



Faculty of Engineering
and Information
Technology



FEIT 2025 STRATEGY: POWERED BY PEOPLE, PLACES AND PARTNERS

5 February 2021

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MESSAGE FROM THE DEAN



Professor Mark Cassidy,
Dean, Faculty of Engineering and Information Technology

We recognise the importance of our relationship to the traditional owners of the land on which our campuses stand. We pay our respects to the Wurundjeri people of the Kulin Nation who are the Traditional Custodians of this Land and extend that respect to other Indigenous Australians.

In 2015, Faculty of Engineering and Information Technology (FEIT) began our ten-year strategy to transform IT and engineering at the University of Melbourne, FEIT 2025. Since then our faculty has experienced growth and success. We have made significant progress on two major campus developments, Melbourne Connect and Fishermans Bend, where University and industry coalesce in ways that generate great value to our community. We remain committed to the cultural transformation that lies at the heart of FEIT 2025 and are ready to seize the opportunities these changes offer.

Equally, our external world continues to change. Demand has never been greater for new engineering and technology solutions and for a workforce that can solve the major challenges facing society. At the same time, the role of universities is changing as the needs of our students and partners evolve.

At the halfway mark of our FEIT 2025 Strategy, our purpose remains. To achieve our ambitions, we need to continue to adapt and progress our strategy. We have made significant progress towards our goals - we continue to build new infrastructure to enable our teaching, research

and engagement; we continue to recruit outstanding people from around the world; and we continue to attract high-quality students from across the globe who are at the heart of our enterprise. But there is more to do.

From foundation in 1861 through to the present, we are now ready to establish Melbourne as a powerhouse of engineering and technology. By developing Melbourne's engineering and IT ecosystem, we can improve productivity, boost our economy, enhance people's well-being and influence the entrepreneurial and start-up world. We also want to create an exceptional student experience, providing the opportunity to learn from and work with industry, government and communities to address their needs.

Now more than ever, after an enduring strategy will help us achieve our vision and fulfil our purpose to deliver benefit to society by tackling its grand challenges. But most importantly, it ensures that we have our people, our students, our partners and our communities at the centre of all that we do.

We invite you to join us on this exciting journey!

A CHANGING WORLD, A BOLDER STRATEGY

We are anchored by our purpose and commitment to society

FEIT has never been better positioned as a global leader, anchored in the dynamic Asia Pacific region, creating and curating knowledge to address some of the world's biggest challenges.

We know that through our students and our relationships with communities, we can not only respond to society's needs but anticipate and create engineering and IT solutions for the future.

Our purpose is to benefit society through the creation and application of knowledge in engineering, digital and data with our students and the global community we serve.

A shifting local and global context demands a new approach

Today's local and global challenges present engineering and IT faculties with unique opportunities. Climate change, digital disruption, economic downturn and burgeoning populations are all challenges that we are positioned to solve. Responding to the devastating Australian bushfire season of the 2020 summer and the extraordinary global public health crisis of the COVID-19 pandemic reinforces our belief that FEIT should be dedicated to impactful engineering, digital and data solutions. Society demands more pragmatic outcomes from higher education. Communities expect solutions to problems that are fit-for-purpose and address their issues. Industry and government demand

graduates who have complementary areas of expertise, who are equipped with technical and leadership skills and who can actively collaborate with partners beyond their discipline. Students expect that their education will provide more than their qualification, with opportunities to learn in different ways and a direct pathway for employment.

To fulfil our purpose, we must have a compelling and ambitious strategy that prepares us to respond to and anticipate the demands of an ever-changing world. Our strategy will focus our efforts, capitalise on our strengths and deliver greater value to our people, our students, and our partners.

WHO WE ARE AND WHAT WE'VE ACHIEVED

Over the last five years, we have had many successes including significant growth in our student population.

While this growth has been exemplary, it has come primarily from international students. We believe that a student body that blends experiences, cultures and backgrounds provides

for a transformative education. This will require a focused determination to attract as diverse, passionate and talented student body as possibly over the next five years.

