


# South Australia Connected health innovation





Invest SA is a dedicated team of investment and business professionals within the Department for Trade and Investment, the only agency that can connect you with opportunities, industry networks, and other government agencies in the health and medical sector in South Australia.

Invest SA, Health team is available to support your project facilitation, case management and business case development for growth in South Australia.

[invest.sa.gov.au/sectors/health](https://invest.sa.gov.au/sectors/health)

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# Our strengths = your opportunity



## World-class health and life sciences ecosystem



## World-class hi-tech capabilities

AI, AR, VR, quantum and data analytics leadership, and top 6 in the world for computer vision research



## 43.5% R&D tax incentive

Supporting companies across R&D activities in Australia



## GLP, GMP and CDMO manufacturing

State-of the art, FDA-accredited small and large molecules, radiopharmaceuticals, from R&D to commercial scale



## Top biotech and drug development

Largest concentration of clinical research in the southern hemisphere



## Leader for personalised health innovation

Unique clinical data sets and top AI talent developing next generation health innovation



## Australia's most experienced and complete clinical trial ecosystem



## Home of Australia's medtech programs

Guiding product development from idea to manufacturing



## Advanced device manufacturing capabilities

Expertise and capability for ISO 13485



## R&D leader across STEM

Outperforms top OECD countries for research citation impact across most frontier STEM fields

# Introducing South Australia

South Australia is where health and life sciences research, innovation, manufacturing, and Australia's most comprehensive clinical trials ecosystem, intersect with world-leading AI and hi-tech capabilities.

<b>Digital health</b>	A leading global location for data-driven, AI and precision health innovation.
<b>Clinical trials</b>	Most experienced and comprehensive clinical trial capabilities.
<b>Drug development and manufacturing</b>	Key opinion leaders and clinical researchers across drug development supported by GLP and GMP capabilities.
<b>Medtech</b>	Pioneering medtech innovation and commercialisation.



## What SA offers investors



### Invest SA helps facilitate:

- Identifying a suitable location
- Connections across government for approvals
- Attracting and retaining highly skilled staff
- Introductions to industry partners and networking opportunities
- Planning and cross-government delivery of investment projects
- Connections with our global teams and identifying export opportunities

# Connected health and medical ecosystem

Adelaide's flagship precincts bring together world-class researchers, companies, government, academia, infrastructure, teaching and clinical care to create unique opportunities for innovation.

Adelaide BioMed City, Tonsley Innovation District and Lot Fourteen embed South Australia's manufacturing and hi-tech ecosystems into our health and life sciences sector.



## Adelaide BioMed City

An \$AUD3.8 billion Health Innovation and Translation District – a centrepiece of Australia's research and innovation ecosystem.

**Location:** Adelaide central business district (CBD)

**Offers:** Mixed-use infrastructure, unique and leading-edge equipment and technology to researchers, clinicians and students working together with entrepreneurs and industry.

**Focus:** Connects local, national and international clinical research, innovation, education, academia and care for a true bench-to-bedside experience.

The precinct supports 2000 researchers and 10,000+ staff across:

- The University of Adelaide
- Flinders University
- University of South Australia
- Central Adelaide Local Health Network
- Royal Adelaide Hospital

- Women's and Children's Health Network
- South Australian Health and Medical Research Institute (SAHMRI)
- Australian Bragg Centre

### Capabilities include:

- Flow cytometry
- Large and small animal imaging
- Preclinical, Imaging and Research Laboratories (PIRL)
- Microscopy
- Flow and laser-scanning
- Functional genomics
- Complex proteomics
- Metabolomics and lipidomics
- Bioinformatics and network analyses
- Histology and immunohistochemistry
- Medical AI and robotics
- Cyclotron – radioactive isotopes for disease diagnosis, treatment and tracking
- Proton therapy

## Lot Fourteen

Australia's premier hi-tech innovation precinct.

**Location:** Adelaide CBD

**Focus:** Space, defence and critical technologies. Lot Fourteen connects universities, researchers, entrepreneurs, startups and companies, such as:

- Digital Health Cooperative Research Centre
- MIT Connection Sciences
- The University of Adelaide

- Australian Institute for Machine Learning
- Australian Cyber Collaboration Centre
- Australian Space Agency
- Defence and Space Landing Pad
- Stone & Chalk Startup Hub

Commercial tenants include Microsoft Azure, Commonwealth Bank, Amazon Web Services Applied Sciences and Salesforce.

