

PŪRONGO Ā-TAU
REANNZ
ANNUAL
REPORT

Year ended 30 June 2023

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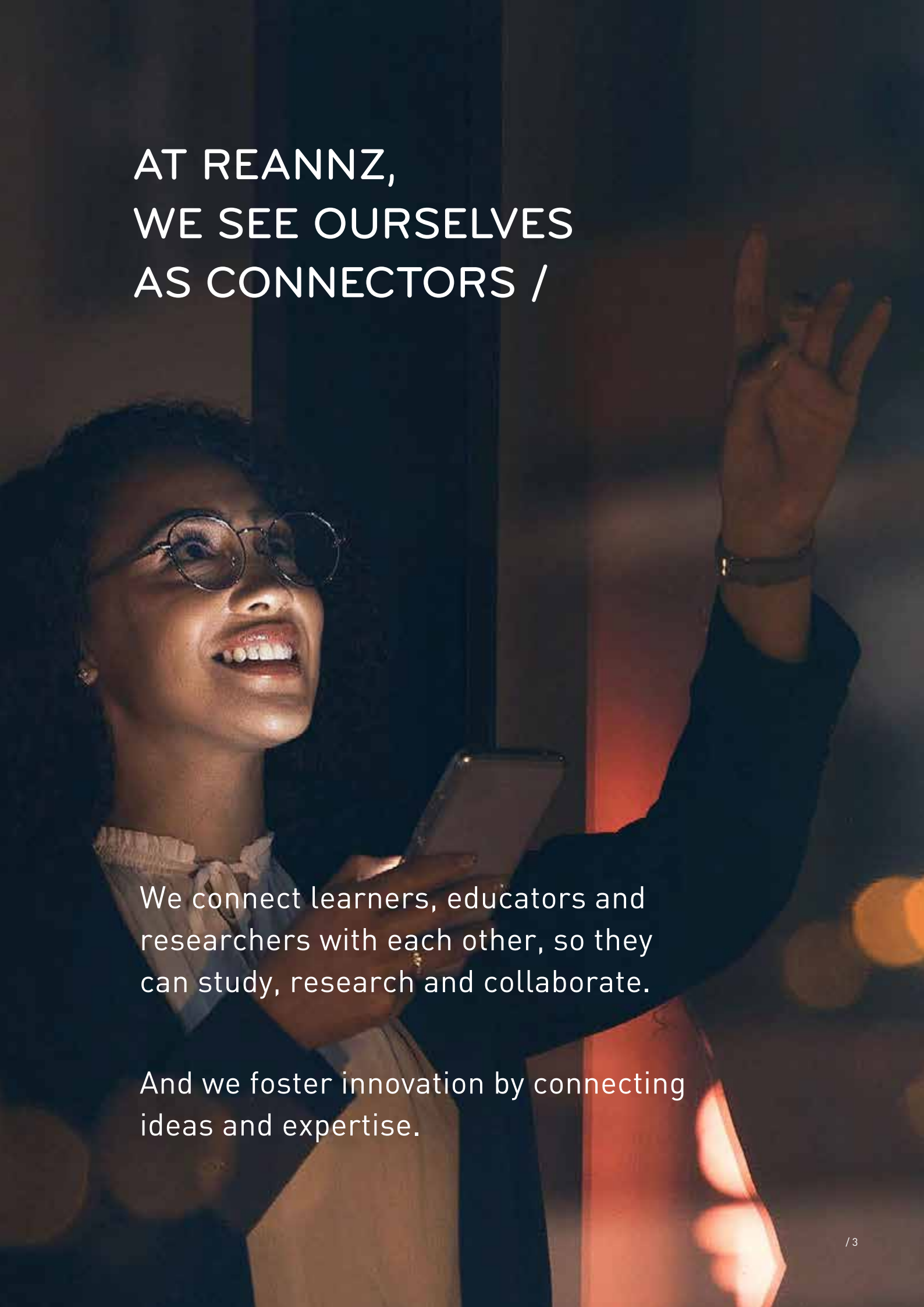
Presented to the House of Representatives under Sections 150–157 of the *Crown Entities Act 2004*.

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AT REANNZ, WE SEE OURSELVES AS CONNECTORS /

A woman with dark hair and round glasses is smiling and looking upwards. She is holding a smartphone in her right hand and has her left hand raised in the air. The background is dark with some bokeh light effects.

We connect learners, educators and researchers with each other, so they can study, research and collaborate.

And we foster innovation by connecting ideas and expertise.

BOARD CHAIR'S FOREWORD /

On behalf of the Board, I am pleased to present REANNZ's annual report for the year 2022/23. The progress reported reflects REANNZ's strategic refocus over the last few years. We did this to ensure we more deeply understand our members' changing needs, and further increase our understanding of the role of REANNZ as New Zealand's National Research and Education Network (NREN), including what this means to New Zealand institutions and their ability to collaborate nationally and globally.

One of the key challenges facing Aotearoa is digital equity and ensuring students and communities have equal access to digital technologies. REANNZ has been working closely with the sector to help identify ways we can help to address these challenges. This has led to contracts with Te Pūkenga and the Ministry of Education to support their goals around student mobility and digital equity. Underpinning this is our programme of work to enable eduroam (our federated wi-fi solution), at sites where students study, research and collaborate, such as libraries and marae.

REANNZ appreciates the engagement from our members and their continual support for REANNZ and the work we do. Feedback has shown that our revised member proposition, which included keeping core membership fees flat without compromising performance, was appreciated by members because we were cognisant of the challenges that the sector is facing. REANNZ was able to achieve this through additional funding, sound financial management and reducing costs through the adoption of new technologies.

This year, we delivered the national connectivity component of our National Network Strategic Review Programme by partnering with One NZ (formerly Vodafone NZ). This partnership is important as we start to adapt to climate change. It gives us access to additional network paths for resiliency and new technologies that minimise network downtime in the event of an outage. This was enabled through MBIE support, with additional funding required for this work.

Our global relationships further deepened this year post covid-19, as management had the opportunity to reconnect with international colleagues at conferences and in various working groups. This is important as we



REANNZ Chair Janine Smith, MNZM

can learn from the decisions that are being made in multiple countries and then apply them, as appropriate, to the New Zealand context.

Gaining knowledge from overseas NRENs has also been important as input into discussions surrounding the formation of the proposed Digital and Data Research Institute. It has given us the opportunity to discuss these trends and how they impact on network and eResearch infrastructure.

My thanks go to my fellow Directors and to the REANNZ team for their commitment and enthusiasm to ensure we deliver the maximum value we can to Aotearoa, New Zealand and the community that we serve.

Over the coming years, we look forward to REANNZ continuing its role as New Zealand's NREN, providing key infrastructure that connects the research and education sector globally, allowing them to study, research and collaborate wherever they are.

**Janine Smith MNZM
Chair**

CHIEF EXECUTIVE'S FOREWORD /

Kia ora tātou,

This year REANNZ has focused on creating impact for our members and Aotearoa and it has been great to see staff engagement increasing as the team have responded to the question of "why" we do what we do. In tandem, member engagement has continued to grow, and I'm pleased that we ended the year with an agreement from our members to renew their contracts for another three-year period.

Creating impact is about delivering maximum value for the sector we serve with the resources we have. We have focused on driving operational efficiencies and managing costs to ensure our resources are where they need to be to create the most impact. This effort meant we were able to keep costs flat for a further three years whilst increasing the core services available to members.

This would not have been possible without the ongoing support from our members and partners. Their collective insights, challenges and feedback have been critical in helping develop our strategy and associated product roadmaps.

To enable us to deliver more effectively, we have focused on building strategic partnerships that allow us to increase the value we offer to the sector. The Ministry of Education, One NZ, DIA, Universities New Zealand, Science New Zealand and NeSI have all been instrumental in our ability to create impact. We worked with the Ministry of Education this year to address the digital equity gap that exists across Aotearoa. This involved us establishing eduroam-enabled sites for secondary students to study, research and collaborate.

In addition, I want to acknowledge the c120 strong National Research and Education Network (NREN) community for sharing their expertise and experiences with us. The ability for REANNZ to learn from this global network allows us to add value by providing solutions that have been proven to deliver value in other markets.

As well as learning from the community, REANNZ contributes when another NREN needs support. We were called on to support the global community when a subsea cable cut meant the Hawai'i research and education community became isolated. REANNZ stepped in and provided an alternative network path to ensure the traffic kept flowing and global collaborations could continue.

The importance of having a good partner ecosystem was bought into sharp relief earlier this year when Cyclone

¹ eduroam provides simple, easy secure connectivity over existing wifi networks and allows students single sign-in to connect seamlessly across multiple locations.



Amber McEwen, Chief Executive Officer

Gabrielle devastated communities across the Upper North Island. Like all telecommunications providers, our network experienced multiple outages throughout this event but, due to the design of our network and the work of our partners, only two members lost connectivity.

As well as partnering for impact, we have partnered to increase the resiliency of the services we provide. The partnership with One NZ has improved the resiliency of our network by making additional network paths available, as well as delivering technology that reduces downtime in the event of a network outage.

Today, when we think about resiliency, we include the ability to mitigate and respond to a cyber-attack. Over the past year, REANNZ has evolved its capability to help our members mitigate the impact of such an attack. Over the next year, we will continue to strengthen our cyber capability by accessing research and education specific threat intelligence and increasing our security support and services for members. This approach is informed by activity happening across the NREN community as we continue to work together to come up with global solutions to common problems.

We remain committed to REANNZ being a member-focused organisation that seeks to deliver impact for the sectors we serve. We will continue to be an active member of the global NREN community to ensure Aotearoa, New Zealand remains connected globally, and our members have the tools they need to study, research and collaborate.

Ngā manaakitanga

**Amber McEwen
Chief Executive Officer**

ABOUT REANNZ /

REANNZ operates a specialist high-performance digital network that's engineered to meet the unique performance demands of Aotearoa's research and education sector.

Our high-performance digital network connects researchers and educators to each other within Aotearoa and across the globe – helping them collaborate, innovate, access and share their research initiatives.

We're a Crown-owned membership organisation and our members include libraries, Crown research institutes, wananga, universities, Te Pūkenga and institutes of technology.

VISION /

Our vision is helping to create a globally connected and thriving research and education sector.

MISSION /

Our mission is to connect researchers and educators so they can change the world.

OUR PURPOSE /

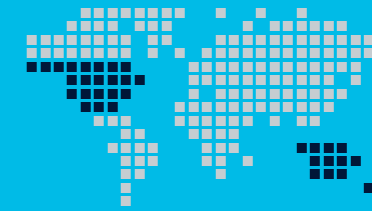
CONNECTING RESEARCHERS. EVERYWHERE.

We provide New Zealand's National Research and Education Network (NREN). Our network gives our members the technology and infrastructure to collaborate with and contribute to global science initiatives and ground-breaking studies. New Zealand's NREN connects to over 120 other NRENs around the world, creating regional partnerships and international communities that promote collaboration.

2023 BY THE NUMBERS /



100 Gbps
National bandwidth available



100 Gbps
International network capacity to Australia and the United States



118,000+ devices
connected via eduroam



0.011% packet delay variation



0.00002311% packet loss



166.51 Petabytes
total traffic flow



100% availability
on the international network



99.999% availability
on the national network

Case study #1

BRIDGING THE DIGITAL DIVIDE

Digital equity was a focus for REANNZ this year as we worked with the Ministry of Education to enable students to study, research and collaborate across multiple locations when home is not an option.

This proposition gives students across the motu access to eduroam, a federated wifi solution that enables students to roam across multiple locations seamlessly, reducing a barrier to connectivity.

We partnered with libraries connectivity group APNK to pilot eduroam at 15 public libraries and one secondary school this year.

After a successful trial at Ara Institute in Canterbury, Te Pūkenga is rolling out eduroam across all their campuses to support their student mobility strategy by ensuring a consistent digital experience for ākonga and staff nationwide.

REANNZ's partnership with the Ministry of Education also saw a successful eduroam proof-of-concept undertaken in Logan Park High School in Dunedin. The success of this means that we will now make eduroam available to all secondary school children across Aotearoa in the coming year.

And as the financial year drew to a close, REANNZ was poised to begin an eduroam pilot at a marae in Whakatāne, exploring how improved connectivity in the community might be expanded to include more locations where Māori researchers and educators spend time and feel connected to others.

The ultimate goal for this programme is for all cities and towns in Aotearoa to have venues such as marae, museums and transport hubs enabled with eduroam allowing students to study, research and collaborate wherever they are.

eduroam has been a quiet gamechanger for higher education facilities – helping them connect and contribute to ground-breaking studies. It's currently being accessed on over 90,000 devices across the country – and that number is set to go up significantly when Te Pūkenga students and staff join the network.

– Amber McEwen
REANNZ CEO



THE NETWORK /

REANNZ is a unique Crown-owned organisation created to serve the research and education sector with centralised infrastructure. Our main offering is a National Research and Education Network (NREN). Over 120 countries across the world have set up NRENs to support their research and education sectors and our network links seamlessly with their networks.

