



UNSW Engineering

Our approach to Industry Engagement 2020



Our pathway to becoming a world top 25 engineering school

- Improve the quality of our fundamental applied research.
- Achieve greater impact through the efficient translation of research into practice.
- Transform the way we collaborate with commercial partners.
- Create unique, innovative and entrepreneurial graduates who are globally-focussed leaders.
- Deliver high quality education, at scale, through creating new and effective education methods including new technologies.
- Recruit and develop outstanding staff with a focus on increasing the representation of women.

Why UNSW?

While UNSW Engineering now sits comfortably within the top 50 engineering schools in the world, our mission over the next decade is to reach the top 25. To do this, we intend to make a major step change in our approach to industry engagement.

Partnering with industry has always been central to ensuring our research is relevant and impactful. Each year, we carry out over 500 paid industry engagement activities and we recognise the need to be more strategic in the way we nurture, grow and develop our industry engagements. This need has gained even greater importance following the implementation of UNSW 2025 Strategy and several significant changes in the way internal services are delivered.

COVID-19 has disrupted the world in an unprecedented way and this disruption has extended to the University and its community. Together with our partners, we will use this Approach and its programs to help drive our activities in playing our part to address and mitigate the many issues that COVID-19 has presented.

Specifically, our aims for Industry Engagement are to:

1. Make it simple and straightforward for external parties to find, approach and work with us
2. Ensure our partners gain the most out of their relationship with us
3. Maximise the impact of the Faculty, and
4. Enable and empower the UNSW Engineering community to engage externally.

The scope of this Approach covers all aspects of how and why we engage with industry, from ensuring students receive an industry relevant education through to partnering for research commercialisation.

We look forward to working closely with our staff, students and industry partners on implementing our vision. Join us in building an industry responsive, innovative Faculty of Engineering.

Regards,

Ian Gibson
Associate Dean (Industry and Innovation)

Stephen Foster
Acting Dean, UNSW Engineering



**Our place within the global
innovation landscape**

Our place within the global innovation landscape

UNSW Engineering sits comfortably within the top 50 engineering schools globally¹. It is Australia's number one ranked Engineering school² and one of the largest in the southern hemisphere. We have a proud history of achieving significant global impact across many disciplines including water purification, silicon photovoltaics and many others. Together with our industry partners, we are well placed to continue to grow the value of our global impact and our strong international networks of collaboration.

'Innovation and Engagement' is a central pillar of UNSW's Strategic Plan³. Since its inception in 1947, UNSW has had a strong focus on technology and engineering, a heritage that continues today. We have thousands of active industry partners from a broad range of industry sectors. These partners are early stage start-ups through to the world's largest corporations, both Australian and International. We use the term "industry" to include all of our impact partners, in particular, government at all levels and not-for-profit agencies.

Many partners engage us for small-size projects for less than \$20k and our largest projects last for decades and exceed \$75m. The proportion of academics leading industry research contracts grew from 8% in 2015 to over 50% in 2019. So that we can work with industry partners effectively, we work in different modes of partnership and encourage academics to commercialise ideas and establish start-ups.

In addition to our research, data suggests that we perform strongly in important graduate outcomes including satisfaction, employability and starting salary. Our students focus on problems that are most important to industry and we create opportunities for students to develop real-world technical and professional skills. We actively encourage our students to work in teams on real world/industry problems, throughout their degree studies, supervised by our academics. Each year over 4,000 students carry out industry-based learning activities such as internships, work integrated learning and project-based courses. Into the future, the Faculty will continue to actively expand its project-based and work integrated learning opportunities for students.

