



Australian Government



# NATIONAL COLLABORATIVE RESEARCH INFRASTRUCTURE STRATEGY (NCRIS)

Australia is an established global leader in world-class research. The Australian Government helps maintain this reputation by ensuring researchers have access to cutting-edge national research infrastructure supported through the [NCRIS](#) program.

## NATIONAL RESEARCH INFRASTRUCTURE

National research infrastructure (NRI) means:

- Facilities, equipment and resources that are needed to perform research.
- Experts needed to operate it.

This infrastructure can be physical, like a supercomputer or microscope, or intangible, like a data collection or a software platform.

The Australian Government is investing \$4 billion in NRI from 2018 to 2029.

## UNDERSTANDING AUSTRALIA'S NRI NEEDS

NRI Roadmaps identify Australia's needs and set priorities for funding. They are prepared by expert working groups after consulting with the research community.

Roadmaps may recommend specific research infrastructure, or recommend that a study is conducted – or a national strategy created – to work out what research infrastructure is needed to support new national priorities.

A Roadmap is created every 5 years, and the most recent was the [2021 Roadmap](#).

The goals each Roadmap are achieved by providing targeted funding through investment plans.

Recent investment funding has been released in 2020, 2022, and 2023. The next opportunity is expected in late 2024 – you can find out more at

[www.education.gov.au/national-research-infrastructure](http://www.education.gov.au/national-research-infrastructure).

## IMPACTS OF THE NCRIS PROGRAM

NCRIS currently supports 26 projects and an international membership. These projects are led by organisations including universities, publicly funded research agencies and private companies.

The projects form a network involving over 400 delivery partnerships, and employing over 1900 highly skilled technical experts, researchers, and facility managers.

Projects provide merit-based access for all Australian researchers to their infrastructure. Around 90,000 Australian and 10,000 international users are supported each year, including 5,000 industry users, plus around 4,000 research publications each year.

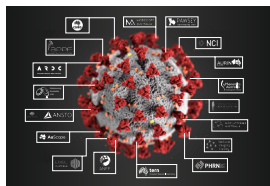
NCRIS projects also have high co-investment rates. In 2022-23, each \$1 the Australian Government invested in NCRIS attracted another \$1.09 in co-investment from universities, research agencies, state and territory governments and industry.

Users relying on NCRIS range from early career researchers and small businesses who would otherwise struggle to access world-class NRI, to global research leaders tapping into the unique facilities that NCRIS provides.

If you'd like to find out more about what's available to you through NCRIS, head to <http://riconnected.org.au/>.

# EXAMPLES OF RESEARCH ENABLED BY NCRIS

## AUSTRALIA'S NATIONAL RESEARCH INFRASTRUCTURE IS RESPONDING TO COVID-19



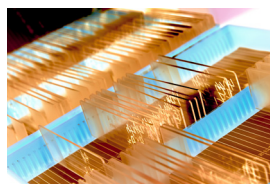
The connectedness of the NCRIS network ensures Australia is prepared in a crisis. In 2020, many projects pivoted to support Australian and international COVID-19 research in a wide variety of ways. This included growing virus samples, developing and testing vaccines, improving diagnostics and treatments, manufacturing critical supplies, and supporting the research sector through the disruption the pandemic caused. [Find out more.](#)

## HELPING MANGO FARMERS IMPROVE PRODUCTION



Timing is everything to Australian mango farmers. The [Australian Research Data Commons](#) supported researchers from Central Queensland University to develop an innovative product called FruitMaps, which translates data from sensors located in mango farms to help farmers better estimate the size of their crops and the best time for harvesting. This allows them to employ the optimal number of pickers and packers at the ideal time. [Find out more.](#)

## GROUNDBREAKING GENETIC DISCOVERY SHOWS WHY LUPUS DEVELOPS



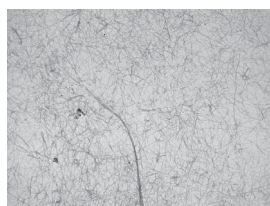
In a world first, researchers using [Phenomics Australia's](#) Genome Engineering services have shown that previously ignored rare genetic mutations are a major cause of lupus. Lupus is an autoimmune disease that targets the body's healthy tissue, causing significant damage, inflammation and pain. Lupus currently has no cure. The finding makes way for life-saving personalised treatment for lupus and other autoimmune diseases. [Find out more.](#)

## ATLAS OF LIVING AUSTRALIA'S INDIGENOUS ECOLOGICAL KNOWLEDGE



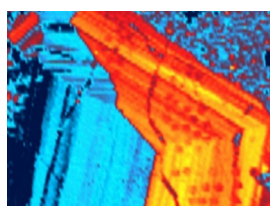
Through rich collaboration with Indigenous communities, the [Atlas of Living Australia](#) (ALA) celebrates the connection of traditional and Western scientific knowledge through the Indigenous Ecological Knowledge (IEK) program. This initiative is building greater awareness of Indigenous land management practices, species knowledge and the environment to acknowledge and share Indigenous peoples' long-held understanding of caring for Country. Mulga Snake (*Pseudonochis australis*) Bandiyan in Kriol language. Photo credit pratty90 CC By NC. [Find out more.](#)

## SUPER SPINIFEX



The [Australian National Fabrication Facility](#) and [Microscopy Australia](#) are providing ongoing support for research that uses the unique cellular properties of Australian spinifex grass to manufacture paper and high-end medical supplies. The University of Queensland and Dugalinji Aboriginal Corporation are partnering to commercialise this research into an Australian advanced manufacturing business. The image to the right is of transmission electron micrograph taken at our University of Queensland facility, the Centre for microscopy and Microanalysis. [Find out more.](#)

## BHP - UNDERSTANDING COMPLEX MINERAL PROCESSING



BHP directly employs approximately 4500 people in South Australia at the Olympic Dam mine where copper, uranium, gold and silver are mined and processed in a fully integrated and unique processing facility. For cost-effective exploration and quick trouble-shooting, BHP needs microanalysis of the minerals. [Microscopy Australia](#) has been essential for this, enabling them to examine and understand the structure of minerals at the nanoscale across the entire deposit. To maximise efficiency, they must also understand how each mineral responds in the complex processing facility. [Find out more.](#)

For more information about NCRIS and how the Australian Government is investing in research infrastructure, head to <http://www.education.gov.au/national-research-infrastructure>