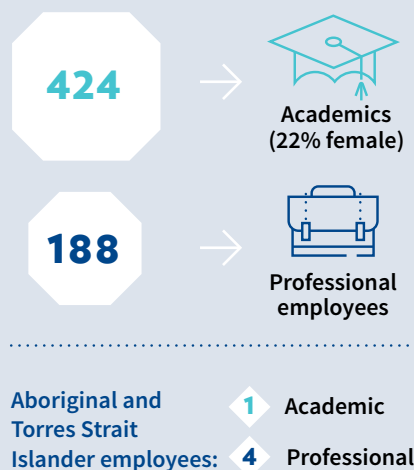
We have also seen achievements in the diversity of our people, however here we need to be far more ambitious and strive for much higher representation of women and Aboriginal and Torres Strait Islander colleagues. We aspire to be a hub for Indigenous engineering knowledge.

Regarding our global standing, in 2018 we ranked 40th in the QS World University Rankings for Engineering and Technology, 52nd for Computer Science in the Times Higher Education (THE) World University Rankings and 70th in the THE ranking for Engineering and Technology.

Using our position as the number one engineering and IT faculty in Australia, over the next five years we will pursue our ambition to be a top 20 world-ranked faculty.

FEIT AT A GLANCE FEIT 2025 STRATEGY

Progress at the halfway mark



Excellence in Research for Australia (ERA) 2018-2019 Report (Australian Government)

FEIT rated 'well above world standard' for:

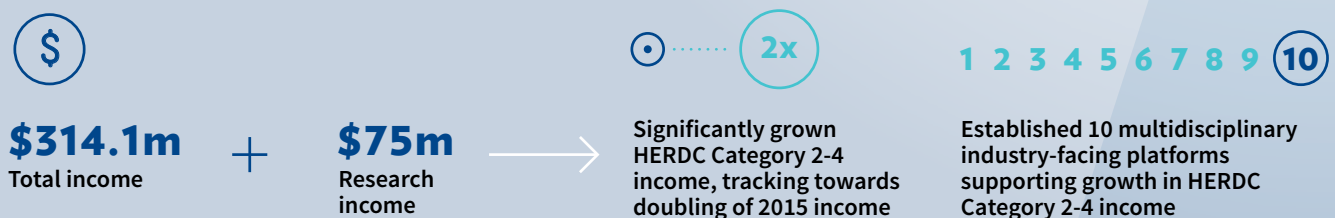
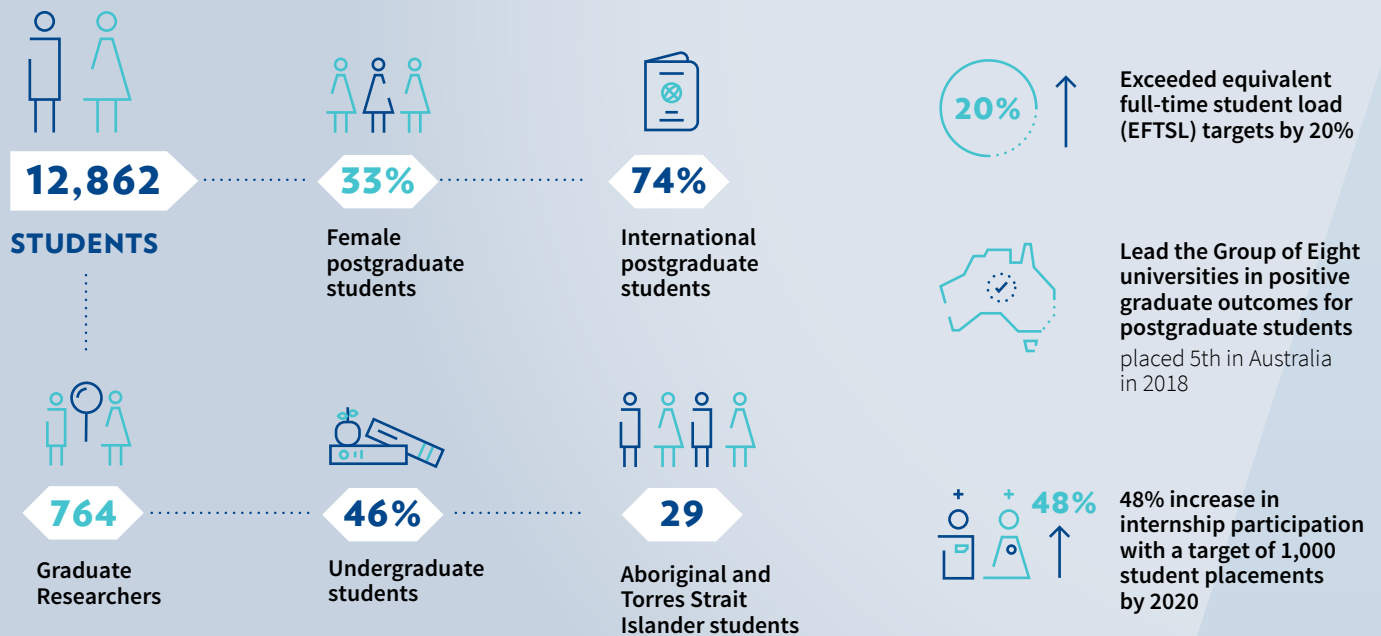
- » Information and computing systems
- » Communication technologies
- » Chemical engineering
- » Civil engineering
- » Electrical and electronic engineering
- » Maritime engineering
- » Materials engineering
- » Mechanical engineering

