



Annual

Report

2023

Growth in a new era of change

AARNet acknowledges the Traditional Custodians of country throughout Australia, and we pay our respects to Elders past and present.

Annual Report

2023

Growth

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change

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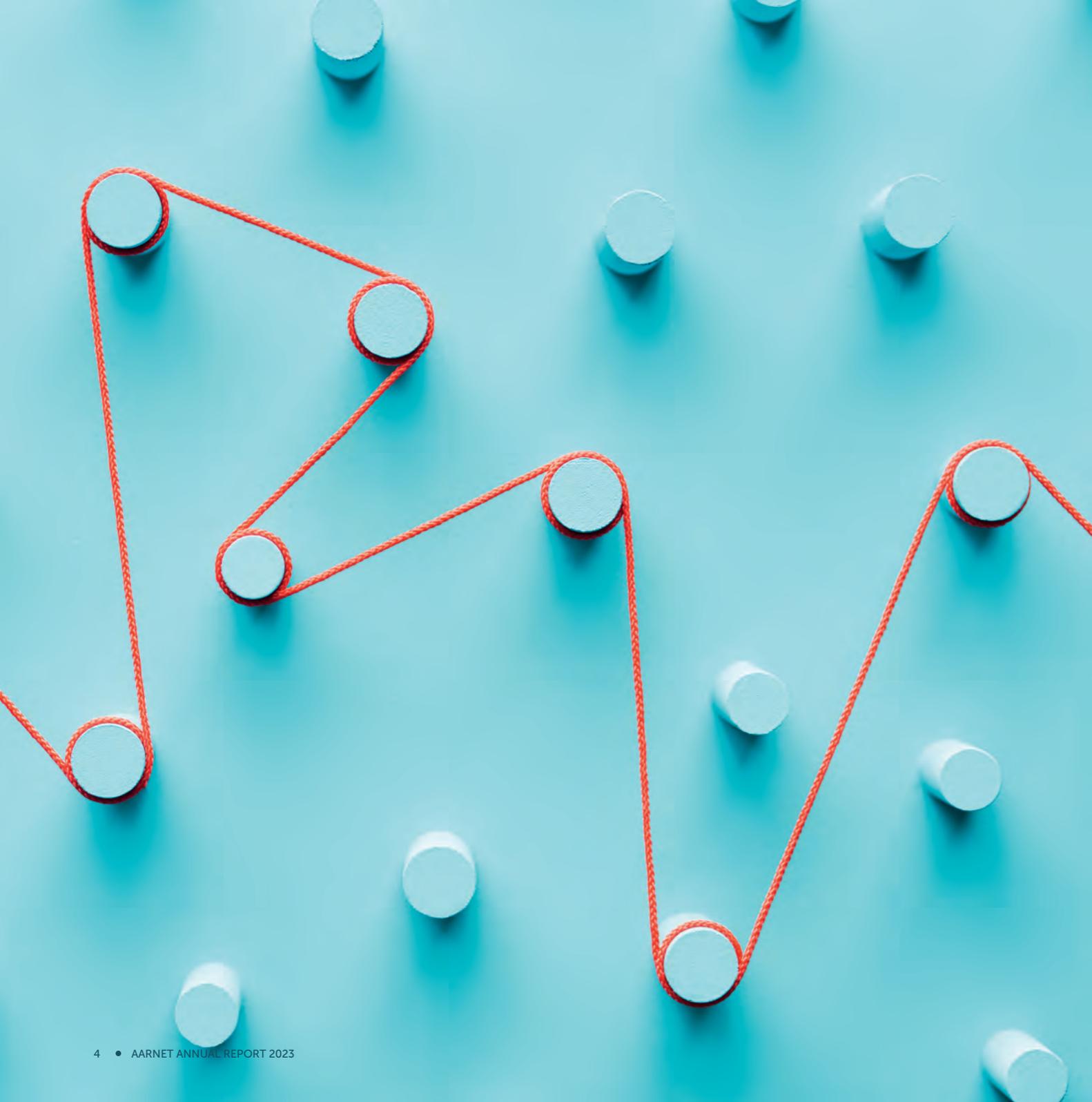
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“Together we will navigate the challenges and opportunities that lie ahead, **shaping a future** where the research and education sector is empowered to thrive in a secure, connected world.”

CHRIS HANCOCK AM, CEO AARNET





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Who we are and what we do

For more than **30 years** AARNet has provided reliable telecommunications services, along with an **expanding range** of data, collaboration and cyber security services, all designed to **meet the unique and ever-changing needs** of the research and education sector.

AARNet is a national resource, a national research and education network, run by AARNet Pty Ltd, a not-for-profit company owned by 38 Australian universities and CSIRO.

AARNet's customers include the shareholder universities (listed on page 44) and CSIRO, as well as most of the publicly funded research agencies, such as Australian Nuclear Science and Technology Organisation, Geoscience Australia and Australian Institute of Marine Science, several state government agencies, over a thousand schools, many TAFEs and hospitals, as well as state and federal galleries, libraries, archives and museums.

AARNet infrastructure interconnects over two million users—researchers, faculty, staff and students—at institutions across Australia with each other and research and education institutions worldwide, the public internet, and resources such as scientific instruments, data storage and high-performance computing facilities. We also interconnect content and service providers and organisations that collaborate with the research and education community.

AARNet underpins education across the life-long learning spectrum and research across a diverse range of disciplines in the sciences and humanities, including high energy physics, climate science, genomics, radio astronomy, defence, space and the arts.

For researchers and educators working in today's increasingly globalised data-intensive world, AARNet services remove barriers to discovery and innovation.

WHAT SETS AARNET APART?

We pride ourselves on being future focused and providing what commercial operators are unequipped or unable to provide: an ultra-high-speed network and over-the-top services that push the boundaries of networking technology whilst delivering cost-effective and sustainable infrastructure for Australia. The research and education community relies on AARNet for outstanding service availability and service quality.

Our mission

Our mission is to provide trusted and transformational connectivity and collaboration services to meet the unique needs of research and education.

Our values

ONE TEAM

Everyone counts and is accountable. We are committed to teamwork and partnerships – collaboration is at our heart.

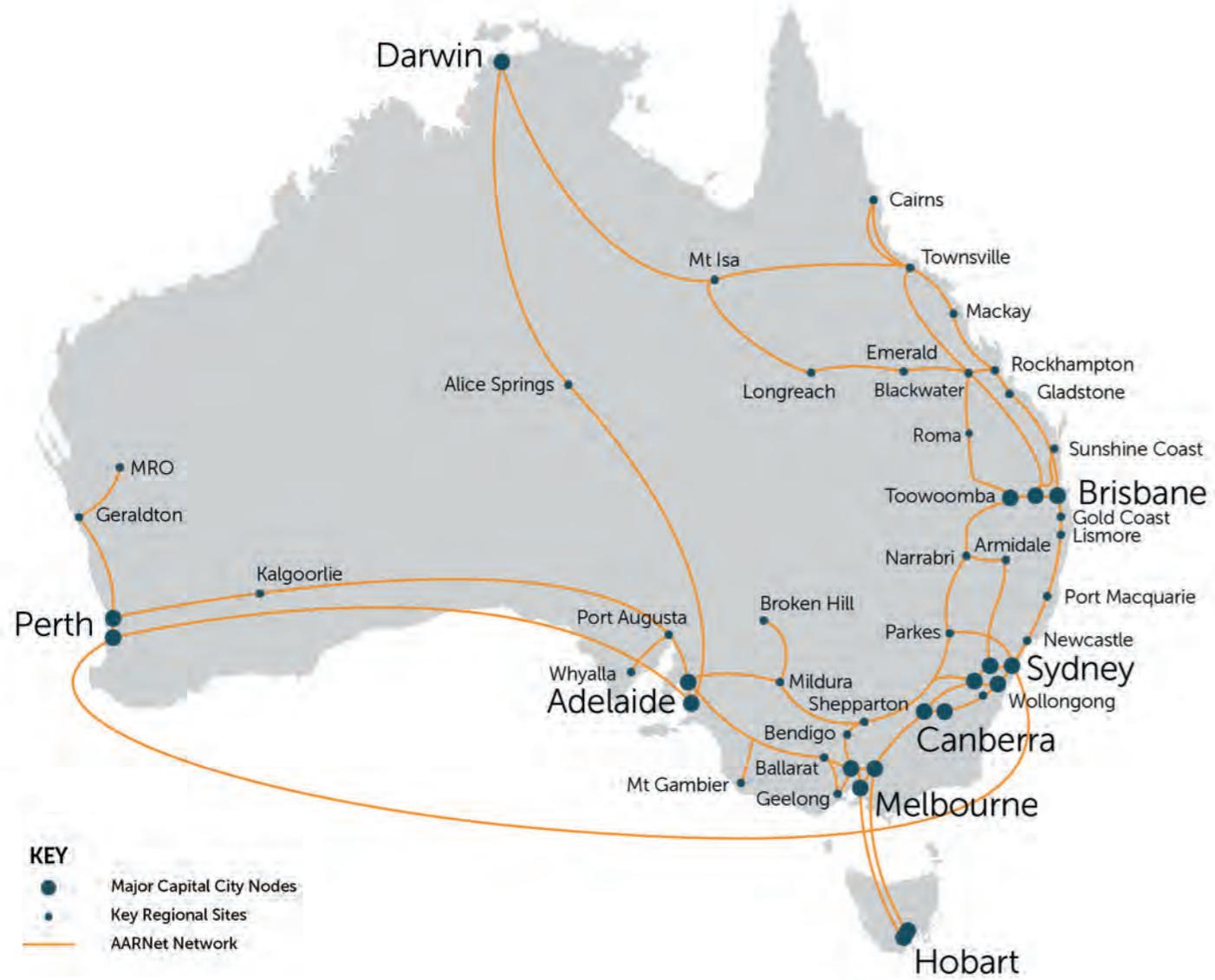
CREATIVITY

Strive to innovate – it's in our DNA. We embrace creative solutions to problems, seek out diverse perspectives and enjoy what we do.

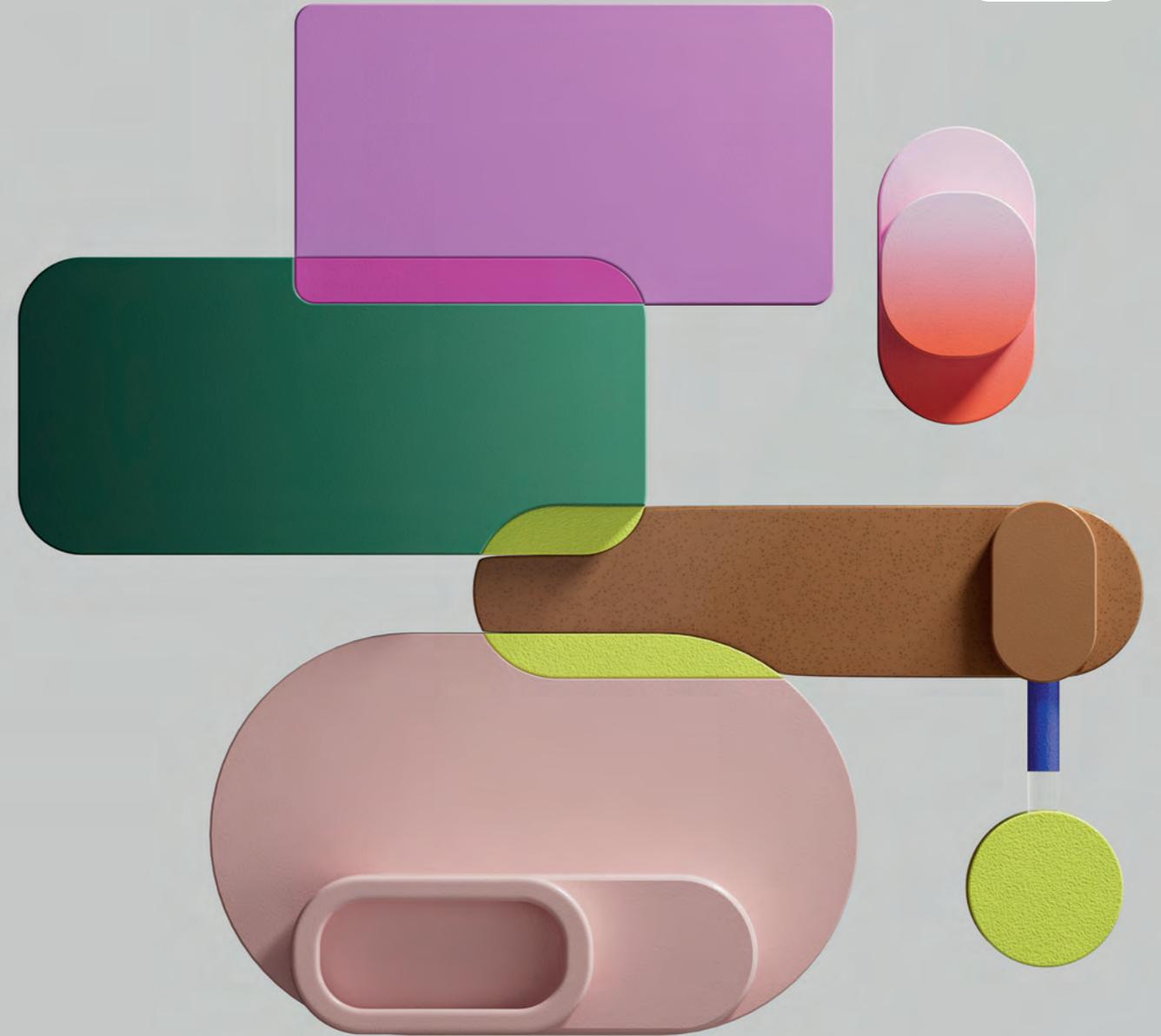
TRUST

Communication is open and transparent. We are honest and ethical, and always respect and support each other.

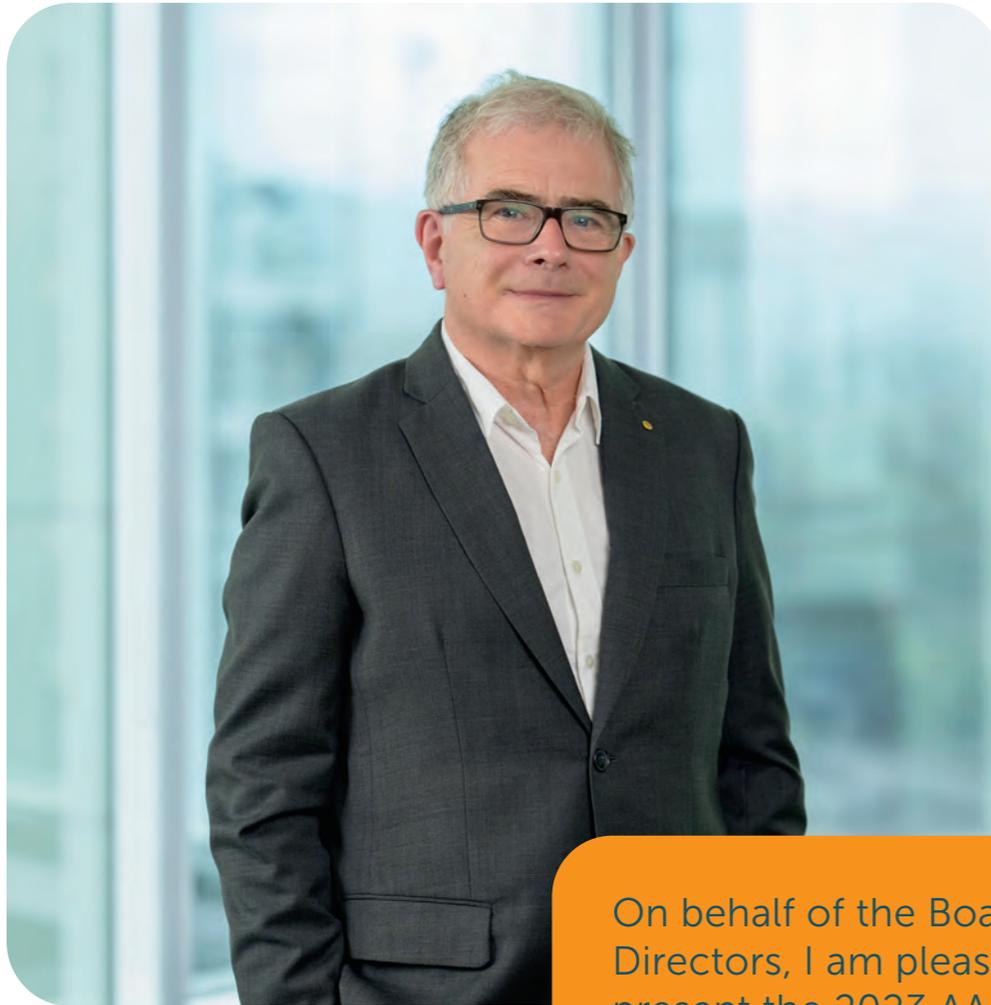
AARNet National Network



This map is designed to be a conceptual representation of the AARNet national network.



Message from the Chair



On behalf of the Board of Directors, I am pleased to present the 2023 AARNet Annual Report. Our **commitment to empowering** Australia's research and education sector through **technology solutions** is as strong as ever.

Despite the challenges of the current era, including the evolving cyber security threats, geopolitical instability and economic pressures, we have continued to support the mission-critical activities of our shareholders and customers.

The Board has worked closely with the senior management team to set strategic priorities that position AARNet for future growth while meeting the specialised needs of the research and education sector. We have focused on strengthening our risk management frameworks to address local and global challenges and safeguard the continuity and reliability of AARNet's services.

Since its founding in 1989, AARNet has been integral to the advancement of research and education both in Australia and globally, providing essential network, collaboration and more recently, cyber security services for enabling data-driven research and enhanced learning experiences. Constantly innovating, AARNet is developing the fifth iteration of its network, AARNet5, in collaboration with stakeholders, to stay at the forefront of networking technologies. Additionally, AARNet is strengthening cyber security defences by expanding the AARNet security operations centre and developing new partnerships and services. This is all part of a collaborative strategy to help protect the higher education and research sector in an ever-challenging world.

In 2023 we welcomed two new non-executive directors to the Board, each bringing with them a wealth of experience and insight. Emeritus Professor Elizabeth Carson and Mr Bruce Hambrett joined the board following the retirement

of Mr John Rohan and Emeritus Professor Mark Wainwright AM, who we both sincerely thank for their considerable contributions over many years.

As we look to the future, I am confident in the company's strategic direction and ability to navigate challenges and change to create long-term value for Australia's research and education sector. I sincerely thank my fellow Board directors, the AARNet Advisory Committee led by Mr Scott Sorley, and our shareholders and stakeholders for their trust and support. Finally, I congratulate and thank CEO Chris Hancock AM, as well as the senior management team and all AARNet employees for their contributions to another successful year at AARNet.

**Professor Emeritus Ian O'Connor AC
Chair, AARNet Board**

Message from the CEO



As we reflect on 2023, I am filled with pride in what we have **accomplished together** at AARNet. In the shadow of the pandemic, the year was marked by significant achievements, resilience in the face of challenges and **unwavering dedication** to the research and education sector.

This year also marked the beginning of an exciting new chapter in the AARNet journey as we embarked on the implementation of our new five-year strategic plan. By focusing our priorities around six pillars—network, community, products & services, cyber security, sustainability, and people—we aim to amplify our impact on the advancement of research and education in Australia through the technologies, services, and expertise we offer. This plan is more than a roadmap—it is a promise of our commitment to excellence, innovation, and partnership.

2023 presented its share of challenges for the sector and our nation, from navigating the complexities of geopolitical instability, economic uncertainty, and cyber security threats to adapting to the ever-changing technological landscape with the new world of AI. Despite these challenges, the resilience and adaptability of the AARNet team allowed us to overcome obstacles and deliver dependable services for the sector.

I am pleased to report that we maintained a strong financial position, with revenue growing across our network, data, collaboration, and cyber security service areas. We also strengthened our digital capabilities, which enhanced our customer service and operational efficiency.

Our operational performance remained reliably robust, with network availability averaging an excellent 99.99% for the year, reflecting our commitment to delivering high quality products and services.

AARNet's partnership with Zoom continued to deliver value, with universities, schools and research institutes further embedding Zoom Meetings, and adopting Zoom Phone, Zoom Events, and Zoom Rooms.

Eduroam usage achieved a remarkable new record with 7.5 billion authentications to the service recorded worldwide in 2023, as students, staff and researchers resumed travel and collaborations and used this secure roaming Wi-Fi access service to stay connected in Australia and overseas.

Throughout the year we continued to strategically upgrade capacity, build diversity and triversity and expand the geographical reach of the AARNet network to connect more campuses, instruments and facilities and improve access to high-speed broadband services for the broader research and education community. The \$6.55 million investment from the Australian Government's Regional Connectivity Program announced in December 2023 was a particular highlight that will further empower us to deliver crucial fibre upgrades and improve connectivity in regional communities in Western Australia and the Northern Territory.

