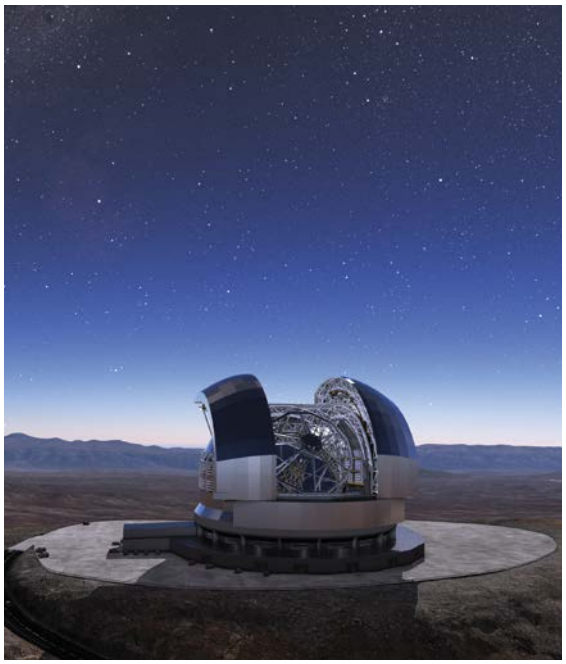
AUSTRALIAN ASTRONOMICAL OPTICS

STRATEGIC PLAN 2025–2034
BRIDGING ERAS

AAO

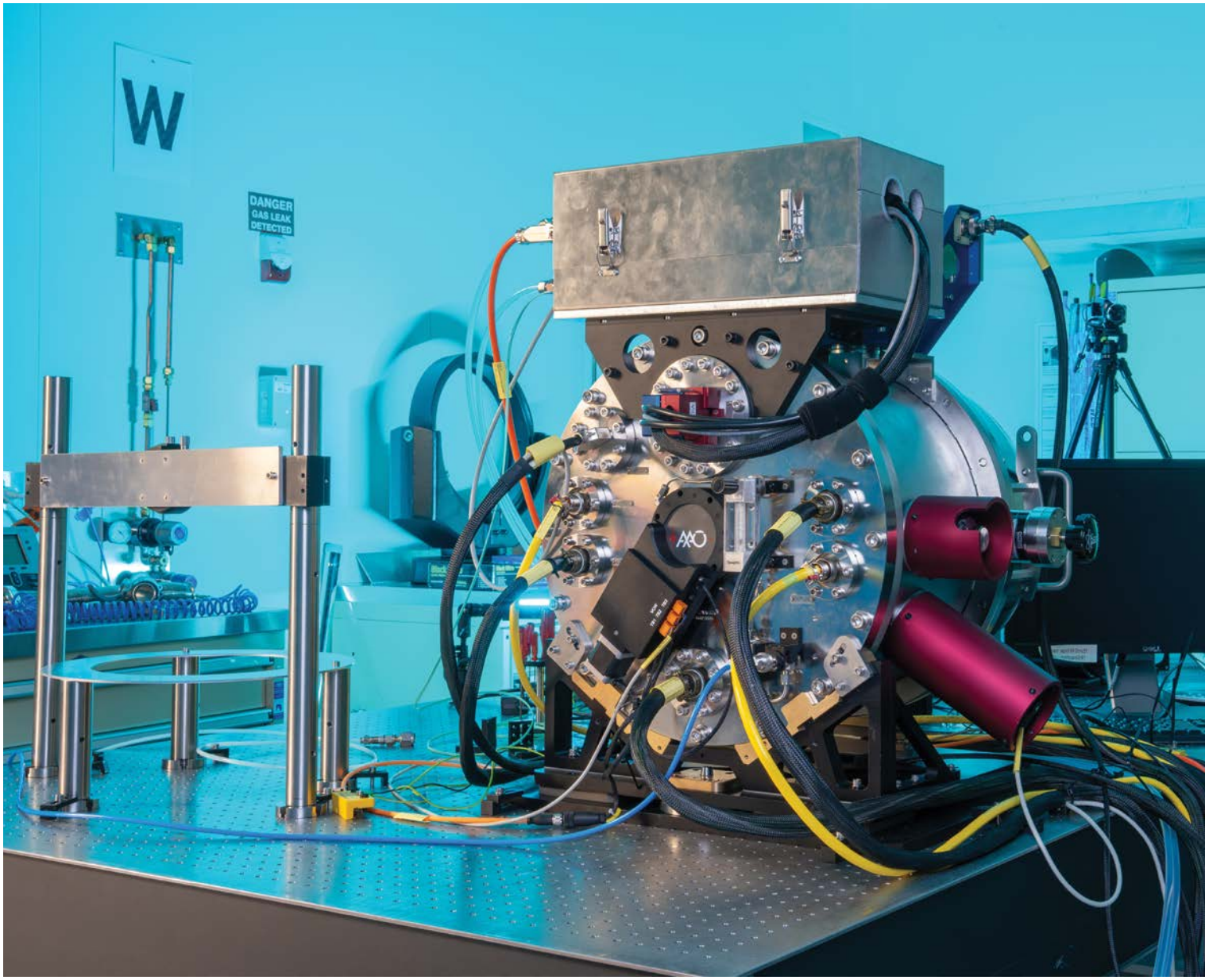
MACQUARIE University
SYDNEY·AUSTRALIA



ACKNOWLEDGEMENT OF COUNTRY

We acknowledge the Traditional Custodians of the land on which Macquarie University is situated, the Wallumattagal people of the Dharug Nation, whose cultures and customs have nurtured, and continue to nurture, this land since time immemorial. We also acknowledge the Elders, past and present, and pay our respects to them.

We further wish to honour and pay our respects to the ancestors and spirits of this land, and humbly ask that all members of the Macquarie University community are granted with the capacity to wingaru (think), to learn and to walk safely upon this ngurra (land). Macquarie University continues to develop respectful and reciprocal relationships with all Indigenous people in Australia and with other Indigenous people throughout the world.



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ABBREVIATIONS

AAO	Australian Astronomical Optics
AAT	Anglo-Australian Telescope
AHRI	Australian HR Institute
AITC	Advanced Instrumentation Technology Centre
ANU	Australian National University
ASA	Astronomical Society of Australia
DPR	Development, Performance and Review
ECR	early career researcher
EDIB	equity, diversity, inclusion and belonging
ESO	European Southern Observatory
GMT	Giant Magellan Telescope
HDR	higher degree research
HERDC	Higher Education Research Data Collection
IAU	International Astronomical Union
KPI	key performance indicator
NSW	New South Wales
R&D	research and development
SFA	strategic focus areas
STEM	science, technology, engineering and mathematics
USyd	The University of Sydney
WH&S	work health and safety

FOREWORD

Message from the Executive Dean, Faculty of Science and Engineering

It gives me great pleasure to contribute this foreword to the AAO Strategic Plan 2025–2034: Bridging Eras.

Together, the Faculty of Science and Engineering and AAO have engaged in a comprehensive and inclusive co-design consultation process that has shaped this important document and our bold shared vision for the future of AAO.

I am personally committed to supporting AAO and its extraordinarily talented people as they embark on this new chapter and set out to achieve their ambitious goals. I am truly proud of AAO's exceptional 50-year global history in innovative scientific instrumentation, software and research, and its well-earned global reputation for tackling the most challenging projects with distinction. AAO instruments facilitating great insights into our universe include HERMES, which can analyse the chemical makeup of a million stars; SAMI, which is able to map 3000 galaxies in unprecedented detail; and the innovative Huntsman Telescope Array that cleverly uses ordinary camera lenses to capture faint galactic structures and enable daytime satellite surveillance.

This strategic plan charts a clear path towards a future where AAO will continue to attract remarkable innovators, push boundaries, create transformative research and deliver profound societal impact as an integral part of Macquarie University.

