CSIRO Board Members	**547,051**	**43,889**	**72,001**	**662,941**
Board Members (Chile Fundación)				
Maria Del Rosario Navarro	18,000	-	-	**18,000**
Total remuneration for Board Members (Chile Fundación)	**18,000**	**-**	**-**	**18,000**
Total Consolidated Remuneration for CSIRO Group	**565,051**	**43,889**	**72,001**	**680,941**

Accounting Policy

Remuneration related to short term benefits comprise base salary and other benefits and allowances. Base salary includes salary paid and accrued during the period. Other benefits and allowances included above relate to positions on other subcommittees.

Post employment benefits includes superannuation contributions, including any productivity components for the period.

Board members included above were Board members for the full reporting period (1 July 2023 to 30 June 2024), except for:

Dr Michele Allan AO: term ended 4 May 2024

Prof Edwina Cornish: term ended 25 November 2023

Emeritus Professor Roy Green: term commenced 7 December 2023

Prof Emma Johnston: term commenced 22 August 2023 and duties commenced 11 September 2023

David Knox: resigned effective 14 September 2023

Ming Long AM: term commenced 1 May 2024 and duties commenced 27 June 2024

Prof Tanya Monro AC: term ended 24 February 2024

Terry Moran AC: term commenced 24 April 2024 and duties commenced 27 June 2024

Maria Del Rosario Navarro: term ended 13 September 2023

The remuneration of the Chief Executive, who is also a CSIRO Board Member is reported under Note 3.2 Key Management Personnel Remuneration.

Prof Tanya Monro AC due to her appointment as the Chief Defence Scientist was not entitled to remuneration based on the *Remuneration Tribunal Act 1973*.

3.4. Related Party Disclosures

(a) Controlled Entities

The Science and Industry Endowment Fund ('SIEF') was established under the *Science and Industry Endowment Act 1926*. The principal activity of the SIEF Trust is to provide assistance to persons engaged in scientific research and in training of students in scientific research. The SIEF Trustee is the CSIRO Chief Executive and SIEF is a wholly controlled entity. The SIEF's separate financial statements are reported in the CSIRO Annual Report.

Chile Research Fundación ('Fundación') was established in October 2013. The Fundación is a controlled entity governed by a Board in accordance with the Constitution of the Fundación. The Fundación is working with industry and leading Chilean Universities to develop cutting-edge technologies to reduce the environmental impact of mining and increase productivity. The Fundación is in the process of winding down its operations.

National ICT Australia ('NICTA') is Australia's ICT Research Centre of Excellence and undertakes internationally recognised research in partnership with industry, government and researchers to create national benefit and wealth for Australia. NICTA is the parent entity of NICTA IPR Pty Ltd and a small number of minor proprietary limited companies that exist to hold intellectual property and commercialise research. CSIRO obtained full control of NICTA on 28 August 2015, when the members of the NICTA Board resolved to adopt a revised company constitution which provided CSIRO with effective control over NICTA. NICTA is currently in the process of voluntary deregistration.

CSIRO has established the Innovation Fund with Commonwealth funding support to invest in the development of early stage technology opportunities from the public research sector, to increase their translation into commercial opportunities to be taken up by Australian industry. The Fund has been established through a structure of entities whose purpose is to manage and operate the Fund.

The entities that comprise the Innovation Fund are:

- CSIRO Innovation Fund 1, LP is an incorporated limited partnership formed under the *Partnership Act 1892 (NSW)*. It is unconditionally registered by Industry Innovation and Science Australia as an Early Stage Venture Capital Limited Partnership (ESVCLP). It was established in January 2017.
- CSIRO Management Partnership, LP is an incorporated limited partnership formed under the *Partnership Act 1892 (NSW)*. It was established in January 2017 as a Venture Capital Management Partnership and acts as the general partner of the CSIRO Innovation Fund 1, LP.
- CSIRO General Partner 2 Pty Ltd was established in December 2016 and is a small proprietary company limited by shares, which are solely held by CSIRO. This company acts as the general partner of CSIRO Management Partnership, LP.
- CSIRO Fund of Funds, LP is an incorporated limited partnership formed under the *Partnership Act 1892 (NSW)* and is registered by Industry Innovation and Science Australia as an Australian Venture Capital Fund of Funds. It was established in May 2016 and its limited partner is CSIRO. The Fund is also a limited partner of CSIRO Innovation Fund 1, LP.
- CSIRO Innovation Holding Trust is a trust established in July 2018. Its sole Member is CSIRO and it is also a Member of the CSIRO Innovation Follow-On Fund 1, Main Sequence Parallel Fund and Main Sequence Opportunity Fund 3.
- CSIRO General Partner Pty Ltd was established in May 2016 and is a small proprietary company limited by shares, which are solely held by CSIRO. It acts as the general partner of CSIRO Fund of Funds LP and is also the trustee of CSIRO Innovation Holding Trust. CSIRO General Partner Pty Ltd does not earn any income in the course of its business, as a result, it relies on CSIRO to pay any reasonable expenses it incurs including, audit and regulatory expenses.
- CSIRO Financial Services Pty Ltd was established in December 2015 and is a small proprietary company limited by shares, which are solely held by CSIRO. The company has been issued an Australian Financial Services License by ASIC and acts as Manager of various funds under management .
- CSIRO Follow-On Services Pty Ltd was established in April 2018 and is a small proprietary company limited by shares, which are solely held by CSIRO. It serves as trustee of the CSIRO Innovation Follow-On Fund 1.

- CSIRO Innovation Follow-On Fund 1 was established October 2018 and is structured as a managed investment trust, formed to provide follow-on investment to companies supported by CSIRO Innovation Fund 1, LP.
- CSIRO Innovation Services Pty Ltd was established in October 2016 and is a small proprietary company limited by shares, which are solely held by CSIRO. It acts as trustee of:
    - discretionary trusts (see below) established to distribute certain returns from CSIRO Innovation Fund 1, LP, CSIRO Innovation Fund 2, LP and Main Sequence Core Fund 3, LP; and
    - unit trusts (see below) established to distribute certain returns form CSIRO Innovation Follow-On Fund 1, CSIRO Innovation Follow-on Fund 2 and CSIRO Innovation Coinvestment Fund (Class A units).
- CSIRO Innovation Fund 2, LP is an incorporated limited partnership formed under the *Partnership Act 1892* (NSW). It is unconditionally registered by Industry Innovation and Science Australia as an Early Stage Venture Capital Limited Partnership (ESVCLP). It was established in March 2020.
- CSIRO Management Partnership 2, LP is an incorporated limited partnership formed under the *Partnership Act 1892 (NSW)*. It was established in March 2020 as a Venture Capital Management Partnership and acts as the general partner of the CSIRO Innovation Fund 2, LP.
- CSIROGP Fund 2 Pty Ltd was established in March 2020 and is a small proprietary company limited by shares, which are solely held by CSIRO. This company acts as the general partner of CSIRO Management Partnership Pty 2, LP.
- CSIRO Follow-On Services 2 Pty Ltd was established in March 2020 and is a small proprietary company limited by shares, which are solely held by CSIRO. It will serve as the trustee of CSIRO Innovation Follow-On Fund 2.
- CSIRO Custodial Services Pty Ltd was established in April 2020 for the purpose of providing custodial services under an Australian Financial Services Licence to the Innovation Fund entities.
- CSIRO Innovation Follow-on Fund 2 was established November 2021 and is structured as a managed investment trust, formed to provide follow-on investment to companies supported by CSIRO Innovation Fund 1, LP and CSIRO Innovation Fund 2, LP.
- CSIRO Innovation Coinvestment Services Pty Ltd was established in September 2021 and is a small proprietary company limited by shares, which are solely held by CSIRO. It serves as the trustee of CSIRO Innovation Coinvestment Fund.
- CSIRO Innovation Coinvestment Fund was established March 2022 and is structured as an attribution managed investment trust, formed to invest with CSIRO Innovation Follow-on Fund 2 and to provide follow-on investment to companies supported by CSIRO Innovation Fund 1, LP and CSIRO Innovation Fund 2, LP.
- Main Sequence Innovation Fund 3, LP is an incorporated limited partnership formed under the *Partnership Act 1892* (NSW). It is conditionally registered by Industry Innovation and Science Australia as an Early Stage Venture Capital Limited Partnership (ESVCLP). It was established in November 2022.
- Main Sequence Management Partnership 3, LP is an incorporated limited partnership formed under the *Partnership Act 1892 (NSW)*. It was established in November 2022 as a Venture Capital Management Partnership. This company acts as the general partner of Main Sequence Innovation Fund 3, LP.
- Main Sequence GP Fund 3 Pty Ltd was established in October 2022 and is a small proprietary company limited by shares, which are solely held by CSIRO. This company acts as the general partner of CSIRO Management Partnership Pty 3, LP.
- Main Sequence Parallel Fund Pty Ltd was established in October 2022 and is a is a small proprietary company limited by shares, solely held by CSIRO. It serves as the Trustee of Main Sequence Parallel Fund.
- Main Sequence Parallel Fund was established February 2023 and is structured as a managed investment trust, formed to coinvest alongside Main Sequence Fund 3.
- Opportunity Fund 3 Pty Ltd was established in October 2022 and is a small proprietary company limited by shares, which are solely held by CSIRO. This company will act as the trustee of Main Sequence Opportunity Fund 3.
- Opportunity Fund 3 was established in March 2023 and will be a managed investment trust with the purpose to make follow-on investments from Main Sequence Innovation Fund 3, LP and Main Sequence Parallel Fund.
- Main Sequence NGS Pty Ltd was established in October 2022 and is a small proprietary company limited by shares, which are solely held by CSIRO. It serves as the trustee of the Main Sequence NGS Coinvestment Fund.
- Main Sequence NGS Coinvestment Fund was established in November 2022 as a managed investment trust to coinvest alongside certain MSV funds.

- Main Sequence Innovation Services Pty Ltd was established in November 2022 for the purpose of employing team members directly involved in investment activity, with such staff to be seconded to CSIROFS. CSIRO has transferred ownership of Main Sequence Innovation Services Pty Ltd to the Main Sequence partners in June 2023.
- Main Sequence Atmosphere Fund, a unit trust formed in May 2024 to invest in pre-seed opportunities and generate deal flow for Main Sequence Funds.

All of the above Innovation Fund related companies are under the sole control of the CSIRO as at 30 June 2024, with the exception of Main Sequence Innovation Services Pty Ltd. The above entities (with the exception of CSIRO Financial Services Pty Ltd; CSIRO Innovation Services Pty Ltd; and CSIRO Custodial Services Pty Ltd) sit outside the General Government Sector.

CSIRO USA LLC and CSIRO Innovations LLC were established in February 2017 to support the establishment of a CSIRO presence in the United States of America. Both entities are incorporated within Delaware and are wholly controlled by the CSIRO.

(b) Related party relationships

CSIRO is an Australian Government controlled entity. Related parties to CSIRO are the Board, Key Management Personnel including the Portfolio Minister and Executive, and other Australian Government entities.

Transactions with related parties:

Given the breadth of Government activities, related parties may transact with the government sector in the same capacity as ordinary citizens. Such transactions include the payment or refund of taxes, receipt of a Medicare rebate or higher education loans. These transactions have not been separately disclosed in this note.

Significant transactions with related parties can include the payments of grants or loans, purchases of goods and services, asset purchases, sales transfers or leases, debts forgiven and guarantees. Giving consideration to relationships with related entities, and transactions entered into during the reporting period by CSIRO, it has been determined that there are no related party transactions to be separately disclosed.

4. Managing Uncertainties

This section analyses how CSIRO manages financial risk within its operating environment.

4.1. Contingent Assets and Liabilities

	Consolidated		CSIRO	
	2024	2023	**2024**	2023
	$'000	$'000	**$'000**	$'000
Quantifiable Contingencies				
Contingent assets				
Insurance claims	**48,106**	15,682	**48,106**	15,682
Bank guarantees received from suppliers	**9,274**	12,200	**9,274**	12,200
Total contingent assets	**57,380**	27,882	**57,380**	27,882
Contingent liabilities				
Estimated legal claims	**-**	-	**-**	-
Total contingent liabilities	**-**	-	**-**	-
Total net contingent asset/(liability)	**57,380**	27,882	**57,380**	27,882

At 30 June 2024, CSIRO has an outstanding insurance claim for costs incurred from a natural disaster (hailstorm) that occurred at CSIRO Black Mountain on 20 January 2020.

Depending on the materiality of risks involved with certain commercial transactions, CSIRO has requested bank guarantees where necessary to mitigate risks, notably where substantial advance payments were made.

Unquantifiable contingencies

As disclosed in the Overview Note, a financial provision for the estimated costs in restoring and decontaminating land where a legal or constructive obligation has arisen has been recognised on the Statement of Financial Position. For cases where there is no legal or constructive obligation, the potential costs have not been assessed and are unquantifiable contingencies. CSIRO has no other identified unquantifiable contingencies to report.

Accounting Policy

Contingent liabilities and contingent assets are not recognised in the Statement of Financial Position but reported in the notes. They may arise from uncertainty as to the existence of a liability or asset, or represent a liability or asset in respect of which the amount cannot be reliably measured. Contingent assets are disclosed when settlement is probable but not virtually certain and contingent liabilities are disclosed when settlement is greater than remote.