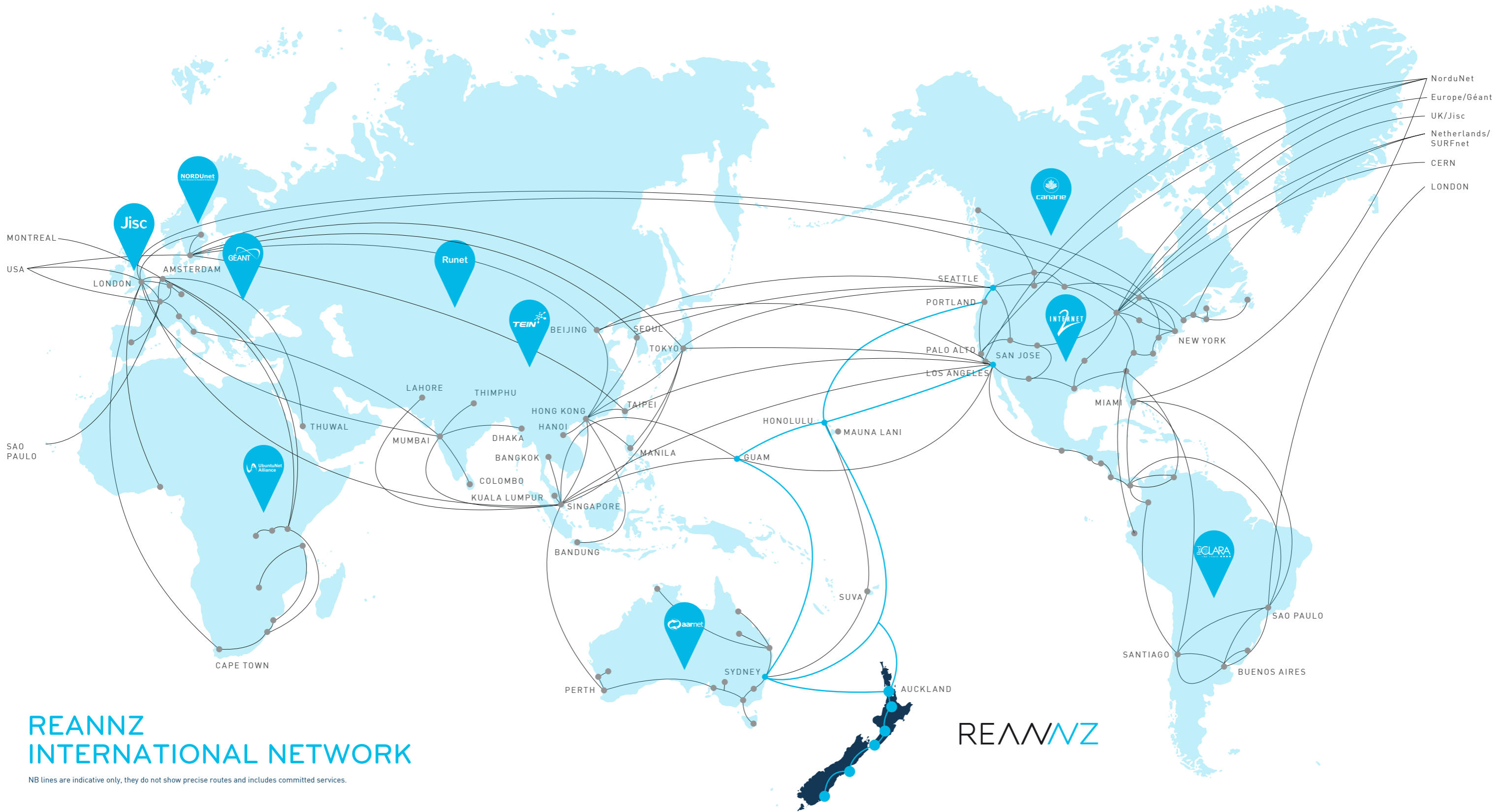
In a nutshell, NRENs are specialised internet providers that help researchers and educators share data as they collaborate on studies and initiatives. These NRENs connect to each other across local networks and subsea cable systems. Take a look at the network maps on the following pages to see how our network links with the global network of NRENs, creating a large-scale advanced research network that millions of researchers, educators and learners can access.

The network REANNZ operates is the backbone of New Zealand's research and education sector. It is a high availability, low latency network designed to move and share data around the country, and across the world, at a scale that isn't consistently possible using a standard network.

The network connects into high-performance computing tools like the supercomputer at National eScience Infrastructure (NeSI) and provides access to specialist scientific instruments, like the Australian Synchrotron, and on-site storage arrays. Alongside our specialist network, REANNZ also supports the sector with the products, tools and services they need to collaborate, educate and deliver excellent research.



GLOBAL RESEARCH AND EDUCATION COMMUNITY /



REANNZ
INTERNATIONAL NETWORK

NB lines are indicative only, they do not show precise routes and includes committed services.

REANNZ

Case study #2

OCEANS APART BUT CLOSELY CONNECTED

Deep at the bottom of our oceans, hundreds of sub-sea fibre-optic cables criss-cross the globe, acting as superhighways for the internet, transferring data packets between continents and nations at close to the speed of light.

These cables, though narrow enough to grasp in your hand, are reinforced with many protective layers to resist all sorts of damage they might be exposed to on the seabed. Sometimes, however, they get broken. Wayward ship anchors, trawler gear and natural disasters such as volcanic eruptions are among the causes.

So when the cable linking Hawai'i and Guam suffered multiple breakages in May 2023, one victim of the outage was the high performance global NREN network, which connects researchers and educators across the globe.

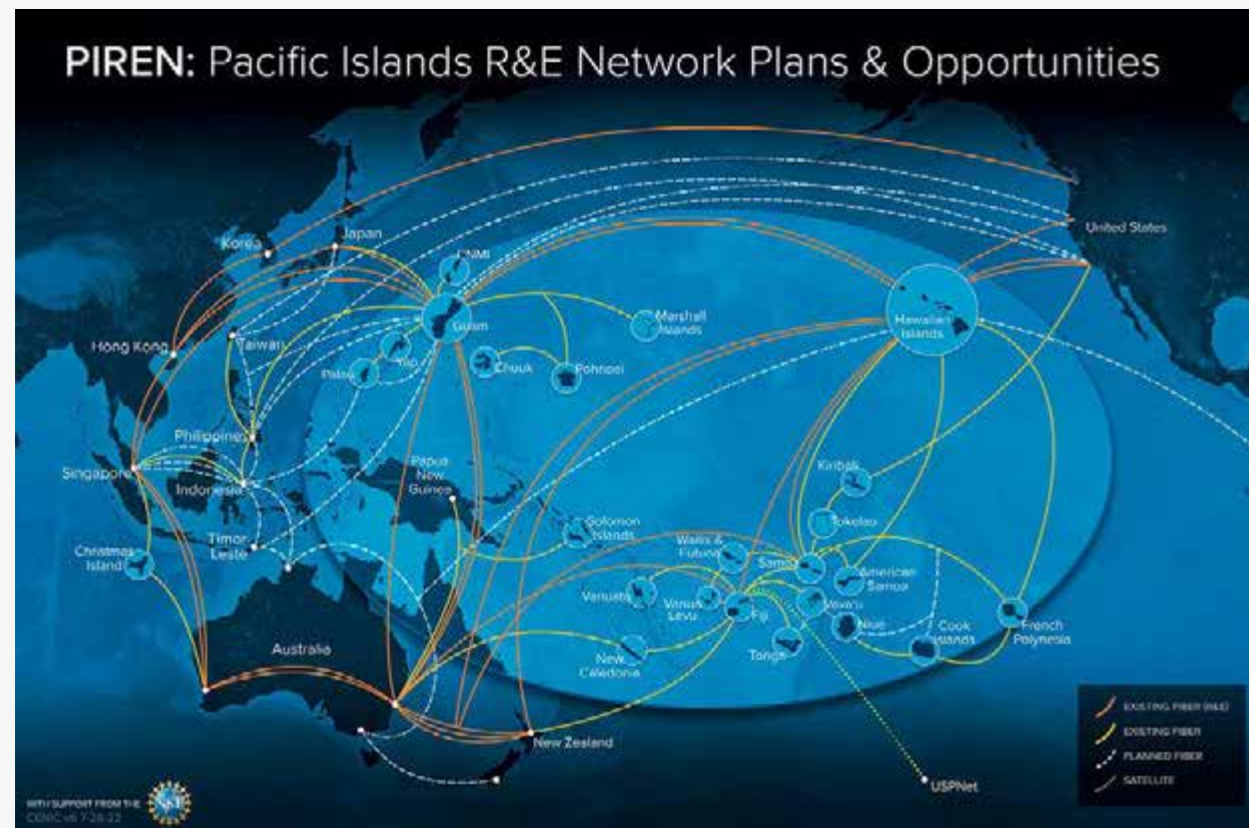
The University of Hawai'i is a key partner for REANNZ and other members of the network, providing primary connectivity between Hawai'i and Guam, space to house equipment, and a back-up path to reach other research and education institutes via the mainland.

With sub-sea cables often taking months to repair, our people at REANNZ immediately swung into action and worked with our Asia Pacific partners to establish a back-up network path, rapidly bringing the Hawai'i and Guam NREN connection back online.

Dan Twohill, REANNZ's Team Leader of Network Services, says: "This was a great example of international NRENs leaning in on each other to resolve issues and strengthen the overall resiliency of the global NREN network."

"We were delighted to be able to help the University of Hawai'i, whose people are often in the position of assisting us and other NREN members."

The swift action by REANNZ and its partners enabled institutions as diverse as the Universities of Hawai'i and Guam, Guam Community College and the National Astronomical Observatory of Japan to have connectivity restored and research traffic flowing between them again.



OUR ROLE FOR THE SECTOR /

REANNZ's network and critical infrastructure creates the digital backbone of connectivity and security for Aotearoa's research and education sector. With such a rapidly changing landscape for e-research, we're conscious we have to be finely attuned to the changing needs of our members.

That's why, over the past year, we've sought to deepen our understanding of what the sector needs from us, and from technology, so that we can tailor our products and services for the future.

We commissioned research to build on the work we'd already undertaken in 2022 around the Future of Research.

The findings from the recent research were enlightening. We learned that there was good general awareness of REANNZ amongst the research community, and a positive view on our work, but that there was also room for us to grow.

What we heard

- › Being part of REANNZ is "like having a Spark or Two Degrees for the science community"
- › Cyclone Gabrielle and REANNZ's response and speed of recovery was viewed very positively, with one interviewee describing it as "spectacular"
- › One of our members said REANNZ "hid its light under a bushel" and would benefit from being more visible to researchers.

We also heard that some of our members would like us to play more of an active role in supporting researchers to face future challenges. These challenges included:

- › A greater focus on remote and cloud-based computing, storage and data services
- › An increasing demand for seamless access to the network and for remote wireless access in the field
- › A growing trend to collaborate internationally and outside of traditional academic settings
- › Issues around data governance and security.

Over the next year REANNZ will be looking at how it can grow its support and influence for the benefit of the sector.

Case study #3

SAVVY AND STRONG PARTNERSHIPS TACKLE CYCLONE NETWORK DAMAGE

When Cyclone Gabrielle devastated parts of the upper North Island in February 2023, REANNZ faced a massive challenge to keep the network available to researchers and educators in the affected areas.

Fibre cuts caused the loss of the network in Napier, Rotorua and Taupō, affecting all the users in that region but also taking out the eastern ladder of the core network. Our key focus was to get the network back up and running as soon as possible, so users could get back to work when immediate problems such as loss of power and water were overcome.

Our people's tenacity, ingenuity and excellent relationship skills really come to the fore in situations such as these. To mitigate against the possible loss of the Western path of the network which would impact the wider national network, we negotiated with our business partner Feenix to stand up a backup network path from Christchurch to Auckland.

Our team of engineers are available 24 hours a day for emergencies. They used their technical expertise and worked intensively with our colleagues in the telcos to devise workarounds to get parts of the network restored as quickly as possible, all while managing a covid outbreak back at the office and rolling out the new optical network with One NZ.

The fieldwork involved a lot of courage from the telco engineers, travelling by car in sometimes hazardous conditions, to identify cable breaks and put in place temporary solutions – while other emergency workers around them were also busy restoring water and power, rescuing people trapped in their homes and starting to clear landslips and roads.

Meanwhile, a scheduled network rollout in Tauranga, due to be in place two months after the cyclone hit, was expedited. Our team negotiated with incoming provider One NZ to implement the new connection more quickly, rapidly restoring the eastern path network to reduce the jeopardy on the whole network.

The Tauranga work was part of a larger network refresh with One NZ – and the full work programme was able to be completed on time in April 2023. This involved close collaboration by our people at REANNZ and our partners at One NZ.

Good communication was the final lynchpin of the successful REANNZ response. Members and users were updated regularly as our people and our business partners battled to restore the network.

This tireless customer focus is summed up well by Yeshaswini Ramesh, Head of Network Operations, at REANNZ:

“We do this for our members. We want to do everything we can to make sure they are not impacted by network outages including those caused by huge weather events like Cyclone Gabrielle. We will always do as much as possible to keep the network up and running.”

Yeshaswini added: “We owe our thanks to the telco community who went above and beyond to help restore network access for our users. It's at times like these that the strength of these relationships really matters.”



GOVERNANCE /

Our Board

REANNZ's Board of Directors are appointed by the shareholding Ministers following agreement by Cabinet. REANNZ currently has seven appointed directors. The Board appoints the Chief Executive, who is responsible for the day-to-day operations of REANNZ.



Janine Smith MNZM, Chair

Janine was appointed a Director and Chair of REANNZ in November 2018. She has over 20 years' experience as a non-executive director with experience in public listed, private and Crown-owned companies. Janine has held her most recent role as Chair ofASURE Quality for the last nine years. Janine also trains and advises boards in governance through her role as Executive Director of The Boardroom Practice Ltd. She is a member of the AUT University Council, an independent member of Fonterra's Governance Development Committee, President of London Business School's Auckland chapter and a director of several private companies. Janine was awarded a Member of the New Zealand Order of Merit in 2015 for services to corporate governance. Her appointment as Chair of the REANNZ board is until 30 June 2024.



