20 YEARS

NCRIS
National Research Infrastructure for Australia
An Australian Government Initiative

CELEBRATING 20 YEARS

of the National Collaborative Research Infrastructure Strategy (NCRIS)

June 2026

Acknowledgement of Country

The Department of Education acknowledges the Traditional Owners and Custodians of Country throughout Australia and their continuing connection to land, waters and community. We pay our respects to them and their cultures, and Elders past and present.

Minister's foreword

Australia has always been at the forefront of technological and scientific advancement. As a nation we have invented Wi-Fi, the cochlear implant, spray-on skin, polymer banknotes and much more.

Our greatest strength is our people – our diversity, creativity, innovation, and resilience. We are home to some of the world's most exceptional minds, whose ideas and expertise are shaping our future.

Celebrating its 20th year, the National Collaborative Research Infrastructure Strategy (NCRIS) program represents the best of Australian innovation and dedication to scientific endeavour.

Without a strong national strategy, many of the resources that scientists, researchers and innovators depend on would simply not be within reach.

Over two decades, NCRIS-supported facilities have played a key role in addressing national priorities, spanning the full research spectrum – from biosecurity and agriculture to marine science, astronomy, data platforms, emerging technologies and advanced manufacturing.

Supporting Australian and international scientists to develop ways to identify postpartum depression earlier, create sponges which soak up mercury and oil spills, better model climate forecasting and discover salt tolerant genes in wheat for increased grain yields.

This scale is matched by NCRIS' collaborative design, bringing together universities, research institutions, industry partners and government agencies to share access to nationally significant infrastructure that no single organisation could deliver or maintain alone.

But NCRIS is more than just the 'kit' – its success is turbocharged by the understanding that infrastructure alone does not drive discovery.

It is the investment in the highly skilled professionals whose expertise ensures researchers can fully realise the benefits of these capabilities.

On a practical level, NCRIS ensures that scientists, inventors, and researchers have open access to the equipment and networks they need to undertake their work.

Whether that's supercomputers, nationwide datasets, physical tools or technical expertise, NCRIS ensures that researchers have access to what they need when they need it.

Through both formal and informal interactions, researchers build networks, develop collaborations, and access shared knowledge, helping them maximise the value of a national approach to research.

This year, the Australian Government invested an additional $323.7 million into NCRIS, targeting priority research infrastructure areas while also strengthening and securing existing capabilities.

This funding ensures that Australia can focus on vital areas such as data security capability and coastal monitoring, and supports our highly successful existing infrastructure network.