4.2. Financial Instruments

	Consolidated		CSIRO	
	2024	2023	**2024**	2023
	$'000	$'000	**$'000**	$'000
Note 4.2A: Categories of financial instruments				
Financial Assets				
Financial assets at fair value through profit or loss				
Other investments	**1,103,726**	1,011,532	**439,618**	371,634
Total financial assets at fair value through profit and loss	**1,103,726**	1,011,532	**439,618**	371,634
Financial assets at amortised cost				
Cash at bank	**219,169**	270,506	**63,777**	150,110
Term deposits	**570,400**	530,800	**467,600**	458,800
Receivable for goods and services	**109,037**	127,213	**104,291**	124,349
Other receivables	**512**	614	**1,256**	1,706
Total financial assets at amortised cost	**899,118**	929,133	**636,924**	734,965
Total financial assets	**2,002,844**	1,940,665	**1,076,542**	1,106,599
Financial Liabilities				
Financial liabilities measured at amortised cost				
Trade creditors	**321,999**	386,147	**320,885**	385,068
Other creditors	**24,189**	22,559	**24,129**	23,076
Deposits	**14,580**	17,011	**14,563**	17,321
Total financial liabilities at amortised cost	**360,768**	425,717	**359,577**	425,465
Total financial liabilities	**360,768**	425,717	**359,577**	425,465
Note 4.2B: Net gains or losses on financial assets				
Financial assets at amortised cost				
Interest revenue	**49,607**	27,922	**38,220**	22,469
Impairment expense	**47**	(1,807)	**47**	(1,807)
Net gain from financial assets at amortised cost	**49,654**	26,115	**38,267**	20,662
Investments assets at fair value through profit or loss				
Fair value changes	**(2,979)**	124,337	**20,571**	71,104
Net gain/(loss) from investment assets at fair value through profit or loss	**(2,979)**	124,337	**20,571**	71,104
Net gain/(loss) on financial assets	**46,675**	150,452	**58,838**	91,766
Note 4.2C: Net gains or losses on financial liabilities				
Financial liabilities measured at amortised cost				
Interest expense	**944**	2,551	**929**	2,214
Net loss from financial liabilities	**944**	2,551	**929**	2,214

Accounting Policy

Financial Assets

The Group classifies its financial assets under *AASB 9 Financial Instruments* in the following categories:

a) financial assets at fair value through profit or loss;

b) financial assets at fair value through other comprehensive income; and

c) financial assets measured at amortised cost.

The classification depends on both the entity's business model for managing the financial assets and contractual cash flow characteristics at the time of initial recognition. Financial assets are recognised when the Group becomes a party to the contract and, as a consequence, has a legal right to receive or a legal obligation to pay cash and derecognised when the contractual rights to the cash flows from the financial asset expire or are transferred upon trade date.

Financial Assets at Amortised Cost

Financial assets included in this category need to meet two criteria:

1. the financial asset is held in order to collect the contractual cash flows; and

2. the cash flows are solely payments of principal and interest (SPPI) on the principal outstanding amount.

Amortised cost is determined using the effective interest method.

Effective Interest Method

Income is recognised on an effective interest rate basis for financial assets that are recognised at amortised cost.

Financial Assets at Fair Value Through Other Comprehensive Income (FVOCI)

Financial assets measured at fair value through other comprehensive income are held with the objective of both collecting contractual cash flows and selling the financial assets and the cash flows meet the SPPI test. Any gains or losses as a result of fair value measurement or the recognition of an impairment loss allowance is recognised in other comprehensive income.

Financial Assets at Fair Value Through Profit or Loss (FVTPL)

Financial assets are classified as financial assets at fair value through profit or loss where the financial assets either don't meet the criteria of financial assets held at amortised cost or at FVOCI (i.e. mandatorily held at FVTPL) or may be designated. Financial assets at FVTPL are stated at fair value, with any resultant gain or loss recognised in profit or loss. The net gain or loss recognised in profit or loss incorporates any interest earned on the financial asset. CSIRO values it's equity investment portfolio in listed companies, unlisted companies and in Uniseed Trust as FVTPL. CSIRO Innovation Fund values it's equity investment portfolio in unlisted companies as FVTPL.

Impairment of Financial Assets

Financial assets at amortised cost are assessed for impairment at the end of each reporting period based on Expected Credit Losses, using the general approach which measures the loss allowance based on an amount equal to lifetime expected credit losses where risk has significantly increased, or an amount equal to 12-month expected credit losses if risk has not increased.

The simplified approach for trade, contract and lease receivables is used. This approach always measures the loss allowance as the amount equal to the lifetime expected credit losses. A write-off constitutes a de-recognition event where the write off directly reduces the gross carrying amount of the financial asset.

Financial liabilities

Financial liabilities are classified as either financial liabilities 'at fair value through profit or loss' or financial liabilities at amortised cost. Financial liabilities are recognised and derecognised upon 'trade date'.

Financial Liabilities at Fair Value Through Profit or Loss

Financial liabilities at fair value through profit or loss are initially measured at fair value. Subsequent fair value adjustments are recognised in profit or loss. The net gain or loss recognised in profit or loss incorporates any interest paid on the financial liability.

Financial Liabilities at Amortised Cost

Financial liabilities at amortised cost, are initially measured at fair value, net of transaction costs. These liabilities are subsequently measured at amortised cost using the effective interest method, with interest expense recognised on an effective interest basis.

Supplier and other payables are recognised at amortised cost. Liabilities are recognised to the extent that the goods or services have been received (and irrespective of having been invoiced).

4.3. Fair Value Measurement

	Consolidated		CSIRO	
	2024	2023	**2024**	2023
	$'000	$'000	**$'000**	$'000
Financial assets				
Other investments	**1,103,726**	1,011,532	**439,618**	371,634
Total financial assets	**1,103,726**	1,011,532	**439,618**	371,634
Non-financial assets				
Land	**435,420**	385,991	**435,420**	385,991
Buildings	**1,321,243**	1,248,920	**1,321,243**	1,248,920
Plant and equipment	**636,157**	563,218	**636,157**	563,218
Investment properties	**48,016**	46,141	**48,016**	46,141
Heritage and cultural	**15,576**	10,160	**15,576**	10,160
Total non-financial assets	**2,456,412**	2,254,430	**2,456,412**	2,254,430

Accounting Judgements and Estimates

In the process of applying the accounting policies listed in this note, CSIRO has made the following judgements that have the most significant impact on the amounts recorded in the financial statements:

The fair value of land which will continue to be used to further the Group's objectives for research activities, and buildings held for specialised purposes and where there is no readily available market price has been taken to be Fair Value- Highest and Best Use (level 3 inputs), as determined by an independent valuer;

The fair value of plant and equipment has been taken to be Fair Value – Highest and Best Use (level 2 and 3 inputs) as they mainly comprise of specialised research equipment. Fair value is determined by an independent valuer; and

The fair value of listed companies is assessed at market value (level 1 inputs); whereas unlisted companies and commercial vehicles are assessed at fair value using the best information available (level 3 inputs). For investments in unlisted companies where there is no readily available market pricing, the fair value has been determined by applying valuation techniques in line with the generally accepted valuation guidelines 'International Private Equity and Venture Capital Valuation Guidelines' (IPEV). Valuation techniques include: using arm's length market transactions, multiples, industry benchmarks, discounted cashflow analysis and option pricing models making as much use of observable and supportable data as possible. Judgements and estimates involved in valuation techniques include considerations of liquidity, marketability, credit risk (both own and counterparty's), risks specific to investee financial and technical milestones, correlation and volatility. Changes in assumptions about these factors could affect the reported fair value of financial instruments. The valuation inputs are calibrated and tested for validity regularly including as at each balance date. To assess the significance of a particular input to the entire measurement, CSIRO and its subsidiaries perform sensitivity analysis or stress testing techniques.

5. Other information

5.1. Current/non-current distinction for assets and liabilities

	Consolidated		CSIRO	
	2024	2023	**2024**	2023
	$'000	$'000	**$'000**	$'000
Assets expected to be recovered in:				
No more than 12 months				
Cash and cash equivalents	**789,569**	801,306	**531,377**	608,910
Trade and other receivables	**113,027**	127,787	**109,245**	125,799
Other investments	**133,058**	109,211	**133,058**	109,211
Other non-financial assets	**34,933**	30,596	**34,993**	30,354
Assets directly related to discontinued operations	**936**	1,343	**-**	-
Assets held for sale	**12,882**	41,720	**12,882**	41,720
Total no more than 12 months	**1,084,405**	1,111,963	**821,555**	915,994
More than 12 months				
Other investments	**970,668**	902,321	**306,560**	262,423
Land and buildings	**1,798,356**	1,634,884	**1,798,356**	1,634,884
Heritage and cultural	**15,576**	10,160	**15,576**	10,160
Plant and equipment	**636,157**	563,218	**636,157**	563,218
Intangibles	**16,333**	17,020	**16,333**	17,020
Investment Properties	**48,016**	46,141	**48,016**	46,141
Inventories	**1,136**	1,284	**1,136**	1,284
Total more than 12 months	**3,486,242**	3,175,028	**2,822,134**	2,535,130
Total assets	**4,570,647**	4,286,991	**3,643,689**	3,451,124
Liabilities expected to be settled in:				
No more than 12 months				
Suppliers	**187,469**	265,229	**186,355**	265,400
Other payables	**24,189**	23,087	**24,129**	22,979
Deposits	**2,142**	1,871	**2,139**	1,905
Liabilities directly related to discontinued operations	**702**	1,126	**-**	-
Lease liabilities	**16,180**	15,392	**16,180**	15,392
Employee provisions	**78,579**	68,910	**78,499**	67,594
Provision for remediation	**17,885**	-	**17,885**	-
Total no more than 12 months	**327,146**	375,615	**325,187**	373,270
More than 12 months				
Suppliers	**134,530**	120,918	**134,530**	120,918
Deposits	**12,438**	15,140	**12,424**	15,416
Lease liabilities	**29,512**	42,895	**29,512**	42,895
Employee provisions	**196,991**	179,296	**196,948**	179,260
Provision for remediation	**43,311**	64,606	**43,311**	64,606
Total more than 12 months	**416,782**	422,855	**416,725**	423,095
Total liabilities	**743,928**	798,470	**741,912**	796,365

5.2. Monies Held in Trust

	2024	2023
	$'000	$'000
Monies held in trust represented by cash, deposits and investments for the benefit of the Group which are not included in the Statement of Financial Position are:		
The Sir Ian McLennan Achievement for Industry Award - established to award outstanding contributions by the Group's scientists and engineers to national development.	**442**	408
The Elwood and Hannah Zimmerman Trust Fund - established to fund weevil research and the curation of the Australian National Insect Collection (ANIC) weevil collection.	**4,172**	4,103
The Schlinger Trust - established to research the taxonomy, biosystematics, general biology and biogeography of Australasian Diptera conducted by the Australian National Insect Collection.	**2,953**	2,832
Total monies held in trust as at 30 June	**7,567**	7,343

Summary of movements:	**McLennan $'000**	**Zimmerman $'000**	**Schlinger $'000**	**Total $'000**
Balance as at 1 July 2023	**408**	**4,103**	**2,832**	**7,343**
Adjustments to opening balance	**-**	**-**	**17**	**17**
Interest and distribution adjustments	**34**	**395**	**263**	**709**
Expenditure in the period	**-**	**(326)**	**(159)**	**(485)**
Balance as at 30 June 2024	**442**	**4,172**	**2,953**	**7,567**

5.3. Collections

CSIRO is the custodian of several collections used for scientific research. These collections have been established over time and document an extensive range of Australian flora and fauna species. The collections are irreplaceable, bear scientific and historical value and are not reliably measurable in monetary terms. Therefore, CSIRO has not recognised them as an asset in its financial statements.

The main collections held by CSIRO are:

Australian National Herbarium (ANH) – With a focus on the Australian flora and that of neighbouring regions such as New Guinea and the Pacific, the ANH has over 1 million herbarium specimens, with additional holdings at the Australian Tropical Herbarium (ATH) in Cairns, Queensland. The ANH collections include the Dadswell Memorial Wood Collection and comprehensive holdings of a number of groups, including cryptogams, eucalypts and orchids.

Australian National Insect Collection (ANIC) – Specialising in Australian terrestrial invertebrates, ANIC houses over 12 million specimens and has significant collections of Australian insects, as well as groups such as mites, spiders, earthworms, nematodes, and centipedes. ANIC is an important research collection used by CSIRO researchers, university staff, and students, and scientists from Australian and international research organisations.

Australian National Wildlife Collection (ANWC) – Specialising in terrestrial vertebrates, ANWC contains specimens of most species of Australian birds, mammals, reptiles, and amphibians. It is particularly rich in specimens of birds from Papua New Guinea. ANWC is a valuable asset for biologists engaged in biodiversity research. Its research collections hold 60,000 recordings of wildlife sounds, more than 30,000 tissue samples, and egg collections from more than 300 bird species.

Australian National Fish Collection (ANFC) – Specialising in marine fishes, the ANFC contains over 160,000 specimens representing more than 3,500 species from the Indo-Pacific region. It is an invaluable resource for biodiversity and biogeographic research on Australian and Indo-Pacific fishes. Its major strengths are sharks, rays, and deep-water fishes. It also contains over 80,000 images, 12,500 radiographs of Australian fishes and over 21,000 tissue samples for genetic analyses.

Australian Tree Seed Centre (ATSC) – The ATSC is managed as a collection and research centre for Australian native tree species. For over 60 years the centre has been collecting, researching and supplying quality, fully documented tree seed to both domestic and overseas customers. Collections of seed are sourced from wild populations and genetically improved seed from our domestication and improvement programs.

Australian National Algae Culture Collection (ANACC) – The ANACC consists of over a 1000 living strains of more than 400 microalgae and macroalgae species and is a resource for research on algal diversity, distribution, richness, and taxonomic relationships, including those of economic importance and environmental concern. Aligned with the collection is the Algae Services, which provides algae characterisation and supply strains as starter cultures to industry, research organisations and educational institutions in over 70 countries.

6. Budgetary Reports and Explanations of Major Variances

The following provides a comparison of the original budget as presented in the 2023-24 Portfolio Budget Statements to the actual outcome reported for 2023-24. The intention of this variance analysis is to provide the reader with information relevant to assessing the performance of CSIRO, including the accountability for the resources entrusted to it.