Ross Peat, Deputy Chair

Ross is executive director and co-owner of digital health companies HealthSoft Ltd and HealthSoft Australia Ltd, and is Chair of AUT Ventures Ltd. He is a member of Limited Partner Advisory Committee for the Icehouse Ventures Seed III fund (angel and early-stage investment), a director of e-waste recycler Mint Innovation, and a director of the Digital Health Association (DHA) industry body. Ross' appointment to the REANNZ board has been extended until 31 December 2023.



Liz Gosling, People and Culture Committee Chair

Liz is the Chief Information Officer at Auckland University of Technology (AUT). She brings three decades of experience in the IT sector in New Zealand, the US, UK and Europe. She was a Director and faculty member of the Council of Australasian University Directors of Information Technology (CAUDIT) Leadership Institute in Australia, and the New Zealand invited representative on the CAUDIT Executive. Liz has chaired the Universities NZ Information and Communications Technology Committee and is a previous Chair of TUANZ. Liz has an MBA (HR Management) and is appointed until 30 June 2025.



Sara Brownlie, Finance, Risk & Audit Committee Chair

Sara is the Managing Director of Fargher Woods Ltd providing Programme Management services, an Independent Director for Catalyst.net Ltd and Independent Member of the Risk and Assurance Committee for Upper Hutt City Council. She is a Fellow Member of CPA Australia and a Chartered Member of the Institute of Directors in New Zealand and the Chartered Accountants Australia and New Zealand. Sara has had an extensive career working in senior management roles in the public sector. Sara was reappointed to the Board on 28 June 2023, for a further three-year term.



Dr Warren Williams

Warren has been in the ICT business and tertiary education industry for over 25 years. He is currently the CEO of 20/20 Trust which provides access and connection to digital skills and resources that empower and enable people to realise their aspirations. Warren's governance and leadership experience includes national and regional boards, working with Māori and entrepreneurship groups, tertiary ICT advisory groups, and technology and innovation groups. He is passionate about strategic Māori leadership and succession planning in decision-making forums, especially with rangatahi Māori and wāhine Māori. Warren is appointed until 15 November 2024.



Professor Jim Metson

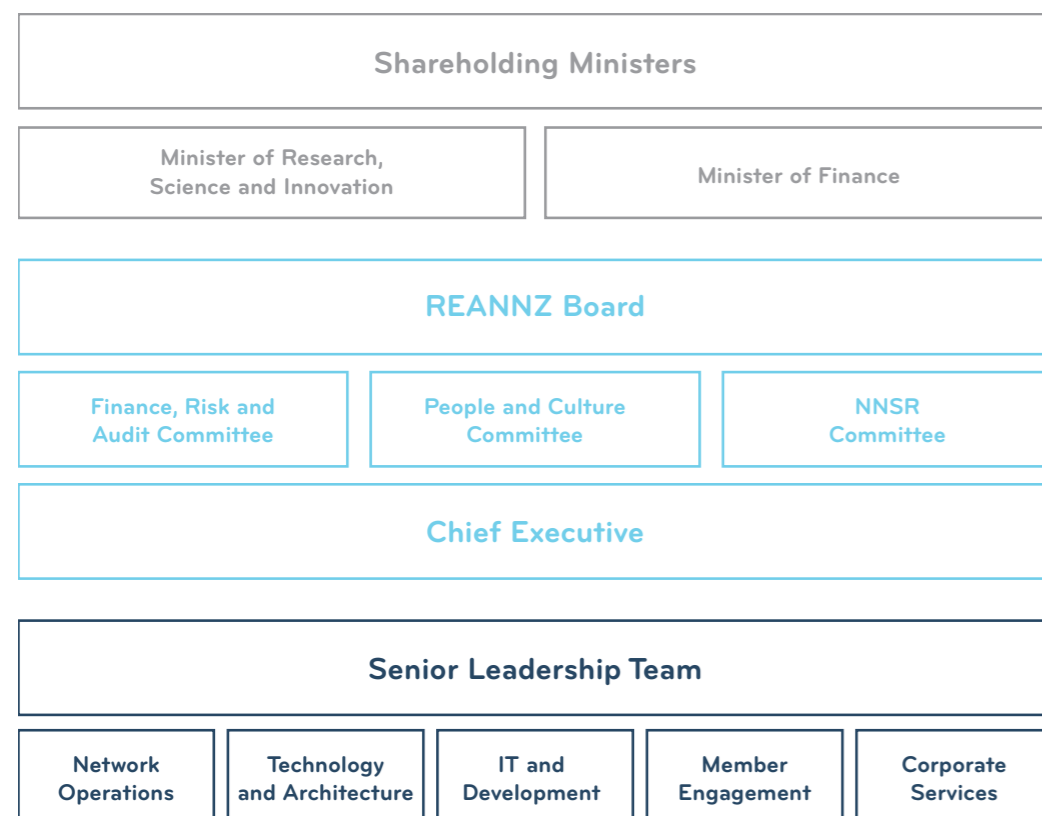
Jim is the Strategic Advisor Newmarket Campus at the University of Auckland. He is a materials scientist, was a founding member of the MacDiarmid Institute for Materials Science and Nanotechnology, a co-founder of the University of Auckland Research Centre for Surface and Materials Science, and the Light Metals Research Centre. Jim chaired the MoRST Research Infrastructure Advisory Group and represented the New Zealand Government on the Australian National Science Advisor Committee that oversaw the development of the Australian Synchrotron. He served as Chief Science Advisor to MBIE from 2013-2016. Jim is appointed until 30 June 2025.



Johnathan Eele

Johnathan has more than 20 years of experience in the technology, telecommunications and energy industries in the UK, Ireland, USA, Australia and New Zealand. Johnathan is currently the CEO of Enable Fibre Broadband and is based in Ōtautahi/Christchurch. Johnathan has extensive experience spanning various sectors, including wholesale, enterprise, government, and consumer. He also has significant regulatory affairs experience. He is a Chartered Member of the Institute of Directors in New Zealand (CMIInstD) and is the current Chair of the Board of Trustees of Melanoma New Zealand. Johnathan was appointed to the Board on 30 November 2022 for a three-year term.

Governance and Management Structure



OUR PEOPLE /

Our people come from all walks of life – combining their technical expertise with a whole-hearted focus on members and their needs. They're united around a single purpose – to make a positive impact on New Zealand through research and education.

Specialist network operators

We manage an advanced network, providing seamless, real-time transfer of critical research data. We are part of an international federation of network operators dedicated to the research and education sector.

Global connectors

As a partner in the global research and education network, we connect New Zealand to the global research community, providing access and identity services so members can connect and collaborate wherever they are.

Technical experts for the research and education sector

We provide a range of products and services to support the specialist needs of our members in the research and education community, helping them move data and enabling collaboration.

Our Mindset

Our people are curious and open to trying new things. They work hard to create solutions that can support the wider community. Regardless of our individual roles in REANNZ, we act as one. Together, we want to create a place where everyone can collaborate and make a difference.

Our core competencies support us to achieve our aspirations for our organisation, our members and the sector:

- > **Lead by example** – being accountable for our actions
- > **Act as one team** – working as one team in partnership with our members and stakeholders
- > **Open to all** – creating a diverse workplace where everyone feels welcome
- > **Be purposeful** – creating impact by doing what we say we will
- > **Be curious** – seeking new and exciting ways to deliver for our community
- > **Aspire to excellence** – aiming high, to be excellent in all that we do.

Our Teams

REANNZ teams support functions across the technical, corporate and engagement operations to meet the needs of our members and stakeholders:

- > The **systems and development team** are operationally responsible for desktop, server and Cloud software and infrastructure as well as several products including eduroam – our WiFi roaming service – and Tuakiri, which provides trusted and secure federated identity and access management. They oversee the software engineering activity within REANNZ, working closely with the network team in developing solutions that support members.
- > The **technology and architecture team** develop solutions that resolve technical issues and support members' network infrastructure and service needs to facilitate the secure, uninterrupted transfer of research data.
- > The **network operations team** monitor and design the network, working in partnership with members' technology teams to support an end-to-end view of the connectivity solutions in place. REANNZ network engineers are on call and available 24/7 for our members.
- > The **engagement team** works closely with our members' technology teams and researchers to support their use of the network. The team facilitates collaboration and connection between our members and the wider community. Communications and marketing staff work alongside each function to coordinate communications activities and materials. They also participate in community and stakeholder engagement to surface and share examples of sector collaborations and research outcomes that have been enabled by access to the network.
- > The **corporate services team** enables the organisation through the provision of strategic and operational advice and support across REANNZ. It includes our technical corporate functions.

Case study #4

NETWORK INNOVATIONS FOR OUTAGES CAUSED BY DISASTERS

One of REANNZ's top priorities is ongoing enhancements to the national network – enabling our researchers and educators to access the infrastructure and connectivity they need to advance their work.

This initiative – which comes under the banner of the National Network Strategic Review – took a significant step forward this year, with the signing of an agreement with One NZ to deliver a new 100G national optical backbone network, after a robust tendering and selection process with key telco providers.

Aaron Murrhly, REANNZ's Technical Lead for Networks, explains that key considerations in selecting a vendor were the ability to scale up bandwidth into the future to facilitate member growth, and improving the availability of the network by offering more diversity and resiliency.

Aaron notes: "Under the new partnership REANNZ, its members and users will benefit from advanced features introduced in One NZ's new Ciena Wave Logic 5 optical network (which maximises the capacity of the network by merging the channel bandwidth); and flex-grid's 'self-healing' properties which reduce the impact of network outages when cables are damaged in natural disasters and other events. Put simply, the optical restoration technology allows the light signals that carry the data to change their path after a fibre cut, restoring services much more quickly than manual repairs."

This initiative will ensure that REANNZ and the network remain well equipped to support the next generation of researchers, innovators and educators – helping them connect and collaborate with the national and international community, build capability and solve data transfer challenges.



PRIORITIES & MAJOR INITIATIVES 2022-23 /

This financial year REANNZ invested in three significant projects to improve its performance and deliver on its long-term strategic objectives:

- > Implementation of Stage 1 of the National Network Strategic Review
- > Building a product and services roadmap with members
- > Supporting Ministry of Education digital equity initiatives

National Network Strategic Review

In 2021, we undertook a strategic review of the national network to ensure that we could continue to meet our members networking and connectivity requirements. The National Network Strategic Review is a programme of work that will run to mid-2024.

It has two distinct phases, designed to futureproof the network for the next 5-7 years:

- › **National connectivity** – identify a partner, or partners, to connect between REANNZ Points of Presence, with a focus on flexibility and ability to scale, particularly in the regions
- › **Hardware** – identify a partner or partners for core hardware requirements, with greater transparency around service levels and focus on environmental impact (reducing our energy needs and footprint).

This year we delivered the national connectivity component of our National Network Strategic Review Programme, working with our new partner, One NZ (formerly Vodafone NZ). This enabled us to:

- › Access our physical fibre paths to identify risks of single points of failure and work with One NZ to develop a mitigation strategy
- › Successfully undertake our optical circuit migration across the entire national network.

In FY23/24, we will be focused on delivering Phase 2 of the project. This will involve an RFP to identify a partner (or partners) to supply core hardware requirements, with a focus on reducing our energy footprint while delivering greater port density and speed at lower cost.

Build product and services roadmap with members

REANNZ has long played a leadership role in advancing critical research and technology in support of research and education efforts, including the provision of products and services that enable continued and effective collaboration towards common outcomes. This year, we developed our product roadmap, providing a shared source of truth that outlines the vision, direction, priorities and progress of the product development programmes and projects over the next 12 to 18 months.

The product roadmap and themes have been driven by a number of guiding principles including:

- › A clear understanding of our existing product and services in terms of accessibility, usability and maturity lifecycle

- › Prioritisation of product development based on the voice of members and use cases driven by feasibility, desirability and viability
- › Consideration given to product delivery in terms of ownership, co-design and strategic alignment options
- › Apply fail-fast thinking (test concepts/design) to allow us to 'pivot' to a better solution and member outcome
- › Improved measurement and transparency by creating a clear plan of action and appropriate metrics
- › Recognition that the roadmap is a living document and subject to iteration based on stakeholder feedback and changes in prioritisation.

We also wanted to treat the roadmap as a living document that can be refined, based on stakeholder feedback and strategic prioritisation.

We will be engaging with our members and partners in early FY23/24 to incorporate their insights and get their input for any new products we might roll out.

Support Ministry of Education digital equity initiatives

Digital equity is a major concern in New Zealand. It is estimated that one in five New Zealanders may be experiencing digital exclusion in some way. We have been working in partnership with the Ministry of Education to assist them give students access to digital technologies through eduroam.

eduroam is a wifi service developed for the education and research community and operates in more than 100 countries worldwide. It enables users to securely access the internet at any institution connected to eduroam, which includes universities, colleges, libraries, galleries and government agencies. The ability to use a device and immediately get wifi access from any eduroam hotspots transforms the learning experience, particularly when home may not be an option.

We are looking to build on our eduroam presence across the motu and have partnered with the Aotearoa People's Network Kaharoa (APNK) to pilot eduroam. Working with the Ministry, we have also deployed eduroam at a secondary school in Otago-Southland this year. Over the coming year, we will make eduroam available to all secondary school children across Aotearoa and work with partners such as marae, museums, and transport hubs to establish more sites for students to study, research and collaborate.

