



Capability Statement

Fostering innovation

In a rapidly changing global marketplace, the University of Wollongong (UOW) has a strong role to play in driving the economic regeneration and diversification of the Illawarra, South Coast and NSW more broadly.

World-class interdisciplinary research, training and education address the needs of industries in UOW's communities. The University is committed to delivering initiatives and facilities that help drive innovation, investment, new jobs and new industries.

UOW is at the core of Illawarra's innovation ecosystem. Innovation is defined as the aspiration to achieve development by generating creative ideas and introducing new products, services and processes that improve the overall quality of life. Innovation is key to promoting economic growth, increasing competitiveness and providing new job opportunities.

UOW recognises that a world-class innovation ecosystem requires that university researchers have access to specialised and advanced R&D infrastructure. It also requires that entrepreneurs, start-ups and small and medium-sized enterprises (SMEs) – including businesses that spin out of university research - have access to inexpensive space to grow, as well as access to labs and prototyping facilities. Additionally, these groups need institutions that facilitate technology transfer and provide mentoring and advice.

The University has achieved great success in leading projects and collaborating with industry, government, institutions and other universities to drive social, economic and cultural change.

We focus on innovation of our curriculum to align with future workforce needs. The UOW Work-integrated Learning Plan (WIL) delivers programs co-developed by industry partners.

WIL provides students with the benefits of insight, better connections with industries and increased employability, while industries benefit from the opportunity to collaborate and connect to a group of talented students and receive access to UOW facilities.

Through WIL, students have been involved in innovations (such as automatic CPR machines and wearable devices) and prototype creation through to developing lean start-up businesses. Engineering students, in particular, have also been involved in developing connected and automated vehicles.

INNOVATION CAMPUS

UOW's Innovation Campus is a nexus in strengthening business, education and research ties locally and globally and has contributed greatly to increased collaboration between UOW and industry.

The award-winning research, innovation and commercial precinct is helping to activate new economic activity and regional jobs as well as increase Australia's innovation performance.

The \$600 million award-winning precinct is home to research institutes and a well-established community of innovative multinational and national companies, including NEC Australia.

University research entities at the Campus include the Australian Institute of Innovative Materials (AIIM) and the Sustainable Buildings Research Centre (SBRC). These institutes work in the development of "intelligent" innovative materials with the potential to regenerate damaged human nerves, the development of superconductors that make energy transmission more efficient, and new techniques for sustainable building design.

The Campus took out the Emerging Research Park Award at the Association of University Research Parks 2016 awards in the United States.

A Health and Wellbeing Precinct being developed at the Innovation Campus will bring significant benefits to the Illawarra community and beyond. The Precinct will integrate research and teaching environments with non-surgical health care and aged-care facilities. Construction is planned to begin in 2022.



UOW aims to be recognised as a leader in technology entrepreneurship, innovation and start-up development.

IACCELERATE ACCELERATOR AND INCUBATOR

Start-up companies encourage innovation, provide opportunity to commercialise research, generate new cash flow, and new employment opportunities.

UOW acknowledges the significant value of start-ups and has a number of activities which provide practical support and knowledge to help them grow, a significant one of which is the iAccelerate Centre. iAccelerate is helping to support start-ups, foster growth and innovation in established companies, and provide pathways for researchers to commercialise their ideas.

Located at the Innovation Campus, the iAccelerate Centre plays a key role in the surge of entrepreneurs and innovators who are transforming Australia's economy and making their mark.

The Centre was opened in 2016 and is the largest university-led incubator and accelerator in the Australia – with over 60 resident companies in the centre in 2019. A total of 192 companies (179 at iAccelerate and 13 at the Bega Valley Innovation Hub) have been assisted by the program since 2012 in a range of fields including tech, hardware, service, education, health, wellbeing and social impact.

In addition to supporting local companies, iAccelerate has delivered a total of 639 full and part-time jobs since 2012. Added to this achievement in employment, 47 per cent of iAccelerate companies have at least one female founder as at December 2019.

More than \$57.6 million in gross revenue was generated by iAccelerate companies in 2019 and of the companies based at the Centre, 75 per cent have at least one UOW alumni, 78 per cent are engaged with UOW, and 53 per cent are engaged with a UOW intern or student.

iAccelerate offers a robust educational program, formalised business acceleration mentoring and one-to-one mentoring. It also provides offices and shared spaces for more than 200 entrepreneurs, a seed fund to assist start-ups on their initial journey, extensive networking opportunities, exposure to government programs, and facilitation of interactions with local, national and international investors and potential customers.

iAccelerate's education and support programs are also available through the Bega Valley Innovation Hub (BVIH). The BVIH is the result of a community effort to address the challenge of creating new jobs and opportunities in the region. This is just the start, as it is planned to expand the iAccelerate program across the Illawarra, South Coast and Southern Highlands. In 2018, iAccelerate teams and key residents embarked on a European tour focused on expanding international networks, providing pitching

opportunities and establishing pathways for expansion in the European market.

UOW and iAccelerate activities are aligned with the National Innovation and Science agenda, in particular encouraging start-ups in regional areas, connecting researchers with SMEs, providing opportunities for women in STEM, and connecting businesses internationally.

ADVANTAGE SME

Advantage SME is helping businesses – particularly SMEs - develop new products, services and capabilities by matching them with industry experts and UOW researchers. Under the Advantage SME program, UOW is:

- Providing a one-stop service for regional SMEs to access resources at the University, including students and researchers, lab services and the iAccelerate Centre business incubator and accelerator.
- Providing a program of industry events, workshops, development, training sessions with TAFE NSW, contract research and consulting services.
- Allowing SMEs to engage with the University to develop new technologies, innovative products and services, improve business capabilities and engage in regional industry collaboration.
- Providing opportunities to develop new collaborations and business opportunities by engaging with regional stakeholders in industry and all levels of government.

