

GNS SCIENCE 2021 HALF YEAR REPORT 31 DECEMBER





**THE BOARD OF GNS SCIENCE IS PLEASED TO PRESENT
THE ORGANISATION'S FINANCIAL STATEMENTS AND
REPORTS FOR THE SIX MONTHS ENDED
31 DECEMBER 2021.**

Cover photo: PhD student installing a seismometer in Central Hawke's Bay as part of the PULSE network, designed to monitor small earthquakes associated with slow slip events along the Hikurangi Subduction Zone.
Inside front cover: Melting ice from the hot water cascading down the Whangaehu River, Crater Lake outlet, Ruapehu.



FINANCIAL SUMMARY

GNS Science recorded a net loss after tax of \$0.9m for the first six months of the 2021/22 financial year, compared to a profit of \$2.8m for the same period last year. The result reflects the one-time implementation costs of \$1.3m for the new enterprise system currently being installed. Revenue performance for the six months was \$50.3m, which is a positive outcome when compared to \$50.4m for the same period last year, which included a one-time \$4.2m government grant for COVID-19. This improved business activity is pleasing, particularly as it has been achieved in a period of increasing disruption and uncertainty due to COVID-19 restrictions. Operating expenses were \$48.8m for the half year, which represents an increase of \$4.7m over last year. This reflects an increase in the number of scientists employed by GNS Science to support our growth in revenue, as well as the enterprise system costs previously referred to. The consolidated balance sheet position of GNS Science continues to be positive, with current liquidity (bank and short-term investments) of \$29m, and a liquidity ratio of 3, which is slightly higher than at the same time last year. GNS Science is forecasting continued improvement in the level of research and commercial activities over the next six months but recognises that this may be disrupted due to the impacts of COVID-19.

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DIRECTORS' REPORT

Recognised at the Geoscience Society of New Zealand Awards.

Donna Eberhart-Phillips, Susan Ellis and Stephen Bannister were awarded the 2021 New Zealand Geophysics Prize for their paper examining properties in the crust surrounding the faults that ruptured in the 2016 Kaikōura earthquake using new seismic imaging methods. The New Zealand Geophysics Prize is the Society's top geophysical award and is bestowed upon the author or authors of the most meritorious eligible publication in the field of geophysics.

Engaging with Te Kura Taumata o Panguru (Panguru Area School, Northland).

GNS Science was delighted to see Te Kura Taumata o Panguru win the Excellence in Engaging category of the 2021 Prime Minister's Education Excellence Awards. This award recognises Panguru's inspiring work to connect community for greater good, and their commitment to collaborating with regional and national agencies to support learning in the environment and to empower students with skills in language, business and sustainability. GNS Science has worked with Te Kura Taumata o Panguru since 2017 to deliver both science mahi and community engagement. We've been involved in and supported the delivery of GeoCamp, Tūhura Papatūānuku Geo Noho (marae-based science wānanga), Te Rarawa's Noho Taiao, and school engagement for the Hokianga Harbour sedimentation project – all of which have involved Panguru students.



Awarded \$15.3 million from the MBIE Endeavour Fund.

One Endeavour Research Programme and two Smart Ideas led by GNS Science were awarded funding. The successful Endeavour Programme, receiving \$13.3m over five years, is to quantify, communicate and improve forecasts of the occurrence of multiple hazards from Aotearoa New Zealand's offshore volcanoes. Our successful Smart Ideas programmes are studying silent tsunami risk in the Tasman Sea to provide a clearer picture of the threat posed by landslide-triggered tsunami, and tsunami evacuation behaviour to improve planning and preparedness.

Awarded Royal Society Marsden Funding.

Fast Start Funding was awarded for a programme aiming to use modelling to better understand and identify precursors for steam-driven eruptions such as the fatal eruption in 2019 of Whakaari/White Island.

Supported Māori participation in science.

In partnership with Te Herenga Waka – Victoria University, we welcomed four new Ahunuku Scholars under our Vision Mātauranga scholarship programme, alongside 32 summer interns. The Ahunuku Scholars and summer interns are working for three months at our Gracefield, Avalon and Wairakei sites on a variety of communications, social sciences, materials science, classification systems, landslides and carbon emissions projects, and more. It is a privilege for us to host and teach Aotearoa New Zealand's future scientists in such a wide variety of science disciplines.