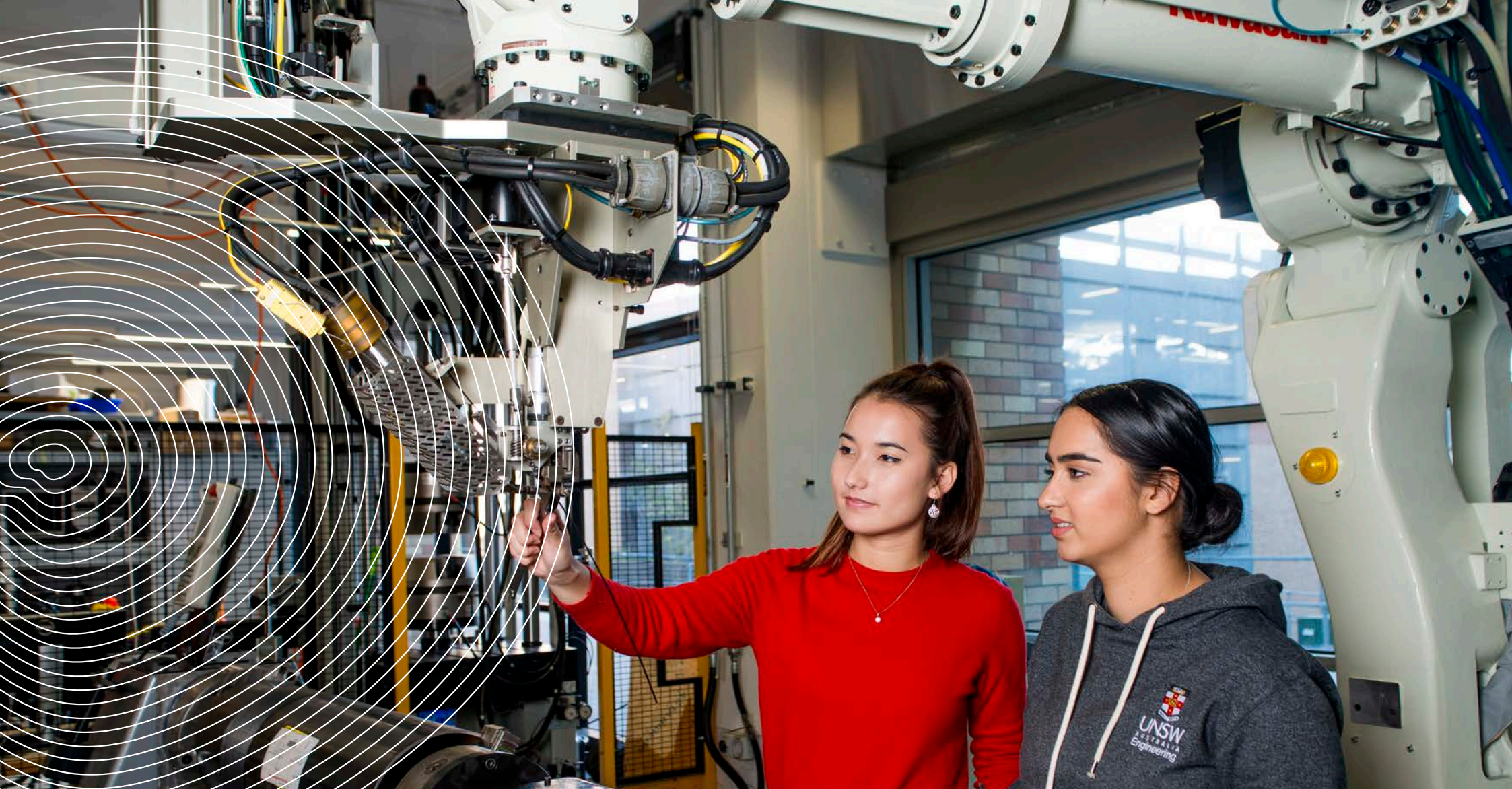
Our academics engage with industry partners across many different fields and we have numerous long-term, well-established partnerships. In developing this new Approach, we recognise the importance of working across this complex landscape, sustaining existing and growing new partnerships.

1 UNSW is ranked at 43 in the QS Rankings: <https://www.topuniversities.com/universities/university-new-south-wales-unsw>

2 UNSW is number one in Australia for engineering and technology according to the 2020 Times Higher Education subject rankings: <https://newsroom.unsw.edu.au/news/science-tech/unsw-engineering-tops-australia-latest-subject-rankings>

3 2025 Strategy sets the strategic direction for UNSW. It has recently been updated. See <https://www.2025.unsw.edu.au/>





Our approach

Our approach

As a large and leading engineering school, UNSW Engineering has an obligation and the necessary skills, resources and influence to have a material impact on addressing many of the global issues facing society. Our impact is realised through our students and through the research and technology we create.