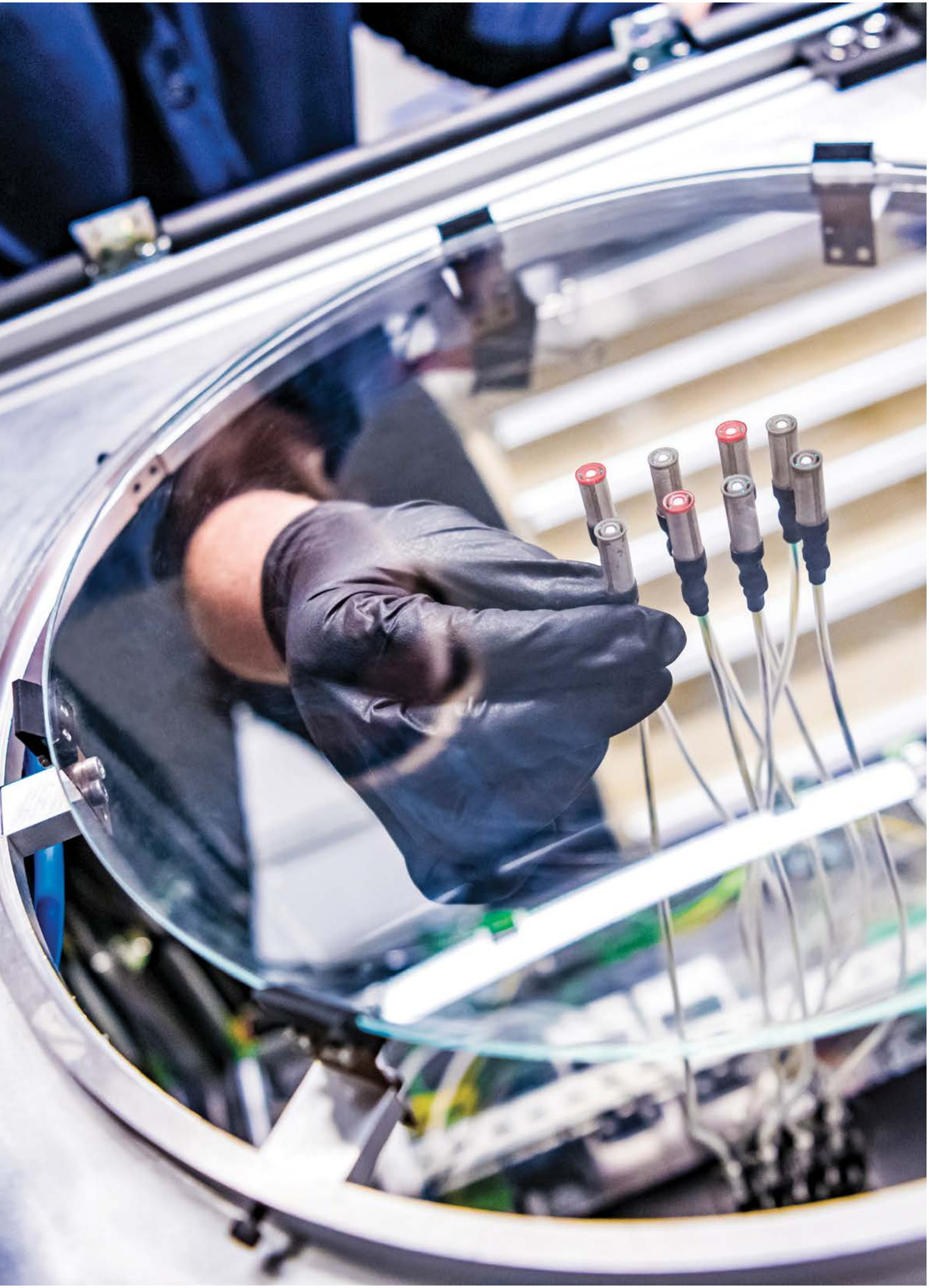
I am genuinely excited about the opportunities presented by AAO's transition to our Macquarie University campus in late 2025. This move will foster unprecedented collaboration as AAO becomes co-located with the School of Engineering in the heart of our science and engineering precinct. This strategic plan and its associated joint investment reflect our deep commitment to ensuring AAO remains a key asset for Macquarie University. The upcoming move represents a significant opportunity for AAO's continued evolution and sustained success.

The implementation of this strategic plan embodies our 'Discover, Create, Innovate' ethos and harnesses the exponential potential of 'You to the Power of Us'. The true strength of AAO lies in its people – dedicated professionals whose expertise and passion drive innovation. Together, we can multiply the effects of co-location, collaboration and combined capabilities. And together, we will amplify AAO's impact across research, education and industry engagement.

I have absolute confidence that AAO will continue its legacy of excellence in scientific instrumentation and thrive as an integral and valuable differentiator for Macquarie University, as a singular success story that sets us apart in the global research landscape. I will follow AAO's progress with keen interest and look forward to celebrating its continued success with all of you.

Good luck for the next 50 years of AAO!

Professor Samuel Muller
EXECUTIVE DEAN
FACULTY OF SCIENCE AND ENGINEERING



Message from the Director, Australian Astronomical Optics

As a global leader in astronomy and its applied technologies, AAO is renowned for groundbreaking advancements that empower astronomers and researchers to unravel the universe's greatest mysteries.

From mapping the distribution of galaxies and measuring the accelerating expansion of the universe, to mapping the formation history of our Galaxy using spectral fingerprints from a million stars, AAO instrumentation, software and data distribution technologies have been at the centre of major scientific breakthroughs and astronomical community endeavours for more than 50 years. This half-century of achievement has also been a period of constant evolution and change for AAO, from intergovernmental observatory, to government department, and now to a technology-focused research group at Macquarie University.

It is with great pride and optimism that I present the AAO Strategic Plan 2025–2034: Bridging Eras.

Prompted by an independent review of AAO in 2023, this strategic plan is the culmination of a significant period of reflection and forward planning. The plan looks forward to the opportunities of pursuing deeper integration within the Macquarie University ecosystem.

Our strategic plan reflects this vision. We pioneer innovation in Australian industry through partnership-driven impacts, leveraging our transferable precision engineering and research software technologies. We aim to contribute to Macquarie University's position as a premier institute, fostering a culture of excellence and discovery. Our focus is on leading an innovation-driven R&D agenda, translating research into practical applications.

By integrating the expertise of astronomers and engineers, we push technological boundaries and enable groundbreaking discoveries. We see ourselves as key enablers for the broader astronomical community, providing access to advanced instrumentation and contributing to our collective understanding of the universe.

The constant theme over AAO's long history has been the organisation's ability to evolve and adapt to an increasingly complex operating landscape. The future will involve more collaboration, more diversification and the ability to manage competing interests across a broader variety of stakeholders. Central to this will be supporting and investing in our people, capabilities and facilities to thrive and succeed for the next 50 years and beyond.

The strategic plan sets out a clear direction for AAO across six strategic focus areas (SFAs), capturing our coordinated response to these opportunities.

1 OUR PROJECTS
SUSTAINABLE AND IMPACTFUL WORK
Deliver and support challenging and impactful work, sustainably

2 OUR PARTNERS
COLLABORATIVE SKILLS AND TECHNOLOGIES
Leverage transferable skills and technologies to enhance collaboration outcomes with strategic partners

3 OUR RESEARCH
LEADERSHIP IN INNOVATION AND R&D
Lead an innovation-focused R&D agenda and ethos

4 OUR FUTURE
INSPIRING THE NEXT GENERATION
Encourage and support the next generation of curious minds

5 OUR PEOPLE
INCLUSIVE EXCELLENCE
Foster excellence and wellbeing through a commitment to equity, diversity, inclusion, belonging (EDIB) and professional growth

6 OUR IDENTITY
DISTINCTIVE BRAND IDENTITY
Cultivate a strong identity and celebrate our distinctive brand

We are confident that implementation of this strategic plan with our people will ensure we remain fit-for-future, enabling us to continue delivering sustainable, lasting impact for the Australian astronomy community and Macquarie University. We will deliver wider and deeper **impact**, leveraging our astronomy expertise in other areas where skills are transferable. We will invest in and actively support our **point of difference**, across R&D, students and interdisciplinary collaboration. And we will secure a path to **sustainability** across all aspects of our operations led by our people.

Professor Richard McDermid
DIRECTOR, AUSTRALIAN ASTRONOMICAL OPTICS
FACULTY OF SCIENCE AND ENGINEERING

STRATEGIC PLAN OVERVIEW

Australian Astronomical Optics is ambitiously bridging eras to shape a future of global leadership in scientific instrumentation and research, driving impact and inspiring the next generation through strategic collaboration and innovation.

VISION

We are a global leader in astronomy and its applied technologies, renowned for groundbreaking advancements that empower astronomers and researchers to unravel the universe's greatest mysteries.

MISSION

Our mission is to advance science and engineering through excellence in technical instrumentation, software, data and research.

PURPOSE

Our purpose is to drive scientific discovery and technological innovation, empowered by our diverse team, to make significant contributions to global scientific and engineering communities.

We are **Innovative**
We achieve excellence by constantly innovating and pushing the boundaries of what is possible in science, engineering and technology.

We are **Resilient**
We thrive on challenges and demonstrate resilience, tackling difficult projects with persistence and ingenuity.

We are **Collaborative**
We foster strong partnerships and teamwork to achieve our shared goals and drive impactful results.

We are **Passionate**
We are passionate about our work, dedicated to growth and continuously improving. We embrace change and strive to lead in our fields.

We are **Inclusive**
We are committed to creating a diverse and inclusive environment where everyone feels valued and empowered to contribute.