Signed a licence agreement with the Earthquake Commission for RiskScape.

In October, the Earthquake Commission (EQC) and GNS Science signed the use licence for EQC to use RiskScape as their new loss modelling platform.



This allows EQC to use RiskScape to estimate losses for their 2022 reinsurance round covering the residential building portfolio insured by EQC, as well as generate outputs for scenario planning, public education, post-event analyses and other internal financial decision-making.

Delivered the Community Fault Model.

The first Community Fault Model developed for Aotearoa New Zealand has been completed. The model will be made available to all researchers both in Aotearoa New Zealand and abroad. It allows access to the latest earthquake geology knowledge and forms the basis of the fault source model used in the National Seismic Hazard Model.

Advanced the GNS Science Property Strategy.

We completed a concept design and business case for a new GNS Science facility in Wairakei. This is intended to replace an old and unsafe building that we are currently unable to use. Discussions are progressing with the Ministry of Business, Innovation and Employment (MBIE) and Treasury as to how we proceed to construction. We are also engaged in an MBIE-led process considering an integrated approach to property investment in the research, science and innovation system.

Built the first prototype of a replacement enterprise system – a collaboration with ESR.

The joint venture between GNS Science and ESR to replace our enterprise systems to manage the finance, human resources and project management of both organisations is progressing well, with roll out scheduled for the end of the financial year.

Pleaded ‘not guilty’ to the WorkSafe New Zealand charges.

GNS Science entered ‘not guilty’ pleas to the charges laid by WorkSafe New Zealand as a result of the investigation into the Whakaari/White Island eruption. The trial is expected to take place in 2023. GNS Science is also focused on planning a return to the Island in order to repair and maintain monitoring equipment.

Secured additional funding for our GeoNet geohazards monitoring programme.

Cabinet approved funding for the GeoNet programme of \$4.1 million in the 2021/22 financial year, and \$7.6 million in the 2022/23 financial year. Plans to accelerate network maintenance and enhancement are being developed. Cabinet also approved additional funding of \$4.5 million for the National Seismic Hazard Model in the 2022/23 year.

This funding allows us to continue our work under these programmes while we work with NEMA and other central agencies on sustainable long-term funding solutions.

Developed a Science Roadmap.

GNS Science completed a draft Science Roadmap for consultation. The Roadmap builds on the work done in our strategic review process to align our strategic direction with government priorities and the needs of our stakeholders, industry partners and iwi/Māori interests. It describes our future science direction and focus to 2030 and will ensure our outcome focused Science Themes are driving the delivery of impactful and relevant science for Aotearoa New Zealand. The direction provided by the Roadmap will allow us to align and invest in the right people and infrastructure to maintain capability and capacity in key areas for Aotearoa New Zealand, as well as providing the basis for our contribution to the **Te Ara Paerangi – Future Pathways Green Paper**.

Left: Preparing the wave glider for deployment offshore from Hawke’s Bay for a GPS-acoustic survey that will be used to measure deformation of the seafloor near the Hikurangi Subduction plate boundary. **Right:** Undertaking an electrical resistivity survey in the Taylor Valley, Antarctica, to measure the changing thickness of permafrost (frozen ground).

FINANCIAL STATEMENTS

CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME

For the six months ended 31 December 2021

<i>in thousands of New Zealand dollars</i>	Unaudited 6 Months Dec-21	Unaudited 6 Months Dec-20	Audited 12 Months Jun-21
Revenue			
Research contracts	32,769	28,749	64,550
Commercial	8,995	7,764	16,233
GeoNet services	8,555	9,716	21,910
COVID-19 funding	-	4,170	4,170
Other income	-	4	389
Total revenue	50,319	50,403	107,252
Operating expenses			
Employee benefit expense	27,333	24,466	49,581
Other operating expenses	20,163	19,574	43,844
Enterprise system implementation costs	1,273	-	-
Total operating expenses	48,769	44,040	93,425
Profit before interest, tax, depreciation and amortisation	1,550	6,363	13,827
Depreciation	2,727	2,451	5,185
Amortisation	80	113	225
Profit/(loss) before interest and tax	(1,257)	3,799	8,417
Interest income	74	87	139
Interest expense	-	-	(4)
Profit/(loss) before tax	(1,183)	3,886	8,552
Income tax benefit/(expense)	331	(1,088)	(2,420)
Net profit/(loss) after tax	(852)	2,798	6,132
Other comprehensive income	-	-	-
Total comprehensive income/(loss) attributable to owners	(852)	2,798	6,132

The accompanying notes form part of these financial statements.

