Data
.intersect.org.au

Live open and prosper

Share your research using domain-based data platforms, services and expertise

Get more from your data

Data. It surrounds us. It educates us. It changes us. Above all, it grows fast, really fast. Changes in the technology ecosystem are revolutionising the data landscape. Research data proliferation is challenging researchers across all fields of expertise. The team at Data.intersect.org.au has an extensive experience in data management, sharing, protection, processing and analysis with workhorse technology to simplify and accelerate your research. We help you get more from your data.

Research data is our business

Intersect Australia is a not-for-profit organisation owned by universities in NSW and the ACT. Our team supports world-class research done at member universities and other organisations by complementing locally delivered eResearch services. Research data is at the heart of Intersect's activities. Our activities revolve around data. We can help you create, collaborate and curate the data you need.
Your organisation's membership makes it easy for you to access our data products and services.

Data solutions for all researchers

Good news: you don't have to become a data scientist or a programmer to manage all this data. Intersect helps answer your data questions and solve data problems across all domains.
We train researchers in research data management, data cleansing, data visualisation and more.
Our data platforms and services provide ready-to-use tools for researchers to analyse, compute and reuse research data and increase productivity.

Accelerate your Research Outputs Using our Expertise

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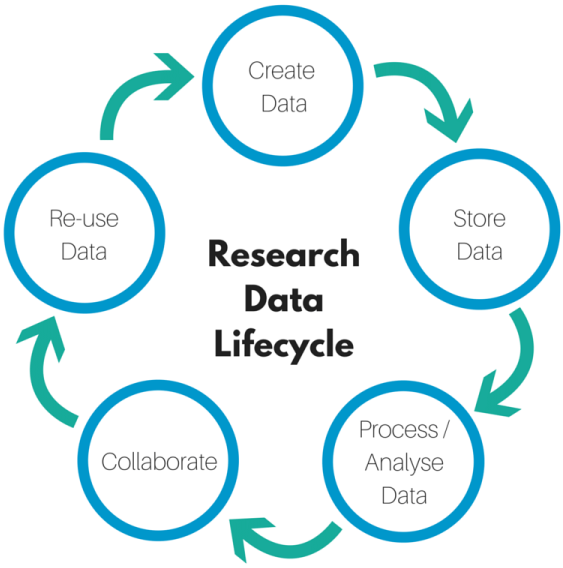
Whether for science or humanities research, data needs to be collected and managed during the research lifecycle. Accelerated research outputs require optimising the value of your data. Intersect adds value at every stage of the research data lifecycle.



Intersect provides an array of products and services, including:

Create / Store Data

- Intersect eResearch Analysts can help prepare and advise on data management plans, strategies and solutions.
- We offer **Space**Shuttle and Deep**Space** to store your active and archival research data.
- Intersect **Space**Shuttle enables automatic upload of data from instruments or other sources.
- We build specialised tools to capture and package research data.
- Learn more about our consultancy and software engineering services at: energy.intersect.org.au

Process / Analyse Data

- Time.intersect.org.au spans a range of cloud computing platforms:
  - The NeCTAR Research Cloud provides small to medium-sized Virtual Machines (VMs).
  - Intersect OwnTime provides larger VMs for more compute-intensive applications.
  - Intersect **Space**Lab links Space storage and Time compute to provide powerful platforms for tailored research applications.
- We offer High Performance Computing services for high-end research computing utilising parallel processing.
- Learn more about our computing products at: time.intersect.org.au

Collaborate / Re-use Data

- **Space**Shuttle allows you to share data with researchers around the corner, within the country or across oceans.
- **Space**Lab allows you to share your software applications and data using customer URLs.
- Deep**Space** allows you to nominate who can download and reuse your completed datasets.
- Learn more about our Space storage solutions at: space.intersect.org.au

Training on Data

- Our training programs offer courses to help you manage your data more effectively, including: Research Data Management Techniques; Excel for Researchers; Data Visualisation; Cleaning & Exploring Data; Powerful Text Analysis with Regexes; High-Performance Computing Courses (Beginner to Advanced levels) and Software Carpentry Workshops.
- Learn more about our training courses for researchers at: energy.intersect.org.au/training

Data as a Service

Intersect and other State-based eResearch organisations are driving a suite of national projects that help support the increasingly collaborative nature of Australian research. We provide research domain data platforms, services and expertise across a range of disciplines.

Medical & Health Data Platforms

Health-related research data might be clinical, epidemiological, genomic, or a medical scan. What is critical is that the privacy of individuals must be protected when data derived from humans is used in health and medical research.
Intersect understands the complex issues across this space from both research use case and security/privacy aspects, as well as from theory, policy, legal, risk-assessment and community best practice perspectives.
Intersect is working with several partners through med.data.edu.au to build the necessary secure infrastructure, protocols and services to underpin collaborative efforts across the Health and Medical research arena and help Australian researchers confidently navigate and work in this space.

Life Sciences & Omics Data Platforms

Robust and progressive bioinformatics capability is crucial to all modern life science research.
To exploit a bioinformatics approach, scientists demand services that bring together data, software, hardware and expertise to assist them make discoveries and understand new data.
Intersect works with life science researchers to help them store and analyse their data.
Our team is deploying and building software platforms for distribution and analysis of '-omics' data. We are partnering with other organisations around the country to build flagship national infrastructure to underpin cutting-edge life sciences research.