## Tonsley Innovation District

Global benchmark for reimagining and redeveloping traditional manufacturing facilities.

**Location:** 10km south of the Adelaide CBD

**Focus:** High-value manufacturing and innovation, connecting leading-edge research and education institutions, established businesses, start-ups, incubators and accelerators, government and the community.

**Focus sectors:**

- Medtech and Medical Devices
- Industry 4.0, automation and software
- Cleantech
- Energy

**Capabilities include:**

- Global Centre for Modern Ageing
- Flinders Digital Health Research Centre
- Micro-X
- Aged Care Research and Industry Innovation Australia (ARIIA)
- Zeiss
- Line Zero Factory of the Future
- BAE Systems
- Siemens Energy
- Hydrogen Park SA
- Flinders Village: a biomedical precinct with innovation hub and Medical Device Research Institute (MDRI) connected to nearby Flinders University. Flinders Village brings an advanced biomedical research centre together with an academic and hospital cluster that includes Flinders Medical Centre, Flinders Private Hospital, and Flinders University.

**"Tonsley's Main Assembly Building is a magnetic and accessible place where deep research and development activities mash together with workforce training, eateries, and cool prototyping spaces – one of the strongest models anywhere in the world."**

**Julie Wagner, President and Founder of The Global Institute on Innovation Districts (GIID)**

# AI and digital health

South Australia's collaborative ecosystem brings together hi-tech hospitals and innovation precincts, unique data sets and data infrastructure, with leading AI and data analytics capabilities to provide an ideal location for digital and precision health innovation.

Global tech and pharma companies are developing projects in Adelaide to tap into this ecosystem for frontier technologies such as quantum, augmented reality (AR), virtual reality (VR) and artificial intelligence (AI).

Our innovation clusters enable collaboration between companies, clinicians, universities, infrastructure and workforce to drive digital health.

## Outstanding data capabilities

### Australian Institute for Machine Learning (AIML)

provides AI capability for global brands and health companies including Apple, Google, Lockheed Martin, Roche, GSK, Medtronic and Siemens Healthineers.

AIML is the only Australian member of the Global Alliance of AI Centres in Medicine, together with Stanford University, Harvard University and Mayo Clinic.

Clinical areas of focus include:

- clinical trials, drug development, testing treatment response leukaemia
- proteomics, lipidomics, metabolomics lipidomics to predict cardiovascular disease and treatment response
- breath analysis
- genomics
- immunotherapy response imaging cardiovascular imaging

- gastrointestinal colonoscopy
- colorectal cancer
- chest computed tomography, X-ray
- orthopaedics
- ophthalmology
- critical care
- breast cancer

Within AIML, **The Centre for Augmented Reasoning** leads the research and development of new advanced augmented systems and machine learning technology across a range of applications including healthcare.

### Massachusetts Institute of Technology (MIT)

**Connection Sciences** links South Australia to one of the world's leading data analytics capabilities to provide global leadership for data-driven initiatives that positively impact our communities. Key projects focus on health, such as introducing ground-breaking protocols to protect data while linking with broader community trends to generate insights that transform care, enhance preventative care, and focus resources.

**"We identified Adelaide early on as the prime location in Australia and the broader region due to its leadership in data analytics and machine learning."**

Professor of Arts and Sciences at MIT, Professor Alex 'Sandy' Pentland



The **Australian Research Centre for Interactive and Virtual Environments (IVE)** features world-class AR and VR integrating computer science, engineering and neuroscience. It produces more AR research than any other institution globally and is renowned for capabilities in narrative visualisation and human centred design.

**Digital Health Cooperative Research Centre (DHCRC)** is the world's largest Digital Health Collaborative and Australia's leading organisation for digital health innovation and commercialisation. With a network of over 70 participants, it identifies, co-invests and supports projects to accelerate the implementation of digital health technologies, which is underpinned by research-driven evidence.

## Unique innovation infrastructure

A highly connected and centralised healthcare and data system positions South Australia for developing digital solutions for global health problems.

