HERA
innovation in **metals**

Pūrongo ā-tau

Annual Report 2021
Your industry futurist

Kia ora, Welcome!

Contents

Mihi

Mauri ora ki a Ranginui
Mauri ora ki a Papatūānuku
Tēnei rā, ka rere ake te reo whakamihi
Ki ngā iwi me ngā tāngata katoa
Tēnā koutou, tēnā tātou katoa
Tēnā tātou i ō tātou mate tuatini
Tēnā tātou i ngā piki me ngā heke
Heoi anō, kia mau, kia manawanui!

Whakatauki

Ma te huruhuru ka rere te manu
Adorn the bird with feathers so it can fly

Our people

|1| Senior Welding Engineer, Alan McClintock
|2| Senior Structural Engineer, Andrew Pennington
|3| Innovation & Transformation Architect, Greg Buckley
|4| Research Engineer, Hafez Taheri
|5| Research Engineer & Automation Cluster Lead, Holger Heinzel
|6| Manager Structural Systems, Kaveh Andisheh
|7| General Manager Comms 4.0, Kim Nugent
|8| CEO, Dr Troy Coyle
|9| General Manager Welding Centre, Dr Michail Karpenko
|10| Finite Element Analyst, Nandor Mago
|11| Manager Customer Experience, Rebecca Symonds
|12| Welding Engineer, Robert Ryan
|13| Accountant, Ronita Kishore
|14| Senior Welding Engineer, Volkan Yakut

Auahatanga pūmaitai

Innovation in metals.

Chair | Technical Director, John Jones Steel
Dave Anderson

CEO | Dr Troy Coyle

> FY21 was a year of extraordinary unpredictability.

Report from our Chair & CEO

FY2021 was a year of validation for HERA.

The disruption of Covid-19 validated our focus on digital transformation in preparation for disruption - we just didn't anticipate the disruption would come from a global pandemic!

MBIE's focus on Building For Climate Change and the Climate Change Commission's activities also validated our warning that the steel industry needed to pay greater attention to sustainability.

Looking at the big picture

Despite the significant uncertainty and fluctuations in levy income, FY21 was an exceptional year for HERA. This improved financial performance allowed us to invest in some strategic activities in the latter part of the financial year. For example, some large capital investments were made in transforming the welding workshop area into the Fab4.0Lab, which HERA plans to publicly launch at its 2021 AGM. This will improve HERA's training, research and demonstration activities to better support our members adoption of Industry 4.0 and advanced fabrication technologies.

Financial performance

FY21 was a year of extraordinary unpredictability. We experienced both the lowest import levy income month and the highest import levy income month on record. However, overall the financial performance of HERA in this year was celebratory as we tightly managed expenditure during the periods of uncertainty and supported some strategic initiatives when there was greater financial certainty.

During the lockdown periods, we pivoted to greater digital delivery of our training and this proved to be a very popular mode of delivery, with record registrations and a positive impact on income generation. Most of this was welding related training.

An increase in SFC participation also led to greater income derived from HERA's auditing services for HERA Cert. Thus, overall the Fabrication 4.0 team made a significant contribution to HERA's financial outcomes in this period of uncertainty.

Looking forward, we are not yet in a position to predict the likely impacts of Covid-19 on our industry in the longer term but there is a general feeling of optimism in the short-term with many fabricators reporting strong order books for at least the next 12 months. Changes to the Heavy Engineering Research Levy Act, 1978 have been requested to bring back in coverage of some items that were previously covered in the Act but we could not collect the levy upon because Customs changes the related tariff codes, such that they were no lingered covered by the Act. This was an unintended consequence to that tariff code changes, with a material impact on HERA income. We estimate more than $300,000 levy income foregone as a result of this and we are in the process of negotiating an MOU between Customs, HERA and MBIE to ensure that the risk of this occurring again is minimised.

Our people

The key staff change for HERA in FY2021 was the appointment of Dr Kaveh Andisheh to the role of Manager of Structural Systems. Since his appointment, Kaveh has focused on reinvigorating HERA's design guide development; an activity that many members requested HERA recommence.

We also undertook a restructure of the administrative support, which resulted in the appointment of Rebecca Symonds to the role of Manager of Customer Experience. Many members will be familiar with Rebecca through her previous role with SCNZ.

HERA staff took a voluntary 20% time reduction during the first lockdown period, which assisted HERA in the period of most significant financial uncertainty and demonstrated staff member's commitment to the financial sustainability of the organisation. During this time, the HERA lead team took a voluntary 20% salary reduction (still working full time), demonstrating strong unity and commitment to HERA outcomes.

CEO outlook

Moving forward, in the coming 12 months, HERA will have the following key focuses:

- Sustainability. We have plans to release: our zero carbon steel program; a report on steel recycling in New Zealand; a professional development program for Engineers on carbon in steel; an update the Living Standards Framework assessment for steel's contribution to Aotearoa and we have created an $80K Sustainability Research Fund (with project ideas sought from members). I have also been involved in the reinvigoration of the Sustainable Steel Council, which was legally incorporated in early 2021, as its inaugural Chair.
- Industry 4.0. We plan to leverage the Fab4.0Lab to build a national centre of excellence in Fabrication 4.0, launching the facility at our 2021 AGM and growing it through partnerships with members, suppliers and researchers.
- Positioning HERA. We plan to focus on positioning HERA as a key contributor to thought leadership in both the manufacturing and building/construction sectors, thus highlighting the significant role steel plays in these.
- Mātauranga Māori and Construction 4.0. in collaboration with Pūhoro STEM Academy, we plan to investigate the potential for this interface and the opportunities it brings for our industry and the construction sector more broadly.
- Improving member engagement. We plan to launch our new app "Metalmind", which will transform the way that we engage with our members and how members engage with each other.

Thank you to the tribe of engaged metalheads that continued to support us through FY2021.

Dave Anderson
Chair

Troy Coyle
CEO

Matakitenga Vision.

Ko te haumaru i te ahumahi ō āpōpō, mā te whakaauaha ināianei tonu

Securing tomorrow's industry by innovating today

Our Executive Board

| 1 | Craig Stevenson, Deputy Chair | Technical Director - Built Environment Aurecon | 2 | Ben Jensen, Financial & Project Manager Jensen Steel Fabricators Ltd | 3 | Darren O'Riley, Manager SCNZ | 4 | David Moore, Managing Director Grayson Engineering Ltd | 5 | Dieter Adams, Executive Director The Manufacturer's Network | 6 | Jane Warren, Director & Joint Owner Dixon Manufacturing Ltd | 7 | Jayden Mellsop, Contract Manager & Director, Eastbridge Ltd | 8 | Matthew Black, Head of Innovation and Product Development NZ Steel | 9 | Matthew Kidson, Managing Director, Kernohan Engineering | 10 | HERA Foundation Chair Noel Davies, Joint Managing Director Hydraulink Fluid Connectors | 11 | Raed El Sarraf, Technical Principal - Materials & Corrosion WSP | 12 | Yvonne Chan, Director of External Engagement Auckland University of Technology | Page 6 | Dave Anderson | Chair | Techncial Director, John Jones Steel

Our key wins in FY20...

800+
free technical advice services provided to industry.

56
professionals achieved AS 2214 Supervisor Qualifications.

11
achieved IIW Welding Inspector Qualifications.

17
technical research publications delivered to our industry.

800+
professionals tuned into our newly launched technical webinars.

MetalMind App entered into testing phase to 200 users.

HERA Structural Systems and Industry 4.0 roadmaps developed.

52
SFC & ISO 3834 audits conducted on behalf of HERA Certifications Ltd.

The design and fit out of Fab4.0 Lab - our facility for supporting Industry 4.0 and advanced fabrication technology.

Despite Covid-19 we reached many milestones to be proud of!

Our team pivoted in our daily operations, introducing a number of digital innovations to ensure we remained connected to our key stakeholders.

This included transition of our training to online platforms and re-thinking how we interacted on a day to day basis.

Toitūtanga.
Sustainability

"This year HERA has been focused on sustainability initiatives as part of our commitment to the Living Standards Framework.

Natural capital.

Water | Energy | Waste | Recycling

The Living Standards Framework

Assessing our economic contribution and performance against Governments framework.

In 2018 the metals industry was the first to assess ourselves against the Living Standards Framework (LSF). In this process we discovered we're a strong contributor to the Aotearoa New Zealand economy and living standards of New Zealanders.

It also helped us identify where we can start to add more value and better communicate what we do add!

Since then, we've looked at our projects through the lens of LSF. A lot of our projects and research have now been intertwined with its framework, including:

- the Aotearoa Steel Industry Transformation and Agenda Plan, which we have now passed to the Sustainable Steel Council to manage; and
- our own performance against the LSF in our annual reports!

We want our members to be familiar with this framework as it's an instrumental part of Government policy and administration. And of course, if we really want to genuinely transform, then we have to keep holding the mirror up to ourselves.

That's why, we're currently working with BERL to prepare an updated LSF assessment of Steel's contribution to the economy which will be released in FY22.

Aotearoa Transformation Agenda and Plan

An industry wide blue print to position our industry for a sustainable future.

This is a really important Agenda to us, and we're very passionate about driving its uptake - because we know its the right thing to do!

We want to be seen as a forward thinking industry that directs its own future... rather than an industry dinosaur! We also see this as a key way to engage our tribe of metalheads to innovate successfully and work together for the benefit of the industry overall.

For our member companies, having a document like this gives them a means to promote their contributions to the Living Standards Framework and leverage it in tenders and public relations. It also helps to identify industry priorities for Government support.

Consisting of the Agenda - which sets the goals of where industry needs to be in order to be prepared for the future, and the Plan - which sets out the actions needed to undertake to achieve the Agenda - this is a voluntary process. There are three levels of participation being the manufacturer, the rest of the channel and industry support organisations.

Ultimately, we want our members to see their organisations contribution as part of a bigger picture, and create alignment on the important issues across our industry. Signing to the accord signals that commitment and is a tool we see will inform strategic business plans, hold industry accountable, and provide measurable parameters in terms of performance against the Agenda.

Calculating carbon footprint

Addressing the tangible impacts of climate change by becoming carbon neutral in operations.

For our industry, calculating operational carbon footprint is the first step toward carbon neutrality. Achieving this by:

- determining offset requirements,
- identifying activities contributing the most, and finding ways to reduce this footprint, and
- starting to track performance and improvements made.

While this process seems relatively straight forward on paper, we soon came to realise that many perceived this approach as complicated and expensive. Thats why this FY21 we made the committment to lead by example. Undergoing the process ourselves so that we could share our learning and tools using a rigorous and independent process to calculate our own carbon footprint.