The reliability and redundancy of our international network has been strengthened through our membership in the Asia-Pacific Europe Ring and the Asia Pacific Oceania Network consortia. An achievement this year was the activation of a new 100Gbps trans-Pacific circuit from Sydney to Los Angeles via the Southern Cross Cable Networks submarine cable, Southern Cross NEXT.

In response to the escalating cyber security challenges facing our shareholders and the country, we have enhanced our cyber security services. Twenty-four universities have now joined the AARNet Security Operations Centre, contributing to collective efforts, along with our industry, government and global research and education network partners, to improve the security posture of the sector.

Additionally, we've made substantial progress on delivering AARNet5, the next iteration of our network, which is being built from the ground up with cyber security as its foundation. This year, we launched a production testbed for AARNet5, marking a pivotal development milestone.

AARNet has actively supported eResearch initiatives, including collaborating with Australian BioCommons to further improve the Galaxy Australia platform. We have also increased the adoption of Globus for secure, large-scale data transfers and have provided infrastructure and expertise for major research projects, such as the ARDC-supported Language Data Commons of Australia project, now in its second phase.

None of these achievements would have been possible without the commitment and drive of our employees, whose 'one team' approach and dedication have been instrumental to our success. Acknowledging the challenges of a competitive talent market and to foster diversity in our workforce, as well as assist employees through various life stages, we introduced new leave entitlements, including All Employee Cultural Leave; First Nations Cultural & Ceremonial Leave; Gender Affirmation Leave; Fertility Leave; and Foster Care Leave, and broadened opportunities for professional development and training.

Looking ahead, we are focused on balancing growth and innovation with developing and delivering sustainable services for research and education. We will continue to invest in technology and people, as they are critical to our future success and the success of the sector we serve. Our roadmap includes adding more diversity and resilience to our national and international networks, expanding our footprint in regional areas, developing new and improving our existing

products and services, enhancing our digital platforms and processes, further developing our cyber security capabilities, and ensuring we operate in a financially, socially and environmentally responsible way.

I am excited about the future and confident in our ability to achieve our goals in this dynamic era. Together with our shareholders, customers and other stakeholders, we will navigate the challenges and opportunities that lie ahead, shaping a future where the research and education sector is empowered to thrive in a secure, connected world.

Our successes in 2023 were achieved thanks to the commitment of the AARNet Board, the AARNet Advisory Committee, our shareholders, customers, partners and the highly dedicated AARNet team. Thank you all for your unwavering trust and support.

Chris Hancock AM
Chief Executive Officer

The year in numbers



\$223.903 MILLION
Net assets

\$43.676 MILLION
Invested in network and related infrastructure

99.99%
Network availability

24% SHAREHOLDERS
14% OTHER CUSTOMERS
Network traffic growth

10000000000000 BIT/S
Ten terabit per second network for research and education

475 KILOMETRES
Fibre installed



4.5 million
Authentications in Australasia

7.5 billion
Authentications worldwide



56.163 million
Meeting participants

11.851 million
Meetings



Security Operations Centre (SOC)

38.8 billion/day
Log events ingested

2107
Security incidents investigated

2023: The year in review

Aligned with our strategic plan, we supported Australia's research and education sector with specialised infrastructure and services. Our focus included enhancing our network, advancing cyber security, streamlining processes, and developing new products, as well as ensuring our sustainability and long-term resilience.

Strategic plan

Our new strategic plan was launched in 2023. Underpinned by our values and aligned to our mission, the AARNet 2023 - 2027 Strategic Plan outlines our priorities for the coming years. The plan identifies six pillars to guide our work: network, community, products and services, security, sustainability and people.

By focusing on these six key areas, AARNet will continue to provide world-class digital infrastructure and services for research and education and play a leading role in shaping the future of digital innovation and collaboration in this important sector. We will be conducting our business in a responsible way while addressing the needs of our shareholders and customers and supporting our employees to reach their potential individually and as a team.



Advancing Australia's national research and education network and digital infrastructure

Core to AARNet's mission is the operation of an **ultra-fast**, high quality and highly available national and **international telecommunications** network to meet the unique needs of the research and education sector.



NETWORK PERFORMANCE

The AARNet network continued to perform at consistently high levels while carrying increasing volumes of traffic for AARNet customers. The average network availability for 2023 was 99.99%, which was the same as the level achieved in 2022.

This exceptionally high level of reliability is achieved over the vast geographic footprint of our infrastructure through strategic long-term planning and carefully designed network redundancy. Diversity and triversity in the network design and equipment enables our operations team to deploy alternate paths and minimise the impact of outages on AARNet customers.

INFRASTRUCTURE, ARCHITECTURE AND OPERATIONS

Throughout 2023 AARNet continued to invest in upgrading capacity, building diversity and triversity, and expanding the geographic reach of the AARNet network.

Careful capacity planning to remain ahead of the demand curve, and to accommodate the increasingly data-intensive requirements of research is one of the distinguishing features of a research and education network such as AARNet. The peak demands of the academic year determine the sustained capacity required, and the needs of the most data-intensive research disciplines, such as radio astronomy, climate science and bioinformatics, determine the absolute peak capacity. We continually monitor the network traffic levels on the AARNet backbone links to determine when upgrades are required. This approach enables us to provide a consistently high-quality service for our customers.

Opposite: rolling out the network in Western Australia.

We learnt a lot from the unprecedented fire, flood and pandemic disasters of the past few years. Despite the network diversity we had in place, our ability to respond to issues and outages during these disasters was severely hampered by circumstances beyond our control, such as prolonged flooding, lockdowns, and border closures. In some cases, we were unable to get our team to impacted areas for weeks instead of hours. As a result, we have now embarked on a plan to significantly strengthen the resilience of our network and infrastructure, including building out additional network paths, exploring resilient energy and equipment options, and relocating our controlled equipment vaults above the new record flood levels.

We are firmly focused on future proofing the AARNet network and infrastructure for decades to come.

NATIONAL NETWORK

While AARNet deployed diverse fibre in all states and territories in 2023 most of the activity was focused on the greater Perth region and east coast of Australia. We expanded our fibre footprint in capital cities, closing loops and shortening paths and increasing core count to provide connected institutions with more connectivity options, greater network resiliency and reduced latency.

We also continued to expand our network footprint in regional areas across Australia to connect more campuses, facilities, and scientific instruments, and to improve access to reliable high-speed telecommunications services for the broader research and education community.

Throughout the year, we continued our work on upgrading the capacity of both the AARNet Layer-2 optical network and the AARNet routed network that overlays the optical network.

Network Services

Customers across the sector and the country, including universities, schools, hospitals, medical and other research institutes, upgraded their connections and requested diverse backup links to meet their growing bandwidth needs.

Our Layer-2 optical network upgrade was completed, and we began provisioning customers with 400Gbps Layer-2 optical services. Some universities upgraded to 400Gbps, while other universities and larger research institutes opted for multiple 100Gbps connections to connect the instruments, laboratories and data centres they need to access for big science research and business operations.

The AARNet routed network is used by our customers to connect to the public internet and research and education institutions worldwide. During 2023 several institutions upgraded their routed connectivity to 100Gbps and procured additional backup links. As outlined below, the AARNet5 project is now underway to upgrade the routed network to 400Gbps.

Our customers value the reliability of the AARNet network for accessing services that are critical for business operations, teaching, learning and research. This is reflected in the continual growth in the uptake of our cost-effective, fast and scalable 1Gbps – 10Gbps direct-connect services to the hyperscalers and other cloud service providers located in data centres.

Large K-12 schools continued to order multiple 10Gbps network links over diverse paths in 2023 rather than 1Gbps internet connections. This trend reflects the growing dependency on the high-capacity dedicated links AARNet provides for day-to-day curriculum delivery and operations.

AARNet5

AARNet5 is a multi-year project to upgrade the AARNet network and associated operational support systems. During 2023 we went to market to select hardware and software

vendors, and as a result have contracted with Cisco Systems and Juniper Networks as our preferred suppliers. With hardware selected we built a fully functional lab environment representative of our AARNet5 production network. This lab environment allows our teams to begin the integration of existing operational support systems with new systems that are being developed for AARNet5 around network automation, visibility, and service delivery. Consultations with our shareholder institutions and other key customers continued throughout the year, which enabled us to share progress and refine requirements for the project based on feedback received. Initial deployment of equipment is expected in late 2024, with the first migration of customer services in 2025.

Commonwealth Investment

In December 2023, the Minister of Communications announced that AARNet will receive Commonwealth investment through Round 3 of the Australian Government's Regional Connectivity Program (RCP). The \$6.55 million government investment will fund four projects that will enable AARNet to deliver fibre upgrades and significantly improve connectivity for education and research for several communities in regional Western Australia and the Northern Territory.

Under the funding program, AARNet will provide optical fibre to Batchelor, Northern Territory, connecting key sites providing research and education-related services in the town to the high-speed AARNet network. These sites include the council building, museum, school, community health centre and the Batchelor Institute of Indigenous Tertiary Education, Australia's only First Nations dual-sector tertiary institution.

In addition, AARNet has been awarded funding to deliver fibre broadband and fixed wireless broadband connectivity to the towns of Three Springs, Mingenew, Coorow and Carnamah in the Northern Midlands region of Western Australia. The projects will also connect key premises, including public libraries and public schools, to AARNet services.

INTERNATIONAL NETWORK

As a member of both the AER and APOnet consortia, AARNet worked closely with NREN partners during 2023 to build diversity and redundancy across the network of research and education networks in our region and globally.

AER, the Asia-Pacific Europe Ring, is a diverse collection of network circuits between Europe and the Asia-Pacific region and APOnet, the Asia Pacific Oceania Network, is focused on Pacific Rim connectivity. The objective of both consortia is to improve network availability and reliability by establishing diverse backup paths using circuits contributed by each respective member. Notably in 2023, connectivity between Australia and Japan was significantly improved in this way, with AARNet providing two 100Gbps circuits to Guam via Singapore on the Indigo and JGA-South subsea cable systems and the Japanese NRENs providing two 100Gbps circuits from Guam to Tokyo.

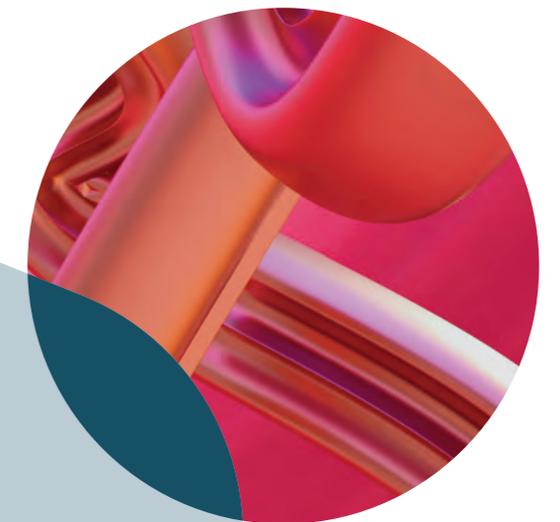
In July 2023, AARNet activated a new trans-Pacific circuit, providing 100Gbps of capacity on the new Southern Cross Cable Networks (SCCN) submarine cable, Southern Cross NEXT (SX NEXT). The circuit originates in Sydney, Australia, lands in California, USA at Hermosa Beach and is then extended to AARNet's facility in Los Angeles. Along with AARNet's relatively new 100Gbps circuit on the Hawaiki submarine cable (Sydney to Seattle), the new SX NEXT circuit is a timely addition to AARNet's international network. The two new 100Gbps circuits will replace the South Cross Cable Network SXTransPORT circuits which are due to expire in November 2025.

Another important development was AARNet's completion of a major network upgrade in Suva (Fiji) to provide additional fault tolerance for the services we deliver to The University of the South Pacific and Fiji National University. Two new routers are now setup in a highly available configuration that allows quick failover between the two, and the 10Gbps SCCN link from Sydney to Suva has been reconfigured with a diverse path via Hawaii.

With the risk of both accidental and deliberate damage to subsea cables ever present, the overarching goal of all this work is to build a more resilient global research and education network.

Global Network Advancement Group (GNA-G)

AARNet is a founding member of the Global Network Advancement Group (GNA-G), a community of network professionals from research and education networking organisations from all over the world. The GNA-G community meets several times a year. AARNet representatives are members of the GNA-G leadership team and working groups. The working groups are focused on various activities, including supporting data intensive science, developing a global research and education network (GREN) map, connecting offshore students for international online education, network automation, routing best practice and cyber security. The goal of the GNA-G is to work together to better align resources and make the country-to-country interconnections more efficient for global science collaborations and transnational education.



Empowering and growing our communities

RESEARCH PROJECTS AND PARTNERSHIPS

Throughout 2023, we focused on enriching and growing our partnerships and collaborations with the research community.

AARNet is one of Australia's national Data and Digital eResearch Platforms (DDeRPs), along with Australian Research Data Commons (ARDC), Australian Access Federation (AAF), National Computational Infrastructure (NCI) and Pawsey Supercomputing Centre. The DDeRPs continued working closely with the Australian government's National Collaborative Research Infrastructure Strategy (NCRIS) facilities and the wider eResearch community to develop solutions that address the collective need for sustainable data tools and services.

We collaborated on life science projects with the Australian BioCommons. In addition to making improvements to the scalability and performance of the Galaxy Australia head node hosted on AARNet infrastructure, we completed our work package for the ARDC-supported *Bring your Own Data* project.

The Internet Timing for the Ages: Establishing the new timekeeping system ARC Discovery Project funding was

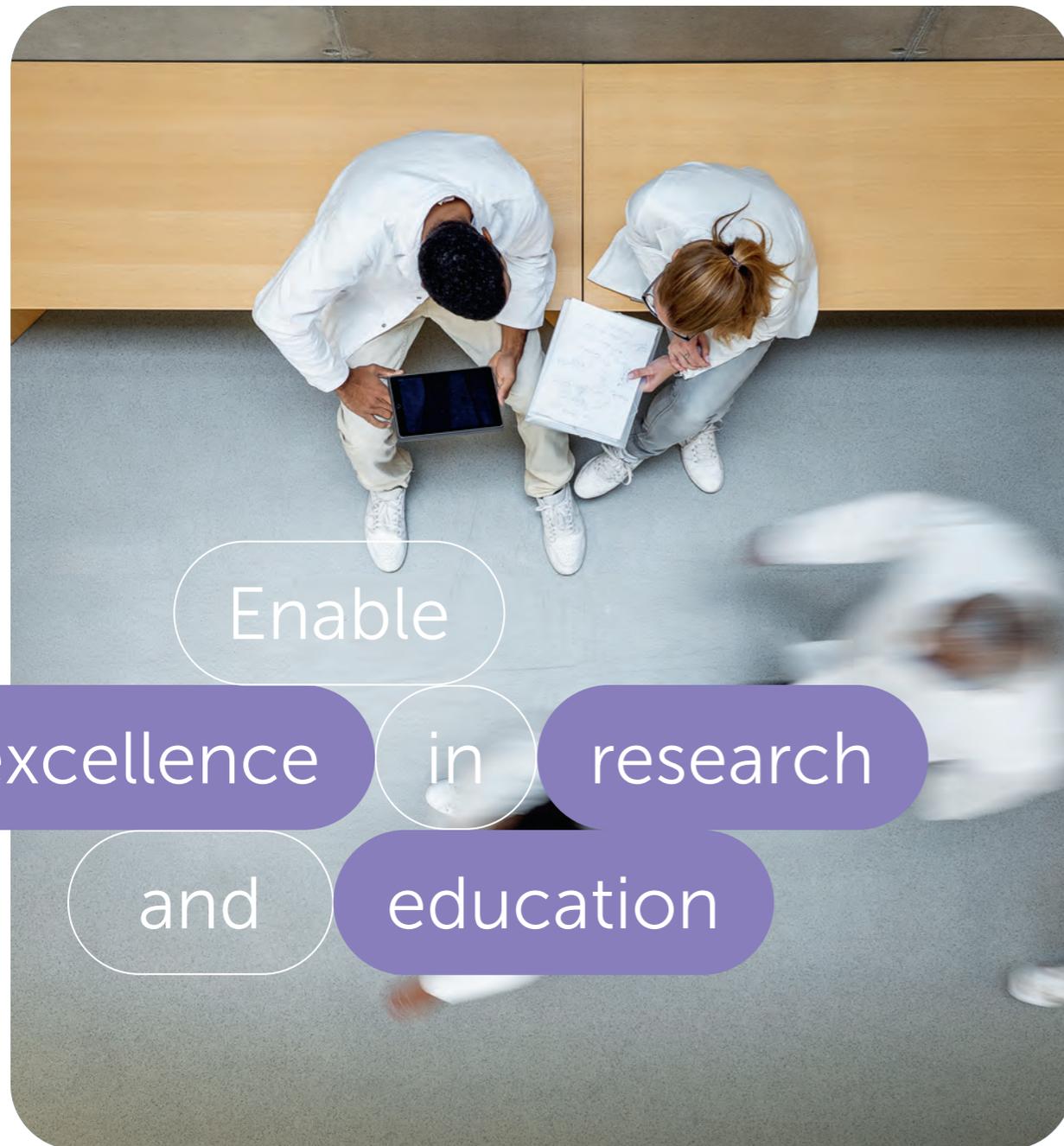
announced in 2023 with AARNet as a partner. Our team is supporting the lead researchers at the University of Technology Sydney with network and data centre access for measurements.

AARNet is a partner on the *Australian Emulation Network: Accessing Born Digital Cultural Collections* Australian Research Council (ARC) Linkage Infrastructure Equipment and Facilities (LIEF) project. The project is led by Swinburne University and was officially launched in February 2023. AARNet infrastructure will underpin this national scale platform, a crucial piece of digital preservation capability that will be offered as a shared service for the benefit of academic and GLAM (galleries, libraries, archives and museums) participants. Beyond the project term, all Australian organisations, researchers plus members of the public will be able to take advantage of this service.

The ARDC-supported *Language Data Commons of Australia* project has entered a second phase (2023 - 2028) and AARNet continued to participate as a technical partner, chief investigator and steering committee member. This project aims to deliver an integrated national repository and workspace infrastructure to preserve and analyse language collections at scale, opening up the social and economic possibilities of Australia's rich linguistic heritage.



AARNet fosters collaboration, knowledge sharing and discovery by connecting organisations **dedicated to research and education** pursuits across Australia and working closely with them to provide the **infrastructure and services** they need to deliver excellence in research and education.



Enable

excellence

in

research

and

education

Other partners and collaborators include Australian universities, plus the digital archive PARADISEC (the Pacific and Regional Archive for Digital Sources in Endangered Cultures) and peak body First Languages Australia.

We kicked off our activities to help uplift the security posture of the GLAM community with a security session at the National and State Libraries Australasia (NSLA) Heads of Corporate Services annual meeting in October.

AARNet’s ongoing membership in the Digital Preservation Coalition and GLAM Peak demonstrated our commitment to supporting Australian and international efforts to preserve digital cultural heritage and to help advance Australia’s humanities, arts and social sciences research.

AARNet submitted feedback and recommendations on the Department of Industry, Science and Resources draft National Science and Research Priorities (NSRP) paper, which was released in September. The emphasis of the AARNet submission was centred around encouraging government to consider the important role that national digital research infrastructure plays in the overall science and research ecosystem and the high value of supporting and investing in sovereign capabilities.

To grow partnerships in the research community, our team also explored new opportunities for collaborating with research domains and groups, including quantum, photonics, defence and space research. Our goal is to help researchers leverage AARNet’s high-performing network and security capabilities to achieve their research outcomes and advance knowledge and learning.

DIGITAL SKILLS TRAINING

AARNet is one of the organisations providing a trainer for the Australian Carpentries partnership of 13 organisations led by Australian Research Data Commons (ARDC). Together with trainers from ARDC, Pawsey Supercomputing Centre and Queensland Cyber Infrastructure Foundation (QCIF), AARNet facilitated two instructor training workshops for 30

participants including a cohort from CSIRO, contributing to a growing pool of Carpentries instructors across Australia.

AARNet also supported researchers with three workshops and a panel discussion at the ResBaz community and skills building event for researchers in Brisbane which attracted almost 300 participants from 18 universities and research institutes including attendees from regional and Far North Queensland.

HEALTH AND MEDICAL RESEARCH AND EDUCATION

By connecting researchers and educators at university campuses, health research organisations, health systems and health precincts across Australia, AARNet underpins and enables life-changing research and innovation in education for the next generation of health researchers and medical practitioners.

Many of Australia’s health education and research facilities are connected to AARNet, along with the specialised scientific instruments and supercomputing facilities researchers need for their work. Eduroam, the global Wi-Fi roaming service for the research and education community, is also deployed in many hospitals and health-related institutions to support mobility between campuses, research facilities and hospitals for students, faculty and researchers.