Engagement and Impact Assessment 2018-2019 (Australian Government)

Engineering rated:

Highly effective interactions outside academia (engagement) **and** Highly significant contribution (impact)





BIG CHALLENGES, FOCUSED EFFORT

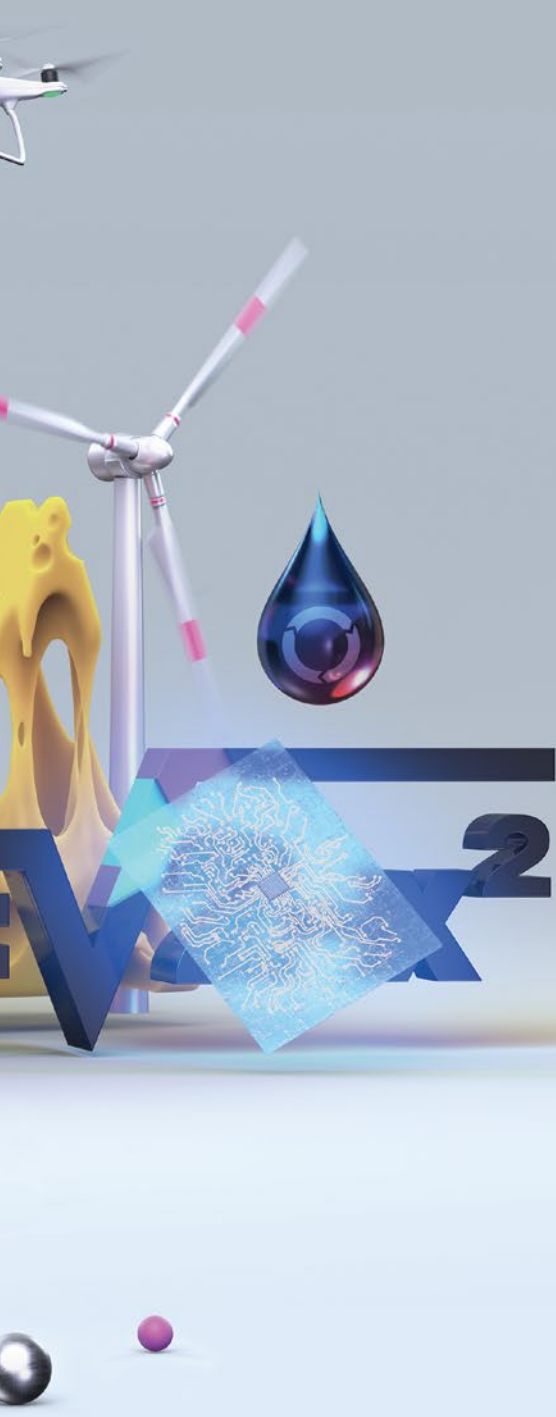
We are focused on the big societal challenges

FEIT is globally recognised for our work in hydrology and water resources, waste management, turbulent flows, control theory, biomedical and neural engineering and natural language processing.