We're happy to report the process wasn't too onerous and the cost surprisingly affordable. We're also proud to share that we have since offset our calculated emissions by obtaining certified Zero Carbon Business Operations via certified carbon credits with Ekos.

Circular economy and a low carbon future

Our social licence to operate is fundamental to the long-term sustainability of the NZ steel industry.

Steel is the backbone of Aotearoa's cities, and local manufacturing and fabrication are important to our economy, infrastructure and society.

Given carbon emission reductions are a global challenge requiring global solutions, FY21 saw us undertake the writing of a HERA Position Report for the Sustainable Steel Council on steel's contribution to a circular economy and low carbon future.

Finding that the steel industry is integral to the global circular economy and successful delivery and maintenance of a sustainable future. Transition to renewable energies such as geothermal, solar, hydro, wind and wave energy generation will require extensive use of steel. From the car you drive and the bridges you drive over, to the roof over your home, and much more - steel is essential to New Zealand's way of life and its thriving economy.

Yet, many may be surprised to learn that it contributes to just 2.2% of New Zealand's total Co2 emissions. Much lower than other industries.

As a vital part of New Zealand's future, steel therefore has an important role to play in our zero-carbon future. Particularly given that the actions to reduce, reuse, reconfigure, recycle and retrofit are all benefits of steel.

He tangata.
Human capital

"Your impartial partners supporting industry

R&D | People | Education | Innovation

Research & development.

Pioneering new thinking.

Quality and productivity

Establishing a system for continous monitoring, optimisation and compliance.

The aim of this research is to establish a system for continuous monitoring of the quality of fabricated steelwork, optimisation of inspection requirements and management of compliance risks based on big data analysis.

This research involves a collaboration with the Laboratory for Industry 4.0 Smart Manufacturing Systems (LISMS) from the Department of Mechanical Engineering at the University of Auckland.

From this, several student projects have commenced, including:

- the future of welding;
- inspection of welded components;
- comparison of robotic welding programming strategies; and
- the creation of a welding 4.0 demonstration laboratories.

Following on from the automation audits, we've also conducted an industry 4.0 readiness assessment via surveys and 14 company visits. A common theme was that companies are closely monitoring the developments around Industry 4.0 and in the automation space.

While most have already taken some steps towards a digital underpinned fabrication some are holding back to better understand the implication. Findings of the assessments will be used in the roadmap to Industry 4.0 for NZ metal fabricators. Some of the research findings have been published in a previewed international paper.

Coastal weathering steel in Aotearoa

Supporting industry in the application of weathering steels in the NZ coastal environment.

The publication of our New Zealand Weathering Steel Guide Report R4-97 provided industry with a collation of the necessary guidance to assist with the efficient and appropriate application of weathering steels in bridges. However, it didn't include coastal weathering steels.

It is a gap that needed filling.

We are now evaluating the performance of coastal weathering steels in the New Zealand coastal environment via exposure tests.

The test coupons have been prepared by our member Welding Engineers Ltd, and the exposure tests are being performed in cooperation with BRANZ.

Structural systems

A range of research projects to assist industry in structural related projects.

Our Structural Systems team have been involved in a wide range of research projects across the year.

This included:

- FEA R4-152: The current NZBC C/AS7 has stringent fire resistance rating requirements for structural elements of multi-storey carparks, which require the elements to be protected with passive fire protection. Through an analytical method, it was shown that the beams within a typical multi-bay steel framed carpark may be left unprotected. This analytical method was published in SCNZ 111:2016. However, SCNZ 111:2016 had not been validated by an advanced methodology. This filled that knowledge gap by extracting the true forces acting in the members and comparing them to the published ones. The results presented more cost-effective steel structures by further underpinning the steel strength without expensive fire protection.
- Development of scoping documents: HERA plays a key role in providing the research that underpinds the technical content of several AS / NZS and NZS standards. For standard scoping documents, HERA provides research to fill identified knowledge gaps/limitations in current standards or develops more advanced methods that can supersede knowledge contained in existing standards. Our research also clarifies how the current technical issues will affect structures and what would the possible consequences of these would be.
- Design guides: HERA uses its research to develop and update design guides to: (1) identify knowledge advancements and use them in the design process (usually as an alternative solutions); and (2) Identify gaps and limitations in knowledge and propose further research to address these gaps.

Our people.

Making things possible.

Technical excellence

Our technical expertise ensures our research and development delivers value.

As such, we're a highly regarded professional organisation that engages with key organisations affecting our industry.

Our staff are currently on the following boards:

- Sustainable Steel Council;
- Construction Industry Council;
- Pro Vice Chancellor's Advisory Board (AUT);
- Interim Establishment Board for the Manufacturing, Engineering and Logistics Workforce Development Council (TEC);
- MBIE's Building Advisor Panel;
- NASH Board;
- Metals NZ;
- Steel Construction New Zealand; and
- Standards committees suchas WD-002, WD-003, ME-001, MT014, ISO/TC167, BD-023, BD-032, BD-006, BD-090, ME-029, and MT-001. AS/NZS 1554, AS/NZS 5131 and AS/NZS 2327 have been revised with our contribution.

Technical advice

Informing the toughest projects through technical support and services.

In FY21 our team provided technical support to a wide range of needs from interpretation or application of standards, technical enquiries requiring indepth technical knowledge and judgement, technology assistance and implementation, design guide queries and more. .

Last year delivering value in:

- weldability issues;
- brittle fracture;
- design of welded joints;
- quality management;
- welding procedures and qualifications;
- compliance;
- finite element analysis
- simulations;
- corrosion maps and durability;
- corroded structures; and
- composite structures, and more.

Expertise where it matters

No doubt FY21 was a challenging year for many with the onset of Covid-19 and its impacts to business.

At HERA, it was no different - and so we'd like to take the time to acknowledge our people who were pivotal in ensuring we navigated this challenge head on.

During this time we also welcomed new faces. We onboarded our Manager Structural Systems Kaveh Andisheh who brings over 17 years' consulting and research experience to the table.

Our financial delivery also saw a change - farewelling one of our longest serving employees, Kam Subramani [1], who at the age of 73 retired from his role. Taking over from Kam in the role of Accountant was Ronita Kishore.

A restructure of our Information Centre division saw us say goodbye to: Manager of Member Value Brian Low [2]; First Impressions Officer, Raewyn Porter [3]; and Digital Connections Officer, Musarrat Begum [4]. They were well known faces, so this was a particularly tough transition for all.

In their stead, we welcomed Manager Customer Experience, Rebecca Symonds. She's no stranger to the steel industry, and we're happy to have her onboard!

1

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Education.

A skilled workforce. A strong workforce.

Defence capability program

Identifying and aligning to potential pipeline opportunities in defence projects.

To keep our members informed about the business opportunities around the Australian Defence Project that include a massive $200 billion dollar investment in defence capability over the next decade, HERA in cooperation with NZTE brought DMTC's Welding Capability for Defence programme to New Zealand.

The objectives of the program being to identify capability within New Zealand Manufacturing relevant to the fabrication of high strength steels for defence applications and increase Industry's awareness of the fabrication trends, required standards, research, and to support technology transfer required to participate in the defence supply programs.

Seven HERA member companies participated in this initiative, involving the fabrication of test samples, testing and a series of workshops. A wider industry engagement included more than 30 companies from our Defence Innovation Cluster Group.

A final online workshop was also held with the support of the Expert Team at the University of Wollongong and a key outcome of this program has been the publication of HERA Report R8-42: Industry Capability Development - Welding of High Strength steel for Defence Platforms – New Zealand (internal confidential report).

Many thanks must go to NZTE and Graeme Solloway for sponsoring this project and the DMTC team for delivering it on time and to budget - despite Covid-related limitations.

Qualification and examination

Our Welding Supervisor and International Welding Inspector course continue to be instrumental.

Offered biannually in Auckland and Christchurch, these courses are ideal for motivated people in the industry who seek ongoing professional development.

This year 56 professionals achieved AS 2214 Welding Supervisor Qualification and 10 achieved IIW Welding Inspector qualification following HERA's training and examinations in FY 2020-21.

To increase value, we also developed an online exam platform and questions databank for examinations.

IIW accreditation

HERA is an International Institute of Welding (IIW) Nominated Authorised Body (HERA ANB) for the qualification of the welding personnel.

HERA ANB complies with the highest standard for these organisations. The compliance with the Scheme was re-confirmed by the IIW audit completed in December 2020.

Proposed materials requirements for category 3 steel members webinar

The current Seismic Category 3 steel member material requirements of NZS 3404 are considered overly onerous.

As a consequence, it unnecessarily limits the range of compliant products, particularly for columns in seismic-resisting systems.

In response, we developed a joint webinar with SCNZ to explain the proposal to change the material requirements for category 3 steel members in seismic-resisting systems to enhance the competitiveness of the steel structures.

The proposal is based on earlier and current research including the development of new brittle fracture provisions published in IIW document X-1965r2-2020.

More than 450 engineers have watched this webinar.

Shielding gases for seismic welds

Shielding gas is widely used in the welding processes.

The choice of shielding gas is subject to manufacturer's recommendations, limitations of the welding procedures and additional requirements imposed by Ships' Classification Societies approval.

In cooperation with BOC we published HERA Report No R8-41:2020 Guide to Shielding Gases for Seismic Welds, and delivered a webinar to discuss this guide to around 30 professionals.

Welding of weathering steel

Weathering steels are widely used in applications such as road and railway bridges.

To realise the full capability of these steels, attention to some aspects of the design, fabrication and construction is required.

Our Welding team developed online training in collaboration with ASI to both New Zealand and Australian engineers to disseminate this information.

3rd Pressure Equipment Conference

Held in November 2020, 80 professionals representing different sectors of this industry attended the event at HERA House. It received very good feedback, and our Research Engineer Holger Heinzel was actively involved. It featured:

- 15 presenters from the industry;
- keynote presenter US-based Crispin Hales (who worked for HERA as UK correspondent);
- representation and presentation from WorkSafe; and
- one HERA member exhibiting (Tectonus).

Structural webinars launched

Our Structural team developed and presented four webinars delviered to professionals in both New Zealand and Australia. This included:

- the overview of finite element analysis, with 128 professionals attending. This was developed and delivered during COVID-19 lockdown to support NZ industry and researchers;
- joint NZ and Australia webinar and live Q&A session on Weathering Steel Rail & Road Bridges;
- design, construction & maintenance in collaboration with ASI: to 60 professionals to answer attendees technical queries and further discussion on relevant technical details.
- optimised sliding hinge joint - design and detailing a true low-damage, versatile and cost-effective seismic solution for steel moment resisting framed buildings webinar and live Q&A presented, 20 professionals attended.

