



MX480
NSH — AUCKLAND
36.79° S 174.752° E

Vision / a dynamic,
productive and globally
connected research,
education and
innovation ecosystem
for the prosperity of
New Zealand /

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Mission / to enable
New Zealand's research,
education and innovation
sectors to thrive in a
data-intensive and digitally-
enhanced world through
the provision of tailored
technology solutions
and high-performance
network services /

This year we
refreshed the network,
increasing backbone
bandwidth to
20 Gbps and creating
a scalable platform
for the future /

Who we are

REANNZ is New Zealand's Crown-owned, high-performance network solutions provider. We own and operate a specialised research and education network on behalf of New Zealand's research and education communities.

Our members send and receive large data sets across the globe. They work with time-sensitive data. They collaborate with researchers in different countries, working in different institutions. They need a network that is carefully monitored and managed for performance — from the data source to its destination. That's what we focus on.

It's also why we're part of a global network of research and education infrastructure, supporting the worldwide exchange of data between researchers, educators and innovators — connecting them at speed to the tools, people, applications and resources they need to be successful in their fields, wherever they may be.

A research and education network is essential to the success of a nation. High-performance connectivity is a prerequisite in a world where success requires access to resources on a global scale. New Zealanders need not be constrained by their physical location on the planet. We have the local and global infrastructure in place for New Zealand to unleash its full potential.



Hawaiki Cable
due 2018

MX80
MTA — AUCKLAND
36.891°S 174.727°E



97% of users reported
issues are resolved
in a timely manner

94% of users believe
the REANNZ network
to be essential or
valuable to their work

MX104
TRG — TAURANGA
37.683°S 176.169°E

Board Chair's report

Keeping NZ research and education at the cutting edge

REANNZ is New Zealand's national and international research network system manager. We coordinate demand as well as procure and operate national and international connections, which are tailored and managed to ensure they are fit for science and research. The system manager role we play ensures New Zealand remains part of the global research network fabric that privately connects every researcher and scientist in the world to one another. It's an international express-path for science, research and education.

Globally, this is a federated model. Each national research and education network (NREN) system manager coordinates and connects its local research and education community with other NRENs across the world. This global community relies on a set of high standards and trust; every network must be of a standard that allows seamless data-intensive research and education, and all network participants must be involved in the research, education and innovation community.

The benefits of this are significant: while REANNZ members have full access to the public internet, they avoid its shortcomings for hyper-intensive data, and they avoid the need to establish multiple, private point-to-point services for each and every collaborator they work with, each research instrument they use, or other resource they access. Our end-users have collaborators in multiple institutions, collaborative ventures and multi-party programmes, which change constantly as their research projects evolve and funding changes. Without an NREN securing seamless global connectivity to their participants, members' IT teams would be constantly building, modifying and dismantling multiple private connections. Private connection of this nature can be highly expensive, difficult to obtain and of varying suitability for data-intensive research.

The global NREN confederation eliminates the need for dynamic, multi-party complexity and provides a unique network platform with specialist capabilities to move large data sets that commercial network operators are simply not designed to support.

Periodically, the case for New Zealand's NREN and REANNZ's system manager role must be remade. The past year has been one of these

instances. It has been a drawn-out process with considerable uncertainty for institutions, users and staff. However, I am pleased to report that, as the 2016-17 financial year closed, REANNZ received a large vote of confidence to continue its mission. The New Zealand Government agreed in principle to invest \$21M with us over the next seven years. By the time this report goes to print, we expect to have signed the contract, which will be the largest and longest Government funding commitment since REANNZ was founded in 2005. It recognises the valuable role REANNZ plays in enabling data-intensive research and science in New Zealand, and its importance in keeping New Zealand science and research at the cutting edge.

Securing a renewed mandate was accomplished, along with many achievements last year, through an outstanding effort by the REANNZ team — staff, executives and Board. I thank them all, not only for the quality, intensity and value of their work, but also for their unwavering commitment to our mission supporting New Zealand's talented and exciting research community.

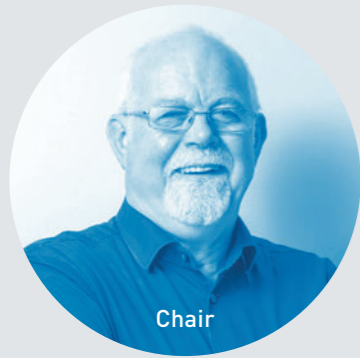
The \$21M investment by Government is an important starting point for the next stage in REANNZ development, and builds on its \$15M investment in our long-term international capacity agreement with Hawaiki Cable. We can now move with confidence to review and update the REANNZ commercial model for our members and ensure it remains fit for purpose. Over the coming year, we will work closely with our core members to agree and enhance our future business model, services and pricing structures. This will allow the research and education community to plan and invest with certainty for New Zealand's scientific, educational, economic and societal development.

Jim Donovan
Chair of Directors



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HLZ — HAMILTON
37.779°S 175.31°E

Our Board



Chair

Jim Donovan

Jim is a professional director with wide experience in the public and private sectors, including technology-based businesses and tertiary education. In addition to REANNZ, he is chair of Isambard Ltd and the charity Skylight Trust, and a director of Winston Group Ltd. He is a Chartered Fellow of the Institute of Directors.



Deputy Chair

Ross Peat

Ross is Executive Director and co-owner of health technology companies RxOne and HealthSoft, and a director of Mint Innovation and AUT Ventures. He is a Founding Investor of the Tuhua Fund (angel and early stage investment), a member of the Ice Angels and a member of the Institute of Directors.



Professor Simon Hall

Simon is Deputy Pro Vice-Chancellor (Academic) for the College of Sciences at Massey University. He is a Professor of Electrochemistry at the university and two companies have been spun out based on his research on rechargeable batteries.



Susie Johnstone

Susie is based in Balclutha where she is the Managing Partner of Shand Thomson. Susie is a Fellow of both Chartered Accountants Australia & New Zealand and the Institute of Directors, and is the Independent Chair of the Audit and Risk Committee of the Dunedin City Council and the Southern District Health Board.



Professor Steve Weaver

Steve is Emeritus Professor at the University of Canterbury where he was formerly Deputy Vice-Chancellor (Research). He serves on the Board of GNS Science Ltd, is a member of the Governance Group of the Resilience National Science Challenge and is a Fellow of the Royal Society of New Zealand.

Board skills and experience



The following chart gives a snapshot of the relevant skills and experience of the REANNZ board as at 30 June 2017 (self-assessed by each director). The chart shows the number of directors with three or more years' experience as a practising specialist in the skill area, and the number who have three or more years' significant experience with the topic as an executive or director.

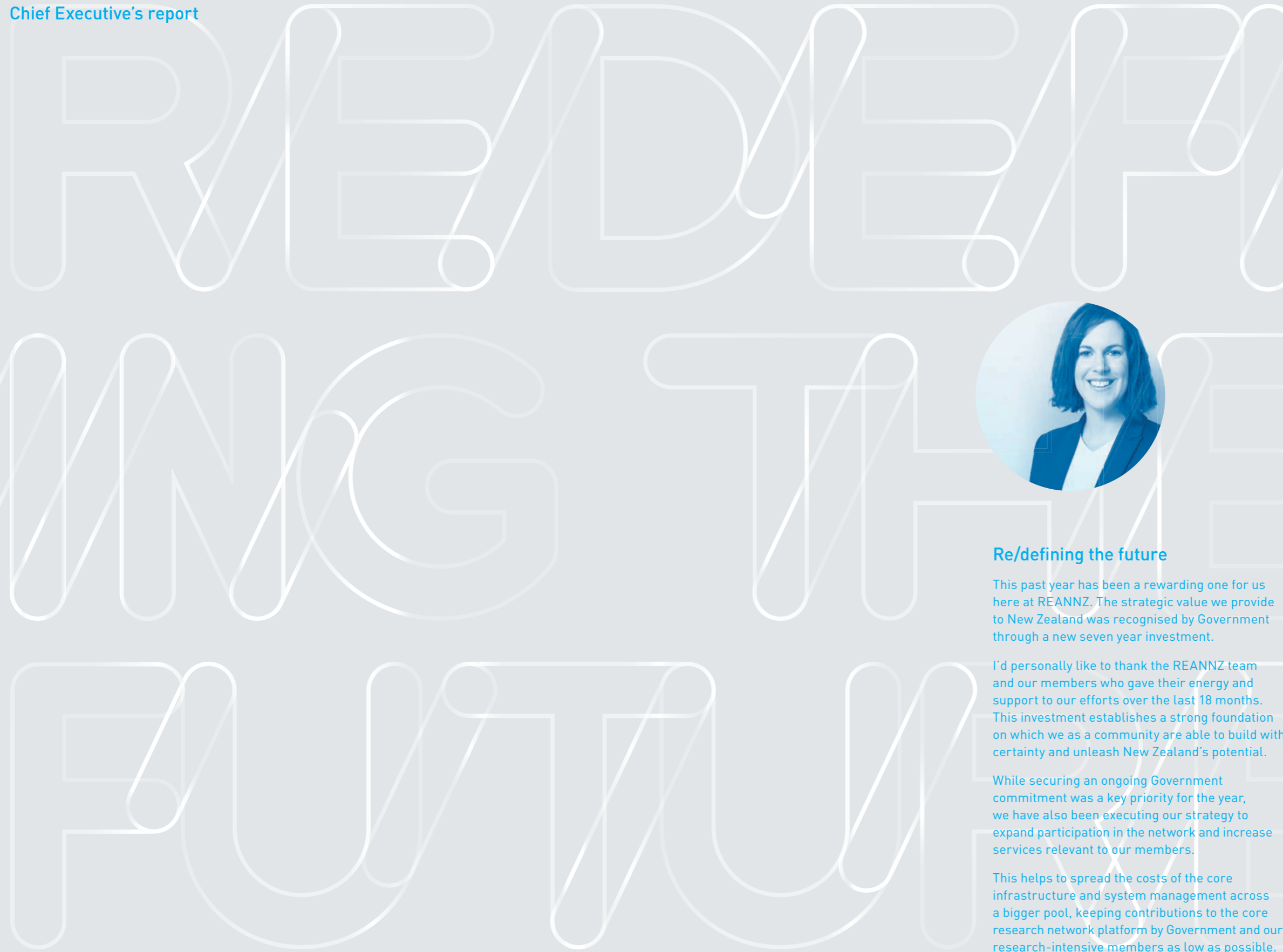
- Executive/director >3 years
- Specialist >3 Years
- 0-2 years REANNZ tenure
- 2-4 years REANNZ tenure
- 4-6 years REANNZ tenure



99.99998% packet delivery

We monitor our network tightly for packet delivery, as it is crucial for sending big files, and a key differentiator for research and education networks. A 100 terabyte data set takes one day to transfer over a clean, high-performance 10 Gbps connection with no packet loss. If you suffered only 0.002% packet loss during this transfer, it would stretch out to 215 days, making work impossible. Having a clean network with minimal packet loss is crucial for data-intensive science.