As health research data grows exponentially—largely driven by rapid advancements in imaging and genomic sequencing—the demand for high-capacity network connectivity is also increasing. This connectivity is crucial for seamlessly transferring data generated in clinics or laboratories to supercomputing facilities for analysis, and subsequently on to researchers at institutions nationwide.

SCHOOLS AND TAFES

Throughout 2023, Australian schools and TAFEs continued to take advantage of the inherent benefits of AARNet services; both new customers accessing powerful research network bandwidth for the first time, as well as schools already connected to AARNet using their access to leverage online content and cloud services for business operations, teaching and learning. By the end of 2023 over 600,000 K-12 school students at more than 1,200 schools were connected to AARNet. In response to the escalating threat landscape and importance of cyber security, we collaborated with schools to implement resilient network and cyber security solutions, and to provide guidance and support. We also delivered scenario-based cyber security tabletop exercises and led panel discussions at conferences and events, raising awareness of the current threat landscape and the complexities of responding to cyber attacks. These events were well attended, and more are planned for 2024.

AIME MENTORING

2023 marked the 10-year anniversary of AARNet providing support for the work of AIME, the Australian Indigenous Mentoring Experience, through the provision of connectivity and Zoom services. AIME's mission is to end education inequality by providing mentorship and support to Aboriginal and Torres Strait Islander high school students. University students volunteer as mentors, engaging in a two-way exchange of knowledge and understanding with their mentees, with the aim of inspiring high school students to complete their education and pursue further study, training and employment. Our technologies have been vital in enabling AIME to grow and positively impact the tens of thousands of high school students across Australia, who continued their education as a result of participating in AIME's programs. Our technologies also supported AIME's expansion globally to assist students in other countries, including India, Africa and the United States.

CONFERENCES AND EVENTS

Every year AARNet is involved in a broad range of research and education community events: presenting, attending and/or providing sponsorship and network support for conferences, workshops, working groups and forums. In 2023, the AARNet team supported and participated in more than 30 national events throughout the year both in-person and online, including, AHECS Cybersecurity Summit, AISA CyberCon, AusCERT Cyber Security Conference, AeRO Forums, Australian Museums and Galleries Association Conference, Australian Independent Schools NSW ICT Leadership Conference, ICT in Schools, ARDC HASS RDC Summer School, ARDC Digital Research Skills Summit, Research Support Community Day, ARDC Data Roundtables, GLAM Games symposium, ResBaz Queensland, eResearch Australasia Conference, Universities Australia Conference, The Higher Education Technology Agenda, World Science Festival, Zoom Education Summit, Tertiary ICT Conference (NZ) and others.

INTERNATIONAL ENGAGEMENT

AARNet continued to host and oversee content production for the In The Field website (intheveldstories.net), a global collaboration for sharing impact stories and promoting the value of research and education networks worldwide. By the end of the year, there were 450 stories published on the site, featuring 109 networks and a wide range of topics.

AARNet staff continued to collaborate with their global peers and participated remotely and in person in international projects, working groups, conferences and forums for the benefit of the research and education community. These included Asia Pacific Advanced Network (APAN) meetings, Pacific Telecommunications Council conference, ARDC Digital Research Skills Summit, Galaxy Community Conference, Globus World conference, TNC, Global NREN CEO Forum, GÉANT Marcomms Special Interest Group, GÉANT Education Task Force, Global Network Advancement Group, Internet2 Tech Exchange, Data Mover Challenge, Securing the GREN Working Group, MANRS, Digital Preservation Coalition, and others.

Developing innovative products and services

AARNet is deeply committed to developing and delivering technologies and services that **meet the specialised needs** of the Australian research and education sector as **efficiently and effectively as possible**.

We are firmly focused on collaborating with our shareholders and customers, developing partnerships, and refining our processes to improve and enhance our existing products and services, identify gaps and deliver new products to the sector faster.

Our expanding portfolio of collaboration, digital research and cyber security products and services, along with our network and telecommunications services, continued to be embraced by the sector in 2023. Included here are some of the key achievements.

EDUROAM

Eduroam (education roaming) is the secure, world-wide roaming Wi-Fi network access service developed for the international research and education community. Eduroam provides students, researchers and staff from participating institutions with secure connectivity at thousands of hotspots in more than 100 countries. As staff and students

resumed travel and collaborations in the post-pandemic world there was a surge in international roaming by eduroam users. 607,960 users from Australia accessed eduroam overseas (a 277% increase compared to 2022 usage). Nearly 471,800 international visitors accessed eduroam in Australia (a 204% increase compared to 2022 usage). There were 7.5 billion eduroam authentications recorded worldwide and 4.5 million recorded in Australia. Local eduroam users are also roaming more within Australia as AARNet partnered with local councils, including Frankston City Council, Latrobe City Council and Armidale Regional Council, to expand the eduroam footprint in 2023.

ZOOM

AARNet's partnership with Zoom continued throughout 2023 as universities, schools and research institutes further embedded Zoom Meetings, and adopted Zoom Phone, Zoom Events, and Zoom Rooms.



This was a year when universities opted for Zoom Meetings over Webinars for the delivery of hybrid, in person, and online synchronous learning, with Zoom’s expanding range of features for online breakout rooms, whiteboards and learning management system integrations enhancing the experience for users. Many institutions also commenced significant multi-year investments in Zoom Room-enabled learning spaces. For research institutes, Zoom provided ongoing benefits for collaborating with partners and peers around the world, while K-12 schools continued to see value in Zoom Meetings for parent/teacher interviews. The adoption of Zoom Phone and Contact Centre products, and Zoom Events, increased across universities and K-12 schools.

Work on retiring AARNet’s legacy hosting environment was completed by the end of 2023. Zoom Meetings are now fully hosted in Zoom’s global cloud, which includes multiple data centre locations in Australia.

As anticipated, the total volume of Zoom meetings across all institutions monitored by AARNet decreased by 15% in 2023 compared to 2022, representing a total decrease of around 40% from peak Covid-19 usage. Zoom usage showed signs of reaching a plateau, maintaining consistent seasonal patterns and a ten-fold increase in usage compared to pre-Covid-19 levels. This trend underscores the rapid evolution of online and hybrid learning as a major and common modality for the delivery of education.

AARNet’s Zoom customers continued to receive the benefits of sector-wide visibility of Zoom usage and trends, as well as the expertise and support of the AARNet collaborative Zoom community. In addition, AARNet’s membership of the Zoom Global Partner Advisory Council, provided opportunities for AARNet to advocate on behalf of the sector on technical and commercial matters.

DIGITAL RESEARCH INFRASTRUCTURE

We are working closely with the research community to develop solutions that support digital research activities.

Galaxy Australia

Through a partnership with the Australian BioCommons, the head node and associated services for Galaxy Australia are now hosted on AARNet infrastructure. The AARNet solution provides a high-performing, reliable and scalable hosting environment for Galaxy Australia, a major web-based processing platform used by over 25,000 life scientists for conducting computational biological research. This initiative has provided AARNet with a Platform as a Service model that we can expand to other research groups.

Globus

Uptake of the Globus service through AARNet by research groups grew during 2023. Globus provides Australian researchers with a robust and security-conscious solution for transferring large-scale research data. Globus is used by researchers at hundreds of universities and research institutions worldwide for solving complex data movement problems. The AARNet offering is competitively priced, leverages the high-bandwidth and low-latency of the AARNet national and international network for faster data transfers between unlimited endpoints across the network and includes AARNet support for onboarding, integration and end-user training.

FileSender

In an era where seamless collaboration and efficient communication are paramount, we are pleased to offer AARNet FileSender as a standalone service for Australia’s research and education sector. It was previously offered as an application in our now decommissioned CloudStor service. FileSender is a powerful and user-friendly file-sharing service designed to simplify the process of exchanging files securely and efficiently over the internet. Unlike traditional methods of file transfer, FileSender eliminates the need for email attachments and overcomes the limitations posed by file size restrictions. It provides a seamless experience, ensuring files, such as research data, reach their intended recipients swiftly and securely.

CloudStor

The CloudStor service was decommissioned on 15 December 2023 as planned.

CYBER SECURITY

Malicious cyber threats to network availability and information security in the research and education sector continued to escalate in 2023. AARNet increased headcount

and activities related to building out our portfolio of integrated security services. We are collaborating with our customers and co-developing services to ensure the continuous operation of both AARNet and our customers’ networks and services and improve the overall security posture of the research and education sector.

More detailed information about our operational activities related to cyber security services can be found in the Security section of this report on page 36.



Strengthening the cyber security capability and resilience of the research and education sector

AARNet provides leadership and **services to help** the research and education sector address cyber security challenges. We are **collaborating with our shareholders** and customers to build out a portfolio of integrated security services.

At the same time, we are working closely with our sector, industry, government, and "Five Eyes" nations aligned research and education network partners, contributing to the broader threat intelligence ecosystem to bolster cyber defences against constantly evolving threats.

We constantly address the security and resilience of our infrastructure that is supporting critical research and higher education. Our historic and ongoing activities in this area are aligned with the Australian Government's expectations around the Security of Critical Infrastructure Act (2018) and the underlying security and risk management processes.

CYBER SECURITY PRODUCTS AND SERVICES

Early Warning System

A growing number of customers are taking advantage of the AARNet Early Warning System (EWS), which monitors nominated key online services for customers 24/7, such

as public websites and learning management systems. For 25 customers, the system now provides early notification of issues affecting the performance of their nominated services and allows both AARNet operations and customer IT teams to respond quickly to incidents impacting network availability.

DDoS Protection

By the end of 2023, 58 customers were onboarded to the AARNet DDoS Protection managed service. The solution helps customers to minimise the risk of business disruption caused by Distributed Denial of Service (DDoS) attacks. We have developed a system for the research and education sector that efficiently detects, filters and mitigates attacks well before they reach campus networks. Using AARNet's extensive international and domestic network of border routers, real-time traffic analysis and automated application of firewall filters, mitigation of attacks occurs in seconds, significantly faster than most current commercial offerings.

Legitimate traffic remained unaffected in 100% of incidents, following its normal route, without limitation or disruption.

Security Operations Centre

Five years ago, we began the journey of developing the AARNet Security Operations Centre (SOC) service at the request of our shareholder universities and CSIRO and by the end of 2023, take up of the AARNet SOC had grown to 24 institutions. The SOC is supporting efforts to uplift the security posture and capability of the higher education and research sector. Support is in place 24/7 to monitor, identify and respond to threats and compromises and protect the networks and information of our customers.

Various features and functions of the SOC service were enhanced during 2023, including parsing, detections and data visualisations, as well as the automated alerting of threat intelligence shared with and by our various partners in government, industry and the sector. To stay ahead of technological developments and maintain our best practice approach, the core SIEM (Security Information and Event Management) platform replacement was completed as planned in 2023.

Cyber Advisory Board

AARNet hosted the 2nd annual Cyber Advisory Board (CAB) meeting at the Sydney City Campus of the University of New South Wales in October 2023. Cyber leaders (CIOs/ CISOs) from all our SOC customers participated in the CAB, along with technical managers and security analysts. The CAB provided an opportunity for our customers to discuss insights, perspectives and recommendations at both an executive and technical level. The feedback we received guides the development of the AARNet SOC.

Cyber Security for Schools

There were 11 schools signed up to AARNet's Cyber Security for Schools service by the end of 2023. This service offers AARNet connected schools a portfolio of integrated network

and security services to assist with the identification, mitigation, and response to cyber threats, while allowing educators to support student well-being. Notably, the service offers behavioural analytics and reporting tools that provide the visibility to inform a school's duty of care programs.

CYBER SECURITY PARTNERSHIPS

AARNet is a founding member of the Australian Cyber Security Centre (ACSC) Cyber Threat Intelligence Sharing (CTIS) program. We continued to make intelligence contributions to the program in 2023, which were critical to supporting ACSC's goal of improving the resilience of Australia's digital economy. Our involvement was recognised in the Australian Signals Directorate's annual report.

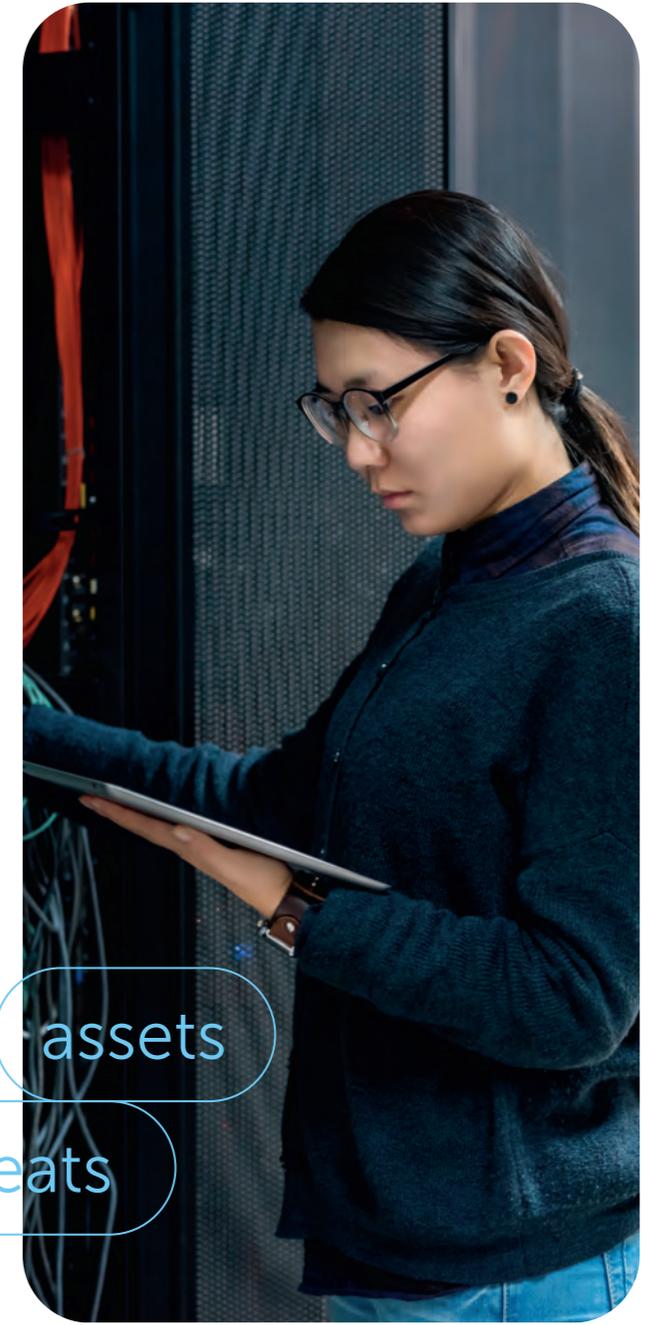
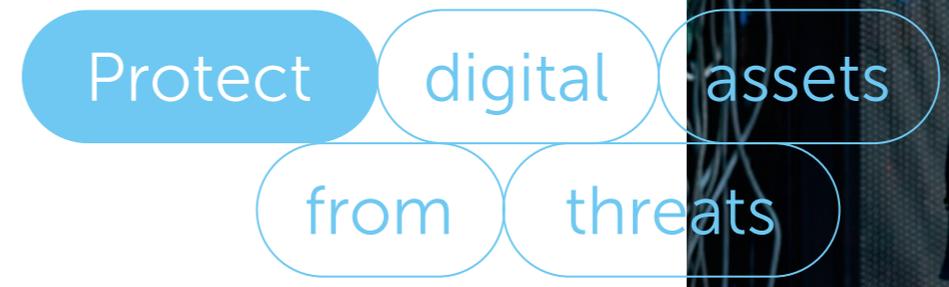
As part of our ongoing support for national cyber initiatives, AARNet contributed telecommunications and higher education and research sector-relevant feedback to the Department of Home Affairs consultations for the 2023-2030 Australian Cyber Security Strategy. This strategy was officially released in November 2023 and is the roadmap that will help realise the Australian Government's vision of becoming a world leader in cyber security by 2030.

AARNet is an industry participant in the Cyber Security Cooperative Research Centre (CSCRC). The CSCRC connects participants from industry, government, and leading cyber security research organisations (including six universities and CSIRO's Data61) to develop and potentially commercialise products and services that improve Australia's cyber security posture.

AARNet, Jisc (UK), OmniSOC (USA) and CanSSOC (Canada) signed a memorandum of understanding in 2021 for the co-development of a threat sharing capability. Throughout 2023, AARNet shared threat intelligence information from the group with relevant Australian universities for the protection of the Australian higher education and research sector.

AARNet is a founding member of the Securing the GREN Working Group, a global research and education network (GREN) initiative established in 2020 to facilitate cyber security collaboration amongst member NRENs for creating capabilities that are unique to the global research and education sector. The collaboration is focused on compliance, sharing and capacity building and the group is working toward developing a GREN standard aligned to MANRS (Mutually Agreed Norms for Routing Security).

The AARNet, AAF, AusCERT, CAUDIT and REANNZ partnership in The Australasian Higher Education Cybersecurity Service (AHECS) initiative contributed to strengthening the cyber security resilience in 2023. The aim of AHECS is to help safeguard the reputation of the Australasian higher education sector through coordinated, complementary cyber security-related portfolios of activity. The annual AHECS Summit was held at the end of October and attracted cyber security leaders from across the sector, industry and government, with representatives from AARNet attending and presenting in a variety of sessions. The Summit is an exclusive event for cyber security professionals within the Australasian higher education and research sector, and offers immense value to participants through presentations, panels, discussions, and the opportunity to connect with peers.



Our strategy is to balance sustainable financial, social and environmental practices while **meeting the specific needs** of the research and education community and ensuring AARNet's **long-term resilience** and viability.

Ensuring AARNet is financially, socially and environmentally responsible.

The 2023 year has seen significant changes in the regulatory environment and AARNet has responded in kind.

With AARNet's 2023 revenue exceeding \$100m for the first time, and in accordance with the Modern Slavery Act (Cth) 2018, AARNet will be required to submit a modern slavery statement for the 2023 calendar year by 30 June 2024. In preparation, we commenced a review of AARNet's sustainability reporting processes and approach to assessing and addressing modern slavery. We also completed an analysis of AARNet's supply chain.

Two new global accounting standards, IFRS S1 and IFRS S2, were issued by the International Sustainability Standards Board (ISSB) in June 2023. The main purpose is standardisation of sustainability reporting for organisations. Furthermore, in December 2022, the Australian Treasury released the first consultation paper on climate reporting within Australia, confirming the commitment to standardised, internationally aligned disclosure requirements for climate-related risks and opportunities. A second consultation paper was released in June 2023 that outlined a draft climate reporting framework.

While final Australian accounting standards are expected to be issued in 2024 and AARNet is unlikely to be required to report until 2026/2027, an analysis of the ISSB standards and Treasury consultation papers provided sufficient guidance to take action to ensure AARNet meets stakeholder expectations, including likely regulatory requirements.

Progress was made on the development of AARNet's carbon footprint assessment, with several new scope 3 emission sources included during the year. These are "embodied emissions", which represent emissions that result from the manufacture of the equipment purchased. Our ability to assess our carbon footprint will continue to develop over time as more information becomes available.

Finally, AARNet commenced the development of a Reconciliation Action Plan (RAP) during 2023 and we are expecting to seek endorsement in 2024.

Optimising our organisation through our people

2023 was a year of continued growth and collaboration across the business.

To support the increasing number of initiatives and associated projects, and the development of products and services, we realigned the structure of several departments to set teams up for success and further headcount growth. As always, our employees demonstrated our 'one team' value, collaborating across departments to solve problems and develop creative solutions. We were able to support promotions and career development for a number of employees within AARNet and continued to invest in developing our people to build the capabilities of our teams.

HEADCOUNT AND DIVERSITY

During 2023 our workforce continued to grow, with a headcount increase of 6% to finish the year with 197 staff members, comprised of 22% female and 78% male. Throughout 2023, AARNet facilitated 23 internal promotions, with 48% being female employees, rewarding our top performers with career growth from both a technical and leadership perspective.

Our average gender pay gap, as reported by the Workplace Gender Equality Agency (WGEA) was reduced further to 14.1% (compared to an industry comparison average of 23.7% for the same period). In 2024, we will continue to focus on increasing the diversity of our teams especially in technical specialisations.

