

Strategic Plan 2022–2025

SUSTAINABLE MINERALS INSTITUTE



Director's message

SMI's core aim is to develop people who will create change in the way society produces and uses minerals for a sustainable future.

Collaboration and partnership are at the heart of what we do—we work with stakeholders influencing and impacted by the minerals sector including industry, communities, governments and civil society groups. Together, we work to address global sustainability issues.

Since our last strategic plan was published, SMI has advanced in a number of areas:

- We have integrated our technology transfer company, JKTech, into SMI under one management structure, strengthening the connection between our fundamental research and its translation into impact.
- We have dramatically expanded our training and professional development offerings to support an appropriately skilled workforce for the future. This is now a highly significant vehicle for research translation as we transfer knowledge to individuals in industry, civil society and government agencies.
- We have a focus on creating a culture of inclusion and diversity within the Institute.

SMI's Strategic Plan 2022-2025 builds on our strong foundation of deep expert knowledge within our Research Centres and cross disciplinary application through our Strategic Programs.

The next generation of researchers are critical for a sustainable future built on responsible resource extraction, and I am proud we continue to attract high calibre Higher Degree by Research (HDR) students and we have worked hard to navigate the impact of COVID-19 on many of our current and future students, and staff.

As society wrestles with the challenges of sustainability, there is no doubt in my mind the work of SMI will continue to be in demand. The Institute has a strong role to play in delivering knowledge leadership for a better world. It is unique in its ability to undertake discovery research, nurture academics and provide deep expertise across all facets of the minerals sector and mining.

We have built successful relationships for mutual benefit for the University with mining companies, governments, communities, and civil society organisations and we will continue to pursue partnerships, research translation and engagement opportunities to ensure lasting impact on the path to a sustainable future.

SMI has the vision, skills, and experience to deliver impact for our stakeholders, and I look forward to realising the aspirations outlined in this plan.



A stylized, handwritten signature in white ink, appearing to read 'N. Plint'.

Professor Neville Plint
SMI Director



Operating context

The resources industry continues to grow globally. As the global population increases and our climate becomes increasingly volatile, the United Nations Sustainable Development Goals (SDGs) have set out a global agenda for transitioning to a sustainable future.

A range of interlinked drivers have emerged which define the operating environment for the minerals sector, its many stakeholders and the research that informs them.



URGENCY OF CLIMATE CHANGE MITIGATION

As communities around the world struggle to deal with the immediate effects of climate change, commitments to reduce greenhouse emissions are accelerating.



HUMAN RIGHTS AND DEVELOPMENT

As globally connected societies mature, emphasis and attention on human rights is reshaping all aspects of life. The role and responsibilities of the corporate sector is under increasing scrutiny.



GEOPOLITICS AND SUPPLY CHAIN PRESSURES

As the world adapts to the outcomes of the coronavirus pandemic and conflict in Europe, Africa and the Middle East, resource security is an escalating issue increasing prices and supply chain risks.



INTENSIFICATION AND DIVERSIFICATION OF DEMAND

The demand for commodities is continuing to grow and at the same time, demand is diversifying as new minerals become critical to support new energy and communication technologies.



URBANISATION AND INFRASTRUCTURE

55 per cent of the world's population currently lives in urban areas and 2.5 billion people will move to urban areas by 2050. The provision of infrastructure is driving rapid acceleration in metal production, construction material and industrial mineral demand.



COMPETITION FOR NATURAL RESOURCES

As populations grow, the burden on the environment intensifies and competition for access to water, land, unpolluted air and energy intensifies.



ETHICAL INVESTMENT AND THE RISE OF ESG

Rising interest in ethical investment is driving increasing attention on responsible resource development and heightened social and environmental performance at all stages of the mine life cycle.



CHANGING POLICY LANDSCAPE

New global standards on transparency and the management of tailings dams have emerged, policies for progressive closure and the management of residual risk now exist in many jurisdictions and disclosure on many aspects of financial, environmental and social performance is expected.



DIGITAL TRANSFORMATION

The impact of information and communication technology on our lives is not yet fully understood. Automation, machine learning and digital communications continue to increase productivity and efficiency in the way we work and affect the nature of jobs and skills.

There are interconnections and feedback loops between these drivers and the minerals sector sits within a complex global system that is under stress.

The minerals sector impacts on and is impacted by many different stakeholders including large and small mining and exploration companies, artisanal and small-scale miners, businesses and workers in the supply chain, mining communities, mine workers, governments and politics at all scales, non-governmental organisations and global change agents.

Research to support action within this system needs to understand the complexities and the feedback loops between these economic, social and environmental drivers. This will support a future for the minerals sector across industry, society and governments, driven by technological innovation and the prospect of mining operations embracing 21st century ideals of trust, transparency, diversity and inclusivity to improve the lives of all people.