The state has a unique longitudinal clinical dataset consisting of a centralised electronic medical record with a single identifier for each patient across a universal healthcare system for 1.7 million people. This is matched by genomic and biobank resources, offering great potential linkages and historical insight for data-driven research and innovation.

## Big tech investment

In recent years, the world's biggest tech companies have established innovation operations in South Australia to focus on our key sectors including defence, space and health.



# Medtech

## Pioneering medtech innovation and commercialisation

Adelaide's medtech ecosystem brings together quality manufacturing and strengths in product innovation and R&D, clinical trial expertise, and hi-tech capabilities.

Strategic precincts connect research, development, commercialisation and manufacturing with the expertise, programs and capabilities of our state's universities, hospitals and industry.

Medtech in South Australia benefits from access to critical technology capabilities such as AI, opening up data driven and precision opportunities from product development through to manufacturing.

The state's clinical trials capabilities are Australia's most comprehensive. Service providers work together to support device companies on their clinical trial journey.



## Manufacturing depth

South Australia's manufacturing draws from advanced sectors such as medical, aerospace, electronics and defence. This diverse industrial base encompasses small-scale to mass production, ISO 13485 compliant contract, and precision manufacturing resources. This helps accelerate medical devices towards trial, regulatory approvals and scale-up to commercial production.

## Programs and features

### Medical Device Research Institute (MDRI)

A multi-disciplinary collaboration integrating engineering, medicine, allied health and information technologies.

### Medical Device Partnering Program (MDPP)

Flagship initiative supporting medtech companies to develop minimum viable products.

**Aged Care Partnering Program (ADPP)** Focused on medical devices for the aged care sector.

**Aged Care Research and Industry Innovation Australia (ARIIA)** Industry-led organisation working collaboratively to facilitate positive transformation of aged care.

### Australian National Fabrication Facility (ANFF)

Supports companies to develop advanced manufacturing processes for medical devices. Strengths include lab-on-a-chip, micro/nanofluidics, advanced sensing, functional coatings, and separation science.

**Colab.Tech** Brings together medical, engineering, business and science professionals around medical device projects and small-scale ISO 13485 manufacturing, including for clinical trials.



# Clinical trials

## End-to-end clinical trial capabilities

South Australia's collaborative ecosystem connects deep clinical research, manufacturing and an end-to-end clinical trial supply chain with world-class infrastructure and digital capabilities for drug development, advanced manufacturing and health innovation.

As a strategic entry point for exploring the Australian trials sector, our expertise provides an efficient pathway to clinical trial conduct.

### Start in South Australia to leverage the Australian Advantage

#### SPEED

- Efficient regulatory framework saves up to one year in regulatory timelines.
- Investigational new drug application (IND) not required.

#### QUALITY

- Globally accepted data with the highest quality standards for submission to regulatory agencies including the US FDA, UK HMRA, EU EMA, and Japan PDMA.

#### VALUE

- 43.5% R&D tax incentive.

### South Australian Advantage

Australia's most experienced providers operate in South Australia, creating the nation's most comprehensive, connected and supportive clinical trial ecosystem providing support across the entire supply chain:

- Local ethics approval and an advanced ecosystem allows you to start trials in five to six weeks.
- Save by collaborating with experienced partners, providing specialist advice for you to operate efficiently, de-risk and add value to your trial exploration, setup and conduct.

Our globally unique ecosystem provides a trusted and connected environment for you to partner and innovate, maximising value for your organisation.





# Connected drug development and manufacturing

## Drug development and manufacturing expertise

South Australia is a centre for drug research and manufacturing, with high quality scientific and clinical capabilities to support development.

Australia's commercial drug manufacturing pedigree was forged in South Australia and features many of its leading academic manufacturing resources and long established commercial operations.

Our CDMOs support accreditation for global regulators from R&D through to commercial scale, with capability and breadth across small and large molecules.

Adelaide also is home to global operations for pharma and nutraceutical therapeutics, generics and supplement manufacturers.

## World-class research

Our three major universities feature substantial drug research emphases, linked to the state's key biomedical precincts, hospitals and manufacturing operations.