POLICY PLATFORMS

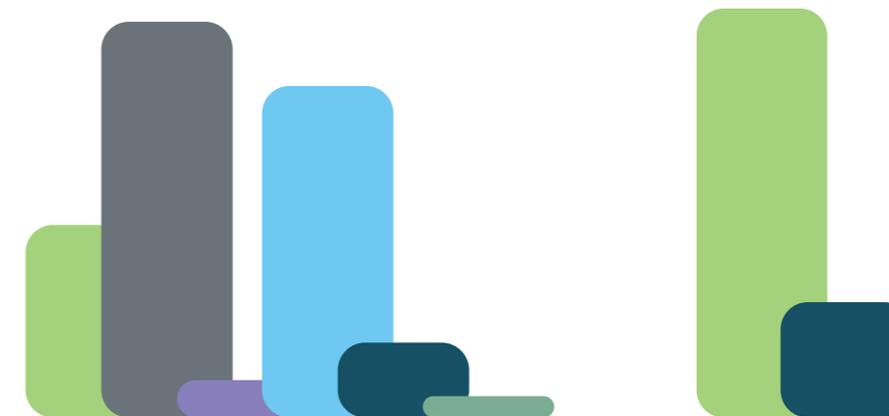
During 2023 AARNet introduced the following paid leave platforms: All Employee Cultural Leave; First Nations Cultural & Ceremonial Leave; Gender Affirmation Leave; Fertility Leave; and Foster Care Leave. It remains extremely important to AARNet that we support the breadth of diversity in our workforce and provide policies that assist our employees through a variety of life stages and events.

HR COMPLIANCE

2023 was a year of significant industrial change in Australia and compliance was a core focus for the human resources team. We remained ahead of legislative change and updated policies and procedures appropriately to ensure AARNet remains in a robust industrial position. Leaders were coached on the practicalities of these major changes to ensure compliance across the business.

LEARNING AND DEVELOPMENT

AARNet continued our annual compliance learning activities in 2023 and facilitated several additional identified training opportunities for our teams. Topics covered included: communication and influencing skills; AARNet health and safety practices; driver safety; first aid; security compliance; role specific technical training; privacy compliance; whistleblower and modern slavery; diversity and equal employment opportunity; and leading change. In 2024, in addition to internal learning and development activities for our employees, AARNet will focus on the upskilling of students via our graduate, intern, and work experience programs, as well as on cyber skills training for our customers.



TOTAL: 197
QLD 36
NSW 74
ACT 7
VIC 62
WA 14
SA 4

78% MALE
22% FEMALE

Corporate governance

THE ORGANISATION

AARNet Pty Ltd [ACN 084 540 518] is the not-for-profit company that operates the AARNet network, Australia's national research and education network, also known as an NREN.

Shares in AARNet Pty Ltd [AARNet] are held by 38 Australian Universities and Australia's national science agency CSIRO as listed on this page.

AARNet is a licensed Australian telecommunications carrier [#61 under the Telecommunications Act 1997 Cth].

The Chief Executive Officer is charged with the efficient and cost-effective operation of the company and reports to the Board of Directors, as listed on page 45.

THE AARNET BOARD OF DIRECTORS

The Board of Directors is responsible for the overall direction and management of AARNet.

For more than 30 years, AARNet and its predecessor have shared and exchanged expertise with shareholders and customers in many ways, supporting national and international collaboration and innovation in networking and associated services for research and education.

AARNet has been effective in making representations to government on policy, legislation, strategy and programs to improve the telecommunications facilities and services available not only to the education and research sector, but to all Australians.

THE AARNET ADVISORY COMMITTEE

The AARNet Advisory Committee [AAC] represents the interests of the members and is a source of advice on policy and business matters. CSIRO and shareholders in each state elect one representative to the AAC. Members of the AAC are listed on page 45.

LIST OF SHAREHOLDERS

Australian National University
Commonwealth Scientific and Industrial Research Organisation
University of Canberra
Charles Sturt University
Macquarie University
Southern Cross University
The Australian Catholic University
University of New England
University of New South Wales
University of Newcastle
University of Sydney
University of Technology, Sydney
Western Sydney University
University of Wollongong
Charles Darwin University
Bond University
Central Queensland University
Griffith University
James Cook University
Queensland University of Technology
University of Queensland
University of Southern Queensland
University of the Sunshine Coast
Flinders University
University of Adelaide
University of South Australia
University of Tasmania
Deakin University
La Trobe University
Monash University
RMIT University
Swinburne University of Technology
The University of Melbourne
Federation University Australia
Victoria University
Curtin University
Edith Cowan University
Murdoch University
The University of Western Australia

BOARD OF DIRECTORS

Emeritus Professor David (Ian) O'Connor AC
Chair of the Board and Chair of the Nomination and Remuneration Committee

Dr Christine Burns

Professor Alexander Cameron

Emeritus Professor Elizabeth Carson
(appointed 19 June 2023)
Member of the Audit, Finance and Risk Committee

Mr Robert Fitzpatrick
Member of the Audit, Finance and Risk Committee

Professor Bevil (Barney) Glover AO

Mr Bruce Hambrett (appointed 24 May 2023)
Deputy Chair of the Board, Chair of the Audit, Finance and Risk Committee, Member of the Nomination and Remuneration Committee

Mr Chris Hancock AM
Chief Executive Officer

Professor Elanor Huntington (appointed 21 February 2022)

Mr Anthony Molina

Mr John Rohan (retired 24 May 2023)

Mr Scott Sorley

Professor Deborah Terry AC
Member of the Nomination and Remuneration Committee

Emeritus Professor Mark Wainwright AM
(retired 14 June 2023)

AARNET ADVISORY COMMITTEE

Chair: Mr Scott Sorley – QLD, University of Southern Queensland

Mr Chris Hancock AM – AARNet CEO

Mr Malcolm Caldwell – NT, Charles Darwin University

Mr Adrian Dillon – TAS, University of Tasmania
(retired 16 March 2023)

Mr Vito Forte – WA, Edith Cowan University

Mr Mark Griffith – NSW, University of New South Wales

Mr Luke Havelberg – SA, Flinders University

Kathleen Mackay – TAS, University of Tasmania
(appointed 17 May 2023)

Mr Tom Minchin – CSIRO

Mr Craig Warren – VIC, Deakin University



Members of the AARNet Advisory Committee in the AARNet Melbourne office.

Connectivity for delivering a world class robotics program, improved geodetic services and volumetric video performances. Here's a closer look at some of the interesting projects, partnerships and research enabled by AARNet's powerful network infrastructure and services.

To read more stories, go to
aarnet.edu.au/news-events

SPOTLIGHT

Fast, diverse connectivity helps K-12 school achieve STEM education ambitions

Since 2014, Barker College, an independent K-12 day and boarding school on Sydney's upper North Shore, has **relied on AARNet** networking infrastructure and services to deliver its teaching and learning vision and **prepare students for the future.**

Over the years, as Barker has progressively integrated and improved technology for both business operations and curriculum delivery, its bandwidth needs have grown. During this time, AARNet has worked closely with Barker's ICT Team and delivered connectivity improvements and upgrades to meet the school's changing needs ahead of demand.

Today, almost ten years after AARNet first installed a 1 Gigabit per second (Gbps) link, Barker has peace of mind with dual high-performing 10Gbps connections to the AARNet network.

James Stewart, Barker College Head of ICT, said AARNet's dual connection solution mitigates the risk of systems going offline and disrupting day-to-day operations.

"If there's an outage on the primary connection, traffic switches to the secondary backup connection and the school continues to operate as normal on the backup link," he said. "This is critical for ensuring that staff and students always have access to online resources for teaching and learning and day-to-day business operations."

Barker has long had a forward-thinking approach to technology, and reliable connectivity to the internet and online resources and services has been and remains the enabler.

"The school believes that students need to be able to use technology effectively and to have a strong foundation in science, technology, engineering and maths (STEM) subjects in order to succeed in the 21st-century workforce," says Stewart.

To that end, Barker integrates technology across the curriculum. Students use technology to learn, create and communicate using a variety of tools in the classroom, such as interactive whiteboards, laptops, and tablets. STEM subjects are offered, and STEM-focused co-curricular activities teach coding, robotics and engineering. The school also has a makerspace where students can design and build their own projects.

Leading the way with robotics

Barker's robotics program began in 2013 and is a great example of the school's commitment to providing students with opportunities to develop STEM skills and knowledge.

"It's one of the school's most popular co-curricular programs, enjoyed by students from Year 3 to Year 12, who learn about all aspects of robotics, from design and construction to programming and competition," explained Stewart.

Barker competes in the global FIRST (For Inspiration and Recognition of Science and Technology) Robotics Competition (FRC). Barker's robotics team, the Redbacks, has had many successes over the past six years, winning awards, and mentoring other Australian and international teams.

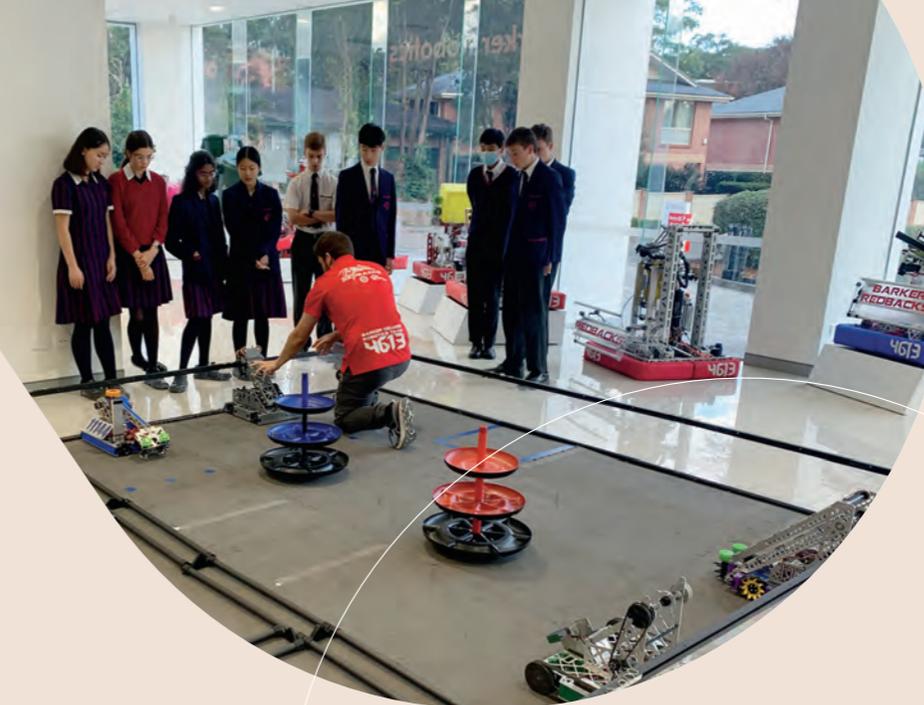
Building on the successes of the program, Barker opened a world-class Robotics Centre in 2022. The state-of-the-art facility provides students with access to a full-size robotics field, and a large lab space for students to design, machine, code and plan.

The Robotics Centre is located a kilometre away from the main school campus and Stewart's team turned to AARNet for a connectivity solution.

AARNet designed and deployed scalable network infrastructure to connect the centre to the main campus and support the growing technology needs of the robotics program.

"AARNet is very collaborative, listens and demonstrates a clear understanding of what a technology-driven school needs from a network perspective," said Stewart. "We're very happy with the service AARNet has delivered for Barker's new Robotics Centre and for the school across the board. Staff and students can move between sites and seamlessly access online systems and resources wherever they might be."

Above: Barker students watch a demonstration by a teacher on a robotics field in the Robotics Centre.
Photo credit: Barker College.



Partnership paves way for enhanced geodetic services in Australia

AARNet, Geoscience Australia, the University of Tasmania and AuScope are **working together to improve** position, navigation and timing (PNT) services in Australia, and **connectivity to the AARNet network** is playing a vital role.

PNT services rely on geodetic data collected from observatories around the globe, such as the Earth's rotation speed and the tilt of its axis. This data is vital for numerous modern applications, including over three billion smartphone applications, precision agriculture, weather forecasting, disaster modeling, synchronising financial transactions, and operating power grids.

There are many techniques that geodesists use to observe the Earth, but the only one that allows us to observe and measure the Earth's position, tilt and spin rate is Very Long Baseline Interferometry (VLBI). It is also the only method with sufficient accuracy for these applications that measures the difference between time measured by atomic clocks onboard satellites, and mean solar time, which is important for providing synchronised time.

Recognising how vital VLBI data is for everyday life, Geoscience Australia, AuScope and the University of Tasmania together operate three separate VLBI stations at geodetic observatories across Australia, at Yarragadee, Western Australia; Katherine, Northern Territory; and Hobart, Tasmania. These observatories form part of the global network of geodetic observatories. Additionally, the Australian VLBI Correlation Centre, managed by Geoscience Australia and the University of Tasmania, collaborates internationally to process VLBI data for Global Navigation Satellite System operators.

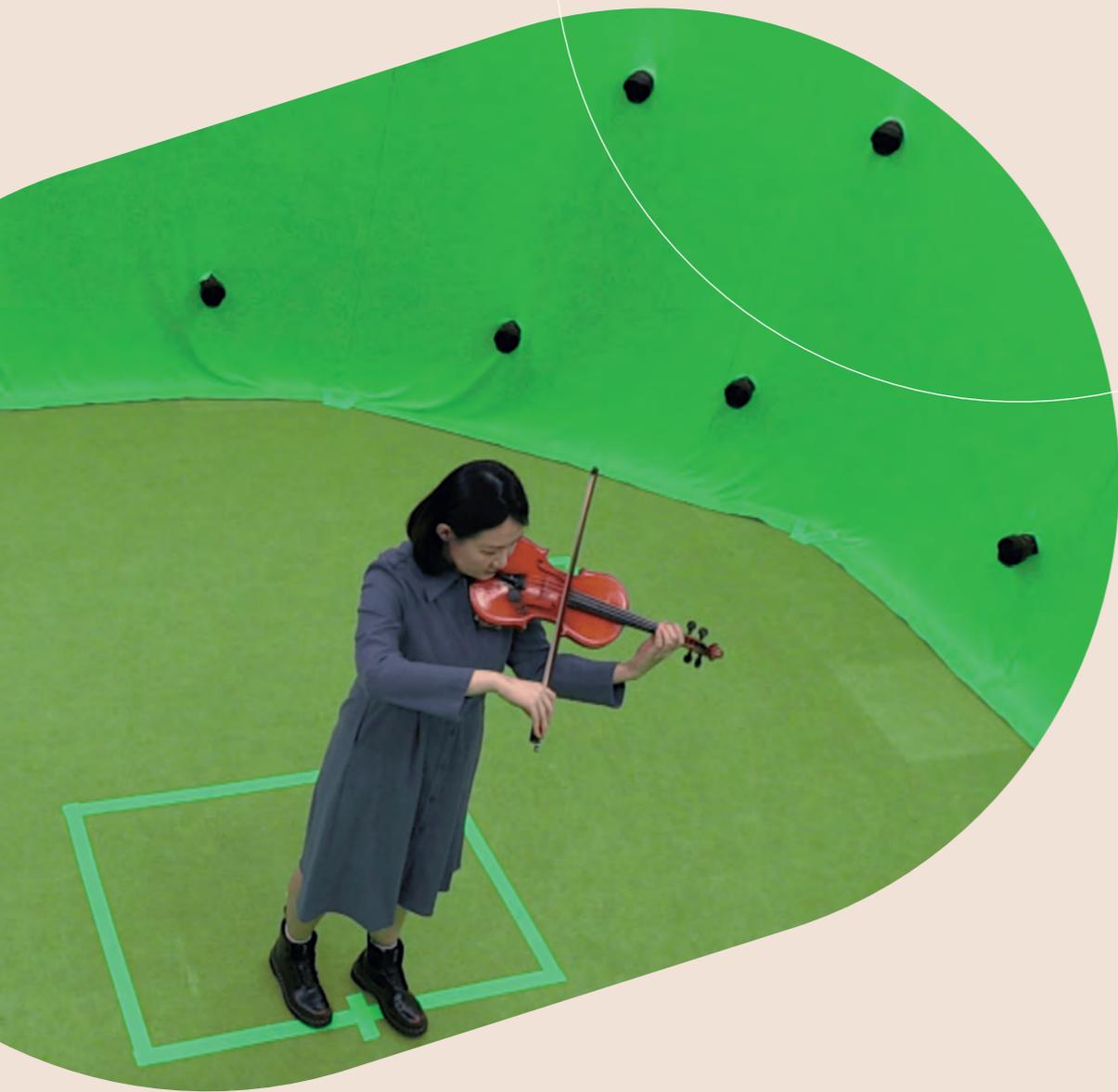
Currently, VLBI data, amounting to 10 to 100 terabytes per observation session, has to be physically transported to data centres in the US or Germany, resulting in at least a 14-day delay before the data can be processed. This inefficiency hinders the timely monitoring of Earth's changes, impacting the resilience and accuracy of PNT services.

The partnership with AARNet aims to address these challenges by deploying new optic fibre connections and services to the Katherine and Yarragadee Geodetic Observatories. The Geodetic Observatory at Hobart has already been provided with high-speed connectivity to AARNet via the University of Tasmania.

This upgrade to connectivity will enable almost real-time processing of data, eliminating the need for physical transportation and significantly accelerating the availability of precise positioning information. This development promises to enhance the accuracy and reliability of PNT services for various applications.

Opposite: The 12 m Patriot Antenna used for Very Long Baseline Interferometry observations at the Yarragadee Geodetic Observatory.
Photo Credit: Robert Nugent, Geoscience Australia Artist in Residence 2023.





Above: The violin is performed from the Volumetric Video Studio at TOKYO NODE.
Photo Credit: Keio University Graduate School of Media Design.

A new dimension of performance: the role of network technology in volumetric video

AARNet, in collaboration with research and educational networks in the Asia Pacific, **provided the 'SuperSpeed' network** required to deliver a **world-first interactive live volumetric video performance** between Sydney and Tokyo at SIGGRAPH Asia in December 2023.

By capturing and reproducing a three-dimensional representation of the performer, volumetric technology allows the audience to experience the performance in a more immersive and interactive way than a traditional two-dimensional video experience.

This data-intensive interactive volumetric live performance at SIGGRAPH Asia was delivered via research and education network connectivity between Japan and Australia, over a distance of 7,800km.

Volumetric video technology allowed the violinist in Tokyo and the audience in Sydney to co-create improvised music during the performance. The audience in Sydney was able to freely move the viewpoint from the front, side, back or close to the violin and the violinist was able to respond to the audience's actions to create music.

The performance was streamed in real-time from the Volumetric Video Studio at TOKYO NODE using 57 cameras in an immersive green screen environment. The captured video was converted into a point-cloud and 3D model using sophisticated proprietary technology designed specifically for this type of video.

High-speed and stable transmission of data was vital for the performance experience, and this would have been difficult to achieve using ordinary network circuits. Research and education networks like AARNet are purpose built for delivering the high bandwidth and headroom required for transmitting huge volumes of data, such as produced by volumetric video technology, and research more broadly.

The SuperSpeed research and education network connectivity between TOKYO NODE and the International Convention Centre Sydney was provided by AARNet, Australia's Academic and Research Network, ARENA-PAC, Arterial Research and Educational Network in the Asia Pacific operated by the WIDE Project, and GOREX, The Guam Open Research and Education eXchange.

This performance was made possible through collaboration between Keio University Graduate School of Media Design (KMD), Canon Inc., Bascule Inc., and Mori Building Co., Ltd., WIDE Project with the Cyber Civilization Research Center (CCRC) at Keio University, which coordinates the research and education network.

Connecting the dots: AARNet's role in scientific breakthroughs

In 2023, Australia's national research and education network, AARNet, played a vital role in enabling scientific research and discoveries across multiple fields, including radio astronomy, genomics, particle physics, and climate science.

By providing specialised high-speed connectivity services for research, AARNet facilitated collaboration and data sharing, enabling researchers to test theories and push the boundaries of human knowledge.

Listening to the cosmos

The Murchison Widefield Array (MWA) and ASKAP telescopes are located on Wajarri Yamaji Country in outback Western Australia. These world-class radio telescopes, connected to AARNet, collected vast amounts of data from deep space, capturing faint radio waves that hold secrets to the universe's creation. AARNet's robust capabilities enable data to be transferred from the telescope to supercomputing facilities and astronomers across the globe for analysis, fostering international collaboration.

In one project, an international team of astronomers led by Curtin University and the International Centre for Radio Astronomy Research (ICRAR) used the MWA to detect a new type of stellar object called an ultra-long period magnetar. The findings, detailed in the paper "A long-period radio transient active for three decades" published in *Nature*, challenges existing theories on neutron stars and magnetars, adding new perspectives on the physics of neutron stars, magnetic field behaviours in extreme environments, and the origins of phenomena like fast radio bursts. The insights gained have potential implications for furthering our understanding of the formation of the universe.

In another project, researchers using CSIRO's ASKAP telescope identified a fast radio burst from a quiet galaxy, challenging previous theories that such bursts originate from

turbulent, colliding galaxies. The findings, detailed in the paper "WALLABY Pilot Survey: H I in the Host Galaxy of a Fast Radio Burst" published in *The Astrophysical Journal*, suggest new possibilities for the origins of these intense flashes, which release as much energy in milliseconds as the Sun does in 80 years. This discovery emphasises the importance of studying fast radio bursts and their host galaxies to understand more about the structure and evolution of galaxies.