There are three fundamental elements (or pillars) to our Approach:



1. Maximise student experience and lifelong outcomes



2. Deliver research outcomes with value to society



3. Be easy to work with.

Within these pillars, we propose a number of goals that will help us realise our targeted outcomes. In formulating and refining these goals, we have used the following design principles:

- build partnerships and long-term relationships
- create scalable and sustainable solutions
- integrate and align our efforts with other relevant parts of the University
- reinforce equity, diversity and inclusion
- support academic freedom
- ensure we meet national and international legal and security obligations.





Pillar 1: Maximise student experience and lifelong outcomes

Objective: create an engaging student experience, founded in industry-based learning opportunities.

Our aim is to produce students who are empowered, global focused and working to improve society, with a lifelong passion for learning. We will offer learning that is reactive, innovative, dynamic and adaptive to industry needs. For life after graduation, developing robust relationships with our industry partners will enable our graduates to have a seamless transition from university into their future careers.

1.

Create industry-relevant engineers and maximise engagement between students and industry

Our industry partners need graduates with practical and technical skills and the ability to work in teams to solve industry problems. These are integral to student learning at UNSW. We will continue to emphasise educational programs such as work-integrated learning, and project- and teams-based assignments, and will build strong alliances with our partners to maximise outcomes.

As a result, we will continue to develop graduates who are industry ready and able to adapt and change.

2.

Maximise the ability for our graduates to secure their ideal job and for our industry partners to engage with ideal employees

Our graduates are highly employable, securing well paying jobs.

Our focus will be on systematic deeper engagement with industry to ensure students have work integrated and project based opportunities prior to graduation. Our students will engage with industry throughout their Engineering program of study.

3.

Develop a full program of lifelong learning, including short courses, micro credentials and executive education

Ongoing professional development and education are an important element of how we continue to be impactful. Businesses benefit from their staff remaining up to date with current knowledge and ideas.

To do this, we will establish the Australian Graduate School of Engineering to provide a consistent framework for our postgraduate course offerings.

4.

Establish an Industry PhD Program

Many PhD graduates will pursue a career outside of academia. We will equip them with the skills to undertake research in a non-university setting.

By promoting an industry PhD, and the option of an industry career, we aim to build up the numbers of candidates undertaking a PhD.



Pillar 2: Deliver research outcomes with value to society

Objective: Undertake research with tangible positive outcomes for society and the economy.

1.
Maximise the level at which industry informs our research

Engineering is an applied discipline and engineers solve problems. We will maximise our research value if we focus on problems that actually need solving.

Maintaining a close and contemporary understanding of the problems facing our industry partners will play a vital part in this.

4.
Increase the number of companies started up by UNSW staff with UNSW technology and capability

We will establish a culture that actively encourages and supports our staff to establish start-up enterprises to commercialise technology developed at UNSW.

We will establish additional incubators, accelerator programs and other resources to ensure UNSW Engineering plays a leading role in entrepreneurship in Australia.

2.
Increase the extent of higher Technology Readiness Level (TRL) research that we undertake, while continuing our fundamental self-driven research

Higher TRL work requires different skill sets (e.g. engineering development and project management) to more fundamental research. It can often be commercial-in-confidence and this reduces the opportunities for conventional research outputs such as publications.

We will take a scalable approach to undertake more higher TRL research, without impacting our capability and capacity to do self-driven research. This will be done by establishing translational research centres and through augmenting existing centres with translational capabilities.

5.
Establish more research-focused centres

UNSW Engineering has a number of successful industry-focused research centres. These make it easier for industry to engage with us and provide a sound environment for translational research.

We will continue to use matched funding grant programs to catalyse the creation of more centres.

3.
Ensure a global focus for our industry engagement

Engineering disciplines and businesses are becoming ever more globalised. We will expand our international R&D networks. We will do this through our many expat staff and repatriated alumni as well as building on UNSW's existing alliances with other universities and industry partners with multi-national interests.

We will target industry engagement within specific countries aligned to the Faculty's International Strategy. We will also establish more offshore research centres with international industry partners.

6.
Maximise the value of our Intellectual Property

The translational value of our technology is maximised when we capture the value of the IP in a form that enables a business to be built. Each of our research endeavours will have an IP strategy that aims to maximise the value of that IP to UNSW and its partners.

