

Australia's innovation catalyst

Corporate Plan 2015–16



Our CSIRO

CSIRO is an Australian Government statutory authority within the Industry and Science Portfolio, operating under the provisions of the *Science and Industry Research Act 1949*. Our primary purpose is defined through the functions we undertake for the benefit of Australia, as set down in the Act.

- **To carry out scientific research for any of the following purposes:**
 - assisting Australian industry
 - furthering the interests of the Australian community
 - contributing to the achievement of the Australian national objectives or the performance of the national and international responsibilities of the Commonwealth
 - any other purpose determined by the Minister.
- **To encourage or facilitate the application or utilisation of the results of such research.**

The Chief Executive of CSIRO is also the Trustee of the Science and Industry Endowment Fund (SIEF) which is a separately constituted trust for statutory purposes under the *Science and Industry Endowment Act 1926* (SIEF Act).

Our vision

Australia's innovation catalyst, boosting Australia's innovation performance.

Our mission

Create value for customers through innovation that delivers positive impact for Australia.

About this report

We, the CSIRO Board, as the accountable authority of CSIRO present the CSIRO Corporate Plan 2015–16, as required under paragraph 35(1) of the *Public Governance, Performance and Accountability Act 2013*. The plan is prepared in accordance with the Public Governance, Performance and Accountability Rule 2014.

The CSIRO Corporate Plan 2015–16 is prepared for the financial year 2015–16 and covers the reporting periods 2015–16 to 2018–19. It sets out the strategies CSIRO proposes to pursue to fulfil its purpose; the activities CSIRO proposes to carry out; and the resources CSIRO proposes to allocate to these activities.

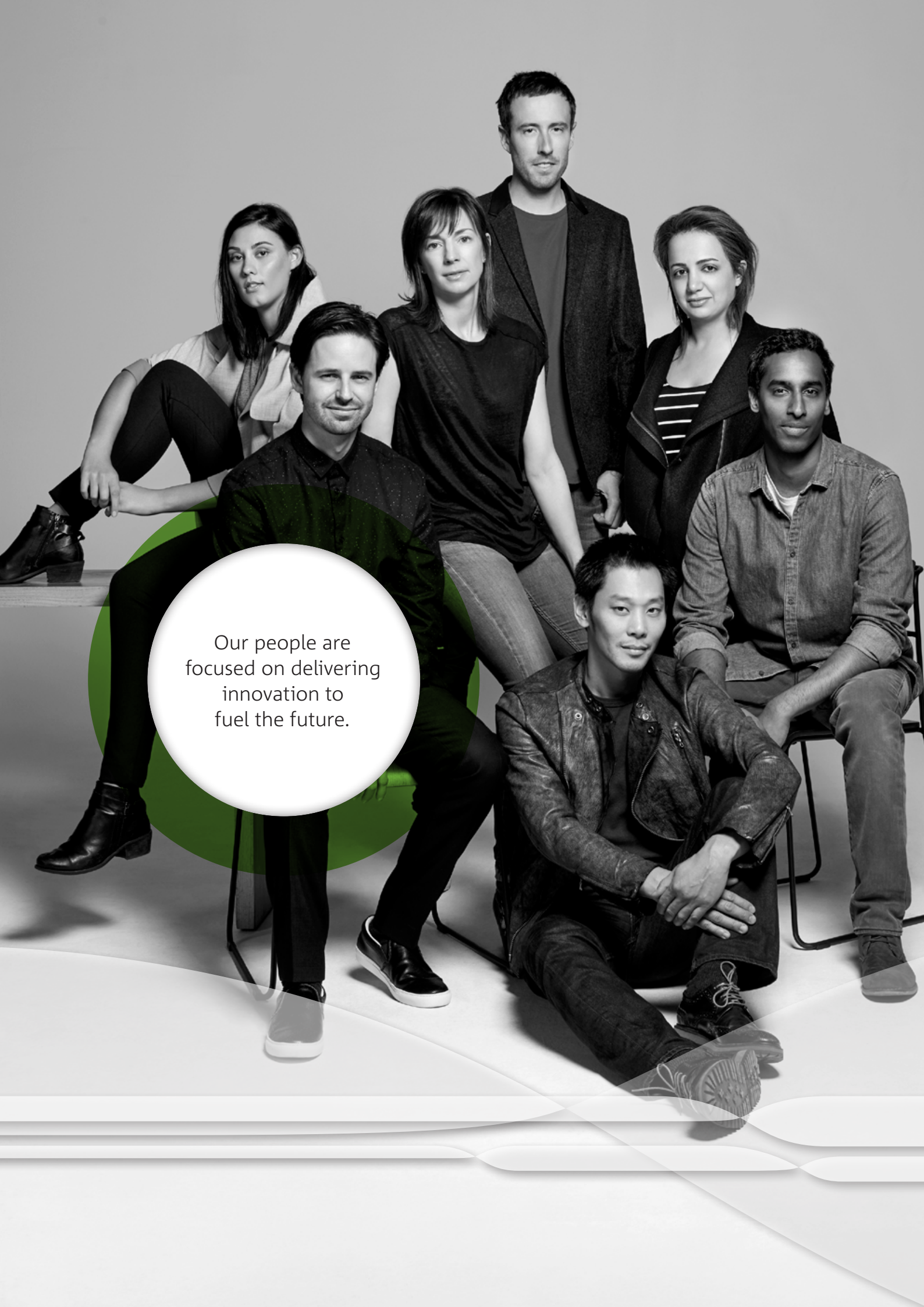
Contents

	Our CSIRO
	Our vision
	Our mission
iii	The future, today The Chief Executive
iv	CSIRO: Inventing the future
vi	Organisational structure

Part one	1	Our strategy
	1	Strategy overview
	2	Australia's innovation catalyst Strategy 2020
	3	Our operating environment
	4	Strategic actions

Part two	7	Resourcing our strategy
	7	Programme expenditure
	8	Workforce plan
	10	Business Units 2015–16

Part three	13	Monitoring and reporting
	13	Our planning and performance framework
	14	Monitoring our performance
	16	Monitoring our activities
		Programme 1.1 Research – National Flagships, Science and Services
		Programme 1.2 National Research Infrastructure – National Facilities and Collections
		Programme 1.3 Science and Industry Endowment Fund (SIEF)
	18	Monitoring our risks
	20	Governance



Our people are
focused on delivering
innovation to
fuel the future.

The future, today

The Chief Executive

I am delighted to share with you this Corporate Plan – my first as CSIRO Chief Executive but, more importantly, the first plan under our new CSIRO Strategy 2020. This is an exciting time for us to shape our future and the national treasure that is our CSIRO.

As you know, success is more about execution than strategy. The actions outlined in this plan will directly enhance national productivity of the advanced manufacturing and digital economies, enhance Australia's competitiveness in the food and agricultural industries and address the key national challenges of health, environment, education, and energy.

Customers first

Our first priority is to put our customers first. Building strong collaborative industry-research alliances has been a proven formula for success. Our individual customers are diverse, from the public, government, industry, our land, oceans, and atmosphere – but collectively our customer is Australia. We will increase national productivity, enhance Australia's competitiveness, and raise our global standing in innovation.

We will focus our efforts on technologies for global growth that can deliver national benefit. We will expand our global reach to connect and integrate Australian and international science, technology and innovation, with a physical presence and operations in key overseas markets.