We have successfully developed defence technologies, including human-machine interfaces, sensor technologies, and advanced materials. There is now more opportunity to use our strengths to have even greater impact.

Significant progress will require a considered focus, strong links between disciplines and collaboration across sectors and industries. Our commitment is to focus on areas that have the greatest potential for interdisciplinary, genuine partnerships with others and that will contribute most meaningfully to the benefit of society.





Our areas of focus for 2025:

AI, data science and robotics

Artificial intelligence, big data and robotics are disrupting the world. There is no clear leader for AI and data science in Australia, positioning FEIT to lead in this area. We will collaborate across the multidisciplinary breadth and depth of the University of Melbourne, and develop new and renewed external partnerships, to enable the Melbourne Connect precinct to emerge as a major academic and entrepreneurial centre of excellence.

Smart and sustainable development

At the heart of the major challenges facing society globally is the more efficient and sustainable use of resources. Through our research and curriculum, FEIT will influence policy and lead with new technology and solutions to global resource challenges including energy, water distribution, food production and smart infrastructure. We will build a new campus for advanced technologies and design at Fishermans Bend, with operations to commence in 2025.

Health technologies

Through development of technological solutions such as robotic prosthetics and bionics, novel brain-machine interfaces, application of advanced materials including nano-technology, specialised analytics to integrate complex health-related data for diagnosis and prediction, and the design of systems that creatively leverage digital media to support clinical decision making and patient well-being, we will help create healthier communities. We will transform our Parkville campus facilities and grow our partnerships with the Aikenhead Centre for Medical Discovery (ACMD), the Graeme Clark Institute, and the Centre for Digital Transformation of Health to create new biomedical innovation opportunities together.

Defence technologies

Ensuring Australia continues to be a safe, democratic and stable country is a key goal of our world leading fundamental research, which encompasses cybersecurity, AI Assurance and decision support. The research undertaken by FEIT has wide-ranging benefits for society as innovations are taken up by other industries. Our new infrastructure at Fishermans Bend, Melbourne Connect, and the Parkville campus will be a key enabler of our continued growth and success as a national leader in defence technologies up to and well beyond 2025.

ADVANCING ENGINEERING AND IT FOR GLOBAL IMPACT

OUR VISION

A bigger, bolder and better FEIT
preparing outstanding graduates
and achieving global impact through
our teaching and research, together
with our partners.



HIGH AMBITIONS, CLEAR PRIORITIES

Our strategic priorities

Our strategic priorities articulate how we will fulfil our ambitions and achieve our vision for 2025.

01

Support our people and culture

02

Create a transformational student experience

03

Transform through scale, the impact of our research

04

Grow our global reputation and influence

05

Harness the convening power of our precincts



PRIORITY 01**SUPPORT OUR PEOPLE AND CULTURE**

Continue to build an inclusive, ambitious and agile culture, and invest in a diverse and entrepreneurial workforce, to work together with our partners.

Society is faced with increasingly complex and far-reaching challenges that, in many instances, engineering and IT are ideally positioned to solve. The complexity of these issues demand people who are not only expert in their field, but who can think creatively to develop new solutions that have the greatest impact on and benefit to society.

The best solutions come from creating a culture and environment that is not only diverse in skills, backgrounds and approaches, but one which is inclusive of these differences. We need to further invest in our capability so that by 2025, our people will be known as leaders of innovative solutions.

We will know we've been successful when:

- » We have built a faculty that is rich with talent across both academic and professional domains and we become known for our core areas of strength. We will measure our progress against our targets for attraction and retention.
- » Our preferred culture is clearly defined and becomes embedded in the way we do things. We will measure our performance through culture-specific metrics.
- » Our faculty is increasingly diverse, people feel welcome, valued and safe in contributing to the success of FEIT. We will measure our diversity targets and inclusion ratings.