MX80
ROT – ROTORUA
38.16°S 176.265°E



We welcomed three new members to the REANNZ community over the last year. These members have joined REANNZ for the specialist capability, support, and private, unconstrained access to other community participants.

We have also expanded our service offerings. We launched a tailored managed firewall service that sits in the heart of the network, expanded our data centre access and service provider participation, and kicked off a Distributed Denial of Service (DDoS) prevention trial to identify innovative ways to support our members' security strategies. Security services such as these are particularly important, as 'off the shelf' services aren't usually fit for purpose for research organisations; they mistake large research flows as security risks and block them.

Network performance remains excellent

Network availability remains excellent, with less than 0.002% unavailability during the year. This is particularly impressive given we replaced all our customer facing network equipment over the last 12 months, transferring over 200 member connections to new devices. This equipment refresh positions us well to cost-effectively and flexibly scale to meet future growth in our members data-intensive demands.

Our network design also proved itself during the Kaikoura earthquake. REANNZ members retained connectivity across all three diverse paths between the North and South Island, where other providers were left reliant on a single cable. Our business systems allowed the REANNZ team in Wellington to continue to operate as usual, even though the central city was out of bounds for several days.



Re/defining the future

This past year has been a rewarding one for us here at REANNZ. The strategic value we provide to New Zealand was recognised by Government through a new seven year investment.

I'd personally like to thank the REANNZ team and our members who gave their energy and support to our efforts over the last 18 months. This investment establishes a strong foundation on which we as a community are able to build with certainty and unleash New Zealand's potential.

While securing an ongoing Government commitment was a key priority for the year, we have also been executing our strategy to expand participation in the network and increase services relevant to our members.

This helps to spread the costs of the core infrastructure and system management across a bigger pool, keeping contributions to the core research network platform by Government and our research-intensive members as low as possible.

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TUO — TAUPO
38.682°S 176.07°E

Usage continues to accelerate

Traffic growth continues to be strong, with total traffic up 54% over last year. Peak loads on our network have also grown, with the peak traffic rate on the network 40 Gbps, up from 28 Gbps in the prior year.

Participation in data-intensive work continues to grow, with research and science traffic profiles increasing year-on-year. Individual members are improving their ability to push and pull data at speed, and are increasingly capable of using the capacity that the network provides. We look forward to working closely with our members over the coming year to further enable this capability.

Investments being made in New Zealand, including in NeSI's high performance computing (HPC) platform and Genomics Aotearoa, the rise of "open research data" and the increase in both local and international commercial applications providing storage, data visualisation and compute will only continue to drive capacity and performance demands. We are planning for capacity growth to meet this demand.

Financial performance ahead of budget

Financially, we came in ahead of budget for the year with a surplus of \$6.6M compared to a budgeted surplus of \$4.8M.

Of this surplus, \$5.2M relates to recognition of Government grants received to meet the upfront investment in the Hawaiki International Cable, currently under construction. The corresponding costs will not be recognised until the cable is in service.

Careful planning of capacity upgrades on both the national and international network kept network costs under budget for the year. We also delayed some capital investment, extending the life of existing assets as far as possible to manage the uncertainty around our future funding. This, in addition to several personnel vacancies, has made it a challenging year.

Cash balances remain on track to meet our medium-term investment commitments. These include increases to national network capacity to meet growing demand and establishing connectivity to the Hawaiki landing stations when the service comes online in 2018. As REANNZ cannot borrow, we must save for network reinvestment and replacements.

Looking forward

As more disciplines become data-intensive, and New Zealand seeks to increase participation in international science programmes, the need for network infrastructure that supports international collaboration, and access to and use of shared science facilities is clear.

The New Zealand Government has made a substantial long-term commitment to our role supporting New Zealand's research sector. The coming year is about agreeing to a renewed framework with our members which will accelerate New Zealand's participation in data-intensive science and research. We will also continue to attract related use in education, health and public services, enabling us to both spread the core network cost and afford to invest in relevant added-value services for our members.

New Zealand has a highly competitive research and education environment. To compete on the global stage for talent, resources and reputation NZ researchers must find new ways to work together, drive effectiveness and compete globally as a nation.

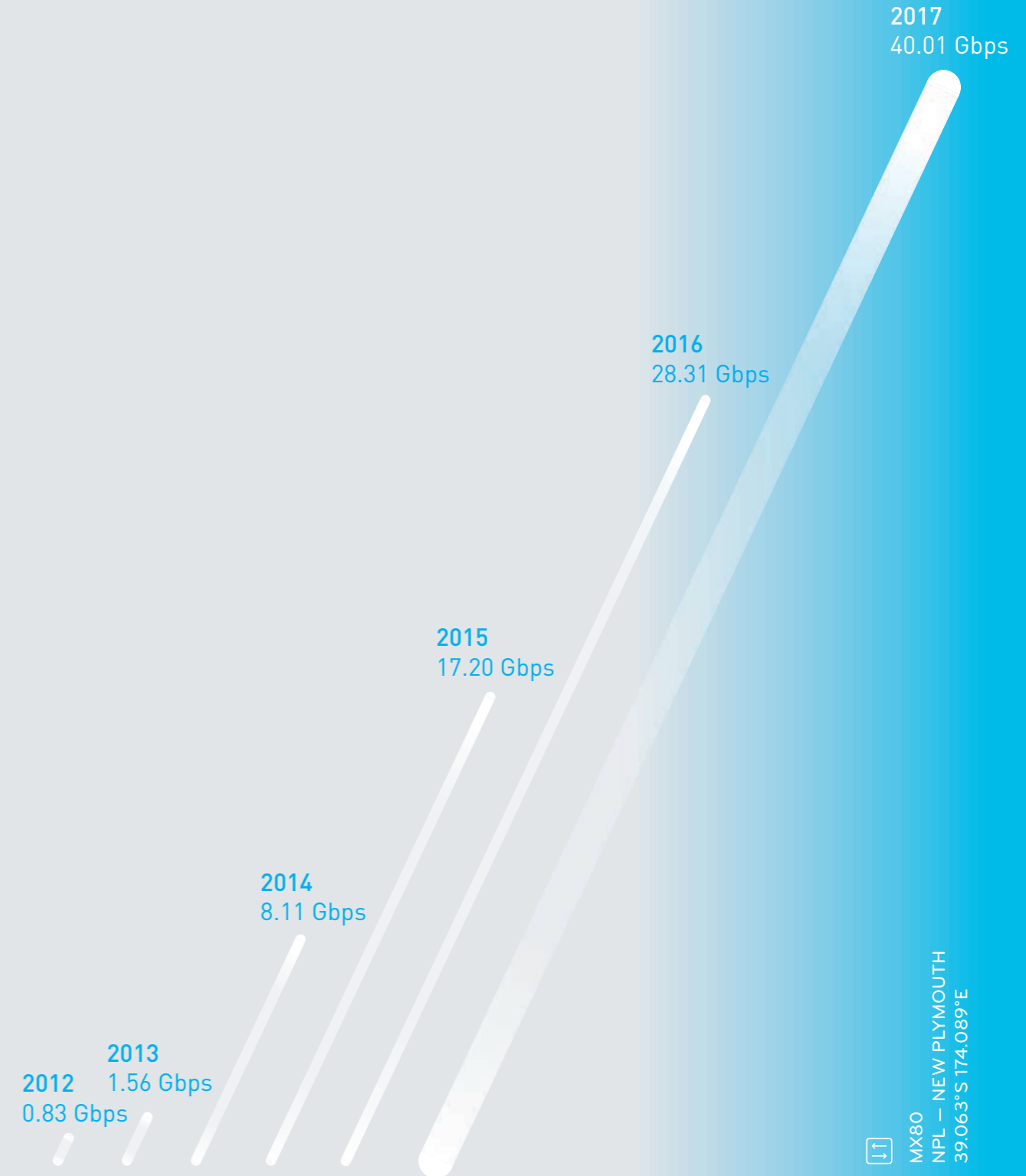
There is huge potential to leverage REANNZ, as an organisation that sits independently across the entire research ecosystem, to help solve other challenges that require national, or at least sector-wide solutions. Around the globe organisations like REANNZ are attracting government and member investment to expand their mandate to specifically address challenges of this nature, whether it be in areas such as research data, edtech or trusted identity platforms.

We look forward to working with our members over the coming year to redefine our core network services model to deliver maximum value to them, and for New Zealand.

Nicole Ferguson
Chief Executive



Peak network load



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NPL - NEW PLYMOUTH
39.063°S 174.089°E

We coordinate and connect the local research and education community with their global collaborators and the tools they need for data-intensive work.





Why an NREN?

REANNZ is a national research and education network (NREN) organisation, one of over 100 such organisations worldwide that are dedicated to supporting the needs of their local research and education community. REANNZ and its sister organisations work together to create a global research and education network, connecting every research organisation in the world to one another to support the advancement of science, research and education.

NRENs exist to provide specialist networking at levels of performance, quality and reach necessary for research and science to take place effectively, and to serve a demand-side need for orchestration, cooperation and support across this complex community.

As an NREN, REANNZ is also New Zealand's national system manager. We:

- maintain New Zealand's access to NRENs around the world, and collaborate with them to provide high-performing global reach;
- enable New Zealand to adopt and advance international research and education specific services such as eduroam™ and identity and access management platforms (such as the platform on which Tuakiri is based);
- influence global network architecture to align standards and prepare for the next generation of data intensity. These discussions are only open to NRENs, and are essential to ensure New Zealand's network features remain compatible with standards, features and protocols of networks globally; ensuring interoperability;
- represent New Zealand in global forums, ensuring New Zealand maintains its leadership position with regards to science and research capability;
- identify current and future capability requirements across the higher education and research sectors;

- manage the timing of technology upgrades to ensure they are cost-effective and meet leading-edge research requirements;
- ensure our local research and education community are aligned on technology initiatives, especially those that support cross-sector programmes like the National Science Challenges, Centres of Research Excellence and access to common local platforms like NeSI's HPC facilities and genomics infrastructure such as bio-IT and sequencing platforms;
- co-ordinate across our research and education sector to reduce or eliminate duplication of effort, create economies of scale and leverage sector-wide buying power;
- provide specialist expertise and support in networking and moving data, including support to end-users and institutional IT teams; and
- work with a broad variety of stakeholders, including government, to advance research and education policy objectives nationwide.

