

NUW Alliance:

SMARTER SOLUTIONS FOR NSW



THE UNIVERSITY OF
NEWCASTLE
AUSTRALIA



UNSW
SYDNEY



UNIVERSITY
OF WOLLONGONG
AUSTRALIA

COLLABORATING TO TRANSFORM NSW

Three of Australia's leading research-intensive universities have formed a new alliance to harness shared experience, global reach and excellence in innovation, and to create new knowledge, grow new jobs, build new businesses, and deliver the leaders of tomorrow for the workforce of the future.

The *NUW Alliance* brings together the University of Newcastle (UON), the University of New South Wales (UNSW), and the University of Wollongong (UOW) with a shared commitment to explore some of the great challenges impacting our communities, to generate economic and social benefits both at State and national level.

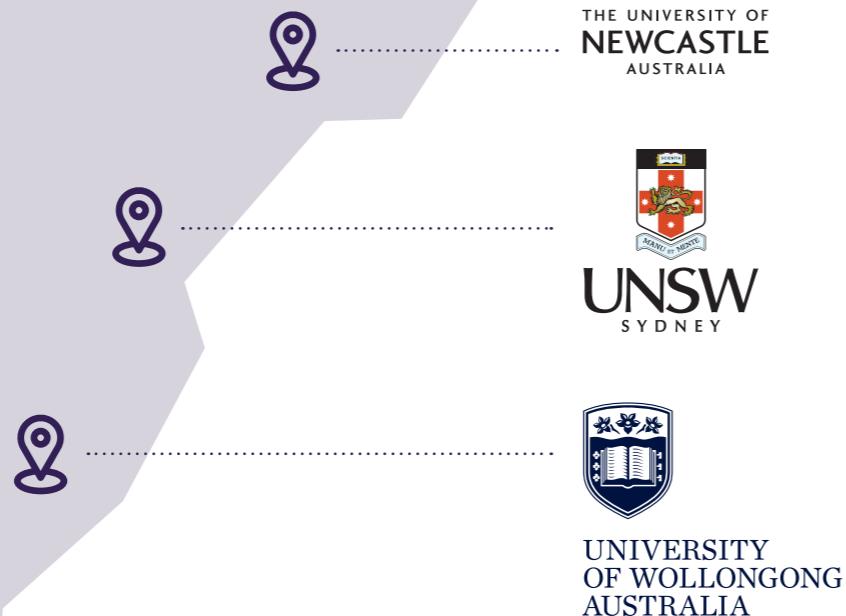
With the three universities having a geographical reach from the Upper Hunter in the north to the Illawarra in the south – a region that is home to 25% of Australia's population - this collaboration is the first grouping of its kind in Australia. It is modelled on similar, regionally-based research alliances in Europe and North America.

Working with business, industry and government, as well as communities across NSW, the *NUW Alliance* aims to identify where our combined efforts can find practical solutions to local problems.

The NUW Alliance will generate strategies and solutions for:

- improved regional and rural health
- a better model of education for future generations
- new innovation ecosystems for NSW
- protection for our coastal environment and communities and
- shortened transition times between research discoveries and their transformation into products and processes to benefit society.

The *NUW Alliance* will showcase the transformative power of universities at work - transforming the way we work and live.



SHARED INSTITUTIONAL DNA

The three universities of the *NUW Alliance* have a shared history and ethos of working in collaboration for the benefit of our State and the communities we serve.

The universities are committed to delivering research excellence, innovation and impact, and importantly, equality of access to higher education, regardless of ethnicity or socio-economic status.

The universities have an operational income of more than \$3.4 billion, and a collective research income of more than \$500 million, including \$112 million sourced from national and international industry partners.

Together, we have more than 120,000 students over 25 campuses across NSW and overseas, and 14 established innovation and entrepreneurship hubs spanning the East Coast of NSW.