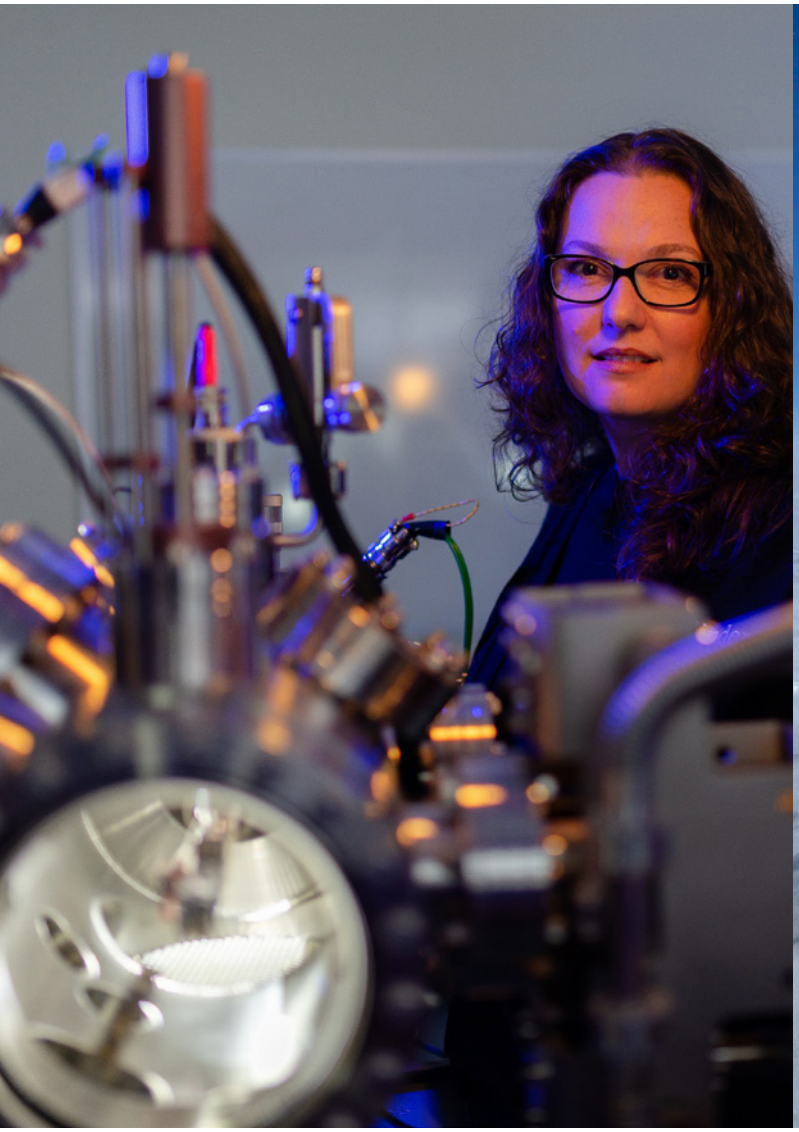
The Australian Government's focus on scientific research ensures we remain at the forefront of technological advancement.

NCRIS ensures Australia remains globally competitive while building a more productive, resilient, and future-focused economy for generations to come.

To all the researchers, scientists, administrators, innovators and staff who work with and for NCRIS, a very happy 20th anniversary!

I can't wait to see what new discoveries are revealed in the next 20 years.

