



THE UNIVERSITY OF
MELBOURNE

FISHERMANS BEND: BRINGING INNOVATION TO LIFE AT AN INDUSTRIAL SCALE



ACKNOWLEDGEMENT OF TRADITIONAL OWNERS

THE UNIVERSITY OF MELBOURNE ACKNOWLEDGES THE TRADITIONAL OWNERS OF THE UNCEDED LAND ON WHICH WE WORK, LEARN AND LIVE, THE WURUNDJERI WOI WURRUNG AND BUNURONG PEOPLES (BURNLEY, FISHERMANS BEND, PARKVILLE, SOUTHBANK AND WERRIBEE CAMPUSES), THE YORTA YORTA PEOPLE (DOOKIE AND SHEPPARTON CAMPUSES), AND THE DJA DJA WURRUNG PEOPLE (CRESWICK CAMPUS)



The University also acknowledges and is grateful to the Traditional Owners, Elders and Knowledge Holders of other Indigenous nations and clans who have been instrumental in our reconciliation journey.

We recognise the unique place held by Aboriginal and Torres Strait Islander peoples as the original custodians of the lands and waterways across the Australian continent, with histories of continuous connection dating back more than 60,000 years.

We pay respect to Elders, past and present, and acknowledge the importance of Indigenous knowledge in the Academy. As a community of researchers, teachers, professional staff and students, we are privileged to work and learn every day with Indigenous colleagues across the University.

They are instrumental in our reconciliation journey and generous in providing their knowledge, leadership and support.

We acknowledge and pay respect to them, to our Aboriginal and Torres Strait Islander students, to the Traditional Owners, Elders and collaborators of the University of Melbourne, and the Aboriginal and Torres Strait Islander peoples who visit our campuses from across Australia and the world.

The site of the University of Melbourne's Fishermans Bend campus and surrounding landscape is and will always be a significant place of knowledge, learning and innovation.

We are committed to working together with Traditional Owners and communities to explore how Indigenous knowledge systems and culture might be revealed and interpreted through integrated whole-of-campus planning and design. This includes public realm and built form interventions through to student experience, site activation, placemaking and programming.

We are guided in this process by the Fishermans Bend Campus Ngargee Design Guidelines that were developed through an Indigenous led co-design process with representatives of the Bunurong Land Council Aboriginal Corporation, the Boon Wurrung Foundation and the Wurundjeri Woi-wurrung Cultural Heritage Aboriginal Corporation.

Ngargee, pronounced *Narg-ee*, is a word shared amongst the wurrung language groups of the Kulin Nation meaning 'gathering to celebrate', a sacred ceremonial meeting of many different people for the purpose of connecting through ritual, song, and dance. The phrase is used in the context of social inclusion and connectedness in the community facilitating opportunities for shared learning and celebration of cultures.

HELP US BUILD THE FUTURE THROUGH INNOVATIVE ENGINEERING AND DESIGN AT FISHERMANS BEND

THE FISHERMANS BEND CAMPUS WILL BE A VIBRANT PLACE OF LARGE- SCALE RESEARCH AND PROJECT- BASED TEACHING THAT CREATES INTERDISCIPLINARY COLLABORATION AND PARTNERSHIPS WITH INDUSTRY

Offering an unprecedented collection of large-scale research and testing facilities in one location, the campus will be a place for true experimentation, prototyping and pilot testing at a scale and quality unparalleled in the Southern Hemisphere. Focusing on advanced manufacturing, materials, energy, the built environment and sustainability, the campus will be a catalyst for discovery, knowledge translation and commercialisation, and a magnet for the best and brightest minds from around the world – making it the ideal environment for solving real-world industry-focused problems with global impact.

Planned to open in 2026, Stage 1A of the Fishermans Bend campus will be a super hub for engineering and design innovation. Located just five kilometres from the

Melbourne CBD, large interactive spaces, world-class facilities and a vibrant innovation environment will transform the education experience for our students and enable us to make, do, test and collaborate with industry, and with each other, in ways not currently possible at our other campuses.

Our precincts are key to making new and distinctive contributions to our local and global communities and we are incredibly excited about bringing our faculties together at Fishermans Bend to fast-track innovations in sustainable buildings and infrastructure, energy and engine propulsion, autonomous systems, robotics and more. The Stage 1 campus development provides a range of new and exciting opportunities for industry collaboration and participation, including the potential for partners to help build Australia's leading engineering and design innovation precinct by co-locating with us on campus or sharing our iconic facilities.

