Driving sustainable innovation for next-generation data centres

Partnering for Smarter, Greener, and More Resilient Data Centres

RMIT brings world-class research and industry collaboration pathways to tackle the most pressing challenges in the data centre ecosystem - delivering solutions that enhance efficiency, resilience, and sustainability across the entire lifecycle.

Our unique approach combines:

End-to-End Expertise:
From integrated site-planning to energy and water efficiency, modular construction, and advanced cooling technologies.

Cutting-Edge Innovation:
AI and ML for real-time optimisation, Digital Twins for predictive modelling, and SmartNIC for performance enhancement.

Sustainability Leadership:
Circular economy principles, resource recovery, and climate-adaptive design to meet global ESG goals.

Security & Resilience:
Cybersecurity systems and disaster risk strategies to safeguard critical infrastructure.

Workforce Capability:
Building diverse leadership and technical skills to future-proof the industry.

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Data Centres

Capability Overview

RMIT researchers are committed to help inform solutions to the critical challenges faced by the data centre industry sector.

Our targeted research approach encompasses the complete supply chain associated with Data Centres including planning and procurement, construction, energy and water efficiency, AI, and extends to regulatory and policy research, capability building and training, disaster risk, and security and resilience.

RMIT's world-class research capability and experience include:

Novel SmartNIC to directly improve data centre performance and management

Novel AI and ML methods for real time energy analysis and optimisation

Power systems and electronics

Organisational strategies and leadership practice

Digital twins

Advanced thermal management systems

Advanced water management

AI tools for sustainability reporting

Circular economy principles in modular construction

Cyber security systems

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How We Deliver This

RMIT's Enabling Impact Platforms (EIPs) provide a unique mechanism for bringing together transdisciplinary researchers and industry experts to rapidly respond to large-scale, complex challenges in society. These platforms foster collaboration across diverse fields, enabling innovative solutions that address critical issues with agility and impact.

The EIPs play five key roles in driving this mission:

Catalyse Collaboration
Enable and scale transdisciplinary and cross-sector engagement to co-develop research and communities of practice.

Scale Up
Lead the community to convene and coordinate activities to create major impact-focused initiatives.

Foster Impact
Focus on impact-focused research that fosters strong links, engagement, and leadership.

Enable Translation
Ensure effective research translation to deliver pathways to impact.

Thought Leadership
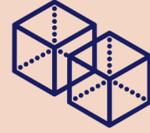– Provide strategic thought leadership, future-oriented thinking, and insights to lead.

Capability Areas & Research Community

Water Usage and Sustainability

Gary Rosengarten
Iftekhar Khan
Salman Shooshtarian
Say Yen Teoh
Xavier Mulet

Digital Twin Service Platform

Jianhu Shen
Gary Rosengarten
Ahmad Mojiri
Chi Tsun (Ben) Cheng

Regulatory and Policy Research

Peter SP Wong
Saima Ahmad
Salman Shooshtarian
Anne Kallies
Zsuzanna Csereklyei

Grid Integration

Kazi Hasan
Nil Rajeshkumar Patel
Brendan McGrath
Carlos Teixeiria
Madhi Jalili
Lasantha Meehahapola

Workforce Capability and Leadership

Saima Ahmad

Energy Efficiency and Sustainability

Chi Tsun (Ben) Cheng
Gary Rosengarten
Iftekhar Khan
Matthew Francis
Nil Rajeshkumar Patel
Peter SP Wong
Priya Rajagopalan
Salman Shooshtarian
Say Yen Teoh
Sherman Cheung
Son Nguyen
Su Nguyen

AI and ML Integration

Bahram Farhadinia
Chi Tsun (Ben) Cheng
Falk Scholer
Karin Verspoor
Qiang Fu
Son Nguyen
Su Nguyen
Sylvia Urban

Scalability and Modular Data Centres

Jianhu Shen
Jonathan Tran
Peter SP Wong
Qiang Fu
Salman Shooshtarian
Nil Rajeshkumar Patel