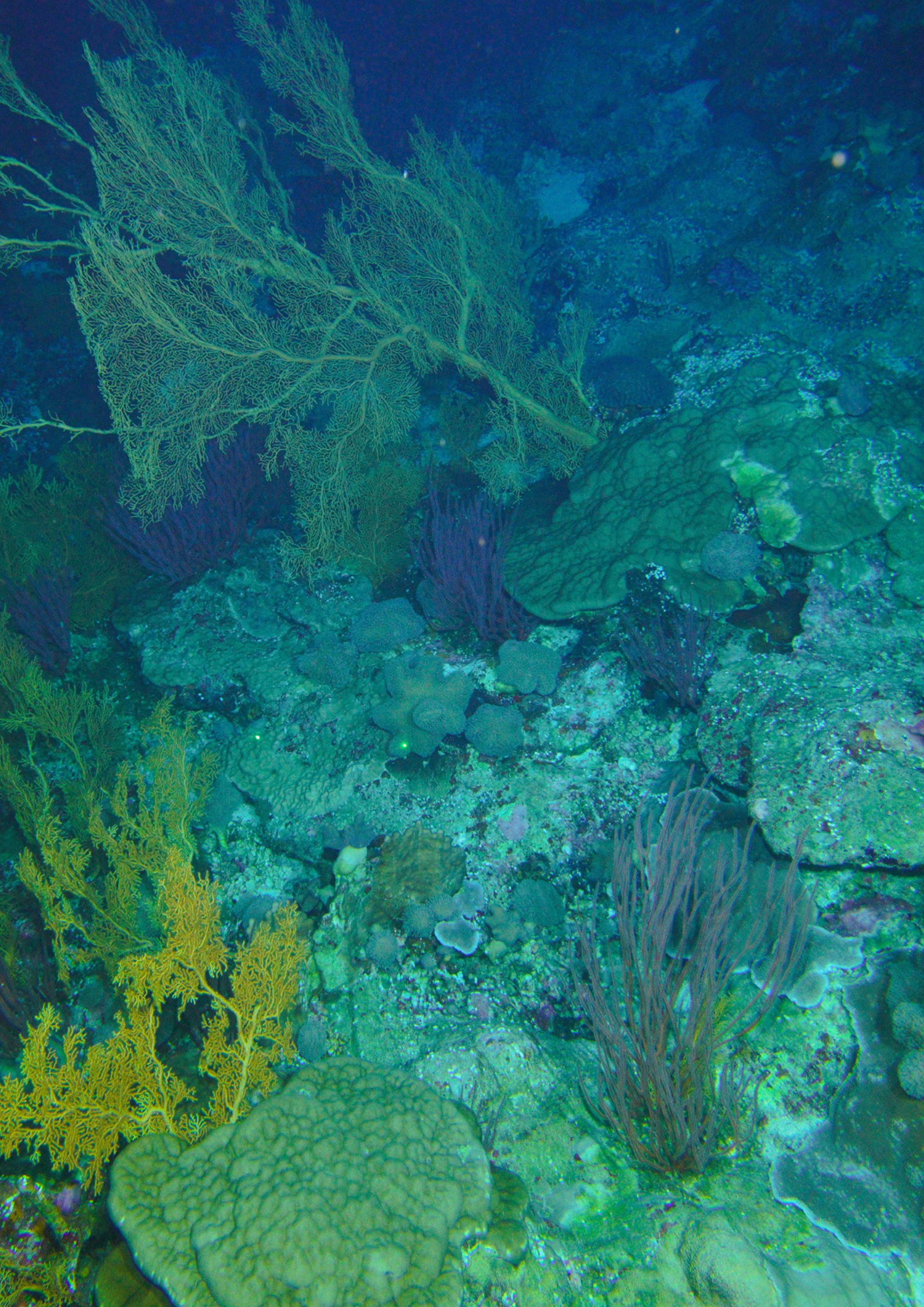
The Hon Julian Hill MP
Assistant Minister for International Education



Building Australia's research future

For more than 20 years, the National Collaborative Research Infrastructure Strategy (NCRIS) has been a cornerstone of Australia's research success – and it remains essential to the nation's future.

From telescopes to microscopes, supercomputers to ion accelerators, and data collections to software platforms, it has provided $5.5 billion in funding to large, long-term, highly collaborative and national scale projects led by universities, government agencies and private companies to support world-class research.



By investing in shared national research infrastructure, NCRIS has created the bedrock that allows Australia to respond to emerging technologies and national challenges. Its success lies not only in world-class equipment, but in a bold, collaborative model that has transformed how research infrastructure is delivered in Australia.

NCRIS introduced a new way of working: connected national networks, open access to facilities, and deep collaboration across universities, research organisations, state and Commonwealth governments. This approach allowed institutions to specialise in particular types of infrastructure. The result has been greater depth of expertise, broader national capability and a level of research excellence that would have been impossible without NCRIS.

The Australian Government produces National Research Infrastructure Roadmaps every 5 years to help identify Australia's research infrastructure needs, set priorities, and guide investment. This keeps NCRIS on the cutting edge of modern science and technology, while working with the research sector to understand Australia's research infrastructure needs, and what exciting new opportunities are on the horizon.

Long-term funding and strategic coordination have been critical. Research infrastructure takes time to build and even longer to realise its full potential. Sustained investment ensures facilities are not only established, but operated, maintained and continually improved – enabling invaluable long-term data collections and incredible domain expertise to build.

Equally important is NCRIS's investment in people and operations, not just equipment. Highly skilled staff are an essential part of national research capability, ensuring infrastructure is used effectively, efficiently and in innovative new ways. Their expertise unlocks new techniques, improves productivity and maximises return on investment in sophisticated, high-value assets.