OUR PRODUCTS & SERVICES /

REANNZ provides a range of products and services that meet the specialist needs of our members in the research, science, innovation and education sectors.

These services focus on three key areas:

- › **Network and connectivity**
- › **Federated identity and access management**
- › **Network protection services**

Network and Connectivity

The REANNZ network has been engineered with low latency, low contention and sufficient headroom capacity to support bursts of intense use, which means there's no congestion.

Our national network spans the country and covers all major centres. The reach of our network also extends to rural, regional and remote locations to support members wherever they operate.

Our international network provides links to the research and education communities across the world – including Europe, North America, Latin America, the Caribbean, Africa, Middle East, Central Asia and Asia-Pacific.

We offer high-performing solutions for connecting member sites, facilities and data centres across the motu. Our high performing connection options include:



Managed Access and Edge (MAE) Solutions

MAE devices connect a member's local network with the REANNZ network, enabling data transfers both nationally and internationally. REANNZ's managed-edge devices are engineered and configured for high performance to meet the specialist needs of the research community when transferring large volumes of data. REANNZ offers a variation to MAE through the MAE Lite (UFB Bitstream service) and MAE Flex solutions (UFB style connectivity service, flexible options like wireless, 4G, 5G, and satellite) that are designed for smaller or more remote locations where a direct fibre connection is not available.



Science DMZ

Science DMZ is designed for high-performance scientific applications and provides a lightweight and high-performing on-ramp to the REANNZ international research and education network. It creates a dedicated path to get data from source to anywhere in the world, without slowing down and while retaining the integrity of the data.



Data Centre Connect (DC Connect)

DC Connect is a service provided from selected data centres located around Aotearoa. It provides members with high bandwidth, cost-effective connectivity into the REANNZ network.



Cloud Connect

REANNZ Cloud Connect enables members to use their existing high-performance network connection to connect directly to the Cloud service provider of their choice and leverage private access which does not go over the internet. This results in greater stability and predictability of the connection without needing to expose information to the internet.



eduVPN

eduVPN is an easy-to-deploy VPN solution designed for and by the research and education community. It acts as a private network, sending and receiving data as if a user's device was directly connected. Users benefit from quicker functionality and additional security, from a service that is simple to deploy.



eduroam (Education Roaming)

eduroam is a secure, global roaming access service developed for the international research and education community. It provides researchers, educators and students simple, easy and secure connectivity from 25,000+ locations (including public hotspots, libraries, galleries and airports) across more than 100 countries.

Federated Identity and Access Management Solutions

Our members use REANNZ's trusted and secure federated identity and access management services to strengthen security, manage their users' digital identities and ensure all users have access to specific data and resources they need to perform their role.

Our identity and access management services include:



Tuakiri

Tuakiri allows end-user (students, academics, researchers) to seamlessly consume services, access resources, and collaborate within New Zealand while using their home institution's identity. This means that the end-user does not require a unique identity with every remote organisation they are working with.



eduGAIN

eduGAIN provides over 30 million students, researchers and educators access to a network of around 300 identity providers and 2600 service providers worldwide. REANNZ users have access to these shared resources on an international scale, including licensed software and journals, research collaborations, databases, and scientific instruments – all enabled through single-sign on access using their home institution's identity.

Network Protection Services

As the provider of a network that connects New Zealand's researchers, educators and students to the rest of the world, it is critical that we ensure that our network and the traffic on our network is secure. This reflects the growing number of malware and data breaches across the world.

Our network protection services include:

Denial-of-Service (DDoS) Protection

Denial-of-Service (DDoS) attacks are increasing in scale, sophistication and frequency. Our foundation level DDoS Protection solution helps our members to manage DDoS attacks and the risk of business disruption. This solution efficiently detects, filters and mitigates volumetric attacks well before they reach our members' network, thereby reducing the potential for disruption, financial loss and reputational damage.

Mutually Agreed Norms for Routing Security (MANRS)

Network security depends on a routing infrastructure that weeds out bad actors and accidental misconfigurations that wreak havoc on the internet. MANRS is a community-driven initiative, supported by the Internet Society, that provides for best practice routing security and crucial fixes to reduce the most common routing threats. REANNZ was the first network operator in New Zealand to join MANRS in 2020.

Case study #5

PROTECTING OUR INTERNET SECURITY

With growing numbers of cybersecurity breaches affecting government agencies, commercial and educational institutions in New Zealand and overseas, it has never been more important for REANNZ to help its members to protect themselves from common routing threats.

Deliberate or accidental attacks on IT systems can result in a 'Distributed Denial of Service (DDoS) – causing outages to online services, internet sites and systems, compromising information security, and threatening the reputations of affected organisations.

And while REANNZ has been working intensely on developing strategies to improve internet security and prevent DDoS for more than a decade, its more recent collaboration with the global internet security initiative MANRS (Mutually Agreed Norms for Routing Security) has lifted the game.

MANRS provides best practice guidelines for strengthening network security by making sure the information placed into the internet's official 'address book' is accurate. This ensures data is exchanged between the right people.

REANNZ has strengthened its protocols in line with MANRS guidelines. This helps its members to prevent accidental or deliberate security breaches and disruption to internet services.

The special security requirements of our NREN

REANNZ has the unique position of powering Aotearoa's research and education network through its high-performance advanced network, helping members collaborate and contribute to data-intensive and complex research here and across the globe.

We work closely with the other NREN providers across the globe, and our own members here in Aotearoa, to design and maintain a network while protecting it from routing threats.

We were also the first network operator in Aotearoa to be accepted as a participant of the MANRS initiative.

Aaron Murrphy, Technical Lead for Networks at REANNZ, says: "Security best practice is at the forefront of what we do at REANNZ, through our protocols and systems and the partnerships we form. MANRS' pragmatic and straightforward framework for implementing best practice routing security reflects and expands on our own efforts.

"Alone we're only able to accomplish so much, but as participation of collaborative routing security initiatives such as MANRS increases, so does the security and reliability of the internet as a whole."

All of this means that our researchers and educators can confidently focus on what they do best – collaborating and contributing to ground-breaking studies and global science initiatives that help to change the world.



END OF YEAR REPORTING /



GOOD EMPLOYER STATEMENT /

At REANNZ, we are committed to the principles of being a 'good employer'. For us, this means treating people with dignity and respect. Policies are in place to guide REANNZ in what it means to be a good employer and to ensure we provide equal employment opportunities and support our people. REANNZ values the uniqueness of everyone, and their contribution to the organisational culture. REANNZ is responsive to a diverse range of viewpoints and cultures within the workplace, helping to develop a more representative workforce that can respond to our increasingly diverse society.

We meet our obligations under Te Tiriti o Waitangi. To do this, we are working to ensure that we follow the principles of rangatiratanga (self-determination), equity, active protection, options and partnership.

Capability

As a small organisation, REANNZ is critically dependent on its people. The highly specialised nature of REANNZ's work means that they are highly valued.

REANNZ promotes and supports a flexible working environment that encourages our team to maintain a positive work-life balance. This includes both formal and informal flexible working hours as well as the option to split time between remote working and our office spaces. The nature of our work provides exciting, leading-edge global opportunities for personal and professional development.

Leadership, accountability and culture

REANNZ has a small and dynamic team, with fewer than 30 employees. The culture is built upon a platinum rule: 'Treat others as they would like to be treated'. We encourage all members of the team to lead by example, supporting others to behave in a way that is consistent with our culture and the values of being fair, open and respectful, being good partners to our members and wider community, and exercising responsible stewardship of the assets, people and skills within REANNZ.

Recruitment, selection and induction

REANNZ recruits new employees through a number of channels, some through recruitment agencies and others through industry networks and recommendations. We ensure that recruitment decisions are made based on the basis of merit, irrespective of a person's sex, gender identity, marital status, religious belief, ethical belief, colour, race, ethnic or national origins, disability, age, political opinion, employment status, family status or sexual orientation. We do not hire on the basis they are 'like us' and seek to address conscious and unconscious bias in recruitment. REANNZ provides a safe, accessible and positive work environment to ensure that all employees, including those with disabilities, can do their work effectively and efficiently. An assessment of the working conditions for all new employees with disabilities is carried out as part of the induction process. Disabled employees requiring specialised technical equipment to perform their job will be provided, subject to equipment requirements being reasonable and to the availability of suitable funding. Emergency procedures and building facilities for all employees, including people with disabilities, are made known to employees at induction.

Employee development, promotion

Being a small and diverse organisation, there is opportunity for continual development and experience across multiple disciplines. External training and development are encouraged and specific budget is set aside for courses and conferences to ensure employees keep growing their skills and capability in their field.

Remuneration, recognition and conditions

We offer equal opportunities for career development, based on performance, potential, skills and knowledge, and leadership prospects. We also commit to support initiatives which support diversity, including equal employment opportunities, recognition of the employment requirements of women, flexibility, and cultural sensitivity and celebration. There is a commitment to attracting, retaining and motivating high-performing people. REANNZ continues to provide an environment that identifies, encourages and rewards excellence, innovation and high-quality services by using a remuneration structure that is competitive and fair.

Harassment and bullying prevention

REANNZ's work environment is free from unlawful discrimination, harassment and workplace bullying, and we have a zero-tolerance standpoint. An employee assistance programme is available to all employees to enable them to get confidential support. Open communication between employees and the leadership team is supported and encouraged.

Safe and healthy environment

Health and safety are taken seriously at REANNZ. Policies and procedures are in place to minimise risks, particularly when handling network equipment or when visiting our Point of Presence (PoP) locations. Employee wellbeing is a high priority and REANNZ supports the processes, work environment and culture that enables the team to be successful, happy and healthy.

Speaking up

REANNZ encourages employees to speak up if they are involved in, or perceive, wrongdoing. In return, REANNZ deals with issues in a timely and confidential manner. No employee will suffer retaliation for reporting or participating in the investigation of a genuine complaint made in good faith.

STATEMENT OF RESPONSIBILITY /

The Board of REANNZ accepts responsibility for the preparation of the annual financial statements and statement of performance, and for the judgements made in them.

The Board is responsible for any end-of-year performance information provided by REANNZ under Section 19A of the Public Finance Act 1989. The Board and management of REANNZ accept responsibility for establishing and maintaining a system of internal control designed to provide reasonable assurance as to the integrity and reliability of the financial reporting.

In the opinion of the Board, the financial statements and statement of performance fairly reflect the financial position and operations of REANNZ for the year ended 30 June 2023.

Janine Smith, MNZM
Chair

Sara Brownlie
Finance, Risk & Audit Committee Chair

30 October 2023
Signed on behalf of the Board

INDEPENDENT AUDITOR'S REPORT /

TO THE READERS OF THE RESEARCH AND EDUCATION ADVANCED NETWORK NEW ZEALAND LIMITED FINANCIAL STATEMENTS, AND PERFORMANCE INFORMATION FOR THE YEAR ENDED 30 JUNE 2023.

The Auditor-General is the auditor of Research and Education Advance Network New Zealand Limited ("REANNZ"). The Auditor-General has appointed me, Henry McClintock, using the staff and resources of BDO Wellington Audit Limited, to carry out the audit of the financial statements and the performance information of REANNZ on his behalf.

Opinion

We have audited:

- the financial statements of REANNZ on pages 45 to 60 that comprise the statement of financial position as at 30 June 2023, the statement of comprehensive revenue and expense, statement of changes in equity and statement of cash flows for the year ended on that date and the notes to the financial statements that include a summary of significant accounting policies and other explanatory information; and
- the performance information of REANNZ on pages 38 to 44.

In our opinion:

- the financial statements of REANNZ on pages 45 to 60:
 - present fairly, in all material respects:
 - its financial position as at 30 June 2023; and
 - its financial performance and cash flows for the year then ended; and
 - comply with generally accepted accounting practice in New Zealand in accordance with Public Benefit Entity International Public Sector Accounting Standards Reduced Disclosure Regime; and
- the performance information on pages 38-44:
 - presents fairly, in all material respects, REANNZ's performance for the year ended 30 June 2023, including:

- for each class of reportable outputs:
 - its standards of delivery performance achieved as compared with forecasts included in the statement of performance expectations for the financial year; and
 - its actual revenue and output expenses as compared with the forecasts included in the statement of performance expectations for the financial year;
- complies with generally accepted accounting practice in New Zealand.

Our audit was completed on 30 October 2023. This is the date at which our opinion is expressed.

The basis of our opinion is explained below. In addition, we outline the responsibilities of the Board and our responsibilities relating to the financial statements and the performance information, we comment on other information, and explain our independence.

Basis for our opinion

We carried out our audit in accordance with the Auditor-General's Auditing Standards, which incorporate the Professional and Ethical Standards and the International Standards on Auditing (New Zealand) issued by the New Zealand Auditing and Assurance Standards Board. Our responsibilities under those standards are further described in the Responsibilities of the auditor section of our report.

We have fulfilled our responsibilities in accordance with the Auditor-General's Auditing Standards.

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

Responsibilities of the Board of REANNZ for the financial statements and the performance information

The Board is responsible on behalf of REANNZ for preparing financial statements and performance information that are fairly presented and comply with generally accepted accounting practice in New Zealand. The Board is responsible for such internal control as they determine is necessary to enable them to prepare financial statements and performance information that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements and the performance information, the Board is responsible on behalf of REANNZ for assessing REANNZ's ability to continue as a going concern. The Board is also responsible for disclosing, as applicable, matters related to going concern and using the going concern basis of accounting, unless there is an intention to merge or to terminate the activities of REANNZ, or there is no realistic alternative but to do so.