Driving innovation

We recognise that true innovation happens at the intersection of different disciplines and partners. We have created market focused business units as the engine of our organisation, delivering excellent science and building capability and platforms that create the industries of the future.

We will switch on a new innovation catalyst program called 'ON'. This program will enhance our capacity to generate innovations with commercial potential and social benefits and accelerate their delivery to customers in industry, government and community.

Throughout the year we will continue to refine our operations and focus our efforts on improving our agility, responding at the speed of business.

Respecting risk

Success will depend on how well we support and develop our people. But innovation is less about success, but more about learning from failure and trying again, and again. We are committed to building an innovation culture based on leadership, empowerment, collaboration and inclusion.



We will continue to improve our people's safety and wellbeing. We respect risk, but we do not fear it. We do not take physical risk, but we will take more business and market risk. Sometimes we will fail; if we don't fail we aren't pushing hard enough.

Stronger, better, brighter future

Here at CSIRO it's our duty to make a stronger, better, brighter future for our country. Our gift as scientists is our ability to invent that better future and give our country the technological advantages it needs to prosper in a hyper-competitive world. We will continue to provide world leading research at the intersection of innovation and science that will see long term sustaining value for our customers, the Australian people and industry alike.



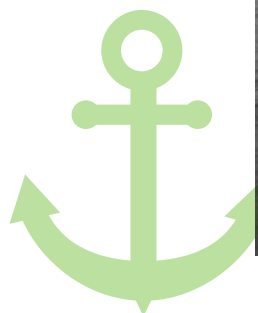
Dr Larry Marshall
Chief Executive

CSIRO: Inventing the future

RECENT ACHIEVEMENTS

MNF RV *Investigator* launch

The RV *Investigator* was formally commissioned at the Welcome to Port celebrations in December 2014. The *Investigator* is a 93.9 metre, \$120 million purpose built research vessel, capable of travelling 10,800 nautical miles in a single voyage, carrying up to 40 scientists and support staff, from the equator to the Antarctic ice-edge. It will support atmospheric, oceanographic, biological and geoscience research.



STEM for Indigenous students

CSIRO is partnering with the BHP Billiton Foundation on a \$28.8 million, five year project to deliver education programs, excellence awards, mentoring, summer schools and tailored university degrees aimed at closing the gap in Aboriginal and Torres Strait Islander achievement and employment in science, technology, engineering and mathematics.



World first surgery to implant 3D printed titanium heel bone

CSIRO, together with the St Vincent's Hospital and Anatomics (a Victorian biotech company), have implanted a titanium-printed heel bone in a world-first surgery on a 71 yr old man from Victoria, who was diagnosed with cancer of the heel bone and was facing amputation of the leg below the knee. The patient has since recovered well.

Mapping of coal seam gas

CSIRO has led work on an integrated re-appraisal of the latest hydrogeology and hydrochemistry of the entire Great Artesian Basin. The extraction of coal seam gas can potentially impact groundwater, depending on the location and method used for extraction. Groundwater modelling is undertaken to predict the extent to which coal seams are connected to aquifers, and whether drawing water from one will impact levels in the other, and over what timescale. Seismic mapping technologies are also used to map fracture locations and channels for water movement underground.

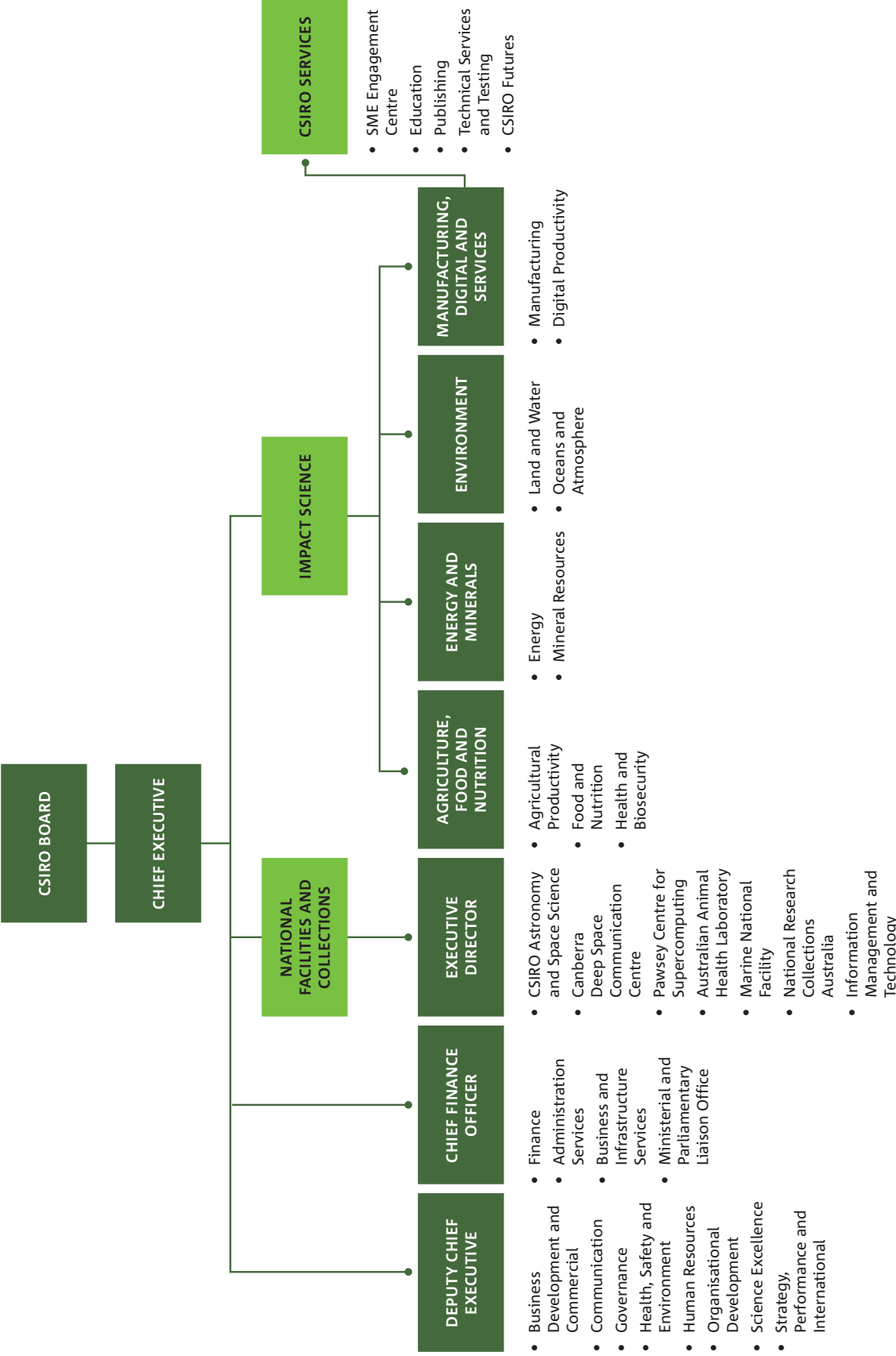


BuildingIQ


CSIRO has created a building energy management system for heating, ventilation and air conditioning – OptiCOOL. The technology has been widely adopted, controlling approx 15 million square feet of floor space in Australia and the US. The impacts include reduced energy consumption in commercial buildings up to 30%, greater electricity grid stability, reduced greenhouse gas emissions and employment opportunities through licensee BuildingIQ. Benefits that can be attributed to CSIRO estimated at \$79.7 million between 2014–15 to 2024–25.