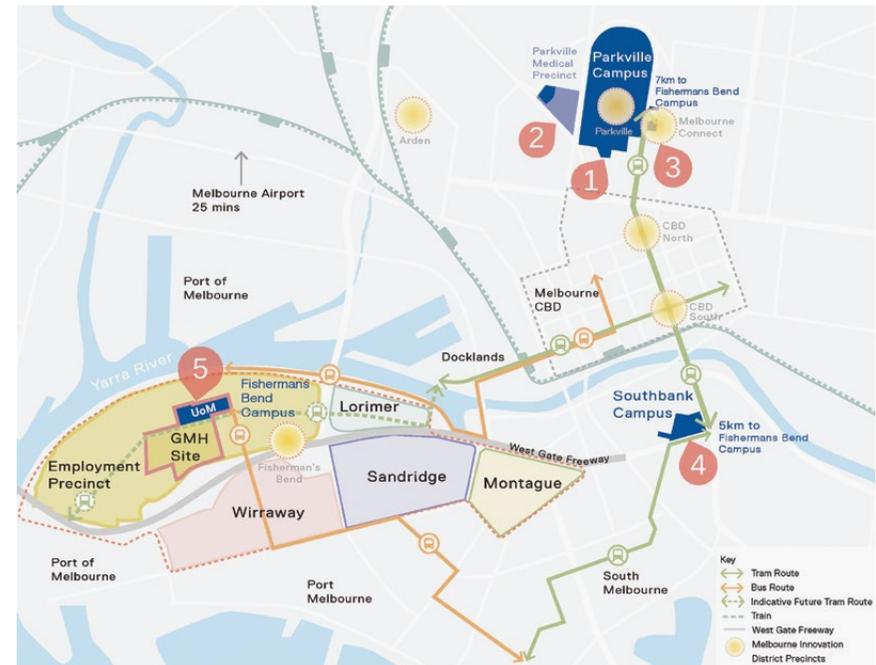
Talk to us today about how we can work together for a more sustainable, resilient future.



Mark Cassidy
Dean – Faculty
of Engineering
and Information
Technology



Julie Willis
Dean – Faculty
of Architecture,
Building and
Planning



1 Parkville
Main Campus

2 Parkville
Biomedical

3 Melbourne Connect
Digital and Data

4 Southbank
Arts and Creative Industry

5 Fishermans Bend
Engineering and Design

COMMITMENT TO SUSTAINABILITY

THE UNIVERSITY OF MELBOURNE HAS A RESPONSIBILITY TO LEAD AND ACT ON THE CRITICAL CHALLENGES OF GLOBAL SUSTAINABILITY IN A CHANGING CLIMATE

Challenges like global warming require knowledge and practical solutions that engage with the social, environmental, and economic dimensions of sustainability. As a public-spirited, globally connected research and teaching institution, we have an opportunity to contribute to the growth of sustainability knowledge and practice, to lead and engage in public debate, and to lead by example through our campus operations and stewardship of our campus landscapes.

The University's new [Sustainability Plan 2030](#) renews and strengthens our commitment to climate leadership and responds to the need over the next 'critical decade' for deep cuts in carbon emissions to maintain a safe climate for the planet. This includes a direct commitment to achieve carbon neutral certification by 2025 and climate positive status by 2030.

The Plan, which reflects our ambition to be leaders for a global sustainable future, describes our strategic approach to accelerating society's transition to sustainability within three domains:

Amplifying action through campus and communities

To integrate the Plan's knowledge mobilisation and operational domains in ways that amplify their contribution, means leveraging synergies between institutional activities, and embedding innovation and learning into how we operate and engage.

PRIORITY AREAS:

- Climate leadership
- Campuses as living laboratories
- Community of sustainability learners and practitioners

Mobilising knowledge for action

To catalyse action and solutions for sustainability, we must inspire our students and staff to develop deep disciplinary and interdisciplinary perspectives on sustainability, and collaborate with communities, government, industry and institutional partners to advance real-world solutions and reciprocal learning.

PRIORITY AREAS:

- Graduates for a sustainable future
- Discovery
- Indigenous Knowledge
- Engagement and Partnerships

Walking the talk in our operations

To model the commitment and action necessary to effect meaningful change by 2030, how we operate and develop our institution must minimise harm and promote the health of the ecosystems and networks they are part of.

PRIORITY AREAS:

- Climate resilience
- Healthy ecosystems
- Healthy water cycles
- Just and circular economy
- Responsible investments

Our Fishermans Bend campus will be an exemplar of sustainability—championing deep interdisciplinary perspectives on complex global sustainability issues, accelerating real-world solutions and demonstrating possibilities to inspire others.

We are targeting a 6-star Green Star rating for all new buildings and will further push the boundaries with innovative and exemplary standards for water, energy and waste. Living Labs will provide real-world opportunities to develop, test and apply innovative solutions to sustainability challenges, driving the industry forward through demonstration, partnerships and hands-on educational experiences. Together we can shape a more sustainable planet through shared knowledge, imagination, and action.