PHASED IMPLEMENTATION

STRATEGIC FOCUS AREAS

1 OUR PROJECTS

SUSTAINABLE AND IMPACTFUL WORK

KEY PROGRAMS AND INITIATIVES

- 1A. Drive strategic growth through a transparent financial model
- 1B. Enhance project delivery
- 1C. Empower project teams for high-quality, timely decisions
- 1D. Prioritise client satisfaction

2 OUR PARTNERS

COLLABORATIVE SKILLS AND TECHNOLOGIES

KEY PROGRAMS AND INITIATIVES

- 2A. Build a resilient workforce with transferable skills
- 2B. Create policies for resource sharing
- 2C. Develop a comprehensive technology roadmap
- 2D. Increase visibility and recognition of our strengths and achievements through enhanced outreach efforts
- 2E. Leverage transferable skills and technologies to support the ambitions of Macquarie University communities

3 OUR RESEARCH

LEADERSHIP IN INNOVATION AND R&D

KEY PROGRAMS AND INITIATIVES

- 3A. Build innovation skills through interdisciplinary training programs
- 3B. Create a sustainable innovation ecosystem
- 3C. Enhance leadership in high-impact research areas through strategic partnerships
- 3D. Improve R&D and innovation policies
- 3E. Promote impactful R&D through knowledge sharing and strategic alignment
- 3F. Secure dedicated R&D resources

4 OUR FUTURE

INSPIRING THE NEXT GENERATION

KEY PROGRAMS AND INITIATIVES

- 4A. Increase student engagement, involvement and recognition across all aspects of our work
- 4B. Lead a visionary moonshot program
- 4C. Provide pathways for our people to grow their teaching and research competencies at Macquarie University
- 4D. Redefine the role of a Research Professional at Macquarie University
- 4E. Support the next generation by fostering a culture of engagement and curiosity

5 OUR PEOPLE

INCLUSIVE EXCELLENCE

KEY PROGRAMS AND INITIATIVES

- 5A. Align and cascade section, group and individual planning and goal setting to strategic plan objectives
- 5B. Attract and retain the best talent
- 5C. Build internal strategic capabilities
- 5D. Enhance hiring practices to attract diverse candidates
- 5E. Invest in our people, supporting their ambitions to grow and succeed during their time with us
- 5F. Provide a work environment free from harassment and discrimination
- 5G. Strengthen governance, management and leadership
- 5H. Support work-life balance

6 OUR IDENTITY

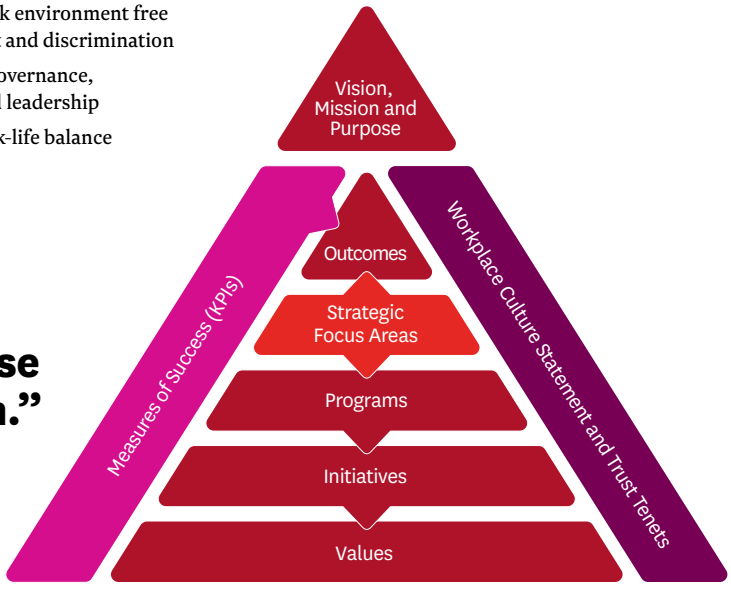
DISTINCTIVE BRAND IDENTITY

KEY PROGRAMS AND INITIATIVES

- 6A. Advocate for astronomy, space science and R&D in public policy
- 6B. Allocate resources for brand-building activities
- 6C. Celebrate our achievements frequently and publicly
- 6D. Enhance our brand identity
- 6E. Release an annual impact statement to key stakeholders

"The true strength of AAO lies in its people – dedicated professionals whose expertise and passion drive innovation."

Professor Samuel Muller
EXECUTIVE DEAN
FACULTY OF SCIENCE AND ENGINEERING



STRATEGIC FRAMEWORK

OUR OPERATING ENVIRONMENT

Our role and core work

AAO is a globally recognised leader with a 50-year history in innovative scientific instrumentation, software and research.

We specialise in providing complete solutions to difficult problems in scientific instrumentation. We are a global leader in astronomical technology, building leading-edge instrumentation and software to facilitate scientific breakthroughs. Our technical expertise is supported by professional project management and systems engineering, along with an international network of collaborating institutes.

Our purpose is to drive scientific discovery and technological innovation, empowered by our diverse team to make significant contributions to global scientific and engineering communities. We are dedicated to inspiring and educating future generations in STEM, grounded in our commitment to EDIB.

While their duration varies, our projects often span several years from initial design to final delivery and commissioning. Funding for our work comes from a variety of sources, including grants from government bodies, contracts with international observatories and partnerships with industry.

Our impact reach is global – we collaborate with academic and industry partners worldwide – and our instruments are used by astronomers internationally to explore the universe. We contribute to advancements in astronomical knowledge, providing tools and technologies for the international science community and exploring applications in other sectors. Our work benefits fundamental research and applied technologies.

TO ACHIEVE OUR PURPOSE, WE UNDERTAKE SEVERAL KEY ACTIVITIES, LEVERAGING CORE COMPETENCIES OF THE ORGANISATION:

1 **Develop innovative technology** for use in complex optical and infrared astronomical instruments

2 **Develop and maintain specialised software and data systems** for the processing, storage reduction of research data across multiple disciplines, including the Data Central e-research platform and data archive, which facilitates cutting-edge science by allowing users to explore, access, manage and collaborate on astronomical data

3 **Create innovative astronomical instruments** via collaborative scientific R&D, fostering close collaboration between astronomers, engineers and end users, providing leadership in research areas spanning astrophysics, photonics, mechatronics, optical fibres, optical devices, control systems and data analytics

4 **Inspire and develop the next generation of scientists and technologists**, providing collaborative professional research opportunities for students and academics to engage in our projects

5 **Drive strategic collaboration and partnerships**, leveraging our transferable skills and technologies in astronomy to enhance collaboration outcomes to expand reach and deliver impactful results across a number of diverse research and industry sectors.

Learn more
Scan the QR code to visit our website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UNo.
TNo. 30
PC
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-X
+Y
+4
-4

Our legacy

Over our 50-year history, AAO has successfully tackled more than 100 uniquely designed projects, earning a global reputation for innovation and collaboration.

Our staff have had significant impact on the development of the latest-generation telescopes producing groundbreaking scientific insights across multiple domains.

AAO was formed in 1974 as a bi-national facility for the governments of Australia and the United Kingdom to operate the 3.9-metre Anglo-Australian Telescope (AAT) at Siding Spring Observatory, still the largest optical telescope in Australia. For many years, AAO operated as a national observatory, gaining international recognition for its pioneering work in astronomical instrumentation, particularly in the early adoption of optical fibres and the development of innovative technologies such as the 2dF fibre positioning robot. During this early period, AAO became prominent in the astronomical community, delivering crucial data and fostering numerous scientific collaborations.

Following the withdrawal of the UK in 2010, AAO became fully owned by the Australian Government under the Department of Industry. In July 2018, the AAO became a new research department in the Faculty of Science and Engineering at Macquarie University, focusing on state-of-the-art instrumentation that has global applications, working closely with major observatories such as the European Southern Observatory (ESO), Giant Magellan Telescope (GMT) and Gemini Observatory, while the AAT observatory responsibilities transferred to the Australian National University (ANU).

Our transition into the University has created new avenues for growth, broadening our impact beyond traditional astronomy, including enhanced collaboration with academics across various disciplines within Macquarie University, stronger engagement with industry and the establishment of partnerships with other university instrumentation groups through the Astralis Instrumentation Consortium.

AAO has become an interconnected, people-led capability, reflecting our ability to adapt to an increasingly complex operating landscape, and looking towards a future of greater collaboration and diversification within the University community.

CASE STUDY: **AAO AND ADVANCED NAVIGATION | MOON TO MARS INITIATIVE**

AAO and Advanced Navigation have teamed up on a groundbreaking project funded by a $5.2-million Moon to Mars Initiative grant from the Australian Space Agency. This collaboration aims to develop the LUNA sensor, a cutting-edge navigational aid designed to enable autonomous lunar landings. The LUNA sensor will be integrated into Intuitive Machines' Nova-C lander as part of NASA's Commercial Lunar Payload Services program. Utilising AAO's multi-beam optical laser collimator, the sensor will provide real-time data about the landing site, allowing the lander to make precise adjustments to its trajectory and positioning without the need for real-time assistance from mission control.

AAO's expertise in precision astronomical instrumentation has made us a key partner in this project, with some component manufacturing outsourced to local Australian industry partners. The LUNA sensor's enhanced functionality and compact design make it an attractive option for future uncrewed lunar missions and potentially for Mars exploration.

This innovative technology will enable safer exploration of the Moon, paving the way for future space missions.

Read the full article
AAO and Advanced Navigation | Moon to Mars Initiative

Values and purpose

These statements are not just words on paper; they are the beliefs, philosophies and principles that drive us forward and shape the way we work.

We are **Innovative**
We achieve excellence by constantly innovating and pushing the boundaries of what is possible in science, engineering and technology.

We are **Resilient**
We thrive on challenges and demonstrate resilience, tackling difficult projects with persistence and ingenuity.

We are **Collaborative**
We foster strong partnerships and teamwork to achieve our shared goals and drive impactful results.

We are **Passionate**
We are passionate about our work, dedicated to growth and continuously improving. We embrace change and strive to lead in our fields.

We are **Inclusive**
We are committed to creating a diverse and inclusive environment where everyone feels valued and empowered to contribute.