What we plan to do**Embed and nurture an 'FEIT culture'**

We will develop a set of common values, attitudes and behaviours to enable us to thrive collaboratively across multiple campuses. We will embed this culture in our work practices, model it through our leadership, and reinforce it through recognition of performance.

+

Create a diverse and inclusive workforce

We will invest in targeted programs for underrepresented groups that recognise, strengthen and harness the value that a diverse pool of talent brings to FEIT and the University. Importantly, we will address the underrepresentation of women and Aboriginal and Torres Strait Islander people in our faculty and we will weave LGBTQ+, mental health, and disability inclusion into the fabric of our workplace culture.

+

Attract and retain outstanding talent

We will develop a talent strategy to attract and retain people (at all levels) who will help develop our culture and realise our ambitions. Core to this will be targeted recruitment of global talent in our areas of focus that will deliver significant impact to society and position us as a global leader.

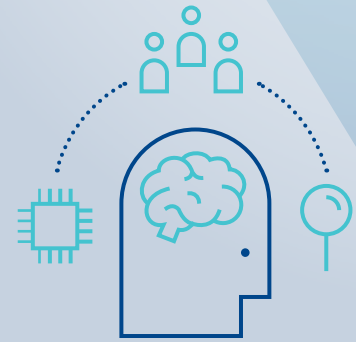
Enable our people to be their best

We will invest in professional development opportunities and establish clear career progression pathways for all of our academic and professional colleagues. We will deliver performance frameworks and incentives that align with culture and focus areas. We will monitor and review our organisational structures and conduct regular, forward-looking external reviews of the national and international standing of our academic units and professional services. We will empower our people to take calculated risks and to grasp opportunities – and we will reward them for these endeavours.

+

Develop our current and future leaders

We will invest in leadership capability development and mentoring to nurture and develop our current and future leaders. We will build an employment environment that provides career progression pathways for women and other underrepresented groups into leadership roles.

PRIORITY 02**CREATE A
TRANSFORMATIONAL
STUDENT EXPERIENCE**

Continue to implement a future-focused, inclusive curriculum and learning environment that prepares our students to be industry, community and research leaders and supports them throughout their life.

FEIT's diverse and talented students and graduates will become our future leaders and specialists, continually enhancing their skills and talents, to help shape better outcomes for society.

Students increasingly expect and demand more from their education. Modes of teaching and learning, such as project-based curricula and blended online environments, are becoming basic requirements. In addition, vocational outcomes are a significant driver for course selection as students expect to immediately enter employment, and the industries who hire them expect them to be job ready.

We know that the student experience and student outcomes are directly impacted by the teaching and learning environment. Our priority is to create a transformative student experience through interactive learning approaches and enriched engagement opportunities with industry.

We will know we've been successful when:

- » Our students tell and show us that they are fully engaged and are enjoying their time at FEIT. We will measure student experience and outcomes.
- » We attract the best students from all walks of life, and they have every opportunity to flourish. We will measure diversity targets and inclusion ratings.
- » Our graduates blend technical brilliance with an enduring capacity to innovate. We will measure alumni engagement and monitor their impact on the world.

What we plan to do**Support a diverse and inclusive student cohort**

We will put in place initiatives to attract the best-quality students from diverse backgrounds. We will develop an approach and culture that is inclusive and that captures the unique value that students have to offer.

**Enhance our student experience**

We will strengthen student support to provide consistency of experience and create contemporary learning environments and resources that extend beyond the traditional classroom. We will connect with alumni and partners to enhance the student experience, drawing on their industry and external knowledge.

**Implement leading-practice pedagogy**

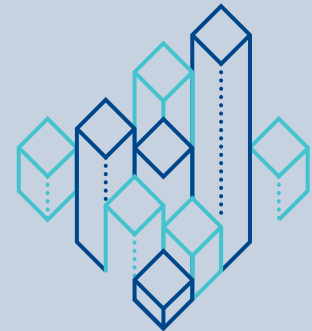
We will enhance our curriculum and leverage our partnerships and precincts to enable direct involvement in research through project-based learning and industry placements; skill development in problem-solving and critical thinking; smart adoption of digital technologies; and development in leadership and teamwork capability.