The Board's responsibilities arise from the Crown Entities Act 2004 and the Public Finance Act 1989.

Responsibilities of the auditor for the audit of the financial statements and the performance information

Our objectives are to obtain reasonable assurance about whether the financial statements and the performance information, as a whole, are 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 carried out in accordance with the Auditor-General's Auditing Standards will always detect a material misstatement when it exists. Misstatements are differences or omissions of amounts or disclosures, and can arise from fraud or error. Misstatements are considered material if, individually or in the aggregate, they could reasonably be expected to influence the decisions of readers, taken on the basis of these financial statements and the performance information.

For the budget information reported in the financial statements and the performance information, our procedures were limited to checking that the information agreed to REANNZ's statement of performance expectations.

We did not evaluate the security and controls over the electronic publication of the financial statements and the performance information.

As part of an audit in accordance with the Auditor-General's Auditing Standards, we exercise professional judgement and maintain professional scepticism throughout the audit. Also:

- We identify and assess the risks of material misstatement of the financial statements and the performance information, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- We obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of REANNZ's internal control.
- We evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by the Board.
- We evaluate the appropriateness of the reported performance information within REANNZ's framework for reporting its performance.
- We conclude on the appropriateness of the use of the going concern basis of accounting by the Board and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on REANNZ's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial statements and the performance information or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause REANNZ to cease to continue as a going concern.
- We evaluate the overall presentation, structure and content of the financial statements and the performance information, including the disclosures, and whether the financial statements and the

performance information represent the underlying transactions and events in a manner that achieves fair presentation.

We communicate with the Board regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

Our responsibilities arise from the Public Audit Act 2001.

Other information

The Board is responsible for the other information. The other information comprises the information included on pages 2 to 31, 36 and 37 but does not include the financial statements and the performance information, and our auditor's report thereon.

Our opinion on the financial statements and the performance information does not cover the other information and we do not express any form of audit opinion or assurance conclusion thereon.

In connection with our audit of the financial statements and the performance information, our responsibility is to read the other information. In doing so, we consider whether the other information is materially inconsistent with the financial statements and the performance information, or our knowledge obtained in the audit, or otherwise appears to be materially misstated. If, based on our work, 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.

Independence

We are independent of REANNZ in accordance with the independence requirements of the Auditor-General's Auditing Standards, which incorporate the independence requirements of Professional and Ethical Standard 1: International Code of Ethics for Assurance Practitioners issued by the New Zealand Auditing and Assurance Standards Board.

Other than in our capacity as auditor, we have no relationship with, or interests, in REANNZ.



Henry McClintock
BDO Wellington Audit Limited
On behalf of the Auditor-General
Wellington, New Zealand

GOVERNANCE STATEMENT /

Organisational form

REANNZ is a not-for-profit Crown-owned company under Schedule 4A of the Public Finance Act 1989. Our shareholders are the Minister of Finance and the Minister of Research, Science and Innovation. At balance date, each shareholder held 908 shares on behalf of the New Zealand public.

REANNZ acts in a manner consistent with the Crown Entities Act 2004. REANNZ is subject to the Official Information Act 1982.

Role of the Board

REANNZ's Shareholding Ministers appoint a governing Board of Directors. The company's constitution sets the size of the Board at a minimum of two and a maximum of nine directors. The Board is responsible under the company's constitution to manage, direct and supervise the company's business affairs. In practice, day-to-day management of the company is delegated to the Chief Executive. The Board establishes the company's strategic and business plans, approves annual budgets and monitors management's performance against established goals. The Board also considers and approves new policies and business initiatives, authorises transactions outside the prescribed delegated authorities of management and appoints the Chief Executive. Procedures are in place at Board, corporate and operational levels to safeguard the company's assets and its wider commercial interests.

A well-established regime of regular reporting is designed to maintain a high standard of internal communication, and to ensure the Board remains appropriately informed of all aspects of the company's business and activities. Board fees are set by the Shareholding Ministers.

Risk management

The Board is also responsible for ensuring that the company has effective policies in place to manage its risks. The Board decides the level and nature of the risks that are acceptable to the company, taking advisement from the Finance, Risk and Audit Committee. The Chief Executive is delegated responsibility for managing normal business risks. As part of managing its broader risk profile, the Board maintains and regularly reviews a risk register, and approves and reviews all company policies.

Legislative compliance

The Board acknowledges its responsibility to ensure the organisation complies with all legislation. The Board has delegated responsibility to the Chief Executive for the development and operation of a programme to systematically identify compliance issues and ensure staff are aware of relevant legislative requirements.

Board composition

There were seven directors for the year ending 30 June 2023. They are Janine Smith (Board Chair), Ross Peat (Deputy Chair), Dr Warren Williams, Liz Gosling (People and Culture Committee Chair), Professor Jim Metson, Sara Brownlie (Finance, Risk and Audit Committee Chair), and Johnathan Eele.

Board meetings

The Board generally meets every six weeks. These meetings are supplemented with additional meetings as required for strategic planning purposes and to progress specific decisions. The Board held eight scheduled meetings for the year ended 30 June 2023. In addition, there were out-of-cycle approvals for time sensitive matters.

Board committees

The Board has formally constituted three committees.

- › **Finance, Risk and Audit Committee:** There are four Directors on the Finance, Risk and Audit Committee. The Committee has a focus on the integrity of financial reporting, internal controls and compliance of financial statements with appropriate standards and legislation. The Committee recommends the approval of statutory financial statements for approval by the Board. Three meetings were held during the year.
 - › **People and Culture Committee:** There are three directors on the People and Culture Committee. The Committee provides oversight on the company's People and Culture strategy and policy. This includes remuneration, performance management and employment conditions of the Senior Leadership team as well as health and safety, and other employment matters. A committee member is involved in the recruitment of any senior manager, including the Chief Executive. Three committee meetings were held during the year.
 - › **National Network Strategic Review Project Oversight Committee:** During the year the National Network Strategic Review Project Oversight Committee was established. There are three Directors on the Committee. The Committee provides support, guidance and oversight of progress in the delivery of the project outcomes. Four committee meetings were held during the year.
- All Directors are entitled to attend committee meetings.

Interest procedures

The REANNZ Board has a documented conflict-of interest policy that sets out procedures for identifying and addressing potential conflicts of interest. This policy applies to the directors and staff of REANNZ. The key determination when considering whether an interest might create a conflict is whether it incentivises the director or staff member to act in a way that may not be in the best interests of REANNZ. It must be determined whether a reasonably informed objective observer would perceive from the circumstances that the director or staff member's judgement is likely to be influenced.

A register of director and staff's interests is maintained and updated regularly.

Auditor

BDO, acting on behalf of the Controller and Auditor-General, is the auditor of REANNZ in accordance with Section 32 of the Public Audit Act 2001.

Registered office

Research and Education Advanced Network
New Zealand Limited
Level 5 PlanIT House,
22 The Terrace,
Wellington 6011

STATEMENT OF PERFORMANCE /

For the year ending 30 June 2023

STRATEGIC INTENTIONS

REANNZ is the backbone of the New Zealand research and education sector. We remain steadfast in the pursuit of our vision to be a globally connected and thriving research and education sector.

Our strategic intentions show where we are putting our focus to deliver our long-term vision and outcomes.

As New Zealand's National Research and Education Network (NREN), we connect the sector to science and education infrastructure, research, and researchers and educators across the globe.

The world today is facing global challenges of a scale that needs the best global minds to collaborate in virtual teams to find the solutions society needs. We collaborate with NRENs around the globe to ensure that distance is not a barrier to global impact. We support the sector with a specialist network and the products, tools and services they need to collaborate and deliver excellent research.

REANNZ's current strategic intentions are:

Supporting Mātauranga Māori

Supporting the aspirations of the Māori research and education community will become an integral part of REANNZ's strategy.

Building our global connections

Increase participation and contribution to the global community and NREN led initiatives for the benefit of Aotearoa.

Making it easy

Leverage our whole of sector view to upskill and build capability across the sector. Be a technical centre of excellence – specialising in networking, architecture and identity management.

Connecting Aotearoa

Ensuring researchers and educators have access to the infrastructure and connectivity they need to advance their work, wherever they are – by reaching beyond the boundaries of our core network. Build our membership and work with stakeholders to ensure our delivery models support this.

SUPPORTING MATĀURANGA MĀORI

We have a role to play in ensuring that tāngata whenua have equitable access to the connectivity and infrastructure they need to support Māori research and education. We will work in partnership with iwi, with Māori researchers and with the wider research and education community to understand their needs and determine how we can support their aspirations.

We will focus initially on building our awareness and capability to support Mātauranga Māori, and develop partnerships so we can integrate Mātauranga Māori into all aspects of our strategy. These partnerships will recognise Māori rangatiratanga over data, and the kotahitanga that can be derived from data.

How we measure our performance

Impact Measure:

Cultural Capability Programme with learning tools and resources to help REANNZ staff strengthen their cultural capability

Why this is important:

REANNZ staff will understand Te Ao Māori and REANNZ's role in supporting Mātauranga Māori to inform decision making.

Target	2021/22	2022/23	Commentary
Multi-year programme developed by 30 August 2022	New measure	Achieved	-

Output Measure:

Training our people

Why this is important:

Increasing staff capability and understanding of Mātauranga Māori

Target	2021/22	2022/23	Commentary
95% of staff and Board attending Te Ao Māori competency training	New measure	Not achieved	91% attendance at training with 100% of staff attending

Output Measure:

Iwi and Māori research community engagement

Why this is important:

REANNZ will build relationships and partnerships with iwi and the Māori research community to further understand their research needs

Target	2021/22	2022/23	Commentary
3 iwi and Māori research community stakeholders actively engaged with REANNZ	New measure	Achieved	-

BUILDING OUR GLOBAL CONNECTIONS

There is huge potential for REANNZ to increase global collaboration through the NREN federation for the benefit of New Zealand. Engaging with global thinking and capability will support New Zealand researchers and educators to further develop their expertise and increase their national and global impact.

This will ensure that the knowledge and value of the global network can be used for the benefit of Aotearoa.

How we measure our performance

Impact Measure:

Contribute to the global NREN community by leading the global discussion in areas of our expertise

Why this is important:

Contributing to the global NREN community by being technical experts in Mutually Agreed Norms for Routing Security compliance.

Target	2021/22	2022/23	Commentary
6 technical presentations at both regional and international conferences	New measure	Achieved	7 technical presentations

Output Measure:

Attend key conferences

Why this is important:

It will increase REANNZ's global participation.

Target	2021/22	2022/23	Commentary
Attend 3 regional and 3 international key conferences	New measure	Achieved	National Conferences - 5 International Conferences - 8

MAKING IT EASY

REANNZ is already respected for its deep technical expertise and the way it applies it to support members. We provide seamless, real-time transfer of critical research data and the tools that facilitate secure access and management of key resources, but we can do more. We will work in partnership with members to define and develop a seamless and consistent user experience, focused on improving interoperability and consistency. This sector-wide approach will support the sector's aspirations, take the complexity out of collaboration and free up our members to deliver more.

How we measure our performance

Impact Measure:

Member satisfaction and engagement (data intensive research)

Why this is important:

The proportion of members consider that the REANNZ network enables data intensive research.

Target	2021/22	2022/23	Commentary
Greater than 80%	Not Achieved 73%	Not reportable	A small sample size (7/87) of respondents resulted in 79% satisfaction from the annual customer satisfaction survey

Impact Measure:

Member satisfaction and engagement (value)

Why this is important:

The proportion of members consider that the REANNZ network is valuable or essential to their organisation.

Target	2021/22	2022/23	Commentary
Greater than 80%	Not Achieved 77%	Not reportable	A small sample size (7/87) of respondents resulted in 75% satisfaction from the annual customer satisfaction survey

Output Measure:

Develop the Tuakiri service to deliver interoperability for the research and education sector

Why this is important:

REANNZ sets the standard for federated access to the research and education sector. A common approach to federated identity management is a key driver in cross-sector interoperability.

Target	2021/22	2022/23	Commentary
Tuakiri product roadmap developed by 30 September 2022	New measure	Not achieved	Initial target of 30 September 2022 not met but was delivered by end of reporting period of June 2023

Output Measure:

Digital equity proposition developed and launched

Why this is important:

Working in partnership with education institutions such as Ministry of Education, Te Pūkenga and Universities, we will help address digital equity and in so doing, develop the future talent pipeline for the sector.

Target	2021/22	2022/23	Commentary
Digital equity proposition developed and launched by December 2022	New measure	Achieved	-

Output Measure:

Member endorsed product and solutions roadmap

Why this is important:

A member informed product roadmap ensures REANNZ future investments are made with member needs at the core.

Target	2021/22	2022/23	Commentary
Member endorsed product and solutions roadmap signed off by December 2022	New measure	Not achieved	Initial target of December 2022 not met but was delivered by end of reporting period of June 2023

Output Measure:

National and International Networks Availability

Why this is important:

Members can connect whenever and wherever they are.

Target	2021/22	2022/23	Commentary
Networks available at least 99.95% of time	Achieved	Achieved	-
• National	99.99%	99.99%	

Output Measure:

Issues resolution timeliness

Why this is important:

Addressing any issues, queries or requests from our members in a timely manner, supports and promotes research and science.