OUR VALUES

Our values statements underpin everything we do.

We are a passionate and resilient team, driven by innovation, collaboration and inclusivity. We embrace challenges and continuously strive for growth and improvement. We are committed to excellence in everything we do.

OUR PURPOSE

Our purpose statement articulates why we exist and the impact we strive to make in the world.

Our purpose is to drive scientific discovery and technological innovation, empowered by our diverse team, to make significant contributions to global scientific and engineering communities.

We are dedicated to inspiring and educating future generations in STEM, grounded in our commitment to equity, diversity, inclusion and belonging. We strive to create an aspirational workplace that positively impacts all who we engage with.

Refer to Appendix A: Workplace Culture Statement and Appendix B: AAO Trust Tenets to see how we embody our values and purpose.


DANGER
DO NOT ENTER
WHEN RED
LIGHT IS ON

How we collaborate

We collaborate with a range of stakeholders domestically and internationally to deliver impact through our commercial projects and scientific research.

Students

- Current students (undergraduate and postgraduate)
- Future generations of engineers, technologists and scientists

Community

- Third-parties and end users

Government and public policy entities

- Australian Government
- NSW Government, including the NSW Chief Scientist & Engineer

Collaboration is key to the success of AAO

Astronomy and research community

- Astronomers and researchers
- National and international observatories
- Key commercial clients
- Peak professional bodies, including the Astronomical Society of Australia (ASA), International Astronomical Union (IAU) and Australian Academy of Science's National Committee for Astronomy (NCA)

Macquarie University

- Astrophysics and Space Technologies Research Centre
- Faculty of Science and Engineering, including schools and research departments
- Future Communications Research Centre

Strategic partners

- Astralis Instrumentation Consortium partners:
  - Advanced Instrumentation Technology Centre (AITC) within the Research School of Astronomy and Astrophysics at Australian National University
  - Astralis-USyd within the School of Physics at The University of Sydney (USyd)
- Astronomy Australia Limited (AAL)
- Australian Research Data Commons (ARDC)
- Industry, including Advanced Navigation and Gilmour Space Technologies
- NSW Government, including Defence Innovation Network and Space Research Network

Our people

Central to AAO's capability is our people, who work collaboratively and are supported in their continuous development.

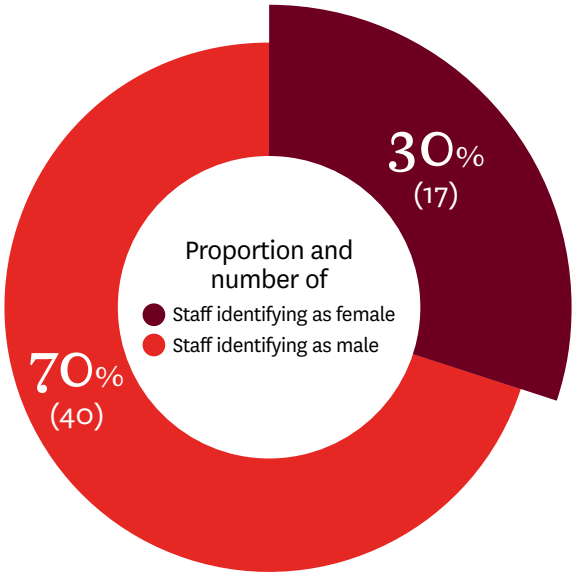
Our staff straddle between technical professional and academic researcher – their Research Professional role reflects their capabilities that extend beyond traditional professional staff roles within the faculty. We leverage a broad range of skills and capabilities in precision engineering, project management, quality assurance and systems engineering through a matrix-based, project-driven approach.

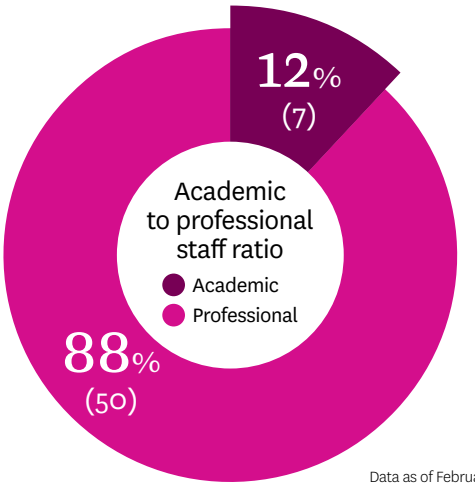
Over the life of the strategic plan, we aim to have a diverse mix of skills and life experiences to support our vision and mission in an increasingly complex operating environment. This will ensure our work program is informed by a diverse range of voices and perspectives, enhancing our impact and effectiveness. We foster a safe and respectful work environment so that our people can perform at their best and look for ways to continuously improve. Our ongoing focus on staff health, wellbeing and inclusion positively influences their experience at work, promoting high levels of engagement and satisfaction.

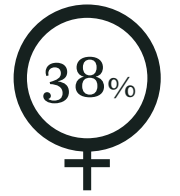
Our **EDIB Committee** enhances staff engagement by actively listening to feedback and delivering cultural reform programs informed by periodic staff survey data and sector best practice.
The **AAO Leadership Team** leads capability development across the organisation, ensuring we have the right resources at the right time.
The staff-led **AAO Strategic Planning Group** will play an important role in the implementation of the strategic plan, advocating for continuous improvement and alignment with the goals of our people.

Ongoing **faculty** support will ensure AAO remains a successful, functional and leading organisation. We maintain close links to other schools and research departments across the faculty to foster collaboration and support.

We are committed to improving gender diversity in the STEM sector. As part of that, we want to ensure Australian girls and women have equal opportunity to learn, work and engage in STEM. For the AAO, this means actively supporting pathways for women to enter and grow within our organisation. We also have a role to play in inspiring the next generation to pursue tertiary studies in STEM.



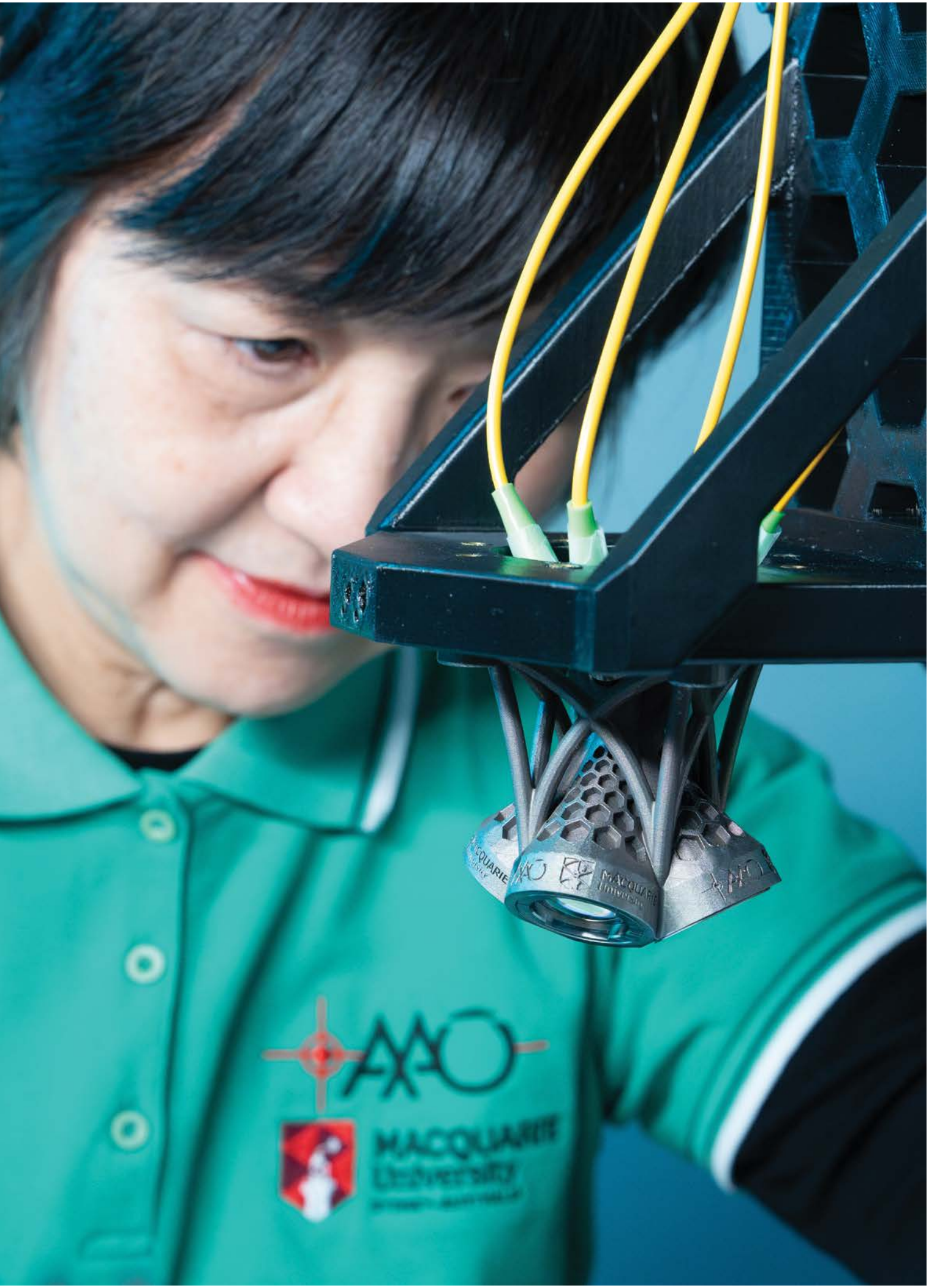




Percentage of leadership staff identifying as female

Data as of February 2025, total workforce size = 57

Note: The term 'Research Professional' denotes AAO staff who, while formally classified as Professional Staff under the Macquarie University Enterprise Agreement, possess skills and engage in activities typically undertaken by Academic Staff. Our strategic plan aims to formally recognise this unique positioning to ensure these staff have equitable opportunities and their contributions to research and teaching are acknowledged.