Create better teaching experience

We will improve the student learning experience by improving the academic teaching experience. To support this, we will establish a well-resourced teaching and learning laboratory that provides professional development for our academic community to craft new curricula and deploy the latest education technology. We will recognise and reward those colleagues who deliver exceptional learning experiences.

**Support the learning needs of our alumni**

Stronger alumni relationships will help us engage constructively in problem-solving and community-building around the world. We will develop a strategy to engage alumni and implement programs that support their life-long learning by providing them with opportunities to pursue their continuing and professional education.

PRIORITY 03**TRANSFORM THROUGH SCALE, THE IMPACT OF OUR RESEARCH**

Build research scale, quality and impact through targeted investment, strategic partnerships and continued focus on research excellence.

FEIT researchers are advancing medical technologies and pharmaceuticals, food and agribusiness, construction technologies, transport and defence technologies, advanced manufacturing and new energy technologies. These areas have been recognised as key to our future economic prosperity by the Australian and Victorian Governments.

Our continued research excellence will rely on leveraging strategic partnerships with industry and government. We also need to redefine the way we conduct and translate research, so that our work delivers pragmatic benefit in keeping with society's expectations and needs. From a strong foundation of great disciplinary depth, we will work across disciplines to address big, bold questions.

We will ensure our students' education is heavily linked to our research, providing real-world opportunity that enhances their experience and research impact.

We will know we've been successful when:

- » We have secured strategic partners to deliver flagship projects. We will measure the impact of flagship research projects.
- » Our research teams compete effectively on the world stage for resources and recognition. We will measure research income and outputs.
- » Students meaningfully and effectively engage and collaborate in research. We will measure student experience and outcomes.

What we plan to do**Target our investment to boost research scale and impact**

We will develop targeted investment strategies for building capability in our focus areas and where we can have a globally recognised impact. This will include:

- » recruiting and developing top quality academic talent and graduate researchers, driven through our people strategy
- » developing world-leading research facilities through our major campus developments and sector-facing research platforms
- » pursuing diversified income streams and exploring cost efficiencies to ensure that there is equity to further develop our core strengths

**Increase scale and impact through our partners**

Leveraging our convening power, research strengths and sector-facing platforms, we will develop a comprehensive and sustainable portfolio of large-scale strategic partnerships that align with our focus areas.

Strengthen the teaching-research nexus

We will design and deliver targeted research that is embedded in the curriculum and ensure that we have effective pathways for students to advance to graduate research degrees. Our students will experience research at its most practical and will actively contribute to the outcomes of large-impact projects.

**Continue to develop an outstanding cohort of graduate researchers**

We will scale up our research training programs using academic alliances, industry partnerships, and a significantly larger academic workforce to deliver first class research-based training and supervision. Our graduate researchers will provide a highly valued channel for internal (often interdisciplinary) collaborations and external sector partnerships and will meet a growing demand for advanced training in emerging fields.

PRIORITY 04**GROW OUR
GLOBAL REPUTATION
AND INFLUENCE**

Develop our reputation as a world-leading, Asia Pacific hub of engineering, digital and data, and solidify our position as a trusted voice that can influence policy and corporate vision.

We need to focus on our strengths and capabilities to improve our reputation. Aligning with the University of Melbourne's strategy for global leadership, our performance in teaching and research, and our work with our partners, needs to be exemplary. The way we communicate our impact needs to be equally clear and compelling.

Our priority is to establish the reputation that Melbourne is an engineering, digital and data powerhouse and that we are a trusted and dynamic leader in developing technology-driven solutions to real-world problems. We will promote an ethical and open data culture and support the University of Melbourne to navigate digital transformation.

We will know we've been successful when:

- » We are recognised and celebrated as first choice for academics, students, partners and other stakeholders from all over the world. We will measure brand awareness and relevance.
- » Melbourne is recognised as a leading Asia Pacific hub for outstanding engineering and IT education and research. We will measure global brand awareness and relevance.
- » The University of Melbourne is recognised as a centre of digital excellence where physical spaces have been transformed into places that function as testbeds for digital experimentation and co-creation. We will measure improvements in service design that benefit the whole University community.