Key opinion leaders address a range of therapeutic areas including oncology, infectious diseases/vaccines, immunology, ophthalmology and neuroscience.

Oncology is a major focus, including precision health, CAR-T technology, computational systems, epigenetics, single cell and spatial technologies, gene regulation, molecular signalling, translational oncology and -omics.

## High value health system

South Australia's public health system features hi-tech hospitals, dedicated clinical trial units, as well as access to experienced principal investigators, complemented by private institutions and a comprehensive primary care system.

With a single electronic medical record (EMR) and a statewide single patient identifier, the SA healthcare network includes three major teaching hospitals, the Women's and Children's Hospital, three acute care metropolitan hospitals and more than 65 regional facilities.

## Global CDMO capabilities

**BioCina** provides end-to-end development to commercial CDMO services for microbial expression, plasmid DNA and mRNA therapeutics, and API for vaccine and cell and gene therapy biopharma organisations. It is the only GMP manufacturing facility of its kind in Australia (including EU-EMA, US-FDA, AU-TGA certifications).

BioCina is also currently developing enabling technologies for manufacture of precision mRNA vaccines.

**Mayne Pharma Services** develop and manufacture oral and topical products for global markets. Seamless development including clinical trial supplies, scale-up of new formulations, and technology transfer of products, through to commercial production.

## Leading innovative biotechs

**BiomeBank** is commercialising the world's first approved donor derived microbiome therapy, with a pipeline including cultured microbiome therapies.

Clinical-stage **Carina Biotech** is developing CAR-T and other adoptive cell therapies for the treatment of solid cancers, and has a fully integrated, proprietary manufacturing process reducing time and improved effectiveness for patients.

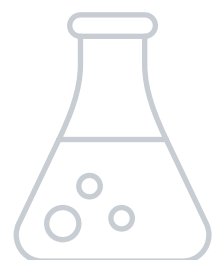
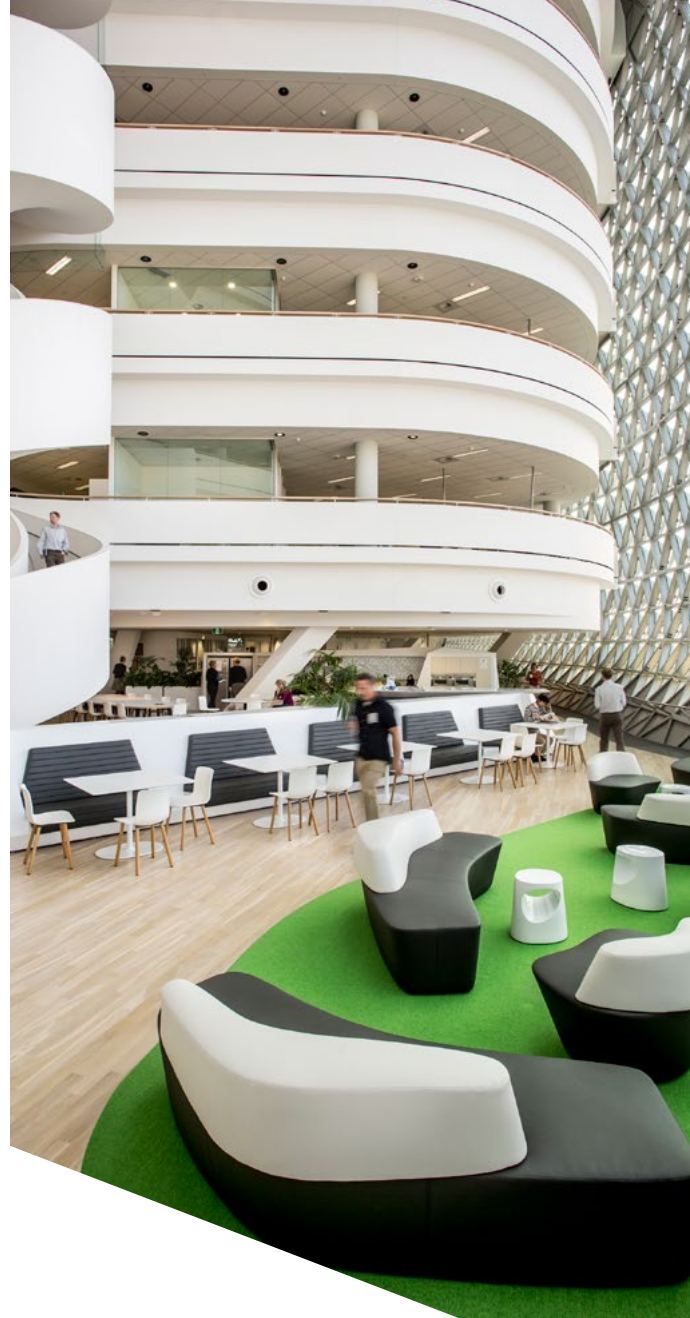
Clinical-stage oncology company **Aucentra Therapeutics** has a pipeline of seven targeted anti-cancer drugs including candidates for the treatment of leukaemia, breast cancer, colorectal cancer, glioblastoma, lung cancer, prostate cancer and ovarian cancer, with the lead candidate progressing through Phase 1a/b.