Statement of Comprehensive Income ***For the period ended 30 June 2024***	**Consolidated Actuals 2024 $'000**	Original Budget 2024 $'000	Variance $'000
NET COST OF SERVICES			
Expenses			
Employee benefits	**983,611**	831,132	(152,479)
Suppliers	**546,466**	670,525	124,059
Depreciation and amortisation	**169,701**	178,069	8,368
Finance costs	**944**	571	(373)
Write-downs and impairment loss on financial instruments	**(47)**	-	47
Write-downs and impairment of other assets	**85**	-	(85)
Losses from asset sales	**7,691**	-	(7,691)
Foreign exchange losses	**798**	-	(798)
Total expenses	**1,709,249**	1,680,297	(28,952)
Own-Source Income			
Own-source revenue			
Revenue from contracts with customers	**549,861**	485,535	64,326
Royalties and licence fees	**-**	52,165	(52,165)
Bank and term deposits interest	**49,607**	25,925	23,682
Rental income	**7,085**	6,575	510
Other revenues	**47,251**	57,072	(9,821)
Total own-source revenue	**653,804**	627,272	26,532
Gains			
Gains from asset sales	**-**	10,500	(10,500)
Gains on valuation of equity investments	**(2,979)**	-	(2,979)
Gain on revaluation of investment properties	**1,875**	-	1,875
Other gains	**34,095**	-	34,095
Total gains	**32,991**	10,500	22,491
Total own-source income	**686,795**	637,772	49,023
Net cost of services	**(1,022,454)**	(1,042,525)	20,071
Revenue from Government	**1,009,239**	1,008,739	500
Surplus/(Deficit)	**(13,215)**	(33,786)	20,571
OTHER COMPREHENSIVE INCOME			
Items not subject to subsequent reclassification to net cost of services			
Changes in asset revaluation reserves	**181,679**	-	181,679
Items subject to subsequent reclassification to net cost of services			
Changes in other reserves	**223**	-	223
Total other comprehensive income	**181,902**	-	181,902
Total comprehensive income/(loss)	**168,687**	(33,786)	202,473

Statement of Financial Position ***As at 30 June 2024***	**Consolidated Actuals 2024 $'000**	Original Budget 2024 $'000	Variance $'000
ASSETS			
Financial Assets			
Cash and cash equivalents	**789,569**	586,511	203,058
Trade and other receivables	**113,027**	104,063	8,964
Other investments	**1,103,726**	408,562	695,164
Assets directly related to discontinued operations	**936**	-	936
Total financial assets	**2,007,258**	1,099,136	908,122
Non-Financial Assets			
Land and buildings	**1,798,356**	1,551,228	247,128
Heritage and cultural	**15,576**	9,952	5,624
Plant and equipment	**636,157**	650,958	(14,801)
Intangibles	**16,333**	19,659	(3,326)
Investment properties	**48,016**	50,748	(2,732)
Inventories	**1,136**	1,290	(154)
Other non-financial assets	**34,933**	11,886	23,047
Total non-financial assets	**2,550,507**	2,295,721	254,786
Assets held for sale	**12,882**	-	12,882
Total assets	**4,570,647**	3,394,857	1,175,790
LIABILITIES			
Payables			
Suppliers	**321,999**	256,855	(65,144)
Other payables	**24,189**	18,357	(5,832)
Deposits	**14,580**	19,419	4,839
Liabilities directly associated with discontinued operations	**702**	-	(702)
Total payables	**361,470**	294,631	(66,839)
Interest Bearing Liabilities			
Leases	**45,692**	33,713	(11,979)
Total Interest bearing liabilities	**45,692**	33,713	(11,979)
Provisions			
Employee provisions	**275,570**	226,452	(49,118)
Provision for remediation	**61,196**	59,366	(1,830)
Total provisions	**336,766**	285,818	(50,948)
Total liabilities	**743,928**	614,162	(129,766)
Net assets	**3,826,719**	2,780,695	1,046,024
EQUITY			
Contributed equity	**467,612**	467,612	-
Asset revaluation reserves	**1,030,323**	1,595,206	(564,883)
Other reserves	**(140)**	-	(140)
Retained surplus	**1,672,985**	717,877	955,108
Non-controlling interest	**655,939**	-	655,939
Total equity	**3,826,719**	2,780,695	1,046,024

Statement of Changes in Equity

For the period ended 30 June 2024

	Retained earnings			Asset revaluation reserve			Other reserves			Contributed equity/capital			Non-controlling interest			Total equity		
	Actual	Original Budget	Variance	**Actual**	Original Budget	Variance	**Actual**	Original Budget	Variance	**Actual**	Original Budget	Variance	**Actual**	Original Budget	Variance	**Actual**	Original Budget	Variance
	2024	2024	2024	**2024**	2024	2024	**2024**	2024	2024	**2024**	2024	2024	**2024**	2024	2024	**2024**	2024	2024
	$'000	$'000	$'000	**$'000**	$'000	$'000	**$'000**	$'000	$'000	**$'000**	$'000	$'000	**$'000**	$'000	$'000	**$'000**	$'000	$'000
Opening balance	**816,357**	751,663	64,694	**1,702,538**	1,595,506	107,032	**(253)**	(300)	47	**416,912**	416,912	-	**552,967**	-	552,967	**3,488,521**	2,763,781	724,740
Comprehensive income																		
Other comprehensive income	**-**	-	-	**181,679**	-	181,679	**113**	-	113	**-**	-	-	**-**	-	-	**181,792**	-	181,792
Surplus/(deficit) for the period	**3,675**	(33,786)	37,461	**-**	-	-	**-**	-	-	**-**	-	-	**(16,890)**	-	(16,890)	**(13,215)**	(33,786)	20,571
Total comprehensive income	**3,675**	(33,786)	37,461	**181,679**	-	181,679	**113**	-	113	**-**	-	-	**(16,890)**	-	(16,890)	**168,577**	(33,786)	202,363
Other Movements	**852,953**	-	852,953	**(853,894)**	-	(853,894)	**-**	-	-	**-**	-	-	**-**	-	-	**(941)**	-	(941)
Contributions by owners																		
Equity injection	**-**	-	-	**-**	-	-	**-**	-	-	**50,700**	50,700	-	**119,862**	-	119,862	**170,562**	50,700	119,862
Closing balance	**1,672,985**	717,877	955,108	**1,030,323**	1,595,506	(565,183)	**(140)**	(300)	160	**467,612**	467,612	-	**655,939**	-	655,939	**3,826,719**	2,780,695	1,046,024

Cash Flow Statement ***For the period ended 30 June 2024***	**Consolidated Actuals 2024 $'000**	Original Budget 2024 $'000	Variance $'000
OPERATING ACTIVITIES			
Cash received			
Receipts from Government	**1,009,239**	1,008,739	500
Sale of goods and rendering of services	**629,901**	633,685	(3,784)
Interest	**50,060**	25,925	24,135
Net GST received	**42,355**	3,254	39,101
Total cash received	**1,731,555**	1,671,603	59,952
Cash used			
Employees	**955,447**	831,132	(124,315)
Suppliers	**678,607**	740,664	62,057
Interest payments on lease liabilities	**2,009**	571	(1,438)
Finance costs	**97**	-	(97)
Deposits	**2,438**	-	(2,438)
Total cash used	**1,638,598**	1,572,367	(66,231)
Net cash from operating activities	**92,957**	99,236	(6,279)
INVESTING ACTIVITIES			
Cash received			
Proceeds from sales of equity investments and intellectual property	**37**	-	37
Proceeds from sales of property, plant and equipment	**37,711**	37,500	211
Total cash received	**37,748**	37,500	248
Cash used			
Purchase of property, plant and equipment	**201,419**	232,056	30,637
Purchase of equity investments	**93,604**	45,000	(48,604)
Other selling costs	**79**	-	(79)
Total cash used	**295,102**	277,056	(18,046)
Net cash used in investing activities	**(257,354)**	(239,556)	(17,798)
FINANCING ACTIVITIES			
Cash received			
Contributed equity	**170,562**	50,700	119,862
Total cash received	**170,562**	50,700	119,862
Cash used			
Principal payments of lease liabilities	**17,902**	14,088	(3,814)
Total cash used	**17,902**	14,088	(3,814)
Net cash from financing activities	**152,660**	36,612	116,048
Net increase in cash held	**(11,737)**	(103,708)	91,971
Cash and cash equivalents at the beginning of the reporting period	**801,306**	690,219	111,087
Cash and cash equivalents at the end of the reporting period	**789,569**	586,511	203,058

Explanation of Major Variances

Australian Accounting Standard *AASB 1055 Budgetary Reporting* requires variance explanations of major variances between the original budget, as presented in the 2023-2024 Portfolio Budget Statements, and the actual outcome as reported in these financial statements. Major variances are those that are relevant to an assessment of the discharge of accountability and to an analysis of the performance of the entity.

Variances attributable to factors which would not reasonably have been identifiable at the time of the budget preparation, such as the revaluation, sale or impairment of assets have not been included as part of the explanation.

Statement of Comprehensive Income

Employee Benefits is higher, and *Suppliers* is lower, than budget due to greater use of employees versus suppliers during the year to deliver strategic and operational output.

Royalties and licence fees are disclosed separately in the Portfolio Budget Statements (PBS) and included in Revenue from contracts with customers as per *AASB 15 Revenue from Contracts with Customers* in the financial statements.

Bank and term deposits interest is higher than budget due to the impact of interest rates which were higher than expected.

Statement of Financial Position

Cash and cash equivalents is higher than budget due to the difference in the basis of preparation between the PBS and the financial statements relating to the Innovation Fund investment. The Portfolio Budget Statements are prepared on the basis of only including General Government Sector (GGS) entities, whereas the Financial Statements for CSIRO include the results of CSIRO and all controlled entities, regardless of whether they are within the GGS or not. Therefore, there is a difference in the accounting treatment between the two, resulting in the budget containing the Innovation Fund investment as an *Investment Accounted for using the Equity Method* (reported as Other investments), while the Financial Statements account for this investment in the consolidation as *Cash and cash equivalents* held by a controlled entity.

Other investments is higher than budget due to an increase in the valuation of the share portfolio, and the difference in the basis of preparation between the PBS and the financial statements relating to the Innovation Fund investment.

Suppliers payable is higher than budget due to project timing of contract liabilities associated with consideration received by the customer where services are yet to be performed by CSIRO.

The higher balance for *Employee provisions* is due to movement in the long-term Australian government bond rate used to discount expected future employee benefit payments, as well as higher end of year leave balances.

Retained Surplus is higher than budget due to asset revaluation reserve movements not budgeted for.

The *Non-controlling interest* balance is higher than budget due to the difference in basis of preparation between the PBS and the financial statements relating to the Innovation Fund investment.

Cash Flow Statement

Variances relating to cash flows reflect the factors detailed under Statement of Comprehensive Income and Statement of Financial Position.

Part 5

Science Industry Endowment Fund

Trustee's report

I'm delighted to have recently become Trustee of the Science and Industry Endowment Fund (SIEF) and see first-hand the extraordinary research in which it invests. I'm especially glad to see the rejuvenation of the Fund through a Gift from CSIRO, enabled by the fast Wireless Local Area Network (WLAN) patent litigation in 2009. I am excited by the science the Fund is supporting and the national benefit it is delivering.

I am in the rare position of being Trustee of the SIEF and a past recipient of SIEF funding, having been involved in the Stem Cells Biology Research Project from 2011 to 2016 when I was at the Walter and Eliza Hall Institute of Medical Research. In collaboration with CSIRO and CSL, we worked together on 2 projects to develop more effective strategies for creating blood platelets in a clinical setting to support medical treatments. The projects combined cutting-edge research with well-established routes to clinical and commercial translation, but were only possible because of the unique role SIEF plays in our research ecosystem.

Over the last year, SIEF has funded programs for research into areas as diverse as renewable energy, research infrastructure, and scholarships that create and sustain young researchers. This is research that assists Australian industry, furthers the interests of the Australian community, or contributes to the achievement of Australia's national objectives. Collaboration across organisations is also vital to the success of SIEF-funded projects. I am pleased to share some of this year's highlights from the Fund.

Research infrastructure

Facilities and equipment are critical for research institutions to deliver national benefit and SIEF has been funding this critical component of the innovation system through its Medium Equipment Program (MEP) since 2017. MEP has funded $33 million for equipment and refurbishment of facilities to the value of up to $4 million per asset.

This year, SIEF has allocated $6.5 million towards building the nation's capability in biomedical manufacturing, and agriculture and food.

The National Vaccine and Therapeutics Laboratory will comprises multiple facilities enabling the process development, manufacture and quality control of investigational materials for evaluation in human and veterinary preclinical and clinical studies. The facility will address an unmet need in the Australian medical research industry of a nationally available capability for development of biological formulations that are stable for vaccine antigens and biologicals in their final product presentation.

Aquaculture, agriculture and the environment will benefit from a next-generation infrared mass spectrophotometer for the analysis of carbon, nitrogen, and sulphur isotopes in bulky samples with low signal-to-noise ratios. The new instrument will strengthen CSIRO's capability to analyse organic materials and will be central to existing national collaborative projects.

The impact of SIEF's focus on research infrastructure has been demonstrated by investment in the FloWorks laboratory, through the MEP, in 2017. This investment de-risked the development of Australian-manufactured products by providing a scale-up platform accessible by SMEs and larger chemical manufacturers. FloWorks also enabled the chemical industry to adopt more efficient and cost-effective processing methods important to making Australia's chemical industry globally competitive. SIEF has commissioned an independent analysis on the impact of the FloWorks' laboratory, the results of which can be found on page 168 of this Annual Report.

Collaboration

Australian research can have deep and significant impact when researchers and institutions collaborate with each other and their international peers. Since 2009, SIEF has championed collaboration across its portfolio of programs. The SIEF National Collaborative Missions Program established in 2023 continues this focus providing funding for Australian and international research institutions to jointly address the challenges posed by a changing climate and work towards achieving net-zero emissions. This includes supporting the Electric Power Innovation for a Carbon-free Society (EPICS) and the global Hydrogen Production Technologies (HyPT) Centres as part of the US National Science Foundation Global Centers in Climate Change and Clean Energy. The EPICS Centre aims to guarantee stable and secure system operation amidst high penetration of variable energy sources. The HyPT Centre will advance technology commercialisation for hydrogen production.

Participating Australian organisations include CSIRO, University of Melbourne, Monash University, University of Adelaide, Flinders University and Curtin University.