CONSOLIDATED STATEMENT OF CHANGES IN EQUITY

For the six months ended 31 December 2021

<i>in thousands of New Zealand dollars</i>	Equity reserves			Total equity
	Share capital	Retained earnings	Cash flow hedge reserve	
Balance at 1 July 2020	6,167	28,827	-	34,994
Profit after tax	-	2,798	-	2,798
Balance as at 31 December 2020	6,167	31,625	-	37,792
Profit after tax	-	3,334	-	3,334
Balance at 30 June 2021	6,167	34,959	-	41,126
Loss after tax	-	(852)	-	(852)
Balance at 31 December 2021	6,167	34,107	-	40,274

The accompanying notes form part of these financial statements.

CONSOLIDATED BALANCE SHEET

As at 31 December 2021

<i>in thousands of New Zealand dollars</i>	Unaudited Dec-21	Unaudited Dec-20	Audited Jun-21
Equity			
Share capital	6,167	6,167	6,167
Retained earnings	34,107	31,625	34,960
Total equity	40,274	37,792	41,127
<i>Represented by:</i>			
Non-current assets			
Property, plant and equipment	28,151	27,188	27,339
Intangible assets	169	292	360
Investments	30	30	30
Total non-current assets	28,350	27,510	27,729
Current assets			
Cash and cash equivalents	15,709	20,452	25,771
Short-term investments	13,104	8,037	8,079
Trade receivables	5,415	5,444	5,755
Prepayments	3,912	2,104	2,609
Current tax	331	-	-
Deferred tax	1,907	1,572	1,907
Work in progress	3,079	4,881	2,297
Total current assets	43,457	42,490	46,418
Total assets	71,807	70,000	74,147
Non-current liabilities			
Non-current provisions	1,413	1,415	1,279
Total non-current liabilities	1,413	1,415	1,279
Current liabilities			
Trade and other payables	5,824	6,599	10,009
Current provisions	3,886	3,360	3,640
Revenue in advance	20,410	20,245	15,833
Provision for income tax	-	589	2,259
Total current liabilities	30,120	30,793	31,741
Total liabilities	31,533	32,208	33,020
Net assets	40,274	37,792	41,127

The accompanying notes form part of these financial statements.

For and on behalf of the Board:



Dr Nicola Crauford
Chair

25 February 2022



Dr John Sharpe
Director

25 February 2022

CONSOLIDATED STATEMENT OF CASH FLOWS

For the six months ended 31 December 2021

<i>in thousands of New Zealand dollars</i>	Unaudited 6 Months Dec-21	Unaudited 6 Months Dec-20	Audited 12 Months Jun-21
Cash flows from operating activities			
<i>Cash was provided from:</i>			
Receipts from customers	55,570	56,735	111,398
Interest received	45	120	219
	55,615	56,855	111,617
<i>Cash was applied to:</i>			
Payments to suppliers and employees	(54,893)	(45,424)	(91,806)
Interest paid	-	-	(4)
Income tax paid	(2,259)	(716)	(713)
	(57,152)	(46,140)	(92,523)
Net cash flows from operating activities	(1,537)	10,715	19,094
Cash flows from investing activities			
<i>Cash was provided from:</i>			
Sale of property, plant, equipment and intangible assets	-	27	29
Maturity of short-term investments	6,065	3,071	16,111
	6,065	3,098	16,140
<i>Cash was applied to:</i>			
Purchase of property, plant, equipment and intangible assets	(3,502)	(1,915)	(4,936)
Placement of short-term investments	(11,089)	(37)	(13,118)
	(14,590)	(1,952)	(18,054)
Net cash flows from investing activities	(8,526)	1,146	(1,914)
Net increase/(decrease) in cash and cash equivalents	(10,062)	11,861	17,180
Effect of exchange rate changes on cash held in foreign currency	-	-	-
Opening cash and cash equivalents	25,771	8,591	8,591
Closing cash and cash equivalents	15,709	20,452	25,771

The accompanying notes form part of these financial statements.