The future is bright for welders!

The global welder shortage is a growing and well-known phenomenon. But is it a problem for NZ?

The answer is yes! We surveyed over 200 companies involved in welding fabrication and the data showed that 72% experience welder shortages, and 73% are in support of a welding trade qualification.

Responding to this, we've transitioned our welder training modules online so attendees can gain practical welder education under HERA's Job Knowledge Certificate AS/NZS ISO 9606.1.

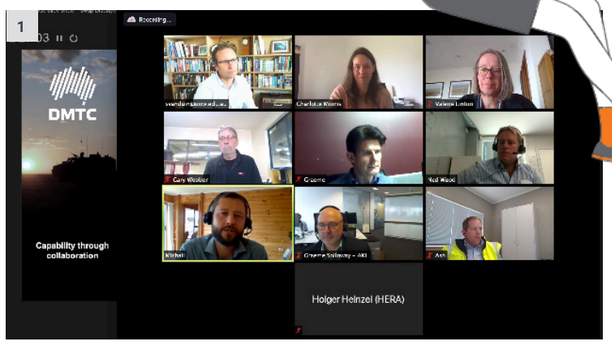
We also developed online training for the welding of weathering steel for bridges in collaboration with ASI for engineers in both NZ and Australia.

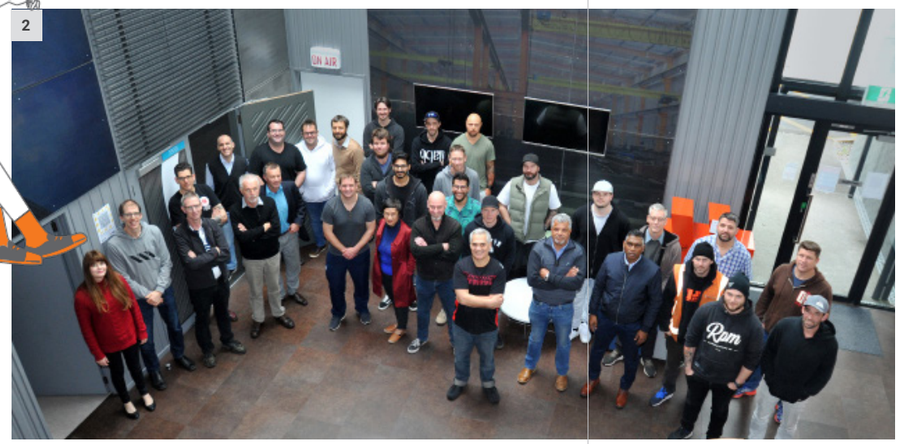
Structural bolting know-how.

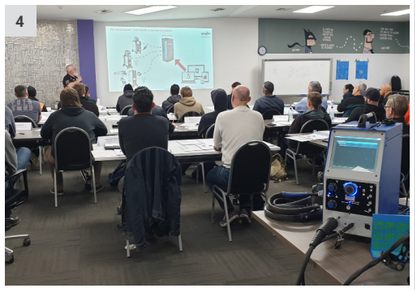
In response to industry need, we developed a comprehensive bolting e-course for structural steel.

This was in collaboration with the Steep Structures Technology Centre in the US, the Australian Steel Institute and Weld Australia. The result - a certificate leading to satisfactory performance in bolted joints, proper installation and quality assurance.

Following AS/NZS 5131 Structural steelwork – Fabrication and erection, five comprehensive online training modules were utilised by over 45 engineers from New Zealand and Australia in FY21.







| 1 | Defence project final workshop, September 2020
| 2 - 4 | Welding Supervisor course in Auckland including BOC lecture, August 2020
| 5 | 3rd Pressure Equipment Conference, November 2020

Training.

Steel frame construction monitoring.

We developed a steel frame construction monitoring course in collaboration with SCNZ.

Its purpose being to address competency requirements for engineers working under the NZS 3404 and AS/NZS 5131 standards framework.

19 engineers (including 2 regulators from Auckland Council) attended this event, and on completion were able to confidently apply welding and fabrication industry knowledge to monitor steel frame construction-related projects.

Improving productivity & cashflow.

With the disruption of COVID19 lockdown, the transition into a post-lockdown world was uncertain.

That's why we were proud to bring back Arrie van Niekerk, following a very successful Theory of Constraints (TOC) training course in 2019.

Offering an exclusive free webinar to assist fabricators and manufacturers to facilitate fast startup approaches with 70 professionals attending.

Welder qualifications to AS/NZS ISO 9606.1.

We developed a steel frame construction monitoring course in collaboration with SCNZ.

The publication of AS/NZS ISO 9606.1:2017 Qualification testing is seen as a move towards international best practice in New Zealand and Australia. However, training is required to ensure it is implemented correctly.

In response, we developed online expert training with references to case studies and best practice examples.

Welding procedure training.

We offered expert training on the development of of Welding Procedure Specification across four webinars to more than 80 professionals to ensure they're executed properly as they form part of the fabricators quaity management system.

Auahatanga.

Innovation is at the core of everything we do

Industry 4.0

Developing a roadmap for our Industry 4.0 research program.

Over the past two years, we've been focused on identifying members interested in innovation as a core part of their business model.

We established our Industry 4.0 Innovation Cluster group to bring together likeminded people and companies to explore what is possible. Out of this core group of 30+ professionals, we've seen the development of the 4.0 roadmap which has become the basis of our 4.0 research program through to 2024.

It has also seen the development of a sub-program in Design 4.0 for our Construction 4.0 2021 Endeavour Fund proposal. In collaboration with the University of Auckland, University of Canterbury, Massey University, BRANZ, University of Michigan USA, University of Miskolc Hungary, Tufts University and University of New Hampshire USA - the program looks to deliver an entirely new capability throughout the construction value chain.

It is our hope that it'll lead to the creation of more efficient structural design and processes through Structural Optimisation Models and 4.0 data.

Excitingly, this focus has also seen the development of our Fab4.0Lab at HERA House, which will be the home to state-of-the-art technology solutions and training facilities to ensure our industry is connected to the latest technology advances.

Working towards optimisation

Providing customised solutions and software based on solid expertise

Our Structural team has provided a number of deliverables to assist our membership in their projects.

Through this team, HERA has worked on steel durability optimisation by providing customised corrosion datasets, durability design of existing structures, and detailed finite element analysis to strengthen existing steel structures and extend operational lifetime.

Driven to make steel the material of choice for designers, we've also continued to collaborate with SCI in the UK to simplify the design process using web-based design software to design composite slabs and beams according to AS/NZS 2327.

We expect to release the software for final evaluation and user acceptance testing shortly, having reached major development milestones in completing testing and bug fixes for Dimond composite slab software, and the testing and review of composite column software against amendment 1 of AS/NZS 2327.

We are also seeking options to either include web opening to existing composite beam and slab software or developing a new tool to design composite beams with web openings.

Moving forward, we've also undertaken a consultation process with engineers, consultants, fabricators and manufacturers to understand where industry needs assistance. The 61 responses garnered have been crucial in formulating our roadmap of projects for FY22.

Human resources

He aha te mea nui o te ao? He tangata! He tangata! He tangata!

Covid-19 certainly forced us to look at our current work practices and dip our toe into new approaches to work.

This year introducing a flexible work policy to allow our team to work from both home and in office, and to challenge and disrupt 'traditional' work hours. The result has been surprising - leading to higher productivity, greater work-life-balance, and a happier team.

Of course it didn't come without its challenges. We had to rethink and retrain our digital work behaviour and how we delivered and connected with our key stakeholders. We also had to find ways to ensure our team collaborated meaningfully - including commitments to in office work days, digital communication and chat forums, and social media initiatives. All of these actions were supported by our Pūtātara media room facility.

We also had to up our conversations on mental health and wellbeing to ensure we created some resilience and support for our people in coping with the rapid changes and uncertainty that was occurring around us.

Digital content uptake

Nothing proved us right more strongly than the onset of Covid-19. Digital communication matters!

For a while now, HERA has been on a mission to develop our industry capability to communicate on digital platforms. FY21 helped validate that this was a correct call, allowing us to seamlessly navigate the disappearance of 'kanohi ki te kanohi' (face to face) business.

Since then, considerable works have been undertaken to support this goal. Leveraging our digital media room Pūtātara to push out online webinars and training courses, as well as podcasts and videography.

We're also excited to have extended this offering out to our members. Welcoming the first of our clients as we work to foster their own in-house capabilities in leveraging social media and people to create genuine, timely and engaging communications.

This involves a support process that starts with communication strategy and key messaging, and then progresses to simple training modules and then actual development of communications.

MetalMind dashboard

A members only app with collaboration, technical support and value at its heart.

Creating an exclusive place where our tribe of metalheads can come together is an important step that HERA wanted to undertake as a membership association.

We recognised that in order to thrive in uncertainty, our members and industry needed a way to collaborate, innovate and stay in touch with the latest developments in a safe environment. Curating this type of connection on traditional social media platforms while possible - didn't provide a forum for deeper conversation and open feedback loops.

We also wanted to deliver more to our valued members and give some exclusivity to some of the content we share and early access to technical reports and training ahead of general announcements.

Enter MetalMind! A digital dashboard which not only allows us to connect like-minded members to key communications and events, but a place where we can assess a range of innovation metrics and provide targeted leadership training to the specific needs of companies.

This year, piloting the app for testing to a select numbers of users, with the hopes to offer this more widely to our membership in FY22.

Social capital.
Advancing humanity

Bridging relationships and the norms and values that enable people to work together across cultural differences.

Community | Standards | Trust

Community.

Genuine relationships. Deeper connections.

Mātauranga Māori

Building a passionate tribe of metal heads that innovate successfully is a mission that we're proud to hang our hat on.

We know having an active and engaged community is integral to our industry and its success. It's why we continue our journey to deepen our understanding of Mātauranga Māori.

We want to build a genuine relationship with Māori which honours our commitments to Te Tiriti.

Our team is now undertaking learnings in not only Te Reo Māori, but also Te Tiriti, tikanga and Māori connections to engineering. Where we can, sprinkling Māori into our every day communications such as email signatures and of course our annual report!

We've also proudly placed our menu and key landing pages on our website into Te Reo Maori. Ensuring that the reo leads first over English to give it the true mana it deserves.

We've also partnered with Pūhoro STEM Academy in a project that looks to investigate the interface between Mātauranga Māori and Construction 4.0.

Supporting University of Auckland Engineering & Law Student, John Cole (who heralds from Ngāti Koroki as a hapū of Ngāti Raukawa ki te Tonga) on this project.

We also continue to offer our Whanake HERA scholarship in collaboration with the Māori Education Trust, to create a more diverse and attractive industry.