Organisational structure







Our research makes a
difference to industry,
people and the planet.

Part one | Our strategy

Strategy overview

At CSIRO we shape the future. We do this by using science and technology to solve real issues. Our research makes a difference to industry, people and the planet.

CSIRO is committed to building connections with the best partners in Australia and the world to complement our science capability and accelerate the delivery of the impact of our research. We are a trusted scientific advisor and collaborate extensively with government, universities and industry.

Our operating model underpins the successful execution of our strategy and delivery of our goals. CSIRO operational arrangements recognise our differentiation as an impact organisation and to enable growth opportunities in each of our major roles in the national innovation system.

Australia's innovation catalyst Strategy 2020

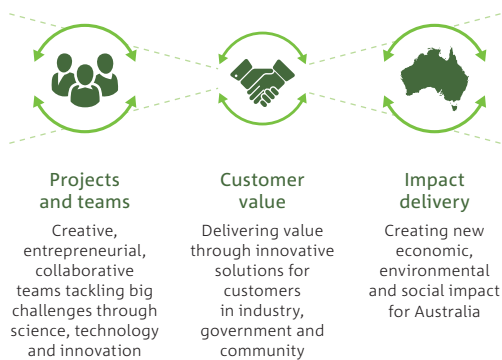
OUR VISION: Australia's innovation catalyst, boosting Australia's innovation performance

OUR MISSION: Create value for customers through innovation that delivers positive impact for Australia

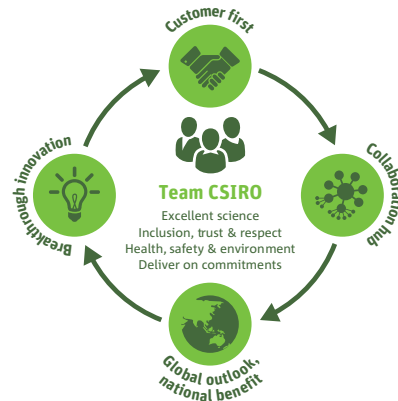
National challenges and opportunities we focus on



What we do



Strategic actions



Measuring performance

Success is helping to significantly lift Australia's innovation performance

1. Impact return on investment
2. Customer satisfaction
3. Active licences
4. External revenue
5. Collaboration – internal and external
6. People – diversity and inclusion
7. People – engagement and innovation culture
8. People – health and safety
9. Investment in future science and technology

Enterprise Infrastructure

Our operating environment

Our new Strategy 2020 conveys the broad objectives for CSIRO, and sets out the activities we will pursue to achieve those objectives. The strategy positions us to play an active and significant role in Australia's innovation agenda, address national and global research challenges, and contribute to the competitiveness, sustainability and productivity of Australia.

As part of this Strategy we recognise our role in supporting Australia's innovation dilemma. Translating research inputs and outputs to innovation and research-business collaboration is constraining industry's ability to improve productivity performance. The innovation system will continue to focus on the highest value activities and create deeper innovation relationships with a variety of stakeholders to enable the adoption of science and technology. CSIRO, with our new strategy, will continue to ensure that we integrate the best solutions for our customers, increase our flexibility and enhance Australia's innovation performance by embedding a customer first program, a rigorous impact and investment framework, deepening our international relationships, and investing in future scientific platforms and capabilities.

With enterprise bargaining processes still in negotiations, our people continue to remain a key focus in our new strategy and we will seek to fully enable, support and empower creativity, risk taking and innovation. We will build upon our culture of diversity and inclusion while also expanding leadership opportunities.

Players in the innovation system remain highly dependent on government funding and it is our aim to enhance our agility by seeking to grow our ratio of revenue from non-government customers and to reduce our indirect costs through continual and coordinated improvement of our operating model and the experience of our customers.

The world is in the grips of a digital revolution, where information intensive science, systems and industries are transforming all that we know around us. CSIRO is well placed to embrace this opportunity due to strategic relationships with organisations such as National Information Communications Technology Australia (NICTA). Collaboratively, we can accelerate the creation of breakthrough technologies with real world impacts by deploying entrepreneurial capabilities, in order to catalyse Australian technology commercialisation.

CSIRO has a strong history of supporting the key drivers of the national economy. The future of Australian industry is likely to see increased entrepreneurship, disruption and risk taking. As the economy becomes more services-centric, with a focus on our small to medium size players, CSIRO will also shift to continue to meet the needs of Australian industry.

The increasing economic strength of economies in Asia and South America and their investments in research present both industry and science collaboration opportunities for CSIRO, which will in turn provide national benefit. In our immediate region, Asia is driving huge demand for a diverse range of goods and services. Our historical ties to Europe and North America will remain strong while we accelerate our overall rates of international engagement and operations to capture the higher potential impact value return to Australia.

Strategic actions

The Strategy 2020 establishes eight strategic actions:



Customer first

To create deeper innovation relationships with our customers and prioritise the highest value investments, we will:

- Continually develop and improve the end to end customer experience and our capacity to deliver innovative solutions to customers.
- Embed a rigorous impact and investment planning, monitoring and evaluation framework into our business and employ it to continually optimise our portfolio.
- Deliver and act upon market and technology roadmaps to support national challenges and industry innovation.



Global outlook, national benefit

To deliver connectivity to the global science, technology and innovation frontier as well as access new markets for Australian innovation, we will:

- Accelerate our overall rates of international engagement, operations and collaboration where there is a higher potential impact value return to Australia than available domestically.
- Prioritise three key regions for sustained presence and development where there is clear intersection with our impact objectives and sustainable business opportunity.



Collaboration hub

To integrate the best solutions for our customers, increase our flexibility and enhance Australia's innovation performance, we will:

- Increase our contribution to the mobility and exchange of people and know-how between research, industry and government.
- Deepen our partner relationships with universities and other research organisations to access a broader pool of external capability.
- Develop a more compact, vibrant and efficient property footprint through capital city consolidation and increased co-location.
- Increase our engagement in education and training from school age to PhD level and the workplace to help build and equip Australia's future science, technology, engineering and mathematics (STEM) and innovation capable workforce.



Breakthrough innovation

To increase our capacity to help reinvent existing industries and create new industries for Australia and deliver public good, we will:

- Implement a transformative innovation program, new investment models and funding to accelerate our entrepreneurial capacity and provide new models for our customers to adopt technology, knowledge and services.
- Deepen our direct support for Australian technology start-ups and SMEs in areas of national growth priority.
- Create a world class digital innovation capability for Australia.
- Support, develop and incentivise our people to take commercial and scientific risk, tolerate positive failure and promote a learning culture.



Excellent science

To create breakthrough technology and knowledge and be a trusted advisor for Australia, we will:

- Invest only in the science and engineering that is aligned to impact objectives and that CSIRO is best placed to do.
- Increase the value from, and investment in, a portfolio of Future Science Platforms with higher technical risk and the potential to help reinvent and create new industries for Australia.
- Continue to ensure our brand is a guarantee of the highest quality scientific standards and trusted advice.