NOTES TO AND FORMING PART OF THE CONDENSED CONSOLIDATED INTERIM FINANCIAL STATEMENTS

For the six months ended 31 December 2021

1. REPORTING ENTITY AND ACTIVITIES

The Institute of Geological and Nuclear Sciences Limited (trading as GNS Science) is established under the Crown Research Institutes Act 1992 and the Companies Act 1993. Its subsidiary companies are established under the Companies Act 1993. These financial statements have been prepared in accordance with the Crown Research Institutes Act 1992, the Public Finance Act 1989, the Companies Act 1993, the Crown Entities Act 2004, the Financial Reporting Act 2013 and New Zealand generally accepted accounting practice (NZ GAAP).

The principal activities of the Group are to undertake geoscience and isotope science research, development and commercial projects, predominantly in New Zealand. GNS Science International Limited holds a 50% interest in EDDI Project, an unincorporated joint operation formed to undertake contract for dam hazard management in Vietnam.

The wholly owned subsidiaries of the Institute of Geological and Nuclear Sciences Limited (the Parent) are:

- Isoscan Limited
- Isoscan Food Limited
- Geological Surveys (New Zealand) Limited
- Geological Risk Limited
- GNS Science International Limited

These unaudited condensed consolidated interim financial statements are for the six months ended 31 December 2021 and were approved by the Board on 25 February 2022.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

These unaudited condensed consolidated interim financial statements for the six months ended 31 December 2021 do not include all the notes of the type normally included in an annual financial report but have been prepared using the same accounting policies and methods of computation as, and should be read in conjunction with, the financial statements and related notes included in the Group's Annual Report for the year ended 30 June 2021.

The financial statement figures for the six-month period ended 31 December 2021, and for the comparative six-month period to 31 December 2020 are unaudited. The figures for the year ended 30 June 2021 are audited.

The same significant judgments, estimates and assumptions included in the notes to the financial statements in the Group's Annual Report for the year ended 30 June 2021 have been applied to these unaudited condensed consolidated interim financial statements.

In July 2021, GNS Science acquired the GeoNet Monitoring Assets from EQC for a nominal cost. These assets, and the offsetting Crown Grant in Advance, have not yet been reflected at fair value in the financial statements in accordance with NZ IAS 20 *Accounting for Government Grants and Disclosure of Government Assistance*. These assets are in the process of being fair valued and will be reflected in the financial statements ending 30 June 2022.

These financial statements are presented in New Zealand dollars which is the Group's functional currency. Amounts have been rounded to the nearest thousand dollars.

3. RELATED PARTY TRANSACTIONS

The New Zealand Government is the ultimate shareholder of the Parent. No other transactions with New Zealand Government owned entities are considered as related party transactions in terms of NZ IAS 24 *Related Party Disclosures*.

Key management personnel

Key management personnel, considered to be the Directors and Executive Management, are those people with responsibility and authority for planning, directing and controlling the activities of the entity.

A number of key management personnel also provide directorship services to other third-party entities that have transacted with the Institute during the reporting period, in all circumstances on commercial terms.

The Group purchases directors and officers insurance for the benefit of key management personnel in relation to the services they provide to the Group.

<i>in thousands of New Zealand dollars</i>	Unaudited 6 Months Dec-21	Unaudited 6 Months Dec-20	Audited 12 Months Jun-21
Key management personnel compensation comprised:			
Directors' fees	67	86	164
Benefits for the Executive Leadership Team	1,020	1,067	2,259
Total key management personnel compensation	1,087	1,153	2,423

Two directors retired during the financial year ended 30 June 2021 decreasing the number of directors in the six months ended 31 December 2021.

The Executive Leadership Team decreased by one member in the six months ended 31 December 2021.