Standards.

An important role in ensuring quality.

Welding capability review program for SMEs

This project aims to support small fabricators (SME) to achieve compliance with the AS/NZS 5131 standards framework and attain a higher standard in welding productivity and quality management.

As part of this work, we introduced a multi-phase assessment program which we invited SMEs to join.

Corresponding assessment tools and procedures have been developed to allow for on-site or e-assessments.

This year assisting five SME member companies to establish quality systems in compliance with AS/NZS 5131 CC2. Four HERA member companies received assistance in the development of their quality management systems to comply with AS/NZS 5131 CC2.

Standards review work by our Structural Systems team

In FY21 we have worked on:

- extensive review of composite standard AS/NZS 2327;
- development of scoping document to revise New Zealand Steel Structures Standard NZS 3404. All proposed items were accepted and added;
- update and development of commentary for AS/NZS 5100.6: These two projects are co-funded by HERA and are currently in progress; and
- revision of wind loading standard in AS/NZS 1170.2 which has been approved by the committee and is scheduled to kick off in May 2021.

Manager | HERA Certifications & HERA ANBCC

Standards

Report from our HERA Certification Manager

HERA Certifications is an impartial partner supporting industry.

As the International Institute of Welding (IIW) Authorised Nominated Body for Companies Certification (ANBCC) for New Zealand to IIW MCS ISO 3834, we're able to provide New Zealand fabricators with a world class certification system.

All activities of HERA Certifications Ltd are controlled by an independent Governing Board, including representation from our nation's fabrication industry and other interested parties.

Certification services are delivered by experienced HERA auditors and technical experts contracted to HERA Certifications Ltd.

The Scheme has now been fully aligned with the fabrication requirements of the standard AS/NZS 5131:2016 Structural steelwork—Fabrication and erection. It is a vital standard for the structural steel industry that has been cited on the Building Code.

AS/NZS ISO 3834 is a key part of the Steel Fabricator Certification Scheme (SFC), reflecting the significance of the quality of welded connections for the safety and reliability of structures subject to high seismic demand.

In the reporting year, HERA performed a total of 52 audits on behalf of HERA Certifications Ltd and certifying 11 new companies to the requirements of SFC CC3 and IIW MCS AS/NZS ISO 3834.2.

Five members have also been certified to CFC CC2, and for the first time - two fabricators achieved Certified Fabricator Endorsement to SFC Construction Category 3.

The SFC Scheme now includes 49 companies representing more than 90% of steel fabricated in New Zealand.

Michail Karpenko
Manager

> "This financial year, we've performed 52 audits on behalf of HERA Certifications Ltd.

Action Engineering & Eastbridge Ltd in action | Fabrication works.

Trust.

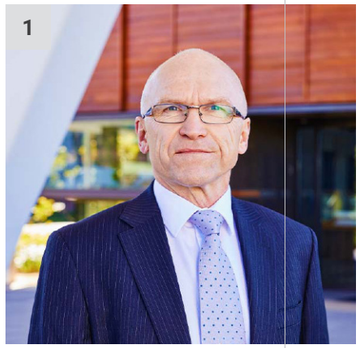
Through thought leadership.

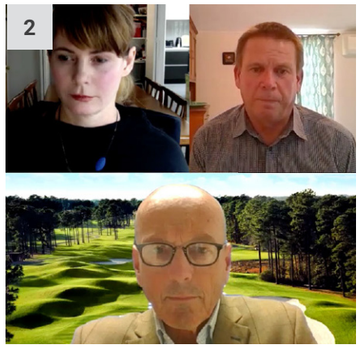
Stirring the Pot Podcast

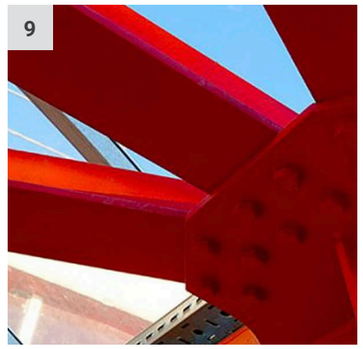
Covid-19 lockdown certainly challenged the way we'd produced our podcasts.

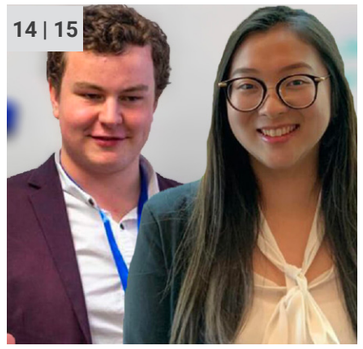
Challenging us to adopt online mechanisms and technology to conduct our interviews with world class expertise.

| 1 | **The living building challenge** | Australia Sustainable Buildings Research Centre Former Director Professor Paul Cooper | 2 | **Covid-19 industry response** | BCITO Warwick Quinn and NZCIC Graham Burke | 3 | **Hydrogen - an alternative reductant?** | Victoria University of Wellington Senior Scientist, Chris Bumby | 4 | **Leading metal head on a mission!** | NZ Steel Casting Production Engineer, Mikaela Keir | 5 | **Calculating carbon footprint** | HERA CEO Troy Coyle, thinkstep-anz's Christin Schaller & Barbara Nebel | 6 | **He tangata, he tangata, he tangata!** | Frog Recruitment Founder, Jane Kennelly | 7 | **Structures of steel & composite columns** | Western Sydney University Senior Lecturer in Structural Reliability, Won Hee Kang | 8 | **The value of lifeycycle assessment** | LCANZ President, Emily Townsend | 9 | **The case for Structural Bolting** | Steel Structures Technology Centre President, Bob Shaw | 10 | **Who wins in a fire? Timber vs. steel** | University of Auckland Associate Professor, Charles Clifton | 11 | **Weathering steel** | WSP NZ Technical Principal - Materials & Corrosion, Raed El Sarraf | 12 & 13 | **Low damage seismic solutions - part 1 & 2** | University of Canterbury Associate Professor - Department of Civil & Natural Resources Engineering, Greg Macrae | 14 | **The importance of diversity and inclusion** | University of Auckland Engineering & Law Student, John Cole and Auckland University of Technology Engineering Student, Hayley Ngo | 15 | **The intersection between Mātauranga Māori & Construction 4.0** | University of Auckland Engineering & Law Student, John Cole









Financial & physical capital.

"Our work has a direct role in supporting income and the material living conditions of our communities.

Resilience | Investment | Resources

Resilience.

Capacity to recover.

Seismic research program in construction

Driving ongoing innovation and improvement in the construction of steel structures.

Design procedures for steel structures are well established, but can be further optimised. It is why we have ongoing research in this space which is focused on making steel structures more robust, economical, suitable for New Zealand's unique seismic environment, and integrated with fabrication 4.0 initiatives.

Spanning a three year period, our seismic research program looks to resolve uncertainties around some of the weld details used to joint critical seismic connections, tolerances and other fabrication details. Including the testing of large and small-scale specimens and advanced numerical modelling. So far, our project results have been published in a number of publications and within our Research Engineer Hafez Taheri's PhD thesis.

The key research outcome has been the publication of HERA's Report No R8-043:2021 which covers the use of effective full penetration T-butt welds in welded moment connections. It introduces a new weld detailing option for seismic Moment Resisting Connections that will lead to significant cost savings.

We've also developed recommendations covering a range of seismic steels manufactured to the national and international standards. This has resulted in the publication of the IIW Document X-1965r2-2020 Provisions for avoiding brittle fracture in steels which is used in Australasia. It has also informed HERA Report R4-154 Guide to the Use of International Standard Steels with NZS 3404.

Our next objective is to define properties of steel required to perform safely under repeated seismic load based on fracture mechanics.

Farra Engineering | Hydro works.

Investment.

What are we investing our resources and time into next?

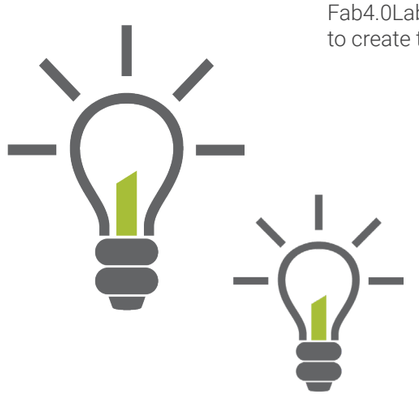
Fab Lab ramps up!

This year, creation of our Fab4.0Lab were completed. FY22 is all about utilsing the space through the demonstration of state-of-the-art technology to inspire industry, robust training to upskill our workforce and trusted research and development projects.

Innovation hub re-invigorated.

Due to the impacts of Covid-19, FY21 saw us place a hold on our aspirations to build an Innovation Centre dedicated to helping our members stay on the cutting edge.

Small projects were undertaken, including the Fab4.0Lab, and carpark development. FY22 is our year to create this interactive space - so stay tuned!



Sustainability focuses to expand.

We have a lot on the cards in the sustainability arena when it comes to programs and research.

Kicking off our steel product carbon offsetting program - Tātaitai Puhanga Waro. It features the development of the world's first comprehensive steel product offset calculator based on life cycle assessment and environmental product declarations.

We're also launching our steel recycling report to investigate what proportion of steel used and made in NZ is being recycled.

Excitingly, we'll also be announcing and launching our sustainability research program which earmarked $100K investment for projects aimed at improving steel's sustainability performance - particularly in terms of carbon.

Design guide priority topics identified.

Feedback from membership has highlighted some key areas where industry is looking for design guides.

In FY22 we plan to develop two new design guides pending final steel research panel confirmation.

Structural training to be delivered.

Industry have been asking for structural training, and in FY22 we plan to deliver.

We're currently developing materials for:

- moment resisting frame design;
- composite structures;
- eccentric braced frame design;
- optimised sliding hinge joints;
- weathering steel - sustainable structural steel and architectural solutions; and
- carbon training for engineers and specifiers.

Part of HERA's role is to facilitate connection, collaboration and knowledge sharing for our NZ metals industry.

You'd have to be living under a rock not to notice that the world is going digital at an exponential pace.

Our library resources are valued by our members and industry.

Having these accessible via our online library ensures we're able to respond promptly and thoroughly to enquiries – particularly research ones.

We've also garnered feedback that we need to connect our online library with our website so that this platform is also searchable for our resources. This integration is something we'll focus on achieving as we move into FY22.

Digital information

Publications & resources.