Health, safety and environment

To enhance staff safety and wellbeing and to further our aspiration towards zero harm, we will:

- Continue to strengthen our innovation culture and operations in key areas that enhance the wellbeing of our people and improve in areas that detract from wellbeing.
- Equip our people with the knowledge and skills to support the physical and psychological health of their teams across a diverse range of operating environments, proactively learn from staff and customer experience, and provide efficient safety systems.
- Deepen integration of environmental sustainability principles throughout the business areas to reduce consumption of resources and carbon emissions.



Inclusion, trust and respect

To fully enable and support the innovation capacity of our creative people and teams to take risk and deliver to customers, we will:

- Promote inclusion and diversity as a key driver of innovation, specifically increasing gender and cultural diversity in middle and senior leadership positions, and the number of Aboriginal Australians and Torres Strait Islanders in CSIRO over the strategy period.
- Empower frontline teams with autonomy, performance and accountability – maximising frontline capacity for action and providing clear performance goals.
- Promote seamless collaboration across boundaries, internally and externally.
- Promote a culture of open sourcing, information sharing and transparency of decision making.



Deliver on commitments

To enhance our agility, financial sustainability and capacity to respond at the speed of business, we will:

- Grow our overall external revenue ratio, focus on growing our industry, international and IP business, and reduce our overhead costs.
- Continually streamline and improve our processes and systems to support efficient and effective commercial engagement and project delivery.
- Continually increase the transparency, availability and utility of relevant information through whole of CSIRO knowledge management systems.

A black and white photograph of a man with glasses and a striped shirt, smiling and holding a large, circular, textured object (possibly a speaker or a filter) in a workshop setting. The background shows industrial equipment and a blurred figure of another person. A green circular graphic is overlaid on the left side of the image, containing white text. The bottom of the image features a series of overlapping, semi-transparent, wavy lines in shades of gray.

Our strategy will
include initiatives aimed
at enhancing workforce
flexibility and mobility
to address strategic
challenges.

Part two | Resourcing our strategy

This section provides an overview of the resources CSIRO is deploying against the key activities that we undertake to fulfill our objectives. It provides a summary of planned investment in the required capabilities put in place over the term of the plan. These figures represent total expenditure and are sourced through CSIRO's Board approved internal budget and the CSIRO Portfolio Budget Statement.

Programme expenditure¹



TOTAL EXPENSES (\$M)	2015–16	2016–17	2017–18	2018–19
Programme 1.1 Research – National Flagships, Science and Services	1,096	1,112	1,124	1,160
Programme 1.2 National Research Infrastructure – National Facilities and Collections	157	160	162	170
Programme 1.3 Science and Industry Endowment Fund (SIEF)	24	25	17	16
Total Expenses	1,277	1,297	1,303	1,346
Total Average Staffing Level² (number)	4,970	5,007	4,986	4,964

¹ Source: CSIRO Portfolio Budget Statement 2015–16.

² Source: CSIRO Human Resources. Based on estimated Average Staffing Level (ASL) for 2015–16, 2016–17, 2017–18 and 2018–19.

Workforce plan

Our Strategy 2020 will include initiatives aimed at enhancing workforce flexibility and mobility to address strategic challenges. These initiatives include increased overseas posting of staff, increased use of locally engaged overseas staff and secondment from industry into CSIRO and for researchers into industry.

We will require additional capability to support entrepreneurial initiatives. CSIRO will also be seeking to enhance our performance against diversity and inclusion goals, including increasing the participation of women and culturally and linguistically diverse staff in leadership roles. We will also increase the participation of indigenous staff in our workforce.

CSIRO's Average Staffing Level (ASL) is anticipated to remain within a narrow variation range over the strategy period, however, CSIRO is currently in discussion with NICTA regarding the formation of a new entity and this may lead to an increase in staffing in the order of 260 FTE from 2015–16 if this proceeds.



FUNCTIONAL AREA	AVERAGE STAFFING LEVEL ³			
	2015–16	2016–17	2017–18	2018–19
National Research Flagships ⁴	3,190	3,213	3,199	3,185
CSIRO Services	154	155	155	154
National Facilities and Collections	468	472	470	468
Enterprise Support Services	1,158	1,167	1,162	1,157
TOTAL	4,970	5,007	4,986	4,964

³ Source: CSIRO Human Resources. Based on estimated Average Staffing Level (ASL) for 2015–16, 2016–17, 2017–18 and 2018–19.

⁴ CSIRO is phasing out the use of the term 'Flagship' and will in future refer to Flagships as 'Business Units' e.g. Agriculture.

CSIRO staff by job families

We look to our staff to work together in a collaborative and positive way to achieve our aims. We seek to attract the best minds and be a place where people want to work, and where people are challenged and supported to achieve their full potential.

CSIRO staff are employed under section 32 of the *Science and Industry Research Act 1949*. The following table shows the number of staff employed in different job families.



JOB FAMILIES⁵	AVERAGE STAFFING LEVEL 2015–16⁶
Administration Services	847
Communication and Information	177
General Management	102
General Services	10
Research Consulting	38
Research Management	262
Research Projects	1,502
Research Scientist/ Research Engineer	1,525
Specialist	19
Technical Services	488
TOTAL	4,970

Note: Some movement in baseline data across functional areas has occurred with the introduction of the jobs framework in May 2015.

⁵ Job Families are described as follows:

- Research Projects – Staff members who perform scientific or associated work, under the broad direction of research scientists/engineers or research managers, usually by assisting with the planning and completion of more practical aspects of the work.
- Research Scientist and Research Engineer – Staff members who conduct scientific research.
- Administrative Services – Staff members who provide administrative and management services to support the effective provision of research and development activities.
- Technical Services – Staff members who provide scientific or engineering services.
- Communication and Information – Staff members who provide information, editorial or industry liaison services either within or outside CSIRO.
- Research Management – Staff members who initiate, develop, lead and promote CSIRO's research capability.
- General Management – Staff members who manage corporate resources or corporate policy development, facilitate the strategic development of organisational capability, and/or create opportunities, matching CSIRO's capabilities to client needs.
- Research Consulting – Staff members who initiate and deliver research services for industry.
- General Services – Staff members who provide routine site maintenance activities.
- Specialist – Staff members whose specialist skills are in high market demand.

⁶ Source: CSIRO Human Resources. Based on estimated Average Staffing Level (ASL) for 2015–16.

Business Units 2015–16

The National Research Flagships operate on a large scale over long timeframes, with a strong focus on identifying a clear path to deliver real impact and benefits in the Australian economy, community and environment. Programs within each business unit represent a dedicated focus area of research.

OVERALL EXPENDITURE (\$M)⁷ 939.6 + OVERALL STAFFING LEVEL 3,163



Agriculture

TOTAL EXPENDITURE (\$M) ⁷	211.4
AVERAGE STAFFING LEVEL	689

Boost the productivity, profitability and agro-ecosystem health for Australia's agri-food and agri-fibre industries and to partner globally towards food security in a resource and climate challenged world.