**Bionomics** is a clinical-stage company developing a pipeline of novel, ion channel targeting drug candidates designed to transform the lives of patients suffering from serious Central Nervous System disorders.

## Transforming vaccines

Several new vaccine approaches and a range of novel platforms are being developed by South Australian companies. These are all currently in-clinic and include viral vector, whole-cell vaccine, and vaccine adjuvant technologies.

Other leading research includes mRNA, DNA, vector, formulation and lipoparticles, including bioengineering and manufacturing process development.



# Advantage Adelaide – live, work & play

South Australia is a great place to live, work and play. The capital Adelaide is consistently ranked as one of the most liveable cities in the world.

Adelaide is a progressive, cosmopolitan capital offering a premium lifestyle with world renowned festivals, major sporting events and iconic locations, such as the Barossa Valley, Kangaroo Island and Flinders Ranges.

South Australia's innovative, cost competitive and agile nature is luring more young talent, and our ability to rapidly scale and provide skilled workers in critical sectors has caught the attention of world-class companies.

We're forging global partnerships and leveraging our position as one of the most liveable and safest cities to grow our state and opportunities for everyone.

There's a strong commitment to collaboration among industries with specialist precincts, such as the Tonsley Innovation District and Lot Fourteen, encouraging companies to thrive.

- **Shortest daily work commute of the major mainland cities – 21 per cent less than Sydney<sup>1</sup>**
- **Lowest cost of living of the mainland state capitals<sup>2</sup>**
- **Adelaide's median house price is \$650,000 – 48 per cent lower than in Sydney<sup>3</sup>**

<sup>1</sup> Melbourne Institute: Applied Economic & Social Research, The Household, Income and Labour Dynamics in Australia Survey Data

<sup>2</sup> Mercer 2022 Cost of Living city ranking – Sydney 58, Melbourne 67, Brisbane 84, Perth 97, Adelaide 102

<sup>3</sup> Australian Bureau of Statistics, March quarter 2022



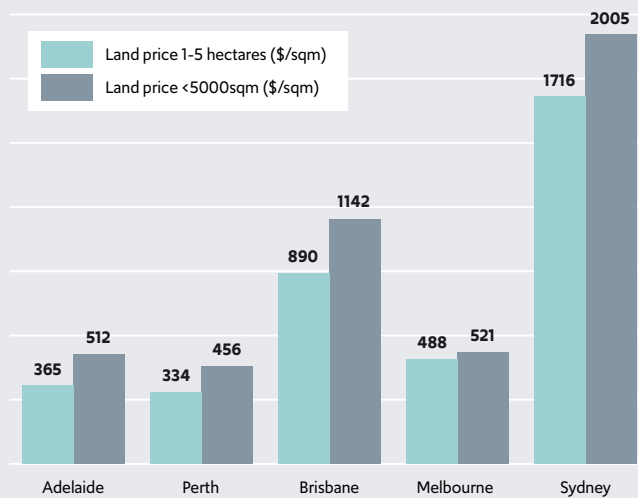


# Australia's most cost competitive city

South Australia's competitive business environment supports commercial success and scaling of operations.