We also procure, operate and manage the specialist research network to ensure it is fit-for-purpose for the unique needs of its users. These features include;

- burst capacity;
- performance;
- quality;
- reach; and
- specialist expertise and support.

We take these responsibilities very seriously, listening to the requirements of researchers, data-intensive users and IT teams to help find the right solution, connect them with the right people and help them gain access to the best tools to meet their needs.

1.12PB international R&E traffic volume for 2016-17 / Six members now have resilient connections to Kapua Data Centre in Hamilton / 66,406 unique devices authenticated through REANNZ on eduroam™ / 54% increase in managed edge devices and managed access circuits since 1 July 2016 / 24-7 support

REANNZ service offerings

The services we offer are tailored to meet the current and future needs of the research, education and innovation communities in New Zealand. These services include:

Specialised research and education network services

We provide high-performance access to:

International destinations, including:

- international research and education networks and their members (Universities, research organisations and other education institutions);
- international research infrastructures and data repositories (eg the National Oceanic and Atmospheric Administration (NOAA) or the European Genome-phenome Archive); and
- internationally hosted science and research tools or applications (eg cloud compute).

National destinations, including:

- local research and education institutions (Universities, CRIs, ITPs, research organisations and other research and education agencies);
- New Zealand based research infrastructures and data repositories (eg the NeSI high performance computing (HPC) platform);
- New Zealand science and research tools or applications (eg cloud compute); and
- Other major domestic destinations (eg infrastructure-as-a-service providers and datacentres).

Internet destinations, including access to:

- domestic internet exchanges;
- caches of internet content held locally; and
- international internet destinations (websites and other content).

Other services

Identity and access management

- eduroam™ — secure, worldwide roaming wifi for our nation's researchers, educators and students
- Tuakiri — federated identity access management

Managed access services

- Managed edge devices, such as routers and switches
- Managed access circuits, such as dark fibre
- Managed devices and access tailored specifically for high-performance transfers, such as data transfer nodes (DTN) for Science DMZ

Security

- Managed hosted firewall

Consultancy and support

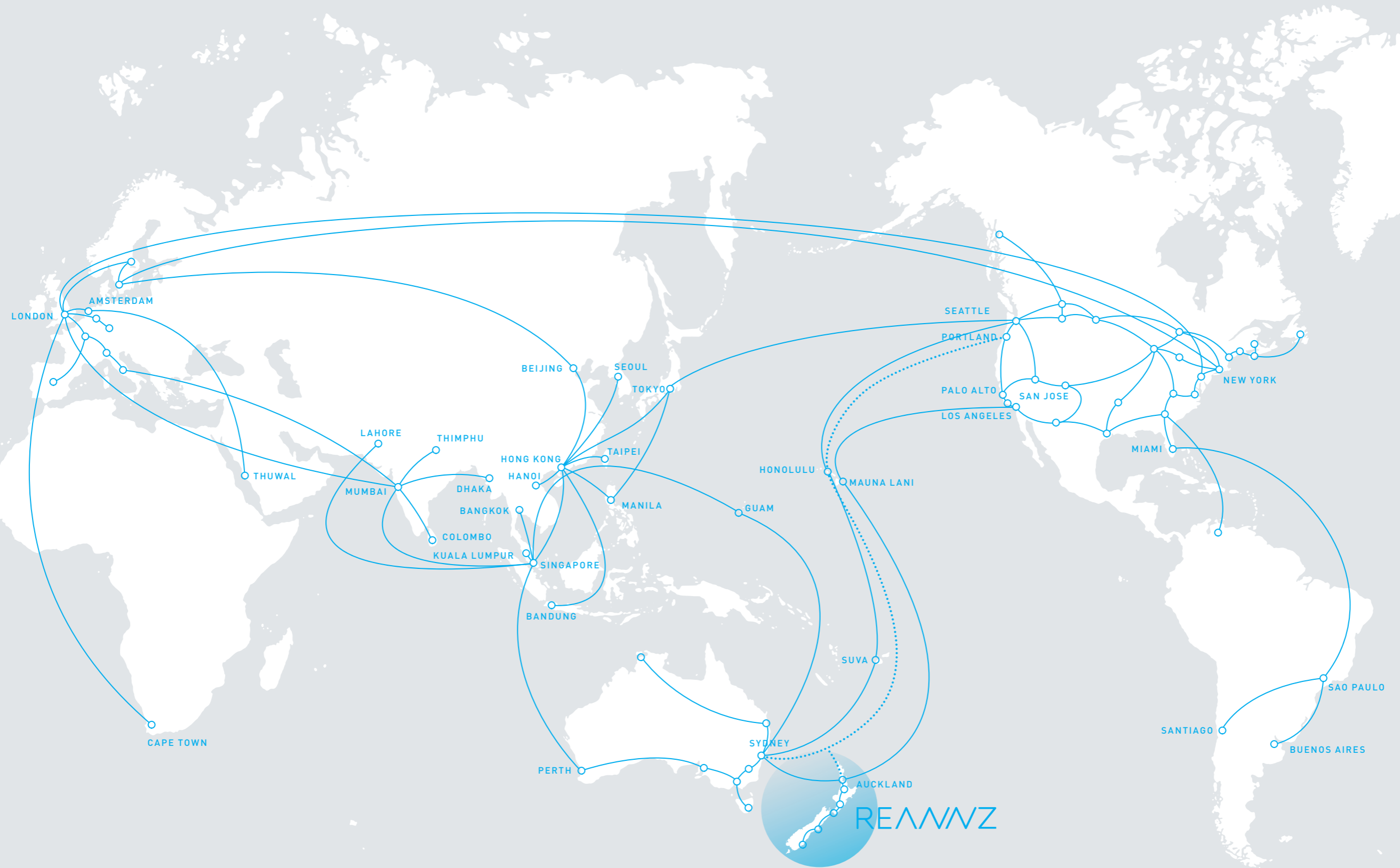
- Network architecture, design and consulting for research and education
- Science and research data transfer services, including design, troubleshooting and support
- Technical training, support and advocacy



“REANNZ provided us with the critical knowledge and expertise we needed in order to achieve our goals — by granting us access to contacts and networks, and simply by educating us as users. There’s a huge level of value inherent not just in the network infrastructure, but also in the unique and specialist support the REANNZ team is able to provide at an advisory level.”

“REANNZ is a unique partner — we’re members, and they legitimately uphold the meaning of the word partner. They will really work with you to live up to the spirit of any agreement, and deliver the solution and the outcomes you’re after.”

International network



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AVL — WELLINGTON
41.196°S 174.932°E

Employer statement

REANNZ as a good employer

Policies are in place to guide the organisation in what it means to be a good employer, and to ensure it provides equal employment opportunities.

Areas of focus for REANNZ are as follows:

Leadership, accountability and culture

REANNZ has a talented and dynamic team. Our culture is built upon our platinum rule: 'treat others as they would like to be treated'. We encourage all staff to lead by example, supporting others to behave in a way that is consistent with our culture and the values that we believe are crucial to our success. These values include putting the community first, integrity, responsiveness, taking action, personal responsibility and continual innovation.

Recruitment, selection and induction

REANNZ recruits new staff members through a number of channels, some through a recruitment agency and others through industry networks and recommendations. Prospective employees give a short presentation to REANNZ staff, allowing all staff to participate in the recruitment process and have a say in the appointment of their co-workers.

Employee development, promotion and exit

Being a small and diverse organisation there is opportunity for continual development and experience across multiple disciplines. External training and development is also

encouraged and specific budget is set aside for courses and conferences to ensure staff remain current in their field.

Remuneration, recognition and conditions

We are committed to ensuring we attract, retain and motivate high-performing people. We continue 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. We offer flexible working hours by agreement, to ensure all our staff have the opportunity to be successful in all aspects of their lives.

Harassment and bullying prevention

REANNZ has a published policy on harassment and bullying and has a zero tolerance approach. An employee assistance programme is available to all staff to enable them to get confidential support if needed. Open communication between staff and the leadership team is supported and encouraged.

Safe and healthy environment

Health and safety is taken seriously at REANNZ and procedures are in place to minimise risks, whether working in the office, handling network equipment or visiting our PoP locations.

Governance statement

Organisational form

REANNZ is a Company under the Companies Act 1993, and is listed under schedule 4A of the Public Finance Act 1989. Its shareholders are the Minister of Finance and the Minister of Science and Innovation. At balance date, each shareholder held 908 shares on behalf of the New Zealand public.

REANNZ is not a Crown Entity listed under the Crown Entities Act. However, it is the intent of shareholders that REANNZ act in a manner consistent with the Crown Entities Act. REANNZ is subject to the Official Information Act.

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. There were five directors appointed for the year to 30 June 2017.

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 each year.

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. 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 meetings

The Board of Directors generally meets monthly, and these meetings are supplemented with additional meetings as required for strategic planning purposes and to progress specific decisions. Over the past year the Board's workload increased and involved many informal, out of cycle meetings and video conference calls.

This was in addition to the 11 scheduled board meetings and six committee / strategic meetings.

Board committees

The Board has formally constituted an Audit and Risk Committee to focus on audit and risk management issues. Two members of the Board are on this committee, and the committee met three times during the year. The Board also has an HR Committee to advise on remuneration, performance and other employment related issues. Two Board members served on this committee and it met twice during the year. The Chairperson of the Board is an ex-officio member of both of these committees.

Board changes

There were no changes to the Board in the 2016/17 financial year.

Interest procedures

The REANNZ Board has a documented conflict of interest policy that sets out procedures for identifying and addressing potential conflict of interests. This policy applies to the directors and staff of REANNZ.

The key determination when considering whether an interest might create a conflict is whether the interest creates an incentive for the director or staff member to act in a way that may not be in the interests of REANNZ.

In deciding whether a conflict is present in any given situation it is appropriate that the determination be whether a reasonably informed objective observer would infer from the circumstances that the Board or staff member's judgement is likely to be influenced to the detriment of REANNZ's best interest.

An 'interests register' is maintained of directors' and executives' interests and updated regularly.

Auditor

Audit New Zealand, 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, QualIT House
22 The Terrace
Wellington 6011

This performance framework shows how our output, the advanced network and related tools, enables research and education that leads to a strong research ecosystem and growing economy.

REANNZ

Performance framework

Delivers

The advanced research, education and innovation network and related tools

Quality

National and international network availability

Quantity

Volume of member connections; increased service offerings

Timeliness

Issues resolved in a timely manner

Cost-effectiveness

Membership base is retained

Enables

Researchers across all fields will be able to conduct data-intensive research

Total traffic flows increase; and users consider the REANNZ network essential to their work

Collaboration between science, innovative business and education sectors is enhanced

Traffic volume through the international network increases; and traffic volume through the national network increases

Users have cost-effective access to the content and tools they need

Subscriptions to services increase

Equals

Sector outcomes

Grow the New Zealand economy to deliver greater prosperity and opportunity for all New Zealanders

REANNZ outcomes

High-performing and globally competitive research, education and innovation ecosystem

Statement of responsibility

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

The Board are 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 2017.