RESEARCH THEMES

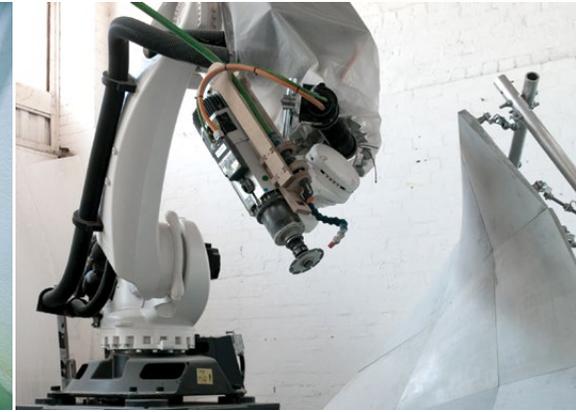
THE FISHERMANS BEND CAMPUS
WILL PROVIDE THE FACILITIES,
KNOWLEDGE AND PARTNERSHIPS
TO FAST-TRACK SOLUTIONS
TO THE WORLD'S GREATEST
SUSTAINABILITY CHALLENGES

SUSTAINABLE CITIES	FUTURE RESOURCES	FUTURE TECHNOLOGIES
Architecture	Geomechanics and materials testing	Aerodynamics
Cultural and sustainable landscapes	Renewable Energy	Autonomous Systems
Data and analysis		Buildings and houses of the future
Future building structures and materials		Design and creative research
Future cities		Energy and propulsion
Healthy communities and infrastructure		Hydrodynamics
Indigenous place		Robotics
Practice and construction innovation		
Sustainable buildings and infrastructure		
Urban planning and design		

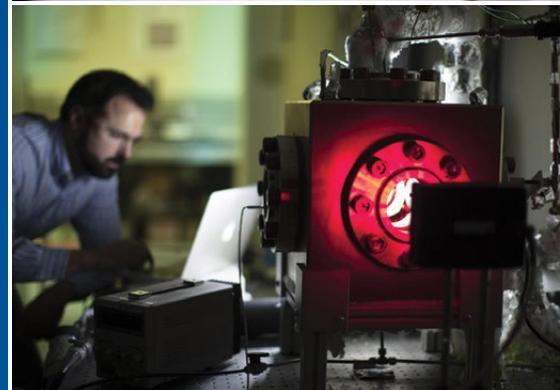
NEW PURPOSE-BUILT FACILITIES

A number of new transformational facilities are planned for the Faculty of Engineering and Information Technology and the Faculty of Architecture, Building and Planning to expand and diversify our research and teaching capabilities, including:

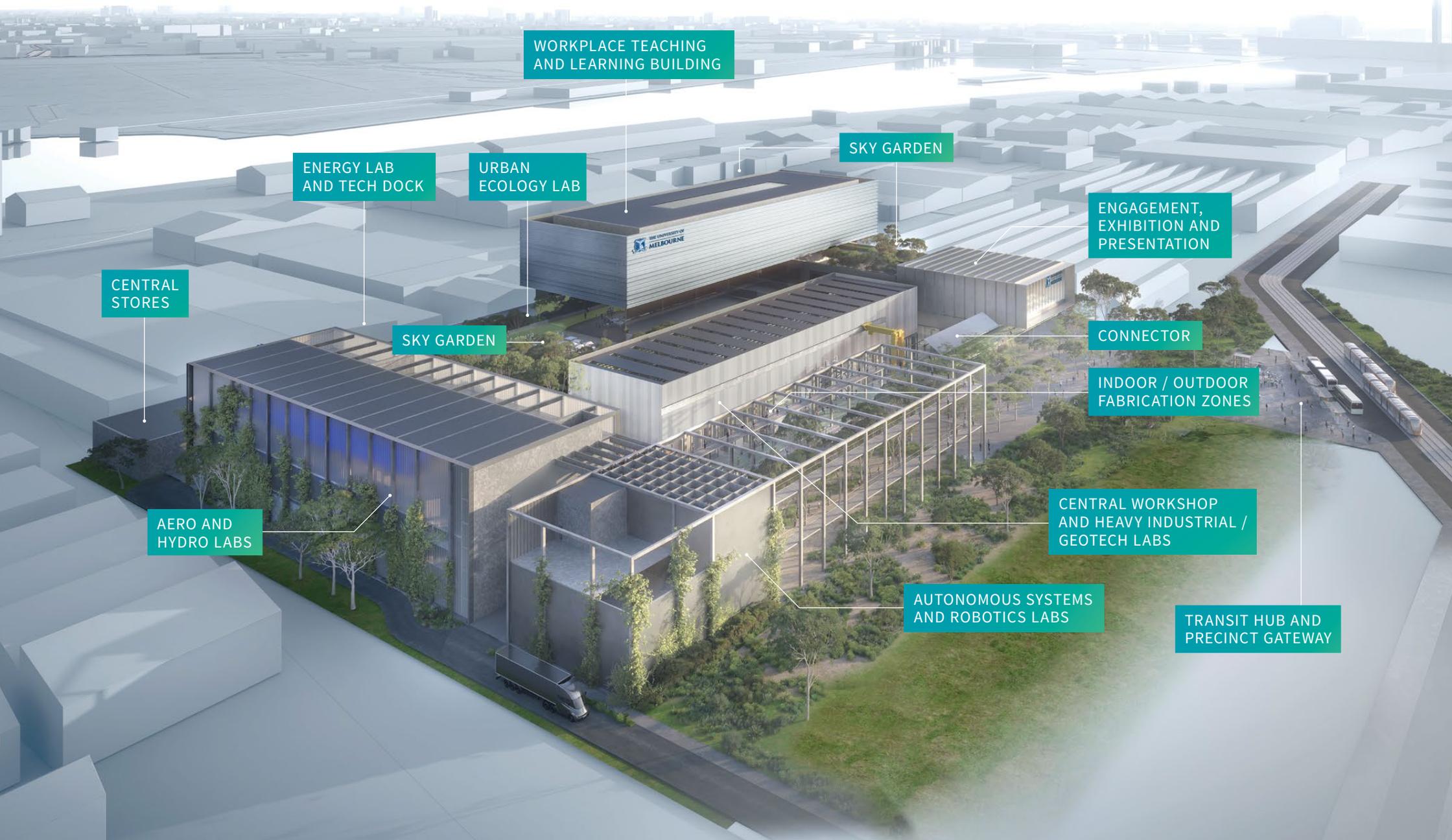
- Pressurised high Reynolds Number wind tunnel (X-Tunnel)
- Wind, wave current ocean facility (HYCASTT)
- Model maneuvering basin (DMAD)
- Suite of smaller scale turbulence facilities
- Energy and propulsion test cells
- Smart grid energy lab
- Autonomous systems / Flight Lab
- Robotics lab
- Advanced material synthesis lab
- Future Factory for the Built Environment
- Construction system prototyping area
- Indoor and outdoor industrial fabrication spaces
- Structural testing facilities
- Built environment testing facilities
- Urban ecology lab