The AARNet network's ability to handle petabytes of data allowed researchers involved in these projects to efficiently share findings and refine theories across organisational and geographical boundaries.

Unveiling the subatomic world

At the forefront of particle physics, the Australian contribution to the ATLAS experiment at the Large Hadron Collider (LHC) at CERN, the European Organization for Nuclear Research, benefited from AARNet services. The LHC is the world's largest and most powerful particle accelerator, used to study the fundamental particles of matter. The high-energy collisions produced at the LHC generate petabytes of data annually and require robust network infrastructures like LHCOne and the Worldwide LHC Computing Grid for processing and analysing this data. AARNet, with its specialised high-speed services for research, forms part of this infrastructure, and facilitates the sharing of this data with Australian researchers, enabling their participation in global scientific endeavours.

Australian scientists advanced our understanding of the universe through projects such as the work led by the University of Adelaide, which explored the dark photon

An artist's impression of the ultra-long period magnetar—a rare type of star with extremely strong magnetic fields that can produce powerful bursts of energy.
Photo Credit: ICRAR.

hypothesis. This research, which potentially identifies a new particle that acts as a bridge between dark matter and regular matter, underscores Australia's role in global scientific advancements. The efficient data distribution capabilities of AARNet played a vital role in these achievements, enabling Australian scientists to lead analysis efforts and collaborate effectively with international teams. This collaboration culminated in significant findings, detailed in the article "Global QCD analysis and dark photons" published in the Journal of High Energy Physics, demonstrating the impact of Australian research on our understanding of the universe.

Forecasting Earth's Future

Climate scientists also benefited from the AARNet network's capabilities, particularly for accessing remote sensing and spatial data. The Copernicus Australasia Regional Data Hub located at the National Computational Infrastructure at the Australian National University in Canberra relies on AARNet for the transfer of data captured by the European Sentinel satellites out to the research community.

In this way, AARNet supported collaborative projects for Australian universities, CSIRO, Geoscience Australia and the Bureau of Meteorology involving the integration of earth observation satellite data to create more accurate and comprehensive models of climate change impact. High-speed data transfers via AARNet allowed for real-time updates and collaboration among scientists, leading to more dynamic and precise predictions. This work is crucial for developing strategies to mitigate the effects of climate change and for informing policy decisions.

Accelerating genetic insights

Life sciences research involves complex data analyses and significant data transfer volumes, and was supported by AARNet infrastructure, particularly by AARNet's ability to deliver the robust, reliable, high-speed connectivity crucial for handling the vast data requirements typical in this field. Our network facilitates seamless access to national and

international research resources, collaboration between scientists across different institutions, and efficient data sharing.

One of the key tools supported by AARNet is Galaxy Australia, a leading bioinformatics platform operated by the Australian BioCommons in collaboration with the Queensland Cyber Infrastructure Foundation (QCIF), Melbourne Bioinformatics and AARNet. Galaxy Australia provides researchers with web-based access to a suite of computational tools and workflows. Researchers can use the platform to analyse genetic data, for example, without needing extensive programming knowledge. The resilience of AARNet infrastructure and its capability to handle large datasets efficiently makes it an ideal hosting environment for Galaxy Australia, ensuring that researchers across the country can access and share their computational analyses and results swiftly and reliably.

Additionally, AARNet's infrastructure significantly benefited institutions like the Garvan Institute of Medical Research. At Garvan, researchers rely on high-speed data transmission for large-scale genetic sequencing projects. The network's capacity to manage large data transfers seamlessly is crucial for advancing the institute's research in genomics and molecular biology, thus accelerating discoveries in medical science. Through AARNet, the Garvan Institute can collaborate effectively with other research entities and leverage cloud-based resources to enhance their research outcomes, demonstrating the network's vital role in advancing Australia's life sciences research.

Throughout 2023, AARNet proved to be much more than a network. By bridging the gap between vast data requirements and collaborative needs, AARNet was an enabler for major scientific advancements in many fields. Looking ahead, the capabilities and continued development of the AARNet network will be crucial in tackling the next generation of scientific challenges, ensuring that Australia remains at the cutting edge of global research and discovery.

Supporting First Nations research and knowledge

*AARNet is one of several national research infrastructure organisations supporting **First Nations research and knowledge** and helping to preserve and foster a greater understanding and appreciation of the **rich and diverse cultural heritage** of Aboriginal and Torres Strait Islander peoples.*

When the Australian Institute of Aboriginal and Torres Strait Islander Studies (AIATSIS) was looking to upgrade the network connectivity for its headquarters in Canberra a decade and a half ago, it turned to AARNet, Australia's national research and education network, for assistance.

AIATSIS is Australia's national research institution dedicated to the study and preservation of the culture, heritage, and history of Aboriginal and Torres Strait Islander peoples. The Institute conducts research in linguistics, history, Indigenous land and water rights, cultural heritage, human rights, international Indigenous rights, and cultural studies, focusing on the cultural and linguistic diversity of Aboriginal and Torres Strait Islander peoples.

AIATSIS also houses a significant collection of Indigenous cultural materials, including archives, manuscripts, photographs, audio-visual recordings, and art. These collections are made accessible to communities, land rights practitioners, researchers, policymakers, educators and the public for educational and cultural purposes.

AARNet worked closely with the team at AIATSIS to understand the Institute's needs and delivered a robust and scalable network solution to underpin research and digital preservation activities into the future.

To meet AIATSIS' evolving needs, a fibre build was completed in 2023 to connect the new AIATSIS Central Australia and First Nations Media Australia facility in Alice Springs to the AARNet network. Coinciding with the 60th anniversary of AIATSIS, the Central Australian facility is expected to open to the public in mid-2024. AIATSIS Central Australia will enable the local preservation of community-held collection materials and repatriation of Indigenous collections and cultural information.

Australia is a multilingual country in one of the world's most linguistically diverse regions. Significant collections of this intangible cultural heritage have been amassed, including collections of Australian Indigenous languages and languages of the Pacific. In Australia, AIATSIS is one of several institutions with extensive First Nations language data collection. PARADISEC (Pacific languages and Indigenous Australian languages) is another, among other collections.

The language data in these collections include audio and video recordings of people speaking as well as written texts, from entire newspapers to tweets. It is used for linguistic research into pronunciation, syntax, semantics, how languages are used, how languages and their use change over time, and vary across social groups.

But still, much of Australia's language data is scattered, hard to find, and in danger of being lost forever, making it a critical time to focus resources on revitalising and preserving First Nations languages here.

With co-investment from the Australian Research Data Commons (ARDC), a National Collaborative Research Infrastructure Strategy (NCRIS) facility, a new digital research infrastructure, the Language Data Commons of Australia (LDA) is being developed by 17 partner institutions, including AARNet and AIATSIS, as a sustainable long-term resource for these language data collections of national significance.

LDA is supervising an ongoing audit of language data held by institutions in Australia and existing technological solutions for managing these data. The project aims to secure vulnerable and dispersed collections and provide access to improved digital analysis tools to drive new research outcomes. The project also intends to establish a model for an institutional data repository that could be used at a national scale across organisations for the preservation of and access to research data and collections.

This work follows CARE (Collective benefit, Authority to control, Responsibility and Ethics) and FAIR (Findable, Accessible, Interoperable and Reusable) data principles, as well as First Nations data governance protocols, to form a data commons that will benefit Australian humanities and social sciences scholarship for many years to come and help institutions share data more freely, ethically, and cooperatively.

AARNet Pty Ltd Financial Report and Directors' Report 2023

for the year ended 31 December 2023
ABN 54 084 540 518



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DIRECTORS' REPORT

Your Directors present their report on the consolidated entity (referred to hereafter as the "Group"), consisting of AARNet Pty Limited ("AARNet" referred to hereafter as the "Company"), and the entities it controlled at the end of, or during, the year ended 31 December 2023.

The following persons were Directors of AARNet during the whole of the financial year and up to the date of this report:

Emeritus Professor David (Ian) O'Connor AC

Chair of the Board, Chair of the Nomination and Remuneration Committee

Dr Christine Burns

Professor Alexander Cameron

Mr Robert Fitzpatrick

Member of the Audit, Finance and Risk Committee

Professor Bevil (Barney) Glover AO

Mr Chris Hancock AM

Chief Executive Officer

Professor Elanor Huntington

Mr Anthony Molina

Mr Scott Sorley

Professor Deborah Terry AC

Member of the Nomination and Remuneration Committee

Emeritus Professor Elizabeth Carson was appointed as a director on 19 June 2023 and remains a director at the date of this report. She is also a member of the Audit, Finance and Risk Committee.

Mr Bruce Hambrett was appointed as director on 24 May 2023 and remains a director at the date of this report. He is also Deputy Chair of the Board, Chair of the Audit, Finance and Risk Committee and a member of the Nomination and Remuneration Committee

Mr John Rohan was a director from the commencement of the financial year until his retirement on 24 May 2023.

Emeritus Professor Mark Wainwright AM was a director from the commencement of the financial year until his resignation on 14 June 2023.

PRINCIPAL ACTIVITIES

AARNet is a proprietary company in which 38 Australian universities and the Commonwealth Scientific and Industrial Research Organisation (CSIRO) have an equal shareholding.

AARNet is also a not-for-profit company registered as a charity with the Australian Charities and Not-for-Profits Commission (ACNC). Charities exist to pursue a charitable purpose. AARNet's purpose can be summarised as advancing education and research through supporting the education and research activities of its shareholders ("Members") and others, by providing telecommunications and associated services.

AARNet's principal activity is therefore the provision of internet and advanced telecommunication and network services to its Members and to other relevant organisations. Services are provided in accordance with the AARNet Access Policy in order that Members and other customers may:

- a) use AARNet's internet and other telecommunications facilities and services to provide educational programs and conduct research activities in an efficient and cost effective manner, and
- b) collaborate with other parties (nationally and internationally) in furtherance of research and education objectives.

OTHER ACTIVITIES

In addition, AARNet:

- a) facilitates the construction of optical fibre infrastructure to extend the AARNet backbone and to connect campuses and other locations to facilitate services for Members and customers;
- b) provides applications and services which operate across the AARNet network supporting education and research activities;
- c) secures those applications and services operating across the AARNet network through a Security Operations Centre and additional cyber security-related applications and services;
- d) monitors Member's equipment and infrastructure on campuses and other premises to identify and alert Members to potential cyber attacks or potential cyber threats allowing the Member to take early action to prevent, close down or mitigate cyber risks;

- e) participates in the design and deployment of advanced network infrastructure in partnership with network organisations in Australia and internationally, to develop national and global research and education networks; and
- f) makes representations to all levels of government on policy, legislation and programs to improve the telecommunications facilities and services available to its Members and other customers.

DIVIDENDS

AARNet's constitution prohibits the payment of dividends or other distributions to its shareholders. Accordingly, no dividends have been paid, declared or recommended either during the financial year or in the period since that year ended (2022: nil).

REVIEW OF OPERATIONS

Network Performance

Throughout 2023 AARNet's network continued to perform at consistently high levels while carrying increasing volumes of traffic for Members and other customers. Average network availability for 2023 was 99.99%, which was the same as the level achieved in 2022.

This exceptionally high level of reliability is achieved over the vast geographic footprint of our infrastructure through our strategic long-term planning and carefully designed network redundancy. Diversity and triversity in network design and equipment enables our operations team to deploy alternate paths and minimise the impact of outages on AARNet customers.

Member telecommunications traffic in 2023 grew 24% higher than 2022 and Non-Member traffic growth was 14%.

Network Expansion

During 2023 AARNet continued to invest to upgrade the capacity of the AARNet network and to expand the geographic reach of the network's fibre footprint.

Overall spending on communication assets (including network infrastructure and equipment) was \$43,676,435 during the year (2022: \$25,740,947) (refer to note 11 of the financial statements).

This investment reflected the continued investment in AARNet's domestic fibre footprint.

Subscriptions and Telecommunications Revenues

AARNet's Members pay subscription and related fees for connection to the network and carriage of data across the network (to research and education facilities in Australia, international research and education networks, and the general internet). These charges form the largest single component of AARNet's revenues.

During 2023, Members' subscription and related charges were slightly higher than 2022 revenues, but below the rate of inflation, and despite the growth in Members' traffic discussed above.

| | 2023 \$ | 2022 \$ | Increase |
|---|------------|------------|----------|
| Members: Subscription, Traffic and Access | 42,545,569 | 41,273,232 | 3.1% |
| Non-Members: Subscription, Traffic and Access | 13,705,136 | 13,959,269 | (1.8%) |
| Other Services | 34,309,757 | 29,761,061 | 15.3% |
| Telecommunications Revenue | 90,560,462 | 84,993,562 | 6.5% |

Other Services

In the category "Other Services" shown above, AARNet offers a range of other services to Members and other customers. Broadly, these services fall into three categories:

- I. transmission services providing point-to-point capacity: these enable Members and customers to link together geographically diverse campuses, research centres and remote research instruments; or to provide dedicated high-speed capacity between user facilities and third party data centres; and
- II. above the network services which directly support the delivery of education and research outcomes; and
- III. Cyber security-related applications and services; predominately the AARNet Security Operations Centre.

Revenue from these other services increased by 15.3% during 2023. The main factor in this increase was growth in revenues from the Security Operations Centre.

Overall, subscriptions and service revenues increased by 6.5% from 2022, as shown in the table above.

Infrastructure Revenues

Infrastructure establishment fees (income from the provision of new fibre infrastructure) grew by 51.4% in 2023 reflecting the value of both design fees and infrastructure projects completed and brought into service.

| | 2023 \$ | 2022 \$ | Increase |
|-------------------------------------|------------|------------|----------|
| Infrastructure Establishment Fees | 14,732,354 | 9,732,838 | 51.4% |
| Infrastructure Construction Revenue | 1,587,378 | 3,788,050 | (58.1%) |
| | 16,319,732 | 13,520,888 | 20.7% |

Revenues from infrastructure construction and allied activities (such as services to relocate infrastructure) were (58.1%) lower in 2023 than 2022. This income stream is very reactive to the impact of activity by utility providers, other telecommunications carriers and civil infrastructure projects (such as transport projects) and income can vary significantly from year to year.

Other Income

In addition to revenues from the provision of telecommunications services and infrastructure, AARNet also gains income from interest and dividends on invested funds. In 2023, this investment income totalled \$6,184,253 (2022: \$2,594,760) (see note 5 to the financial statements). The higher result reflects the increase in the amount of funds invested.

Telecommunication Supply Expenses

Telecommunication supply expenses totalled \$30,703,291 in 2023 compared with \$29,704,983 in the 2022 financial result.

Telecommunication supply costs have increased year-on-year in line with increases in traffic and capacity on the AARNet network and the rising supply costs for transmission, duct rental and maintenance.

Employee and Administration Costs

To support the growth of our network and services, AARNet continues to add staff to its infrastructure development and cyber security teams.

Depreciation and Amortisation Charges

Depreciation and Amortisation charges, inclusive of depreciation on equipment, depreciation on infrastructure and amortisation of Indefeasible Rights to Use (IRUs) totalled \$23,216,141 in 2023 compared to \$19,046,865 in 2022.

Net Finance Expenses

These costs of \$3,856,346 are higher than 2022 (\$3,170,982) mainly due to higher "Significant Financing" expenditure relating to infrastructure projects. Refer to Note 7 of our financial statements for more detail.

ACCUMULATED SURPLUS AND RESERVES

In 2023, AARNet recorded a net surplus of \$6,316,411 (2022: net surplus of \$622,742).

Surpluses earned in prior years, aided by conservative financial management, have enabled AARNet to manage through the ongoing economic slowdown with a significant holding of cash and investments (net \$140,358,250 at the end of 2023.)

Surpluses earned by AARNet cannot (by virtue of the terms of AARNet's constitution) be distributed to the shareholders.

In the Board's view, and in line with the company's long range plans, it is prudent for AARNet to generate a surplus in order that investments in network capability and services may be funded without calling on Members to contribute further equity into the company.

Investments in network capability and services are expected to continue into future years to:

- finance investments in technology to enhance the delivery of services to Members and other customers;
- supplement Members' subscriptions and other income in future years;
- meet obligations to settle lease liabilities which totalled \$47.4m at year end as shown in note 13(i) to the financial statements; and
- defray part of the significant financial commitments in respect of expenditure and capital commitments which, at year end, were \$73,498,528, refer to note 26(a) to the financial statements.

NET ASSETS

Net assets at 31 December 2023 were \$223,903,390 (2022: \$217,586,979). The increase represents the surplus and other comprehensive income for 2023.

SIGNIFICANT CHANGES IN THE STATE OF AFFAIRS

Except for the matters discussed under the heading "Review of Operations" there were no significant changes in the Company's state of affairs during the financial year ended 31 December 2023.

MATTERS SUBSEQUENT TO THE END OF THE FINANCIAL YEAR

Except for matters discussed under the heading "Review of Operations" no other matter or circumstance has arisen since 31 December 2023 that has significantly affected or may significantly affect:

- AARNet's operations in future years;
- The results of those operations in future financial years; or
- AARNet's state of affairs in future financial years.

LIKELY DEVELOPMENTS AND EXPECTED RESULTS OF OPERATIONS

AARNet expects network traffic will continue to grow during 2024. In addition, investment in AARNet's domestic fibre network will continue during 2024.

AARNet also expects to continue receiving contributions from Members and others toward the cost of constructing network infrastructure. Consequently, during 2024 AARNet expects it will need to recognise further 'Significant Financing' non-cash costs as required by AASB15.

AARNet also expects to generate increasing revenues and incur additional costs in relation to the provision of further cyber security services to Members and other customers.

The Company also anticipates entering into a joint venture arrangement with an unrelated third party for the construction and operation of optical fibre infrastructure and related equipment. Arrangements to establish the joint venture have been agreed in principle between the parties but have not, at the date of this report, been formally approved by all parties nor have the related legal documents been executed by the parties.

Should the joint venture arrangement proceed, AARNet expects that it will direct some of its anticipated future capital expenditure into infrastructure to be constructed by the joint venture.

ENVIRONMENTAL REGULATION

AARNet's operations are not adversely affected by any significant environmental regulation. AARNet believes its greenhouse gas emissions are substantially below the thresholds that are subject to the reporting requirements of either the *Energy Efficiency Operations Act 2006* and the *National Greenhouse and Energy Reporting Act 2007*.

INSURANCE FOR OFFICERS

During the financial year, AARNet paid a premium of \$80,008 (2022: \$82,252) in respect of liability insurance for the Company's Directors and Officers. The liabilities insured against are costs and expenses that may be incurred in defending civil or criminal proceedings that may be brought against the Directors and Officers in their capacity as Directors and Officers of AARNet, and any other payments arising from liabilities incurred by the Officers in connection with such proceedings, other than where such liabilities arise out of conduct involving a wilful breach of duty by the Directors or Officers or the improper use by the Directors or Officers of their position or of information to gain advantage for themselves or someone else or to cause detriment to AARNet. It is not possible to apportion the premium between amounts relating to the insurance against legal costs and those relating to other liabilities.

No known liability has arisen under these indemnities to the date of this report.

AGREEMENT TO INDEMNIFY OFFICERS

Under the terms of its Constitution, AARNet provides indemnity to persons who are, or have been, an officer or auditor of AARNet, but only to the extent permitted by law and to the extent that the officer or auditor is not indemnified by Directors' and Officers' liability insurance maintained by AARNet. The indemnity is against liability incurred by that person as an officer or auditor of AARNet to another person and for costs and expenses incurred by the officer or auditor in defending such proceedings.

Separately, AARNet and each director of AARNet have entered into a Deed of Indemnity under which AARNet indemnifies each director against any liability:

- a) to a third party (that is, other than to AARNet) unless the liability arises out of conduct involving a lack of good faith; and
- b) for legal costs incurred in successfully defending civil or criminal proceedings or in connection with proceedings in which relief is granted under the *Corporations Act 2001*.

No known liability has arisen under these indemnities as at the date of this report.

AUDITORS

A copy of the Auditor's Independence Declaration as required under s.60-40 of the Australian Charities and Not-for-profits Commission Act 2012 is included on page 7 of this financial report.

PricewaterhouseCoopers continues in office in accordance with section 327 of the *Corporations Act 2001*.

This report is made in accordance with a resolution of Directors.



Emeritus Professor DI O'Connor AC
Director

Sydney
27th March 2024



Mr Chris Hancock AM
Director

AUDITOR'S INDEPENDENCE DECLARATION



Auditor's Independence Declaration

As lead auditor for the audit of AARNet Pty Ltd for the year ended 31 December 2023, I declare that to the best of my knowledge and belief, there have been no contraventions of any applicable code of professional conduct in relation to the audit.

This declaration is in respect of AARNet Pty Ltd and the entities it controlled during the period.