PROGRAMS:

- Agriculture and Global Change
- Breakthrough Genetic Breeding Technologies
- Breeding Higher Value Food Crops
- Novel Fibre Food and Industrial Products
- Integrated Agricultural Systems
- Integrated Sustainable Aquaculture Production
- Productive and Adaptive Livestock Systems
- Sustaining Agricultural Soils and Landscapes



Health and Biosecurity

TOTAL EXPENDITURE (\$M) ⁷	44.0
AVERAGE STAFFING LEVEL	131

Increase the productivity and effectiveness of Australia's health and bio security systems through technology and services.

PROGRAMS:

- Combating Emerging Infectious Diseases
- eHealth
- Managing Invasive Species Impacts
- Risk Evaluation and Preparedness



Digital Productivity

TOTAL EXPENDITURE (\$M) ⁷	59.0
AVERAGE STAFFING LEVEL	296⁸

Create intellectual property in digital technologies to deliver value from data to empower people, transforming the Australian economy through three new spin-outs per annum by 2019 and by creating \$4 billion per annum in direct added value to the economy through government and industry partnerships.

PROGRAMS:

- Autonomous Systems
- Data Analytics
- Digital Economy
- Wireless and Networks
- Transformational Biology Future Science Platform
- Sensors and Sensor Networks Future Science Platform
- Computational and Simulation Sciences Future Science Platform

⁷ Total Expenditure for 2015–16 as per CSIRO internal budget.

⁸ The Digital Productivity average staffing level does not include any NICTA FTE.



Energy

TOTAL EXPENDITURE (\$M) ⁷	120.8
AVERAGE STAFFING LEVEL	307

Deliver solutions that will enhance Australia's economic competitiveness and regional energy security while enabling the transition to a lower emissions energy future.

PROGRAMS:

- Coal Mining
- Grids and Energy Efficient System
- Low Emissions Technology
- Oil, Gas and Fuels
- Unconventional Gas



Food and Nutrition

TOTAL EXPENDITURE (\$M) ⁷	62.3
AVERAGE STAFFING LEVEL	182

Maximise Australia's food, agribusiness and health related value chain opportunities by creating innovative products, processes and services for domestic and premium export markets.

PROGRAMS:

- Food
- Nutrition and Health
- Bioproducts



Mineral Resources

TOTAL EXPENDITURE (\$M) ⁷	89.4
AVERAGE STAFFING LEVEL	273

Deliver science and technology options for the discovery and efficient development of Australia's \$1 trillion mineral resource endowment and enable flow-on benefits to the wider national economy.

PROGRAMS:

- Discovering Australia's Mineral Resources
- Intelligent Mining and Resource Management
- Processing Australian Ores
- Resources, Community and Environment



Land and Water

TOTAL EXPENDITURE (\$M) ⁷	125.3
AVERAGE STAFFING LEVEL	508

Deliver solutions for sustainable development and stewardship of land, water, ecosystems and communities, valued at over \$12 billion per annum in triple bottom line benefits.

PROGRAMS:

- Adaptive Social and Economic Systems
- Biodiversity Ecosystem Knowledge and Services
- Environment Contamination Mitigation and Technology
- Landscape Intensification
- Liveable, Sustainable and Resilient Cities
- Water Resource Management
- Earth Observation and Informatics Future Science Platform



Manufacturing

TOTAL EXPENDITURE (\$M) ⁷	119.7
AVERAGE STAFFING LEVEL	391

Deliver the scientific and engineering innovations to transition Australian manufacturing, creating the jobs of the future, export growth, and increasing the value of the sector.

PROGRAMS:

- Advanced Fibres and Chemical Industries
- Bio Medical Manufacturing
- High Performance Metal Industries
- Industrial Innovation
- Advanced Materials Future Science Platform
- Intelligent Processing Future Science Platform



Oceans and Atmosphere

TOTAL EXPENDITURE (\$M) ⁷	107.7
AVERAGE STAFFING LEVEL	386

To boost Australia's prosperity and wellbeing through solutions that enable the sustainable economic, social, and environmental use of Australia's marine estate, and management of the atmospheric environment.

PROGRAMS:

- Coastal Development and Management
- Earth System Assessment
- Engineering and Technology
- Ocean and Climate Dynamics
- Marine Resources and Industries

AIRPURE

1000000

DANGER
PROTECT EYES WHEN
U.V. LIGHTS ARE OPERATING

Controlled
equipment
HAZOP
HAZOP

UVS

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
---	---	---	---	---	---	---	---	---	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	-----

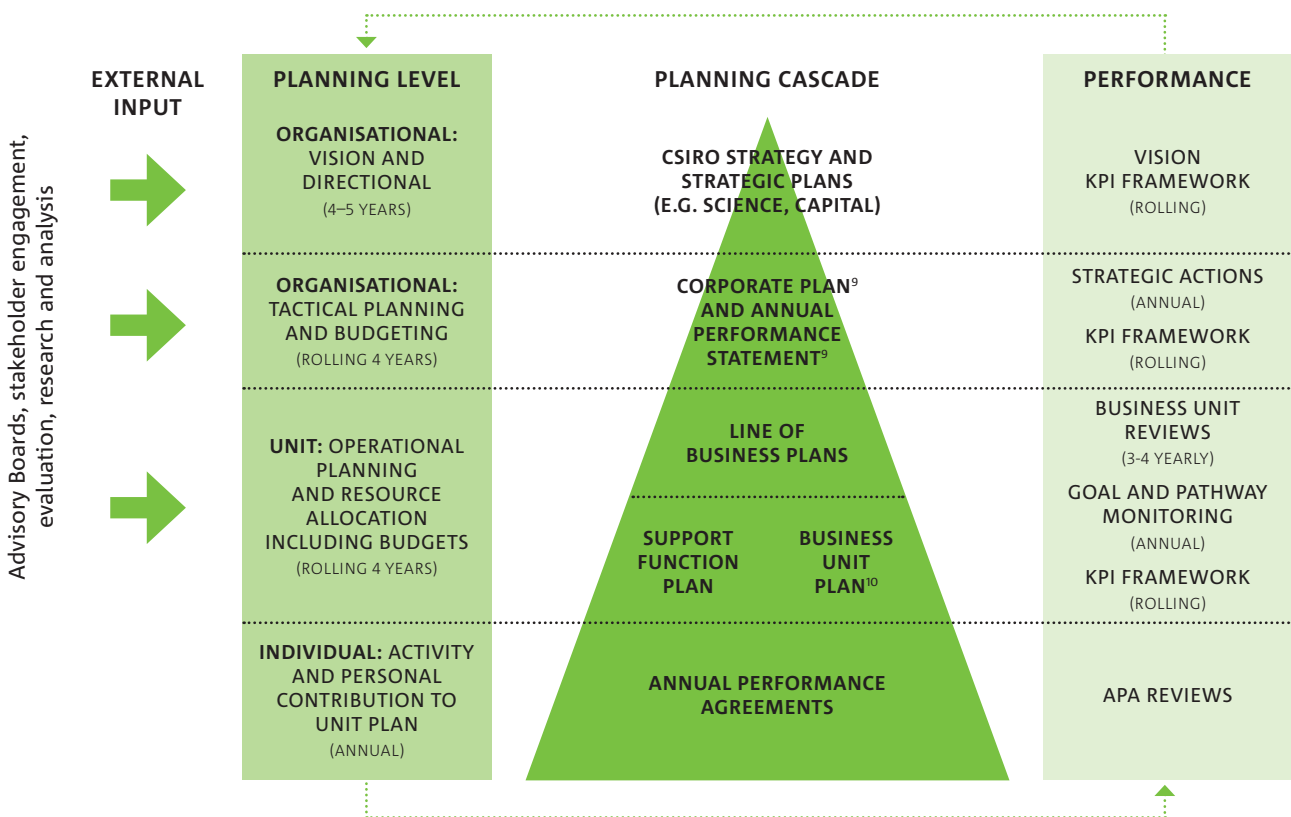
CSIRO is accountable
for the appropriate,
effective and efficient
use of the resources
entrusted to us.