NCRIS infrastructure is open and accessible, supporting researchers, government and industry alike. Tools such as the Research Infrastructure Connect (RIC) service help users – particularly business – to find the facilities and expertise they need, even if they are unsure where to start.

Proudly managed and overseen by the Australian Government, NCRIS continues to deliver measurable national benefit, with a sample of its many successes illustrated throughout this booklet.

Together, these achievements show why NCRIS has mattered for the past 20 years – and why it remains vital for Australia's research future.

> NCRIS enabled Quantum Brilliance to grow from a start-up into now a 100-person global company. Being able to access such services and infrastructure, is what has enabled Quantum Brilliance and other Australian companies to compete globally.
>
> Marcus Doherty, CEO
> Quantum Brilliance

Enabler of government policy

NCRIS is a critical enabler of government policy objectives across a broad spectrum of national priorities, including health, environmental protection, urban planning, astronomy, national security, agriculture, critical minerals and advanced technologies. This booklet highlights just a small selection of the hundreds of ways NCRIS underpins innovation and delivers impact across these domains for Australia.

More directly, NCRIS provides the essential services, infrastructure and trusted data that governments depend on to make informed decisions, strengthen the economy, improve public services, and enhance the everyday lives of Australians. Its capabilities are embedded in the evidence base that shapes policy, ensuring decisions are driven by reliable, high-quality information and national-scale expertise.

NCRIS enables government work by:

Informing better cities and services

- Integrating transport and housing data to improve equitable public transport planning
- Identifying optimal locations for new health services
- Providing real-time data insights to anticipate peak health services demands

Strengthening health and research systems

- Securely hosting and sharing sensitive health data for clinical trials
- Supporting better health policy through high-quality data

Protecting the environment and managing climate risks

- Delivering continental-scale environmental data to support threatened species protection
- Helping communities understand climate impacts on homes and infrastructure
- Supporting emergency services with predictive data for bushfires and natural disasters

Supporting environmental governance tools and platforms

- Developing systems such as MERIT for the Department of Climate Change, Energy, the Environment and Water
- Enabling data platforms for agencies like the Murray–Darling Basin Authority
- Underpinning major national reports such as the State of the Environment

Enhancing national security and biosecurity

- Training nuclear experts
- Supporting projects that have informed federal quarantine policy
- Developing advanced biosecurity surveillance techniques

Driving economic and research outcomes

- Enabling companies supported by the National Reconstruction Fund
- Supporting researchers funded through Commonwealth grants
- Building a national workforce of skilled technicians, scientists and innovators

Advancing national priorities and future industries

- Supporting a *Future Made in Australia* through access to world-class research infrastructure
- Enabling critical technologies, including AI, quantum, robotics, biotechnology and clean energy

NCRIS is a foundational enabler of Australia's research system and a critical contributor to achieving national policy objectives.

> NCRIS has been essential for taking my research out of the lab and into clinical trials in cancer patients. My research team would not be where we are today without the support of Australia's fantastic NCRIS facilities
>
> Professor John Hooper,
> Professor of Cancer Research, Mater Research Institute, University of Queensland

What NCRIS provides

The goal of research and innovation is to tackle the most complex challenges of our world. Addressing these challenges requires national and international collaboration, and a strong network of research infrastructure. NCRIS supports a wide range of research infrastructure – the descriptions below are an overview of the types of infrastructure on offer.

Observing and Monitoring

NCRIS supports national systems that track changes in Australia's environment over time. This covers everything from oceans to cities to stars. By collecting consistent information across the country and over many years, NCRIS observing infrastructure helps us understand long-term trends, respond to natural disasters, protect our environment, discover resources and make informed decisions.

Computing and Modelling

NCRIS provides a range of powerful tools such as supercomputers that allow researchers to analyse data and run complex simulations. These tools help scientists model future climate conditions, design new materials, improve medical treatments and test ideas safely in a virtual environment before applying them in the real world. Solving big challenges requires national-scale computing and collaboration – NCRIS facilitates that.