By engaging with us at Fishermans Bend, partners will have access to an enviable range of world-class equipment, laboratories and testing facilities—as well the technical expertise and experimental capabilities to assist in their use.



STAGE 1 DESIGN CONCEPT



WORKPLACE TEACHING
AND LEARNING BUILDING

SKY GARDEN

ENERGY LAB
AND TECH DOCK

URBAN
ECOLOGY LAB

ENGAGEMENT,
EXHIBITION AND
PRESENTATION

CENTRAL
STORES

SKY GARDEN

CONNECTOR

INDOOR / OUTDOOR
FABRICATION ZONES

AERO AND
HYDRO LABS

CENTRAL WORKSHOP
AND HEAVY INDUSTRIAL /
GEOTECH LABS

AUTONOMOUS SYSTEMS
AND ROBOTICS LABS

TRANSIT HUB AND
PRECINCT GATEWAY



TIMELINE



Q3 2022

CAMPUS CO-DESIGN
OPPORTUNITY
COMMENCES



2023

CONTRACTOR
ENGAGEMENT



2024

PHASE 1A
CONSTRUCTION
COMMENCES



2026

PHASE 1A
RESEARCH
FACILITIES OPEN



2031

FULL STAGE
1 CAMPUS
COMPLETE

WHY PARTNER
WITH US AT
FISHERMANS
BEND?



WORLD LEADING INNOVATION CAPABILITIES APPLIED AT SCALE

With a critical mass of industry, academia and infrastructure Fishermans Bend will play a key role in the University's innovation ecosystem, enabling us to fast-track innovations from inception through to market-ready solutions. It will be one of the first connectors offering research right through to commercial demonstration in any such precinct in Australia.

To support this mission, the University's Vice-Chancellor Professor Duncan Maskell recently announced a new \$115 million dollar investment fund established in partnership with Breakthrough Victoria and Tanarra Capital to enrich the University's innovation ecosystem with financial support for start-ups looking to translate Melbourne's world-leading research into impactful solutions that will help benefit the greater society.

The first of these two investment funds, the Genesis Pre-Seed Fund, created in partnership with Breakthrough Victoria, will see \$15 million directed towards creating seed-fund-ready companies that are grounded in research and new technologies from within the University network.

In addition, the \$100 million Tin Alley Ventures Fund will invest in high-potential start-ups from within the University and affiliate networks and assist them in going from seed-stage enterprises through to pre-IPO, with an added focus on engaging the University's alumni networks to assist in company growth and investment.