AAO
MACQUARIE
University

Risk management

In our organisation, we strive to achieve the right balance between engaging with risk to promote efficiency and innovation within our practices, while delivering on our priorities, being accountable and upholding integrity.

The environment in which we operate is complex, competitive and dynamic, making it neither possible nor desirable to eliminate all risks inherent in our activities. Acceptance of some risk is necessary to foster innovation and efficiencies. Our risk appetite and tolerance are determined by the AAO Leadership Team. AAO has a medium appetite and tolerance for risks (except WH&S risks, where our tolerance is low).

SEVERAL KEY FACTORS MARK THE CURRENT OPERATING CONTEXT FOR AAO, INCLUDING:

A CHANGING RESEARCH FUNDING LANDSCAPE

There is a shift in national research priorities away from pure fundamental research, including astronomy science, towards more applied technologies. There is also increased uncertainty within the broader higher education sector and heightened global competition for limited funding and resources. AAO must demonstrate self-sufficiency and a strong value proposition by diversifying its income and impact, establishing itself as a key asset to Macquarie University.

A MATURE ASTRONOMY INSTRUMENTATION SECTOR

The reliance on traditional revenue streams from astronomy instrumentation is no longer a sustainable model. There are limited opportunities for new innovations and growth within the competitive astronomy ecosystem, where the standard model is for large, distributed consortia to develop single instruments over decade timescales for a small number of large telescopes.

A TECHNOLOGY REVOLUTION IN AUSTRALIA

A renewed focus to support Australia in building a skilled technology workforce and establishing sovereign capabilities in emerging technology applications, including in less established areas such software development, data management and data security outside of astronomy, is a growth opportunity that AAO can tap into. Our specialised workforce can help researchers gain competitive advantage in these areas.

CASE STUDY: **AAO AND SCHOOL OF MATHEMATICAL AND PHYSICAL SCIENCES | HUNTSMAN TELESCOPE**

AAO is excited to share the success of the Huntsman Telescope, which has the ability to perform daytime astronomy. Developed by a team of astronomers, the innovative technique uses an array of 10 Canon camera lenses working in parallel to continuously monitor celestial objects and satellites, even when the Sun is high overhead.

Interdisciplinary research with the School of Mathematical and Physical Sciences showed that the Huntsman Telescope can accurately measure stars, satellites and other targets during the day. This capability is particularly valuable for monitoring bright stars, such as Betelgeuse, which can be unobservable at night for months due to their proximity to the Sun. Also, mastering daytime observation gives a significant advantage in space situational awareness, helping to track the growing population of satellites and space debris.

This project not only showcases pioneering technology, but also highlights the potential for continuous, 24-hour monitoring of space, paving the way for future advancements in astronomy and space exploration. This innovative technology will enable safer exploration of the Moon on future space missions.

Read the full article
AAO and School of Mathematical and Physical Sciences | Huntsman Telescope

THESE FACTORS HAVE INFORMED KEY ORGANISATIONAL RISKS, INCLUDING:

FUNDING AND FINANCIAL STABILITY	STAFF RETENTION, CAPABILITY AND CAPACITY	REPUTATION	RECOGNITION AND IMPACT
We are not able to maintain the confidence and trust of key stakeholders due to insecure and contingent funding that results from sporadic commercial project work in the astronomy sector.	We do not provide an environment that cultivates a positive culture or behaviours to support the safety and wellbeing of our people. We risk losing key staff members to competitors who can offer higher remuneration and other benefits. Without our people as our core capability, we lose our value proposition and what makes us unique.	We do not meet emerging priorities and opportunities across our work portfolio, given the commercial realities of our operating environment and the types of projects we deliver. Our projects often involve cutting-edge, one-off technology development that pushes boundaries, making them inherently risky and low margin.	We are not visible, and our work program's impact is not recognised or promoted, negatively affecting our brand identity.
We mitigate this risk by maintaining a balanced project portfolio, exploring industrial partnerships and implementing financial risk mitigation strategies, particularly in long-term projects. We anticipate policy direction so that we can remain adaptable and responsive to external factors.	We mitigate this risk by advancing people-first programs and initiatives that invest in the professional growth and advancement of our people.	We mitigate this risk by ensuring we have the capability to meet emerging priorities and maintain systems that capitalise on these opportunities.	We mitigate this risk by actively promoting our brand, ensuring proper credit in publications and capturing insights on our impact to remain influential and lead effectively. Additionally, we engage with stakeholders to highlight our achievements and forge stronger relationships.

By engaging in appropriate risk-taking behaviour and practices through our risk management policy and framework, we can explore new opportunities and drive progress without compromising our commitment to ethical and professional standards, and responsible governance and management. This approach allows us to remain agile and responsive to changing circumstances, fostering a culture of innovation and continuous improvement, while maintaining our core values.

STRATEGIC OBJECTIVES

Vision and mission

Our vision and mission statements are crucial as they provide a clear, long-term direction for our organisation and a framework for what success looks like. They communicate our goals and what is important to our people.

OUR VISION

Our vision statement describes our organisation's long-term aspirations and the impact we aim to achieve. It paints a vivid picture of what fulfilling our purpose will look like.

We are a global leader in astronomy and its applied technologies, renowned for groundbreaking advancements that empower astronomers and researchers to unravel the universe's greatest mysteries.

We pioneer innovation in Australian industry through partnership-driven impacts, leveraging our transferable precision engineering and research software technologies. We significantly contribute to Macquarie University as the premier institute for future students, fostering a culture of excellence and discovery.

OUR MISSION

Our mission statement describes what we do, how we do it and for whom.

Our mission is to advance science and engineering through excellence in technical instrumentation, software, data and research.

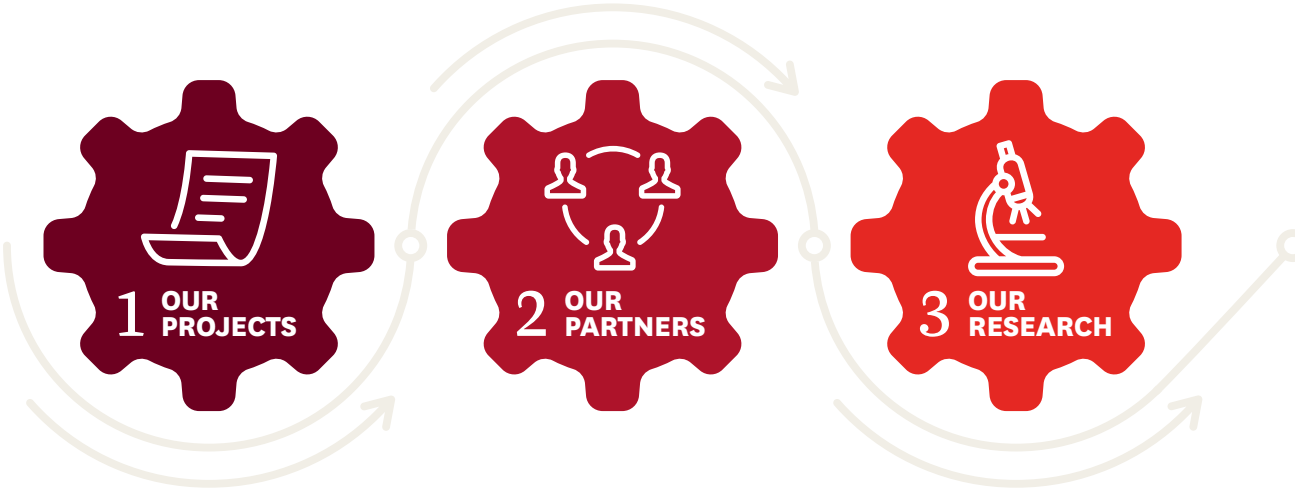
As a hub of innovation and cutting-edge research, we develop technologies that inspire and cultivate the next generation. By leveraging our talented people and industry partnerships, we deliver impactful scientific contributions and achieve global recognition through a diversified program, setting the standard for quality and collaboration.

Strategic focus areas and outcomes

Our SFAs outline our long-term ambitions, describing what success looks like and the pathways to achieve it.

They channel effort as part of implementing our strategic plan, connecting intended outcomes to programs and initiatives, and supporting the realisation of our vision.

We will deliver challenging projects, enhance collaboration, lead cutting-edge science and research, inspire future generations, champion inclusive excellence and strengthen our distinctive brand identity.