Target	2021/22	2022/23	Commentary
Greater than 80%	Achieved 100%	Achieved 90%	-

CONNECTING AOTEAROA

REANNZ has a role to play, along with others in the sector, to ensure researchers and educators have access to the infrastructure and connectivity they need to advance their work and deliver outcomes of national and international importance. We will continue to extend the reach of our services, partnering with others (such as satellite and 4G providers) to reach beyond the boundaries of our core network to wherever researchers are – be that in a large city, regional hub or out in the field.

How we measure our performance

Impact Measure:

Better connected members

Why this is important:

Increased uptake of REANNZ services will enable members to connect and collaborate with the national and international community, build capability and solve data transfer challenges.

Target	2021/22	2022/23	Commentary
Number of Optional Service Agreements signed	25	30	-

Output Measure:

National Network Strategic Review Connectivity

Why this is important:

This programme will ensure that REANNZ and the network remain well equipped to support the next generation of research, innovation and education activity.

Target	2021/22	2022/23	Commentary
National Network connectivity completed by 1 April 2023	New measure	Achieved	-

Output Measure:

Packet delay variation

Why this is important:

Packet delay variation, often known as 'jitter' is particularly an issue for real-time services such as voice or video where a human user is involved. High packet delay variation can lead to these services being unusable.

Target	2021/22	2022/23	Commentary
Less than 0.01% of hourly measurements across the core network have over 20ms of packet delay variation	Achieved (0.01%)	Achieved (0.01%)	-

Output Measure:

Packet loss

Why this is important:

Packet delivery is a key element of network quality and one of the defining features of research and education networks. A major differentiator of research and education networks is the aim to eliminate packet loss as it is catastrophic for large data transfers typical of our user groups.

Target	2021/22	2022/23	Commentary
Less than 0.0001%	Achieved 0.00000014%	Achieved 0.00002311%	-

Output Measure:

Solutions launched to enable researchers to connect wherever they are

Why this is important:

REANNZ is listening to our members' demands and building solutions to accommodate. In response to demand we will develop a suite of regional connectivity solutions (4G, satellite, RBI) to give our members better access to the REANNZ network.

Target	2021/22	2022/23	Commentary
4G, satellite, RBI products launched by 30 June 2023	New measure	Achieved	-

Output Measure:

Advanced network Bandwidth available - national backbone capacity

Why this is important:

National research and education networks are engineered to have sufficient headroom capacity to support the bursts of data-intensive traffic commonly found in data-intensive research fields.

Target	2021/22	2022/23	Commentary
100 Gbps	Achieved	Achieved	-

Output Measure:

Advanced network bandwidth available – international network capacity

Why this is important:

National research and education networks are engineered to have sufficient headroom capacity to support the bursts of data-intensive traffic commonly found in data-intensive research fields.

Target	2021/22	2022/23	Commentary
60 Gbps	Achieved	Achieved	-

FINANCIAL STATEMENTS /

Research and Education Advanced Network New Zealand Limited

Statement of Comprehensive Revenue and Expense for the year ended 30 June 2023

	Notes	Actual 2023 \$ 000	Budget 2023 \$ 000	Actual 2022 \$ 000
Revenue				
Grant revenue	2	6,250	10,350	4,500
Network revenue		6,416	6,936	6,209
Other revenue	2	4,081	3,003	4,463
Interest revenue		930	298	258
Total Revenue		17,677	20,587	15,430
Network Expenses				
Depreciation		660	1,232	1,530
Employment expenses		2,497	3,087	1,910
Network operating expenses	3	9,563	9,463	8,303
Total Network Expenses		12,720	13,782	11,743
Gross Surplus / (Loss)		4,957	6,805	3,687
Less:				
Operating Expenses				
Audit		51	42	43
Depreciation		64	75	111
Directors fees	4	165	180	159
Employment expenses		2,041	2,227	1,957
Other operating expenses		700	1,016	534
Professional services		427	398	199
Operating leases		397	404	416
Travel expenses		171	318	68
Total Operating Expenses		4,016	4,660	3,487
Other (Losses) / Gains				
Impairment loss property, plant and equipment	10	-	-	(4,356)
Foreign currency gains/ (losses)	5	(6)	-	726
Total Other (Losses)		(6)	-	(3,630)
Net Surplus / (Deficit)		935	2,144	(3,430)
Total Comprehensive Revenue and Expense		935	2,144	(3,430)

Explanations of major variances against budget are provided in note 21. The accompanying notes form part of these financial statements.

Research and Education Advanced Network New Zealand Limited

**Statement of Financial Position
as at 30 June 2023**

	Notes	Actual 2023 \$ 000	Budget 2023 \$ 000	Actual 2022 \$ 000
CURRENT ASSETS				
Cash and cash equivalents		3,144	1,675	5,331
Derivative financial instruments	8	200	21	419
Receivables and debtors	6	2,202	3,030	2,305
Investments	7	27,504	22,750	21,348
Prepayments		286	280	273
Prepaid network expenses	9	2,255	2,012	2,057
Total current assets		35,591	29,768	31,733
NON-CURRENT ASSETS				
Derivative financial instruments	8	154	13	259
Prepaid network expenses	9	16,410	14,896	15,691
Property, plant and equipment	10	785	8,444	1,288
Intangible assets	11	385	-	-
Total non-current assets		17,734	23,353	17,238
TOTAL ASSETS		53,325	53,121	48,971
CURRENT LIABILITIES				
Trade and other payables	12	773	445	1,239
GST payable		106	249	182
Employee entitlements	13	396	190	273
Revenue in advance	14	1,842	1,780	2,016
Deferred revenue		15	15	78
Deferred lease incentive		10	10	10
Total current liabilities		3,142	2,689	3,798
NON-CURRENT LIABILITIES				
Deferred revenue		-	-	15
Deferred lease incentive		24	24	34
Total non-current liabilities		24	24	49
TOTAL LIABILITIES		3,166	2,713	3,847
NET ASSETS		50,159	50,408	45,124
EQUITY				
Contributed capital		20,101	16,001	16,001
Accumulated surplus		30,058	34,407	29,123
TOTAL EQUITY	15	50,159	50,408	45,124

Explanations of major variances against budget are provided in note 21.
The accompanying notes form part of these financial statements.

Research and Education Advanced Network New Zealand Limited

**Statement of Cash Flows
for the year ended 30 June 2023**

	Actual 2023 \$ 000	Budget 2023 \$ 000	Actual 2022 \$ 000
CASH FLOWS FROM OPERATING ACTIVITIES			
Cash was provided from/(applied to)			
Receipts from the Crown	6,250	10,350	4,500
Network Receipts	6,553	6,952	6,186
Receipts from other revenue	4,045	2,924	4,367
Interest received	624	298	220
GST (net)	(330)	694	(163)
Realised gain/(losses) on foreign currency	137	218	(129)
Payments to suppliers and employees	(11,597)	(12,718)	(9,123)
Prepayments for network connectivity	(5,548)	(3,637)	(3,513)
Net cash flow from operating activities	134	5,081	2,345
CASH FLOWS FROM INVESTING ACTIVITIES			
Cash was provided from/(applied to)			
Receipts from sale of plant and equipment	37	-	-
Purchase of plant and equipment	(223)	(4,721)	(165)
Purchase of intangible assets	(385)	-	-
Term deposit investments (made)/realised	(5,850)	(1,500)	(250)
Net cash flow from investing activities	(6,421)	(6,221)	(415)
CASH FLOWS FROM FINANCING ACTIVITIES			
Cash was provided from/(applied to)			
Capital contribution	4,100	-	-
Net cash flow from financing activities	4,100	-	-
Net (decrease)/increase in cash held	(2,187)	(1,140)	1,930
Cash at beginning of year	5,331	2,815	3,401
Cash at end of year	3,144	1,675	5,331

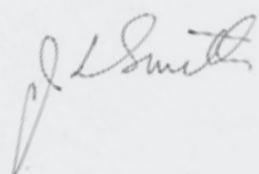
Explanations of major variances against budget are provided in note 21.
The accompanying notes form part of these financial statements.

Research and Education Advanced Network New Zealand Limited

**Statement of Changes in Equity
for the year ended 30 June 2023**

	Notes	Actual 2023 \$ 000	Budget 2023 \$ 000	Actual 2022 \$ 000
ACCUMULATED SURPLUS				
Balance at 1 July		29,123	32,263	32,553
Total Comprehensive Revenue and Expense for the year		935	2,144	(3,430)
Balance at 30 June		30,058	34,407	29,123
CONTRIBUTED CAPITAL				
Balance at 1 July		16,001	16,001	16,001
Capital contribution		4,100	-	-
Balance at 30 June		20,101	16,001	16,001
Total Equity at 30 June	15	50,159	50,408	45,124

Signed on behalf of the Board:



Janine Smith, MNZM
Chair
30 October 2023



Sara Brownlie
Finance, Risk & Audit Committee Chair
30 October 2023

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Explanations of major variances against budget are provided in note 21.
The accompanying notes form part of these financial statements.

1. Statement of accounting policies

Reporting Entity

The reporting entity is Research and Education Advanced Network New Zealand Limited ('REANNZ'), a Crown entity as defined by the Crown Entities Act 2004 and a New Zealand incorporated company. As a Crown entity, REANNZ's ultimate parent is the New Zealand Crown.

REANNZ's primary objective is to establish, own and operate a high-speed communications network for the research and education sector. As such, REANNZ's aim is to provide services to the public, rather than make a financial return.

Accordingly, REANNZ has designated itself as a Tier 2 public benefit entity for the purposes of Public Benefit Entity (PBE) accounting standards with reduced disclosures.

The financial statements for REANNZ are for the year ended 30 June 2023 and were approved by the Board on 30 October 2023.

Basis of Preparation

The financial statements have been prepared on a historical basis with a few exceptions as detailed in the notes below and the accounting policies have been applied consistently throughout the year.

Statement of compliance

The financial statements of REANNZ have been prepared in accordance with the Crown Entities Act 2004, which includes the requirement to comply with generally accepted accounting practice in New Zealand (NZ GAAP).

The financial statements comply with Public Benefit Entity accounting standards.

The financial statements have been prepared in accordance with Tier 2 PBE Accounting Standards with reduced disclosures. REANNZ is eligible to report as a Tier 2 reporting entity on the basis that it does not have public accountability and is not large.

Presentation currency and rounding

The financial statements are presented in New Zealand dollars (NZD) and all values are rounded to the nearest thousand (\$000).

SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Accounting policies are selected and applied in a manner that ensures that the resulting financial information satisfies the concepts of relevance and reliability. REANNZ accounting policies, therefore, are designed to report the substance of the underlying transactions undertaken by the entity.

Significant accounting policies are included in the notes to which they relate. Policies that do not relate to a specific note are outlined below:

Foreign currency transactions

Transactions in foreign currencies, including those for which forward foreign exchange contracts are held, are translated to New Zealand dollars (the functional currency) at the spot rate on the date of transaction.

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 Statement of Comprehensive Revenue and Expense.

Statement of Cash Flows

The Statement of Cash Flows is prepared exclusive of GST, which is consistent with the method used in the Statement of Comprehensive Revenue and Expense.

Definitions of the terms used in the Statement of Cash Flows are:

"Cash" includes investments that are readily convertible into cash and used by REANNZ as part of its day-to-day cash management.

"Investing activities" are those activities relating to the acquisition and disposal of long-term assets and other investments not included in cash equivalents.

"Financing activities" are those activities relating to changes in equity of REANNZ.

"Operating activities" include all transactions and other events that are not investing or financing activities.

Goods and Services Tax (GST)

These financial statements have been prepared on a GST exclusive basis except for accounts receivable and accounts payable that are stated inclusive of GST.

The net GST paid to, or received from, Inland Revenue, including the GST relating to investing and financing activities, is classified as an operating cash flow in the Statement of Cash Flows.

Commitments and contingencies are disclosed exclusive of GST.

Income tax

As a public entity under section CW 38(2) of the Income Tax Act 2007, the company is exempt from income tax. Accordingly, no provision has been made for income tax.

Budget figures

The budget figures are those that form part of the REANNZ 2022/23 Statement of Performance Expectations dated 30 June 2022 and approved by the Board.

The budget figures have been prepared in accordance with generally accepted accounting practice and are consistent with the accounting policies adopted by REANNZ for the preparation of the financial statements.

Critical accounting estimates and assumptions

In preparing these financial statements, REANNZ has made estimates and assumptions concerning the future. These estimates and assumptions may differ from subsequent actual results. Estimates and assumptions are continually evaluated and are based on historical experience and other factors, including expectations of future events that are believed to be reasonable under the circumstances.

The estimates and assumptions that have significant risk of causing a material adjustment to the carrying amounts of assets and liabilities within the next financial year are:

- Useful life of network prepayments – refer to note 9.

2. Revenue

Accounting Policy

The specific accounting policies for significant revenue items are explained below:

Grant revenue

REANNZ is funded in part by the Crown from the Strategic Science Investment Fund (SSIF). The SSIF grant is provided to partially fund the delivery of specialist services and activities to meet the Government's goals for research and education. REANNZ delivers an agreed work plan and the grant is recognised as revenue when paid because there are no other conditions attached.

Other grants are recognised as revenue when they become receivable unless there is an obligation in substance to return the funds if conditions of the grant are not met. If there is such an obligation, the grants are initially recorded as deferred income in

the Statement of Financial Position and recognised as revenue when conditions of the grant are satisfied.

Network and other revenue

Revenue is measured at the fair value of the consideration received or receivable. All transactions are exchange transactions.