Data and Collections

NCRIS helps collect, care for and share important data and collections. This includes scientific samples, sensitive human data, genomics datasets, First Nations knowledge, environmental data, cultural collections and digital research tools. Often, crucial data is only available to one institution or group of researchers, and there are challenges in sharing it ethically and securely. National coordination helps researchers safely publish, link and reuse data at scale, making Australian data more visible and valuable.

Manufacturing and Fabricating

NCRIS provides access to specialised facilities where researchers and businesses can design, build and test new technologies. By sharing expensive and specialised equipment nationally, NCRIS provides the resources that help ideas move from the lab to real-world applications. These facilities help create new medicines, specialised equipment and products that support industry and Australian jobs.

Measuring

NCRIS enables highly accurate measurement, testing and imaging. These capabilities include advanced microscopes to analyse biological samples, imaging machines to better understand human diseases, and analytical techniques to test new products and materials. Reliable measurement, sampling and analysis are critical for developing new products, supporting Australian manufacturing and bioengineering, and improving the health of Australians.

Highlights

26
FUNDED RESEARCH
infrastructure projects

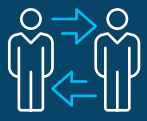
$650 million
IN FUNDING FROM
2023–24 to 2026–27

$5.5 billion
IN FUNDING ALLOCATED

400+
DELIVERY PARTNERSHIPS

1,900+
TECHNICAL EXPERTS

5,000+
INDUSTRY CLIENTS



100,000+
AUSTRALIAN USERS AND
Over 30,000
INTERNATIONAL USERS
in 2024–25

Close to 6,000
RESEARCH PUBLICATIONS
supported by NCRIS facilities in 2024

Over $400 million
IN CO-INVESTMENT IN 2024–25
from universities, publicly funded research agencies, state governments, research institutes and industry

> Ocean observations are absolutely foundational for Australian research. The scientific insights, technologies and community that have grown with IMOS are deeply relevant to the Bureau's operational services for the Australian community.
>
> Dr Claire Spillman and Dr Frank Colberg,
> Science and Innovation Group,
> Bureau of Meteorology

Case studies – Healthier Lives, Stronger Communities

These case studies showcase research that makes a real difference to human health and social outcomes. They reflect the core purpose of investing in research infrastructure: giving researchers what they need to build towards a healthier, safer and more equitable Australia.

A breakthrough in non-invasive breast cancer screening

Breast cancer affects 1 in 7 women in Australia and detection is challenging with traditional mammography for the 40–50% of women with dense breast tissue.

To help address this gap, Australian biotechnology company BCAL Diagnostics Pty Ltd has developed BREASTEST plus™, a first-in-class blood test designed to be used alongside standard mammograms to support earlier detection, particularly of early-stage disease. The test uses advanced analysis to identify cancer-associated changes in a patient's blood profile.

The National Deuteration Facility (NDF) at the Australian Nuclear Science and Technology Organisation (ANSTO) provided some of the specialised analytical standards essential for developing and validating the test, which was commercially launched in March 2025 and is now available across many Australian locations.

Connecting Australia's data to power better health outcomes

Harnessing existing health data is one of the fastest ways to improve Australians' wellbeing. By safely reusing data from studies and clinical trials, publicly funded research can deliver far greater impact—powering new discoveries, fresh questions and stronger collaborations.

Working with the health research community, the Australian Research Data Commons (ARDC) is building the national infrastructure that makes this possible, ensuring sensitive data is shared securely, ethically and effectively.

This includes Health Data Australia, a national catalogue bringing together data from more than 70 Australian health research organisations, unlocking the full potential of health data at a truly national scale.