...the minerals sector sits within a complex global system that is under stress

Sustainable Minerals Institute

The University of Queensland's Sustainable Minerals Institute (SMI) is a world-leading research institute committed to developing knowledge-based solutions to meet global sustainability challenges.



SMI delivers professional development, higher degrees by research and formal teaching programs to train the next generation of industry and community leaders.

The work of SMI is multidisciplinary. It integrates expertise in exploration, mining, mineral processing, workplace health and safety, mine rehabilitation, water and energy, social science, and governance to reduce the minerals industry's impact on communities and the environment and reshape its role in sustainable development.

SMI works collaboratively with industry, governments, civil society and a wide range of other stakeholders and translates research into impact through commercialisation, contract research and consulting.

SMI delivers professional development, higher degrees by research and formal teaching programs to train the next generation of industry and community leaders.





Structure

SMI operates through six disciplinary Research Centres.

These centres are home to research academics, and nurture deep expertise and research excellence through staff, postgraduate and postdoctoral development.

JKMRC: Julius Kruttschnitt Minerals Research Centre

BRC: WH Bryan Mining and Geology Research Centre

MISHC: Minerals Industry Safety and Health Centre

CMLR: Centre for Mined Land Rehabilitation

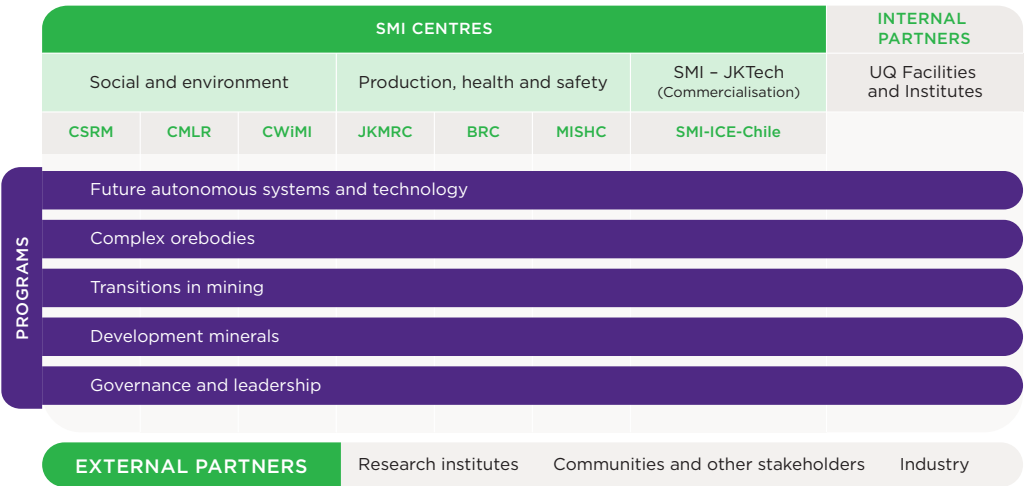
CWiMI: Centre for Water in the Minerals Industry

CSRM: Centre for Social Responsibility in Mining

To ensure the Institute applies a multidisciplinary and systems-based approach to addressing global sustainability challenges, SMI has established Strategic Programs to focus on key sustainability challenges.

Currently there are five programs:

- Complex Orebodies
- Future Autonomous Systems and Technologies
- Governance and Leadership
- Transitions in Mining
- Development Minerals



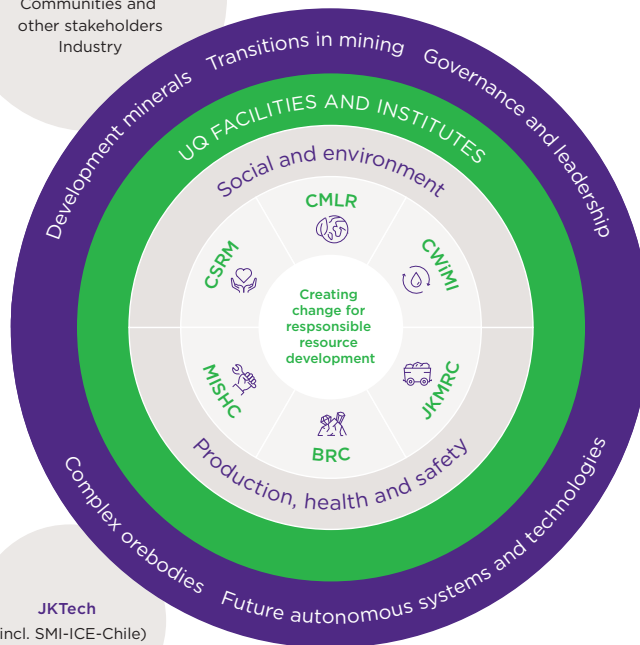
To learn more about the strategic priorities of the Research Centres and Strategic Programs, visit smi.uq.edu.au



Image: A field trial led by Professor Longbin Huang, to scale up rehabilitation technology at the bauxite residue dam, in partnership with Queensland Alumina Refinery Ltd

EXTERNAL PARTNERS

Research Institutions
Communities and
other stakeholders
Industry



JKTech
(incl. SMI-ICE-Chile)

The Institute has several operational channels to drive professional excellence aligned to SMI's goals.