Brenton Newlands
Partner
PricewaterhouseCoopers

Sydney
27 March 2024

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Liability limited by a scheme approved under Professional Standards Legislation.

CONSOLIDATED PROFIT AND LOSS STATEMENT

For the year ended 31 December 2023

| | Notes | 2023 \$ | 2022 \$ |
|---|-------|----------------------|---------------|
| Revenue | 4 | 106,880,194 | 98,514,450 |
| Other income | 5 | 6,184,253 | 2,594,760 |
| Total income | | 113,064,447 | 101,109,210 |
| Telecommunications supply expenses | | (30,703,291) | (29,704,983) |
| Infrastructure construction expenses | | (2,573,615) | (4,848,724) |
| Employee benefits expenses | | (34,962,760) | (32,031,225) |
| Depreciation and amortisation | 6 | (23,216,142) | (19,046,865) |
| Other administration expenses | | (12,656,441) | (11,499,122) |
| Net finance income/(expense) | 7 | (3,856,346) | (3,170,982) |
| Net other gains/(losses) | 8 | 1,205,014 | (173,212) |
| Total expenses | | (106,763,581) | (100,475,113) |
| Net surplus | | 6,300,866 | 634,097 |
| Other comprehensive income | | | |
| Gain/(loss) in the fair value of financial assets | | 15,545 | (11,355) |
| Total comprehensive surplus for the year | | 6,316,411 | 622,742 |

CONSOLIDATED BALANCE SHEET

As at 31 December 2023

| | Notes | 31 December 2023 \$ | 31 December 2022 \$ |
|---|---------|------------------------|------------------------|
| ASSETS | | | |
| Current assets | | | |
| Cash and cash equivalents | 10 | 24,723,617 | 16,650,829 |
| Receivables and other assets | 14 | 25,689,696 | 22,753,557 |
| Financial assets at amortised cost | 17 | 56,000,000 | 6,000,000 |
| Financial assets at fair value through profit and loss | 18 | 7,010,957 | 1,005,250 |
| Accrued income | 15 | 1,953,094 | 496,098 |
| Derivative financial instruments | | 35,403 | 288,655 |
| Total current assets | | 115,412,767 | 47,194,389 |
| Non-current assets | | | |
| Financial assets at amortised cost | 17 | 16,870,094 | 23,923,472 |
| Financial assets at fair value through profit and loss | 18 | 31,731,242 | 24,877,100 |
| Financial assets at fair value through other comprehensive income | 19 | 4,022,340 | 2,989,620 |
| Receivables and other assets | 14 | 38,799,513 | 43,438,511 |
| Property, plant and equipment | 11 | 298,682,641 | 271,215,203 |
| Intangible assets | 12 | 283,065 | 571,969 |
| Derivative financial instruments | | - | 36,756 |
| Total non-current assets | | 390,388,895 | 367,052,631 |
| Total assets | | 505,801,662 | 414,247,020 |
| LIABILITIES | | | |
| Current liabilities | | | |
| Trade and other payables | 21 | 10,860,399 | 13,971,217 |
| Income in advance | 4(b),20 | 27,644,839 | 18,461,044 |
| Provisions | 22 | 9,610,391 | 9,283,853 |
| Lease liabilities | 13 | 3,286,521 | 2,892,096 |
| Other liabilities | | 366,171 | 300,949 |
| Total current liabilities | | 51,768,321 | 44,909,159 |
| Non-current liabilities | | | |
| Income in advance | 4(b),20 | 184,887,370 | 104,846,468 |
| Provisions | 22 | 1,085,748 | 977,315 |
| Lease liabilities | 13 | 44,156,833 | 45,927,099 |
| Total non-current liabilities | | 230,129,951 | 151,750,882 |
| Total liabilities | | 281,898,272 | 196,660,041 |
| Net assets | | 223,903,390 | 217,586,979 |
| EQUITY | | | |
| Contributed equity | 23 | 39,039 | 39,039 |
| Reserve (accumulated unrealised gain/(loss) on investments) | | 4,190 | (11,355) |
| Retained earnings | 24 | 223,860,161 | 217,559,295 |
| Total equity | | 223,903,390 | 217,586,979 |

CONSOLIDATED STATEMENT OF CHANGES IN EQUITY For the year ended 31 December 2023

| | 31 December 2023 \$ | 31 December 2022 \$ |
|--|------------------------|------------------------|
| Total equity at the beginning of the financial year | 217,586,979 | 216,964,237 |
| Net surplus for the year | 6,300,866 | 634,097 |
| Other comprehensive income | | |
| Gain/(loss) in the fair value of financial assets | 15,545 | (11,355) |
| Total equity at the end of the financial year | 223,903,390 | 217,586,979 |

The above consolidated statement of changes of equity should be read in conjunction with the accompanying notes.

CONSOLIDATED STATEMENT OF CASH FLOWS For the year ended 31 December 2023

| | Notes | 31 December 2023 \$ | 31 December 2022 \$ |
|--|-------|------------------------|------------------------|
| Cash flows from operating activities | | | |
| Receipts from members and customers (inclusive of goods and services tax) | | 210,280,310 | 112,269,866 |
| Payments to suppliers and employees (inclusive of goods and services tax) | | (98,844,043) | (86,679,636) |
| Interest received | | 2,964,998 | 1,054,161 |
| Interest paid on leases | | (3,059,800) | (3,101,490) |
| Net cash inflow from operating activities | 9 | 111,341,465 | 23,542,901 |
| Cash flows from investing activities | | | |
| Payments for property, plant and equipment | | (44,291,083) | (30,942,958) |
| Payments for intangible assets | | - | (57,153) |
| Payments for financial assets at fair value through profit and loss | | (3,997,496) | (2,033,260) |
| Payments for financial assets at amortised cost | | (56,585,245) | (4,992,482) |
| Proceeds from sale of financial assets at fair value through profit and loss | | 3,922,058 | 6,143,212 |
| Proceeds from financial assets at amortised cost | | 959,000 | 11,472,261 |
| Dividends received | | 711,595 | 801,829 |
| Net cash outflow from investing activities | | (99,281,171) | (19,608,551) |
| Cash flows from financing activities | | | |
| Principal elements of lease payments | | (3,987,506) | (2,949,328) |
| Net cash outflow from financing activities | | (3,987,506) | (2,949,328) |
| Net increase in cash and cash equivalents | | 8,072,788 | 985,022 |
| Cash and cash equivalents at the beginning of the financial year | | 16,650,829 | 15,665,807 |
| Cash and cash equivalents at end of year | 10 | 24,723,617 | 16,650,829 |

The above consolidated statement of cash flows should be read in conjunction with the accompanying notes.

NOTES TO THE FINANCIAL STATEMENTS

1. BASIS OF PREPARATION

The financial statements cover AARNet Pty Ltd as a consolidated entity consisting of AARNet Pty Ltd and the entities it controlled at the end of, or during, the year (collectively referred to as 'the Group' or 'AARNet'). The financial statements are presented in Australian dollars, which is AARNet Pty Ltd's functional and presentation currency.

These general purpose financial statements have been prepared in accordance with Australian Accounting Standards and interpretations issued by the Australian Accounting Standards Board and the Australian Charities and Not-for-profits Commission Act 2012. AARNet Pty Ltd is domiciled in Australia and is a not-for-profit entity for the purpose of preparing the financial statements. The registered address of AARNet Pty Ltd is Tower A, Level 7, 799 Pacific Highway, Chatswood, NSW, 2067.

The consolidated financial statements of AARNet Pty Ltd comply with Australian Accounting Standards - Simplified Disclosures as issued by the Australian Accounting Standards Board (AASB).

The presentation of the financial statements has been updated in the current year. This includes streamlining and remapping of the consolidated profit and loss statement. Where relevant, comparative information has been reclassified to ensure comparability with the current year disclosures and presentation.

The financial statements were authorised for issue, in accordance with a resolution of Directors, on 27th March 2024. The Directors have the power to amend and reissue the financial statements.

Going concern

The Directors are of the opinion that the Group will be able to pay its debts as and when they become due and payable for at least the next 12 months from the date of the annual report and have therefore prepared the financial report on a going concern basis.

Historical cost convention

The financial statements have been prepared on a historical cost basis, except for the following: financial assets at fair value through profit and loss, financial assets at fair value through other comprehensive income.

Principles of consolidation

Our financial report includes the consolidated assets and liabilities of AARNet Pty Ltd and its controlled entities as a whole as at the end of the financial year and the consolidated results and cash flows for the year.

An entity is considered to be a controlled entity where we are exposed, or have rights, to variable returns from our involvement with the entity and have the ability to affect those returns through our power to direct the activities of the entity.

We consolidate the results of our controlled entities from the date on which we gain control until the date we cease control.

The effects of intra-group transactions and balances are eliminated from our consolidated financial statements.

The financial statements of the Group's controlled entities are prepared using consistent accounting policies as the parent entity.

Income tax

AARNet is exempt from income tax under Section 50-5 of the Income Tax Assessment Act 1997 and therefore, no provision for income tax is included in these financial statements.

Goods and Services Tax (GST)

Revenues, expenses and assets are recognised net of the amount of associated GST, unless the GST incurred is not recoverable from the Australian Taxation Office (ATO). In this case it is recognised as part of the cost of acquisition of the asset or as part of the expense.

Receivables and payables (except accrued expenses) are stated with the amount of GST included.

The net amount of GST recoverable from, or payable to, the ATO is included as a current asset or liability in the consolidated balance sheet.

Cash flows are included in the consolidated statement of cash flows on a gross basis. The GST component of cash flows arising from investing and financing activities which are recoverable from, or payable to, the ATO are classified as operating cash flows.

Foreign currency translation

Foreign currency transactions are translated into the functional currency using the exchange rates prevailing at the dates of the transactions. Foreign exchange gains and losses resulting from the settlement of such transactions and from the translation at year end exchange rates of monetary assets and liabilities denominated in foreign currencies are recognised in the consolidated profit and loss statement.

2. OTHER SIGNIFICANT ACCOUNTING POLICIES

Relevant accounting policies are included in the respective notes to the consolidated financial statements. Changes in the accounting policies and impacts from the accounting standards to be applied in the future reporting periods, as well other accounting policies not disclosed elsewhere in the financial report are detailed below.

New, revised or amending Accounting Standards and Interpretations adopted

AARNet has adopted all of the new, revised or amending Accounting Standards and Interpretations issued by the Australian Accounting Standard Board ('AASB') that are mandatory for the current reporting period. There were no significant impacts noted.

Australian Accounting Standards and Interpretations that have recently been issued or amended but are not yet mandatory, have not been early adopted by AARNet for the annual reporting period ended 31 December 2023. These standards and amendments are not anticipated to have a material impact in the current or future reporting periods, or foreseeable future transactions.

3. CRITICAL ACCOUNTING ESTIMATES AND JUDGEMENTS

The preparation of financial statements requires the use of certain critical accounting estimates. It also requires management to exercise its judgement in the process of applying the Groups accounting policies.

Often, this involves estimates and assumptions concerning the future. The resulting accounting estimates will, by definition, seldom equal the related actual results. The estimates and assumptions that have a significant risk of causing a material adjustment to the carrying amounts of assets and liabilities within the next financial year are discussed below.

(i) Useful life of intangible assets

The Directors have assumed in the ordinary course of business that AARNet's customers will continue to use AARNet's services into the foreseeable future. The useful economic lives assigned for intangible assets are based on the contractual terms agreed for each Indefeasible Right to Use.

(ii) Useful life of assets

AARNet is the owner of a significant amount of assets and infrastructure. Estimates are made as to the useful life of these assets which can affect both the amount of depreciation and amortisation expense during the year and the amount of revenue recognised in relation to establishment fees.

(iii) Lease term

In determining the lease term, management considers all facts and circumstances that create an economic incentive to exercise an extension option, or not exercise a termination option. Extension options (or periods after termination options) are only included in the lease term if the lease is reasonably certain to be extended (or not terminated).

For leases, the following factors are normally the most relevant:

- If there are significant penalties to terminate (or not extend), AARNet is typically reasonably certain to extend (or not terminate).
- If any leasehold improvements are expected to have a significant remaining value, AARNet is typically reasonably certain to extend (or not terminate).
- Otherwise, AARNet considers other factors including historical lease durations and the costs and business disruption required to replace the leased asset.

The lease term is reassessed if an option is actually exercised (or not exercised) or AARNet becomes obliged to exercise (or not exercise) it. The assessment of reasonable certainty is only revised if a significant event or a significant change in circumstances occurs, which affects this assessment, and that is within the control of the lessee.

(iv) Significant financing

AARNet has recognised that receiving contributions from Members and others toward the construction cost of AARNet owned network infrastructure and provision of services in the future includes significant financing expense element. There are judgements in determining the relevant interest rate.

Similarly, AARNet has recognised that providing prepayments to suppliers ahead of services being provided in the future includes a significant financing element. There are judgements in determining the relevant interest rate.

(v) Identification of performance obligations in customer contracts and allocation of consideration

The Group has entered into contracts which contain lease and non-lease components. The non-lease components require the company to deliver multiple performance obligations. Management has estimated the standalone selling price of each component with reference to observable prices for similar arrangements. The standalone selling price is used to allocate contractual consideration to each of the components.

(vi) Estimation of duration in customer contracts

The Group has some contracts that do not have a fixed duration, but rather these contracts automatically renew unless one party notifies the other. In the case of these contracts, the estimated duration of the contract is aligned to the useful life of the underlying asset required to complete the contract performance obligations. This estimated duration is then referenced in determining significant financing and revenue recognition.

(vii) Identification of whether a contract contains a lease

The Group has entered into buy side and sell side capacity contracts for telecommunications bandwidth. The company makes an assessment as to whether the arrangement contains a lease including analysis as to whether an identified specific asset is subject to the contractual arrangement.

(viii) Impairment assessment including whether there are impairment indicators

The Group considers whether there are indicators of impairment for property, plant and equipment and intangible assets with reference to the fair value of each cash generating unit relative to its carrying value. Relevant factors considered by the company include movement of key cost inputs over time.

(ix) Classification of financial instruments

The Group has applied judgement in determining the classification of financial assets including assessment of the business model for each of its portfolios of financial assets and consideration as to whether contractual cash flows represent solely payments of principal and interest.

(x) Classification of joint arrangements

The agreement in relation to the Indigo Central consortia is classified as a joint operation and the company is one of the joint operators because there is only one combination of the voting combinations that can approve relevant activities and that combination requires the company's voting rights. Indigo West and JGA South are not considered joint arrangements because either a third party has control or there are different combinations of operators that can approve relevant activities.

4. SERVICE REVENUE

| | 31 December 2023 | 31 December 2022 |
|--|---------------------|---------------------|
| | \$ | \$ |
| Telecommunications | | |
| Subscription, Traffic and Access - Members | 42,545,569 | 41,273,232 |
| Subscription, Traffic and Access - Non-Members | 13,705,136 | 13,959,269 |
| Other Services | 34,309,757 | 29,761,061 |
| | 90,560,462 | 84,993,562 |
| Infrastructure & service agreements | | |
| Infrastructure Establishment Fees | 14,732,354 | 9,732,839 |
| Infrastructure Project Construction | 1,587,378 | 3,788,049 |
| | 106,880,194 | 98,514,450 |

(a) Disaggregation of revenue from contracts with customers

AARNet derives service revenue from the transfer of goods and services over time and at a point in time as follows:

| | Telco-Members | Telco-Non-Member | Telco-Other Services | Infra Establishment Fees | Infra Project Construction | Total |
|--------------------|-------------------|-------------------|----------------------|--------------------------|----------------------------|--------------------|
| 2023 | | | | | | |
| At a point in time | - | - | - | 3,190,901 | 1,587,377 | 4,778,278 |
| Over time | 42,545,569 | 13,705,136 | 34,309,757 | 11,541,454 | - | 102,101,916 |
| Total | 42,545,569 | 13,705,136 | 34,309,757 | 14,732,355 | 1,587,377 | 106,880,194 |

| | Telco-Members | Telco-Non-Member | Telco-Other Services | Infra Establishment Fees | Infra Project Construction | Total |
|--------------------|-------------------|-------------------|----------------------|--------------------------|----------------------------|-------------------|
| 2022 | | | | | | |
| At a point in time | - | - | - | - | 3,788,050 | 3,788,050 |
| Over time | 41,273,232 | 13,959,269 | 29,761,061 | 9,732,838 | - | 94,726,400 |
| Total | 41,273,232 | 13,959,269 | 29,761,061 | 9,732,838 | 3,788,050 | 98,514,450 |

(b) Assets and liabilities related to contracts with customers

AARNet has recognised the following assets and liabilities related to contracts with customers:

| | 31 December 2023 | 31 December 2022 |
|---|--------------------|--------------------|
| | \$ | \$ |
| Current Liabilities- Income in Advance in relation to: | | |
| Infrastructure Establishment Fees | 19,136,148 | 8,812,317 |
| Other Deferred Income | 1,266,592 | 803,242 |
| Infrastructure Service Fees | 5,683,663 | 7,666,039 |
| Subscriptions | 1,558,436 | 1,179,446 |
| | 27,644,839 | 18,461,044 |
| | | |
| | 31 December 2023 | 31 December 2022 |
| | \$ | \$ |
| Non-Current Liabilities- Income in Advance in relation to: | | |
| Infrastructure Establishment Fees | 184,460,915 | 103,585,335 |
| Infrastructure Projects | - | 778,740 |
| Other Deferred Income | 426,455 | 482,393 |
| | 184,887,370 | 104,846,468 |

(i) Significant changes in contract assets and liabilities

Contract liabilities for Infrastructure and service agreements have increased due to an increase in contributions for new projects that have not been completed as at 31 December 2023, despite no change in the timing of satisfied performance obligations; the nature of the goods supplied; nor the terms of payment.

There is no material amounts of revenue recognised for both financial years in relation to performance obligations satisfied in previous periods.

(ii) Unsatisfied long-term transmission service contracts

The anticipated timing for revenue recognition of liabilities related to contracts with customers (including Infrastructure establishment fees) is as follows:

| | 31 December 2023 | 31 December 2022 |
|---|--------------------|--------------------|
| | \$ | \$ |
| Within one year | 27,644,839 | 18,461,044 |
| Later than one year but not later than five years | 112,715,337 | 37,953,670 |
| Later than five years | 72,172,033 | 66,892,798 |
| Total | 212,532,209 | 123,307,512 |

Accounting Policy

Service revenues (derived from contracts with customers) have been accounted for under the accounting standard, AASB15 Revenue from Contracts with Customers.

(i) Telecommunication Services

Telecommunication services consist of a series of performance obligations where revenue is recognised as data services have been delivered in accordance to the contract.

The performance obligation for telecommunication services is coupled with a performance obligation relating to access rights to the AARNet network, for the service agreement performance obligation cannot be executed without an access agreement.

An establishment fee forms part of the transaction price for telecommunication services. The establishment fee is not a consideration for a performance obligation in its own right, for the work to enable a transmission service cannot be separated from the transmission service itself.

(ii) Other Services

Other services consist of transmission services providing point-to-point capacity, above the network services and security-related products. Revenue is recognised as performance obligations within contracts are delivered.

(iii) Infrastructure Establishment Fees

Infrastructure establishment fees are contributions from customers to assist in the design and cost of construction. Revenue is recognised either at completion of design, or over the course of the contract's performance obligations.

(iv) Infrastructure Project Construction Revenue

Revenue from the provision of infrastructure where the infrastructure becomes the property of the customer is recognised when the underlying performance obligation is completed.

(v) Standalone selling price in the application of AASB15 Revenue from Contracts with Customers

The standalone selling price in relation to all performance obligations contained within service contracts with customers is judged to be the fair value of those performance obligations if bought on a standalone basis.

(vi) Discounts and Taxes

Amounts disclosed as revenue are net of any discounts or taxes paid.

(vii) Income in Advance

Amounts received or due and receivable in respect of future subscription periods or for services which have not been delivered are recorded as Income in Advance and appear as a liability (refer note 20). Income in Advance is classified as either a current liability or a non-current liability depending on when the relevant subscription expires or the related service is expected to be delivered.

(viii) Significant financing component in revenue contracts

The Group identifies significant financing components in certain revenue contracts with customers. The interest expense, income in advance and revenue balances are adjusted to recognise the impact of significant financing component comprised in the upfront contributions by customers to the company.

(ix) Departed customers & terminated services

The Group reviews the income in advance balances to identify balances pertaining to certain customers who have terminated their revenue contracts or services within their contracts. The Group does not have any obligation to refund any portion of the upfront customer contributions on such termination. Accordingly, the income in advance balances pertaining to such terminated contracts, or terminated services within contracts, have been recognised as revenue in the period of such termination.

5. OTHER INCOME

In 2023 and 2022 AARNet recorded significant amounts of other revenue, grants received and other contributions.