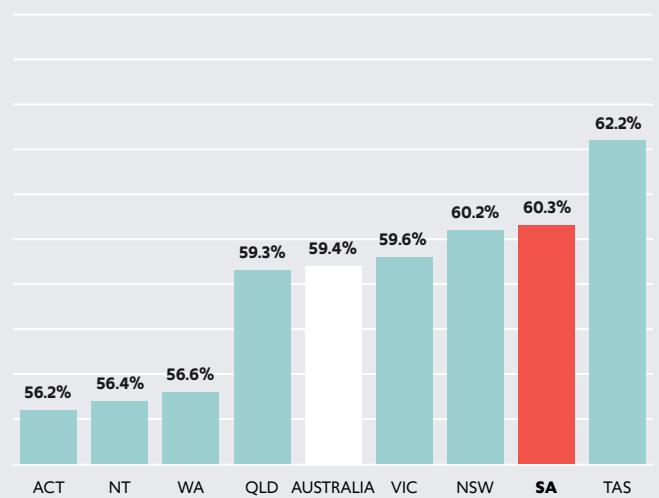
South Australia offers a suitably skilled and scalable workforce with competitive industrial land prices and high staff retention rates

Prime Industrial Land Prices (AUD per sqm)

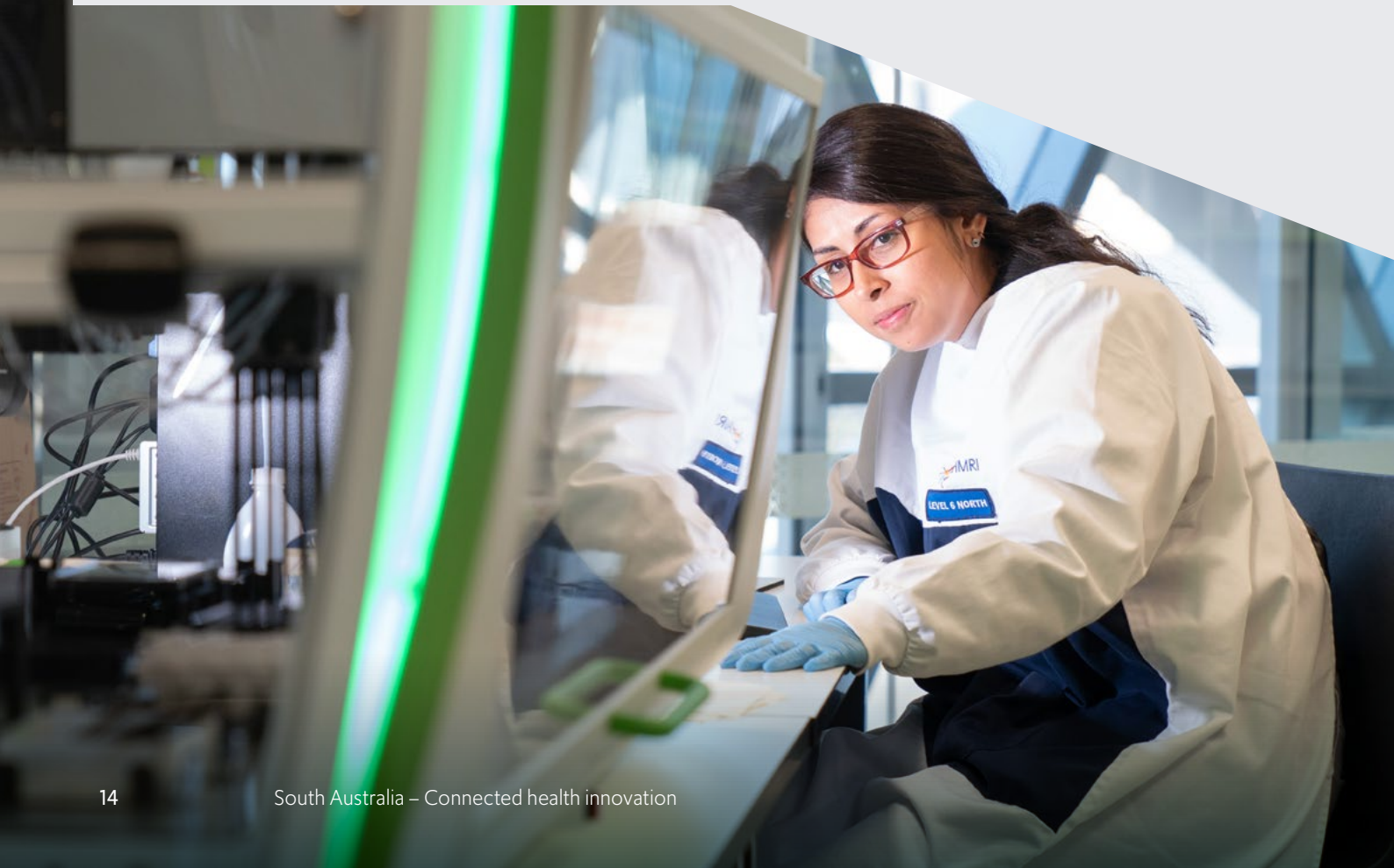


Source: Knight Frank Industrial Review Q4 2022  
<https://content.knightfrank.com/research/2293/documents/en/australian-industrial-review-february-2023-10017.pdf>

Staff retention rates



Source: Australian Bureau of Statistics - Job Mobility [Table 1.2 - Labour mobility, retrenchments and duration of employment by state and territory, February 2022]





# Innovation districts

Our sectors co-exist in hi-tech hubs and research centres, forging collaborative ecosystems that open doors and inspire new ways of thinking.

## Defence Super Cluster

25km from CBD

Key national defence research, manufacturing and sustainment hub housing RAAF Base Edinburgh, Defence Science and Technology and major defence companies.

## Osborne Naval Shipyard

20km from CBD

Australia's largest naval shipbuilding hub incorporating a critical mass of world-class warship design and construction skills. Significant upgrades are slated to make it the most technologically advanced naval shipyard in the world.

## Technology Park

12km from CBD

Hub for systems development and integration, information communications technology, advanced manufacturing and electronics, and home to over 100 small to medium enterprises, multinationals and start-ups.

## Adelaide BioMed City

Adelaide CBD

AUD\$3.8 billion and medical innovation district with leading edge anchor institutes and companies that cluster and connect with start-ups, business incubators and accelerators.

## Lot Fourteen

Adelaide CBD

Australia's first ideas and innovation neighbourhood and home to the Australian Space Agency, SmartSat CRC, Defence and Space Landing Pad, FIXE start-up hub, MIT Connection Sciences, Australian Institute for Machine Learning and Australian Cyber Collaboration Centre.