Renewable energy technologies

SIEF is supporting the development of novel low and zero emissions technologies that will contribute to Australia's transition to net zero. Through the Experimental Development Program (EDP), SIEF has funded a project to advance perovskite solar cell technology and build a prototype to generate hydrogen from steam as a byproduct of steel making. A recently approved EDP project will develop a prototype adapted diesel engine at commercial scale (named BioDICE), using fuel produced from biomass. Using a low-temperature carbonisation process to convert the biomass to fuel, 40 per cent thermal efficiency can be achieved, which is double that of traditional steam or gasification-based cycles of similar capacity. Using readily available biomass sources such as invasive woody weeds, it is envisaged that the technology could potentially generate 50 per cent of Australia's current electricity demand as dispatchable power, which will contribute to Australia's commitment to a reduction in greenhouse gas emissions and provide opportunities for regional development.

Supporting students

The NSW Generation STEM Program continues to develop a pipeline for STEM-ready school and university graduates through its 3 programs. The Community Partnerships Program has extended its presence in regional NSW to include Albury, Dubbo and the Queanbeyan-Yass area. Eighty-five schools participated in the program in the 2023 calendar year. Deadly in Generation STEM continues to engage students in the Moree and Illawarra-Shoalhaven regions. Eighty-eight students participated in the program and a STEM-experience on-Country camp was offered for Illawarra Aboriginal students, providing education about science, their own Indigenous identities and careers for their future. Generation STEM Links experienced a significant increase in participation by industries, providing university students more opportunities to gain hands-on experience in a STEM industry. Regional businesses have shown strong interest with almost 60 per cent of new placement requests coming from outside of Sydney, which has led to a greater diversity of STEM sectors participating in the program. The program has helped regional businesses find and retain local students, which also contributes to regional development.

My role as Trustee is greatly assisted by the Fund's Advisory Councils and other experts who have generously supported the Fund by providing guidance and insight on a *pro bono* basis. Their contributions have ensured investments are directed to where the greatest difference can be made.

Dr Doug Hilton AO
Trustee, SIEF

FloWorks

Background

FloWorks, a state-of-the-art technology transfer facility, has been advancing flow chemistry technologies since its launch in October 2019. Supported by diverse funding streams from both government and industry, including the SIEF Medium Equipment Program (MEP), FloWorks has developed specialised technologies in continuous flow chemistry such as controlled polymerisation and catalysis. The facility offers services such as designing flow chemistry processes, installing and commissioning systems, training, and equipment testing (research.csiro.au/floworks).

Industry challenge

Traditional batch methods in chemical and pharmaceutical production face limitations like low efficiency, lack of scalability, high costs, and inconsistent product quality. The absence of dedicated infrastructure has been a major barrier, leading to logistical challenges, low efficiency, and productivity issues, thus hindering Australia's growth in flow chemistry research and development.

CSIRO's response

To address these challenges, CSIRO established FloWorks, a state-of-the-art centre for industrial flow chemistry research, with a $4.5 million investment, supported significantly by SIEF with additional funds for equipment. Launched in October 2019 in Clayton, Victoria, this 400 m^2 facility centralises infrastructure, enhancing efficiency and accessibility for researchers. FloWorks aims to revolutionise chemical manufacturing with cleaner, more sustainable, and efficient processes and advance automation through smart monitoring and online analysis.

The FloWorks facility operates a unique suite of hydrogen reactors and large walk-in rooms for pilot and demonstrator scale testing.

Prospective impacts

FloWorks has significantly enhanced Australia's flow chemistry capabilities, driving research and innovation, commercial success, environmental sustainability, and social wellbeing, creating benefit for the nation. The facility's advanced infrastructure has enabled high-quality research and international collaborations with partners like the University of Melbourne, Research Institute Juelich, Germany and Imperial College London. Commercially, FloWorks has facilitated the development of new products and markets through partnerships with industry leaders such as Boron Molecular and Precision Catalysts, leading to innovations like the MS3 varnish and commercial RAFT agents, thus boosting economic growth. Environmentally, projects like the Movable Hydrogen Generator, in collaboration with Advanced Carbon Engineering, have potential to support critical national agenda to achieve net zero emissions by 2050. Socially, FloWorks has advanced public health and safety through safer manufacturing processes and provided extensive training, enhancing the workforce's technical skills and supporting energy security with innovative hydrogen solutions.

SIEF's role

SIEF's MEP grant has been instrumental in advancing the FloWorks initiative by providing essential financial support for the purchase of critical equipment that enabled the development and success of high-impact projects. This support has enhanced R&D capabilities in areas such as Catalytic Static Mixer (CSM) technology, Metal-Organic Frameworks (MOFs), and Flow Chemistry Polymerisation. Additionally, the SIEF-MEP facilitated strategic planning and resource management within FloWorks, helping to outline an ideal future equipment portfolio and attract further funding. Overall, SIEF has been a crucial enabler for both large-scale and smaller projects, significantly impacting FloWorks' strategic research capabilities and its ability to capitalise on emerging opportunities.

Australian National Audit Office

INDEPENDENT AUDITOR'S REPORT

To the Minister for Industry and Science

Opinion

In my opinion, the financial statements of the Science and Industry Endowment Fund (the Entity) for the year ended 30 June 2024 present fairly, in all material respects, the financial position of the Entity as at 30 June 2024 and its financial performance and cash flows for the year then ended in accordance with Australian Accounting Standards – Simplified Disclosures.

The financial statements of the Entity, which I have audited, comprise the following as at 30 June 2024 and for the year then ended:

- Statement by the Trustee and Chief Financial Officer;
- Statement of Comprehensive Income;
- Statement of Financial Position;
- Statement of Changes in Equity;
- Cash Flow Statement; and
- Notes to and forming part of the financial statements, comprising material accounting policy information and other explanatory information.

Basis for opinion

I conducted my audit in accordance with the Australian National Audit Office Auditing Standards, which incorporate the Australian Auditing Standards. My responsibilities under those standards are further described in the *Auditor's Responsibilities for the Audit of the Financial Statements* section of my report. I am independent of the Entity in accordance with the relevant ethical requirements for financial statement audits conducted by the Auditor-General and their delegates. These include the relevant independence requirements of the Accounting Professional and Ethical Standards Board's APES 110 *Code of Ethics for Professional Accountants (including Independence Standards)* (the Code) to the extent that they are not in conflict with the *Auditor-General Act 1997*. I have also fulfilled my other responsibilities in accordance with the Code. I believe that the audit evidence I have obtained is sufficient and appropriate to provide a basis for my opinion.

Trustee's responsibility for the financial statements

The Chief Executive of the Commonwealth Scientific and Industrial Research Organisation (the Trustee) is responsible for the preparation and fair presentation of financial statements that comply with Australian Accounting Standards – Simplified Disclosures. The Trustee is also responsible for such internal control as they determine is necessary to enable the preparation of the financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, the Trustee is responsible for assessing the ability of the Entity to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless the Trustee either intend to liquidate the Entity or to cease operations, or have no realistic alternative but to do so.

Auditor's responsibilities for the audit of the financial statements

My objective is to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes my opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with the Australian National Audit Office Auditing Standards will always detect a material misstatement when it

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exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of the financial statements.

As part of an audit in accordance with the Australian National Audit Office Auditing Standards, I exercise professional judgement and maintain professional scepticism throughout the audit. I also:

- identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for my opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control;
- obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control;
- evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by the Trustee;
- conclude on the appropriateness of the Trustee's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the entity's ability to continue as a going concern. If I conclude that a material uncertainty exists, I am required to draw attention in my auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify my opinion. My conclusions are based on the audit evidence obtained up to the date of my auditor's report. However, future events or conditions may cause the entity to cease to continue as a going concern; and
- evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

I communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that I identify during my audit.

Australian National Audit Office

Jeffrey Hobson

Executive Director

Delegate of the Auditor-General

Canberra

21 August 2024

SCIENCE AND INDUSTRY ENDOWMENT FUND

Statement by the Trustee and Chief Financial Officer

for the period ended 30 June 2024

STATEMENT BY THE TRUSTEE AND CHIEF FINANCIAL OFFICER OF COMMONWEALTH SCIENTIFIC AND INDUSTRIAL RESEARCH ORGANISATION (CSIRO) AS SERVICE PROVIDER TO THE SCIENCE AND INDUSTRY ENDOWMENT FUND

The attached financial report for the year ended 30 June 2024 has been prepared based on properly maintained financial records and in accordance with Australian Accounting Standards simplified disclosure requirements and the requirements of the *Science and Industry Endowment Act 1926*, and present fairly the financial position of the Science and Industry Endowment Fund as at 30 June 2024 and its performance and cashflows for the year then ended.

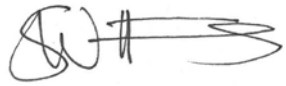
In our opinion, at the date of this statement, there are reasonable grounds to believe that the Science and Industry Endowment Fund will be able to pay its debts as and when they become due and payable.

Signed in accordance with a resolution of the Trustee.

Dr Doug Hilton AO

Trustee of the Science and Industry Endowment Fund

20 August 2024



Stewart Walters

Chief Financial Officer of CSIRO as service provider to the Science and Industry Endowment fund

20 August 2024

SCIENCE AND INDUSTRY ENDOWMENT FUND

Statement of Comprehensive Income

for the period ended 30 June 2024

	Notes	2024	2023
Expenses			
Scientific research grants	1.1A	**12,352,674**	11,057,587
Service fee under services agreement with CSIRO	1.1B	**531,000**	516,130
Audit fees	1.1C	**19,000**	18,870
Other fees	1.1D	**1**	10,071
Total expenses		**12,902,675**	11,602,658
Revenue			
Interest revenue	1.2A	**5,814,909**	3,153,988
Gifts	1.2B	**8,000,000**	39,000,000
Total revenue		**13,814,909**	42,153,988
Net (loss)/surplus for the period		**912,234**	30,551,330
Other comprehensive income		**-**	-
Total comprehensive income		**912,234**	30,551,330

The above statement should be read in conjunction with the accompanying notes.

SCIENCE AND INDUSTRY ENDOWMENT FUND

Statement of Financial Position

as at 30 June 2024

	Notes	2024	2023
ASSETS			
Current			
Cash and cash equivalents	2.1A	**119,500,327**	118,457,950
Trade and other receivables	2.1B	**1,744,969**	1,875,112
Total assets		**121,245,296**	120,333,062
LIABILITIES			
Current			
Suppliers payable		**-**	-
Total Liabilities		**-**	-
Net assets		**121,245,296**	120,333,062
EQUITY			
Contributed equity		**200,000**	200,000
Retained earnings		**121,045,296**	120,133,062
Total equity		**121,245,296**	120,333,062

The above statement should be read in conjunction with the accompanying notes.

SCIENCE AND INDUSTRY ENDOWMENT FUND

Statement of Changes in Equity

for the period ended 30 June 2024

	Retained Earnings	Contributed Equity	Total Equity
Opening balance 1 July 2023	**120,133,062**	**200,000**	**120,333,062**
Net surplus	912,234	-	912,234
Closing balance 30 June 2024	**121,045,296**	**200,000**	**121,245,296**

	Retained Earnings	Contributed Equity	Total Equity
Opening balance 1 July 2022	**89,581,732**	**200,000**	**89,781,732**
Net surplus	30,551,330	-	30,551,330
Closing balance 30 June 2023	**120,133,062**	**200,000**	**120,333,062**

The above statement should be read in conjunction with the accompanying notes.

SCIENCE AND INDUSTRY ENDOWMENT FUND

Cash Flow Statement

for the period ended 30 June 2024

	Notes	2024	2023
Operating activities			
Cash received			
CSIRO gift		**8,000,000**	39,000,000
Interest received		**5,483,477**	2,104,819
GST credits received		**1,751,842**	742,938
Total cash received		**15,235,319**	41,847,757
Cash used			
Payments to grantees		**13,587,941**	12,163,346
Other payments		**605,001**	599,571
Total cash used		**14,192,942**	12,762,917
Net cash flows from operating activities		**1,042,377**	29,084,840
Net increase in cash held		**1,042,377**	29,084,840
Cash and cash equivalents at the beginning of the reporting period		**118,457,950**	89,373,110
Cash and cash equivalents at the end of the reporting period		**119,500,327**	118,457,950

The above statement should be read in conjunction with the accompanying notes.

SCIENCE AND INDUSTRY ENDOWMENT FUND

NOTES TO AND FORMING PART OF THE FINANCIAL REPORT

for the period ended 30 June 2024

Overview

The Science and Industry Endowment Fund (referred to as the Fund) was established under the *Science and Industry Endowment Act 1926* with the Trustee of the Fund being the Commonwealth Scientific and Industrial Research Organisation's (CSIRO) Chief Executive and is a not-for-profit entity. An appropriation of 100,000 pounds was received at the time the Fund was established. The principal activity of the Fund is to provide assistance to persons engaged in scientific research and in the training of students in scientific research. Dr Doug Hilton AO was appointed CSIRO Chief Executive (and SIEF Trustee) from 29 September 2023. For the period 1 July 2023 to 29 September 2023, Kirsten Rose was the acting CSIRO Chief Executive (and SIEF Trustee).

In October 2009 the Minister for Innovation, Industry, Science and Research announced a gift of $150 million to be donated by CSIRO to the Fund. The gift is intended to be used for scientific research for the purposes of assisting Australian industry and furthering the interests of the Australian community or contributing to the achievement of Australian national objectives. The gift was made subject to the terms of a Deed of Gift between the Trustee and CSIRO dated 15 October 2009. Between financial years 2017/18 and 2022/23 CSIRO made further gifts totalling $90 million to the Fund, with an additional $8 million in financial year 2023/24. These gifts were also made subject to the terms of the Deed of Gift between the Trustee and CSIRO dated 15 October 2009.

In June 2017, the NSW Government acting through the NSW Department of Industry provided a $25 million endowment to the Fund to create the NSW Generation STEM Program. The program will be delivered over a 10-year period and will implement activities including research, to increase the supply of Science, Technology, Engineering and Mathematics (STEM) skilled labour to meet the current and future needs of New South Wales. The total cash payments made by the Fund in financial year 2023/24 under the NSW Endowment were $1,530,000 (GST exclusive).