Jim Donovan
Board Chair



Susie Johnstone
Audit and Risk Committee Chair

19 October 2017
Signed on behalf of the Board

RESEARCH FORUM ANNUAL

Statement of service performance

For the year ending 30 June 2017

Our suite of performance indicators track trends on our high-level outcomes. Our indicators measure the impact we have and the quality, quantity, timeliness and cost-effectiveness of our output, the advanced research and education network and supporting services.

Outcomes

One of many contributors

REANNZ is one of many contributors to New Zealand's high-performing and globally competitive research, education and innovation system. As with other research infrastructures, it is difficult to measure the direct impact our advanced network and services have on the country's innovation ecosystem. For this reason we track trends for this outcome using external, publicly available indicators of the performance of New Zealand's research, education and innovation ecosystem, but we do not forecast specific changes in the trend indicators.

Outcome	Trend indicators	Results
High-performing and globally competitive research, education and innovation system.	New Zealand progresses its position in the top 500 universities per GDP, as shown in the OECD's 'Comparative performance of national science and innovation systems', OECD Science, Technology and Industry Outlook, published every two years.	New Zealand has a current ranking of 200 in the top 500 universities per GDP. The ranking was published on 8 December 2016. There was no change in ranking from the report published on 12 November 2014.
	New Zealand maintains its ranking for 'university-industry collaboration in R&D' in the World Economic Forum global competitiveness index.	New Zealand's ranking moved from 16th place in 2015/16 to 19th place in 2016/17 for university-industry collaboration in R&D. The current ranking was published on 26 September 2016.
	An improvement in New Zealand's ranking for 'capacity for innovation' in the World Economic Forum global competitiveness index.	New Zealand's ranking moved from 15th place in 2015/16 to 17th place in 2016/17 for capacity for innovation. The absolute value of this measure of 5.3 has remained the same from the prior report. The current ranking was published on 26 September 2016.

Improvements in a country's capacity for innovation and university-industry collaboration are clear indicators of its enhanced global competitiveness, increasing trends indicate encouragement of growth in the New Zealand economy to deliver greater prosperity and opportunity for all New Zealanders. New Zealand has overall maintained its rankings across the last few years. As a key platform for cross-sector collaboration and facilitator of innovation, we are one enabler of the achievement of these results.

Measuring our impact

Impact: Researchers across all fields are able to conduct data-intensive research

A number of science initiatives with large data requirements are being conducted that could not occur without the reach, reliability and speed of an advanced network. Examples include high-performance computing applications in research, including climate and geological science, facilitated by the National eScience Infrastructure project (NeSI), geonomics work with international collaborators and radio astronomy data analysis related to the international SKA project. All of these involve scientific instruments that generate

massive data sets. These data sets need to be transported quickly and accurately from the instruments to hosting or processing centres, and to be shared across the globe with scientists and researchers.

Indications of the amount of data-intensive science occurring are represented by the amount of data flowing over the network, as well as our users' assessment of the need for the network.

REANNZ continues to see very impressive year-on-year traffic growth of 54% over the last year, indicating more research and education services, applications and collaboration being conducted and supported. By comparison, the GÉANT compendium for 2015 reported that the compound annual growth rate over

the last 10 years for research and education networks' IP traffic averaged around 30%. Furthermore, Asia Pacific's IP traffic grew by only 34% over the same 2017 period¹.

REANNZ actively works with members to improve campus network performance, a key enabler of high-speed data transfer. This effort continues to enable the community to better utilise the advanced network.

The sector wide uptake of internet services — a prerequisite for access to the donated international research capacity by Southern Cross — has also contributed to the increase in traffic volumes. Domestically, REANNZ continues to focus on improving access to content through settlement-free peering, content caches, and increased use of services such as eduoam™, all of which increase the value our network brings to the community.

Measure	Result June 2016	Target June 2017 ²	Result June 2017
Total traffic flows increase			
Year-on-year growth	+52%	+29%	+54%
Total traffic volume	27.54 PB	35.56 PB	42.38 PB

As the capability of our end-users to undertake data-driven research, and the areas which rely on complex data sets or instrumentation have increased, so too has the importance of being able to store, share and analyse that data.

Over the last four years the services we provide have become increasingly critical to our users and this impressive outcome is the result of our relentless focus on delivering quality access to the content, applications and locations that our members need to reach.

In 2017, we saw our users' perceived value of the REANNZ network remaining high at 94% considering the network 'essential' or 'valuable' to their work.

Measure	Result June 2015	Result June 2016	Target June 2017	Result June 2017
Users consider the REANNZ network essential to their work	74%	80%	n/a	81%
Users consider the REANNZ network valuable to their work	25%	16%	n/a	13%
Total	99%	96%	>80%	94%

¹ http://www.cisco.com/c/m/en_us/solutions/service-provider/vni-forecast-highlights.html

² The target for June 2017 in the 2016/17 Statement of Performance Expectations was based on an estimate of the June 2016 result. The target in the table above reflects the estimated percentage growth over the actual result for June 2016.

Impact: Collaboration between science, innovative business and education sectors is enhanced

Collaboration takes many forms: it can be as simple as having a conversation over video conference, or as complex as the multistep process of turning one scientist's research project into a commercial product. REANNZ enables these collaborations by providing the connectivity and the tools to make collaboration easier and more effective.

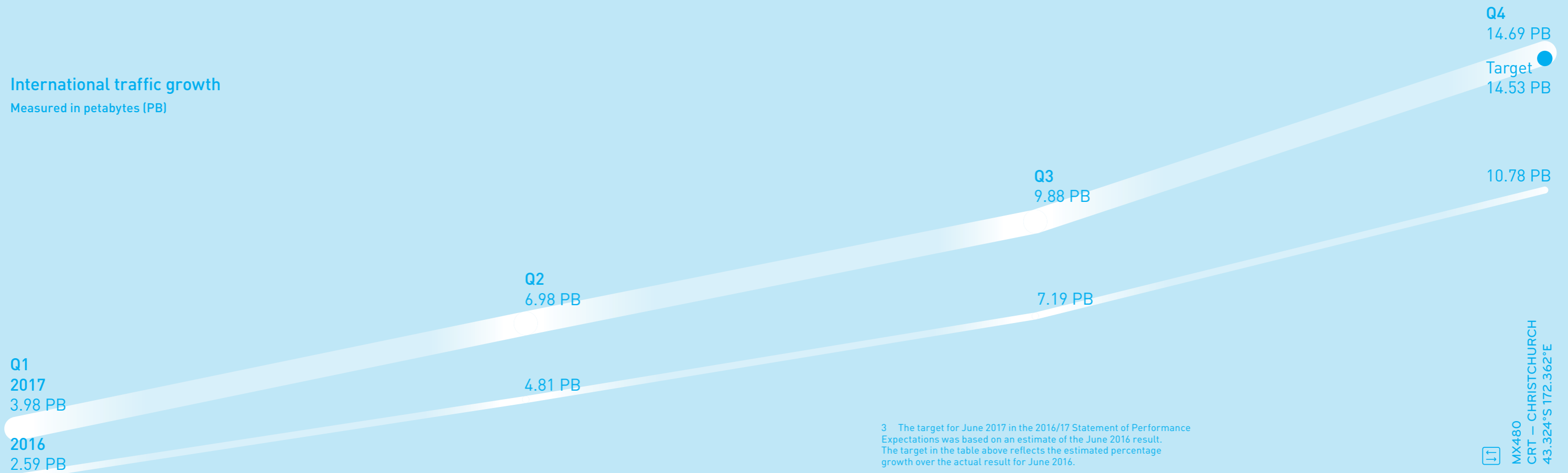
Increasing amounts of traffic flowing through our network indicate that more collaboration with both national and international participants is taking place. International and national traffic is an indirect indicator of the amount of collaboration enabled by REANNZ.

REANNZ has experienced exceptional growth over the last few years in both international and national traffic volumes as network upgrades were implemented.

Measure	Result June 2016	Target June 2017 ³	Result June 2017
International traffic volume			
Year-on-year growth	+85%	+35%	+36%
Total traffic volume	10.78 PB	14.53 PB	14.69 PB
National traffic volume			
Year-on-year growth	+36%	+25%	+65%
Total traffic volume	16.76 PB	20.93 PB	27.69 PB

International traffic growth

Measured in petabytes (PB)



³ The target for June 2017 in the 2016/17 Statement of Performance Expectations was based on an estimate of the June 2016 result. The target in the table above reflects the estimated percentage growth over the actual result for June 2016.

International traffic to other research and education institutions

Measured in petabytes (PB)



Traffic to other research and education institutions overseas is not growing as aggressively, having increased only 13% over the prior year⁴. This measure does not include research and education activity that utilises other research and education services, for example Amazon Web Services or Microsoft Azure (which include activities such as computing, storage and analytics). Use of these services is growing and REANNZ is looking at ways to report use and profiles associated with this type of activity.