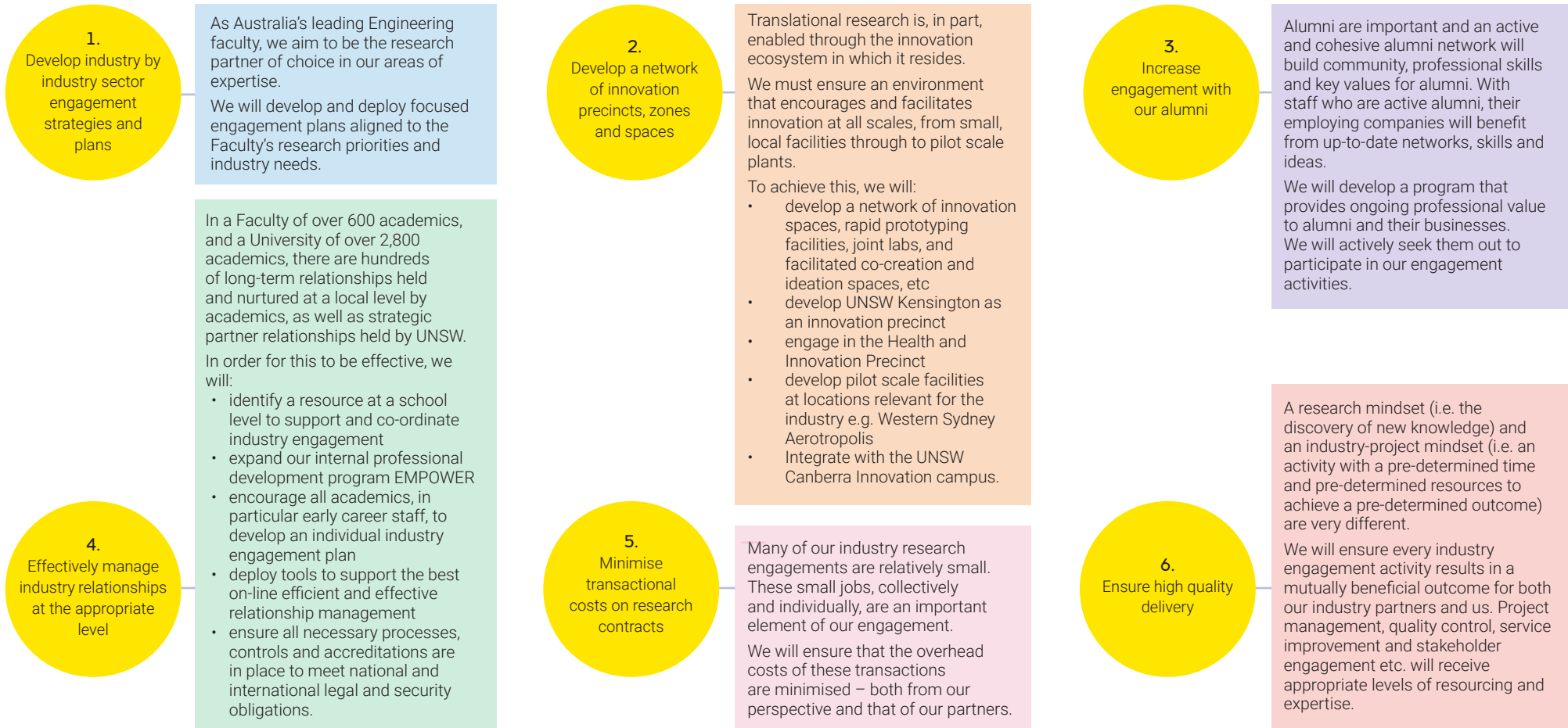
We will engage with industry commercialisation partners in a way that provides them with a competitive business model while paying a reasonable and appropriate return to the University.



Pillar 3: Be easy to work with

Objective: Create working relationships that are efficient, effective and respectful, and encourage on-going collaboration and innovation.

Feedback from stakeholder consultations was clear and consistent. Industry partner engagement is built on personal and long-term relationships. People like to work with people that they know and trust.