Imaging Publishing Data Platforms

Highly specialised imaging instruments are used throughout Australia to study the structure of specimens and materials. Due to their expense, these specialist devices are often operated as shared resources within imaging facilities that serve a faculty, university, corporate, state or national user base.
Beyond raw images, the added research value of imaging facilities is to seamlessly deliver imaging results from the facility to the point of computation and analysis.
Intersect works with national and organisational imaging facilities to deliver data management solutions that help researchers easily access image data in their lab through custom workflow pipelines.

Culture & Communities Data Platforms

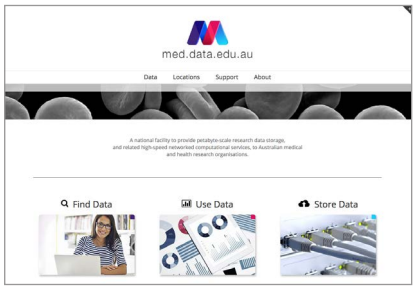
Data used in humanities, arts and social science research range in type such as statistical data, manuscripts, newspapers, artworks, artefacts or audiovisual recordings. This heterogeneous data resides in institutional or community repositories across Australia. The national Culture and Community data initiative aims to make this data more findable and reusable for research, so linking of data and links between datasets is critical. Intersect is working both with university libraries and cultural institutions to pilot the development of systematic processes for data to move to and from national data storage services and to progress the development of digital tools and methods to repackage and transform data into reusable formats.

"We have a number of large sized and growing data collections at NeuRA that form part of national or international collaborative projects. Storage of this data with Intersect greatly facilitates sharing of this data with existing collaborators. By promoting the availability of such stored data, we anticipate that additional requests for data sharing would be more frequent and we would value the opportunities that this greater accessibility would create".

Professor Peter Schofield, Executive Director and CEO
NeuRA - Neuroscience Research Australia

Credit: mouse cortical neurons
by Howard Vindin CC BY-SA

Case Studies



Australian shared infrastructure for collaborative research: med.data

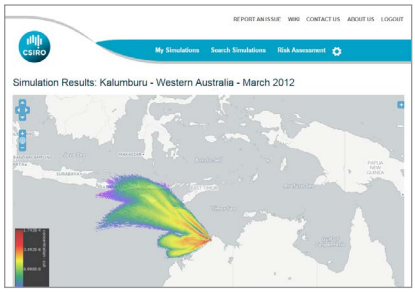
Health & Medical Research

Intersect leads the national med.data.edu.au project to build the necessary infrastructure, associated data services and operational guidelines to underpin collaborative research using sensitive data across the Australian health and medical research arena.
With partners in Victoria, Queensland and South Australia, we are helping researchers from over 20 universities and independent medical research institutes to confidently navigate and work in this space through managing, storing, sharing and using their health and medical research data in appropriate ways with their collaborators.
med.data.edu.au

Data Capture for Climate Change and Energy Research: HIEv

Environmental Science

HIEv is a project designed to handle the data acquisition and collaboration requirements of Western Sydney University's researchers, the Hawkesbury Institute for the Environment (HIE) and their collaborators. Intersect developed the information architecture and associated software systems to automatically capture and manage environmental data and metadata from three sensor networks. HIEv collects data from sensor networks and observations uploaded from other sources, keeps track of the provenance of datasets and provides a centrally-managed hub for distributed teams to access and analyse the data.
uws.edu.au/eresearch/home/projects/completed_projects/hiev



TAPPAS, Tool for Assessing Pest and Pathogen Aerial Spread

Environmental Science - Health and Biosecurity

TAPPAS is a new online software tool developed by CSIRO Health and Biosecurity, the Bureau of Meteorology and Intersect. Using powerful data visualisation and computer modelling, TAPPAS enables biosecurity managers and scientists to run sophisticated wind dispersal scenarios and model the risks associated with wind-borne insects or plant pathogens into and from Australia. TAPPAS is an essential biosecurity tool to prepare and respond to wind-borne threats and helps to protect Australia's agriculture from pests and diseases.
https://research.csiro.au/TAPPAS

Learn more

This information and more is available online.

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.intersect.org.au

Data Boot Camp

Scheduled training and seminars run on member university campuses. Get in touch with your local eResearch analyst or visit: intersect.org.au/training

Get Started

Want to ask questions about our Services or have us contact you?

Reach out by emailing:
data@intersect.org.au

Help.intersect.org.au

To make your research life easier we offer a simple new one-stop researcher experience called Help.intersect.org.au. By visiting or emailing our helpdesk, you can let us know about a problem, ask for help, order Space storage or Time compute, or find information. You can get started by signing in with your institution credentials through the Australian Access Federation (for participating organisations).

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twitter.com/@IntersectOps for status and maintenance updates

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Intersect is a pivotal part of Australia's research infrastructure. We provide robust, innovative and collaborative technology to support the world-class research at members institutions and research organisations. Intersect delivers storage and analysis platforms, customer engineering, expert consultation and training programs to thousands of researchers every year.

INTERSECT