In November and December 2018, National ICT Australia Limited (NICTA), a controlled entity of CSIRO, provided two gifts to the Fund in the total amount of $20 million to fund the Future National ICT Industry Platform Program. A further $5 million was provided to the Fund by NICTA in December 2019. The program is to support research activities and projects at a scale that address challenges in the field of Information and Communications Technology (ICT) and it is intended that the outcomes from the Program will benefit Australia by helping create new Australian technology-based industries and/or applied technology platforms that can reach a global scale. The total payments made by the Fund in financial year 2023/24 under the Future National ICT Industry Platform Program were $125,000 (GST exclusive).

In one financial year a maximum amount of $25 million exclusive of Goods and Services Tax (GST) can be disbursed from the Fund for the CSIRO GIFT Programs, NSW Generation STEM Program and the Future National ICT Industry Platform Program (under the Deeds of Gift/Endowment). The total payments made by the Fund under these gifts and programs in financial year 2023/24 were $12,884,675 (GST exclusive). This includes Scientific research grant payments, service, audit and other fees.

Basis of Preparation of the Financial Statements

The financial statements for the Fund are general purpose financial statements and are required by Section 10 of the *Science and Industry Endowment Act 1926*. The financial statements have been prepared in accordance with the Australian Accounting Standards and Interpretations, including *AASB 1060 General Purpose Financial Statements – Simplified Disclosures for For-Profit and Not-for Profit Entities* issued by the Australian Accounting Standards Board (AASB) that apply for the reporting period.

The financial statements have been prepared on an accrual basis and are in accordance with the historical cost convention. No allowance is made for the effect of changing prices on the results or the financial position. The financial statements are presented in Australian dollars and values are rounded to the nearest dollar unless otherwise specified.

SCIENCE AND INDUSTRY ENDOWMENT FUND

NOTES TO AND FORMING PART OF THE FINANCIAL REPORT

for the period ended 30 June 2024

Key Judgements and Estimates
The accounting policies are set out below. Within the current financial year, there were no significant judgements or estimates used in the preparation of the financial statements.

Adoption of new and future Australian Accounting Standards
All new, revised and amending standards and/or interpretations that were issued prior to the signing of these statements and applicable to the current reporting period were adopted by the Fund and did not have a material effect on the financial statements. The Fund has not early adopted any standards, interpretations or amendments that have been issued and are not yet effective.

Taxation
The Fund is exempt from all forms of taxation except Goods and Services Tax ('GST').

Events after the Reporting Period
At the time of signing of the financial statements, the Trustee is not aware of any other significant events occurring after the reporting date that could impact on the financial report.

SCIENCE AND INDUSTRY ENDOWMENT FUND

NOTES TO AND FORMING PART OF THE FINANCIAL REPORT

for the period ended 30 June 2024

1.1 Expenses

	2024	2023
1.1A: Scientific research grants		
Research Infrastructure Program	**9,458,000**	5,622,000
Promotion of Science Program - Scholarships and Fellowships	**100,000**	100,000
Experimental Development Program	**1,376,674**	1,960,587
NSW Endowment Grant	**1,400,000**	3,375,000
Education and Outreach Program	**18,000**	-
Total scientific research grants	**12,352,674**	11,057,587

Accounting Policy
The Fund awards grants to support approved eligible applications and activities in instalments, subject to the completion by Grant Recipients of funding milestones which are verified through provision of satisfactory Progress Reports to the Fund Manager. All costs associated with providing scientific research grants are expensed at acceptance of relevant Progress Reports.

	2024	2023
1.1B: Service fee under services agreement with CSIRO		
Service fee	**531,000**	516,130
Total service fee	**531,000**	516,130

Accounting Policy
Services fees under services agreement with CSIRO are expensed as incurred.

	2024	2023
1.1C: Audit fees		
Audit fees	**19,000**	18,870
Total audit fees	**19,000**	18,870

Accounting Policy
Audit fees are recognised when they have been incurred (irrespective of having been invoiced). Outside of audit services, no other services have been provided by the auditors.

	2024	2023
1.1D: Other fees		
Bank fees	**1**	71
Professional fees	**-**	10,000
Total other fees	**1**	10,071

Accounting Policy
All other fees include operational expenses and are expensed as incurred.

1.2 Income and Gains

	2024	2023
1.2A: Interest revenue		
Bank account interest	**645,402**	266,712
Term deposits interest	**5,169,507**	2,887,276
Total interest revenue	**5,814,909**	3,153,988

Accounting Policy
Interest revenue is recognised using the effective interest method as set out in *AASB 9 Financial Instruments*.

	2024	2023
1.2B: Gifts		
CSIRO gift	**8,000,000**	39,000,000
Total gifts	**8,000,000**	39,000,000

Accounting Policy
Gifts are recognised as income when the entity gains control of the funds, where the consideration to acquire an asset is significantly less than fair value. Gifts, bequests or donations receivable are recognised at their nominal amounts as a financial asset under *AASB 9 Financial Instruments* as highlighted in paragraph 8 of *AASB 1058 Income of Not-for-Profit Entities.* The additional $8 million gift received from CSIRO in 2023/24 is to be used to further Fund objectives.

2.1 Assets

	2024	2023
2.1A: Cash and cash equivalents		
Cash at bank	**16,700,327**	45,867,950
Term deposits	**102,800,000**	72,590,000
Total Cash and cash equivalents	**119,500,327**	118,457,950

Accounting Policy
Cash and cash equivalents include cash on hand and demand deposits in bank accounts with an original maturity of 12 months or less that are readily convertible to known amounts of cash and subject to insignificant risk of change in value. Cash is recognised at its nominal amount.

	2024	2023
2.1B: Trade and other receivables		
Interest receivable	**1,581,469**	1,250,037
GST receivable	**163,500**	625,075
Total receivables	**1,744,969**	1,875,112
Less impairment loss allowance	**-**	-
Total Trade and other receivables	**1,744,969**	1,875,112

Accounting Policy
Trade and other receivables are financial assets held for collecting the contractual cash flows of the asset, where the cash flows are solely payments of principal and interest that are not provided at below-market interest rates. They are subsequently measured at amortised cost using the effective interest method adjusted for any loss allowance. Refer to accounting policies of financial assets in Note 4.1 Financial Instruments - Initial recognition and subsequent measurement.

SCIENCE AND INDUSTRY ENDOWMENT FUND

NOTES TO AND FORMING PART OF THE FINANCIAL REPORT

for the period ended 30 June 2024

3.1 Financial Instruments

	2024	2023
3.1A: Categories of financial instruments		
Financial assets		
Financial assets measured at amortised cost		
Cash and cash equivalents	**119,500,327**	118,457,950
Trade and other receivables	**1,744,969**	1,875,112
Total financial assets measured at amortised cost	**121,245,296**	120,333,062
Total financial assets	**121,245,296**	120,333,062
Financial Liabilities		
Financial liabilities measured at amortised cost		
Suppliers payable	**-**	-
Total financial liabilities measured at amortised cost	**-**	-
Total financial liabilities	**-**	-

	2024	2023
3.1B: Net gains or losses on financial assets		
Financial assets measured at amortised cost		
Bank interest	**5,814,909**	3,153,988
Net gain from financial assets at amortised cost	**5,814,909**	3,153,988

Accounting Policy

Financial Assets

The Fund classifies its financial assets under *AASB 9 Financial Instruments* as financial assets measured at amortised cost.

The classification depends on both the entity's business model for managing the financial assets and contractual cash flow characteristics at the time of initial recognition. Financial assets are recognised when the entity becomes a party to the contract and, as a consequence, has a legal right to receive or a legal obligation to pay cash and derecognised when the contractual rights to the cash flows from the financial asset expire or are transferred upon trade date.

Financial Assets at Amortised Cost

Financial assets included in this category need to meet two criteria:

1. the financial asset is held in order to collect the contractual cash flows; and
2. the cash flows are solely payments of principal and interest (SPPI) on the principal outstanding amount.

Amortised cost is determined using the effective interest method.

Effective Interest Method

Income is recognised on an effective interest rate basis for financial assets that are recognised at amortised cost.

Financial liabilities

Financial liabilities are classified as either financial liabilities 'at fair value through profit or loss' or other financial liabilities. Financial liabilities are recognised and derecognised upon 'trade date'.

Financial Liabilities at Amortised Cost

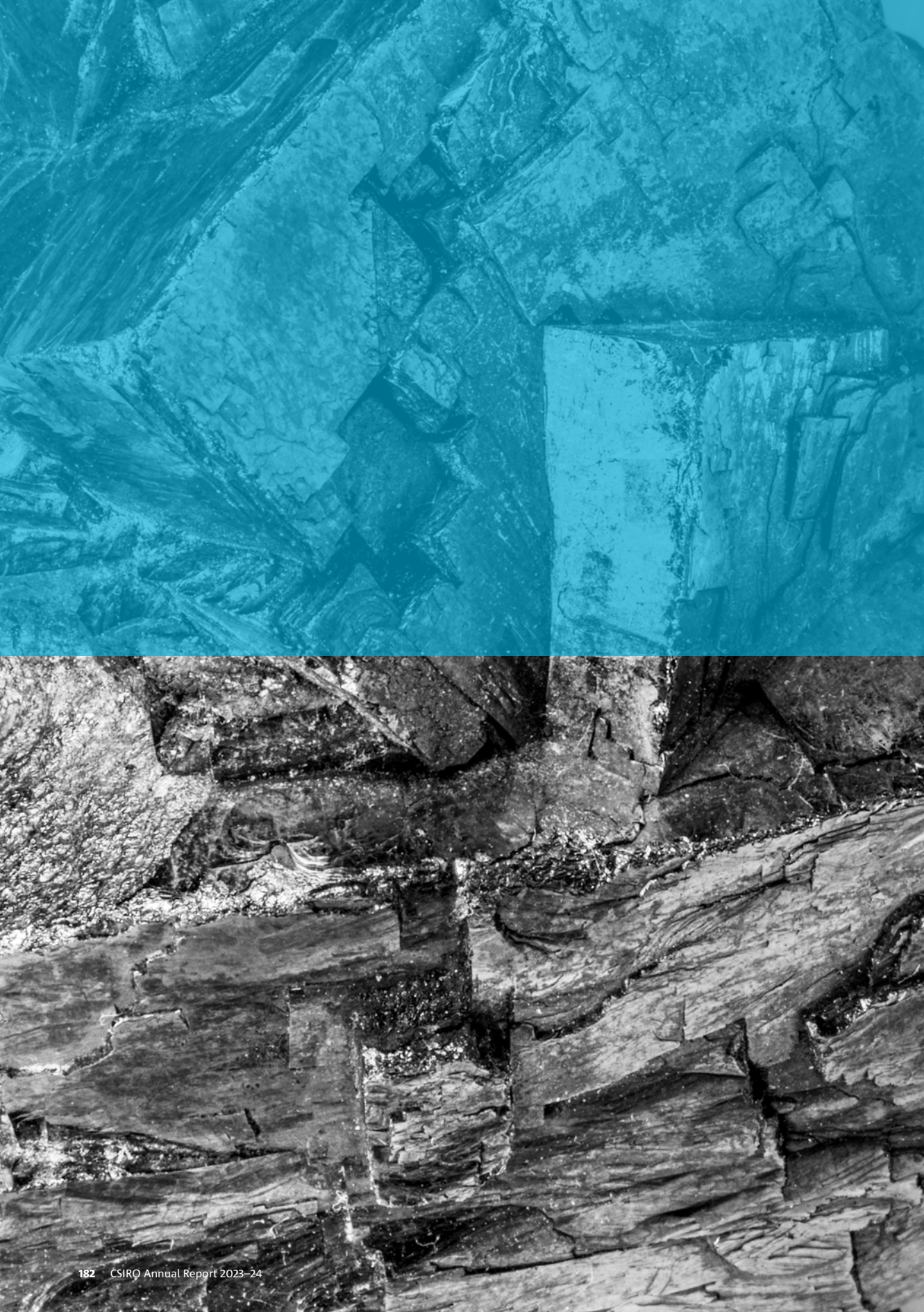
Financial liabilities, including borrowings, are initially measured at fair value, net of transaction costs. These liabilities are subsequently measured at amortised cost using the effective interest method, with interest expense recognised on an effective interest basis. Supplier and other payables are recognised at amortised cost. Liabilities are recognised to the extent that the goods or services have been received (and irrespective of having been invoiced).

4.1 Related Parties

Accounting Policy

The Fund is a wholly controlled subsidiary of CSIRO. The Trustee is the Chief Executive of CSIRO who is remunerated through CSIRO and not paid an additional salary for his role as Trustee of the Fund. There were no transactions during the reporting period between the Trustee and the Fund. Related parties to this entity other than the Trustee are other Australian Government entities.

In considering relationships with related entities and transactions entered into during the reporting period by the Fund, it has been determined that there are no related party transactions required to be separately disclosed when taking into account the details provided within other notes to these financial statements. Grant funds are administered and applied in accordance with Program Funding Agreements. Awarded grants are assessed against a set of established criteria prior to approval. All eligible applications are assessed equally.