What we plan to do**Raise our profile and shape the public discourse**

We will leverage the strength of the University of Melbourne's global brand to champion STEM education and research. We will actively identify opportunities and issues that will raise our profile and will take a more active role in contributing to the local, national and global discourse. We will empower and enable our people to develop and amplify our impact.

**Define our leading role in the Asia Pacific**

We will collaborate with the Victorian and federal governments, local industries and communities, and other universities to ensure Melbourne becomes a regional Asia Pacific engineering and technology powerhouse.

**Build networks to extend our reach**

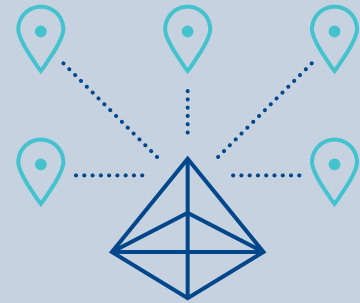
We will develop a targeted, purposeful plan to strengthen and build our partnership networks with highly ranked institutions, industry leaders, governments and influential alumni to extend our reach and influence and strengthen our position as a trusted voice and partner.

Champion a new digital agenda within the University of Melbourne

To ensure it is a leading digital institution we will support the University in data mining, machine learning and rapid testing to facilitate creative discovery, calculated risk-taking and iterative delivery of innovative systems fuelled by data insights.

**Develop meaningful and strategic alumni engagement**

Our alumni engagement strategy will recognise the value alumni can bring to our focus areas and targeted industries. To support life-long learning, we will develop future focused, industry relevant and practical continuing education offerings that support our alumni and other professionals to be transformative at work now, while also preparing them for the future.

PRIORITY 05**HARNESS THE
CONVENING POWER
OF OUR PRECINCTS**

Establish the foundations that will fulfil the potential of our state-of-the-art infrastructure.

FEIT's precincts will be the go-to place for advancing engineering and IT solutions in Melbourne and Australia and present a once in a generation opportunity to shape the future of our city. The Fishermans Bend campus, Melbourne Connect and a wider Medical Technologies precinct, have the potential to be major economic growth engines for the region and will draw local and global industries and communities to work with FEIT and the wider University.

By 2025, construction of our precincts will be complete and established as sites of advanced technology and digital capability. In addition to our precincts, our current infrastructure and facilities will be improved to provide a more consistent experience for our community. Our new facilities will support research translation and graduate pathways to employment.

We will know we've been successful when:

- » Strategic partners seek opportunities to engage with the precincts. We will measure interest and investment in precinct opportunities.
- » Our precincts demonstrate technological advances that drive economic productivity and enhance a sustainable, secure and healthy way of life.
- » Students choose FEIT, driven in part by the opportunity to thrive within our lively and engaging precincts. We will measure student experience and outcomes.

What we plan to do**Establish Melbourne Connect as a digital and data powerhouse**

We will deliver the full potential of Melbourne Connect, creating a digital and data institute that will be a hub for students, industry, government and FEIT to engage in collaborative innovation. We will use Melbourne Connect to design, pilot and refine new ways of working using digital and data capabilities.

**Build a world-leading engineering precinct at Fishermans Bend**

We will build a global innovation campus for engineering and design at Fishermans Bend, embedded with industry, and put in place a comprehensive plan to drive research and education excellence. This will include:

- » identifying and focusing on large-impact, flagship research projects that will benefit society and immediately raise our profile
- » establishing hands-on teaching programs to enable our students to take full advantage of the new precinct
- » creating a top-flight global network of the best engineering faculties in the world

Transform our Parkville campus facilities

We will collaborate with our STEM colleagues at the University of Melbourne to develop a shared vision for state-of-the-art wet labs at Parkville that are shared across faculty and disciplinary boundaries. This will consolidate the chemical and biomedical engineering footprint on the Parkville campus and advance the University of Melbourne's STEM strategy by facilitating greater interdisciplinary research collaboration between FEIT and our partner faculties in science and medicine.