Structural Systems

- Validation of Structural Fire Design for Steel Carpark- HERA Report No R4-152:2021

Design guide developments and updates:

- R4-97:2020 "NZ Weathering Steel Guide for bridges" – to include new research and corrosion datasets.
- R4-142: "Eccentric Cleats in Compression and Columns in Moment-Resisting Connections". Detailed step-by-step design approaches.
- R4-153: "Steel Building Guide to NZS 3404:1997 Amendment 1 and 2 Worked Examples." The report follows the capacity design procedures from NZS3404 & the HERA design guide P4001:2013 - Seismic design of eccentrically braced frames to design a multistorey EBF building in Christchurch.
- R4-155: "Optimised Sliding Hinge Joint". The optimised sliding hinge joint (OSHJ) is a low damage seismic solution for steel moment resisting frames (MRF). The report provides the specific design and installation philosophy and approaches including detailed step-by-step design guide.
- R4-156: "MRF Design guide update". This design guide is almost completed. It is in final check stage and will be released in May 2020.

Welding Centre

- HERA Report R8-43:2021 The use of effective full penetration of T-butt welds in welded moment connections.
- HERA Report No R8-40:2020 Technical Guide on AS/NZS ISO 9606.1-2017.
- HERA Report No R8-41:2020 Shielding Gases for Seismic Welds.
- HERA Report R-154:2020 Guide to the Use of International Standard Steels with NZS 3404 (Steel Structures Standard) Part 1: Structural Hollow Sections – EN 10219.
- IIW Document X-1965r2-2020 Provisions for avoiding brittle fracture in steels used in Australasia
- The Pressure Equipment Conference proceedings have been published as HERA report R7-44: Proceedings of the 3rd Pressure Equipment Conference, 2020
- HERA Report R8-42:2020 Industry Capability Development - Welding of High Strength steel for Defence Platforms – New Zealand (confidential report).
- Alistair Fussell, Kevin Cowie, Dr Michail Karpenko, Dr Charles Clifton: Proposed Material Requirements for Category 3 Members in Seismic-Resisting Systems. MAT1007, August 2020
- HERA Report R5-88:2020 An industry 4.0 road map for NZ metal fabricators
- Sensor-Based Monitoring System for Real-Time Quality Control: Semi-Automatic Arc Welding Case Study was published in Procedia Manufacturing https://doi.org/10.1016/j.promfg.2020.10.029
- 11. HERA Technical Guide -01:2020 Welder Qualification test certificate AS/NZS/ISO 9606-1:2017 & 2980:2018
- 12. HERA Technical Guide-02:2020 Weld positions to AS/NZS 3545:2020 (ASME IX and AWS D1.1)

Statements & notes.

RSM

RSM Hayes Audit
PO Box 9583
Newmarket, Auckland 1149
Level 1, 1 Broadway
Newmarket, Auckland 1023
T 64 (9) 357 1655
www.rsmnz.co.nz

13 May 2021

New Zealand Heavy Engineering Research Association Incorporated
Hera House
17-19 Gladding Place
Manukau City
Auckland 2104
New Zealand

Dear Board Members

Audit of your Financial Statements
For the year ended 31 March 2021

We have substantially completed the audit of your financial statements for the year ended 31 March 2021.

A report of the significant findings arising from the audit is attached. Matters raised in this report have been discussed with your management team during the audit fieldwork. This report has been prepared solely for the use of the Board members of your organisation. It may not be provided to third parties without our prior written consent.

If you wish, we would be pleased to discuss with you our recommendations in this letter or any other aspect of your organisation's audit. If it is of value to your board, one of our audit directors or managers would be happy to attend a board meeting to discuss any finance related issues you have.

We would like to take this opportunity to thank Troy Coyle and Ronita Kishore for the assistance and cooperation during the course of the audit. We appreciate our relationship with your organisation and look forward to continuing to provide a valuable service to you.

We are always trying to improve our services. If you have any observations or suggestions in this regard, we would be grateful to hear of them.

Should you have any queries regarding this letter, any aspect of our audit, or require any further assistance please do not hesitate to contact me.

Yours sincerely

Kumar Aravinda
Audit Partner

THE POWER OF BEING UNDERSTOOD
AUDIT | TAX | CONSULTING

New Zealand Heavy Engineering Research Association Incorporated
Audit Findings
For the period ended 31 March 2021

1. Introduction

We set out below our findings from the audit work we have performed during the audit of your financial statements for the year ended 31 March 2021.

This report will discuss:

- The expected content of our formal audit report;
- Governance and risk management matters;
- Financial statements; and
- Accounting systems and controls.

The primary aim of our audit is to form an opinion as to whether your financial statements fairly reflect the results of your organisation's activities for the reporting period and its financial position at balance date. The audit report will express this opinion.

In forming our audit opinion, we conduct detailed tests of selected transactions and review the design of internal controls within the organisation. As a service to ensure you receive maximum benefit from our audit, we note our evaluation of your systems and highlight areas of possible weakness or where we believe improvements can be made. Our motive is to offer objective and constructive advice so that the accounting function and related control issues can be improved in the future.

All the points made in this report have been discussed with Troy Coyle and we have taken account of her comments in drafting the report. These points arose during the course of our audit which is designed primarily to enable us to form an opinion on the financial statements taken as a whole. Our report cannot, therefore, be expected to include all possible comments and recommendations which a more extensive special examination might indicate.

2. Expected content of our formal audit report

Subject to receipt of signed financial statements, letter of representation, and final update of events subsequent to balance date, we expect to issue an unmodified audit report in our standard wording.

RSM

3. Governance and risk management

Areas of significant audit focus

We believe it is best practice to communicate with you as the governing body regarding matters which form an important part of our audit process. However, ultimately it is you, the governing body that remains responsible for your financial systems, internal controls and financial statements.

While our audit necessarily involves testing of your overall system of financial controls and reporting, we assessed some potentially significant risk areas in relation to your organisation. Accordingly, we believe that they are important issues that should be of interest to you in your governance capacity.

In the case of your organisation the following are the areas and issues in the current year that we assessed significant risk areas:

- Risks associated with revenue, including completeness, recognition policy and cut off; and
- Management override of controls / limited segregation of duties.

In addition, we sought to ensure that your financial statements were in compliance with generally accepted accounting practice in New Zealand, in your case applying the Public Benefit Entity Accounting Standards Reduced Disclosure Regime.

We are pleased to advise that our testing of these assessed risks did not identify any significant issues or concerns other than any observations and recommendations related to these topics as detailed below.

Other governance and risk management matters

We are required by auditing standards to report specific matters to you as follows:

- We have had no disagreements with management during our audit nor any serious difficulties in dealing with management;
- We have not identified any breaches of legislation during our audit;
- We have not identified any instances of fraud involving management, or any other fraud that caused a material misstatement of the financial statements; and
- We have not noted any further significant risks or exposures that are required to be separately disclosed in the financial statements.

We reaffirm we are independent of your organisation, and that we have no relationship with your organisation that could impair our independence.

4. Financial statements

Adjustments made

Please refer to Appendix A for the journal adjustments identified during our audit.

Unadjusted differences

Please refer to Appendix B for unadjusted differences.

RSM

5. Accounting systems and controls

Observation	Implication	Recommendation
Payroll		
We noticed that payroll is maintained manually on Microsoft Excel.	Performing payroll on excel has the potential of calculation errors as well as not be up to date with the latest payroll legislation.	We suggest the use of an approved payroll system to perform all payroll related activities.
Changes to standing data		
We note that payment batches are reviewed and signed before clearance. However, we noted that there are no formal checks over changes to standing data such as changes in the creditor bank account details.	Lack of detailed review over changes to standing data such as this can provide an opportunity for error or for employees to misappropriate funds. We wish to stress that this is just an improvement observation to your system, and we did not identify anything that would bring into question the integrity of any of your employees involved in these processes.	We understand that the exception report from XERO does not eliminate the risk. This is because the bank account details in Xero are not linked to the bank account details to an online banking. We recommend that someone who is independent and is not involved in the payment process matches the bank account numbers in the monthly batch payment listing and compare it with the bank account numbers from the supplier invoice on random basis. The review should be evidenced by tick marks, initial and dated.

RSM

Credit card reviews		
We found many instances where invoices and supporting documents / statements were not always authorised. However, we have found nothing in our examination to bring into question the integrity of any individuals or the expenditure made.	Credit cards unfortunately can be reasonably easily subject to error and fraud. Hence it is important that all appropriate supporting documents are checked thoroughly on a timely basis to prevent errors or unauthorised payments.	We recommend that credit card statements are reviewed and authorised by an independent person and that review should be evidenced by an initial and date.
Conflict of Interest Register		
We noted that there is no conflict-of-interest register. This would ensure that the Board can take care in the process for entering such transactions is fair and transparent.	This will help to ensure that the stakeholders have confidence that the member concerned has not influenced the awarding of the decision in any way.	The Board should maintain a register of Board member's financial interests, to assist the Board in identifying and managing any potential conflicts of interest.
SFC Audit jobs		
We noted that currently there is no central database maintained which records the job start and finish date due to which the Accountant is relying on the General Manager Welding Centre to confirm when to raise an invoice.	Due to the current practice, there may be instance when the customer is not invoiced on timely basis for the work done.	We recommend maintaining a central database once the job is started so that at any point of time the accountant can check which jobs are completed which can trigger to do the invoicing.

Appendix A

Adjusted misstatements

The following misstatements were identified and subsequently adjusted in the financial statements:

Adjusted misstatement detail	Profit or loss Dr/(Cr)	Balance sheet Dr/(Cr)
Dr PPE – Innovation Centre	113,593	
Cr Expenses – Fab Lab 4.0		(113,593)
To capitalise the Fab Lab		

Appendix B

Uncorrected misstatements

The following misstatements were identified during the audit. These have been discussed with management who have elected not to adjust in the financial statements as they do not consider the impact, individually or in total, to be material.