However, an increasing or decreasing total volume of traffic transferred is not, of itself, the only representation of the value of the connection. This traffic measure alone ignores the performance features of our network that make it possible for large datasets to be transferred over long distances. We are seeing increasing capability of our end-users to source, produce and share their data-driven research with other members of global NRENs which

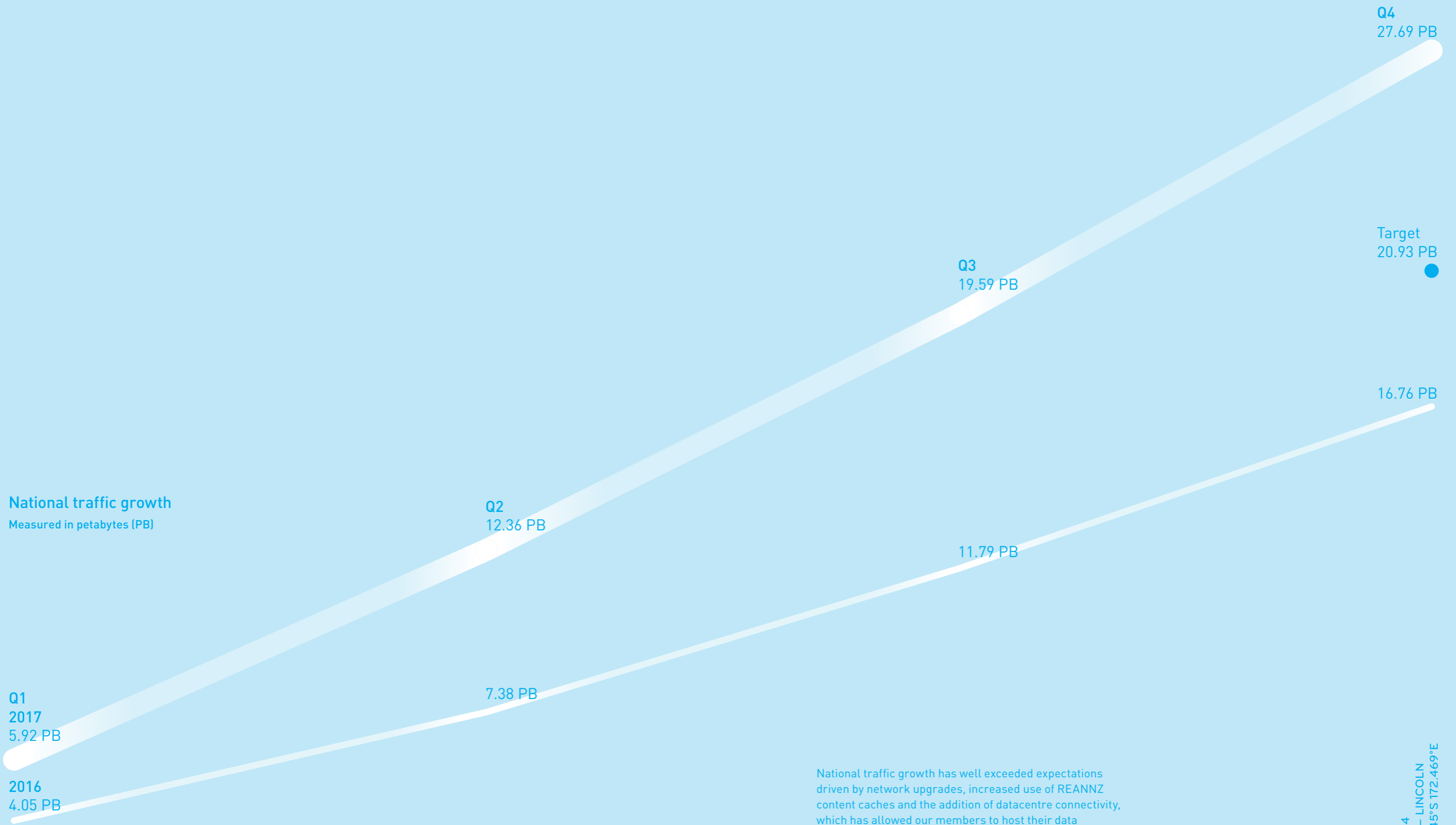
is a critical indicator of the value of our international NREN partnerships, and how they are used to facilitate inter-institutional collaboration.

Continued growth is reliant on:

- changes in the incentives for researchers and institutions to undertake data-intensive research programmes with international participants and/or use of international research infrastructures, and;
- increases in the capability (both technology and skills) of our members to support the transfer of data inside their institutions.

⁴ Last year's figure has been adjusted from 1.11 PB to 0.99 PB, after removing traffic related to a demonstration of international capability that distorted that year-on-year comparison.

National traffic growth Measured in petabytes (PB)



National traffic growth has well exceeded expectations driven by network upgrades, increased use of REANNZ content caches and the addition of datacentre connectivity, which has allowed our members to host their data off-premise. General exchange of information between members has also increased.

MX104
LCN – LINCOLN
43.645°S 172.469°E

Impact: Users have cost-effective access to the content and tools they need

REANNZ continues to develop services that meet the unique needs of our members, across research, academia, teaching and learning. We partner with our members to deliver services that add value through leveraging the investment in network infrastructure, developing customised solutions where they are not available in the market and creating a communal resource helping to create economies of scale for our member community.

Examples of these services include eduroam™ (a global wifi roaming service between research and education organisations), Tuakiri (identity and access management), security services, technical advisory services, managed network services, high-quality internet, caching, cloud and datacentre connectivity.

Members subscribing to REANNZ services indicates REANNZ delivers services that are relevant and value-for-money to our members.

Measure	Result June 2016	Target June 2017	Result June 2017
Subscriptions to services increase	+18%	+20%	+7%

Measuring our output

Output: Provide the REANNZ network and support the member community

REANNZ benchmarks and monitors the performance of our network on the dimensions of quality, quantity, cost-effectiveness and timeliness.

Quality

National and international network availability measures the reliability of the network. Network downtime includes faults and other connectivity or hardware outages, but excludes planned maintenance outages. 99.90% network availability is standard for research and education networks internationally.

Network availability is crucial for our users to be able to perform their work when they need to. Network design is one way to maintain availability, even during outages, by the use of physically diverse paths, fail-over hardware and protected circuits. REANNZ's impressive 2017 network availability statistics (99.99% for the national

Over past years, REANNZ has worked to bring new value-added services to the community. During this year REANNZ has seen growth in the uptake of our datacentre connectivity offering and the new managed firewall service. REANNZ has also seen excellent continued take up of our managed services, as we now manage 88 specialised member connection points, up 54% on last year.

The target for the year of 20% growth in subscriptions was not achieved, however this is attributable to the methodology of the measure. The current measure above only counts the number of signed contracts rather than the number or value of services taken up under each contract, which varies. For the upcoming financial year onwards, we have adjusted the methodology to better reflect in substance the uptake in our services and the overall number of subscriptions.

network and 100% for the international network) are the result of our focus on operational excellence and designing for network resiliency.

Packet delivery is the successful transfer of a packet of data from point A, to point B. Poorly tuned networks, networks that are experiencing hardware or software faults or congestion will drop packets. This directly effects the quality of the user experience and the integrity of the information transferred.

A major differentiator of research and education networks is the elimination of packet loss as it is catastrophic for large data transfers typical of our user groups. As such we set packet delivery targets well beyond the levels of an ordinary telecommunications provider.

We have begun formal recording and reporting on packet delivery targets in the current financial year as it is a key element of network quality and one of the defining features of research and education networks.

	Result June 2015	Result June 2016	Target June 2017	Result June 2017
Network availability				
National network availability (12 month rolling average)	99.99%	99.99%	99.90%	99.99%
International network availability (12 month rolling average)	100%	100%	99.99%	100%
Packet delivery	Not reported	Not reported	99.00%	99.99998%

Quantity

The number and size of our members' network connections demonstrate the quantity of the services we provide. Adding new services is another measure of providing an increasing quantity of services to our members.

The volume of member connections is a calculation based on the number of member connections to the network and their size. Volumes have grown significantly over the last year as our members increased the size of their connections to meet increased demand, implementation

of second connections to our network for resiliency, and the addition of new members and connection of new sites to the network.

REANNZ planned to launch two new service offerings during the year. REANNZ has launched a managed firewall service during the year which supports improved security and have trials for an Amazon Direct Connect and Microsoft Express Route services in progress. REANNZ is also focused on growing existing services such as Tuakiri and eduroam™.

Volume	Result June 2016	Target June 2017 ⁵	Result June 2017
Network scale and reach (volume of member connections)			
Year-on-year growth	+46%	+15%	+66%
Total traffic volume	649 Gb	746 Gb	1,075 Gb

	Result June 2016	Target June 2017	Result June 2017
New services added			
Service offerings increase	Data Centre Connect services to members	2 new service offerings available to members	1 new service offering available to members

⁵ The target for June 2017 in the 2016/17 Statement of Performance Expectations was based on an estimate of the June 2016 result. The target in the table above reflects the estimated percentage growth over the actual result for June 2016.

Cost-effectiveness

In a fledging big data community, not yet mature in optimising the benefits of international data intensive collaboration, cost effectiveness is critical. The cost-effectiveness of the REANNZ network for our members is best demonstrated by retaining our core membership base and growing overall membership. If we are not cost-effective in providing valuable networking solutions, alternative suppliers would enter the market, and we would lose members.

Overall membership growth further validates the dimensions of high quality, increasing quantity, maintenance of cost-effectiveness and timeliness in providing the REANNZ network and supporting the member community. During the year REANNZ welcomed three new members to the REANNZ community, including Tertiary Education Commission (TEC), Education Council Aotearoa and BRANZ, as well as three service providers.

	Result June 2015	Result June 2016	Target June 2017	Result June 2017
Memberships maintained				
REANNZ maintains its core membership base	8/8 Universities	8/8 Universities	8/8 Universities	8/8 Universities
	7/7 Crown Research Institutes	7/7 Crown Research Institutes	7/7 Crown Research Institutes	7/7 Crown Research Institutes
	1/1 ATI	1/1 ATI	1/1 ATI	1/1 ATI
	12/18 Institutes of Technology and Polytechnics	12/15 Institutes of Technology and Polytechnics	12/16 Institutes of Technology and Polytechnics	12/16 Institutes of Technology and Polytechnics
	1/3 Wānanga	1/3 Wānanga	1/3 Wānanga	1/3 Wānanga

NREN budget comparison

REANNZ is one of 117 research and education networks around the world. While it is difficult to directly compare costs with our international counterparts as they each operate within different geographical constraints and supply markets and are at different stages of maturity with regards to service offerings, we can provide an indicative comparison of REANNZ's budget to similar networks which are members of the European networking association, GÉANT.