Part 6

Appendices and indexes

Data templates

Appendix A: Management of human resources

All ongoing employees current report period (2023–24)

	MAN/MALE			WOMAN/FEMALE			NON-BINARY		
	FULL TIME	PART TIME	TOTAL	FULL TIME	PART TIME	TOTAL	FULL TIME	PART TIME	TOTAL
NSW	388	11	399	218	56	274	–	–	0
Qld	406	14	420	294	62	356	–	–	0
SA	101	7	108	108	33	141	–	–	0
Tas	210	9	219	101	16	117	–	–	0
Vic	713	21	734	434	94	528	–	–	0
WA	282	4	286	130	42	172	–	–	0
ACT	447	15	462	301	83	384	–	–	0
NT	8	1	9	7	3	10	–	–	0
External territories	–	–	0		–	0	–	–	0
Overseas	–	–	0	1	–	1	–	–	0
Total	**2,555**	**82**	**2,637**	**1,594**	**389**	**1,983**	**0**	**0**	**0**

All non-ongoing employees* current report period (2023–24)

	MAN/MALE			WOMAN/FEMALE			NON-BINARY		
	FULL TIME	PART TIME	TOTAL	FULL TIME	PART TIME	TOTAL	FULL TIME	PART TIME	TOTAL
NSW	149	7	156	127	17	144	–	–	0
Qld	169	6	175	180	24	204	–	–	0
SA	38	2	40	47	10	57	–	–	0
Tas	42	-	42	28	6	34	–	–	0
Vic	228	13	241	183	26	209	–	–	0
WA	102	3	105	68	14	82	–	–	0
ACT	116	9	125	108	12	120	–	–	0
NT	3	–	3	7	2	9	–	–	0
External territories	–	–	0	–	–	0	–	–	0
Overseas	1	–	1	3	–	3	–	–	0
Total	**848**	**40**	**888**	**751**	**111**	**862**	**0**	**0**	**0**

*Excludes casuals (HC = 212)

PREFERS NOT TO ANSWER			USES A DIFFERENT TERM			TOTAL
FULL TIME	PART TIME	TOTAL	FULL TIME	PART TIME	TOTAL	
–	–	0	1	–	1	**674**
–	1	1	1	–	1	**778**
–	–	0	–	–	0	**249**
2	–	2	1	–	1	**339**
–	–	0	2	–	2	**1,264**
–	–	0	–	1	1	**459**
–	1	1	1	-	1	**848**
–	–	0	–	–	0	**19**
–	–	0	–	–	0	**0**
–	–	0	–	–	0	**1**
2	**2**	**4**	**6**	**1**	**7**	**4,631**

PREFERS NOT TO ANSWER			USES A DIFFERENT TERM			TOTAL
FULL TIME	PART TIME	TOTAL	FULL TIME	PART TIME	TOTAL	
3	–	3	2	1	3	**306**
–	–	0	2	–	2	**381**
1	–	1	–	–	0	**98**
–	–	0	1	–	1	**77**
4	–	4	–	–	0	**454**
2	–	2	–	1	1	**190**
3	–	3	5	–	5	**253**
–	–	0	–	–	0	**12**
–	–	0	–	–	0	**0**
–	–	0	–		0	**4**
13	**0**	**13**	**10**	**2**	**12**	**1,775**

All ongoing employees* previous report period (2022–23)

	MAN/MALE			WOMAN/FEMALE			NON–BINARY		
	FULL TIME	PART TIME	TOTAL	FULL TIME	PART TIME	TOTAL	FULL TIME	PART TIME	TOTAL
NSW	376	8	384	195	67	262	–	–	0
Qld	388	13	401	272	62	334	–	–	0
SA	100	8	108	101	35	136	–	–	0
Tas	213	9	222	101	13	114	–	–	0
Vic	683	23	706	418	97	515	–	–	0
WA	270	5	275	117	37	154	–	–	0
ACT	442	13	455	293	88	381	–	–	0
NT	7	1	8	3	3	6	–	–	0
External territories	–	–	0	–	–	0	–	–	0
Overseas	–	–	0	1	–	1	–	–	0
Total	**2,479**	**80**	**2,559**	**1,501**	**402**	**1,903**	**0**	**0**	**0**

*Excludes casuals (HC = 196).

All non–ongoing employees previous report period (2022–23)

	MAN/MALE			WOMAN/FEMALE			NON–BINARY		
	FULL TIME	PART TIME	TOTAL	FULL TIME	PART TIME	TOTAL	FULL TIME	PART TIME	TOTAL
NSW	133	7	140	119	22	141	–	–	0
Qld	152	10	162	164	36	200	–	–	0
SA	42	–	42	34	10	44	–	–	0
Tas	33	1	34	39	4	43	–	–	0
Vic	212	10	222	166	23	189	–	–	0
WA	81	1	82	63	14	77	–	–	0
ACT	109	8	117	108	15	123	–	–	0
NT	3	–	3	7	1	8	–	–	0
External territories	–	–	0	–	–	0	–	–	0
Overseas	1	–	1	3	–	3	–	–	0
Total	**766**	**37**	**803**	**703**	**125**	**828**	**0**	**0**	**0**

	PREFERS NOT TO ANSWER			USES A DIFFERENT TERM			TOTAL
	FULL TIME	PART TIME	TOTAL	FULL TIME	PART TIME	TOTAL	
	–	–	0	–	–	0	**646**
	1	–	1	–	–	0	**736**
	1	–	1	–	–	0	**245**
	2	–	2	–	–	0	**338**
	1	–	1	–	–	0	**1,222**
	1	1	2	–	–	0	**431**
	1	–	1	–	–	0	**837**
	–	–	0	–	–	0	**14**
	–	–	0	–	–	0	**0**
	–	–	0	–	–	0	**1**
	7	**1**	**8**	**0**	**0**	**0**	**4,470**

	PREFERS NOT TO ANSWER			USES A DIFFERENT TERM			TOTAL
	FULL TIME	PART TIME	TOTAL	FULL TIME	PART TIME	TOTAL	
	5	–	5	–	–	0	286
	2	–	2	–	–	0	364
	1	–	1	–	–	0	87
	–	–	0	–	–	0	77
	3	–	3	–	–	0	414
	2	1	3	–	–	0	162
	5	–	2	–	–	0	245
	–	–	0	–	–	0	11
	–	–	0	–	–	0	0
	–	–	0	–	–	0	4
	18	**1**	**19**	**0**	**0**	**0**	**1,650**

Employee numbers by functional area – over 5 years

FUNCTIONAL AREA	2019–20	%F 2019–20	2020–21	%F 2020–21	2021–22	%F 2021–22
RESEARCH						
Research scientists/engineers	1,485	28.22	1,424	28.58	1,514	31.11
Research project staff	1,521	40.7	1,504	42.35	1,625	41.91
Research management	250	24.4	252	28.97	257	31.52
Research consulting	60	28.33	57	21.05	68	33.82
NON-RESEARCH						
Senior specialists	13	46.15	11	54.55	10	60
Technical services	683	15.96	665	16.54	707	17.96
Communication and information services	230	80	206	81.07	256	84.77
General services	8	37.5	8	62.5	15	60
Administrative services	930	74.84	946	73.89	1,071	73.86
General management	139	51.8	148	50.68	149	52.35
Total headcount	**5,319**	**41.1**	**5,221**	**41.97**	**5,672**	**43.79**
FTE	**5,065.27**		**4,948.96**		**5,291.24**	

FUNCTIONAL AREA	2022–23	%F 2022–23	2023–24	%F 2023–24
RESEARCH				
Research scientists/engineers	1,816	33.59	1,919	34.03
Research project staff	1,667	43.61	1,734	42.79
Research management	278	34.53	301	36.54
Research consulting	74	32.43	77	31.17
NON-RESEARCH				
Senior specialists	11	54.55	11	54.55
Technical services	752	18.35	810	19.63
Communication and information services	317	80.44	293	78.16
General services	14	57.14	17	58.82
Administrative services	1,230	72.28	1,307	71.23
General management	157	52.87	149	53.69
Total headcount	**6,316**	**44.9**	**6,618**	**44.48**
FTE	**5,938.65**		**6,234.13**	

F = female.

Appendix B: Accountable authority

Details of the accountable authority during the current report period (2023–24)

ACCOUNTABLE AUTHORITY NAME, QUALIFICATIONS AND EXPERIENCE	POSITION TITLE/ POSITION HELD EXECUTIVE/ NON-EXECUTIVE	PERIOD AS THE ACCOUNTABLE AUTHORITY OR MEMBER WITHIN THE REPORTING PERIOD		
		COMMENCEMENT DATE	CESSATION DATE	NO. MEETINGS ATTENDED
Ms Kathryn Fagg AO	Chair (non-ex)	1 July 2023	30 Jun 2024	6
BE (Hons) Chem Eng and MCom (Hons) FTSE GAIC | Ms Fagg is an experienced director, senior executive and former engineer. She is a highly experienced board member and chair, non-executive Director of the National Australia Bank Ltd, Djerriwarrh Investments Ltd and Medibank, and the Chair of Breast Cancer Network Australia. The inaugural Chair of Watertrust Australia Ltd, she is also a Board Member of the Grattan Institute, The Myer Foundation, and the Champions of Change Coalition. She was also formerly a Reserve Bank Board Member and former President of Chief Executive Women.				
Ms Ming Long AM	Deputy Chair (non-ex)	27 June 2024	30 Jun 2024	0
BEc LLB MBA FCA GAICD | Ms Long has significant experience as a non-executive director and is currently on the Board of Telstra, IFM Investors, QBE Insurance (Auspac) and the Committee for Economic Development of Australia. Ms Long is a Fellow of Chartered Accountants Australia and New Zealand, a Graduate of the Australian Institute of Company Directors and a member of Chief Executive Women. She was formerly Chair of Diversity Council Australia and AMP Capital Funds Management Limited.				
Dr Doug Hilton AO	Chief Executive	29 Sep 2023	30 Jun 2024	5
PhD FAA FTSE FAHMS | Dr Hilton is a molecular and cellular biologist, and former Director of the Walter and Eliza Hall Institute of Medical Research (WEHI). At WEHI, his medical research focused on understanding how blood cells communicate, using this knowledge to improve disease treatments. He is a Fellow of the Australian Academy of Science, Australian Academy of Technology and Engineering and the Australian Academy of Health and Medical Sciences. Dr Hilton is also a Board Member of Australians Investing in Women.				
Hon Ian Macfarlane	Member (non-ex)	1 July 2023	30 Jun 2024	6
FAICD | Mr Macfarlane is the former Chief Executive of the Queensland Resources Council and a non-executive director of Woodside Petroleum. He holds board positions at Toowoomba and Surat Basin Enterprise and Sovereign Manufacturing Automation for Composites Cooperative Research Centre. Mr Macfarlane has had a long career in the public service and was elected to Federal Parliament in 1998. He became Australia's longest serving Federal Resources and Energy Minister and Federal Industry and Innovation Minister before retiring from parliament in May 2016.				
Prof Alex Brown	Member (non-ex)	1 July 2023	30 Jun 2024	6
BMed MPH PhD FRACP (Hons) FCSANZ FAAHMS | Professor Brown is an internationally recognised clinician and researcher who has worked in Aboriginal and Torres Strait Islander health for his entire career. He is the Professor of Indigenous Genomics at the Telethon Kids Institute and the Australian National University. A proud member of the Yuin nation, Professor Brown is the first Indigenous scientist appointed to the CSIRO Board, bringing a wealth of experience in understanding and overcoming health inequalities and bridging connections across science ecosystems.				

ACCOUNTABLE AUTHORITY NAME, QUALIFICATIONS AND EXPERIENCE	POSITION TITLE/ POSITION HELD EXECUTIVE/ NON-EXECUTIVE	PERIOD AS THE ACCOUNTABLE AUTHORITY OR MEMBER WITHIN THE REPORTING PERIOD		
		COMMENCEMENT DATE	CESSATION DATE	NO. MEETINGS ATTENDED
Prof Emma Johnston AO	Member (non-ex)	11 Sep 2023	30 Jun 2024	5
FAA FTSE | Professor Johnston is an authority in marine science and conservation, and an influential figure in the Australian higher education and research sector. She is currently Deputy Vice-Chancellor, Research at Sydney University and was previously Dean of Science and Pro-Vice-Chancellor of Research at the University of New South Wales, and President of Science and Technology Australia. Professor Johnston is a Director on the Board of the Great Barrier Reef Marine Park Authority, a governor of the Ian Potter Foundation, and an elected fellow of the Australian Academy of Science, the Australian Academy of Technology and Engineering, and the Royal Society of New South Wales.				
Emeritus Prof Roy Green AM	Member (non-ex)	7 Dec 2023	30 Jun 2024	3
LLB BA PhD | Emeritus Professor Green was previously a Research Fellow at the University of Cambridge, Dean of UTS Business School, Macquarie Graduate School of Management and Dean and Vice-President for Research at the National University of Ireland, Galway. Professor Green has consulted and published widely in the areas of innovation policy and management and is on the Board of SmartSat Cooperative Research Centre (CRC) and the Australian Design Council. He is also Chair of the Advanced Robotics for Manufacturing Hub, the Port of Newcastle and a member of the Charles Sturt University Council.				
Mr Terry Moran AC	Member (non-ex)	27 June 2024	30 Jun 2024	0
BA (Hons) DLitt | Mr Moran was formerly Secretary of the Department of Prime Minister and Cabinet, and the Department of Premier and Cabinet (Vic). He is former CEO of the Office of the State Training Board (Vic) and the Australian National Training Authority (QLD) and was Queensland's Director-General of Education. Since retirement he has been Chair of the Barangaroo Delivery Authority, the Cranlana Foundation, the Melbourne Theatre Company, and the Centre for Policy Development. He has also been Director and Deputy President of the Walter and Eliza Hall Institute of Medical Research, Director of the Menzies Foundation, and National President of the Institute of Public Administration Australia.				
Dr Michele Allan	Member (non-ex)	1 July 2023	4 May 2024	4
BAppSc MMgtTec MCommLaw DBA FAICD | Dr Allan is an experienced company director and board chair with significant skills and competencies in the university, private and public sectors and expertise in food and advanced manufacturing. She is the Chancellor of Charles Sturt University and Chair of the boards of Wine Australia, Food and Agribusiness Growth Centre and Defence CRC for Trusted Autonomous Systems.				
Prof Edwina Cornish	Member (non-ex)	1 July 2023	25 Nov 2023	1
BSc (Hons) PhD FTSE AICD | Professor Cornish is an experienced director with significant scientific and academic leadership and international business development expertise. She played a key role in building one of Australia's first biotechnology companies. She is a member of the Council of La Trobe University, a Director of Uniquest Pty Ltd, Ambassador of the Australian Sleep Foundation, and was previously Provost and Senior Vice-President of Monash University.				
Ms Tanya Monro	Member (non-ex)	1 July 2023	24 Feb 2024	4
BSc (Hons) PhD FAA FTSE FOSA FAIP GAICD | Professor Monro is the Chief Defence Scientist. Her experience at senior levels in industry and educational institutions includes research in photonics focusing on sensing, lasers and new classes of optical fibres. She is Science Patron of the National Youth Science Forum and a member of the South Australian Premier's Economic Advisory Council.				
Mr David Knox	Member (non-ex)	1 July 2023	14 Sep 2023	1
BSc (Hons) Mech Eng MBA FIE Aust FTSE GAICD | Mr Knox is an experienced company director and executive with a background in oil and gas. His other positions include Chair of Snowy Hydro and Chair of The Australian Centre for Social Innovation and Micro X; a Director of Migration Council Australia, the Adelaide Festival Board and Redflow; and a member of the Royal Institution of Australia Council.				