SUSTAINABLE AND IMPACTFUL WORK

Deliver and support challenging and impactful work, sustainably

COLLABORATIVE SKILLS AND TECHNOLOGIES

Leverage transferable skills and technologies to enhance collaboration outcomes with strategic partners

LEADERSHIP IN INNOVATION AND R&D

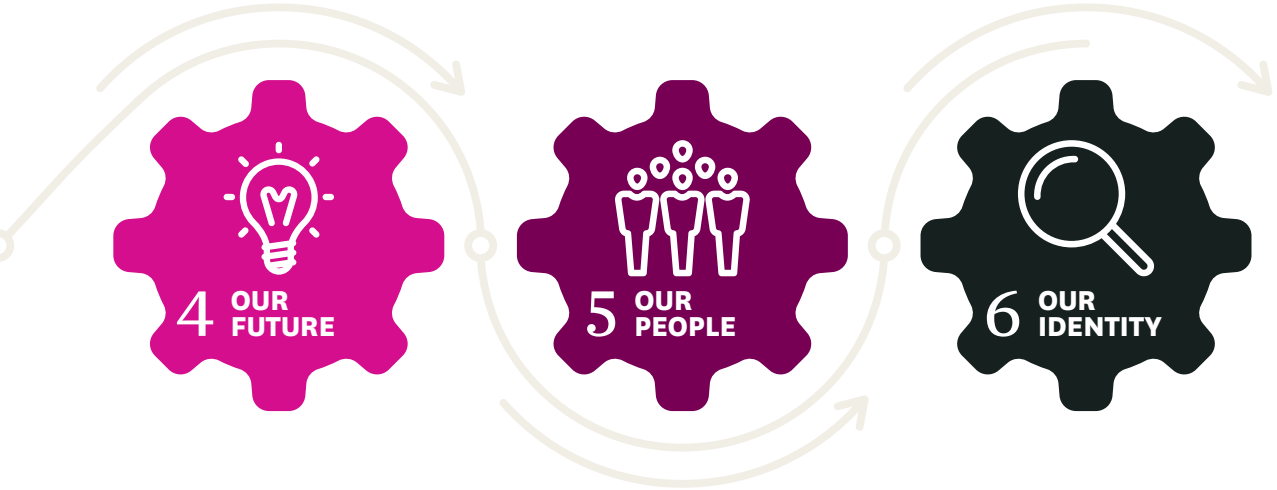
Lead an innovation-focused R&D agenda and ethos

PHASES	OUTCOMES		
STABILISE Short term 2025–2026	**1.1 Timely, scoped and cost-recovered projects** Ensure projects are delivered on time, within agreed scope and are cost-recovered, leading to higher client satisfaction	**2.1 Trust-based strategic partnerships** Strengthen access to trust-based partnerships with strategic research and industry partners	**3.1 Innovation-focused R&D support (funding, time, space and pathways)** Create the time, space and pathways for innovation-focused R&D, giving staff the necessary support and freedom to explore new ideas and think creatively
SCALE Medium term 2027–2029	**1.2 Staff time freed up for high-impact work** Staff time is freed up for meaningful, high-impact work that aligns with their skills and interests	**2.2 Interdisciplinary innovation leadership** Increase participation in interdisciplinary projects, leveraging transferable skills and technologies to enhance reputation as an innovation leader	**3.2 Sustainable R&D applications** Develop sustainable R&D activities to translate skills and technology from research to practical applications within the work program
SUSTAIN Long term 2030–2034	**1.3 Financial stability and strategic growth** Achieve financial stability, autonomy and agency to sustainably support long-term strategic ambitions and growth opportunities	**2.3 Partnerships driving tech adoption and market growth** Expand impact through strategic partnerships that drive technology adoption, resulting in a competitive advantage and increased market share	**3.3 Partner of choice** Expand development of cutting-edge technologies and solutions to enhance reputation as an innovation leader and partner of choice

Our outcomes define our aspirational goals across the life of the plan for each SFA.

Success is measured against key performance indicators (KPIs) across the short, medium and long term (outlined in Measuring success).

Together, our outcomes and KPIs ensure alignment and a unified effort towards common strategic objectives.



4 OUR FUTURE

INSPIRING THE NEXT GENERATION

Encourage and support the next generation of curious minds

4.1 Enhanced engagement pathways for students and researchers

Enhance visibility of pathways for students, researchers, postdoctoral researchers and the community to engage with the organisation

4.2 Increased staff participation in academic activities

Increase opportunities for staff to actively engage in core Macquarie University teaching and research activities

4.3 Sustainable talent pipeline

Establish a sustainable pipeline of future talent through student engagement and involvement in projects and research

5 OUR PEOPLE

INCLUSIVE EXCELLENCE

Foster excellence and wellbeing through a commitment to equity, diversity, inclusion, belonging (EDIB) and professional growth

5.1 Inclusive and respectful work culture

Continue fostering an inclusive and respectful work culture where diverse ideas are valued and actively sought

5.2 Leadership in EDIB and organisational resilience

Lead by example in EDIB, advancing organisational resilience and adaptability

5.3 Diverse and inclusive workforce

Cultivate a leading diverse and inclusive workforce to enhance the sense of belonging and value within the organisation

6 OUR IDENTITY

DISTINCTIVE BRAND IDENTITY

Cultivate a strong identity and celebrate our distinctive brand

6.1 Distinctive and valued brand identity

Establish a coherent, distinctive and singular brand identity that is visible, recognised and valued by our community

6.2 Broadened reach and visibility of capabilities

Broaden the reach and visibility of capabilities to a wider audience, leveraging a strong brand identity

6.3 Global recognition and sustainable industry collaboration

Achieve global recognition and influence, driving innovation and collaboration across diverse industries through a respected brand identity

Key programs and initiatives

These key programs and initiatives – aligned to our SFAs – will be delivered across the life of the strategic plan.

SUSTAINABLE AND IMPACTFUL WORK

Deliver and support challenging and impactful work, sustainably

- **1A. Drive strategic growth through a transparent financial model** focused on operational transformation, excellence and sustainability
- **1B. Enhance project delivery** to optimise resource utilisation, ensure on-time delivery and foster continuous improvement for quality engineering outcomes
- **1C. Empower project teams for high-quality, timely decisions**, enhancing collaboration outcomes and strengthening communication practices through decentralised decision-making
- **1D. Prioritise client satisfaction**, with seamless, responsive interactions and feedback-driven improvements that continuously inform our operations and strategic direction

COLLABORATIVE SKILLS AND TECHNOLOGIES

Leverage transferable skills and technologies to enhance collaboration outcomes with strategic partners

- **2A. Build a resilient workforce with transferable skills**, nurturing a culture of creativity, continuous improvement and empowerment
- **2B. Create policies for resource sharing**, including people, facilities and services, with strategic partners, to boost industry partnerships, drive innovation, and create new revenue streams
- **2C. Develop a comprehensive technology roadmap** for strategic business development and industry alignment
- **2D. Increase visibility and recognition of our strengths and achievements through enhanced outreach efforts**, building trust and connections with high-quality partners who share our values and drive impactful R&D outcomes
- **2E. Leverage transferable skills and technologies to support the ambitions of Macquarie University communities**, improving collaborative outcomes and advancing a unified approach to achieving shared strategic goals

LEADERSHIP IN INNOVATION AND R&D

Lead an innovation-focused R&D agenda and ethos

- **3A. Build innovation skills through interdisciplinary training programs**, supporting an innovative and forward-thinking work culture
- **3B. Create a sustainable innovation ecosystem** that drives exceptional innovation outcomes and long-term growth, by communicating and supporting a clear commitment to R&D and innovation
- **3C. Enhance leadership in high-impact research areas through strategic partnerships**, driving sustainable growth by leveraging transferable skills and technologies to solve real-world problems using astronomical methodologies across a variety of fields
- **3D. Improve R&D and innovation policies** for impactful and sustainable outcomes
- **3E. Promote impactful R&D through knowledge sharing and strategic alignment**, ensuring collaborative success and innovation leadership with our strategic partners
- **3F. Secure dedicated R&D resources** (funding, time, space and pathways) to enhance innovation capabilities

“Excellence is addictive.”