OPERATIONS TEAM

Includes health, safety and facilities management; administration; business management; legal and contracts management; marketing and communication; and teaching and learning expertise.

TRANSFORMATIONAL LEARNING GROUP

Designs and develop learning programs and courses.

JKTECH

Leads technology transfer activities including consultancy and laboratory services, specialist software and equipment, and professional development courses.

SMI-ICE-CHILE

A subsidiary of JKTech, aims to challenge, drive and support the mining and minerals industry in Latin America.

Strategy

The University of Queensland



VISION

Knowledge leadership
for a better world.



MISSION

To deliver for the public
good through excellence
in education, research
and engagement with
our communities and
partners; local, national
and global.



TOWARD 2032

UQ Strategic Plan
2022-2025 articulates
three Domains and three
Enablers for the university.



*To deliver for the public
good through excellence
in education, research
and engagement...*



2022-2025 Domains

Strategic priorities that reflect the core purpose of the university.

1. Learning and student experience
2. Research and innovation
3. Enriching our communities different life experiences and perspectives



2022-2025 Enablers

Fundamental enablers that will support the university's ambitions to deliver on UQ's core purpose.

1. UQ global profile
2. UQ people
3. Securing UQ's future

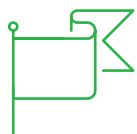
Long term measures of success

By 2032, UQ will be known as:

- A university that delivers highly sought-after graduates, who are prepared for future success through rich and broad educational experiences.
- A university that leads as a premier provider of high-quality postgraduate and lifelong learning opportunities.
- A university that leverages the breadth and depth of its research capabilities and vibrant precincts to address the world's most pressing challenges.
- A university that is a trusted and agile partner widely regarded as a leader in entrepreneurship, knowledge exchange and research translation and engagement.
- A university that has extensive global reach in education and research with a strong commitment to capacity building in emerging economies.
- A university that breaks down barriers to education through the targeted and effective Queensland Commitment.
- Is values-led, deeply committed to delivering for the public good and supporting our people, leading reconciliation, and embracing different life experiences and perspectives.

Strategy

Sustainable Minerals Institute



STRATEGIC PLAN

Responds directly to the UQ Strategic Plan ensuring the Institute remains in direct alignment with the University's aspirations.



VISION

Knowledge leadership for a sustainable world.



MISSION

To deliver global sustainability through responsible mineral development.



*Knowledge leadership
for a sustainable world.*



2022-2025 Domain



Learning and student experience

- Develop strong linkages with faculties through teaching support and involvement in curriculum review and design.
- Provide opportunities for students to participate in site-based applied research through a placement program and opportunities to foster leadership and entrepreneurship.
- Design and deliver new UQ learning programs for professionals working in key roles within the industry, including flexible online micro-credentials under UQ's new alternative credentials framework.
- Attract a diverse pipeline of students by creating a caring culture that fosters a sense of belonging and wellbeing.
- Increase our professional development offering, including the establishment of a global leadership program with the UQ Business School and International partners.

2032 Measures of success



Top 5

Global ranking in disciplinary areas (Social, Environment, Production)



80%

of students (HDR) will have completed an entrepreneurship, global, volunteering or leadership experience



500

participants per year completing an executive education or short course offerings



Double HDR student cohort to

240

Increase enrolments of international post-graduate students



2022-2025 Domain



Research and innovation

- Continue to strengthen our disciplinary base in our Centres.
- Develop and promote our mission driven transdisciplinary research programs designed to address global challenges.
- Foster mutually beneficial partnerships for research translation and engagement.
- Support the development of our research community (Academics, HDR and Professional staff) to enable them to apply successfully for ARC funding.
- Continually improve SMI's approach to managing risks and legal obligations.