Part three | Monitoring and reporting

Our planning and performance framework

CSIRO is accountable for the appropriate, effective and efficient use of the resources entrusted to us. The major components of CSIRO's Planning and Performance Framework are illustrated in the figure below. The CSIRO Strategy describes the vision and key focus areas for CSIRO to further develop its role in the national and global innovation systems. It reaffirms our commitment to industry and connections with our global peers. The Corporate Plan details the actions required for successful implementation of the strategy on an annual basis, and detailed planning and review processes also operate at a range of levels, including research portfolios, and individuals, and with reports to the Executive Team and Board.



⁹ Including Service charter

¹⁰ Or equivalent level in other lines, incorporating lower level plans such as Program level plans

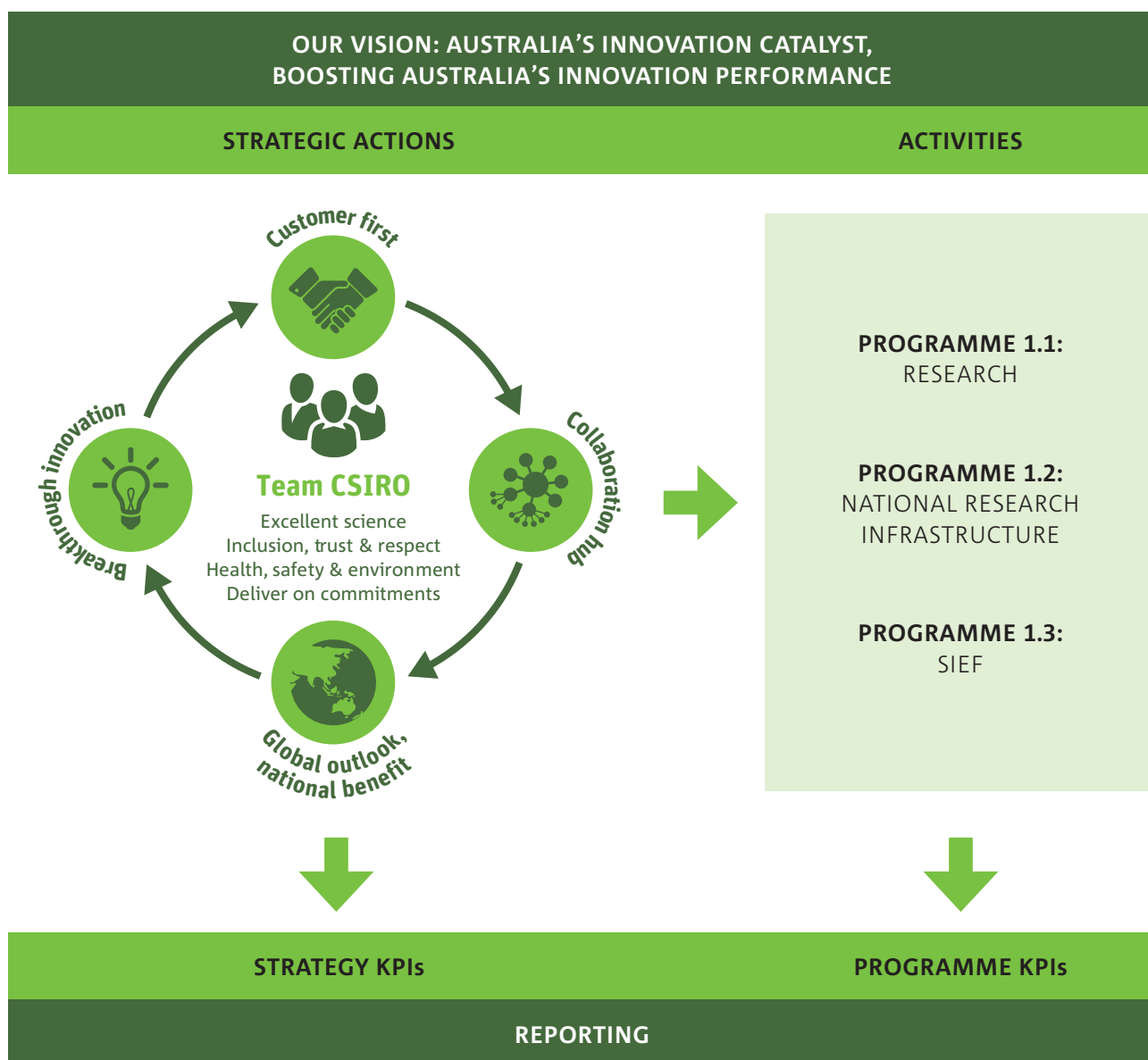
NB: While Group, Team and Unit planning is expected to be reflected in broader plans (e.g. business unit plan), more detailed planning documents may exist.

Monitoring our performance

CSIRO monitors its performance and risks systematically throughout the year. This process informs our decision-making and provides opportunities to evaluate our relevance, effectiveness and efficiency.

CSIRO reports its performance in an annual report to Parliament. Here we report against our deliverables and key performance indicators in the Portfolio Budget Statement, and implementation of strategic priorities identified in the our strategy. CSIRO also monitors its performance throughout the year with:

- regular reports to the Executive Team and Board to assist with their decision-making and governance responsibilities, and
- detailed planning and review processes operating at a range of levels, including research portfolios, functional areas, and individuals.





Monitoring our activities

Our Strategy 2020 outlines how we monitor our success today and over the strategy period. Our strategy is also reported against annually to monitor our progress.

Our performance indicators are:

1. Evidence of **progress towards, and delivery of impact objectives** based on mixed method evaluation, including external review outcomes, independently validated impact studies, verifiable evidence of uptake and adoption, and periodical whole of CSIRO impact assessments.
2. Maintain our **customer satisfaction** using our Customer Willingness to Recommend net promoter score, maintaining a result above 8.
3. Increase the number of **active technology licences** from our research over base year 2014–15.
4. Increase **external revenue**, particularly from industry and international sources, as a percent of total expenditure from 38 per cent to 45 per cent by 2019–20.
5. Increase internal and external **collaboration** through the assessment of staff mobility across Business Units and our external engagement with industry and other stakeholders.
6. Increase the **diversity** of our leadership cohort including gender, non-English speaking background, and Aboriginal and Torres Strait Islanders.

7. Increase our **innovation capacity** across all staff cohorts over the base year of 2015–16, as evidenced by results from the CSIRO staff survey.
8. Increase **staff safety** via zero harm policy of continuous improvement of Recordable Injury Frequency Rate to improve on baseline RIFR of 14.3 per million hours as at 30 Jun 2015.
9. Increase our **investment** in future science and technology platforms to 250 per cent of FY2015 budget, including capability development and central competitive funds.