Keith Shortridge
Former AAO staff member, 2 December 2024
AAO Bridging Eras Event – Celebrating 50 Years of Legacy and Innovation; Envisioning the Next 50

INSPIRING THE NEXT GENERATION

Encourage and support the next generation of curious minds

- **4A. Increase student engagement, involvement and recognition across all aspects of our work** through structured programs for internships, scholarships and work experience that bridge teaching, research, projects and collaboration, fostering a holistic learning environment
- **4B. Lead a visionary moonshot program** that inspires, challenges and excites students and the community, driving innovation and creativity
- **4C. Provide pathways for our people to grow their teaching and research competencies at Macquarie University**, supporting academic excellence and the University's core mission
- **4D. Redefine the role of a Research Professional at Macquarie University** and implement reform to ensure our staff are recognised, supported and empowered in their ongoing contributions within the University
- **4E. Support the next generation by fostering a culture of engagement and curiosity**, ensuring the student voice thrives to build a sustainable talent pipeline that secures our future

INCLUSIVE EXCELLENCE

Foster excellence and wellbeing through a commitment to equity, diversity, inclusion, belonging (EDIB) and professional growth

- **5A. Align and cascade section, group and individual planning and goal setting to strategic plan objectives**, leveraging the University's Development, Performance and Review (DPR) process, AAO Capability Framework and AAO Trust Tenets (see Appendix B)
- **5B. Attract and retain the best talent** by maintaining an empowering and respectful work environment that champions diversity of thought and opinion
- **5C. Build internal strategic capabilities** and improve access to quality data for operations
- **5D. Enhance hiring practices to attract diverse candidates** and improve diversity metrics, giving our people opportunities to grow and succeed in a work environment that values EDIB as a core principle
- **5E. Invest in our people, supporting their ambitions to grow and succeed during their time with us**, providing opportunities for professional development, career advancement and progression pathways as future leaders and critical members of our team
- **5F. Provide a work environment free from harassment and discrimination**, ensuring a respectful and safe workplace for psychological safety
- **5G. Strengthen governance, management and leadership** to ensure trusted, timely and risk-informed decision-making up and down the organisation
- **5H. Support work-life balance**, implementing a culture transformation program to ensure staff feel a sense of belonging, trust and recognition

DISTINCTIVE BRAND IDENTITY

Cultivate a strong identity and celebrate our distinctive brand

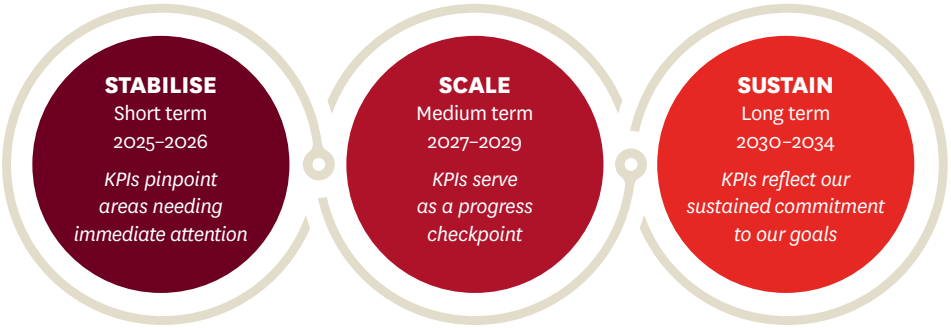
- **6A. Advocate for astronomy, space science and R&D in public policy** with strategic partners and peak professional bodies domestically and internationally
- **6B. Allocate resources for brand-building activities** and refresh our web and social media presence under one clear brand identity
- **6C. Celebrate our achievements frequently and publicly** to increase their visibility and reinforce our brand identity
- **6D. Enhance our brand identity** to ensure it reflects our strategic ambitions and values, creating a strong and cohesive image
- **6E. Release an annual impact statement to key stakeholders**, showcasing key competencies and achievements through clear metrics of success, and reinforcing our value proposition and point of difference

MEASURING SUCCESS

Performance management framework

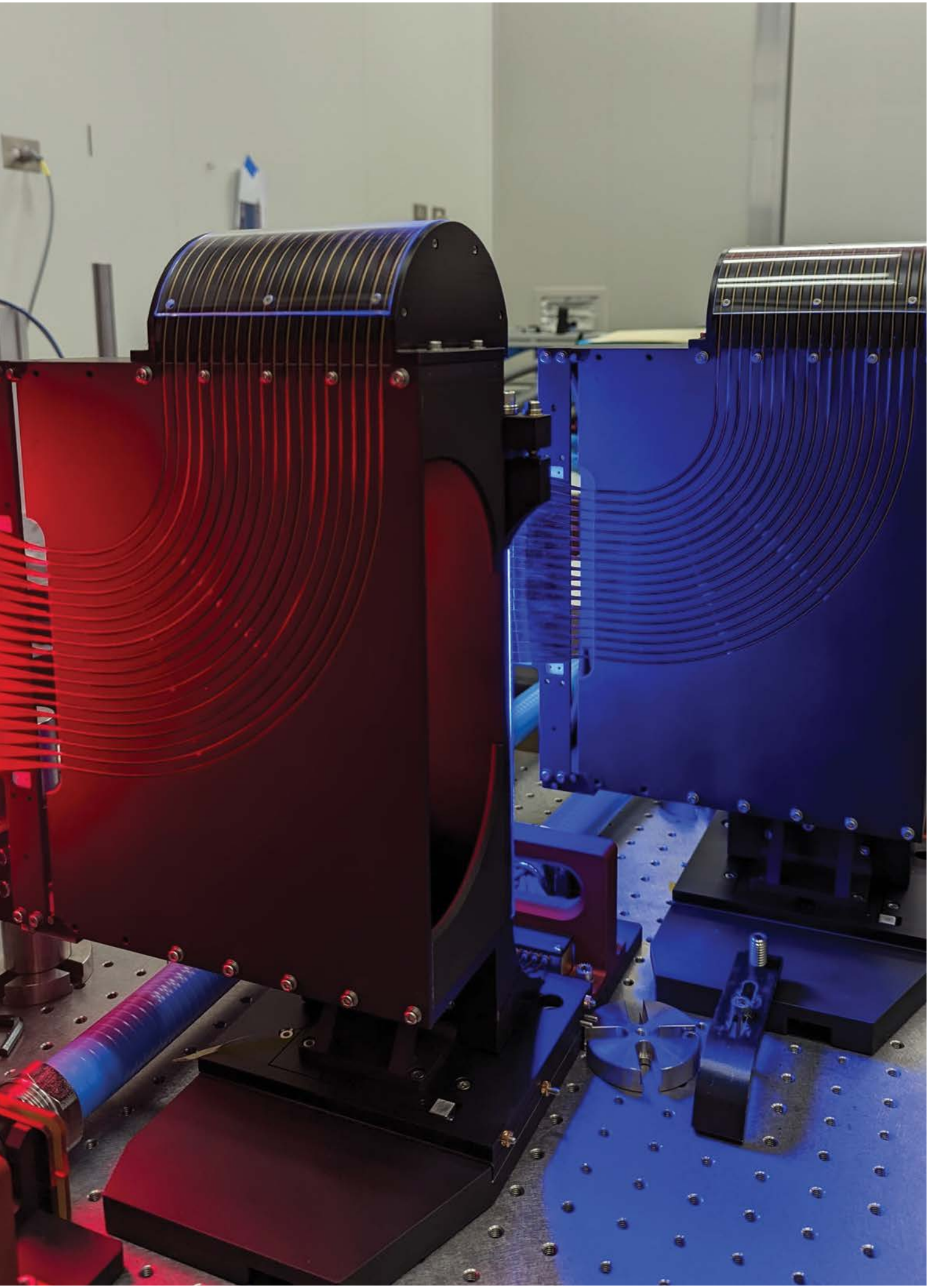
Our KPIs are closely aligned with our SFAs to drive successful implementation of the strategic plan.

THEY LINK DIRECTLY TO OUR SHORT-TERM, MEDIUM-TERM AND LONG-TERM OUTCOMES ACROSS THE LIFE OF THE STRATEGIC PLAN.



By providing clear measures of success, KPIs drive actions and behaviours across our organisation, ensuring alignment with our long-term ambitions. They serve as benchmarks to track progress, make informed decisions and stay focused on our overarching goals, fostering a culture of accountability and continuous improvement with our people.

Once established, KPIs will be measured and reported frequently to AAO staff and Faculty Executive.



1 OUR PROJECTS

SUSTAINABLE AND IMPACTFUL WORK

Deliver and support challenging and impactful work, sustainably

PHASE	OUTCOME	KPI	WHAT WILL BE MEASURED?
STABILISE Short term 2025–2026	**1.1 Timely, scoped and cost-recovered projects**	**1.1.1 Gross surplus margin**	Proportion of net income (revenue) that exceeds the gross surplus (margin)
		1.1.2 Project complexity and impact index	Composite qualitative KPI that considers project scope, technology, stakeholder involvement, alignment to strategic goals, stakeholder satisfaction and market impact
SCALE Medium term 2027–2029	**1.3 Financial stability and strategic growth**	**1.2.1 Sector dependency ratio**	The extent to which we rely on a single sector for revenue
		1.2.2 Income growth rate	Comparison of income at the start of the reporting period with the income at the end of the reporting period
SUSTAIN Long term 2030–2034	**1.3 Financial stability and strategic growth**	**1.3.1 AAO Strategic Reserve allocation weighted efficiency and effectiveness index**	How efficiently funds from the AAO Strategic Reserve are being reinvested in the organisation and how effectively they are used to achieve outcomes

2 OUR PARTNERS

COLLABORATIVE SKILLS AND TECHNOLOGIES

Leverage transferable skills and technologies to enhance collaboration outcomes with strategic partners

PHASE	OUTCOME	KPI	WHAT WILL BE MEASURED?
STABILISE Short term 2025–2026	**2.1 Trust-based strategic partnerships**	**2.1.1 New collaborative engagements**	Number of new collaborative engagements identified and actively pursued for projects and research purposes, where there is potential for acquisition of a new strategic partner, where the partnership is revenue generating or adds non-financial value to AAO
SCALE Medium term 2027–2029	**2.2 Interdisciplinary innovation leadership**	**2.2.1 Strategic partners feedback score**	Qualitative KPI that considers overall partnership experience quality, categorised by partner type, benchmarked against industry competitors
SUSTAIN Long term 2030–2034	**2.3 Partnerships driving tech adoption and market growth**	**2.3.1 Collaborative engagements conversion rate**	Rate at which collaborative engagements lead to productive outcomes or actionable insights