**Next generation
renewable
electricity
systems**



**More fuel-efficient
aircraft**



**Improved sensing
technologies**



**Drone-based crop
monitoring**



**Energy efficient,
healthy, affordable
housing**



**Advanced water
systems**



**Climate change
simulations**



**Smart grid
technologies**



**Engine propulsion
testing**



**Improved
construction
standards for
prefabricated
buildings**



**Urban
retrofitting and
decarbonisation**



**Ocean engineering
for offshore
renewable energy
production**



INDUSTRY BENEFITS

The industrial scale of the Fishermans Bend campus provides a rare opportunity to accommodate large-scale equipment, laboratories and testing facilities unparalleled in the Southern Hemisphere.

Our new campus will be a place for true experimentation and pilot-testing, at scale and in real time, where we can work with you to explore and expand the horizons of what is possible in engineering and design.

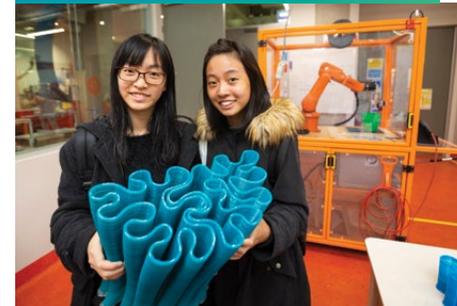
ACCESS TO WORLD-
CLASS FACILITIES
AND INFRASTRUCTURE



ENGAGEMENT WITH LEADING
ACADEMICS AND RESEARCH
EXPERTISE



ENGAGEMENT WITH STUDENTS
AND NEXT-GENERATION
WORKFORCE DEVELOPMENT



COLLABORATIVE
PROTOTYPING
AND INNOVATION



A GLOBAL HUB FOR
INDUSTRY ENGAGEMENT
AND NETWORKING



A PLACE TO PUSH
THE LIMITS



HOW WE WILL WORK WITH YOU

WE BUILD LASTING, MUTUALLY BENEFICIAL RELATIONSHIPS BASED ON TRUST, COLLABORATION AND TRANSPARENCY

At the University of Melbourne we bring together the best minds to solve big challenges. Collectively we can explore new opportunities to help your organisation and benefit society.

Depending on your needs, there are many ways that we can partner, from collaboration on strategic research projects to developing products that give your organisation an edge.

At Fishermans Bend this could include:

- Co-locating with us on site in laboratories or work spaces
- Co-development of shared research facilities
- Collaborating on your strategic research projects
- Delivering joint teaching and learning opportunities
- Accessing our research infrastructure and platforms
- Talent pipeline development and recruitment of graduates and graduate researchers
- Applying for a research grant
- Professional development for your employees
- Licensing existing technology or intellectual property





BENEFITS OF CO-LOCATION

THE FISHERMANS BEND CAMPUS WILL PROVIDE A UNIQUE OPPORTUNITY TO CO-LOCATE WITH VISIONARY, ENGINEERING AND DESIGN PARTNERS—BRINGING EDUCATION, INDUSTRY, GOVERNMENT, RESEARCHERS AND ENTREPRENEURS TOGETHER TO CROSS-POLLINATE IDEAS FOR GREATER OUTCOMES

Co-location benefits include:

- A facilitated partnership with Australia’s leading university providing access to talent, skills, technology and funding opportunities
- Immersion in a community of experimentation and diverse thought that creates the inspiration and environment to think differently, and the skills and resources to drive real impact
- Opportunities to engage, exhibit and align with peers, future talent and a global audience
- Engagement with the workforce of the future, a diverse, highly-skilled, and passionate pipeline of talent, ready to take on the challenges of tomorrow

Start-ups, scale-ups, spin-outs and SMEs will be an integral part of the Fishermans Bend innovation ecosystem. Local and international

innovators and organisations will be able to undertake research and prototyping at a scale that cannot be achieved elsewhere.

WORLD-LEADING
RESEARCH
FACILITIES AND
INFRASTRUCTURE

Central
Workshop



AERODYNAMICS AND HYDRODYNAMICS

Academic Leads



Prof Ivan
Marusic
(Aero)



Prof Jason
Monty
(Hydro)



Prof Nick
Hutchins
(Aero)

Our world-class aerodynamics and hydrodynamics laboratories at Fishermans Bend will unlock leading-edge solutions for maritime and aerospace engineering, atmospheric and climate change modelling and mitigation, and coastal and ocean ecology management. This landmark facility – the largest in the southern hemisphere – will further position Melbourne as an international research and innovation hub and attractor of top global talent for research collaboration.