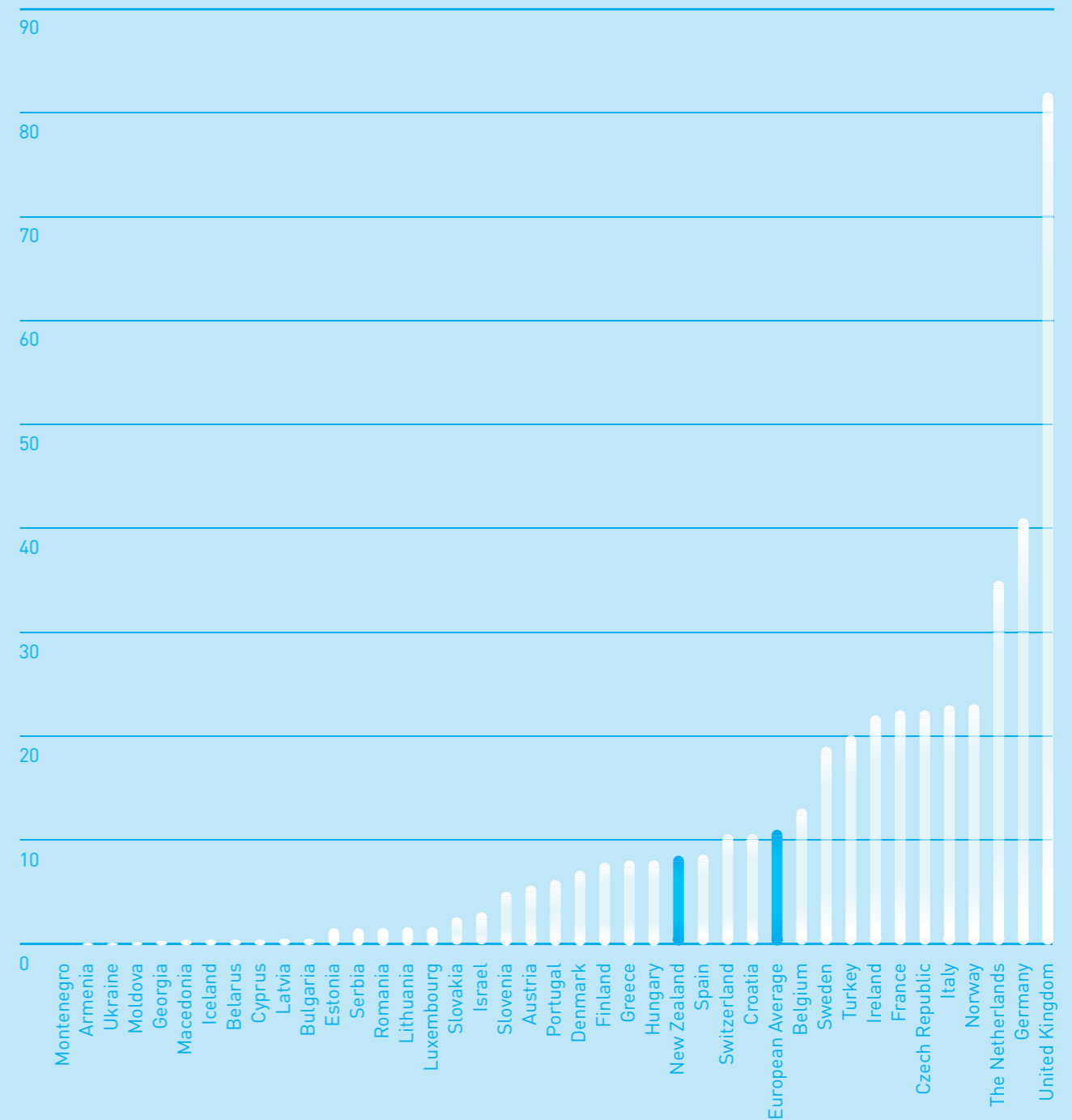
One of REANNZ's most significant costs is international connectivity. For most European research networks, this cost is a significantly smaller portion of their operational budgets due to geography and supplier competition. REANNZ operates on a budget below the European average, despite New Zealand's high cost of international bandwidth.

Based on the most recent publicly available edition of the GÉANT Compendium, the average budget of European research networks between 2013 and 2015 was EUR11 million⁶. In comparison, REANNZ's budget over the same period was the equivalent of EUR8.4 million⁷. REANNZ average budget between 2016 and 2017 was EUR10.3 million, still below the historic average budget of European research and education networks.

⁶ 2015 edition of GÉANT Compendium of National Research and Education Networks in Europe.
⁷ Using the spot exchange rate as at 30 June 2017.

NREN budgets 2013 – 2015

Measured in millions of Euros



MX480
DUNEDIN
45.865°S 170.51°E

Timeliness

The speed at which we identify and resolve faults and other network performance issues is not only a measure of the quality of our customer service, but also a measure of the timeliness of our network management activity. We actively manage the network to identify issues before they affect our members, and proactively advise of issues rather than simply being reactive to member calls. The REANNZ helpdesk also logs incident reports from users, although we have internal target resolution times, the true test of our timeliness is our members' opinion of our responsiveness to their challenges.

In 2017, out of 90 survey respondents 32 had contacted our helpdesk. 31 of the 32 who logged a fault considered their issue to have been resolved in a timely manner. This is an indication of REANNZ's proactive approach to fault or issue identification, with REANNZ often identifying and resolving issues before they cause a fault that would impact our users experience.

Survey of responsiveness	Result June 2015	Result June 2016	Target June 2017	Result June 2017
Users consider reported issues to be resolved in a timely manner (based on member survey)	100%	100%	80% ⁸	97%

Actual revenue and expenses

Output: The advanced research, education and innovation network and related tools

	Actual 2017 \$000	Budget 2017 \$000
Revenue		
Crown revenue	9,250	9,250
Network revenue	7,855	8,289
Other revenue	4,723	4,489
Total revenue	21,828	22,028
Expenses		
Amortisation and depreciation	1,973	2,342
Network expenses	8,135	9,452
Operating expenses	4,261	5,401
Total expenditure	14,369	17,195
Surplus / (deficit) before foreign currency gains / (losses)	7,459	4,833
Foreign currency gains / (losses)	(788)	-
Surplus / (deficit)	6,671	4,833

⁸ Our target of 80% of responses resolved in a timely manner represent an appropriate balance between responsiveness and the cost of resourcing to increase responsiveness.



Financial Statements

Statement of Comprehensive Revenue and Expense
for the year ended 30 June 2017

	Note	Actual 2017 \$000	Budget 2017 \$000	Actual 2016 \$000
Revenue				
Grant revenue				
Crown funding agreement	2	4,000	4,000	4,000
Hawaiki contribution	2	5,250	5,250	1,500
Other	2	-	-	33
Network revenue		7,855	8,289	8,080
Other revenue	2	3,953	3,919	2,817
Interest revenue		770	570	666
Total revenue		21,828	22,028	17,096
Network expenses				
Depreciation and amortisation		1,796	2,131	1,578
Employment expenses		1,486	1,724	1,412
Network operating expenses	3	6,649	7,729	5,672
Total network expenses		9,931	11,584	8,662
Gross surplus / (loss)		11,897	10,444	8,434
Less:				
Operating expenses				
Audit		32	40	34
Depreciation and amortisation		177	210	174
Directors fees	4	123	121	119
Employment expenses		2,335	2,760	2,049
Other operating expenses		1,002	1,272	1,014
Professional services		335	624	356
Operating leases		184	221	162
Travel expenses		250	363	264
Total operating expenses		4,438	5,611	4,172
Surplus / (deficit) excluding gains		7,459	4,833	4,262
Foreign currency gains / (losses)	5	(788)	-	(1,529)
Surplus / (deficit)		6,671	4,833	2,733
Other comprehensive revenue		-	-	-
Total comprehensive revenue and expense		6,671	4,833	2,733

Explanations of major variances against budget are provided in note 25.

The accompanying notes form part of these financial statements.

Statement of Financial Position
as at 30 June 2017

	Note	Actual 2017 \$000	Budget 2017 \$000	Actual 2016 \$000
Current assets				
Cash and cash equivalents	6	3,094	2,631	3,143
Funds held in escrow	7	10,009	3,806	16,781
Receivables and debtors	8	3,897	3,897	3,446
Investments	9	20,479	18,000	18,161
Derivative financial instruments	10	154	316	379
Prepayments		647	439	373
Prepaid network expenses	11	388	388	389
Total current assets		38,668	29,477	42,672
Current liabilities				
Accounts payable and accrued expenses	14	1,717	1,041	1,772
GST payable		33	247	(177)
Employee entitlements	15	239	157	376
Revenue in advance	16	2,660	3,883	2,650
Deferred revenue	17	5,310	-	5,310
Deferred lease incentive		17	-	17
Total current liabilities		9,976	5,328	9,948
Net current assets		28,692	24,149	32,724
Non-current assets				
Property, plant and equipment	12	12,943	14,905	13,068
Intangibles	13	9	-	-
Derivative financial instruments	10	117	278	685
Prepaid network expenses	11	8,982	15,880	2,921
Total non-current assets		22,051	31,063	16,674
Non-current liabilities				
Deferred revenue	17	3,050	3,000	8,360
Deferred lease incentive		64	-	80
Total non-current liabilities		3,114	3,000	8,440
Net assets		47,629	52,212	40,958
Equity				
Share capital		16,001	16,001	16,001
Accumulated surplus		31,628	36,211	24,957
Total equity	18	47,629	52,212	40,958

Explanations of major variances to budget are provided in note 25.

The accompanying notes form part of these financial statements.

Statement of Cash Flows
for the year ended 30 June 2017

	Actual 2017 \$000	Budget 2017 \$000	Actual 2016 \$000
Cash flows from operating activities			
Cash was provided from (applied to)			
Receipts from the Crown	4,000	4,000	4,000
Network revenue	7,717	8,278	8,088
Interest revenue	731	570	595
Other revenue	3,672	3,859	2,823
GST (net)	(71)	591	112
Payments to suppliers and employees	(12,354)	(13,839)	(10,134)
Prepayment for network connectivity	(6,448)	(6,660)	(1,874)
Net cash flow from operating activities	(2,753)	(3,201)	3,610
Cash flows from investing activities			
Cash was provided from (applied to)			
Purchase of plant and equipment	(1,814)	(4,759)	(1,080)
Funds transferred from escrow	6,448	6,660	1,874
Term deposit investments	(2,278)	-	(7,000)
Net cash flow from investing activities	2,356	1,901	(6,206)
Cash flows from financing activities			
Cash was provided from (applied to)			
Realised gain on foreign currency	348	-	732
Net cash flow from financing activities	348	-	732
Net (decrease) / increase in cash held	(49)	(1,300)	(1,864)
Cash at beginning of year	3,143	3,931	5,007
Cash at end of year	3,094	2,631	3,143
Represented by:			
Cash at bank	3,094	2,631	3,143

Explanations of major variances against budget are provided in note 25.

The accompanying notes form part of these financial statements.

Statement of Changes in Equity
for the year ended 30 June 2017

	Actual 2017 \$000	Budget 2017 \$000	Actual 2016 \$000
Balance at 1 July	40,958	47,379	38,225
Total comprehensive revenue and expense for the year	6,671	4,833	2,733
Equity at end-of-year	18 47,629	52,212	40,958

Explanations of major variances against budget are provided in note 25.

The accompanying notes form part of these financial statements.

Signed on behalf of the Board:



Jim Donovan
Board Chair
19 October 2017



Susie Johnstone
Audit and Risk Committee Chair
19 October 2017

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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 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 2017 and were approved by the Board on 19 October 2017.

Basis of preparation

The financial statements have been prepared on a going-concern basis, 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.

Significant accounting 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 coins and notes, demand deposits and other highly liquid investments readily convertible into cash 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 2016/17 Statement of Performance Expectations dated 31 May 2016 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 lives and residual values of property, plant and equipment — refer to note 12.