In addition to our strategy performance measures, we assess our performance against the activities that we undertake to fulfill our mission and deliver on our commitment to the Parliament and people of Australia.

CSIRO's Portfolio Budget Statement is divided into three programmes: Research – National Flagships, Science and Services, Research Infrastructure – National Facilities and Collections, and Science and Industry Endowment Fund. These programmes represent the major activities CSIRO undertakes to achieve our purpose.

Each activity includes annual performance indicators and targets to be used to assess and monitor the performance of CSIRO in achieving the outcomes of the programmes.

Programme 1.1 | Research – National Flagships, Science and Services

National Research Flagships aim to increase economic, social and environmental wellbeing in areas of complex challenges through the provision of information, scientific solutions and capability development. National challenges being addressed through this program include agriculture, environment, digital productivity, energy, food, health, manufacturing and mining. Flagships operate on a large scale and long timeframes, and have a strong focus on application and adoption of the research where it can drive improvements in Australia's economic competitiveness and further the interests of the Australian community.

CSIRO Services delivers accessible, efficient innovation services to enable industry, government and the community customers to capture value from research. CSIRO Services provides commercial innovation services, education and outreach programs, and publishing, and builds new networks and relationships that allow our customers to benefit from research and innovation.

KEY PERFORMANCE INDICATORS CSIRO RESEARCH AND SERVICES

- Evidence of economic, social and environmental impacts through demonstrated uptake and adoption of research outputs (demonstrated by case study impact assessment and other evaluations).
- Maintain or increase the number of refereed publications.
- Maintain customer satisfaction.
- Awareness of science by CSIRO stakeholders.
- Maintain or improve science excellence in CSIRO research capabilities and the impact of their research outputs as assessed through a rolling program of rigorous peer review.
- Utilisation and success of science outreach programs (proportion of uptake within the target groups and participant feedback).

Programme 1.2 | National Research Infrastructure – National Facilities and Collections

CSIRO hosts Australia's national research facilities, scientific infrastructure and biological collections on behalf of the nation to assist with the delivery of research. These specialised laboratories and research facilities are available to international and Australian users from industry and research. Facilities are resourced with CSIRO staff to run and support the facility's operations.

KEY PERFORMANCE INDICATORS CSIRO RESEARCH INFRASTRUCTURE

- Utilisation of the National Research Infrastructure and Collections (such as research days, observation time or operation time, access to and downloads of digital information, visitor days, the number of loans and/or online resources accessed).
- National Research Infrastructure maintained and operated to appropriate standards.
- Maintain or increase the proportion of collections available to researchers and the public, including digitised and non-digitised collections.
- Demonstrated response to national events by providing science-ready facilities in support of CSIRO and external party research.

Programme 1.3 | Science and Industry Endowment Fund (SIEF)

The SIEF was established by Commonwealth legislation, the Science and Industry Endowment Act 1926, for the purpose of supporting scientific and industrial research for the benefit of Australia and its people. The SIEF makes strategic investments in scientific research that addresses issues of national priority for Australia.

KEY PERFORMANCE INDICATORS SIEF

- Proportion of projects align with SIEF purpose and strategic objectives.
- Proportion of projects involving more than one organisation.
- Financial contributions of partners.
- Number of publications from SIEF projects.
- Number of Early Career Researchers (ECR) funded through SIEF projects.

Monitoring our risks

CSIRO is committed to the effective identification and management of risk. Acceptance and effective management of risk is vital to successfully capturing the opportunities created through scientific research and delivering on our purpose as an organisation. The management of risk is the responsibility of all our people.

CSIRO develops and maintains an Organisational Risk Plan in alignment with our Strategic Plan that reflects CSIRO's approach and posture in managing the risks that threaten the achievement of our goals and objectives. CSIRO's brand and reputation requires careful management of the following key areas of risk:



Governance and compliance

CSIRO's reputation hinges upon the integrity and quality of our science and ability to deliver positive impact for Australia. This risk is managed across all levels of the organisation in ways that include establishing rigour in our scientific processes, effective governance processes to ensure transparency of decision making, financial management practices to ensure efficient use of resources and values based engagement and commercial dealings with customers and stakeholders.

CSIRO recognises its obligations as a government entity conducting a broad range of activities across multiple highly regulated environments. Compliance risk is managed systematically across our Lines of Business, enabled and supported by Enterprise Support functions.



Customers, partnerships and collaboration

Impact and value creation for customers is enabled by access to quality science, technology and capability. Failure to identify and then deliver impact and value is a fundamental risk. We manage this through continually developing and improving the end to end customer experience, applying a rigorous impact and investment planning, monitoring and evaluation framework and identifying, establishing and managing deep partnerships and collaborations to ensure that we integrate the best solutions for our customers.



Science and innovation

Delivering innovative and impactful solutions for our customers requires challenging science with a high inherent risk of failure. To manage these challenges we have robust processes for science quality and integrity and focused capability development activities to enhance the skills of our people.