These amounts are a material component of the consolidated profit and loss statement recorded by AARNet.

| | 31 December 2023 \$ | 31 December 2022 \$ |
|--------------------------|---------------------------|---------------------------|
| Interest | 4,380,710 | 1,022,668 |
| Dividends | 631,127 | 673,224 |
| Grants and contributions | 778,045 | 508,032 |
| Consulting | 394,371 | 390,836 |
| | 6,184,253 | 2,594,760 |

Accounting Policy

Interest and Dividend Income

Interest income is recognised as it accrues using the effective interest rate method and dividend income is recognised as revenue when the right to receive payment is established.

Grants and Contributions Received

This item includes amounts received by AARNet by way of grants and contributions where AARNet does not supply a service to the organisations providing the funding, however grants and contributions are recognised only upon completion of all performance obligations and when there are no unfulfilled conditions or other contingencies attaching to the grants.

6. EXPENSES

| | 31 December 2023 \$ | 31 December 2022 \$ |
|-------------------------------------|---------------------------|---------------------------|
| Depreciation | | |
| Communication assets | 15,612,471 | 13,598,767 |
| Office and IT equipment | 3,733,363 | 3,422,652 |
| Leasehold improvements | 485,066 | 365,510 |
| Software | 1,938,925 | 124,159 |
| Buildings | 1,371,317 | 1,460,781 |
| Total depreciation | 11 23,141,142 | 18,971,869 |
| Amortisation | | |
| Intangible assets | 12 75,000 | 74,996 |
| Total depreciation and amortisation | 23,216,142 | 19,046,865 |
| Superannuation expense | 4,736,056 | 4,138,231 |

Accounting Policy

Depreciation and Amortisation

The accounting policy for depreciation and amortisation is described in notes 11 and 12 respectively

7. NET FINANCE INCOME/(EXPENSE)

| | 31 December 2023 \$ | 31 December 2022 \$ |
|---|---------------------------|---------------------------|
| Finance income | | |
| Significant financing income - IRU assets | 2,459,591 | 2,665,671 |
| Total finance income | 2,459,591 | 2,665,671 |
| Finance expense | | |
| Significant financing expense - income in advance | 3,256,137 | 2,735,163 |
| Interest expense - leased assets | 3,059,800 | 3,101,490 |
| Total finance expense | 6,315,937 | 5,836,653 |
| Net finance income/(expense) | (3,856,346) | (3,170,982) |

Accounting Policy

The Accounting Policy for significant financing component in revenue contracts is described in note 4. The Accounting Policy for lease accounting is described in note 13. The Accounting Policy for significant financing on IRU assets is described in note 14.

8. NET OTHER GAINS/(LOSSES)

| | 31 December 2023 \$ | 31 December 2022 \$ |
|---|---------------------------|---------------------------|
| Gain/(loss) on financial assets at fair value | 1,205,384 | (902,893) |
| Gain/(loss) on foreign currency transactions | 294,406 | 503,326 |
| Gain/(loss) on foreign currency contracts | (290,008) | 226,355 |
| Gain/(loss) on disposal of assets | (4,768) | - |
| | 1,205,014 | (173,212) |

Accounting Policy

Loss on foreign currency contracts

AARNet hedges a significant proportion of its exposure to foreign currency movements and does not apply hedge accounting. The accounting policy adopted with respect to derivatives and hedging activities is described below. During 2023 movements in the Australian dollar produced a loss (including realised and unrealised loss) on the hedging instruments held during and as at the end of the year of \$290,008 (2022: gain of \$226,355).

Foreign currency contracts

At year end, foreign currency contracts are recognised at fair value. Realised and unrealised gain or losses on such contracts are taken into account each year in the consolidated profit and loss statement. AARNet does not apply hedge accounting.

The Accounting Policy for gain on financial assets at fair value is described in note 16.

9. RECONCILIATION OF NET SURPLUS TO NET CASH INFLOW FROM OPERATING ACTIVITIES

| | 31 December 2023 \$ | 31 December 2022 \$ |
|--|---------------------------|---------------------------|
| Surplus for the year | 6,300,866 | 634,097 |
| Depreciation, amortisation and impairment | 23,216,142 | 19,046,865 |
| Dividend income | (631,127) | (673,223) |
| Net loss/ (gain) on sale of investments | (1,205,384) | 904,013 |
| Net amortised interest income | 83,421 | 77,491 |
| Net loss on sale of property, plant and equipment | 4,767 | - |
| Decrease/ (increase) in trade receivables | (588,506) | (666,065) |
| Decrease/ (increase) in accrued income | (1,537,464) | (46,000) |
| Decrease/ (increase) in prepayments and other debtors | 2,291,365 | (6,564,394) |
| Decrease/ (increase) in derivative financial instruments | 290,008 | (226,355) |
| Decrease/ (increase) in non-current assets | 97,777 | 445,150 |
| Increase/ (decrease) in trade payables | (3,864,286) | 4,250,942 |
| Increase/ (decrease) in other operating liabilities | 65,222 | 121,465 |
| Increase/ (decrease) in provisions | 434,971 | 1,254,981 |
| Increase/(decrease) in income received in advance | 86,383,693 | 4,983,934 |
| Net cash inflow from operating activities | 111,341,465 | 23,542,901 |

10. CASH AND CASH EQUIVALENTS

| | 31 December 2023 \$ | 31 December 2022 \$ |
|---|---------------------------|---------------------------|
| Current assets | | |
| Cash at bank and in hand (AUD) | 16,558,018 | 8,401,299 |
| Cash at bank (USD and EUR) | 821,791 | 203,101 |
| Deposits at call - all denominated in AUD | 7,343,808 | 8,046,429 |
| | 24,723,617 | 16,650,829 |

Cash at bank and on hand

Cash at bank and on hand is held at interest rates varying between 0.00% and 3.85% (2022: 0.00% and 2.85%). During the year, cash is transferred to or from term deposits to meet liquidity requirements.

Deposits at call

Interest bearing deposits at call attracted interest rates between 0.35% and 5.55% (2022: 0.35% and 1.25%).

Accounting Policy

For the purpose of presentation in the consolidated statement of cash flows, cash and cash equivalents includes cash on hand, deposits held at call with financial institutions, bank overdrafts and other short-term, highly liquid investments with original maturities of three months or less that are readily convertible to known amounts of cash and which are subject to an insignificant risk of changes in value.

11. PROPERTY, PLANT AND EQUIPMENT

| | Buildings \$ | Leasehold improvements \$ | Office and IT equipment \$ | Communication assets \$ | Software \$ | Total \$ |
|------------------------------------|-----------------|---------------------------------|----------------------------------|-------------------------------|----------------|---------------|
| At 1 January 2022 | | | | | | |
| Cost or fair value | 13,009,513 | 4,580,439 | 22,545,165 | 369,121,783 | 3,488,830 | 412,745,730 |
| Accumulated depreciation | (3,741,680) | (1,985,645) | (12,375,461) | (138,389,553) | (1,429,927) | (157,922,266) |
| Net book amount | 9,267,833 | 2,594,794 | 10,169,704 | 230,732,230 | 2,058,903 | 254,823,464 |
| Year ended 31 December 2022 | | | | | | |
| Opening net book amount | 9,267,833 | 2,594,794 | 10,169,704 | 230,732,230 | 2,058,903 | 254,823,464 |
| Additions | - | 2,981,202 | 3,947,215 | 25,740,947 | - | 32,669,364 |
| Additions Right-of-use assets | 1,854,037 | - | - | 890,603 | - | 2,744,640 |
| Depreciation charge | (1,460,781) | (365,510) | (3,422,652) | (13,598,767) | (124,159) | (18,971,869) |
| Amount de-recognised/re-classified | - | - | - | - | (50,396) | (50,396) |
| Closing net book amount | 9,661,089 | 5,210,486 | 10,694,267 | 243,765,013 | 1,884,348 | 271,215,203 |
| At 31 December 2022 | | | | | | |
| Cost or fair value | 14,863,550 | 7,561,641 | 26,487,717 | 395,682,514 | 3,438,436 | 448,033,858 |
| Accumulated depreciation | (5,202,461) | (2,351,155) | (15,793,450) | (151,917,501) | (1,554,088) | (176,818,655) |
| Net book amount | 9,661,089 | 5,210,486 | 10,694,267 | 243,765,013 | 1,884,348 | 271,215,203 |

The 2022 comparative table above includes a reclassification of the right-of-use assets relating to offices leases from communication assets to buildings. The net book amount reclassified as at 1 January 2022 was \$9,198,808, with the 31 December 2022 restated net book amount being \$9,595,341.

| | Buildings \$ | Leasehold improvements \$ | Office and IT equipment \$ | Communication assets \$ | Software \$ | Total \$ |
|------------------------------------|-----------------|---------------------------------|----------------------------------|-------------------------------|----------------|---------------|
| Year ended 31 December 2023 | | | | | | |
| Opening net book amount | 9,661,089 | 5,210,486 | 10,694,267 | 243,765,013 | 1,884,348 | 271,215,203 |
| Additions | - | 1,831,477 | 2,377,643 | 43,676,435 | - | 47,885,555 |
| Additions Right-of-use assets | 2,611,665 | - | - | - | - | 2,611,665 |
| Disposals | - | (2,088) | (2,679) | - | - | (4,767) |
| Depreciation charge | (1,371,317) | (485,066) | (3,733,363) | (15,612,471) | (1,938,925) | (23,141,142) |
| Amount de-recognised/re-classified | - | (73,053) | (24,366) | 90,322 | 123,224 | 116,127 |
| Closing net book amount | 10,901,437 | 6,481,756 | 9,311,502 | 271,919,299 | 68,647 | 298,682,641 |
| At 31 December 2023 | | | | | | |
| Cost or fair value | 17,475,215 | 9,317,802 | 28,732,538 | 439,105,207 | 1,767,992 | 496,398,754 |
| Accumulated depreciation | (6,573,778) | (2,836,046) | (19,421,036) | (167,185,908) | (1,699,345) | (197,716,113) |
| Net book amount | 10,901,437 | 6,481,756 | 9,311,502 | 271,919,299 | 68,647 | 298,682,641 |

Communication assets- finance leases

AARNet provides other parties with rights to use components of AARNet's fibre and other infrastructure in return for that party providing AARNet with similar rights to use components of its fibre and infrastructure.

Right-of-use assets

Communication assets and Buildings include both assets and leased right-of-use assets. See Note 13 for more detail on right-of-use assets.

Assets in the course of construction

Included in the carrying amounts of the assets shown above are assets that were in the course of construction as at the end of the reporting period. The relevant amounts are as follows:

| | 31 December 2023 \$ | 31 December 2022 \$ |
|--|---------------------------|---------------------------|
| Communication assets | 57,955,827 | 59,406,663 |
| Office and IT equipment | 4,732,915 | 5,597,881 |
| Leasehold improvements | 86,296 | 3,448,462 |
| Software | - | 1,884,348 |
| Total assets in the course of construction | 62,775,038 | 70,337,354 |

Accounting Policy

Acquisition

Property, plant and equipment is stated at historical cost less depreciation. Historical cost includes expenditure that is directly attributable to the acquisition of the items.

Subsequent costs are included in the asset's carrying amount or recognised as a separate asset, as appropriate, only when it is probable that future economic benefits associated with the item will flow to AARNet and the cost of the item can be measured reliably.

Fibre and Infrastructure Swaps

AARNet may enter into arrangements granting other parties the right to use AARNet's fibre or infrastructure in return for receiving rights to use fibre or infrastructure owned by the other party ("swaps"). Where such swaps involve significant values of assets, AARNet records an asset disposal in respect of the assets used by the other party at the carrying value of the relevant assets at the time the swap becomes effective. AARNet then recognises an asset of equivalent value, being the right to use the fibre or infrastructure of the other party.

Unincorporated Joint Operations

AARNet accounts for interests in unincorporated joint operations by recognising its share of the assets and liabilities held or owed by the joint operation along with its share of the expenses incurred by the joint operation.

Where the assets held within the joint operation include assets in the course of construction, AARNet's share of those assets is included in the values for assets in the course of construction shown in this note.

Depreciation

Property, plant and equipment is depreciated using the straight-line method to allocate cost, net of residual value, over each item's estimated useful life, as follows:

| | |
|----------------------------------|--------------|
| - Leasehold improvements | 10 years |
| - Office and IT equipment | 3 years |
| - Leased communication assets | 5 - 6 years |
| - Leased office and IT equipment | 3 years |
| - Communication assets | 2 - 35 years |
| - Software | 2 - 3 years |

The assets' residual values and useful lives are reviewed, and adjusted if appropriate, at the end of each reporting period; such adjustments may result in a revised useful life shorter than that shown above.

Impairment of Assets

Assets that are subject to depreciation or amortisation are reviewed for indicators of impairment whenever events or changes in circumstances indicate that the carrying amount may not be recoverable. An impairment loss is recognised for the amount by which the asset's carrying amount exceeds its recoverable amount. The recoverable amount is the higher of an asset's fair value less costs to sell and value in use. As a not-for-profit entity, value in use is calculated on the basis of the depreciated replacement cost, which represents the current replacement cost of an asset less, where applicable, accumulated depreciation calculated on the basis of such cost to reflect the already consumed or expired future economic benefits of the asset.

For the purposes of assessing impairment, assets are grouped at the lowest levels for which there are separately identifiable cash flows (cash generating units). The company has two cash generating units, being the network and the security operations centre.

Gains and Losses

Gains and losses on disposals are determined by comparing proceeds with carrying amount. These are included in the consolidated profit and loss statement.

Interest expense capitalised

The company's accounting treatment on interest expense on account of significant financing component identify in its contracts with customers in accordance with AASB15 revenue from customers with contracts, is to capitalise such interest expenses as a borrowing cost during the period of construction where the upfront contribution by customers is used for the construction of the related network assets. The interest expense is considered as a directly attributable cost of construction of the related network assets where the construction takes more than 12 months to complete.

12. INTANGIBLE ASSETS

| | Security \$ | Storage \$ | Indefeasible Rights to Use traffic path \$ | Total \$ |
|------------------------------------|----------------|----------------|--|-------------|
| At 1 January 2022 | | | | |
| Opening net book amount | 156,755 | 394,754 | 433,061 | 984,570 |
| Additions | 57,149 | - | - | 57,149 |
| Amount de-recognised | - | (394,754) | - | (394,754) |
| Amortisation charge | - | - | (74,996) | (74,996) |
| Net book amount | 213,904 | - | 358,065 | 571,969 |
| At 31 December 2022 | | | | |
| Cost | 213,904 | - | 8,707,978 | 8,921,882 |
| Accumulated amortisation | - | - | (8,349,913) | (8,349,913) |
| Closing net book amount | 213,904 | - | 358,065 | 571,969 |
| | | Security \$ | Indefeasible Rights to Use traffic path \$ | Total \$ |
| Year ended 31 December 2023 | | | | |
| Opening net book amount | | 213,904 | 358,065 | 571,969 |
| Amount reclassified | | (213,904) | - | (213,904) |
| Amortisation charge | | - | (75,000) | (75,000) |
| Closing net book amount | | - | 283,065 | 283,065 |
| At 31 December 2023 | | | | |
| Cost | | - | 8,707,978 | 8,707,978 |
| Accumulated amortisation | | - | (8,424,913) | (8,424,913) |
| Net book amount | | - | 283,065 | 283,065 |

AARNet's intangible assets are indefeasible rights to use (IRU) capacity on traffic paths across communication infrastructure owned by other parties.

Intangible assets in the course of construction

| | 31 December 2023 | 31 December 2022 |
|----------|---------------------|---------------------|
| | \$ | \$ |
| Security | - | 213,904 |

Accounting Policy

The value of each IRU is amortised from the date each right become available for service and will continue to be amortised over the term of the right, which varies from 10 to 28 years. The longest remaining amortisation period is approximately 20 years.

13. LEASES

This note provides information for leases where AARNet is the lessee.

(i) Amounts recognised in the balance sheet

The balance sheet shows the following amounts relating to leases:

| | 31 December 2023 | 31 December 2022 |
|--------------------------------|---------------------|---------------------|
| | \$ | \$ |
| Right-of-use assets | | |
| Communication assets | 45,699,366 | 50,295,857 |
| Buildings | 10,838,962 | 9,595,341 |
| Total | 56,538,328 | 59,891,198 |
| Lease liabilities | | |
| Current | 3,286,521 | 2,892,096 |
| Non-current | 44,156,833 | 45,927,099 |
| Total lease liabilities | 47,443,354 | 48,819,195 |

The 2022 comparative includes a reclassification of the office related right of use assets from communication assets to buildings. Refer note 11 for more details.

The movement in the right-of-use assets over the year are as follows:

| | \$ |
|--|-------------------|
| Opening right-of-use assets as at 1 January 2023 | 59,891,198 |
| Depreciation charge to right-of-use assets | (5,964,535) |
| Additions to right-of-use assets | 2,611,665 |
| Right-of-use assets recognised as at 31 December 2023 | 56,538,328 |

(ii) Amounts recognised in the consolidated profit and loss statement

The consolidated profit and loss statement includes the following amounts relating to leases:

| | 31 December 2023 | 31 December 2022 |
|--|---------------------|---------------------|
| | \$ | \$ |
| Depreciation charge to right-to-use-assets- Communication assets & buildings | 5,964,535 | 5,950,063 |
| Interest expense (included in net finance income/(expense)) | 3,059,800 | 3,101,490 |
| Expense related to short-term leases (included in other administration expenses) | 955,546 | 1,025,096 |
| Expenses related to leases of low-value assets that are not shown above as short-term leases (included in other administration expenses) | 7,947 | 7,592 |
| Expenses related to variable lease payments not included in lease liabilities (included in other administration expenses) | 742,526 | 1,086,935 |

The total cash outflow for leases in 2023 was \$8,745,378 (2022: \$8,162,849)

Future lease payments in relation to lease liabilities as at the period end are as follows:

| | 2023 | 2022 |
|---|-------------------|------------|
| | \$ | \$ |
| Within one year | 6,226,143 | 5,865,920 |
| Later than one year but not later than five years | 21,785,515 | 21,510,314 |
| Later than five years | 43,329,185 | 43,879,401 |
| Total | 71,340,843 | 71,255,635 |

(iii) AARNet's leasing activities and how these are accounted for

AARNet leases various offices, data centre space and dark fibre. Rental contracts are typically made for fixed periods of 1 to 20 years, but may have extension options as described in (iv) below.

Contracts may contain both lease and non-lease components. AARNet allocates the consideration in the contract to the lease and non-lease components based on their relative stand-alone prices. However, for leases of real estate for which AARNet is a lessee, it has elected not to separate lease and non-lease components and instead accounts for these as a single lease component.

Lease terms are negotiated on an individual basis and contain a wide range of different terms and conditions. The lease agreements do not impose any covenants other than the security interests in the leased assets that are held by the lessor.

Assets and liabilities arising from a lease are initially measured on a present value basis. Lease liabilities include the net present value of the following lease payments:

- Fixed payments (including in-substance fixed payments), less any lease incentives receivable
- Variable lease payments that are based on an index or a rate, initially measured using the index or rate as at the commencement date
- Amounts expected to be payable by AARNet under residual value guarantees, and
- Payments of penalties for terminating the lease, if the lease term reflects AARNet exercising that option.

Lease payments to be made under reasonably certain extension options are also included in the measurement of the liability.

The lease payments are discounted using the interest rate implicit in the lease. If that rate cannot be readily determined, which is generally the case for leases at AARNet, the lessee's incremental borrowing rate is used, being the rate that the individual lessee would have to pay to borrow the funds necessary to obtain an asset of similar value to the right-of-use asset in a similar economic environment with similar terms, security and conditions.

To determine the incremental borrowing rate, AARNet uses a build-up approach that starts with a risk-free interest rate adjusted for credit risk for leases held by AARNet.

AARNet is exposed to potential future increases in lease payments based on an index or rate, which are not included in the lease liability until they take effect. When adjustments to lease payments based on an index or rate take effect, the lease liability is reassessed and adjusted against the right-of-use asset.

Lease payments are allocated between principal and finance cost. The finance cost is charged to consolidated profit and loss statement over the lease period so as to produce a constant periodic rate of interest on the remaining balance of the liability for each period.

Right-of-use assets are measured at cost comprising the following:

- The amount of the initial measurement of lease liability
- Any lease payments made at or before the commencement date less any lease incentives received
- Any initial direct costs, and
- Restoration costs

Right-of-use assets are generally depreciated over the shorter of the asset's useful life and the lease term on a straight-line basis.

Payments associated with short-term leases and leases of low-value assets are recognised on a straight-line basis as an expense in the consolidated profit and loss statement. Short-term leases are leases with a lease term of 12 months or less. Low-value assets comprise of equipment and small items of office furniture.

(iv) Extension and termination options

Extension and termination options are included in a number of leases. These are used to maximise operational flexibility in terms of managing the assets used in AARNet's operations. The majority of extension and termination options held are exercisable only by AARNet and not by the respective lessor.