Australia's HPV vaccine success and the Population Health Research Network are driving smarter cancer prevention

NCRIS infrastructure and Phenomics Australia are driving the next generation of life-saving antibiotics

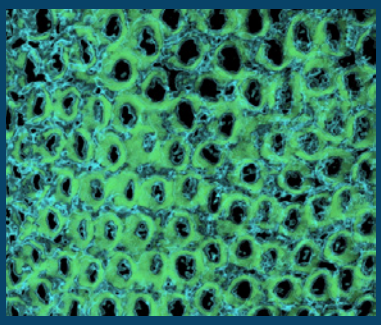
Australia's genomics powerhouse, enabled by Phenomics Australia, the Australian Research Data Commons, National Computational Infrastructure and Bioplatforms Australia, is turning data into life-saving treatments

The Terrestrial Ecosystem Research Network is unifying pollen science to deliver Australia's first national forecasts

The National Imaging Facility is transforming care for children with cerebral palsy

NCRIS accelerator science turned evidence into cleaner air

The Australian Access Federation and Australian Urban Research Infrastructure Network are unlocking secure data for Australia's urban future



The European Molecular Biology Laboratory partnership is building Australia's future research workforce

Case studies – Nourishing People, Protecting the Planet

These case studies showcase research that protects Australia's industries and food supply and helps the world respond to climate change. They highlight how connecting research to industry supports both the economy and our environment.

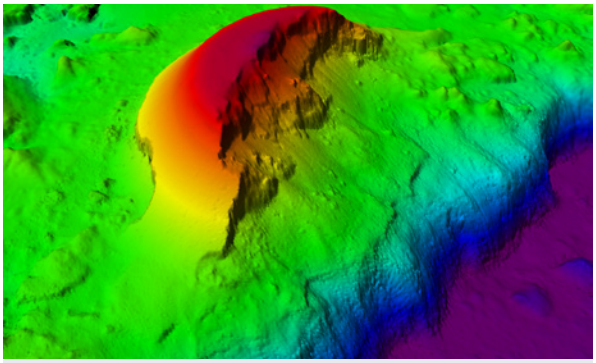
World-first vaccine to strengthen Australia's biosecurity capability

Foot and mouth disease is one of the most serious biosecurity threats facing Australia, with a single outbreak carrying a potential cost of up to $80 billion.

In response, a world-first vaccine – developed through a $20 million partnership between the NSW Government, Meat & Livestock Australia, Tiba Biotech and the Friedrich-Loeffler-Institut – has given Australia sovereign capability for rapid emergency response.

NCRIS-enabled infrastructure through the Therapeutic Innovation Australia network has been pivotal in enabling local production and rapid adaptation from human therapeutics to animal health.

Aligned with Australia's RNA Blueprint (2024), the fully synthetic vaccine – now under regulatory review – strengthens national preparedness, supports advanced manufacturing and workforce development, and safeguards Australia's food security for the future.



Forecasting ocean currents to reduce environmental impact

Every day, more than 50,000 cargo ships move across the world's oceans, carrying 90% of global trade – but also generating emissions on a scale that would rank global shipping as the sixth-largest greenhouse gas emitter if it were a country.

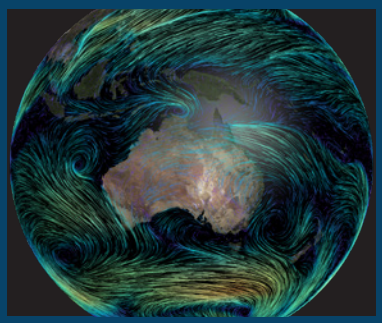
Australian ocean science is helping change that trajectory. Research enabled by CSIRO's RV *Investigator* through the NCRIS-funded Marine National Facility has delivered critical new insights into ocean dynamics and collected vital data to validate a new ocean monitoring satellite.

Now being delivered to industry via UNSW spin-out CounterCurrent, the research also supports search and rescue, fisheries management and defence – showcasing how cutting-edge ocean science delivers real-world benefits far beyond the lab.