Interest revenue

Interest revenue is recognised by accruing the interest due for the investment on a time proportion basis using the effective interest rate method.

i. Grant revenue

	2023 \$ 000	2022 \$ 000
Non-exchange transactions		
Ministry of Business, Innovation and Employment Strategic Science Investment Fund contract	6,250	4,500
Total grant revenue	6,250	4,500

REANNZ and the Ministry of Business, Innovation and Employment ('MBIE') entered into a SSIF Infrastructure Platform Investment contract during the 2018 financial year. The contract is for seven years, expiring on 30 June 2024, and provides REANNZ with total grant revenue of \$39.2M (2022: \$39.2M). In December 2021, the agreement was varied which increased total operating funding by \$7.5M and provided for additional funding of \$10.7M for capital expenditure.

All conditions relating to the SSIF contract have been met.

ii. Other revenue

	2023 \$ 000	2022 \$ 000
Exchange transactions		
Managed services	2,710	2,627
Internet	1,050	1,229
Other	321	448
Lease-related expense reimbursement	-	159
Total other revenue	4,081	4,463

3. Network operating expenses

	2023 \$ 000	2022 \$ 000
National network		
Fibre circuits & maintenance	2,421	2,090
Other network expenses	1,440	1,083
PoP accommodation	384	412
Connectivity	50	21
Total national network expenses	4,295	3,606
International network		
Connectivity	4,764	4,250
Fibre circuits	207	168
Other network expenses	177	170
PoP accommodation	120	109
Total international network expenses	5,268	4,697
Total network operating expenses	9,563	8,303

4. Directors fees

	2023 \$ 000	2022 \$ 000
The total value of remuneration paid or payable to each Board member during the year was:		
Janine Smith (Chair)	40	40
Ross Peat (Deputy Chair)	25	25
Sara Brownlie	21	21
Liz Gosling	21	21
Jim Metson	20	20
David Skinner*	5	20
Warren Williams**	20	12
Johnathan Eele ***	13	-
Total directors fees	165	159

* tenure ceased 30 September 2022

** tenure started 15 November 2021

*** tenure started 1 November 2022

There were no special director fees paid during the year (2022: \$Nil).

There have been no payments made to committee members appointed to the Board who are not directors during the year.

REANNZ provides a deed of indemnity to directors for certain activities undertaken in performance of REANNZ's functions.

REANNZ holds Directors and Officers Liability and Professional Indemnity insurance cover in respect of the liability of Board members and employees.

No Board members received compensation or other benefits in relation to cessation (2022: \$Nil)

5. Foreign currency gains/ (losses)

	2023 \$ 000	2022 \$ 000
Realised foreign currency gains / (losses)	137	(129)
Unrealised foreign currency gains / (losses)		
Fair value gains / (losses) on derivatives*	(325)	791
Bank account (USD)	182	64
Total foreign currency gains/(losses)	(6)	726

*includes reversal of unrealised gains and losses on settlement of trades

Realised gains arose from the settlement of forward contracts to purchase USD and payment of supplier payments in foreign currency.

Unrealised losses were made on forward USD contracts held with the New Zealand Debt Management Office (NZDMO) reflecting the net movement in fair value of open contracts for the year. Unrealised gains and losses are reversed on settlement of the trades.

On 30 June 2023, REANNZ held nine forward contracts (2022: 10 contracts) to purchase a total of USD\$6.11M (2022: USD\$6.49M). Four contracts will settle during the next financial year. The contracts were entered into to mitigate foreign exchange exposure arising from annual network connectivity payments contractually required to be paid in USD.

6. Receivables and debtors

Accounting Policy

Accounts receivable are reported at the amount due less an allowance for credit losses. REANNZ applies the simplified credit loss model of recognising lifetime expected credit losses for receivables.

In measuring expected credit losses, receivables have been assessed on an entity-type basis as this determines shared credit risk characteristics.

Receivables are expensed in the Statement of Comprehensive Revenue and Expense when there is no reasonable expectation of recovery. Indicators that there is no reasonable expectation of recovery include the debtor being in liquidation.

Breakdown of receivables and debtors	2023 \$ 000	2022 \$ 000
Exchange transactions		
Trade receivables	2,197	2,299
Less: provision for expected loss	-	-
Total receivables	2,197	2,299
Sundry debtors	5	6
Total receivables and debtors	2,202	2,305

Membership fees are due quarterly in advance and service fees are due monthly in advance. Of the total receivables and debtors above, \$1.96M including GST (2022: \$2.14M including GST) relate to membership fees and services to be provided by REANNZ during the coming financial year. These fees are shown as income received in advance until the service period begins, at which time the fees are recognised as revenue in the Statement of Comprehensive Revenue and Expense.

REANNZ holds no collateral as security or other credit enhancements over receivables that are past due or impaired.

7. Investments

Accounting Policy

Bank term deposits

Investments in bank term deposits are initially measured at the amount invested.

Interest calculated using the effective interest method is subsequently accrued and added to the investment balance. A loss allowance for expected credit losses is recognised if the estimated loss allowance is not trivial.

Breakdown of investments	2023 \$ 000	2022 \$ 000
Term deposits (maturity one year or less)	27,504	21,348
Total investments	27,504	21,348
Weighted Average Interest Rate	5.49%	1.46%

There is no impairment provision for investments as there is no expectation of credit losses. All term deposits are held with major trading banks with Standard and Poor's AA- rating.

8. Derivative financial instruments

Accounting Policy

REANNZ enters into derivative financial instruments, including forward foreign exchange contracts, as part of its normal operations to manage its exposure to foreign exchange rate risk. REANNZ does not hold or issue derivatives for trading purposes. REANNZ has not adopted hedge accounting.

Derivatives are initially recognised at the fair value on the date a derivative contract is entered into and are subsequently re-measured to their fair value at each balance date with the resulting gain or loss recognised in the Statement of Comprehensive Revenue and Expense.

A forward foreign exchange derivative is classified as current if the contract is due for settlement within 12 months of balance date. Otherwise, the full fair value of forward foreign exchange derivatives is classified as non-current.

Derivative financial instruments are recognised at fair value in the Statement of Financial Position.

On 30 June 2023, the net fair value of derivative financial instrument assets was \$354K (2022: \$678K). Of the total asset amount, \$200K (2022: \$419K) relates to USD forward contracts due to be settled within 12 months, with the remaining amount to be settled in FY2025 and beyond.

The fair value of forward foreign exchange contracts has been determined using a discounted cash flows valuation technique based on quoted market prices. The inputs into the valuation model are from independently sourced market parameters such as currency rates. Most market parameters are implied from forward foreign exchange contract prices.

9. Prepaid network expenses

Prepaid network expenses relate to core connectivity and network service operations and management. These prepayments will be expensed to the Statement of Comprehensive Revenue and Expense on a straight-line basis over the contract term.

During the current financial year REANNZ entered into a multi-year contract with One NZ Limited to provide connectivity services. This contract required upfront payments of NZ\$1.7M and these payments will be amortised over 10 years commencing from May 2023.

	2023 \$ 000	2022 \$ 000
Balance at beginning of year	17,748	18,414
Prepayment expensed during year	(4,631)	(4,179)
Payments made during the year	5,548	3,513
Total prepaid network expenses	18,665	17,748
Current/non-current split		
Current	2,255	2,057
Non-current	16,410	15,691
Total prepaid network expenses	18,665	17,748

10. Property, plant and equipment

Accounting Policy

Property, plant and equipment consists of six classes, which are measured as follows:

- › leasehold improvements, at cost less accumulated depreciation and impairment losses
- › routers, switches and optical equipment, at cost less accumulated depreciation and impairment losses
- › information technology equipment, at cost less accumulated depreciation and impairment losses
- › office equipment, at cost less accumulated depreciation and impairment losses
- › PoP ('Point of Presence') equipment, at cost less accumulated depreciation and impairment losses
- › fibre and fibre housing, at cost less accumulated depreciation and impairment losses.

Additions

The cost of an item of property, plant and equipment is only recognised as an asset when it is probable that future economic benefits or service potential associated with the item will flow to REANNZ and the cost of the item can be measured reliably.

In most instances, an item of property, plant and equipment is initially recognised at cost. Where an asset is acquired through a non-exchange transaction, the asset will be recorded at fair value at the date of acquisition.

Costs incurred subsequent to initial acquisition are capitalised only when it is probable that future economic benefits or service potential associated with the item will flow to REANNZ and the cost of the item can be measured reliably.

The costs of servicing property, plant and equipment are recognised in the Statement of Comprehensive Revenue and Expense as they are incurred.

Disposals

Gains and losses on disposals are determined by comparing the proceeds of disposal with the carrying amount of the asset. Gains and losses on disposal are included in the Statement of Comprehensive Revenue and Expense.

Depreciation

Depreciation on property, plant and equipment (excluding work in progress) is provided on a straight-line basis, from the time the asset is in the location and condition necessary for its intended use. This basis allocates the cost or value of the asset, less its residual value, over its estimated useful life.

The depreciation method, estimated useful lives and residual values of property, plant and equipment are reviewed annually to assess appropriateness.

The following estimated useful lives are used in the calculation of depreciation:

	2023	2022
Leasehold improvements	3-5 years	6 years
Routers, switches & optical equipment	5-7 years	3-8 years
Information technology equipment	3 years	3 years
Office equipment	5 years	5 years
PoP equipment	3-7 years	8 years
Fibre and fibre housing	20 years	20 years

Leasehold improvements are depreciated based on estimated useful life or the remaining lease term, whichever is shorter.

Impairment of property, plant and equipment

REANNZ does not hold any cash-generating assets. Assets are considered cash-generating where their primary objective is to generate a commercial return.

Non-cash generating assets

At each reporting date, assets are reviewed by the directors to determine whether there are any events or changes in circumstances that indicate that carrying amounts may not be recoverable.

An impairment loss is recognised as the amount by which the asset's carrying amount exceeds its estimated recoverable service amount. The recoverable service amount is the higher of an asset's fair value, less costs to sell, and value in use.

Value in use is the present value of an asset's remaining service potential. It is determined using an approach based on either a depreciated replacement cost approach, a restoration cost approach, or a service units approach. The most appropriate approach used to measure value in use depends on the nature of the impairment and availability of information.

If an asset's carrying amount exceeds its recoverable service amount, the asset is impaired and the carrying amount is written down to the recoverable service amount. The impairment loss is then recognised as an expense in the Statement of Comprehensive Revenue and Expense.

Any reversal of an impairment loss is recognised in the Statement of Comprehensive Revenue and Expense. Impairment losses can only be reversed to the extent that the carrying amount of the asset matches the carrying amount as calculated under the cost less accumulated depreciation method.

To the extent that an impairment loss for a revalued asset was previously recognised in the Statement of Comprehensive Revenue and Expense, a reversal of impairment loss is also recognised in the Statement of Comprehensive Revenue and Expense.

For items of property, plant or equipment that are not carried at a revalued amount, the total impairment loss is recognised in the Statement of Comprehensive Revenue and Expense, a reversal of impairment loss is also recognised in the Statement of Comprehensive Revenue and Expense.

Impairment

There were no impairments recognised in the current year. However, in 2022 as part of the annual impairment review, the directors recognised a total impairment loss of \$4.4M. Of this, \$608K was on the Kumeu to Whenuapai cable and \$3.7M was on the Sale and Indefeasible Right of Use Agreement (SIRU) fibre assets.

Critical accounting estimates and assumptions

Estimating useful lives and residual values of property, plant and equipment

At each balance date, the useful lives and residual values of property, plant and equipment are reviewed. Assessing the appropriateness of useful life and residual value estimates of property, plant and equipment requires a number of factors to be considered such as the physical condition of the asset, expected period of use of the asset by REANNZ, and expected disposal proceeds from the future sale of the asset.

REANNZ has not made significant changes to past assumptions concerning useful lives and residual values.

Breakdown of property, plant and equipment

Movements for each class of property, plant and equipment are as follows:

	Office equipment \$000	ICT equipment \$000	National PoP equipment \$000	International PoP equipment \$000	Leasehold improvements \$000	Network services \$000	Fibre and fibre housing \$000	Total \$000
Cost or valuation								
Balance at 1 July 2021	117	644	11,291	1,231	401	15	8,113	21,812
Balance at 30 June 2022	135	642	11,304	1,231	451	15	8,113	21,891
Additions	-	37	185	6	-	-	-	228
Disposals	(2)	(140)	(3,070)	(112)	-	(9)	(7,835)	(11,168)
Balance at 30 June 2023	133	539	8,419	1,125	451	6	278	10,951
Accumulated depreciation								
Balance at 1 July 2021	110	590	9,759	693	337	15	3,189	14,693
Balance at 30 June 2022	116	575	10,639	902	405	15	7,951	20,603
Depreciation expense	5	46	460	187	12	0	14	724
Disposals	(2)	(138)	(3,065)	(112)	0	(9)	(7,835)	(11,161)
Balance at 30 June 2023	119	483	8,034	977	417	6	130	10,166
Carrying amounts								
Balance at 1 July 2021	7	54	1,532	538	64	0	4,924	7,119
Balance at 30 June 2022	19	67	665	329	46	0	162	1,288
Balance at 30 June 2023	14	56	385	148	34	0	148	785

11. Intangible assets

Accounting Policy

Intangible assets are tested annually for impairment.

An indefinite intangible asset refers to a valuable non-physical asset that has no foreseeable limit to its useful life. When recognising and initially measuring these assets, REANNZ has established that they are identifiable, under its control, and likely to generate future economic benefits. These assets are initially recorded at cost.