3 OUR RESEARCH

LEADERSHIP IN INNOVATION AND R&D

Lead an innovation-focused R&D agenda and ethos

PHASE	OUTCOME	KPI	WHAT WILL BE MEASURED?
STABILISE Short term 2025–2026	**3.1 Innovation-focused R&D support (funding, time, space and pathways)**	**3.1.1 Staff capacity utilisation**	Proportion of staff time spent on work that drives impact for our organisation, categorised by project and non-project work
		3.1.2 Higher Education Research Data Collection (HERDC) Category 1 income	Income from HERDC Category 1 awarded at the end of the reporting period, relative to other income awarded (including HERDC Category 2 and 3, and other (non-HERDC) income)
SCALE Medium term 2027–2029	**3.2 Sustainable R&D applications**	**3.2.1 Innovation outputs index**	The number of IP (patents, copyrights, etc.), publications (research papers and articles), citations of research or R&D technology, awards and recognition, open-source software contributions, guest lectures, conferences, reports, policymaking impact, presentations, educational outputs, prototypes, media publications and other research outputs
SUSTAIN Long term 2030–2034	**3.3 Partner of choice**	**3.3.1 Return on innovation investment**	Financial return generated from R&D activities, relative to time and resources spent undertaking R&D activities
		3.3.2 R&D technology commercialisation success	Rate at which technologies from R&D work are successfully commercialised (eg spin-outs, spin-offs, IP licencing) (ie reach the market and achieve commercial viability)

4 OUR FUTURE

INSPIRING THE NEXT GENERATION

Encourage and support the next generation of curious minds

PHASE	OUTCOME	KPI	WHAT WILL BE MEASURED?
STABILISE Short term 2025–2026	**4.1 Enhanced engagement pathways for students and researchers**	**4.1.1 Student participation**	Proportion of staff across workforce involved in managing students' participation in projects and research
		4.1.2 Mentorship and supervision of HDR students	Number of HDR students mentored and supervised for research
SCALE Medium term 2027–2029	**4.2 Increased staff participation in teaching and research activities**	**4.2.1 Engagement of ECRs**	Number of ECRs participating in projects and research
SUSTAIN Long term 2030–2034	**4.3 Sustainable talent pipeline**	**4.3.1 Student collaboration satisfaction rate**	Proportion of students and faculty representatives (or strategic partners) who are satisfied with the student engagement experience
		4.3.2 Student conversation rate	Proportion of students who secure employment with the organisation (casual, fixed-term or continuing staff only), or with adjacent/collaborative industry partners

5 OUR PEOPLE

INCLUSIVE EXCELLENCE

Foster excellence and wellbeing through a commitment to equity, diversity, inclusion, belonging (EDIB) and professional growth

PHASE	OUTCOME	KPI	WHAT WILL BE MEASURED?
STABILISE Short term 2025–2026	**5.1 Inclusive and respectful work culture**	**5.1.1 Staff engagement, satisfaction and inclusion index**	Composite quantitative KPI that considers how staff feel with their work, how well their work aligns with their interests and skills, and the extent to which they feel valued, respected and included in the workplace
SCALE Medium term 2027–2029	**5.2 Leadership in EDIB and organisational resilience**	**5.2.1. Staff diversity index**	The representation of various demographic groups in the workforce, categorised by demographic type and level of staff seniority
		5.2.2 Awards and recognition	Number of awards and recognition received including Athena SWAN; Pleiades Awards; AHRI Awards for diversity; Macquarie University or faculty staff and organisation awards; state, national or international recognition; industry awards; research awards; internal staff awards.
SUSTAIN Long term 2030–2034	**5.3 Diverse and inclusive workforce**	**5.3.1 Staff retention rate**	Proportion of staff who remain employed for more than 3 years (fixed-term or continuing staff only)

6 OUR IDENTITY

DISTINCTIVE BRAND IDENTITY

Cultivate a strong identity and celebrate our distinctive brand

PHASE	OUTCOME	KPI	WHAT WILL BE MEASURED?
STABILISE Short term 2025–2026	**6.1 Distinctive and valued brand identity**	**6.1.1 Client feedback score**	Qualitative KPI that considers overall client experience quality, categorised by client type, benchmarked against industry competitors
SCALE Medium term 2027–2029	**6.2 Broadened reach and visibility of capabilities**	**6.2.1 Community engagement index**	The level of engagement with discipline and industry communities through participation in conferences, workshops and peak professional bodies
		6.2.2 Media coverage index	Measures how positively our brand and impact are mentioned in the media, including print, online, broadcast and social media
SUSTAIN Long term 2030–2034	**6.3 Global recognition and sustainable industry collaboration**	**6.3.1 Brand awareness, recognition and perception index**	Measures the level of awareness of our brand, how we are identified and perceived

Note: Long-term KPIs, outcomes, key programs and initiatives will be updated in the medium term to reflect evolving assumptions and realities. Targets for KPIs will be set following a baseline in the short term.

Implementation, communication and review

The implementation of our strategic plan will be driven by the AAO Director as the accountable officer to the Faculty Executive for performance against the KPIs.

The **AAO Leadership Team** will be responsible for leading delivery of the key programs and initiatives under the SFAs and tracking progress against the associated outcomes. The delivery projects under these key programs and initiatives will be a collaborative effort with staff, leveraging external resources and support as needed to ensure success.

Regular communication with staff will be maintained through the AAO Leadership Team and the staff-led EDIB Committee, ensuring that staff voices are continuously embedded in the implementation process as part of an ongoing feedback loop and 'always-on' strategy. The AAO will release an annual impact statement to the Faculty Executive and other key stakeholders, reporting on key impact metrics.

Yearly progress reports of the strategic plan will coincide with internal reviews. Independent reviews will follow each phase, driving how we reshape the strategic plan to reflect evolving assumptions and realities, and to support extra requests for funding and resources needed to implement each next phase.

OUR IMPLEMENTATION PRINCIPLES EMPHASISE:

ADAPTABILITY TO CHANGE THE PLAN
in response to evolving circumstances through yearly reviews

INTEGRATION OF ENHANCED STRATEGIC THINKING
into day-to-day operations

ALIGNMENT WITH THE VISION AND STRATEGIC GOALS
from a range of perspectives

SETTING REALISTIC EXPECTATIONS
with key stakeholders

MAINTAINING TRANSPARENT COMMUNICATION
with key stakeholders through regular reporting

ACTIVELY INCORPORATING FEEDBACK
for continuous improvement

APPENDICES

Appendix A: Workplace Culture Statement

AAO pays respect to the Wallumattagal people of the Dharug Nation, custodians of the land on which AAO resides, and of the ancient scientific and cultural knowledge that arose on Country. We pay respect to all First Nations people within our community.

We embrace Macquarie University's commitment to principles of equity, diversity, inclusion and belonging as being vital to an impactful and successful organisation.

We strive to be welcoming, respectful and supportive of all staff, students, partners, clients and visitors regardless of role, gender or sexual identity, cultural, linguistic or socioeconomic background, disability, age, family/carer responsibilities, neurodiversity, political affiliation or religious belief.

This commitment underlies our approach to all aspects of our work in engineering, research, teaching and service; and to ensuring a safe and positive workplace experience, including in recruitment, mentoring, professional advancement and celebration of success. These commitments extend to all AAO staff, students, partners, clients and visitors, regardless of the nature or duration of their affiliation with AAO.

We commit to an ongoing culture of improvement, measuring and reflecting on our progress, actively pursuing internal feedback and external assessment, and promoting these values within AAO, the University, and in our wider community.

This statement builds on the Workplace Culture Statement that was formally adopted by the Macquarie University Department of Physics and Astronomy in 2017, and further developed by the School of Mathematical and Physical Sciences in 2023.

Appendix B: AAO Trust Tenets

In 2024, as part of our strategic planning activities, our staff engaged in an exercise focused on developing Trust Tenets. Inspired by Patrick Lencioni's work, this framework aims to build a strong foundation of trust, enhance communication and foster productive conflict – key elements for a cohesive and high-performing organisation. We use our trust tenets to guide team interactions and decision-making processes. The tenets are integral to our organisational culture. The figure below Is based on the Lencioni Trust Pyramid.

- Celebrate AAO successes as collective results
- Consistently engage stakeholders at all levels
- Address problems early while taking accountability
- Establish shared goals
- Commit to a clear course of action given available information
- Offer constructive feedback, leveraging each other's strengths
- Encourage open discussion and respectful debate around ideas
- Create and maintain a safe and respectful environment
- Admit mistakes, be vulnerable, accept apologies readily and give the benefit of the doubt

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PHOTOS: Chris Barlow, Morris McLennan, Paul Wright

FRONT COVER PHOTO CREDITS
Top right: Gemini North Telescope (Credit: International Gemini Observatory/NOIRLab/NSF/AURA/T Slovinský)
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