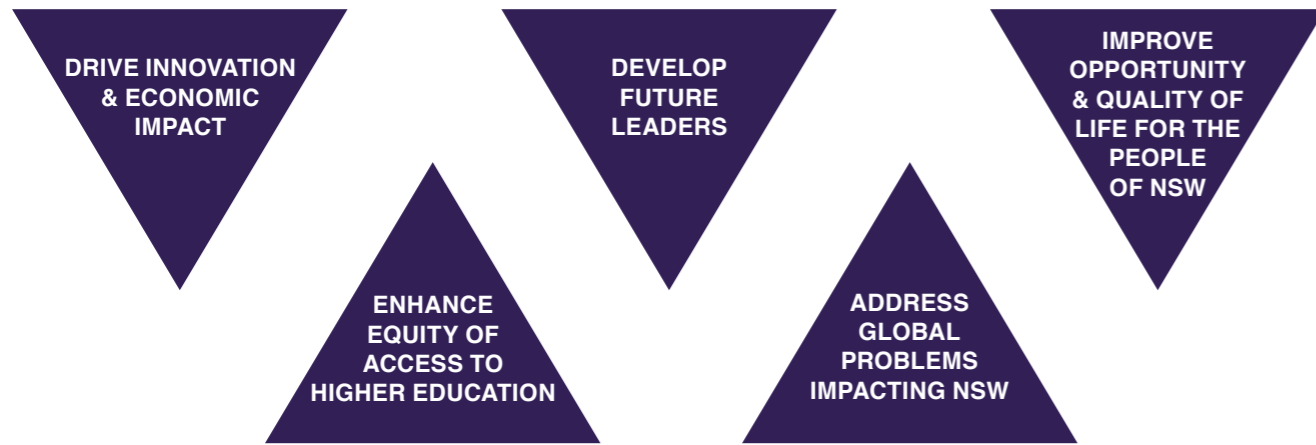
While retaining each university's independence and distinctiveness, the *NUW Alliance* will create new collaborative connections to help transform research and education outcomes into opportunities that have a real impact on the lives of people in NSW.

WHAT BRINGS US TOGETHER



INNOVATION WITH IMPACT

KEY GOALS OF THE NUW ALLIANCE



Innovation is a fundamental driver of productivity and economic growth. Universities have a vital role to play in driving innovation as an investment in the future of our communities.

Australia is currently ranked 9th in the OECD for research output per person, but ranks 29th out of 30 OECD countries* when it comes to adopting innovation. The *NUW Alliance* will help drive economic transformation by creating new channels for knowledge exchange, innovation adoption, new jobs and new industries for NSW.

The key goals of the NUW Alliance are:

- To work on global issues which impact directly on our regions.
- To provide more active knowledge exchange to drive innovation.
- To establish an expanded innovation network across NSW, providing areas for collaboration to create new jobs and businesses.
- To achieve equity of access to high quality tertiary education for all people of NSW from Indigenous and low socio-economic backgrounds.

*based on the proportion of businesses and small-to-medium enterprises that collaborate with higher education.

HELP US JOINTLY SHAPE THE FUTURE

HOW DO WE USE TECHNOLOGY TO BUILD SMART CITIES TO MAKE OUR LIVES EASIER?

HOW DO WE EMBRACE THE OPPORTUNITIES OF A CONNECTED WORLD WHILE PROTECTING OUR ONLINE SECURITY?

HOW CAN WE BRIDGE THE HEALTH DIVIDE IN RURAL, REGIONAL AND REMOTE AREAS?



The policy issues facing NSW today will have impacts well into the future for our communities. From tackling energy security and unlocking the benefits of big data, to improving healthcare solutions and creating liveable communities, there are many areas in which greater collaboration could deliver transformational change.

At the core of the NUW Alliance commitment is a willingness to listen to the challenges and problems facing our communities to see where we can help. We want to start a conversation about where we can join together to make the biggest impact.

We will undertake broad community consultation to understand the challenges faced by businesses, local government, industry and local communities in our region and beyond.

We will engage with key stakeholder groups across the State, including the health, education, business and government sectors, along with Indigenous and other community groups. There will also be the opportunity for members of the public to have their say.

The consultation follows considerations of NSW State Plan priorities and initial discussions between the three universities.

SMART IDEAS TO SOLVE CHALLENGES

INITIAL COLLABORATION POINTS BEING EXAMINED



The *NUW Alliance* looks to provide smart solutions to the issues impacting NSW by working together.