14. RECEIVABLES AND OTHER ASSETS

| | 31 December 2023 | 31 December 2022 |
|---|---------------------|---------------------|
| | \$ | \$ |
| Current assets | | |
| Trade receivables | 2,520,180 | 1,931,674 |
| Provision for impairment of receivables | (129,212) | (129,212) |
| Prepayments and other debtors | 23,298,728 | 20,951,095 |
| Total | 25,689,696 | 22,753,557 |
| | | |
| | 31 December 2023 | 31 December 2022 |
| | \$ | \$ |
| Non-current assets | | |
| Prepayments | 38,799,513 | 43,438,511 |

Trade Receivables

Trade receivables are due for settlement no more than 30 days from the date of recognition.

At 31 December 2023, trade receivables included balances of \$1,050,502 (2022: \$1,928,409) which are past due but not impaired or considered uncollectable. These amounts have been outstanding for more than 90 days. These relate to a number of customers for whom there is no history of default.

Prepayments and other debtors

Payments for goods and services which are to be provided in future years are recognised as prepayments. This includes prepayments for IRU arrangements that are not identified as leases.

The Group identifies significant financing components in certain IRU arrangements. The significant financing income is recognised as net finance income, with the significant financing expense included in the prepayment and amortised over the life of the arrangement to the profit and loss.

Other debtors generally arise from transactions outside the usual operating activities of AARNet. Interest is not normally charged.

Fair Value

Due to the short-term nature of these receivables, their carrying amount is assumed to approximate their fair value.

Accounting Policy

Trade receivables are recognised initially the amount of consideration that is unconditional, unless they contain significant financing components when they are recognised at fair value. They are subsequently measured at amortised cost, less provision for impairment.

Collectability of trade receivables is reviewed on an ongoing basis. Debts which are known to be uncollectible are written off. The group applies the simplified approach to providing for expected credit losses prescribed by AASB 9, which permits the use of the lifetime expected loss provision for all trade receivables. To measure the expected credit losses, trade receivables have been grouped based on shared credit risk characteristics and the days past due. The amount of the provision is recognised in the consolidated profit and loss statement in other administration expenses.

The carrying value less impairment provision of trade receivables is assumed to approximate fair value due to the short-term nature of the receivables.

15. ACCRUED INCOME

| | 31 December 2023 | 31 December 2022 |
|-----------------------------|---------------------|---------------------|
| | \$ | \$ |
| Current assets | | |
| Accrued interest receivable | 1,914,761 | 496,098 |
| Infrastructure projects | 38,333 | - |
| Total | 1,953,094 | 496,098 |

16. FINANCIAL ASSETS AND INVESTMENTS

AARNet holds financial assets and investments (other than prepayments or trade receivables) including:

- Financial instruments at amortised cost (note 17)
- Financial assets at fair value through consolidated profit and loss statement (note 18)
- Financial assets at fair value through other comprehensive income (note 19)
- Derivative financial instruments (shown on the consolidated balance sheet).

Accounting Policy

Purchases and sales of financial assets are recognised on the date on which AARNet commits to purchase or sell the asset. Financial assets are derecognised when the rights to receive cash flows from the financial assets have expired or have been transferred and AARNet has transferred substantially all the risks and rewards of ownership.

Initial recognition - measurement

At initial recognition, AARNet measures a financial asset at its fair value plus, in the case of a financial asset not at fair value through profit or loss (FVPL) or at fair value through other comprehensive income (FVOCI), transaction costs that are directly attributable to the acquisition of the financial asset. Transaction costs of financial assets carried at FVPL are expensed in profit or loss.

Debt instruments

Subsequent measurement of debt instruments depends on AARNet's business model for managing the asset and the cash flow characteristics of the asset. There are three measurement categories into which AARNet classifies its debt instruments:

Amortised cost: AARNet classifies its financial assets as at amortised cost only if both of the following criteria are met:

- the asset is held within a business model whose objective is to collect the contractual cash flows, and
- The contractual terms give rise to cash flows that are solely payments of principal and interest.

Interest income from these financial assets is included in Other income - interest using the effective interest rate method. Any increase/(decrease) in financial assets at fair value through profit and loss (FVPL) or at fair value through other comprehensive income (FVOCI) is recognised directly in the consolidated profit and loss statement and presented in gain/(loss) on financial assets at fair value (note 8) together with gain/(loss) on sale of investments.

FVOCI: Assets that are held for collection of contractual cash flows and for selling the financial assets, where the assets' cash flows represent solely payments of principal and interest, are measured at FVOCI. Movements in the fair value are taken through OCI, except for the recognition of impairment gains or losses, interest income and foreign exchange gains and losses which are recognised in profit or loss. When the financial asset is derecognised, the cumulative gain or loss previously recognised in OCI is reclassified from equity to profit or loss and recognised in other gains/(losses). Interest income

from these financial assets is included in finance income using the effective interest rate method. Foreign exchange gains and losses are presented in other gains/(losses) and impairment expenses are presented as separate line item in the consolidated profit and loss statement, if required.

FVPL: Assets that do not meet the criteria for amortised cost or FVOCI are measured at FVPL. A gain or loss on a debt investment that is subsequently measured at FVPL is recognised in profit or loss and presented net within other gains/(losses) in the period in which it arises.

Equity instruments

AARNet subsequently measures all equity investments at fair value. Changes in the fair value of financial assets at FVPL are recognised in other gains/(losses) in the consolidated profit and loss statement as applicable.

Impairment

AARNet assesses on a forward-looking basis the expected credit losses associated with its debt instruments carried at amortised cost and FVOCI. The impairment methodology applied depends on whether there has been a significant increase in credit risk.

Derivatives and hedging activities

Derivatives are initially recognised at cost on the date a derivative contract is entered into and are subsequently remeasured to their fair value at each reporting date.

AARNet has entered into forward exchange contracts which are economic hedges for foreign currencies to be traded at a future date but do not satisfy the requirements for hedge accounting. Any changes in fair values are taken to other comprehensive income immediately.

Fair value measurements

AARNet measures and recognises the following assets and liabilities at fair value on a recurring basis:

- Financial assets at fair value through other comprehensive income
- Financial assets at fair value through profit and loss; and
- Derivative financial instruments.

AASB 13 Fair Value Measurement requires disclosure of fair value measurements by level of the following fair value measurement hierarchy:

Level 1: quoted prices (unadjusted) in active markets for identical assets or liabilities;

Level 2: inputs other than quoted prices included within level 1 that are observable for the asset or liability, either directly or indirectly; and

Level 3: inputs for the asset or liability that are not based on observable market data (unobservable inputs).

The following table presents the company's assets and liabilities measured and recognised at fair value at 31 December 2023 and 31 December 2022:

| 31 December 2023 | Level 1 | Level 2 | Level 3 | Total |
|---|-------------------|-------------------|----------|-------------------|
| | \$ | \$ | \$ | \$ |
| Assets | | | | |
| Derivative financial instruments | - | 35,403 | - | 35,403 |
| Equity securities - fair value through profit and loss | 10,158,125 | - | - | 10,158,125 |
| Debt securities - fair value through profit and loss | 1,367,363 | 20,205,754 | - | 21,573,117 |
| Debt securities - fair value through other comprehensive income | - | 4,022,340 | - | 4,022,340 |
| Total assets | 11,525,488 | 24,263,497 | - | 35,788,985 |
| 31 December 2022 | | | | |
| | Level 1 | Level 2 | Level 3 | Total |
| | \$ | \$ | \$ | \$ |
| Assets | | | | |
| Derivative financial instruments | - | 325,411 | - | 325,411 |
| Equity securities - fair value through profit and loss | 9,141,497 | - | - | 9,141,497 |
| Debt securities - fair value through profit and loss | 1,349,135 | 14,386,468 | - | 15,735,603 |
| Debt securities - fair value through other comprehensive income | - | 2,989,620 | - | 2,989,620 |
| Total assets | 10,490,632 | 17,701,499 | - | 28,192,131 |

The fair value of financial instruments traded in active markets (such as listed financial assets at FVPL) are based on quoted market prices at the end of the reporting period. These instruments are included in level 1.

The fair value of financial instruments that are not traded in an active market (such as derivative financial instruments and unlisted financial assets) are determined using valuation techniques. These valuation techniques maximise the use of observable market data where it is available and rely as little as possible on entity specific estimates. If all significant inputs required to fair value an instrument are observable, the instrument is included in level 2.

17. FINANCIAL ASSETS AT AMORTISED COST

| | 31 December 2023 | 31 December 2022 |
|--|------------------|------------------|
| | \$ | \$ |
| Current Assets | | |
| Term deposits | 56,000,000 | 6,000,000 |
| Non-current Assets | | |
| Debt securities (fixed and floating rates) | 16,870,094 | 23,923,472 |

18. FINANCIAL ASSETS AT FAIR VALUE THROUGH PROFIT AND LOSS

| | 31 December 2023 | 31 December 2022 |
|--|------------------|------------------|
| | \$ | \$ |
| Current Assets | | |
| Debt securities (fixed and floating rates) | 7,010,957 | 1,005,250 |
| Non-current assets | | |
| Available for sale financial assets | 10,158,125 | 9,141,497 |
| Debt securities (fixed and floating rates) | 21,573,117 | 15,735,603 |
| | 31,731,242 | 24,877,100 |

19. FINANCIAL ASSETS AT FAIR VALUE THROUGH OTHER COMPREHENSIVE INCOME

| | 31 December 2023 | 31 December 2022 |
|--|------------------|------------------|
| | \$ | \$ |
| Non-current Assets | | |
| Debt securities (fixed and floating rates) | 4,022,340 | 2,989,620 |

20. INCOME IN ADVANCE

| | 31 December 2023 | 31 December 2022 |
|-----------------------------------|------------------|------------------|
| | \$ | \$ |
| Current liabilities | | |
| Infrastructure establishment fees | 19,136,148 | 8,812,317 |
| Other deferred income | 1,266,592 | 803,242 |
| Infrastructure service fees | 5,683,663 | 7,666,039 |
| Subscriptions | 1,558,436 | 1,179,446 |
| | 27,644,839 | 18,461,044 |

| | 31 December 2023 | 31 December 2022 |
|-----------------------------------|------------------|------------------|
| | \$ | \$ |
| Non-current liabilities | | |
| Infrastructure establishment fees | 184,460,915 | 103,585,335 |
| Infrastructure projects | - | 778,740 |
| Other deferred income | 426,455 | 482,393 |
| | 184,887,370 | 104,846,468 |

Accounting Policy

The Accounting Policy for Income in Advance is described in note 4.

21. TRADE AND OTHER PAYABLES

| | 31 December 2023 | 31 December 2022 |
|----------------------------|------------------|------------------|
| | \$ | \$ |
| Current liabilities | | |
| Trade payables | 9,063,488 | 10,974,259 |
| Other payables | 1,796,911 | 2,996,958 |
| | 10,860,399 | 13,971,217 |

Trade payables and other payables are expected to be paid within 30 days.

These amounts represent liabilities for goods and services provided to AARNet prior to the end of the financial year which are unpaid. The amounts are unsecured and are usually paid within 30 days of recognition.

Accounting Policy

The fair value of financial liabilities is estimated by discounting the future contractual cash flows at the current market interest rate that is available to AARNet for similar financial instruments.

22. PROVISIONS

| | 31 December 2023 | 31 December 2022 |
|----------------------------|------------------|------------------|
| | \$ | \$ |
| Current liabilities | | |
| Employee benefits | 9,610,391 | 9,283,853 |

| | 31 December 2023 | 31 December 2022 |
|--------------------------------|------------------|------------------|
| | \$ | \$ |
| Non-current liabilities | | |
| Employee benefits | 695,101 | 586,668 |
| Make good on leased premises | 390,647 | 390,647 |
| | 1,085,748 | 977,315 |

Accounting Policy

Wages and salaries and annual leave

Liabilities for wages and salaries, including non-monetary benefits and leave entitlements expected to be settled within 12 months of the reporting date, are recognised in respect of employees' services up to the reporting date and are measured at the amounts expected to be paid when the liabilities are settled.

Make good on leased premises

Provisions for make good costs on leased premises are recognised when AARNet has a present legal or constructive obligation as a result of past events; it is more likely than not that an outflow of resources will be required to settle the obligation; and the amount has been reliably estimated.

23. CONTRIBUTED EQUITY

| | 31 December 2023 Shares | 31 December 2022 Shares | 31 December 2023 \$ | 31 December 2022 \$ |
|----------------------------|----------------------------|----------------------------|------------------------|------------------------|
| Ordinary shares issued | | | | |
| Fully paid ordinary shares | 78 | 78 | 39,039 | 39,039 |

Movements in ordinary share capital

| Date | Details | Number of Shares | \$ |
|------------------|-----------------|------------------|--------|
| 1 January 2022 | Opening balance | 78 | 39,039 |
| 31 December 2022 | Balance | 78 | 39,039 |
| 31 December 2023 | Balance | 78 | 39,039 |

AARNet's shareholders are 38 Australian Universities and the Commonwealth Scientific and Industrial Research Organisation (CSIRO). Each shareholder holds two ordinary shares.

Holders of ordinary shares are entitled to one vote per share on resolutions put before the members. Holders of ordinary shares are not entitled to dividends and have no right to receive any distribution during a winding up.

24. RETAINED EARNINGS AND RESERVE

Retained earnings

Movements in retained earnings were as follows:

| | 31 December 2023 \$ | 31 December 2022 \$ |
|----------------------|---------------------------|---------------------------|
| Balance 1 January | 217,559,295 | 216,925,198 |
| Surplus for the year | 6,300,866 | 634,097 |
| Balance 31 December | 223,860,161 | 217,559,295 |

25. RELATED PARTIES

Key management personnel remuneration

The key management personnel are those who had authority and responsibility for planning, directing and controlling the activities of AARNet, directly or indirectly, during the year. The remuneration for key management personnel including Directors is as follows:

| | 31 December 2023 \$ | 31 December 2022 \$ |
|--|---------------------------|---------------------------|
| Short-term and long-term employee benefits | 4,252,449 | 4,176,547 |
| Post-employment benefits | 484,134 | 464,946 |
| | 4,736,583 | 4,641,493 |

Transactions with related parties

Other Directors represent, act for, or hold offices at certain AARNet shareholders and customers. AARNet provides services to these shareholders on arm's length terms.

There were no further transactions with key management personnel or other related parties during the year.

26. COMMITMENTS AND CONTINGENCIES

(a) Expenditure and capital commitments

| | 31 December 2023 \$ | 31 December 2022 \$ |
|---|---------------------------|---------------------------|
| Within one year | 34,827,772 | 19,858,862 |
| Later than one year but not later than five years | 9,924,658 | 9,528,596 |
| Later than five years | 28,746,098 | 30,823,935 |
| | 73,498,528 | 60,211,393 |

(b) Contingent liabilities

Bank guarantee and credit facilities

AARNet has a \$1,500,000 Bank Guarantee Facility provided by the National Australia Bank. AARNet has drawn on this facility to provide bank guarantees in favour of the landlords for leased premises and a third party contractor. AARNet has an unsecured credit card facility of \$300,000.

AARNet has drawn bank guarantees with total face value of \$1,252,204 as at 31 December 2023 (2022: \$1,057,821).

27. REMUNERATION OF AUDITORS

PricewaterhouseCoopers

Audit and other assurance services

| | 2023 \$ | 2022 \$ |
|---|------------|------------|
| Audit and other assurance services | | |
| Audit and review of financial statements | 460,870 | 351,280 |
| Total remuneration for audit and other assurance services | 460,870 | 351,280 |
| Taxation services | | |
| Taxation services | - | 23,000 |
| Other services | | |
| Advisory services | 95,500 | 25,000 |
| Total remuneration of PricewaterhouseCoopers | 556,370 | 399,280 |

28. GROUP STRUCTURE

The AARNet Pty Ltd group subsidiaries as at 31 December 2023 are set out below

| | Ownership % 2023 | Ownership % 2022 |
|-------------------------------|---------------------|---------------------|
| AARNet Research Cloud Pty Ltd | 100 | - |
| AARNet Services Pty Ltd | 100 | - |

These entities were incorporated in Australia during 2023

29. PARENT ENTITY DISCLOSURES

The individual financial statements for the parent entity, AARNet Pty Ltd, show the following aggregate amounts:

| | 31 December 2023 | 31 December 2022 |
|-------------------------------|---------------------|---------------------|
| | \$ | \$ |
| Total current assets | 114,638,945 | 47,194,389 |
| Total non-current assets | 390,388,894 | 367,052,631 |
| Total assets | 505,027,839 | 414,247,020 |
| Total current liabilities | 51,033,586 | 44,909,159 |
| Total non-current liabilities | 230,129,951 | 151,750,882 |
| Total liabilities | 281,163,537 | 196,660,041 |
| Net assets | 223,864,302 | 217,586,979 |
| Contributed equity | 39,039 | 39,039 |
| Reserves | 4,190 | (11,355) |
| Retained earnings | 223,821,073 | 217,559,295 |
| Total equity | 223,864,302 | 217,586,979 |

| | 31 December 2023 | 31 December 2022 |
|--|---------------------|---------------------|
| | \$ | \$ |
| Surplus for the year | 6,261,778 | 634,097 |
| Total comprehensive surplus for the year | 6,277,323 | 622,742 |

Accounting Policy

Investments in subsidiaries are accounted for at cost.

DIRECTORS' DECLARATION

In the Directors' opinion:

- (a) the consolidated financial statements and notes set out on pages 8 to 30 are in accordance with the Australian Charities and Not-for-profits Commission Act 2012, including:
 - (i) complying with Accounting Standards and other mandatory professional reporting requirements, and
 - (ii) giving a true and fair view of the consolidated entity's financial position as at 31 December 2023 and of its performance for the year ended on that date, and
- (b) there are reasonable grounds to believe that the Company and its controlled entities will be able to pay its debts as and when they become due and payable.

This declaration is made in accordance with a resolution of Directors.

Emeritus Professor DI O'Connor AC Mr Chris Hancock AM
Director Director

Sydney
27th March 2024

Independent auditor's report

Our opinion

In our opinion:

The accompanying financial report of AARNet Pty Ltd (the Company) and its controlled entities (together the Group) is in accordance with Division 60 of the *Australian Charities and Not-for-profits Commission (ACNC) Act 2012*, including:

- (a) giving a true and fair view of the Group's financial position as at 31 December 2023 and of its financial performance for the year then ended
- (b) complying with Australian Accounting Standards - Simplified Disclosures and Division 60 of the *Australian Charities and Not-for-profits Commission Regulations 2022*.

What we have audited

The Group financial report comprises:

- the consolidated balance sheet as at 31 December 2023
- the consolidated profit and loss statement for the year then ended
- the consolidated statement of changes in equity for the year then ended
- the consolidated statement of cash flows for the year then ended
- the notes to the consolidated financial statements, including material accounting policy information and other explanatory information
- the directors' declaration.

Basis for opinion

We conducted our audit in accordance with Australian Auditing Standards. Our responsibilities under those standards are further described in the *Auditor's responsibilities for the audit of the financial report* section of our report.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Independence

We are independent of the Group in accordance with the ethical requirements of the Accounting Professional & Ethical Standards Board's APES 110 *Code of Ethics for Professional Accountants (including Independence Standards)* (the Code) that are relevant to our audit of the financial report in Australia. We have also fulfilled our other ethical responsibilities in accordance with the Code.

Other information

The directors are responsible for the other information. The other information comprises the information included in the annual report for the year ended 31 December 2023, but does not include the financial report and our auditor's report thereon. Prior to the date of this auditor's report, the other information we obtained included the directors report.

Our opinion on the financial report does not cover the other information and accordingly we do not express any form of assurance conclusion thereon through our opinion on the financial report.

In connection with our audit of the financial report, our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the financial report or our knowledge obtained in the audit, or otherwise appears to be materially misstated.

If, based on the work we have performed on the other information that we obtained prior to the date of this auditor's report, we conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report in this regard.

Responsibilities of the directors for the financial report

The directors of the Company are responsible for the preparation of the financial report that gives a true and fair view in accordance with Australian Accounting Standards - Simplified Disclosures and the *Australian Charities and Not-for-profits Commission (ACNC) Act 2012* and for such internal control as the directors determine is necessary to enable the preparation of the financial report that gives a true and fair view and is free from material misstatement, whether due to fraud or error.

Auditor's responsibilities for the audit of the financial report

Our objectives are to obtain reasonable assurance about whether the financial report as a whole is free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with the Australian Auditing Standards will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of the financial report.

A further description of our responsibilities for the audit of the financial report is located at the Auditing and Assurance Standards Board website at: http://www.auasb.gov.au/auditors_responsibilities/ar3.pdf. This description forms part of our auditor's report.



PricewaterhouseCoopers



Brenton Newlands
Partner

Sydney
27 March 2024

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