

Tonsley

Health, Medical Devices
& Assistive Technologies



Health, Medical Devices & Assistive Technologies

The South Australian Government is driving economic growth by building the state's competitive advantage, its export capability, and by supporting new investment in South Australia.

South Australia is open to new people, new ideas, and new business partnerships.

Background¹

By 2030:

- The world's population of people aged 65 plus will be almost one billion.
- The growing incidence of chronic illness will burden health systems.
- Poor diet and a lack of exercise will likely see the incidence of lifestyle diseases continue to increase.

For the health, medical devices and assistive devices sector, this presents many challenges – and opportunities. Both ends of our health systems – preventative and acute care – will need extra attention and resources.

- There will be growing scope for the development and manufacture of sophisticated, high-tech, medical equipment and medical services.
- Healthcare delivery will change dramatically.

- Mobile healthcare will become more prevalent.
- The aged care industry will be a particular focus, especially in-home care for the elderly.

- e-Health has the potential to revolutionise interactions between healthcare providers and recipients, reducing government costs. But better data infrastructure will be needed – and will need to be continually reimagined and revamped – to make it all possible.

South Australia's challenge to you – and our invitation – is to help meet these challenges, and seize those opportunities together.

¹KPMG, 2015

South Australia's capabilities

The greatest advances in healthcare, medical devices and assistive technologies don't happen without investment and commitment.

That is why the South Australian Government is supportive, proactive and collaborative. We are committed to creating the right conditions for world-class medical and healthcare research and development – and to generating long-term success through the ongoing commercialisation of intellectual capital.

South Australia's **Health and Biomedical Precinct**, in the heart of our capital, Adelaide, is a perfect example of how much we are investing in the health and medical space.

It is the largest precinct of its kind in the southern hemisphere and includes:

- The new AU\$3 billion **Royal Adelaide Hospital** (currently under construction)
- The AU\$200 million **South Australian Health and Medical Research Institute**. A vibrant, globally recognised research institute which harnesses dynamic collaborations to deliver tangible health outcomes and community impacts not just in Australia, but around the world.
- The **University of Adelaide's** new AU\$231 million **School of Medicine, Nursing and Dentistry** (currently under construction).

Such ventures only further South Australia's reputation for outstanding health and medical research with Adelaide also a favourite destination for clinical research. It has an excellent reputation for broad expertise, an extensive track record in specific therapeutic areas and an enterprise-friendly national regulatory framework.



The South Australian Health and Medical Research Institute.

In South Australia we are not just content for business to come to us, or for international markets to just open up; we are also actively seeking collaboration with the best companies and the best minds in the business.

- **BioSA** is a business catalyst for biotechnology, pharmaceutical and medical devices, providing grants and two business incubators in Adelaide to support the growth of promising early stage companies. BioSA is taking innovative South Australian products and technologies to global markets.
- The **Medical Devices SA Alliance** is bringing together South Australian medical technologies companies to increase exports, partnerships between business and academia, and build the state's international profile.

Another exciting venture is **Health Industries SA**; it develops collaborations with global life sciences companies to strengthen the state's reputation as a global leader in health research. It is also the entry point for health and biomedical investment in South Australia.

“The task of Health Industries SA is to help build the environment in Adelaide to support the delivery of 21st century medicine, and we will do this by growing the close partnerships between research, industry development and clinical implementation.”

South Australia Health Industries Minister Jack Snelling

South Australia's capabilities (cont.)

Tonsley

Tonsley, Australia's first innovation district (located just a few kilometres from the Adelaide CBD and the Health and Biomedical Precinct), is an 'ideas hothouse' where industry, university research and education, vocational training, government, and the community come together to collaborate and innovate.

It is also in very close proximity to the Flinders Medical Centre and the Flinders Private Hospital.

Tonsley is where world-beating ideas are seeded, nurtured and brought to fruition.

“Certainly there's no place else in the southern hemisphere (like Tonsley). It rivals the capacity of Boston, in terms of that combination of academic, medical, hospital and university world as well as an active business, biotechnology base.”

US Ambassador to Australia John Berry on a recent tour of the Tonsley district

Current Tonsley Health, Medical Devices and Assistive Technologies partners include:

Signostics - specialising in portable point-of-care devices such as the Signos handheld ultrasound device and the SignosRT Bladder Scanner.

Being so close to other 'like-minded' companies, Signostics has thrived at Tonsley.