Appendix C: Minister's Direction

Minister's Directions to the CSIRO Board

I Ed Husic MP, Minister for Industry and Science, direct the CSIRO Board, under section 13 of the *Science and Industry Research Act 1949* (SIR Act), as follows:

1. The Board is to provide me with:
    a. assurance on the actions being taken to strengthen the accountabilities of Board governance, including ensuring lines of accountability between the Chief Executive Officer and the Board; and
    b. quarterly reporting on the Board's progress against these actions.
2. Each member of the Board is to obtain training in relation to their obligations under the SIR Act and *Public Governance, Performance and Accountability Act 2013* (PGPA Act), to be completed within 6 months from the date of this direction or their subsequent appointment.
3. The Board is to provide me with assurance that Board meetings are attended by a suitably qualified adviser with expertise in legal or public sector governance matters to advise the Board as it strengthens its governance.

Duration and review of directions

These directions will remain in place unless otherwise revoked.

Ed Husic MP

Dated: 16 APRIL 2024

Appendix D: Audit Committee

CSIRO Board Audit and Risk Committee

NAME, QUALIFICATIONS AND EXPERIENCE (FORMAL/INFORMAL AS RELEVANT)	NO. MEETINGS ATTENDED	TOTAL NO. MEETINGS HELD	TOTAL ANNUAL REMUNERATION (GST INC.)	ADDITIONAL INFORMATION (INC. ROLE ON COMMITTEE)
Dr Michele Allan	5	5	$15,168	Board term ended 04.05.24
BAppSc MMgtTec MCommLaw DBA FAICD | Experienced director and senior executive in private, public and tertiary sector. Extensive experience in risk, governance and financial management.				
Prof Edwina Cornish AO	4	5	$3,739	Board term ended 25.11.23
BSc (Hons) PhD FTSE AICD | Experienced director with significant scientific and academic leadership and international business development expertise.				
Hon Ian Macfarlane	1	5	$4,953	Appointed to BARC 26.11.23
FAICD | Former Chief Executive and a non-executive director with extensive experience in the public service.				
Emeritus Prof Roy Green	1	5	$2,811	Appointed to BARC 23.02.24
LLB BA PhD | Emeritus Professor and board member and chair of several boards and forums. Extensive consulting experience and published widely in innovation policy and management.				
Ms Ming Long	0	5	$0	Appointed to BARC 27.06.24
BEc LLB MBA FCA GAICD | Experienced non-executive director and holder of several board positions. Fellow of Chartered Accountants Australia & New Zealand.				
Mr Geoff Knuckey (External Member)	5	5	$11,550	Appointed interim Chair 09.04.24
BEc LLB MBA FCA GAICD | Experienced chair and non-executive director with skills in financial reporting and analysis, risk management, corporate governance and internal audit.				
Mr Matt Cahill (External Member)	4	5	$12,457.50	
FCPA GAICD | Experienced chair and non-executive director with experience in operational, program, regulatory, policy, corporate and assurance roles and deep audit experience, having overseen ANAO's performance audit program.				

*Details of remuneration as a CSIRO Board member are at 3.3 of the financial statements.

Appendix E: Audit Committee Charter

PGPA Rule Section 17BE (taa)(i) – Audit committee charter

DIRECT ELECTRONIC ADDRESS OF THE CHARTER DETERMINING THE FUNCTIONS OF THE AUDIT COMMITTEE	
URL	Board Audit and Risk Committee Charter: csiro.au/BARC

Appendix F: Meetings of the Board and Board Sub-committees

During the financial year 2023–24, there were 6 Board meetings, 5 Board Audit and Risk Committee meetings, 4 Board People and Safety Committee meetings and 3 Board Science Excellence Committee meetings held. The number of meetings attended by each of the Board members was as follows:

MEMBER NAME	CSIRO BOARD		CSIRO BOARD AUDIT AND RISK COMMITTEE	
	NO. ELIGIBLE	NO. ATTENDED	NO. ELIGIBLE	NO. ATTENDED
Ms Kathryn Fagg AO	6	6	0	2
Ms Ming Long AM	0	1	0	0
Mr David Knox	1	1	0	0
Dr Michele Allan	5	4	5	5
Dr Doug Hilton AO	5	5	1	1
Prof Edwina Cornish AO	2	1	4	4
Hon Ian Macfarlane	6	6	1	2
Prof Tanya Monro AC	4	4	0	0
Prof Alex Brown	6	6	0	0
Mr Terry Moran AC	0	0	0	0
Emeritus Prof Roy Green AM	3	3	0	0

MEMBER NAME	CSIRO BOARD PEOPLE AND SAFETY COMMITTEE		CSIRO BOARD SCIENCE EXCELLENCE COMMITTEE	
	NO. ELIGIBLE	NO. ATTENDED	NO. ELIGIBLE	NO. ATTENDED
Ms Kathryn Fagg AO	4	6	1	2
Ms Ming Long AM	0	1	0	0
Mr David Knox	0	0	1	1
Dr Michele Allan	3	3	3	3
Dr Doug Hilton AO	0	2	0	2
Prof Edwina Cornish AO	1	1	2	2
Hon Ian Macfarlane	4	4	3	3
Prof Tanya Monro AC	2	0	2	1
Prof Alex Brown	0	0	3	3
Mr Terry Moran AC	0	0	0	0
Emeritus Prof Roy Green AM	0	0	1	1

Appendix G: APS Net Zero 2030 emissions reporting

APS Net Zero 2030 is the Government's policy for the Australian Public Service (APS) to reduce its greenhouse gas emissions to net zero by 2030, and transparently report on its emissions. As part of the Net Zero in Government Operations Strategy corporate Commonwealth entities are required to report on their operational greenhouse gas emissions.

The Greenhouse Gas Emissions Inventory presents greenhouse gas emissions over the 2023–24 period. Results are presented based on Carbon Dioxide Equivalent (CO_2-e) emissions. Greenhouse gas emissions have been calculated in line with the APS Net Zero Emissions Reporting Framework, consistent with the Whole-of-Australian Government approach as part of the APS Net Zero 2030 policy. Not all data sources were available at the time of the report.

Greenhouse gas emissions inventory, location-based method, 2023–24

EMISSION SOURCE	SCOPE 1 t CO_2-e	SCOPE 2 t CO_2-e	SCOPE 3 t CO_2-e	TOTAL t CO_2-e
Electricity (location based approach)	N/A	59,077.872	5,418.838	64,496.710
Natural gas	8,896.411	N/A	1,200.412	10,096.823
Solid waste*	N/A	N/A	1,375.960	1,375.960
Refrigerants*†	0.000	N/A	N/A	0.000
Fleet and other vehicles	6,619.424	N/A	1,628.022	8,247.446
Domestic commercial flights	N/A	N/A	6,108.165	6,108.165
Domestic hire car*	N/A	N/A	62.777	62.777
Domestic travel accommodation*	N/A	N/A	1,576.365	1,576.365
Other energy	897.564	N/A	243.241	1,140.805
Total t CO_2-e	16,413.399	59,077.872	17,613.780	93,105.050

Note: the table above presents emissions related to electricity usage using the location-based accounting method. CO_2-e = Carbon Dioxide Equivalent. *indicates emission sources collected for the first time in 2023–24. The quality of data is expected to improve over time as emissions reporting matures. Emissions from hire cars for 2023–24 have been sourced from third party providers and may be incomplete. †indicates optional emission source for 2023–24 emissions reporting, this will be phased in during the next reporting period.

Electricity greenhouse gas emissions, 2023–24

EMISSION SOURCE	SCOPE 2 t CO_2-e	SCOPE 3 t CO_2-e	TOTAL t CO_2-e	Percentage of electricity use
Electricity (Location Based Approach)	59,077.872	5,418.838	64,496.710	100%
Market-based electricity emissions	8,302.722	1,030.466	9,333.188	11.93%
Total renewable electricity	-	-	-	88.07%
Mandatory renewables[1]	-	-	-	18.22%
Voluntary renewables[2]	-	-	-	69.86%

Note: the table above presents emissions related to electricity usage using both the location-based and the market-based accounting methods. CO_2-e = Carbon Dioxide Equivalent. 1 Mandatory renewables are the portion of electricity consumed from the grid that is generated by renewable sources. This includes the renewable power percentage. 2 Voluntary renewables reflect the eligible carbon credit units surrendered by the entity. This may include purchased large-scale generation certificates, power purchasing agreements, GreenPower and the jurisdictional renewable power percentage (ACT only).

Further information

Emissions have been reported in accordance with the operational control reporting boundary established by the APS Net Zero Framework. The scope of the emissions reported here are not intended to match other reporting frameworks and discrepancies will be expected.

We report on our progress against own net zero targets in our annual public Sustainability Report. CSIRO's net zero targets are independent of the APS Net Zero 2030 targets. For consistency however CSIRO is aligning, where relevant, its net zero reporting boundary and methodologies to the APS Net Zero Framework. This will be refined each year as the boundary and methodologies for APS Net Zero 2030 reporting are further clarified.

We also apply the same reporting period and data set to our net zero reporting with the exception that the APS Net Zero 2030 data is based only on data received by 31 July 2024 with no estimation for data that is yet to be invoiced. For this reporting period we estimate that less than one per cent of electricity data is and less than one per cent of natural gas data is yet to be invoiced. However, for CSIRO's net zero target reporting in the sustainability report we have estimated the missing data for electricity and gas consumption to enable a more complete comparison of CSIRO's progress toward its Scope 1 and 2 net zero target against the 2018–19 financial year baseline.

The electricity emissions reported above will show a slight discrepancy to emissions we have reported under *National Greenhouse and Energy Reporting Act 2007* (NGER Act), due to the emissions factors applied to electricity consumption. The emissions reported for APS Net Zero purposes use emissions factors sourced from the National Greenhouse Accounts Factors (Department of Climate Change, Energy, the Environment and Water, 2023). Electricity consumption reported under the NGER Act apply emissions factors provided in the National Greenhouse and Energy (Measurement) Determination 2008.

For completeness we report emissions for all tenants at sites where we also conducts its own operations. This means CSIRO may report emissions for other Commonwealth agencies. For this reporting period we have reported emissions on behalf of the National Measurements Institute located at Lindfield. CSIRO's operational emissions for Lindfield represents 46 per cent of the total emissions for this site. However, we have included 100 per cent of emissions for Lindfield in its 2023–24 Greenhouse Gas Emissions Inventory.

The above emissions include the following Scope 1 & 2 emissions (reported in t CO_2-e) that CSIRO have reported on behalf of the Department of Industry, Science and Resources (DISR): 529.004 (Natural Gas), 3,353.969 (electricity – location based method), 3,262.627 (electricity – market based method). These emissions will be included in APS Net Zero 2030 target. These emissions are related to DISR's tenancy at the National Measurement Institute located at Lindfield, Sydney.

The above emissions include the following Scope 3 emissions (reported in t CO_2-e) that CSIRO have reported on behalf of DISR: 134.484 (natural gas), 267.604 (electricity – location based method), 402.793 (electricity – market based method), 31.087 (solid waste). These emissions are related to DISR's tenancy at the National Measurement Institute located at Lindfield, Sydney.

The RV *Investigator* is a marine vessel owned by CSIRO however operated by a ship management company and with voyages booked by CSIRO and other third parties. These emissions may be classified across Scope 1 and 3 depending on the reporting boundary and methodology however for simplicity they are reported here as Scope 1 emissions until an appropriate Scope 3 category is included in the APS Emissions Reporting Tool.

Where we lease sites to another entity and do not conduct our own operations at those sites, emissions are not classified as Scope 1 and 2 emissions and are therefore excluded in this report.

Emissions from electricity consumed by electric and plug-in hybrid vehicles have only been reported for electricity directly purchased by CSIRO. Emissions associated with electricity consumption from public charging stations have not been reported for 2023–24.

Domestic travel emissions may contain some air travel and accommodation reservations for non-CSIRO employees. While not within the scope of the APS Net Zero Emissions Reporting Framework, these emissions have been included as they were unable to be separated from our data. Commercial domestic flight emissions reported may contain some flights that were cancelled or not flown.

Electricity data from on-site solar generation at Black Mountain ACT was not available for the full 12 months. LGCs registered and surrendered for South Australia reflects the period July 2023 to December 2023 and data will need to be amended at after the end of the Calendar Year 2024.

Appendix H: Correction to previous annual report

Part 2: Annual performance statements, page 49

Objective 2: Purpose-driven science and technology – Be Australia's trusted advisor

Metric: Positive public sentiment of CSIRO

An error was identified in last year's survey results after publication. The number reported was 74 per cent but the correct result was 75 per cent. The outcome was not affected as the under-reported result still met the target.

Part 3: Our priorities, page 62

Intellectual Property (IP): central to effective translation

Paragraph 3 and Table 3.1: Intellectual Property 2022–23, $ million

The number of active patents/live cases for 2022–23 was misreported as 4,345. The figure should have been 4,145.

Part 3: Our priorities, page 91

Healthy and safe people and environment

Paragraph 5 and Figure 3.1: Historical TRIFR targets and results 2020–23

The Total Reportable Injury Frequency Rate (TRIFR) was incorrectly reported 2022–23 as 2.7. Several lag incidents were classified subsequent to reporting which pushed the rate to 3.1.