KEY FACILITIES

- X-Tunnel – A new state-of-the-art supersonic wind tunnel capable of high Reynolds numbers. The largest wind tunnel of its kind in Australia, the X-Tunnel will provide researchers with the ability to investigate turbulence and flow in a full-scale facility
- Hybrid Continuous Loop Air-Sea Tow Tank (HyCASTT) and Deep Manoeuvring and Directional Wave Basin (DMAD) – State-of-the-art wind/wave current interaction facilities, the largest of their kind in the world will enable a fully-realised ocean simulation

RESEARCH CAPABILITIES

- Turbulence simulation to reduce airplane drag for faster, cheaper, more fuel-efficient travel with a reduced carbon footprint
- Air/sea interaction modelling and simulations to advance science in climate change prediction
- Offshore wind pattern simulation for research into safer marine operations in search and rescue, oil and gas and Defence
- Advancing research in alternative maritime fuel and propulsion systems, control systems and trusted autonomous systems to improve the efficiency, sustainability and safety of marine vessels and ocean-based infrastructure
- Floating ice/wave/ship interaction simulation and analysis for weather and wave forecasting

ENERGY AND PROPULSION



Academic Leads



Prof
Michael
Brear



Prof
Pierluigi
Mancarella

The Fishermans Bend campus will house the University's state-of-the-art experimental energy facilities where we can build and test the sustainable, affordable and reliable energy solutions that power our cities and industries. Alongside our partners in industry and government, our ultimate aim is to design new energy systems, market applications and policy reforms for low and zero-emissions energy and propulsion systems that transform global energy markets and de-carbonise economies.

KEY FACILITIES

- Safety-rated test cells – a series of co-ordinated test cells will provide an optimal environment for building and testing new technologies and energy systems
- Virtual Power Plant (VPP) – a large-scale clean energy power plant networked to solar photovoltaic systems, hydrogen and energy storage facilities and a smart grid laboratory

RESEARCH CAPABILITIES

- Optimisation and control of energy systems: featuring renewables, storage, conventional generation and flexible loads such as smart buildings, and at a range of scales up to the National Electricity Market
- Conventional, hybrid and fully electric power plant for stationary and transport applications: including those with advanced gas turbines or reciprocating engines integrated with battery storage.
- Clean fuel manufacture and design: such as renewable hydrogen and associated products, advanced biofuels and other alternative fuels

BUILT ENVIRONMENT AND INFRASTRUCTURE

OUR RESEARCHERS AND DESIGNERS ARE WORKING TO SOLVE SOME OF THE BIGGEST CHALLENGES FACING THE CONSTRUCTION INDUSTRY AND LOCAL GOVERNMENTS IN AUSTRALIA AND THE ASIA-PACIFIC REGION

Together with our partners, multi-disciplinary research teams drawn from across the University of Melbourne's architecture, engineering, construction and design disciplines will experiment and innovate for a sustainable and resilient built environment that is less wasteful, more energy efficient and which contributes to global emission reductions.

We seek to unlock new design and construction techniques, materials and management systems to reduce costs, increase efficiencies and produce higher-quality, safer, longer-lasting and less polluting civil infrastructure.

Academic Leads



Prof
Alan Pert
(ABP)



Prof Abbas
Rajabifard
(FEIT)



Prof
Tuan Ngo
(FEIT)



KEY FACILITIES

- Central Workshop – this factory-scale space will provide access to a wide range of making equipment and highly skilled expertise to support the creation and development of world leading teaching and learning, research and innovation
- Industrial-scale fabrication and construction spaces – these indoor and outdoor spaces will enable at-scale experimentation and testing in controlled environments. Functioning also as a demonstration hub for new construction technologies, they will allow us to showcase better designs, materials and solutions for use in new construction and retrofitting of existing infrastructure
- A world-first natural ground structures test facility – capable of simulating natural disaster and extreme weather conditions, this facility will enable at-scale structural testing and analysis via 3D ground structure x-rays and advanced modelling systems
- An on-site data visualisation laboratory will enable digital twinning and the fluid connection between designing, prototyping, testing and refining the end-products
- Urban Ecology Lab – an indoor-outdoor living systems lab for the design, testing and manufacturing of nature-based solutions and urban landscape architecture
- Sustainable and Healthy Environments Lab will enable the evaluation of the design, performance and experience of spaces
- Digital prototyping, materials and systems testing, robotic construction, environmental testing and digital design facilities will take the student learning experience to another level
- Ideas incubator – a home to grow early-stage innovative ideas and provide connections to leading researchers, like-minded industry, and world leading facilities – fostering a culture of creation and providing exciting learning and work experiences for students
- Future Factory Industry membership program – inspired by successful overseas models including MIT and UCL, the Faculty of Architecture, Building and Planning are exploring an industry membership program with the potential to bring together a diverse range of industry leaders to explore ideas, technologies, and paradigms for the future