Driven by UOW, Advantage SME was established in 2016 within the Boosting Business Innovation Program and is funded by the NSW Department of Industry.

The recently launched Advantage SME Generator Lab connects SMEs and big businesses with UOW researchers and other SMEs to solve their innovation problems by using disruptive technologies.

STEM AND THE FUTURE WORKFORCE

UOW is committed to improving the science, technology, engineering and maths (STEM) skills of the future Australian workforce.

As part of this commitment, UOW has created a Makerspace, which continues to evolve. This is where students, entrepreneurs and businesses can experiment and create. The objective of this initiative is to accelerate a lift in the capability and connectivity of the innovation ecosystem.



Located at the Science Space (formerly the Science Centre and Planetarium) at UOW's Innovation Campus, the Makerspace's facilities are continually expanding to:

- Stimulate and promote an interest in STEM.
- Provide an environment in which SMEs can explore new technologies, connect with research and engage with the University.
- Support SMEs, inventors and entrepreneurs with product design, manufacturing diversification and business development.
- Enhance STEM education in schools through teacher professional development programs.

Offering a “try before you buy” approach to technology exploration, the Makerspace provides 3D printers and scanners, laser cutters, advanced fabrication tools and design software.

It will also provide a series of New South Wales Education Standards Authority (NESA) accredited professional development programs to equip school teachers with the knowledge, skills and teaching practices they need to create interest in STEM in schools.

UOW has existing programs aimed at promoting STEM to those from groups underrepresented in universities. These programs are supported at the Makerspace and include after-school and holiday activities. The Science Space is the largest non-metropolitan science learning facility in Australia.

IoT TECHNOLOGY DEVELOPMENT

In 2016, the SMART Infrastructure Facility at UOW established an IoT Network for the Illawarra region through one of its enabling platforms, the Digital Living Lab. The Digital Living Lab is an open, free-to-air platform, accessible to the entire community to use for research and to test new ideas.

The Digital Living Lab facilitates the SMART IoT Hub, a dedicated space for the development of sensor and IoT technologies. It is an open and collaborative space for researchers, students and the community to design and prototype smart sensors. Work conducted by the laboratory includes the utilisation of cutting-edge cloud computing and sensor technology to capture essential data on rising water levels.

ADVANCED MANUFACTURING

Australia's manufacturing industry is undergoing a period of significant change as adoption of robotic technology increases worldwide. It is vital for SMEs to learn about the benefits this technology can bring and adopt new processes in order to compete in the global marketplace.

To address this, the Facility for Intelligent Fabrication (FIF) has been formed to assist SMEs to identify and implement welding and manufacturing automation-related technology, backed up with technical education, training and certification support.

The FIF is a collaboration between UOW, TAFE NSW and Weld Australia and was launched at UOW in March 2018. The FIF builds on UOW's existing world-class industrial robotics,

automation and specialist welding capabilities in a “one-stop shop” resource.

The FIF utilises the expertise, technology and equipment of the three partners and their networks to support the creation of new jobs by providing assistance in technology adoption, education and training for upskilling, problem solving to help resolve implementation issues, prototyping/trial production, demonstration of equipment, and industry linkages, networks and certification.

Further south, UOW Shoalhaven is the site of the new UOW Industry 4.0 Hub. It is a collaborative environment for students, industry and entrepreneurs, which is set to position the Shoalhaven at the forefront of advanced manufacturing.

The Hub is aimed at benefitting agribusiness, defence and manufacturing industries, which are key drivers of the Shoalhaven economy.

Modelled on the Facility for Intelligent Fabrication in Wollongong, the Hub is equipped with cobots and industrial robots. Cobots, also known as collaborative robots, are robots designed to work safely alongside humans, augmenting the human worker rather than replacing them.

Soon to include a makerspace, the hub is funded by the Federal government to enhance collaboration between universities and businesses.

PARTNERSHIPS FOR INNOVATION

UOW creates deep strategic partnerships to gain insight into new techniques being developed around the world. Globally, we have joined with the University Global Partnership Network (UGPN), while in New South Wales UOW is part of the NUW Alliance.

The NUW Alliance brings together the University of Newcastle, the University of NSW, and UOW to help establish an expanded innovation network which creates new jobs and new industries for NSW and Australia more broadly.

Together with Western Sydney University, the Alliance has signed a Statement of Intent with the NSW Government to deliver a world-class higher education and research presence in Western Sydney.

The proposed ‘Multiversity’ is planned to specialise in STEM (science, technology, engineering and mathematics) and be part of the Western Sydney Aerotropolis precinct at Badgerys Creek.

The four universities plan to create a ‘Multiversity’ campus with strong links to local industry, tailored vocational education and training, and STEM-focused schooling.

The Western Sydney Aerotropolis will be a thriving hub for education and leading industries including advanced manufacturing, aerospace, defence and agribusiness.

UOW WELCOMES THE OPPORTUNITY TO WORK WITH GOVERNMENT AND INDUSTRY PARTNERS TO DELIVER EXCEPTIONAL OUTCOMES

CONTACT

Canio Fierravanti

Director Government Relations
University of Wollongong

Ph: 02 4221 5931
E: caniof@uow.edu.au

uow.edu.au



**UNIVERSITY
OF WOLLONGONG
AUSTRALIA**