The Atlas of Living Australia is bringing indigenous knowledge into Australia's national biodiversity data

The Integrated Marine Observing System's insights in ocean science is driving sustainable fisheries and higher value catch

The Australian Plant Phenomics Network is transforming irrigation and water efficiency



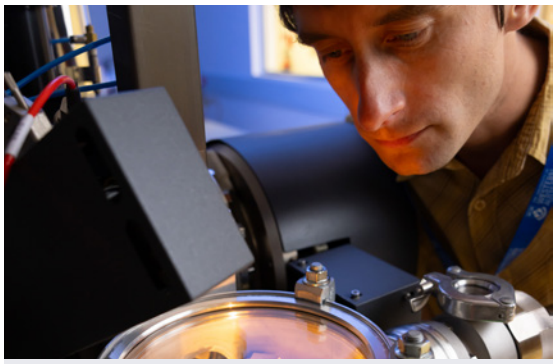
The Australian Community Climate and Earth System Simulator is putting Australia at the centre of global climate science

The Southern Coastal Research Vessel Fleet is uniting Indigenous knowledge and ocean science

Data from the Integrated Marine Observing System unlocked the science behind South Australia's marine crisis

Case studies – Securing Australia's Future

These case studies bring together research that strengthens Australia's sovereignty and resilience. Coordinated research infrastructure plays a key role in keeping Australia safe by helping experts make informed decisions quickly, and supporting national priorities in an increasingly uncertain global context.



Strengthening nuclear safeguards to boost security measures

Australia's NCRIS-enabled microscopy infrastructure plays a critical and unique role in global nuclear security, with Microscopy Australia's facility at the University of Western Australia the only university-based laboratory worldwide qualified to undertake nuclear safeguards analyses for the International Atomic Energy Agency (IAEA).

Using a world-class large-geometry ion probe and specialised expertise, the laboratory analyses microscopic environmental dust samples from nuclear sites around the world to detect undeclared nuclear activities.

Recognising its consistent delivery of high-quality, timely results, the IAEA requested an expansion of capacity – doubling annual sample analyses to meet growing global demand – a partnership praised by Australian Government agencies as a clear demonstration of Australia's international leadership in nuclear verification.

Modernising border biosecurity with automated virus detection

Australia's biosecurity depends on fast, accurate pathogen detection at the border. Rising volumes of high-risk imported plants were making traditional, labour-intensive screening methods unsustainable.

Australian BioCommons, enabled through Bioplatforms Australia, has transformed this challenge by providing the scalable digital foundation needed to modernise detection. Researchers from Queensland University of Technology and the Department of Agriculture, Fisheries and Forestry (DAFF) developed VirReport, an automated data analysis system that uses advanced genetic sequencing to quickly and accurately identify plant viruses and viroids.

The end-to-end automation has streamlined everything from data upload to results delivery, allowing quarantine staff – rather than specialist bioinformaticians – to run analyses efficiently and consistently.

Now embedded in DAFF's routine screening for high-risk crops, this NCRIS-enabled capability is significantly boosting output, strengthening Australia's frontline biosecurity, and helping safeguard national food security and the wider economy.

The National Sea Simulator is fast-tracking sovereign naval manufacturing

The Australian Centre for Neutron Scattering is solving lithium's hidden failure problem

AuScope seeded Australia's global satellite calibration capability

The Heavy Ion Accelerators are de-risking Australia's next generation of satellites

Case studies – New Technology Frontiers

These case studies detail how long-term, connected infrastructure supports the development of new technologies, improving everything from cancer detection to weather forecasts. Coordinated, long-term investment through NCRIS has helped build new industries, strengthen our productivity and global competitiveness, and put emerging technologies to use.