Acronyms

AAHL	Australian Animal Health Laboratory
ABW	Activity Based Working
ACDP	Australian Centre for Disease Preparedness
ACSC	Australian Cyber Security Centre
ADJR	*Administrative Decisions (Judicial Review) Act (1977)*
AEHRC	Australian eHealth Research Centre
AEMO	Australian Energy Market Operator
AI	Artificial intelligence
ALA	Atlas of Living Australia
ANH	Australian National Herbarium
APS	Australian Public Service
ASEAN	Association of Southeast Asian Nations
ATCA	Australia Telescope Compact Array
ATNF	Australia Telescope National Facility
ATSE	Australian Academy of Technological Sciences and Engineering
AWEI	Australian Workplace Equality Index
BCR	Benefit Cost Ratio
CAB	Catalysing Australia's Biosecurity
CBA	Cost Benefit Anaylsis
CDSCC	Canberra Deep Space Communication Complex
CERC	CSIRO Early Research Career
COFI	Common Framework for Inference
CPRs	Commonwealth Procurement Rules
CPU	Central Processing Unit
CRC	Cooperative Research Centre
CREST	Creativity in Research, Engineering, Science and Technology
CSIRO	Commonwealth Scientific and Industrial Research Organisation
CSM	Catalytic Static Mixer
CSUP	Cyber Security Uplift Program
DCCEEW	Dept. Climate Change, Energy, the Environment and Water
DISR	Department of Industry, Science and Resources
DSL	Digital Support for Labs
EASI	Earth Analytics and Science Innovation
eDNA	Environmental DNA
EDP	Experimental Development Program
EDP	Experimental Development Program
EO	Earth Observation
EPBC	*Environment Protection and Biodiversity Conservation Act (1999)*
EPICS	Electric Power Innovation for a Carbon-free Society
ESD	Ecologically Sustainable Develvopment
Espresso	Evaluation of Strategies, Solvers and Optimizers
ET	CSIRO Executive Team
FMD	Foot and Mouth Disease
FOI Act	*Freedom of Information Act 1982*
FS&T	Future Science and Technology
FSP	Future Science Platform
FTE	Full-time equivalent
GPU	Graphics Processing Unit
GRDC	Grains Research Development Corporation
HPC	High-Performance Computing
HSE	Health, Safety and Environment
HTDF	Hydrogen Technology Demonstration Facility
I^2S^2	Inquiry for Indigenous Science Students program
ICIP	Indigenous ultural and Intellectual Property Principles
ICT	Information and communication technology
IMOS	Integrated Marine Observation System
IoT	Internet of Things
IP	Intellectual property

iPhD	Industry PhD Program
IPPIN	Indo-Pacific Plastics Innovation Network
JPL	Jet Propulsion Laboratory
KPI	Key Performance Indicator
LGBTQIA+	Lesbian Gay Bi-Sexual Transgender Queer/Questioning Intersex Asexual/Ally and other non-heterosexual
LIMS	Laboratory Information Management System
MD	Membrane Distillation
MDE	Managed Data Ecosystem
MEP	Medical Eqipment Program
MI	Mission Innovation
MLA	Meat and Livestock Australia
MNF	Marine National Facility
MoST	Ministry of Science and Technology
MOU	Memoranda of understanding
NAIC	National AI Centre
NASA	National Aeronautics and Space Administration
NCI	Normalised Citation Index
NCRIS	National Collaborative Research Infrastructure Strategy
NEAC	National Energy Analysis Centre
NET	Negative Emissions Technologies
NGER	*National Greenhouse and Reporting Act 2007*
NICTA	National Information Communication and Technology Australia
NPS	Net Promoter Score
NPV	Net Present Value
NRCA	National Research Collections Australia
NRF	National Reconstruction Fund
NSF	National Science Foundation (US)
OA	Open Access
ODC	Open Data Cube

PBS	Portfolio Budget Statement
PGPA	*Public Governance, Performance and Accountability Act 2013*
PID Act	*Public Interest Disclosure Act 2013*
PPE	Personal Protective Equipment
QPU	Quantum Processing Unit
R&D	Research and development
RAIN	Responsible AI Network
RAP	Reconciliation Action Plan
RDCs	Rural Research and Development Corporations
RISE	Reporting and Improving Science Excellence
RISE	Rapid Innovation Startup Expansion
RMG	Resource Management Guide
RPML	Rock Physics Machine Learning Tool
RUIC	Regional University Industry Collaboration
S&T	Science and Technology
SAGE	Science in Australia Gender Equity
SIEF	Science and Industry Endowment Fund
SIR Act	*Science and Industry Research Act 1949*
SKA	Square Kilometre Array
SKAO	SKA Observatory
SME	Small- to medium-sized enterprise
STEAM	Science, Technology, Engineering, Arts and Mathematics
STEM	Science, Technology, Engineering and Mathematics
TOA	Types of Activity
TRL	Technology Readiness Level
UROP	Undergraduate Research Opportunities Program
VWEP	Virtual Work Experience Program
WGEA	Workplace Gender Equity Agency
WHO	World Health Organisation
WIPO	World Intellectual Property Organization

Glossary

Granted patents: Once a patent application has been examined and satisfies various patentability criteria, it becomes a granted patent. It remains a granted patent until the end of the patent period (normally 20 years), provided renewal fees are paid.

Indigenous: Respectfully includes both Aboriginal Peoples and/or Torres Strait Islander Peoples. The term First Nations is also used throughout this report in reference to the Minister's Statement of Expectations and refers to Aboriginal and Torres Strait Islander Peoples.

Journal articles: Includes journal articles and other items published as part of a journal (for example, an editorial or book review).

Live patent cases: A live patent case is where either a patent application or a granted patent exists. It does not include cases that have lapsed, expired or been withdrawn. Applications may include provisional applications, Patent Cooperation Treaty (PCT) applications and applications pending in Australia or foreign jurisdictions.

Physical Containment level 4 (PC4) laboratories: Laboratories rated at the highest level of containment and the highest designated biosecurity level for working with highly transmissible diseases and viruses for which there is no vaccines or effective treatment.

PCT applications: International Patent Cooperation Treaty (PCT) applications are a 'temporary' phase in any international patenting process and have a life span of 18 months. This type of application is very common in major international corporations and is used by CSIRO when it considers its invention may have wide commercial application. In view of the 18-month time span, it is reasonable to approximate that two-thirds of the reported number were filed in the previous 12-month period.

Total Recordable Injury Frequency Rate (TRIFR): This is calculated as the sum of Lost Time Injuries per million hours worked plus Medical Treatment Injuries per million hours worked.

Science excellence: An assessment of the competitiveness of CSIRO's research capabilities. It recognises CSIRO's science (for example, total citations) and excellence (for example, citation rates). It tends to be output-oriented and includes lagging metrics relating to research publication performance (bibliometrics), esteem measures, such as awards, and expert-peer reviews.

Scope 1, 2 and 3 greenhouse gas emissions: Greenhouse gas emissions are organised into scopes to avoid double-counting emissions and indicate those that organisations can control (Scope 1) versus those that they can influence (Scope 3). Scope 1 are emissions from sources that are owned or controlled by the organisation. Scope 2 are emissions from the consumption of purchased electricity, steam, or other sources of energy generated upstream from the organisation. Scope 3 are emissions that are a consequence of the operations of an organisation but are not directly owned or controlled by the organisation.

Sponsored students: Students are deemed to be sponsored if they receive a full or partial scholarship paid from CSIRO funds to pursue a research project leading to a PhD, master's or honours degree. This excludes our employees, whose study expenses are considered training and development.

Supervised students: Students are deemed to be supervised if they have a CSIRO staff member appointed officially by the university as a co-supervisor for their research project. Normally, CSIRO staff are joint supervisors in conjunction with a university academic.

Technical reports: Includes individually authored chapters as well as whole reports that are subject to peer review and are usually publicly released.

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Statement of Expectations index

MINISTER'S STATEMENT OF EXPECTATIONS		
PRIORITY	**PRIORITY AREAS**	**REFERENCE IN REPORT**
Advancing national interests	Deliver innovative scientific and technological solutions; taking Australian science to the world; maintaining an international presence; collaboration across government, university, industry and community, Deployment of our science expertise.	23–38, 39–48
Advancing government's policy priorities	Advancing First Nations science; mission-directed research; delivering a future made in Australia through the National Reconstruction Fund.	23–38, 39–48, 49–58
Translation and commercialisation	Translating science and technology into products and services; supporting SMEs to commercialise and integrate research innovations; supporting government translation and commercialisation programs, managing research infrastructure; building industry connections; supporting the health of Australians.	23–38, 39–48, 59–65
Promoting STEM	Promoting careers and career paths for early career researchers, students, research and technical staff; communication of CSIRO science & research.	23–38, 49–58
Department	Working collaboratively with relevant government portfolios.	23–38, 39–48, 105–114
Organisational performance	Legislative requirements; effective and efficient use of staff and resources; health and wellbeing of staff, pursuing and retaining talent.	49–58, 100–104, 105–107

Compliance index

Statutory reporting requirements 17BE(u)

PGPA RULE REFERENCE	DESCRIPTION	REQUIREMENT	REFERENCE IN REPORT
17BE	Contents of annual report		1
17BE(a)	Details of the legislation establishing the body	Mandatory	i, ii, iii, 105, 108
17BE(b)(i)	A summary of the objects and functions of the entity as set out in legislation	Mandatory	iii, 3, 12, 13–14, 33, 68–69, 105
17BE(b)(ii)	The purposes of the entity as included in the entity's corporate plan for the reporting period	Mandatory	iii, 12–14, 68–69
17BE(c)	The names of the persons holding the position of responsible Minister or responsible Ministers during the reporting period, and the titles of those responsible Ministers	Mandatory	i, 15, 105
17BE(d)	Directions given to the entity by the Minister under an Act or instrument during the reporting period	If applicable, mandatory	105
17BE(e)	Any government policy order that applied in relation to the entity during the reporting period under section 22 of the Act	If applicable, mandatory	105
17BE(f)	Particulars of noncompliance with: (a) a direction given to the entity by the Minister under an Act or instrument during the reporting period; or (b) a government policy order that applied in relation to the entity during the reporting period under section 22 of the Act	If applicable, mandatory	N/A
17BE(g)	Annual performance statements in accordance with paragraph 39(1)(b) of the Act and section 16F of the rule	Mandatory	67–97
17BE(h), 17BE(i)	A statement of significant issues reported to the Minister under paragraph 19(1)(e) of the Act that relates to noncompliance with finance law and action taken to remedy noncompliance	If applicable, mandatory	N/A
17BE(j)	Information on the accountable authority, or each member of the accountable authority, of the entity during the reporting period	Mandatory	4, 6, 105, 106, 189–192
17BE(k)	Outline of the organisational structure of the entity (including any subsidiaries of the entity)	Mandatory	6–7, 8–9
17BE(ka)	Statistics on the entity's employees on an ongoing and non-ongoing basis, including the following: (a) statistics on fulltime employees (b) statistics on part time employees (c) statistics on gender (d) statistics on staff location	Mandatory	10–11, 49, 184–188
17BE(l)	Outline of the location (whether or not in Australia) of major activities or facilities of the entity	Mandatory	10–11
17BE(m)	Information relating to the main corporate governance practices used by the entity during the reporting period	Mandatory	99–113

PGPA RULE REFERENCE	DESCRIPTION	REQUIREMENT	REFERENCE IN REPORT
17BE(n), 17BE(o)	For transactions with a related Commonwealth entity or related company where the value of the transaction, or if there is more than one transaction, the aggregate of those transactions, is more than $10,000 (inclusive of GST): (a) the decision-making process undertaken by the accountable authority to approve the entity paying for a good or service from, or providing a grant to, the related Commonwealth entity or related company; and (b) the value of the transaction, or if there is more than one transaction, the number of transactions and the aggregate of value of the transactions	If applicable, mandatory	109–110
17BE(p)	Any significant activities and changes that affected the operation or structure of the entity during the reporting period	If applicable, mandatory	4, 58
17BE(q)	Particulars of judicial decisions or decisions of administrative tribunals that may have a significant effect on the operations of the entity	If applicable, mandatory	N/A
17BE(r)	Particulars of any reports on the entity given by: (a) the Auditor General (other than a report under section 43 of the Act); or (b) a Parliamentary Committee; or (c) the Commonwealth Ombudsman; or (d) the Office of the Australian Information Commissioner	If applicable, mandatory	N/A
17BE(s)	An explanation of information not obtained from a subsidiary of the entity and the effect of not having the information on the annual report	If applicable, mandatory	N/A
17BE(t)	Details of any indemnity that applied during the reporting period to the accountable authority, any member of the accountable authority or officer of the entity against a liability (including premiums paid, or agreed to be paid, for insurance against the authority, member or officer's liability for legal costs)	If applicable, mandatory	108
17BE(taa)	The following information about the audit committee for the entity: (a) a direct electronic address of the charter determining the functions of the audit committee; (b) the name of each member of the audit committee; (c) the qualifications, knowledge, skills or experience of each member of the audit committee; (d) information about each member's attendance at meetings of the audit committee; (e) the remuneration of each member of the audit committee	Mandatory	106, 192, 193, 194
17BE(ta)	Information about executive remuneration	Mandatory	112–113, 144–148

PGPA Rule Section 17BE (h) – (i) Significant non-compliance with the Finance Law

DESCRIPTION OF NON-COMPLIANCE	REMEDIAL ACTION
N/A	

Legislative requirements

***Science and Industry Research Act 1949*, Compilation No. 15 (14 September 2022)**		
SIR ACT REFERENCE	**DESCRIPTION**	**REFERENCE IN REPORT**
Part II, Section 9(1)(a)(iiia)	Contributing to giving effect to Australia's obligations under the Paris Agreement (per *Climate Change (Consequential Amendments) Act* 2022	4, 19
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Part VIII, Section 51 (b)	Development in policies during the year	111
Part VIII, Section 51 (c)	Ministerial determinations in relation to the functions of the Organisation	105
Part VIII, Section 51 (d)	Ministerial directions or guidelines relating to the functions and powers of the Board	105
Part VIII, Section 51 (e)	Policies of Australian Government that apply to CSIRO	105

Additional reporting requirements		
REQUIREMENT	**DESCRIPTION**	**REFERENCE IN REPORT**
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Section 9	*Equal Employment Opportunity (Commonwealth Authorities) Act 1997*	37–38, 49–55, 77, 88–91
Section 4(1)	*Work Health and Safety Act 2011*	50–51, 87, 97
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	Public Interest Disclosure Act 2013	111
	Modern Slavery Act 2018	109
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	Intellectual property management	4, 24, 27–29, 72, 83, 96
	Service Charter	113

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