“We find knowledge sharing and collaboration is easy at Tonsley - it is well supported. Being part of this cluster of activity is very important and valuable.”

Signostics COO Stewart Bartlett

In March 2015 **Flinders University** opened its AU\$120 million six-storey **Flinders at Tonsley** building. It houses the university's School of Computer Science, Engineering and Mathematics; the Medical Device Partnering Program; the Centre for NanoScale Science and Technology; and the New Venture Institute.

Another Flinders at Tonsley partner is the university's **Medical Device Research Institute**. The MDRI runs the highly successful Medical Device Partnering Program, which brings together innovators, university researchers and facilities. Right now its researchers are using a AU\$1 million custom designed Hexapod robot, which is a state of the art, six degrees of freedom, biomechanical testing system capable of testing any material, biological joint, implant or surgical device. If all goes well, on offer will be a healthy slice of a projected AU\$16 billion global market in better, more durable joint replacements.



Opportunities

Emerging success stories at Tonsley include:

Micro-X – specialises in the development, manufacture and export of ultra-lightweight medical x-ray products, sold through partnerships with multinational companies around the world.

“We chose to leave Victoria and set up in Adelaide because of the state’s vision and an environment that supports emerging technology companies.”

Micro-X Managing Director Peter Rowland

The company is making great strides. In November 2015, it launched its new Carbon Nano-Tube x-ray, the first carbon nano-tube powered x-ray system in the world. It is one-tenth of the size and weight of conventional x-ray systems, meaning hospitals will soon have access to digital imagers that are not only smaller, but simpler and cheaper too.

Micro-X has recently received a contract from Australia’s Department of Defence to develop and demonstrate a military version of the mobile x-ray unit for use in field hospitals and humanitarian aid situations. The department has also ordered a novel mobile ‘backscatter’ x-ray imager which can x-ray terrorist IEDs remotely, so bomb disposal technicians can assess devices from a safe distance.

The Hills Innovation Centres – with industrial design staff and graduates from the University of South Australia, Hills has designed and developed a new aged-care nurse call device (or ‘pendant’) that’s easier to use for people with arthritis and low hand dexterity:

- Following expert input from occupational therapists and rheumatology specialists, and visits to aged-care residential facilities, the pendant design team hit upon a simple, streamlined solution: a call button that uses the larger muscle groups in the arm, rather than the small groups in the fingers.
- The market potential is enormous – in Australia alone almost four million people live with arthritis and low hand dexterity, and as the population ages this number will rise significantly.

It sums up how things work at Tonsley – close collaboration, from idea to outcome, made infinitely more do-able by the innovation district’s industry ‘cluster’ set-up.

Through the **Medical Device Partnering Program (MDPP)**, Flinders University researchers are designing a medical instrument that could change how spinal surgeries are performed by supporting bone grafts during minimally invasive spinal fusion procedures.

The benefits of such surgeries include significantly less blood loss compared to ‘open’ surgeries, fewer scars, shorter hospital stays, lower complication rates and fewer residual events.

At almost AU\$47,000 for each regular spinal fusion procedure, the cost savings are significant.



Selling your creation

“Tonsley connects the dots.”

Brett Jackson, 'Co-HAB' (Tonsley's co-working space)

At Tonsley, you will have access to the commercialisation support you need:

- Flinders University's **New Venture Institute (NVI)** - inspires, educates and connects innovators and entrepreneurs.
- **Innovyz** - provides end-to-end support to help innovators build and grow companies that bring their innovations to market. Innovyz also provides nine-month programs (for universities, individuals, companies and research centres) unique in the world of business accelerators.

South Australia fosters new ideas and innovation, for eventual implementation on a wider scale.

Our workforce is skilled, and our proximity to developing Asian markets provides an ideal platform to launch, market and sell new technology innovations to emerging markets.

South Australia is open for business.

As Innovyz's Philip Vafiadis says:

“We hit the ground running at Tonsley and have moved at a breathtaking pace. In six months we have established the medical device program, redefined relationships with universities in Australia, developed communications partnerships and initiated work with new technologies...”

“There are not many locations that drive and support such intense growth.”

**Become a part
of Australia's first
innovation district.**

For assistance investing in Tonsley, contact South Australia's Investment Attraction Agency. Our professional team will work with you to further your interest in our state.

Ph: +61 8 8303 2400

Tonsley

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