2032 Measures of success



#1

Ranked **number one** in Australia for research impact and research excellence in disciplinary areas



Double internal funding from research translation and engagement profits (**\$2 million**)



Attract

50%

of resources related national funding for priority areas and double industry funding (**\$50 million**)

Lead the development of three new research partnerships that provide at least

\$5mil

on investment per year



All HDR graduates complete a career development experience or industry placement

2022–2025 Domain



Enriching our communities

- Develop a partnership with regional universities and our industry partners to broaden access to postgraduate and continuous learning opportunities.
- Deliver on SMI's Reconciliation Action Plan (RAP).
- Expand the Development Minerals program and collaboration with UQ's International Development to provide professional development to the region.
- Demonstrate contribution to UN Sustainable Development goals in SMI's Research Centres and Strategic Programs.
- Participate in national and international advisory and review panels to address global challenges.

2032 Measures of success



10%

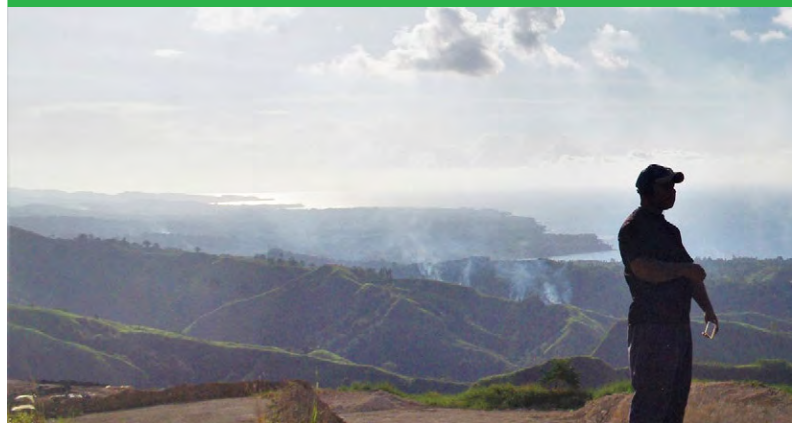
of our domestic HDR students will come from a low socio-economic or regional/remote background



Be recognised by Reconciliation Australia as an Elevate RAP organisation



The proportion of domestic students identifying as Aboriginal and/or Torres Strait Islander will reflect the representation of people identifying as Aboriginal and/or Torres Strait Islander in Queensland



2022-2025 Enabler



Our global profile

- Strengthen partnerships in countries that are leading in resource development, i.e. South America, Africa, Indo-pacific, Canada.
- Participate in the partnership with, The University of Exeter and the Indian Institute of Technology Delhi.
- Build on the success of the International Centre of Excellence in Chile to expand activities across South America.
- Continue to attract high-achieving international students that are eligible for UQ scholarships.
- Build a collaborative network of leading minerals and sustainability research institutions to enable student mobility and an annual student conference.

2032 Measures of success



Recruit at least

10%

of our international students from each of our top five source countries



Deliver on our premier partnerships by growing co-publications, joint PhDs, collaborative teaching efforts and externally funded research.

Be a leading university in Australia for development impact in the Indo-pacific



2022-2025 Enabler



Our people

- Nurture a safe, supportive and inclusive culture that celebrates diversity and wellbeing.
- Develop the leadership capability of our staff to empower risk-based decision making.
- Invest in our staff through development opportunities and provide meaningful mentoring and feedback opportunities.
- Develop and support career pathways that support industry engagement and research translation.
- Establish annual awards and seminars to celebrate the contribution of alumni (Bill Whiten, Alban Lynch, Dan Alexander, Dee Bradshaw) and implement a Customer Relationship Management system.

2032 Measures of success



90%

of staff will be willing to recommend UQ as a great place to work



50%

of all positions will be held by women



1 in 3

alumni will actively engage with the university each year



95%

of staff will agree that UQ demonstrates a genuine commitment to diversity and inclusion



The proportion of staff identifying as Aboriginal and/or Torres Strait Islander will reflect the representation of people identifying as Aboriginal and/or Torres Strait Islander in Queensland

2022-2025 Enabler



Securing our future

- Diversify and increase our revenue base by securing longer term Australian Research Council (ARC) funding, expanding our research translation and engagement, and grow professional development offerings.
- Work with the central UQ functions to establish a sustainable futures innovation precinct at Long Pocket and successfully rehabilitate the Indooroopilly Mine.
- Identify, develop and formalise key partnerships at local and global level with large and mid-tier mining and Mining Equipment, Technology, and Services (METS) companies and stakeholders to support the Long Pocket precinct.
- Further develop simplified and responsive pathways to partnerships.
- Develop opportunities for long term, external support for chairs in Research Centres and alumni awards.

2032 Measures of success

 achieve
 annual budget

Grow our revenue to

\$100m 



Be recognised as a world leader in sustainability by assisting our stakeholders to achieve their

2050 net zero targets



THE UNIVERSITY
OF QUEENSLAND
AUSTRALIA

CREATE CHANGE

Sustainable Minerals Institute

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