4. RECONCILIATION OF PROFIT AFTER TAX TO NET CASH FLOWS FROM OPERATING ACTIVITIES

<i>in thousands of New Zealand dollars</i>	Unaudited 6 Months Dec-21	Unaudited 6 Months Dec-20	Audited 12 Months Jun-21
Profit/(loss) after tax	(852)	2,798	6,132
<i>Add/(less) items classified as investing activities:</i>			
Net gain on disposal of property, plant and equipment	30	(27)	(29)
	30	(27)	(29)
<i>Adjust non-cash items:</i>			
Depreciation	2,727	2,451	5,185
Amortisation	80	113	225
Increase/(decrease) in credit allowance for doubtful debts	-	-	48
Net unrealised exchange (gain)/loss	-	-	-
Increase/(decrease) in provision for income tax	(300)	-	2,042
Increase/(decrease) in deferred tax	-	-	(335)
Increase/(decrease) in non-current provisions	134	102	(34)
	2,641	2,666	7,131
<i>Add/(less) movements in working capital items:</i>			
Decrease/(increase) in trade receivables and prepayments	(963)	3,409	2,545
Increase/(decrease) in payables, current provisions, revenue in advance	(1,621)	4,399	3,305
Change in trade payables relating to investing activities	10	10	(33)
Increase in work in progress	(782)	(2,540)	43
	(3,356)	5,278	5,860
Net cash flows from operating activities	(1,537)	10,715	19,094

5. DIVIDEND

No dividends were declared by the Group for the six months ended 31 December 2021 (2020: Nil).

6. COMMITMENTS

Non-cancellable operating lease commitments

Operating lease payments are recognised on a systematic basis representing the pattern in which economic benefits from the leased asset are consumed over the lease term.

Leases are classified as finance leases whenever the terms of the lease transfer a significant portion of all of the risks and rewards of ownership to the lessee. All other leases are classified as operating leases. The Group has no leases which would be classified as finance leases.

Operating lease commitments

<i>in thousands of New Zealand dollars</i>	Unaudited 6 Months Dec-21	Unaudited 6 Months Dec-20	Audited 12 Months Jun-21
Within one year	162	155	162
Between one and five years	161	304	241
Over five years	7	-	7
	330	459	410

Capital commitments

<i>in thousands of New Zealand dollars</i>	Unaudited Dec-21	Unaudited Dec-20	Audited Jun-21
Contracted and on order	1,676	359	587
Authorised but not yet contracted	4,791	5,113	2,061
	6,467	5,472	2,648

7. CONTINGENT LIABILITIES

WorkSafe filed two charges against the Institute of Geological and Nuclear Sciences Limited on 30 November 2020 for offences under the Health and Safety at Work Act 2015. These charges relate to the volcanic eruption on Whakaari/White Island on 9 December 2019. The Group is defending the charges.

The impact of these proceedings cannot be reliably quantified due to uncertainty around the outcome. However, as of 31 December 2021, if both charges are upheld, the maximum fine the Group may incur in respect of each charge is \$1.5m. The Court may also order the Group to pay reparation.

{31 December 2020: Nil}.

8. EVENTS AFTER THE BALANCE DATE

There were no significant events after the balance date.

{31 December 2020: Nil}.

STATEMENT OF RESPONSIBILITY

The Board is responsible for the preparation of the Group's half year financial statements and statement of performance and for the judgements made in them.

The Board through management is responsible for establishing and maintaining a system of internal control designed to provide reasonable assurances as to the integrity and reliability of the financial reporting.

In the opinion of the Board, the financial statements and statement of performance for the six months ended 31 December 2021 fairly reflect the financial position and operations of GNS Science.

For and on behalf of the Board:



Dr Nicola Crauford
Chair

25 February 2022



Dr John Sharpe
Director

25 February 2022

DIRECTORY

PHOTOGRAPH ACKNOWLEDGEMENTS

Emily Warren-Smith, GNS Science

Front cover, P2

Cam Asher, GNS Science

Inside front cover

Gary Wilson, GNS Science

P3

Dougal Townsend, GNS Science

Inside back cover

DIRECTORS

Dr Nicola Crauford

Chair

Felicity Evans

Dr John Sharpe

Paul White

INDEPENDENT CHAIR AUDIT AND RISK COMMITTEE

Paul Connell

EXECUTIVE LEADERSHIP TEAM

Ian Simpson

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Dr Gary Wilson

General Manager,
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Peter Benfell

General Manager,
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Andrew Simpson

General Manager,
Business Services

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People and Culture

Tania Gerrard

General Manager,
Māori and Stakeholder Relations

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ANZ

AUDITOR

Silvio Bruinsma
Deloitte Limited
On behalf of the Auditor-General

SOLICITORS

Chapman Tripp

WEBSITES



www.gns.cri.nz

www.geonet.org.nz

Right: Rangitikei River channel and terraces near Mangaweka.

Our Half Year Report is also available in digital format at www.gns.cri.nz

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