RESEARCH CAPABILITIES

- Practice construction and innovation – our advanced prototyping laboratories will provide the tools and space for experimental research, rapid prototyping and at-scale testing focused on cleaner, greener and better performing infrastructure, materials and construction methods
- Resilient civil infrastructure including research and development of solutions to improve the resilience of our cities to extreme weather and natural disaster events
- Future building technologies including innovating to improve the fire resistance of walls, doors, roofs, cladding, glazing and other material elements of construction
- Digital engineering modelling and processes including Building Information Modeling (BIM) and Design for Manufacture and Assembly (DfMA)
- The application of optic fibre technology to buildings and materials performance monitoring in changing climates and extreme weather conditions
- Affordable, sustainable housing and buildings including prefabrication and automated off-site manufacturing
- A cleaner, less wasteful environment including materials innovations to eliminate waste and keep materials in circulation through re-use or re-cycling will address issues of resource scarcity and emission reductions
- Living laboratories integrated into campus infrastructure will support the development and testing of green infrastructure solutions contributing to increased biodiversity and green space in urban environments
- Identifying and quantifying links between interior design and indoor environmental quality performance on people's satisfaction, health and wellbeing
- Advanced data and computing systems will facilitate spatial and systems modelling of urban environments, delivering a strong evidence-base from which to plan and assess urban design interventions



Fishermans Bend will be a distinctive and dynamic destination where students, academics and industry experts come together to create a window to the future of the built environment.





ROBOTICS AND AUTONOMOUS SYSTEMS

Academic Leads



Prof
Chris
Manzie



Dr Airlie
Chapman



Prof
Denny
Oetomo

The University of Melbourne is at the international forefront of human-centred autonomous systems research and remote sensor technologies, advancing automation, control systems, machine learning and system optimisation for robotics and swarms of networked distributed autonomous systems. The Fishermans Bend campus will allow our researchers to push these technologies further, driving advances in how robots work together – and with humans – to do the jobs that aren't safe, sustainable or efficient for humans to do.

KEY FACILITIES

- Autonomous systems flight lab and test zones – a multi-storied, indoor/outdoor drone test space will simulate navigation conditions inside buildings, below ground and in other places where GPS signals can't reach, in an environment free from air flight restrictions and the one-pilot-per-drone rule
- Internet of Things (IoT) Lab – a dedicated space for researchers and partners to build, test, and showcase hardware prototypes

RESEARCH CAPABILITIES

- Networked dynamical systems
- Human-centric autonomous systems
- Sensor and information processing
- Sensor scheduling, spectrum management and dynamic network control
- Control system design and implementation
- Advanced sensor design for nano and micro sensors
- Robust communications and sensor networks

ADVANCED DEFENCE TECHNOLOGIES



Academic Leads



Prof
Len
Sciacca



Prof
Chris
Manzie



The University of Melbourne develops leading-edge defence technologies, improving the safety of Australian personnel and enabling our defence systems to meet an increasingly complex security landscape. Defence research at Fishermans Bend will centre on marine systems technologies, advanced materials innovation, human-centred autonomous systems and advanced sensor technologies.

KEY FACILITIES

- The Fishermans Bend campus is advantageously located within the cluster of defence industry and research entities, including the Defence Science & Technology Group and Boeing. It offers a site for multinationals and SMEs to engage in the Defence ecosystem, alongside large government and industry players, supported by our state-of-the-art materials fabrication laboratory, ocean simulation facilities and autonomous robotics testing sites

RESEARCH CAPABILITIES

- Optimising the performance and security of submarine, ship and amphibious operations in the open ocean and coastal areas, through innovations in marine vessel fuel, propulsion, control and trusted autonomous systems
- Human-centred autonomous systems and advanced sensor technologies, for applications including surveillance, advanced monitoring systems, search-and-rescue and emergency response in defence and civil contexts
- Advancing materials with purpose-built properties such as blast and ballistics protection and drag-reduction, for vehicle armour and personal protective equipment

GEOMECHANICS AND MATERIALS TESTING

The University of Melbourne is working to advance scientific and engineering approaches in geotechnical and reservoir engineering by effectively integrating research, teaching, industry and community engagement. Fishermans Bend's state-of-the-art geotechnical test facilities will support research and innovation that drives affordable and sustainable solutions in onshore and offshore geomechanics, pavement and energy geotechnics, mining, heat transfer, fluid flow, and chemical processes in natural and engineered porous media and geomaterials.

KEY FACILITIES

- Geotechnical testing facility – will enable testing and characterisation of geomaterial from soft soils to hard rocks across scales (micro to full-scale) and their interaction with geostructures, through advanced imaging, laboratory soil element testing, physical model testing (1g and centrifuge), near surface and electromagnetic geophysical testing, field monitoring and testing using advanced instrumentation

RESEARCH CAPABILITIES

- Developing fundamental and practical solutions in offshore geotechnical engineering – offshore sediment characterisation and behaviour; offshore renewable energy foundations; pipeline integrity and stability analysis; georisk and emerging artificial intelligence technology
- Researching environmentally and socially acceptable, cost effective carbon capture and storage solutions for a carbon constrained world
- Unravelling the complex interplay of sub-surface processes (during underground hydrogen and natural gas storage, unconventional gas recovery and deep mining, etc.) in geological structures, simultaneously considering wide ranging time and length scales from the rock pore to the scale of the earth's crust
- Searching for novel solutions across a wide range of disciplines to achieve creative opportunities from current and emerging issues in earth science and engineering
- Analysing the micro and macro scale behaviour of granular material under complex condition, including interaction of fluids with granular material (internal erosion) and unconventional granular assemblies (tyre particles mixed with sand or gravel)
- Advanced laboratory soil and rock characterisation, such as specialist soil element testing and high stress rock testing facilities to replicate in-situ stresses available in deep underground
- Field testing and long-term monitoring of shallow and deep footings, embankments, energy foundations and excavations using optic fibre technology