Indefinite intangible assets – IPv4 Addresses

IPv4 (internet protocol version 4) are a set of rules that govern how data packets are sent and received over the internet. In IPv4, addresses are used to uniquely identify devices on the internet.

Impairment of intangible assets

For tangible assets the entity will assess if there are impairment indicators, as detailed in the policy for impairment of property, plant and equipment in note 10. For indefinite useful life intangible assets, an impairment test has to be done annually.

At year end, the carrying value of an indefinite intangible asset will be assessed and any market adjustment will be recognised in the Statement of Comprehensive Revenue and Expense.

	IPv4 Addresses \$000
Breakdown of intangible assets	
Gross carrying amount	
Balance at 1 July 2021	-
Balance at 30 June 2022	-
Additions	385
Disposals	-
Balance at 30 June 2023	385
Accumulated amortisation	
Balance at 1 July 2021	-
Balance at 30 June 2022	-
Disposals	-
Impairment losses	-
Balance at 30 June 2023	-
Balance at 30 June 2022	-
Carrying amounts	
At 1 July 2021	-
At 30 June 2022	-
At 30 June 2023	385

12. Trade and other payables

Accounting Policy

Short-term payables are recorded at the amount payable.

Breakdown of payables and accrued expenses	2023 \$ 000	2022 \$ 000
Exchange transactions		
Trade creditors	252	1,169
Other payables and accruals	521	70
Total trade and other payables	773	1,239

13. Employee entitlements

Accounting Policy

Employee benefits due to be settled within 12 months after the end of the year in which the employee provides the related service are measured based on the accrued entitlements at current rates of pay. These include salaries and wages accrued up to balance date, annual leave earned but not yet taken at balance date.

A liability and an expense are recognised for bonuses where there is a contractual obligation or where there is a past practice that has created a constructive obligation and a reliable estimate of the obligation can be made.

Breakdown of employee entitlements	2023 \$ 000	2022 \$ 000
Accrued salaries and wages	113	83
Accrued short term incentive	90	-
Annual leave	193	190
Total employee entitlements	396	273

It is expected that all employee entitlements will be settled within 12 months of balance date.

14. Revenue in advance

	2023 \$000	2022 \$000
Exchange transactions		
Fees received in advance	140	159
Fees invoiced but not yet received	1,702	1,857
Total revenue in advance	1,842	2,016

Revenue in advance includes membership fees, fees for services and the reimbursement of expenses billed in advance. All services billed in advance will be provided by REANNZ in the coming financial year. These fees are shown as revenue received in advance until the service period begins, at which time the fees will be recognised as revenue in the Statement of Comprehensive Revenue and Expense.

15. Equity

Capital management

REANNZ's capital is its equity, which comprises accumulated funds and contributed capital. Equity is measured as the difference between total assets and total liabilities.

REANNZ is subject to the financial management and accountability provisions of the Crown Entities Act 2004, which impose restrictions in relation to borrowings, acquisition of securities, issuing guarantees and indemnities and the use of derivatives.

REANNZ manages its equity as a by-product of prudently managing revenues, expenses, assets, liabilities, investments, and general financial dealings to ensure REANNZ effectively achieves its objectives and purpose, whilst remaining a going concern.

Contributed capital

Issued capital

At 30 June 2023, share capital comprised 1,816 ordinary shares (2022: 1,816). All issued shares are fully paid and have no par value.

Capital Contribution

During the current financial year REANNZ received a capital contribution from MBIE of \$4.1M. All conditions in respect of this contribution were satisfied.

Breakdown of equity	2023 \$000	2022 \$000
Contributed capital		
Balance at 1 July	16,001	16,001
Capital contribution	4,100	-
Repayment of capital	-	-
Balance at 30 June	20,101	16,001

Accumulated surplus

Balance at 1 July	29,123	32,553
Surplus/(deficit) for the year	935	(3,430)
Balance at 30 June	30,058	29,123
Total equity	50,159	45,124

16. Capital commitments and operating leases

i. Capital commitments

There were no capital commitments at balance date.

ii. Operating lease commitments

Accounting Policy

An operating lease is a lease that does not transfer substantially all the risks and rewards incidental to ownership of an asset to the lessee. Lease payments under an operating lease are recognised as an expense on a straight-line basis over the lease term.

Lease incentives received are recognised in the Statement of Comprehensive Income and Expense as a reduction of rental expense over the lease term.

Where the leased items are not in use, the operating lease payments will be treated as a prepayment in the Statement of Financial Position. Once the items begin to be used in deriving revenue, these prepayments are released to the Statement of Comprehensive Revenue and Expense on a straight-line basis over the period of the remaining operating lease term.

Operating leases relate to the following activities:

- Office premises: 22 The Terrace, Wellington, 24 Balfour Road, Parnell, Auckland and 248 St Asaph St, Christchurch; and
- Network PoP accommodation and associated support facilities.

The future aggregate minimum lease payments payable under non-cancellable operating leases are as follows:

	2023 \$000	2022 \$ 000
Less than one year	529	644
Between one and two years	376	324
Between two and five years	603	763
Total operating lease commitments	1,508	1,731

There are no restrictions placed on REANNZ by any of its leasing arrangements.

iii. Connectivity and managed service commitments

Connectivity and managed service commitments relate to:

- › Payments to suppliers for national and international connectivity services, and
- › Payments to suppliers for service management of the national network.

	2023 \$000	2022 \$000
Less than one year	3,193	4,195
Between one and two years	3,470	3,549
Between two and five years	8,266	7,967
Later than five years	36,136	36,392
Total connectivity and managed service commitments	51,065	52,103

In February 2023, REANNZ signed a contract with One NZ Limited, this contract has an initial contract period of four years with two further extensions of three years each. The final condition of this contract was satisfied on 17 May 2023, at which point the contract became non-cancellable.

Annual payments in advance associated with this contract are recognised evenly over the prepaid period. Prepayments of \$1.71M were made during the year.

Hawaiki contract

In June 2014, REANNZ entered into a 25-year lease of managed capacity with Hawaiki Submarine Cable Limited Partnership. The first condition of the lease was met on 31 March 2016, at which point the contract became non-cancellable.

The cable was ready for service in August 2018 at which point the first annual connectivity fee was paid. REANNZ will incur annual connectivity charges over the 25-year lease term. These costs are reflected above and form the whole amount of the later than five years total.

The contract required four milestone payments in USD. The milestone payments were converted into NZD at the spot rate on payment date. The total amount of the four milestone payments (including taxes) was NZ\$19.34M.

Straight-line amortisation of the initial fee spread over the lease term commenced in August 2018 when the cable was ready for service. The annual expense is \$774K.

Annual payments in advance associated with the Hawaiki contract are recognised evenly over the prepaid period. Prepayments of \$3.83M were made during the year.

iv. Finance leases

Accounting Policy

A finance lease is a lease that transfers to the lessee substantially all the risks and rewards incidental to ownership of an asset, whether or not title is eventually transferred.

At the commencement of the lease term, prepaid finance leases where REANNZ is the lessee are recognised as an asset in the Statement of Financial Position at the fair value of the leased item.

The amount recognised as an asset is depreciated over its useful life. If there is no reasonable certainty as to whether REANNZ will obtain ownership at the end of the lease term, the asset is fully depreciated over the shorter of the lease term and its useful life.

Indefeasible Rights of Use (IRUs) have been granted to REANNZ over specific fibre pairs and have been accounted for as finance lease assets within property, plant and equipment, as the risks and rewards of ownership have transferred to REANNZ. The net carrying amount of the leased assets is \$63K (2022: \$69K). In 2021/22 an impairment loss of \$1.17M was recognised on the fibre assets which are idle.

The finance lease term is for the expected economic life of the asset and has been prepaid. As such, there are no future finance lease payments payable.

17. Contingencies

There were no contingent assets or liabilities at balance date for which disclosure is required (2022: \$Nil).

18. Related party transactions

REANNZ is a wholly owned entity of the Crown.

Related party disclosures have not been made for transactions with related parties that are within a normal supplier or client/recipient relationship with terms and conditions no more or less favourable than those that it is reasonable to expect REANNZ would have adopted in dealing with the party at arm's length in the same circumstances.

Further, transactions with other government agencies (for example, government departments and Crown entities) are not disclosed as related party transactions when they are on normal terms and conditions consistent with the normal operating arrangements between government agencies.

Key management personnel compensation

The compensation of Directors, Chief Executive and Senior Leadership Team, being the key management personnel of REANNZ, is set out below:

	2023 \$000	2022 \$000
Directors		
Remuneration	165	159
Full-time equivalent	0.82	0.87
Senior Leadership Team		
Remuneration	1,407	1,385
Full-time equivalents	5.95	7.46
Total key management personnel remuneration	1,572	1,544
Total full-time equivalent personnel	6.77	8.33

The full-time equivalent for Board members has been determined based on the frequency and length of Board and committee meetings, estimated time for Board members to prepare for meetings, attendance at external stakeholder meetings and advice provided to the Senior Leadership Team.

The Board had six directors for the full year, one retiring director from 1 July 2022 to 30 September 2022 and one director from 1 November 2022 to 30 June 2023.

An analysis of director remuneration is provided in note 4.

Chief Executive's remuneration

Total remuneration paid and payable for the Chief Executive role for the year was \$362,539 consisting of:

- Salary: \$301,163
- Benefits: \$15,559
- Short term incentive (FY22) \$19,521
- Short term incentive (FY23) \$26,295

Benefits include KiwiSaver, professional development, car park allowance and Koru club membership.

The Chief Executive's remuneration package does not include any long term incentives. Short term incentives (STI) are set at up to 10% (2022: 10%) of base salary plus 3% KiwiSaver employer contribution. Incentive payments are discretionary and are granted at the sole discretion of the Board and are based on both individual and company performance measures. The Board identified the performance criteria used to determine the Chief Executive's STI payment. The STI for 2022 was not determined until October 2022 following a full year of employment. STI review is now aligned to the end of the financial year.

Employee's remuneration

The number of employees who received remuneration and other benefits in their capacity as employees during the year ended 30 June 2023 that in value was \$100,000 or more per annum paid or payable is set out in the table below:

	2023 Employees	2022 Employees
\$100,000 - \$109,999	3	1
\$110,000 - \$119,999	-	2
\$120,000 - \$129,999	2	1
\$130,000 - \$139,999	2	2
\$140,000 - \$149,999	2	4
\$150,000 - \$159,999	1	1
\$160,000 - \$169,999	-	1
\$170,000 - \$179,999	2	1
\$180,000 - \$189,999	2	2
\$190,000 - \$199,999	2	1
\$200,000 - \$209,999	1	-
\$210,000 - \$219,999	-	1
\$250,000 - \$259,999	-	1
\$270,000 - \$279,999*	1	-
\$360,000 - \$369,999	1	-

*During the year ended 30 June 2023, REANNZ paid \$66K compensation or other benefits in relation to cessation to one employee (2022: \$ Nil).

2023 employee expenses were higher than in 2022 which had a number of unfilled vacancies during the year and part-year Chief Executive costs.

19. Events after balance date

There were no significant events after balance date.

20. Financial instruments

Financial instrument categories

The carrying amount of financial asset and liability categories are as follows:

	2023 \$000	2022 \$000
Mandatorily measured at fair value through surplus or deficit		
Derivative financial instrument assets	354	678
Financial liabilities measured at amortised cost		
Accounts payable and accrued expenses	773	1,239
Financial assets measured at amortised cost		
Cash and cash equivalents	3,144	5,331
Receivables and Debtors	2,202	2,305
Investments	27,504	21,348
Total financial assets measured at amortised cost	32,850	28,984

21. Explanation of major variances to budget

Statement of Comprehensive Revenue and Expense

Revenue

Total revenue was below budget by \$2.9M. The \$4.1M funding from the Crown was recognised as capital but included as revenue when budgeted. Managed services and interest revenue exceeded budget.

Expenditure

Network expenses

Total network expenses were \$1.0M lower than budget.

Network personnel costs were underspent by \$590K, with two technical roles being vacant for the full year, and one technical role filled later than budgeted. These factors also contributed to a lower recruitment spend than budgeted.

Depreciation expenses were lower than budget by \$572K, with budget including fibre assets impaired in FY22 and less capital expenditure for the current year.

Operating expenses

Overall operating expenses were under budget for the year by \$646K.

Travel costs were \$147K under budget due to lower levels of international travel.

Personnel costs were underspent by \$186K, with the departure of two staff who were not replaced.

Other operating expenses were \$316K under spent, due to lower ICT costs, general office cost savings and lower engagement and communications costs.

Statement of financial position

Actual expenditure for the year was lower than budget for both capital and operating expenditure impacting cash, investments and property, plant and equipment.

Trade and other payables exceeded budget due to increased network accruals.

Statement of Cash Flows

Operating cash flows

Net cash flow from operating activities was under budget by \$4.9M, largely due to the capital contribution of \$4.1M recognised under financing activity.

Payments to suppliers and employees were underspent by \$1.2M for the reasons outlined in Expenditure above.

Investing cash flows

Purchase of plant and equipment was \$4.5M under budget due to the deferral of capital expenditure into the next financial year, resulting in an increase in short term deposits.

Financing cash flows

A capital injection of \$4.1M from the Crown was included as revenue when budgeted.

OUR MEMBERS + PARTNERS /

As at July 2023

Our strategic partners



REANNZ MEMBERS AS AT 1 JULY 2023 /

Tertiary Institutions



Research Institutes



Research and Education





REANNZ