Security and Resilience

Amy Corman
Chao Chen
Jago Dodson
Jonathan Tran
Qiang Fu
Saima Ahmad

Thermal Management and Cooling Technologies

Chi Tsun (Ben) Cheng
Gary Rosengarten
Iftekhar Khan
Matthew Francis
Sherman Cheung
Xavier Mulet

Materials and Advanced Architecture

Chi Tsun (Ben) Cheng
Jonathan Tran
Peter SP Wong
Priya Rajagopalan
Qiang Fu
Salman Shooshtairan
Xavier Mulet

Collaboration Opportunities

01

Energy Sourcing and Use
Research Lead: Gary Rosengarten

- Energy sourcing and decarbonisation
- Grid interaction and energy management
- Optimised cooling and modular design

Chi Tsun (Ben) Cheng | Gary Rosengarten | Iftekhar Khan | Kazi Hasan | Matthew Francis | Sherman Cheung | Say Yen Teoh | Su Nguyen | Xavier Mulet | Zsuzsanna Csereklyei

02

Infrastructure and Resilience
Research Lead: Priya Rajagopalan

- Climate adaptive design
- Infrastructure optimisation
- Locational impacts and optimal siting
- Participation of women in the data centre industry
- Resource recovery
- Sustainable data centres

Amy Corman | Annette Kroen | Aonghus McNabola | Bahram Farhadinia | Brian Considine | Chao Chen | Falk Scholer | Iftekhar Khan | Jago Dodson | Jianhu Shen | Jonathan Tran | Mark Easton | Matthew Berry | Peter SP Wong | Priya Rajagopalan | Qiang Fu | Saima Ahmad | Salman Shooshtarian | Son Nguyen

03

Sustainability and Water Use
Research Lead: Aonghus McNabola

- Capable building
- E-waste and circular economy
- Resource and lifecycle management
- Technology and innovation
- Understanding nature impacts: site scale
- Understanding nature impacts: supply chains

Aonghus McNabola | Ascelin Gordon | Brian Considine | Chi Tsun (Ben) Cheng | Gary Rosengarten | Iftekhar Khan | Matthew Francis | Paul McIntosh | Peter SP Wong | Priya Rajagopalan | Salman Shooshtarian | Sarah Barns | Say Yen Teoh | Sherman Cheung | Son Nguyen | Su Nguyen | Xavier Mulet

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AI and ML Integration and Advanced Architecture
Research Lead: Qiang Fu

- Data infrastructure
- Automation and decision support
- Model development and training

Bahram Farhadinia | Chi Tsun (Ben) Cheng | Falk Scholer | Jianhu Shen | Karin Verspoor | Qiang Fu | Son Nguyen | Su Nguyen | Sylvia Urban

Flexible Models for Collaboration

We offer a flexible suite of engagement modes that give partners the right pathway for the right problem—aligning industry needs with research expertise to accelerate innovation, reduce risk, and deliver practical solutions that strengthen efficiency, sustainability, resilience and workforce capability across the data-centre ecosystem.

Expert Advisory
Targeted technical insight for cooling, energy, automation, cyber, and facility design challenges.

Co-Design & Applied Research
Collaborative development of prototypes, digital twins, optimisation models, and operational tools.

Innovation Testbeds
Safe environments to trial new technologies (AI, automation, thermal systems, cyber-physical security).

Joint Research Programs & Consortia
Multi-year collaborations on zero-carbon energy, resilience, materials, supply chains, and sector benchmarks.

Knowledge Networks
Roundtables, foresight briefings and benchmarking that lift whole-of-sector capability and shape standards.

Workforce & Skills Partnerships
Co-designed micro-credentials, training, and student projects to build the specialised DC talent pipeline.

Commercialisation Pathways
Licensing, joint development and spin-outs that bring university innovations into operational DC environments.

Strategic Anchor Partnerships
Integrated, long-term partnerships combining R&D, testbeds, workforce, policy insight and precinct innovation.

Policy & Regulatory Collaboration
Research-informed guidance on ESG, energy policy, emissions reporting, cyber and AI governance.

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Join us in shaping the future of data centres—partner with RMIT to accelerate innovation and create smarter, greener, and more resilient infrastructure.

Contact Us
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