Work with us

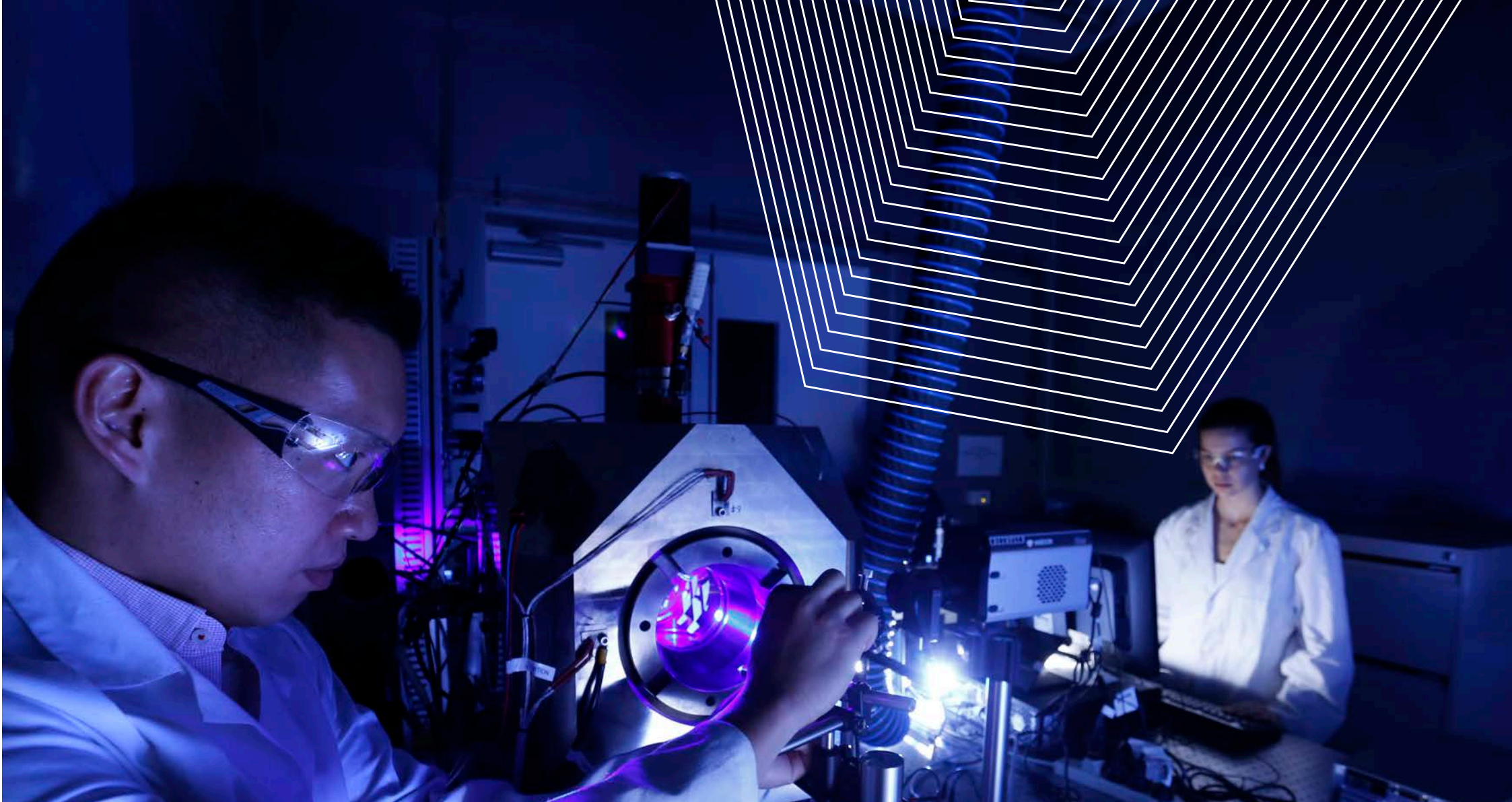


Work with us

This Approach recognises the importance of collaborating across a complex landscape, sustaining existing and growing new partnerships. For success, we need close and sustainable relationships with our industry partners. We want to make sure that our partners receive great value from working with us and for dealing with us to be easy.

Contact our team - email industry@unsw.edu.au or call (+61) 2 9385 5000.

CRICOS Provider Code 00098G



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