Unadjusted misstatement detail 2021 unadjusted differences	Profit or loss Dr/(Cr)	Balance sheet Dr/(Cr)
Dr Asset - Term Deposit	5,788	
Cr Interest Income		(5,788)
TO accrue income on Term Deposit Investments		

NEW ZEALAND HEAVY ENGINEERING RESEARCH ASSOCIATION INCORPORATED

FINANCIAL STATEMENTS
FOR THE YEAR ENDED 31 MARCH 2021

NEW ZEALAND HEAVY ENGINEERING RESEARCH ASSOCIATION INCORPORATED

Financial Statements
FOR THE YEAR ENDED 31 MARCH 2021

Contents	Page (s)

NEW ZEALAND HEAVY ENGINEERING RESEARCH ASSOCIATION INCORPORATED

Directory
FOR THE YEAR ENDED 31 MARCH 2021

Registered office	**HERA House** **17-19 Gladding Place** **Manukau City** **Auckland**
Number	**215280**
Nature of business	**Research Association**
Board Members	**Troy Coyle (CEO HERA)** **Dave Anderson, John Jones Steel (Chair)** **Noel Davies (Chair of HERA Foundation)** **Mathew Black, New Zealand Steel Ltd** **(Nominee of General Manager of NZ Steel)** **Dieter Adam, NZMEA** **Ordinary and Associate Members** **David Moore - Grayson Engineering Ltd** **Craig Stevenson- Aurecon New Zealand Ltd** **Raed El Saraf- WSP Opus** **Darren O'Riley, Steel Construction New Zeland Inc.** **Yvonne Chan - AUT** **Jayden Melloop - Eastbridge Ltd** **Jane Warren - Diven Manufacturing Ltd** **Ben Jensen - Jensen Steel Fabricators Ltd**
Independent auditor	**RSM Hayes Audit** **Level 1, 1 Broadway,** **Newmarket 1023**
Bankers	**Bank of New Zealand** **ANZ Bank New Zealand Limited**
Solicitor	**Gaze Burt** **Auckland**

NEW ZEALAND HEAVY ENGINEERING RESEARCH ASSOCIATION INCORPORATED

Board's Report and Statement of Responsibility
FOR THE YEAR ENDED 31 MARCH 2021

Board Member's Report

The Board of New Zealand Heavy Engineering Research Association Incorporated present this Annual Report, being the financial statements of the Association for the financial year ended 31 March 2021, and the independent auditor's report thereon.

Statement of Responsibility

The Board is responsible for the maintenance of adequate accounting records and the preparation and integrity of the financial statements and related information.

The independent external auditors, RSM Hayes Audit, have audited the financial statements and their report appears on pages 3 to 4.

The Board is also responsible for the systems of internal control. These are designed to provide reasonable but not absolute assurance as to the reliability of the financial statements, and to adequately safeguard, verify and maintain accountability for assets, and to prevent and detect material misstatements.

Appropriate systems of internal control have been employed to ensure that all transactions have been executed in accordance with authority and correctly processed and accounted for in the financial records. The systems are implemented and monitored by suitably trained personnel with an appropriate segregation of authority and duties. Nothing has come to the attention of the Board to indicate that any material breakdown in the functioning of these controls, procedures and systems has occurred during the year under review.

The financial statements are prepared on a going concern basis. Nothing has come to the attention of the Board to indicate that the entity will not remain a going concern in the foreseeable future.

In the opinion of the Board:

- The statement of comprehensive revenue and expense is drawn up so as to present fairly, in all material respects, the results of the entity for the financial year ended 31 March 2021;

- The statement of financial position is drawn up so as to present fairly, in all material respects, the state of affairs of the entity as at 31 March 2021;

The statement of cash flows is drawn up so as to present fairly, in all material respects, the state of cash flows of the entity for the financial year ended 31 March 2021.

- There are reasonable grounds to believe that the entity will be able to pay its debts as and when they fall due.

For and on behalf of the Board:

Chairman	12/5/2021 Date
CEO	12 May 2021 Date

RSM

RSM Hayes Audit

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Independent Auditor's Report

To members of New Zealand Heavy Engineering Research Association Incorporated

Opinion

We have audited the financial statements of New Zealand Heavy Engineering Research Association Incorporated (the Society), which comprise:

- the statement of financial position as at 31 March 2021;
- the statement of comprehensive revenue and expense for the year ending 31 March 2021;
- the statement of changes in net assets/equity for the year ending 31 March 2021;
- the statement of cash flows for the year ending 31 March 2021; and
- the notes to the financial statements, which include significant accounting policies.

In our opinion, the accompanying financial statements on pages 5 to 17 present fairly, in all material respects, the financial position of New Zealand Heavy Engineering Research Association Incorporated as at 31 March 2021, and its financial performance and its cash flows for the year ending 31 March 2021 in accordance with Public Benefit Entity Standards Reduced Disclosure Regime issued by the New Zealand Accounting Standards Board.

Basis for opinion

We conducted our audit in accordance with International Standards on Auditing (New Zealand) (ISAs (NZ)). Our responsibilities under those standards are further described in the *Auditor's responsibilities for the audit of the financial statements* section of our report.

We are independent of the Society in accordance with Professional and Ethical Standard 1 (Revised) *Code of Ethics for Assurance Practitioners* issued by the New Zealand Auditing and Assurance Standards Board, and we have fulfilled our other ethical responsibilities in accordance with these requirements.

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

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

RSM

Other information

The Board is responsible for the other information. The other information comprises the directory and the Board Member's report and statement of responsibility on pages 1 to 2 (but does not include the financial statements and our auditor's report thereon), which we obtained prior to the date of this auditor's report. Our opinion on the financial statements 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, our responsibility is to read the other information identified above and, in doing so, consider whether the other information is materially inconsistent with the financial statements or our knowledge obtained in the audit, or otherwise appears to be materially misstated. If, based on the work we have performed on the other information that we obtained prior to the date of this auditor's report, we conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report in this regard.

Responsibilities of the Board for the financial statements

The Board is responsible, on behalf of New Zealand Heavy Engineering Research Association Incorporated (the Society), for the preparation and fair presentation of the financial statements in accordance with Public Benefit Entity Standards Reduced Disclosure Regime, and for such internal control as those charged with governance determine is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, the Board is responsible, on behalf of the Society, for assessing the Society's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless the Board either intend to liquidate the Society or to cease operations, or have no realistic alternative but to do so.

Auditor's responsibilities for the audit of the financial statements

Our objectives are to obtain reasonable assurance about whether the financial statements 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 conducted in accordance with ISAs (NZ) will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the decisions of users taken on the basis of these financial statements. A further description of the auditor's responsibilities for the audit of the financial statements is located at the XRB's website at:

https://www.xrb.govt.nz/standards-for-assurance-practitioners/auditors-responsibilities/audit-report-8/

Who we report to

This report is made solely to the members as a body. Our audit has been undertaken so that we might state to the members those matters we are required to state to them in an auditor's report and for no other purpose. To the fullest extent permitted by law, we do not accept or assume responsibility to anyone other than the Society and the members, for our work, for this report, or for the opinions we have formed.

RSM

RSM Hayes Audit
Auckland

13 May 2021

NEW ZEALAND HEAVY ENGINEERING RESEARCH ASSOCIATION INCORPORATED

Statement of Comprehensive Revenue and Expense
FOR THE YEAR ENDED 31 MARCH 2021

	Notes	2021	2020
		$ 12 months	$ 9 months
Revenue from non-exchange transactions	11	2,145,393	1,585,066
Revenue from exchange transactions	11	1,076,336	659,502
Total Revenue		3,221,729	2,244,568
Expenses			
Employee salaries and wages		1,634,083	1,090,932
Member Services		172,391	188,208
Seminar Expenses		54,381	67,893
Consulting Expenses		109,828	17,974
External Research		94,833	143,931
HERA House Expenses		98,179	88,498
Conference expense		11,187	147,143
Depreciation Expense		109,920	83,424
Rent Expenses		310,024	232,518
Other expenses	12	205,233	254,671
Total expenses		2,800,059	2,315,192
Finance income		8,836	13,367
Finance costs		-	-
Net finance income		8,836	13,367
Net surplus before tax		430,506	(57,257)
Income tax expense	16	-	-
Net (Deficit) / surplus for the year / period		430,506	(57,257)
Other comprehensive revenue and expense		-	-
Total comprehensive revenue and expense for the year		430,506	(57,257)

The above financial statements should be read in conjunction with the notes to the financial statements.

NEW ZEALAND HEAVY ENGINEERING RESEARCH ASSOCIATION INCORPORATED

Statement of Changes in Net Assets/Equity
FOR THE YEAR ENDED 31 MARCH 2021

	Accumulated comprehensive revenue and expense	Total
	$	$
Closing equity 30 June 2019	1,753,342	1,753,342
Total comprehensive revenue and expense for the year	(57,257)	(57,257)
Closing equity 31 March 2020	1,696,085	1,696,085
Total comprehensive revenue and expense for the period	430,506	430,506
Closing equity 31 March 2021	2,126,591	2,126,591

The above financial statements should be read in conjunction with the notes to the financial statements.

NEW ZEALAND HEAVY ENGINEERING RESEARCH ASSOCIATION INCORPORATED

Statement of Financial Position
As at 31 March 2021

	Notes	2021 $	2020 $
ASSETS			
Current assets			
Cash and cash equivalents	5	420,011	443,260
Receivables from exchange transactions	6	98,628	145,717
Receivables from non-exchange transactions	6	349,980	176,032
Investments- Term deposits (bank)		878,069	868,936
Prepayment		102,169	-
Inventories		8,058	7,872
		1,856,915	1,641,817
Non-current assets			
Property, plant and equipment	8	415,788	356,925
		415,788	356,925
TOTAL ASSETS		2,272,703	1,998,742
LIABILITIES			
Current liabilities			
Payables (from exchange transactions)	10	29,329	101,801
Payables (from non- exchange transactions)	10	68,066	113,841
Subscription received in advance		-	46,297
Employee benefits		48,717	40,718
		146,112	302,657
TOTAL LIABILITIES		146,112	302,657
TOTAL NET ASSETS		2,126,591	1,696,085
Net Assets / Equity			
Accumulated comprehensive revenue and expense		2,126,591	1,696,085
Total Net Assets / Equity		2,126,591	1,696,085

For and on behalf of the Board:

Chairperson — Date: 12/5/2021.

CEO — Date: 12 May 2021

The above financial statements should be read in conjunction with the notes to the financial statements.

NEW ZEALAND HEAVY ENGINEERING RESEARCH ASSOCIATION INCORPORATED

Statement of Cash Flows
FOR THE YEAR ENDED 31 MARCH 2021

	Notes	2021 $ 12 months	2020 $ 9 months
CASH FLOWS FROM OPERATING ACTIVITIES			
Receipts from members		3,094,870	2,303,174
Interest received		8,836	13,367
Cash paid to suppliers and employees		(2,918,593)	(2,089,128)
Net cash inflow from operating activities		185,113	227,413
CASH FLOWS FROM INVESTING ACTIVITIES			
Sales/(Purchases) of term deposits		(9,133)	(19,818)
Purchase of property, plant and equipment	8	(199,229)	(180,083)
Net cash outflow from investing activities		(208,362)	(199,901)
CASH FLOWS FROM FINANCING ACTIVITIES			
Repayment from related party loan		-	171,340
Net cash outflow from financing activities		-	171,340
Net increase in cash and cash equivalents		(23,249)	198,772
Cash and cash equivalents at 1 April		443,260	244,488
Cash and cash equivalents at 31 March	5	420,011	443,260

The above financial statements should be read in conjunction with the notes to the financial statements.