Academic Leads



A/Prof
Mahdi
Disfani



Dr
Shiao Huey
Chow

PRELIMINARY
DESIGN
CONCEPTS

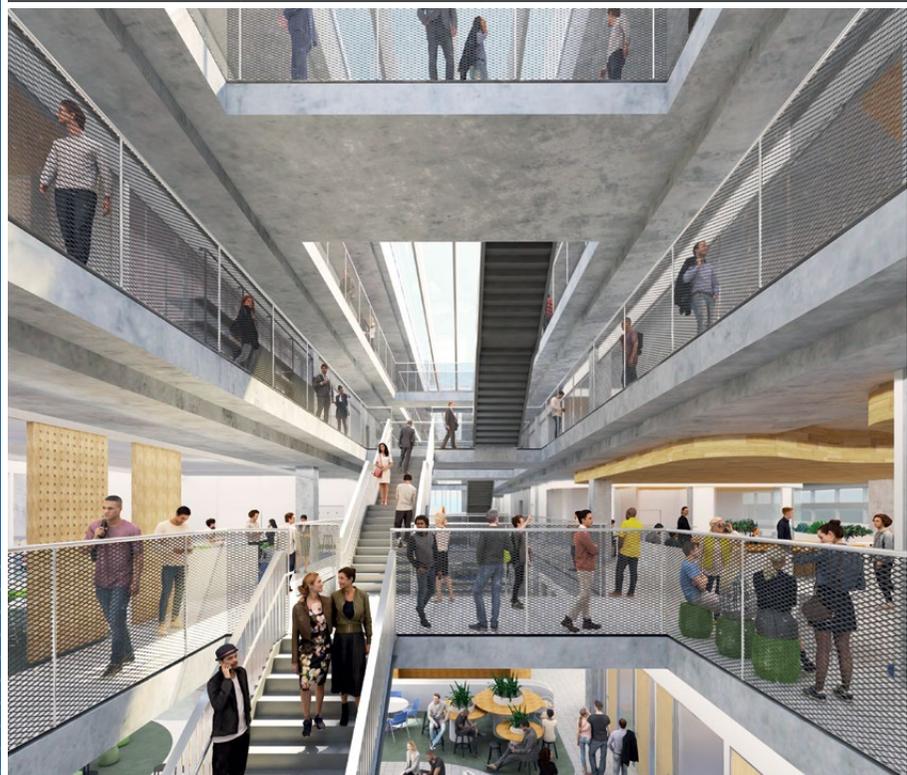




← PUBLIC
REALM



WORKPLACE
TEACHING
& LEARNING
BUILDING AND
CONNECTOR
SPACES





◀ AUTONOMOUS
SYSTEMS
LABS

HYDRODYNAMICS
AND AERODYNAMICS
LABS





◀ INDOOR HIGH BAY
FABRICATION AND
CONSTRUCTION
AREAS



OUTDOOR
FABRICATION
AND
CONSTRUCTION
AREAS



THE UNIVERSITY OF MELBOURNE

THE UNIVERSITY OF MELBOURNE IS
CONSISTENTLY RANKED AMONG THE
LEADING UNIVERSITIES IN THE WORLD

The University of Melbourne attracts the best talent from around the globe. We have over 100 research centres and institutes and an overall research expenditure in Australia of over \$1.1B – second only to that of CSIRO.

We are a member of Australia's prestigious "Group of Eight" ("Go8") Australian research-intensive universities, which together receive over 70% of the Commonwealth of Australia research grants.

In 2020, the University had over 54,000 equivalent full-time students (49% graduate and 51% undergraduate) enrolled across various courses and 430,000 globally dispersed living alumni, with 7 Nobel laureates since 1945.



#1 IN
AUSTRALIA



#8 IN THE WORLD
FOR GRADUATE
EMPLOYABILITY



#33 IN THE
WORLD



OUR PURPOSE IS
TO BENEFIT SOCIETY
THROUGH THE
TRANSFORMATIVE
IMPACT OF EDUCATION
AND RESEARCH.

OUR ASPIRATION IS
TO BE A WORLD LEADING
AND GLOBALLY CONNECTED
AUSTRALIAN UNIVERSITY
WITH STUDENTS AT THE
HEART OF EVERYTHING
WE DO.



CONTACT US

FISHERMANS BEND PROJECT TEAM

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Fishermans
Bend campus