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. Where a grant is provided to partially fund the operation of a high-speed communication network for the research and education sector, REANNZ considers there are no conditions attached, and the grant is recognised as revenue at the point of entitlement.

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.

i. Grant revenue

	2017 \$000	2016 \$000
Non-exchange transactions		
Ministry of Business, Innovation and Employment Crown funding agreement	4,000	4,000
Ministry of Business, Innovation and Employment Crown funding agreement — Hawaiki Cable Managed Capacity	5,250	1,500
Ministry of Business, Innovation and Employment Hardship Fund	–	33
Total grant revenue	9,250	5,533

REANNZ entered into a Crown funding agreement with the Ministry of Business, Innovation and Employment ('MBIE') during the 2014 financial year. The agreement is for four years, expiring on 30 June 2017, and provides REANNZ with an annual operating grant. REANNZ received \$4M during the year (2016: \$4M).

All conditions relating to the Crown funding agreement for annual operations have been met.

In June 2014, REANNZ received a \$15M grant expressly for the initial fee for a 25-year lease of managed capacity with Hawaiki Submarine Cable Limited Partnership. Grant revenue of \$5.25M was recognised this financial year, in line with the second milestone payment made. Should the cable project not be completed, any remaining grant monies will be returned to the Crown.

All conditions relating to the Crown funding agreement for the first and second milestone payments of the initial deposit for the 25-year lease of managed capacity have been met.

ii. Other revenue

	2017 \$000	2016 \$000
Exchange transactions		
Managed services	2,072	1,343
Internet	1,449	1,198
Other	432	205
Video conferencing service	–	71
Total other revenue	3,953	2,817

iii. Gross telecommunications services revenue

In accordance with the information disclosure requirements under section 83 of the Telecommunications Act 2001, gross telecommunications revenue for the year ended 30 June 2017 was \$11.78M (2016: \$10.69M). Revenue from grants, interest and other non-telecommunications services of \$10.05M (2016: \$6.39M) were excluded. Allowable deductions for payments to other telecommunications service providers of \$2.45M (2016: \$2.14M) were made.

3. Network operating expenses

	2017 \$000	2016 \$000
National network		
Other network expenses	1,345	1,241
Fibre circuits	1,368	1,103
PoP accommodation	382	359
Connectivity	21	21
Asset disposals	2	17
Total national network expenses	3,118	2,741
International network		
International connectivity	3,426	2,793
Other network expenses	105	138
Total international network expenses	3,531	2,931
Total network operating expenses	6,649	5,672

Network expenses include \$309K relating to operating lease expenses recognised during the year (2016: \$271K).

4. Directors' fees

The total value of remuneration paid or payable to each Board member during the year was:

	2017 \$000	2016 \$000
J Donovan (Chair)	39	38
R Peat (Deputy Chair)	24	24
S Hall	20	19
S Johnstone	20	19
S Weaver	20	19
Total directors fees	123	119

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 (2016: \$Nil).

5. Foreign currency gains / (losses)

	2017 \$000	2016 \$000
Realised foreign currency gains / (losses)	348	732
Unrealised foreign currency gains / (losses)		
Escrow account (USD)	(323)	(585)
Fair value losses on derivatives	(793)	(1,647)
Bank account (USD)	(20)	(29)
Total foreign currency gains / (losses)	(788)	(1,529)

In July 2014, NZ\$15M was deposited into a USD denominated escrow account as the initial fee for a 25-year lease of managed capacity with the Hawaiki Submarine Cable Limited Partnership. The contract came into force during the last financial year and the first milestone payment of US\$1.32M was made. A second milestone payment of US\$4.62M was made in October 2016. At year-end, the balance was US\$7.30M. The escrow account incurred unrealised losses resulting from the net movement in the NZD against the USD for the year.

Unrealised losses were made on forward USD contracts held with the New Zealand Debt Management Office (NZDMO) reflecting the decrease in the fair value of the contracts for the year. The losses were partially offset by realised gains on trades that were settled during the year.

As at 30 June 2017, REANNZ held nine forward contracts (2016: 13 contracts) to purchase a total of US\$6.12M (2016: US\$8.85M). One contract is settled each quarter until July 2019. The contracts were entered into to mitigate foreign exchange exposure arising from quarterly network payments contractually required to be paid in USD.

6. Cash and cash equivalents

	2017 \$000	2016 \$000
Cash at bank and on hand	3,094	3,143
Total cash and cash equivalents	3,094	3,143

The total above includes NZ\$116K held in USD (2016: \$1.17M).

7. Funds held in escrow

	2017 \$000	2016 \$000
Funds held USD escrow account	10,009	16,781
Total funds held in escrow	10,009	16,781

In July 2014, REANNZ entered into a 25-year lease of managed capacity with the Hawaiki Submarine Cable Limited Partnership. At this time, the initial fee of \$15M (US\$13.21M) was deposited into a USD denominated escrow account, as required by the contract whereby all obligations are in USD. The first milestone and second milestone payments totalling US\$5.94M have been made. The account incurred unrealised foreign exchange losses of \$323K during the year.

8. Receivables and debtors

Accounting policy

Accounts receivable are recognised at fair value. A provision for impairment of accounts receivable is made where there is objective evidence that REANNZ will not collect all amounts due according to the original terms of the receivable. When this occurs, the receivable is recorded at amortised cost, less provision for impairment. When the receivable is uncollectible, it is expensed in the Statement of Comprehensive Revenue and Expense.

Breakdown of receivables and debtors	2017 \$000	2016 \$000
Exchange transactions		
Trade receivables	2,841	2,574
Forward USD contract receivable	884	858
Sundry debtors	172	14
Total receivables and debtors	3,897	3,446

In line with member contracts, membership fees are due quarterly in advance. Of the total receivables and debtors above, \$2.51M including GST (2016: \$2.51M 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.

The carrying value of debtors and other receivables approximates their fair value. REANNZ expects to recover all outstanding receivables and debtors.

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

9. Investments

Accounting policy

Bank term deposits

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

Interest is subsequently accrued and added to the investment balance.

Breakdown of investments	2017 \$000	2016 \$000
Term deposits (maturity within 12 months)	20,479	18,161
Total investments	20,479	18,161

There is no impairment provision for investments.

10. 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 2017, the fair value of derivative financial instrument assets was \$271K (2016: \$1.06M). Of this amount, \$154K relates to USD forward contracts due to be settled within 12 months, with the remaining amount to be settled between one and two years.

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.

11. 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.

	2017 \$000	2016 \$000
Balance at beginning of year	3,310	1,824
Prepayment expensed during year	(388)	(388)
Payments made during the year	6,448	1,874
Net book value	9,370	3,310
Current / non-current split		
Current	388	389
Non-current	8,982	2,921
Total prepaid network expenses	9,370	3,310

A prepayment of US\$4.62M was made in October 2016 to the Hawaiki Submarine Cable Limited Partnership for the second milestone of 35% of the initial fee (total US\$13.21M) as required under our 25-year lease for managed capacity.

The contract requires a total of four milestone payments in USD, with the remaining two payments to be paid over the next two financial years as key construction milestones are met. Crown funding for the milestone payments of \$15M was received in June 2014 (see note 2) and was deposited into a USD denominated escrow account (US\$13.21M).

The prepayment made in October 2016 of US\$4.62M converted to a NZD value of \$6.45M compared to NZ\$5.25M on the escrow deposit date. The \$1.2M in foreign exchange loss is included in the cost of the prepayment, to be amortised over the 25-year lease period from the date the cable is ready for service.

12. 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 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.

Work in progress is recognised at cost less impairment and is not depreciated.

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 calculated 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:

Leasehold improvements	6 years
Routers, switches and optical equipment	3–8 years
Information technology equipment	3 years
Office equipment	5 years
PoP equipment	8 years
Fibre and fibre housing	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 and intangible assets

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 amount.

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

Where an item of property, plant or equipment has been revalued, any impairment loss is recognised against the revaluation reserve for that class of asset. Where this results in a debit balance in the revaluation reserve, the balance is recognised 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.

For items of property, plant or equipment that have been re-valued, any reversal of impairment loss is credited back to the revaluation reserve. However, to the extent that an impairment loss for that class of 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.

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.

An incorrect estimate of the useful life or residual value will affect the depreciation expense recognised in the Statement of Comprehensive Income and Expense, and carrying amount of the asset in the Statement of Financial Position. REANNZ minimises the risk of this estimation uncertainty by:

- physical inspection of assets;
- asset replacement programmes; and
- review of second-hand market for similar assets.

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

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

Breakdown of property, plant and equipment	Office equipment \$000	ICT equipment \$000	National PoP equipment \$000	International PoP equipment \$000	Leasehold improvements \$000	Network services \$000	Fibre & fibre housing \$000	Work in progress \$000	Total \$000
Cost or valuation									
Balance at 1 July 2015	87	493	9,153	123	159	462	8,202	–	18,679
Balance at 30 June 2016	96	541	9,695	123	381	46	8,202	37	19,121
Additions	21	137	1,731	–	–	–	–	–	1,889
Sales / write offs	(9)	(33)	(422)	(20)	–	–	–	(37)	(521)
Balance as at 30 June 2017	108	645	11,004	103	381	46	8,202	–	20,489
Accumulated depreciation									
Balance at 1 July 2015	66	372	3,236	97	111	460	769	–	5,111
Balance at 30 June 2016	73	343	4,301	111	12	34	1,179	–	6,053
Depreciation expense	9	105	1,370	11	63	5	410	–	1,973
Disposals	(8)	(33)	(420)	(19)	–	–	–	–	(480)
Balance at 30 June 2017	74	415	5,251	103	75	39	1,589	–	7,546
Carrying amounts									
Balance at 1 July 2015	21	121	5,917	26	48	2	7,433	–	13,568
Balance at 30 June 2016	23	198	5,394	12	369	12	7,023	37	13,068
Balance at 30 June 2017	34	230	5,753	–	306	7	6,613	–	12,943

The net carrying amount of fibre held under finance leases is \$1.79M (2016: \$1.91M). Also refer to note 19.

13. Intangible assets

Accounting policy

Software is a finite life intangible and is recorded at cost less accumulated amortisation and impairment. Amortisation is charged on a straight-line basis over the estimated useful life of the intangible asset.

Costs associated with maintaining computer software are recognised as an expense when incurred.

Staff training costs are recognised as an expense when incurred.

Costs associated with the development and maintenance of the REANNZ website are recognised as an expense when incurred.

The useful life and associated amortisation rates of major classes of intangible assets have been estimated as follows:

Illustration licence	3 years	33.3%
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Impairment of intangible assets

Refer to the policy for impairment of property, plant and equipment in note 12. The same approach applies to the impairment of intangible assets.