NEW ZEALAND HEAVY ENGINEERING RESEARCH ASSOCIATION INCORPORATED

Notes to the Financial Statements
For the Year Ended 31 March 2021

1. REPORTING ENTITY

New Zealand Heavy Engineering Research Association Incorporated (the "Society") is an Incorporated Society which was incorporated under the Incorporated Society Act 1908 on the 30th day of August 1978.

These financial statements were authorised for issue by the Board on the date indicated on page 7.

2. BASIS OF PREPARATION

a) Statement of compliance
The financial statements have been prepared in accordance with New Zealand Generally Accepted Accounting Practice ("NZ GAAP"). Not-For-Profit PBE IPSAS – RDR.

The Society is a public benefit entity for the purpose of financial reporting and the financial statements comply with Public Benefit Entity Standards Reduced Disclosure Regime ("PBE Standards RDR"). For the purposes of complying with NZ GAAP, the Society is a public benefit not-for-profit entity and is eligible to apply PBE Standards RDR on the basis that it does not have public accountability and it is not defined as large. All reduced disclosure regime exemptions have been adopted.

b) Measurement basis
The financial statements have been prepared on the historical cost basis.

c) Functional and presentation currency
The financial statements are presented in New Zealand Dollars ($), which is the functional and presentation currency, rounded to the nearest dollar.

There has been no change in the functional currency of the Society during the year.

d) Changes in accounting policy
There is no change in accounting policy during the year.

3. SIGNIFICANT JUDGEMENTS AND ESTIMATES

The preparation of the Society's financial statements requires management to make judgements, estimates and assumptions that affect the reported amounts of revenues, expenses, assets and liabilities, and the accompanying disclosures, and the disclosure of contingent liabilities. Uncertainty about these assumptions and estimates could result in outcomes that require a material adjustment to the carrying amount of assets or liabilities affected in future periods.

a) Judgements:
In the process of applying the Society's accounting policies, management has made the following judgements, which have the most significant effect on the amounts recognised in the financial statements:

- Revenue recognition: the recognition of non-exchange revenue (conditions vs restrictions);
- Classification of non-financial assets as cash generating or non-cash generating assets for the purposes of assessing impairment indicators and impairment testing.

The majority of property, plant and equipment held by the Society is classified as non-cash generating assets.

b) Assumptions and estimation uncertainties

The key assumptions concerning the future and other key sources of estimation uncertainty at the reporting date, that have a significant risk of causing a material adjustment to the carrying amounts of assets and liabilities within the next financial year, are described below. The Society based its assumptions and estimates on parameters available when the financial statements were prepared. Existing circumstances and assumptions about future developments, however, may change due to market changes or circumstances arising beyond the control of the Society. Such changes are reflected in the assumptions when they occur.

NEW ZEALAND HEAVY ENGINEERING RESEARCH ASSOCIATION INCORPORATED

Notes to the Financial Statements
For the Year Ended 31 March 2021

3. SIGNIFICANT JUDGEMENTS AND ESTIMATES (CONT'D)

b) Assumptions and estimation uncertainties (cont'd)
Useful lives and residual values
The useful lives and residual values of assets are assessed using the following indicators to inform potential future use and value from disposal:

- The condition of the asset based on the assessment of experts employed by the Society;
- The nature of the asset, its susceptibility and adaptability to changes in technology and processes.
- The nature of the processes in which the asset is deployed
- Availability of funding to replace the asset
- Changes in the market in relation to the asset

Changes to accounting estimates
There have been no changes in the accounting estimates for the current reporting period.

4. SIGNIFICANT ACCOUNTING POLICIES

a) Revenue
Revenue is recognised to the extent that it is probable that the economic benefits or service potential will flow to the Society and the revenue can be reliably measured, regardless of when the payment is being made. Revenue is measured at the fair value of the consideration received or receivable, taking into account contractually defined terms of payment and excluding taxes or duty.

The specific recognition criteria described below must also be met before revenue is recognised.

i) Revenue from exchange transactions

Revenue from the sale of goods
Revenue from the sale of goods in the course of ordinary activities is measured at the fair value of the consideration received or receivable, net of returns, trade discounts and volume rebates.

Revenue is recognised when the significant risks and rewards of ownership have been transferred to the customer, recovery of the consideration is probable, the associated costs and possible return of goods can be estimated reliably, there is no continuing management involvement with the goods, and the amount of revenue can be measured reliably.

Rendering of services
Revenue is measured at the fair value of the consideration received or receivable under the contract or agreement.

Where the outcome of a transaction involving the rendering of services can be estimated reliably, revenue is recognised by reference to the stage of completion based on the progress of work performed.

Interest received
Interest income is recorded using the effective interest rate. Effective interest rate is the rate that exactly discounts the estimated future cash payments or receipts over the expected life of the financial instrument or a shorter period, where appropriate, to the net carrying amount of the financial asset or liability.

Interest income is included in finance income in the statement of comprehensive revenue and expense.

ii) Revenue from non-exchange transactions
Non-exchange transactions are those where the Society receives an inflow of resources (i.e. cash and other tangible or intangible items) but provides no (or nominal) direct consideration in return.

With the exception of services-in-kind, inflows of resources from non-exchange transactions are only recognised as assets where both:

- It is probable that the associated future economic benefit or service potential will flow to the Society, and
- Fair value is reliably measurable.

Inflows of resources from non-exchange transactions that are recognised as assets are recognised as non exchange revenue, to the extent that a liability is not recognised in respect to the same inflow.

NEW ZEALAND HEAVY ENGINEERING RESEARCH ASSOCIATION INCORPORATED

Notes to the Financial Statements
For the Year Ended 31 March 2021

4. SIGNIFICANT ACCOUNTING POLICIES (CONT'D)

h) Revenue from non-exchange transactions (cont'd)

Liabilities are recognised in relation to inflows of resources from non-exchange transactions when there is a resulting present obligation as a result of the non-exchange transactions, where both:

- It is probable that an outflow of resources embodying future economic benefit or service potential will be required to settle the obligation, and
- The amount of the obligation can be reliably estimated.

The following specific recognition criteria in relation to the Society's non-exchange transaction revenue streams must also be met before revenue is recognised.

Grants, Donations, Legacies and bequests

The recognition of non-exchange revenue from Grants, Donations, Legacies and bequests depends on the nature of any stipulations attached to the inflow of resources received, and whether this creates a liability (i.e. present obligation) rather than the recognition of revenue.

Stipulations that are 'conditions' specifically require the Society to return the inflow of resources received if they are not utilised in the way stipulated, resulting in the recognition of a non-exchange liability that is subsequently recognised as non-exchange revenue as and when the 'conditions' are satisfied.

Stipulations that are 'restrictions' do not specifically require the Society to return the inflow of resources received if they are not utilised in the way stipulated, and therefore do not result in the recognition of a non-exchange liability, which results in the immediate recognition of non-exchange revenue.

i) Employee benefits

i) Short term employee benefits

Short-term employee benefit liabilities are recognised when the Society has a legal or constructive obligation to remunerate employees for services provided with 12 months of reporting date, and is measured on an undiscounted basis and expensed in the period in which employment services are provided.

j) Finance income

Finance income comprises interest income on financial assets. Interest income is recognised as it accrues in surplus or deficit, using the effective interest method.

k) Financial instruments

Financial assets and financial liabilities are recognised when the Society becomes a party to the contractual provisions of the financial instrument.

The Society derecognises a financial asset when the contractual rights to the cash flows from the asset expire, or it transfers the rights to receive the contractual cash flows in a transaction in which substantially all the risks and rewards of ownership of the financial asset are transferred. Any interest in transferred financial assets that is created or retained by the Society is recognised as a separate asset or liability.

The Society derecognises a financial liability when its contractual obligations are discharged, cancelled, or expire.

The Society derecognises financial assets and financial liabilities when there has been significant changes to the terms and/or the amount of contractual payments to be received/paid.

Financial assets and liabilities are offset and the net amount presented in the statement of financial position when, and only when, the Society has a legal right to offset the amounts and intends either to settle on a net basis or to realise the asset and settle the liability simultaneously.

The Society classifies financial assets as loans and receivables.

The Society classifies financial liabilities as at amortised cost.

Financial instruments are initially measured at fair value, plus for those financial instruments not subsequently measured at fair value through surplus or deficit, directly attributable transaction costs.

Subsequent measurement is dependent on the classification of the financial instrument, and is specifically detailed in the accounting policies below.

NEW ZEALAND HEAVY ENGINEERING RESEARCH ASSOCIATION INCORPORATED

Notes to the Financial Statements
For the Year Ended 31 March 2021

4. SIGNIFICANT ACCOUNTING POLICIES (CONT'D)

k) Financial instruments (cont'd)

i) Loans and receivables

Loans and receivables are financial assets with fixed or determinable payments that are not quoted in an active market, and are measured initially at fair value.

Loans and receivables are subsequently measured at amortised cost using the effective interest method, less any impairment losses.

Loans and receivables comprise cash and cash equivalents and receivables.

Cash and cash equivalents in the statement of financial position comprise cash at bank and in hand and short-term deposits with an original maturity of three months or less that are readily convertible to known amounts of cash and which are subject to an insignificant risk of changes in value.

For the purposes of the statement of cash flows, cash and cash equivalents consist of cash and cash equivalents as defined above.

ii) Financial liabilities at amortised cost

Financial liabilities classified as at amortised cost are non-derivative financial liabilities that are not classified as fair value through surplus or deficit financial liabilities.

Financial liabilities classified as amortised cost are subsequently measured at amortised cost using the effective interest method.

Financial liabilities classified as amortised cost comprise payables.

m) Impairment of non-derivative financial assets

A financial asset not subsequently measured at fair value through surplus or deficit is assessed at each reporting date to determine whether there is objective evidence that it is impaired. A financial asset is impaired if there is objective evidence of impairment as a result of one or more events that occurred after the initial recognition of the asset, and that the loss event(s) had an impact on the estimated future cash flows of that asset that can be estimated reliably.

Objective evidence that financial assets are impaired includes default or delinquency by a counterparty, restructuring of an amount due to the Society on terms that the Society would not consider otherwise, indications that a counterparty or issuer will enter bankruptcy, adverse changes in the payment status of borrowers or issuers, economic conditions that correlate with defaults or the disappearance of an active market for a security.

i) Financial assets classified as loans and receivables

The Society considers evidence of impairment for financial assets measured at amortised cost (loans and receivables) at both a specific asset and collective level.

All individually significant assets are assessed for specific impairment. Those found not to be specifically impaired are then collectively assessed for any impairment that has been incurred but not yet identified.