Initial collaboration points that have been examined by the *NUW Alliance* include Smart Cities and Cyber Security. Other ideas identified after initial discussions between the universities include Healthcare Systems, and Postgraduate and Doctoral Training.

Supporting organisations to address energy security and creating greater access to education for students in regional and remote communities, including Indigenous students are other ideas being examined.

Cyber Security:

The Department of Prime Minister and Cabinet's updated Australia's Cyber Security Strategy highlights the need for increased investment in cyber security and the need to ensure that research and development funding is responsive to increasing threats in this area. The *NUW Alliance* brings together the capabilities of UOW's Centre for Computer and Information Security Research, UON's Advanced Cyber Security Engineering Research Centre and UNSW's Centre for Quantum Computation and Communication Technology to respond to the challenges and research needs of this important topic.

Smart Cities:

Smart Cities are well-planned and managed urban systems that draw together digital technologies, open data, and improvements to infrastructure to enable greater connectivity, productivity and liveability of our regional cities and coastal communities. The *NUW Alliance* recognises that the Commonwealth's Smart Cities Plan aims to provide integrated solutions to a range of social, economic and environmental challenges including better access to jobs, affordable housing, transport and building healthy environments.

Healthcare Systems:

Three healthcare systems sub-areas have been identified – health system analytics, telehealth and e-health, and rural and remote health. In particular, key rural health initiatives include the Ministerial Advisory Committee for Rural Health, the NSW Rural Health Plan and Building a Sustainable Health Workforce for Rural NSW.

Postgraduate and Doctoral Training:

An identified case study was the MicroMasters course offerings, jointly developed between universities and the edX organisation, an online education platform founded by Harvard and MIT. The purpose of MicroMasters is to bridge the gap between job candidates and employees with a bachelor's degree and businesses that demand employees with an advanced degree. Meantime, jointly delivering postgraduate research training through multi-disciplinary centres for doctoral training is also being examined.

OUTCOMES OF SMARTER SOLUTIONS



ECONOMIC AND SOCIAL BENEFITS

New South Wales is the engine room of the national economy, and the vision and promises of the *NUW Alliance* are aligned with the Premier's priorities for NSW. These priorities are across a range of social and economic issues, including jobs growth and job creation, particularly in regional areas.

The *NUW Alliance* universities engaged Deloitte Access Economics (Deloitte) to provide an independent analysis of the benefits offered by the Alliance to the NSW and Australian economy.

The Deloitte report found the major benefits of the *NUW Alliance* include increased and improved research outcomes, increased international student flows and enhanced domestic educational attainment.

Globally, university collaborations such as the *NUW Alliance* have been shown to generate incremental benefits for their local communities. In the context of the *NUW Alliance*, these benefits are expected to include:

- Boosting educational attainment by expanding the breadth of courses available to NSW residents.
- Increased research and innovation by establishing an industry-orientated innovation network.
- Attracting more students from other parts of Australia and overseas.

The Deloitte report also found that the increased research activity which could flow from the *NUW Alliance* has the potential to contribute \$4.7 billion to the Australian Gross Domestic Product (GDP), and increase labour demand by 6,500 full-time employees.

In choosing an Australian university, international students contribute to Australia's GDP through their spending while residing in Australia (including on tourism activities), and make a valuable contribution to the vibrancy and cultural diversity of our communities.

They also contribute to the stock of skilled labour in the Australian workforce if they choose to remain in Australia. Given international students spend an average \$48,000 per year on tuition fees and living expenses, an incremental GDP impact is expected to be in the order of \$250 million a year.

The Deloitte report also found that by increasing the attainment of high quality tertiary education for domestic students, the *NUW Alliance* would boost economic growth and living standards in Australia through an increase in the supply of productive skilled workers. The report found that students who obtain an undergraduate degree qualification in Australian universities generate an additional \$12,000 (19%) per annum in wage earnings, on average.

"The NUW Alliance is about working together with the people of NSW to help shape the future of our state – to create new knowledge, grow new jobs, build new businesses and deliver the leaders of tomorrow for the workforce of the future."

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