Breakdown of intangible assets	Illustration licence \$'000	Software \$'000	Total \$'000
Gross carrying amount			
Balance at 1 July 2015	–	52	52
Balance at 30 June 2016	–	49	49
Additions	9	–	9
Disposals	–	–	–
Balance at 30 June 2017	9	49	58
Accumulated amortisation			
Balance at 1 July 2015	–	51	51
Balance at 30 June 2016	–	49	49
Amortisation expense	–	–	–
Disposals	–	–	–
Impairment losses	–	–	–
Balance at 30 June 2017	–	49	49
Carrying amounts			
At 1 July 2015	–	1	1
At 30 June 2016	–	–	–
At 30 June 2017	9	–	9

There are no restrictions over the title of intangible assets, nor are any intangible assets pledged as security for liabilities.

14. Accounts payable and accrued expenses

Accounting policy

Short-term payables are recorded at the amount payable.

Breakdown of payables and accrued expenses	2017 \$'000	2016 \$'000
Exchange transactions		
Creditors	1,564	1,590
Accrued expenses	153	182
Total accounts payable and accrued expenses	1,717	1,772

15. 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	2017 \$'000	2016 \$'000
Accrued salaries and wages including bonuses	67	212
Annual leave	172	164
Total employee entitlements	239	376

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

16. Revenue in advance

Exchange transactions	2017 \$'000	2016 \$'000
Fees received in advance	480	471
Fees invoiced but not yet received	2,180	2,179
Total revenue in advance	2,660	2,650

Revenue in advance includes membership fees billed quarterly in advance, and fees for services 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.

17. Deferred revenue

	2017 \$'000	2016 \$'000
Current portion		
Non-exchange transactions		
Ministry of Business, Innovation & Employment Crown funding – Hawaiki Cable Managed Capacity Grant (see note 2)	5,250	5,250
Exchange transactions		
Other prepayments for services	60	60
Total current portion	5,310	5,310
Non-current portion		
Non-exchange transactions		
Ministry of Business, Innovation & Employment Crown funding – Hawaiki Cable Managed Capacity Grant	3,000	8,250
Exchange transactions		
Other prepayments for services	50	110
Total non-current portion	3,050	8,360
Total deferred revenue	8,360	13,670

REANNZ received a \$15M grant from the Ministry of Business Innovation and Employment in June 2014 to enter into a 25-year lease of managed capacity with the Hawaiki Submarine Cable Limited Partnership. The grant is recognised as revenue when contractual milestones are met and liabilities fall due. The second milestone payment of 35% was made in October 2016. Accordingly, \$5.25M of the grant was recognised as revenue. The remaining \$8.25M grant is expected to be recognised as revenue over the next two financial years. Should the cable project not be completed, the remaining funding will be returned to the Crown.

18. 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

At 30 June 2017, share capital comprised 1,816 ordinary shares (2016: 1,816). All issued shares are fully paid and have no par value.

Breakdown of equity	2017 \$'000	2016 \$'000
Contributed capital		
Balance at 1 July	16,001	16,001
Capital contribution	–	–
Repayment of capital	–	–
Balance at 30 June	16,001	16,001
Accumulated surplus / (deficit)		
Balance at 1 July	24,957	22,224
Surplus / (deficit) for the year	6,671	2,733
Balance at 30 June	31,628	24,957
Total equity	47,629	40,958

19. 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 at Level 5, QuallT House, The Terrace, Wellington; and
- Network PoP accommodation and associated support facilities

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

	2017 \$000	2016 \$000
Less than one year	473	462
Between one and two years	391	418
Between two and five years	584	774
Later than five years	–	141
Total operating lease commitments	1,448	1,795

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
- Payments to suppliers for service management of the national network

	2017 \$000	2016 \$000
Less than one year	5,369	4,307
Between one and two years	7,154	4,957
Between two and five years	7,122	12,231
Later than five years	46,346	49,590
Total connectivity and managed service commitments	65,991	71,085

In June 2014, REANNZ entered into a 25-year lease of managed capacity with Hawaiki Submarine Cable Limited Partnership. The upfront cost of the lease is NZ\$15M, payable in USD in four instalments, with the remaining two instalments to be paid over the next two financial years. REANNZ will recognise the upfront cost of the lease over the term of the contract, commencing when the cable is ready for service.

The first condition of the lease was met on 31 March 2016, at which point the contract became non-cancellable.

Following ready for service, REANNZ will incur annual charges over the 25-year lease term. These costs are reflected above and form the whole amount of the later than five years total.

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 leases as the risks and rewards of ownership have transferred to REANNZ. The net carrying amount of the leased assets is \$1.79M (2016: \$1.91M).

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.

REANNZ does not hold an option to purchase the asset at the end of the lease term.

20. Contingencies

There were no contingent assets or liabilities at balance date for which disclosure is required (2016: \$Nil).

21. 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.

There were no related party transactions during the year that required disclosure.

Key management personnel compensation

The compensation of the Board of directors and the Chief Executive Officer and senior management (the Leadership Team), being the key management personnel of REANNZ, is set out below:

	2017 \$000	2016 \$000
Directors		
Remuneration	123	119
Full-time equivalent members	1.47	1.21
Leadership team		
Remuneration	1,073	916
Full-time equivalent members	4.39	4.00
Total key management personnel remuneration	1,196	1,035
Total full-time equivalent personnel	5.86	5.21

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 and attendance at external stakeholder meetings.

An analysis of Board member remuneration is provided in note 4.

22. Employee remuneration

Remuneration and other benefits of \$100,000 per annum or more paid or payable to employees in their capacity as employees were:

	2017 employees	2016 employees
\$100,000 – \$109,999	2	2
\$110,000 – \$119,999	2	2
\$120,000 – \$129,999	1	2
\$130,000 – \$139,999	3	1
\$140,000 – \$149,999	3	2
\$150,000 – \$159,999	1	1
\$160,000 – \$169,999	2	2
\$190,000 – \$199,999	–	1
\$200,000 – \$209,999	–	1
\$210,000 – \$219,999	–	1
\$290,000 – \$299,999	1	–

During the year ended 30 June 2017, REANNZ paid \$69K compensation or other benefits in relation to cessation to one employee (2016: \$Nil).

23. Events after balance date

In September 2017, REANNZ entered into an infrastructure platform investment contract from the Strategic Science Investment Fund with MBIE. The contract provides \$3M per annum from the fund over the next seven years, commencing on 1 July 2017.

24. Financial instruments

Financial instrument categories

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

	2017 \$000	2016 \$000
Fair value through surplus or deficit – held for trading		
Derivative financial instrument assets	271	1,064
Financial liabilities measured at amortised cost		
Accounts payable and accrued expenses (excluding income in advance, taxes payable and grants received subject to conditions)	1,717	1,772
Finance leases	1,790	1,910
Total financial liabilities measured at amortised cost	3,507	3,682
Loans and receivables		
Cash and cash equivalents	3,094	3,143
Funds held in escrow	10,009	16,781
Debtors and other receivables	3,897	3,446
Investments — term deposits	20,479	18,161
Total loans and receivables	37,479	41,531

25. Explanation of major variances to budget

Statement of comprehensive revenue and expense

Revenue

Increases in membership fees tied to the Consumer Price Index (CPI) were budgeted at a higher CPI rate than actually occurred, resulting in lower network revenue than budgeted. Fees from new members were also below budget, but this was partially offset by other revenue streams, particularly other services, that exceeded our budgeted targets despite delays in new product introductions.

Network expenses

Capital expenditure from the planned refresh of end-of-life network equipment was at a lower overall cost than planned due to favourable foreign exchange rates, as well as some expenditure that was deferred as long as possible to both maximise the use of existing assets and minimise commitments until REANNZ's future funding was more certain. This resulted in lower than budgeted depreciation costs for the year and reductions in core network fibre circuit costs. Third party costs associated with new services were lower than budgeted due to vacant positions delaying new product development.

Operating expenses

Overall operating expenses were under budget for the year. Personnel costs were lower than expected as we were under resourced, with some key positions not filled as a result of delays in the confirmation of our future funding. Legal and external consulting costs were below budget due to timing differences in expenditure for systems enhancements and new product introductions.

Foreign currency gains / (losses)

Unrealised exchange losses of \$1.14M are represented by foreign exchange losses on USD denominated bank accounts plus fair value losses on derivative financial instruments at balance date. The unrealised losses are partially offset by \$348K realised gains on the settlement of forward foreign currency trades.

Statement of financial position

The third milestone payment under the major contract in place for an anchor tenancy on the Hawaiki Submarine Cable Limited Partnership was projected during the financial year. However, the payment has been deferred until the next financial year in line with finalised cable construction timelines. The third-party cable project is on track for expected delivery in mid 2018. This change was the major driver of the variance to budget in funds held in escrow, prepaid network expenses, revenue recognition and deferred revenue.

An increase in funds held in term deposits contributed to the positive variance to budget in total assets.

Invoices for capital expenditure on network equipment and higher than expected international connectivity costs, due to increased capacity requirements, were main contributors to the payables variance at balance date.

Statement of cash flows

Operating cash flows

Both network and operating expenses were lower than expected for the year resulting in a positive variance to budget in payments to suppliers and employees.

Investing cash flows

The positive variance to budget in capital expenditure was due to the USD exchange rate being higher than expected and deferred investment in capacity upgrades.

There were funds available to transfer to term deposits held for future investment in the network.

Independent Auditor's report

To the readers of Research and Education Advanced Network New Zealand's financial statements and performance information for the year ended 30 June 2017.

The Auditor-General is the auditor of Research and Education Advanced Network New Zealand (REANNZ). The Auditor-General has appointed me, Andrew Clark, using the staff and resources of Audit New Zealand, 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 47 to 65, that comprise the statement of financial position as at 30 June 2017, 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 including a summary of significant accounting policies; and
- the performance information of REANNZ on pages 33 to 46.

In our opinion:

- the financial statements of REANNZ on pages 47 to 65:
 - › present fairly, in all material respects:
 - its financial position as at 30 June 2017; 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 Reporting Standards.
- the performance information on pages 33 to 46:
 - › presents fairly, in all material respects, REANNZ's performance for the year ended 30 June 2017, 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; and
- › complies with generally accepted accounting practice in New Zealand.

Our audit was completed on 19 October 2017. This is the date at which our opinion is expressed.

The basis for 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 we 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 audit opinion.

Responsibilities of the Board 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 it determines is necessary to enable the preparation of 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 1 to 30, 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 (Revised): 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.



Andrew Clark
Audit New Zealand
On behalf of the Auditor-General
Wellington, New Zealand

Members

Universities



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