Advanced imaging powering a breakthrough in cancer surgery

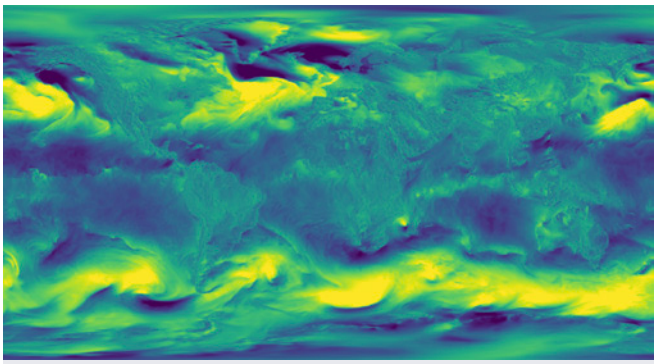
National Imaging Facility (NIF) and Microscopy Australia have played a pivotal role in helping Australian start-up Ferronova develop FerroTrace, an innovative nanoparticle designed to improve cancer detection and treatment by precisely identifying high-risk lymph nodes.

Gastric and oesophageal cancers often have poor outcomes because they can spread almost invisibly through lymph nodes, making complete surgical removal difficult.

FerroTrace addresses this challenge by targeting lymph node receptors, allowing clinicians to map affected nodes using MRI and a hand-held magnetic detector during surgery.

From fundamental research to clinical trials, NCRIS-enabled support has been critical to help develop and test FerroTrace.

More thorough lymph node examination has shown to improve 5-year survival by up to 19%, highlighting the real-world impact of advanced imaging infrastructure on cancer outcomes.



AI-powered weather forecasting for disaster readiness

In the time-critical world of emergency management, speed saves lives – and Australia is taking a major leap forward in weather forecasting.

By harnessing the power of the Gadi supercomputer, NCRIS-supported National Computational Infrastructure (NCI) has successfully deployed the Artificial Intelligence/Integrated Forecasting System (AIFS), a cutting-edge model capable of producing global weather forecasts in minutes instead of hours.

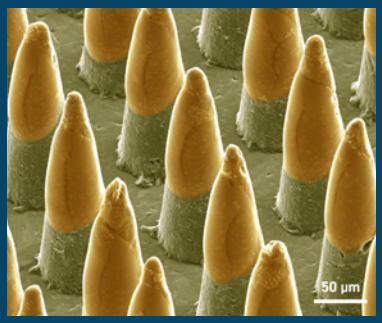
This work moves AI forecasting from experimental research into operational reality, with NCI developing a custom, user-friendly graphical interface that allows meteorologists and emergency managers to run and visualise advanced forecasts without writing a single line of code.

Now working with the Bureau of Meteorology to support future national operations, NCI is accelerating the translation of global AI innovation into practical tools – delivering faster, more accurate insights to decision-makers and strengthening Australia's disaster preparedness and resilience.

Astronomy Australia's Murchison Widefield Array turned NCRIS investment into strategic advantage

The Pawsey Supercomputing Centre is powering cleaner, more efficient aviation

AuScope is powering Australia's positioning revolution



Vaxxas, Microscopy Australia, the Australian National Fabrication Facility and Therapeutic Innovation Australia turned NCRIS enabled science into a global vaccine breakthrough

Enabled by the Australian National Fabrication Facility, Interromate is using fibre optics to safeguard Australia's critical infrastructure

RAiD

The Australian Research Data Commons is powering Australia's data-driven research future

Find out more about NCRIS and the infrastructure available to assist with your research needs

National research infrastructure

NCRIS

Research Infrastructure Connected

Contact us

NCRIS

Projects

The Department of Education would like to thank the NCRIS projects and the dedicated teams behind them for providing the world-class infrastructure that underpins Australia's research and innovation ecosystem. Their commitment to open access, collaboration and excellence enables researchers, industry and government to deliver impactful outcomes, respond to national priorities and pursue cutting-edge discovery. The expertise they bring and the facilities they operate forms a vital foundation for Australia's research success now and into the future.

www.education.gov.au/ncris