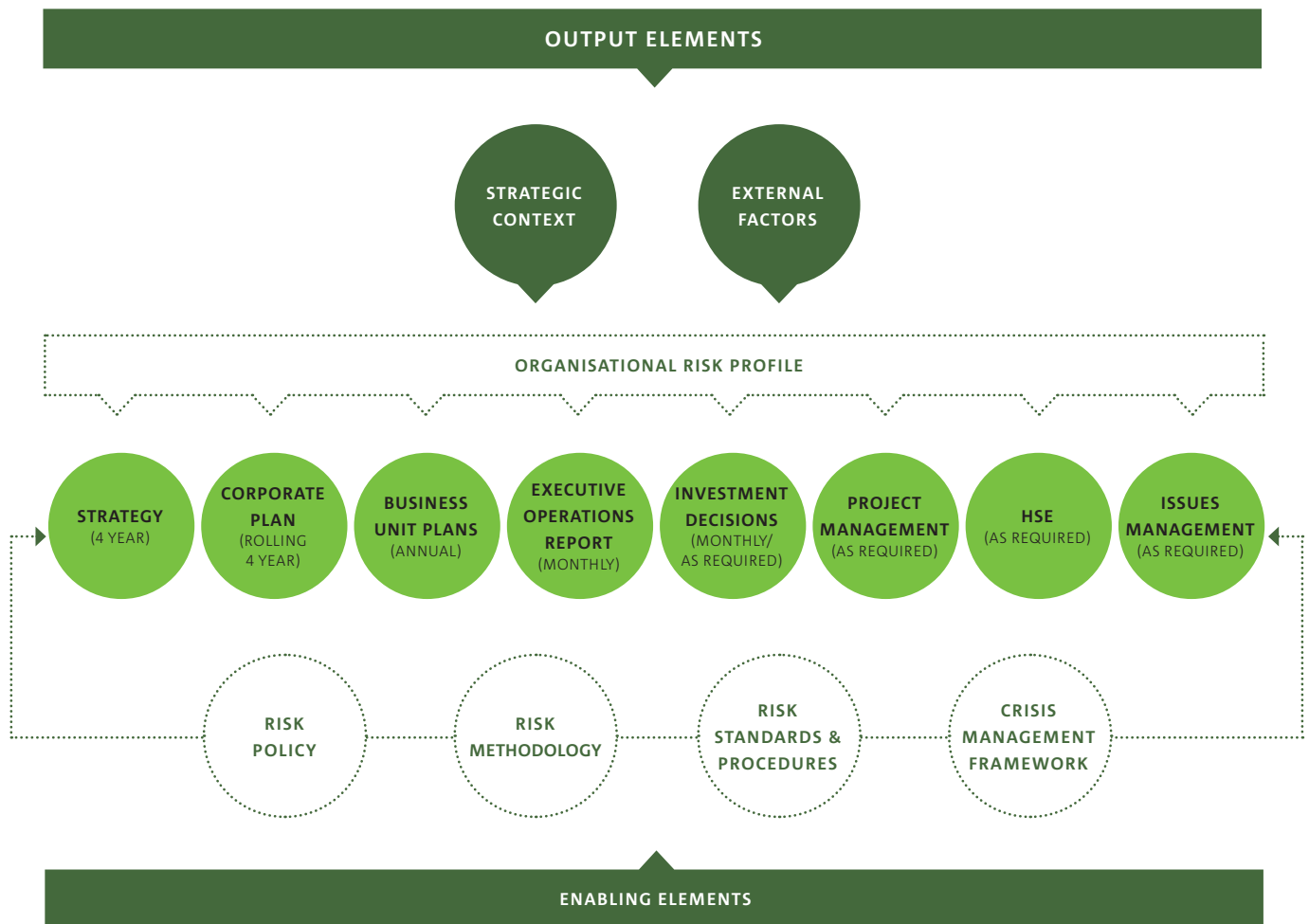


People and culture

People are at the heart of CSIRO's capability and capacity to deliver innovative solutions for our customers. We manage risks associated with the development and well being of our people through a values based approach supported by processes and initiatives relating to recruitment, learning and development, workforce and succession planning and staff wellbeing.

CSIRO's Risk System is a comprehensive framework that supports the identification and assessment of risk across the organisation within strategic, operational and tactical contexts.

CSIRO risk system



Governance

Enterprise Governance provides a framework for direction, control and accountability which enables CSIRO to achieve its objectives.

CSIRO's Governance Framework provides for structures and processes to support:

- the ways in which CSIRO is organised, directed and managed
- CSIRO's compliance with the *Science and Industry Research Act 1949 (Cth)* and the *Public Governance and Performance Accountability Act (2013) (Cth)*
- the successful execution of the CSIRO strategy and delivery of objectives
- planning, investment review and reporting
- how CSIRO engages with the outside world
- how CSIRO monitors its performance, and
- the ways CSIRO is held accountable for its decisions and actions.

CSIRO recognises that good governance cannot be measured in purely financial terms. As a public sector body, CSIRO's performance is measured against broader national, social and community objectives.

CSIRO Board and Committees

The CSIRO Board is responsible to the Australian Government for the overall governance, strategy and performance of the Organisation. CSIRO is accountable to the Minister for Industry and Science as part of the Industry Portfolio.

The primary functions of the Board are to:

- ensure the proper and efficient performance of the functions of the Organisation
- determine the policy of the Organisation with respect to any matter, and
- give directions to the Chief Executive.

The Board is also accountable for the controlled entities of CSIRO that are an integral part of our strategy:

- Science and Industry Endowment Fund (SIEF)
- WLAN Services Pty Ltd
- Fundación CSIRO Chile Research

The Board operates in part through two standing committees:

1. **People, Health and Safety Committee** which assists the Board to fulfill its governance responsibilities in relation to organisational development, people-related activities and health and safety.
2. **Audit and Risk Committee** which assists CSIRO and its Board in the areas of financial management, risk management, internal control and compliance.

The Board comprises a non-executive Chairman, up to eight other non-executive Members and a full-time Chief Executive. Current Board Members and their appointment dates are:

- Dr Eileen Doyle: CSIRO Board Deputy Chairman and acting CSIRO Board Chairman (15.02.06 to 14.02.11; 15.02.11 to 14.02.16)
- Dr Larry Marshall: Chief Executive and CSIRO Board member (01.01.15 to 31.12.16)
- Mr Hutch Ranck: CSIRO Board Member (01.05.11 to 30.04.16)
- Ms Shirley In't Veld: CSIRO Board Member (28.06.12 to 27.06.15; 28.06.15 to 27.06.20)
- Ms Jane Bennett: CSIRO Board Member (25.10.12 to 24.10.15)
- Dr Peter Riddles: CSIRO Board Member (24.04.14 to 23.04.17)
- Mr Brian Watson: CSIRO Board Member (14.09.15 to 13.09.20)

CSIRO Executive Team and Committees

Our Executive Team comprises the:

- Chief Executive
- Deputy Chief Executive
- Chief Finance Officer
- Executive Directors

The Executive Team's role is to determine matters, or make recommendations to the Chief Executive and through the Chief Executive to the Board, regarding the direction and operations of the Organisation.

The ET is supported by two committees:

1. **Science, Strategy, Investment and Impact Committee** which supports the ET in directing and controlling the CSIRO's strategic science, capability, capital, support and impact planning, investment and performance management.
2. **Major Transactions Committee** which supports the ET in directing and controlling CSIRO's involvement in major transactions and related matters and investment.

Advisory Committees under s24 of the Science and Industry Research Act

AUSTRALIA TELESCOPE STEERING COMMITTEE

The Australia Telescope Steering Committee provides independent advice to the Director of the Australia Telescope National Facility (ATNF) on the scientific and technical operations of the ATNF. The committee advises the ATNF Director on the broad directions of the ATNF's scientific activities and longer term strategies for the development of the ATNF and are advocates to develop the Australian Telescope as a world class national facility for use by Australian and international researchers.

Committee members are both academic and industry stakeholders.

MARINE NATIONAL FACILITY STEERING COMMITTEE

The Marine National Facility Steering Committee provides independent advice to the Director Marine National Facilities (MNF) on strategic issues such as maximising the use of the RV Investigator and ensuring all science undertaken through the RV Investigator has a national benefit. They act as advocates for the MNF and for CSIRO's marine based research capability with its many stakeholders within Australia and internationally.

Committee members are from academic, industry and government backgrounds.

Internal Consultative and Advisory Mechanisms

CONSULTATIVE COUNCIL

The Consultative Council is to consider and report to the Board on any matter affecting or of general interest to the officers of the Organisation, including any matters that are referred to the Council by the Board.

The Consultative Council comprises of a Chairperson and up to seven Management Members, all appointed by the Board.

FLAGSHIP ADVISORY COMMITTEES

The Flagship Advisory Committees provide independent, external advice to CSIRO through the Flagship Director on how to maximise the effectiveness of the Flagship portfolio to achieve its goals. They also assist CSIRO on broader strategic issues relevant to the sectors in which the Flagship operates.

Committee members are from industry and other stakeholders.

CONTACT US

t 1300 363 400

f +61 3 9545 2176

e csiroenquiries@csiro.au

w www.csiro.au/corporate-plan

AT CSIRO WE INVENT THE FUTURE

We do this by using science and technology to solve real issues. Our solutions make a difference to industry, people and the planet.

As Australia's national science agency we've been pushing the edge of what's possible for almost 90 years. Today we have thousands of talented people working across Australia and internationally. Our people work closely with industry and communities to leave a lasting legacy. Collectively, our innovation and excellence places us in the top ten applied research agencies in the world.

WE COLLABORATE TO INNOVATE

FOLLOW US