## Tonsley Innovation District

10km from CBD

Home to high value manufacturing industries including health, medical devices and assistive technologies, clean tech and renewable energy, software and simulation, mining and energy services.



# The South Australian lifestyle

There is a year-round calendar of large events, entertainment, culture and excitement. Some of our best known cultural and arts events include the Adelaide Festival, WOMADelaide, Tasting Australia, Adelaide Fringe, Adelaide Cabaret Festival and OzAsia Festival. South Australia also hosts international and national sporting events including cycling's Tour Down Under and the Adelaide 500 car race.

Our Mediterranean climate – hot, dry summers and mild, wet winters – enables an exciting outdoor lifestyle. In Adelaide, you can dine outside, visit bustling laneways and rooftop bars. The thriving restaurant scene delivers a myriad of cuisines and memorable experiences. Visit over 700 wineries and 500 cellar doors – most within a two-hour drive from the city.

Adelaide's coastline stretches more than thirty kilometres, delivering wide, golden beaches with clean seas for swimming, kayaking, surfing and more.

It's hard not to escape into nature with parks and walking trails everywhere.

Best of all, getting around Adelaide is easy. Nothing is really more than 30 minutes away by car. So, it's easy to have a family, sporting and social life every evening and an action packed, or relaxing, weekend!

Adelaide delivers a better, more affordable lifestyle and opportunities – whether in the city or suburbs, on the coast or in the hills.

- **Most affordable unit rents and second most affordable house rents of any Australian capital city<sup>4</sup>**
- **Affordable and accessible childcare**
- **Good public transport and no toll roads**
- **Great public and private schools**
- **Four universities and over 124,000 enrolments – all in the top 2 per cent worldwide**

4 Domain Rental Report, June 2022





# Let's talk

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