**Enhance the impact of the Aikenhead Centre for Medical Discovery (ACMD) and the Graeme Clark Institute**

We will enhance FEIT engagement and impact in medical technologies through ACMD and the Graeme Clark Institute, drawing on emerging scientific and engineering approaches to drive transformative clinical solutions. Our collaboration will enable more development (D) in research and development (R&D) that will better translate research into commercial ventures and equip Melbourne, Australia, our region and the world to better tackle health priorities and improve lives.

University of Melbourne campus locations



1 Parkville Main Campus

2 Parkville Biomedical

3 Melbourne Connect Digital & Data

4 Southbank Arts & Creative Industry

5 Fishermans Bend Engineering & Design

FEIT 2025 ON A PAGE

Our Priorities



Support our people and culture



Create a transformational student experience



Transform through scale, the impact of our research



Grow our global reputation and influence



Harness the convening power of our precincts

Our Actions

Continue to build an inclusive, ambitious and agile culture, and invest in a diverse and entrepreneurial workforce, to work hand-in-hand with our partners.

- » Embed and nurture an 'FEIT culture'
- » Create a diverse and inclusive workforce
- » Attract and retain outstanding talent
- » Enable our people to be their best
- » Develop our current and future leaders

Continue to implement a future-focused, inclusive curriculum and learning environment that prepares our students to be industry, community and research leaders and supports them throughout their life.

- » Support a diverse and inclusive student cohort
- » Enhance our student experience
- » Implement leading-practice pedagogy
- » Create better teaching experiences
- » Support the learning needs of our alumni

Build research scale, quality and impact through targeted investment, strategic partnerships and continued focus on research excellence.

- » Target our investment to boost research scale and impact
- » Increase scale and impact through our partners
- » Strengthen the teaching-research nexus
- » Continue to develop an outstanding cohort of graduate researchers

Develop our reputation as a world-leading, Asia Pacific hub of engineering, digital and data, and solidify our position as a trusted voice that can influence policy and corporate vision.

- » Raise our profile and shape the public discourse
- » Define our leading role in the Asia Pacific
- » Build networks to extend our reach
- » Champion a new digital agenda within the University of Melbourne
- » Develop meaningful and strategic alumni engagement

Establish the foundations that will fulfil the potential of our state-of-the-art infrastructure.

- » Establish Melbourne Connect as a digital and data powerhouse
- » Build a world-leading engineering precinct at Fishermans Bend
- » Transform our Parkville campus facilities
- » Enhance the impact of the Aikenhead Centre for Medical Discovery (ACMD) and the Graeme Clark Institute

FIND OUT MORE

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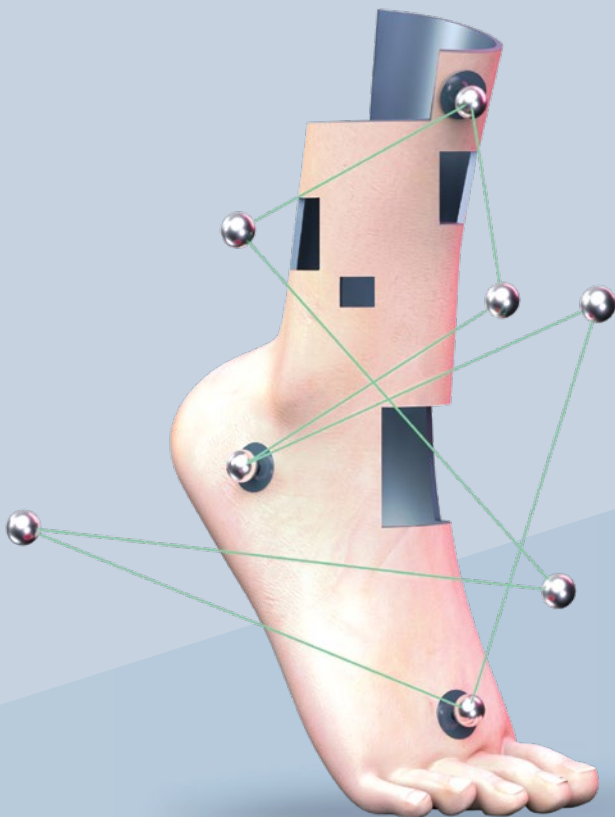
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MELBOURNE