Assets that are not individually significant are collectively assessed for impairment by grouping together assets with similar risk characteristics.

In assessing collective impairment the Society uses historical trends of the probability of default, the timing of recoveries and the amount of loss incurred, adjusted for management's judgement as to whether current economic and credit conditions are such that the actual losses are likely to be greater or less than suggested by historical trends.

An impairment loss in respect of a financial asset measured at amortised cost is calculated as the difference between its carrying amount and the present value of the estimated future cash flows discounted at the asset's original effective interest rate. Losses are recognised in surplus or deficit and reflected in an allowance account against loans and receivables. Interest on the impaired asset continues to be recognised.

When an event occurring after the impairment was recognised causes the amount of impairment loss to decrease, the decrease in impairment loss is reversed through surplus or deficit.

NEW ZEALAND HEAVY ENGINEERING RESEARCH ASSOCIATION INCORPORATED

Notes to the Financial Statements
For the Year Ended 31 March 2021

4. SIGNIFICANT ACCOUNTING POLICIES (CONT'D)

f) Property, plant and equipment

i) Recognition and measurement
Items of property, plant and equipment are initially measured at cost, except those acquired through non-exchange transactions which are instead measured at fair value as their deemed cost at initial recognition.

Items of property, plant and equipment are subsequently measured at cost less accumulated depreciation and accumulated impairment losses.

Cost includes expenditure that is directly attributable to the acquisition of the asset.

When parts of an item of property, plant and equipment have different useful lives, they are accounted for as separate items (major components) of property, plant and equipment.

Any gain or loss on disposal of an item of property, plant and equipment (calculated as the difference between the net proceeds from disposal and the carrying amount of the item) is recognised in surplus or deficit.

Upon disposal of revalued items of property, plant and equipment, any associated gain or losses on revaluation to that item are transferred from the revaluation surplus to accumulated surplus.

ii) Subsequent expenditure
Subsequent expenditure is capitalised only when it is probable that the future economic benefits associated with the expenditure will flow to the Society. Ongoing repairs and maintenance is expensed as incurred.

iii) Depreciation
For property, plant and equipment, depreciation is based on the cost of an asset less its residual value and for buildings is based on the revalued amount less its residual value.

Significant components of individual assets that have a useful life that is different from the remainder of those assets, those components are depreciated separately.

Depreciation is recognised in surplus or deficit on a straight-line basis over the estimated useful lives of each component of an item of property, plant and equipment.

The estimated useful lives are:

Office Equipment	15%-40%
Office Furniture	15%
Fixture & Fittings	15%
Training Centre	25%
Motor Vehicles	20%
Metallurgy Lab	15%
House Refurbishment	10%

Depreciation methods, useful lives, and residual values are reviewed at reporting date and adjusted if appropriate.

g) Impairment of non-financial assets
The carrying amounts of the Society's non-financial assets are reviewed at each reporting date to determine whether there is any indication of impairment. If any such indication exists, then the asset's recoverable amount is estimated.

The recoverable amount of an asset or CGU is the greater of its value in use and its fair value less costs to sell. In assessing value in use, the future remaining service potential (for non-cash-generating assets) is discounted to their present value using a pre-tax discount rate that reflects current market assessments of the time value of money and the risks specific to the asset or CGU.

Impairment losses are recognised in surplus or deficit. An impairment loss is reversed only to the extent that the asset's carrying amount does not exceed the carrying amount that would have been determined, net of depreciation or amortisation, if no impairment loss had been recognised.

NEW ZEALAND HEAVY ENGINEERING RESEARCH ASSOCIATION INCORPORATED

Notes to the Financial Statements
For the Year Ended 31 March 2021

4. SIGNIFICANT ACCOUNTING POLICIES (CONT'D)

h) Equity
Equity is the Association's interest in the Society measured as the difference between total assets and total liabilities. Equity is made up of the following components:

Accumulated comprehensive revenue and expense
Accumulated comprehensive revenue and expense is the Society's accumulated surplus or deficit since the formation of the Society adjusted for transfers to/from specific reserves.

i) Goods and services tax
All amounts are shown exclusive of goods and services tax (GST), except for receivables and payables that are stated inclusive of GST.

j) Leases

i) Classification and Instrument
Leases in terms of which the Society assumes substantially all the risks and rewards of ownership are classified as finance leases.

Upon initial recognition the leased asset is measured at an amount equal to the lower of its fair value and the present value of the minimum lease payments. Subsequent to initial recognition, the asset is accounted for in accordance with the accounting policy applicable to that asset.

The Society does not have finance leases.

Operating leases are leases that do not transfer substantially all the risks and benefits incidental to ownership of the leased item to the Society Operating lease payments are recognised as an operating expense in surplus or deficit on a straight-line basis over the lease term.

k) Inventories
Inventory is measured at cost upon initial recognition. To the extent that inventory was received through non-exchange transactions (for no cost or for a nominal cost), the cost of the Inventory is its fair value at the date of acquisition.

After initial recognition, inventories held for resale are valued at the lower of cost and net realisable value.

Net realisable value is the estimated selling price in the ordinary course of business, less estimated costs of completion and the estimated costs necessary to make the sale, exchange or distribution.

NEW ZEALAND HEAVY ENGINEERING RESEARCH ASSOCIATION INCORPORATED

Notes to the Financial Statements
FOR THE YEAR ENDED 31 MARCH 2021

6. CASH AND CASH EQUIVALENTS

	2021	2020
	$	$
Cash and cash equivalents include the following components:		
Current Account	20,558	104,456
Call Account	273,764	263,710
Term deposits (maturity < 90 days)	125,689	75,094
	420,011	443,260

The Association has a Visa credit card facility with Bank of New Zealand. The total limit of all credit cards is $30,000 (2020: $30,000).

8. RECEIVABLES

	2021	2020
	$	$
Receivables from exchange transactions		
Accounts receivable	98,528	145,717
Bad debt provision	-	-
	98,528	145,717
Receivables from non-exchange transactions		
Accrued income - steel and welding levies	349,980	176,032
	349,980	176,032

At 31 March, the ageing analysis of receivables from exchange transactions is as follows:

	Total	< 30 days	30-60 days	61-90 days	>90 days
	$	$	$	$	$
2021	98,528	3,911	87,352	160	7,165
2020	145,717	103,830	8	5,158	36,681

7. RELATED PARTY TRANSACTIONS AND BALANCES

Heavy Engineering Educational Research Foundation (HEERF) is a related party to the Society. The Chairman, Deputy Chairman and Board Members of the Society are HEERF's trustees.

Related party transactions
The Society had the following related party transactions with HEERF during the year as follows:
- building management fees of $nil (2020: $nil) and administration fees of $nil (2020: $nil) for the management and administration of HERA House;
- rental expenses on buildings of $318,024 (2020: $230,517)
- receipts of grants totaling $8,500 (2020: $12,672)
- repayment of related party loan of $nil (2020: $171,340)

Key management personnel compensation
The total remuneration paid to key management personnel for the year was $641,482 (2020: $358,886). The total number of key management personnel was 4 (2020: 2).

There were no other material related party transactions as at balance date, and there are no other material balances outstanding regarding transactions with related parties.

9. PROPERTY, PLANT AND EQUIPMENT

Reconciliation of property, plant and equipment for the year ended 31 March 2021

	Opening balance	Additions	Disposals	Depreciation	Closing balance
Office Furniture	53,587	-	-	34,202	19,385
Fixtures & Fittings	16,387	58,559	-	6,184	68,762
HERA House refurb (Pohlman and Paint Dust)	92,242	113,592	-	12,214	193,620
Motor Vehicles	43,612	-	-	19,893	23,720
Office Equipment	82,288	27,078	-	31,881	77,485
Training Equipment	38,725	-	-	5,909	32,816
	326,841	199,229	-	110,282	415,788

	2021			2020		
	Cost	Accumulated depreciation	Carrying value	Cost	Accumulated depreciation	Carrying value
	$	$	$	$	$	$
Office Furniture	53,587	34,202	19,385	78,825	25,238	53,587
Innovation Centre	-	-	-	30,084	-	30,084
Fixtures & Fittings	74,946	6,184	68,762	18,910	2,523	16,387
HERA House refurb (Pohlman and Paint Dust)	205,834	12,214	193,620	100,637	8,395	92,242
Motor Vehicles	43,612	19,893	23,720	65,573	21,961	43,612
Office Equipment	109,366	31,881	77,485	103,162	20,874	82,288
Training Equipment	38,725	5,909	32,816	43,157	4,432	38,725
	526,070	110,282	415,788	440,348	83,423	356,925

NEW ZEALAND HEAVY ENGINEERING RESEARCH ASSOCIATION INCORPORATED

Notes to the Financial Statements
FOR THE YEAR ENDED 31 MARCH 2021

5. FINANCIAL INSTRUMENTS

The table below shows the carrying amounts of the Society's financial assets and financial liabilities.

I. Classification of financial instruments

	Financial Assets	Financial Liabilities
	Loans and receivables	Amortised cost
31 March 2021	$	$
Cash and cash equivalents	420,011	-
Receivables	448,508	-
Payables		37,956
	868,519	37,956
31 March 2020		
Cash and cash equivalents	443,260	-
Receivables	321,749	-
Payables	-	101,801
	765,009	101,801

10. PAYABLES

	2021	2020
	$	$
Exchange transactions		
Accounts Payable	29,329	101,801
	29,329	101,801
Non-Exchange transactions		
Income received in advance	37,956	3,891
Wage subsidy	-	105,444
GST payable	30,110	4,506
	68,066	113,841

11. REVENUE

	2021	2020
	$	$
Revenue from non-exchange transactions		
Steel & Welding Levies	2,136,893	1,572,194
Grants from HEERF	8,500	12,872
	2,145,393	1,585,066
Revenue from exchange transactions		
Membership Subscriptions	182,584	138,890
Other income	-	-
Conference Income	22,081	99,639
Consulting & Industry Projects	100,292	25,204
Services to third parties	8,020	13,340
Publication	36,531	30,156
Welding Modules	1,626	168
Rent	131,768	105,599
Seminar & Courses & SFC professional fee	592,634	236,941
Profit on sale of assets	-	9,565
	1,076,336	659,502

12. OTHER EXPENSES

	2021	2020
	$	$
Other expenses mainly includes:		
Metals NZ	20,000	70,200
Recruitment	2,568	39,162
Indemnity	18,478	18,478
Vehicle	35,732	22,800

NEW ZEALAND HEAVY ENGINEERING RESEARCH ASSOCIATION INCORPORATED

Notes to the Financial Statements
FOR THE YEAR ENDED 31 MARCH 2021

13. CAPITAL COMMITMENTS

There are no capital commitments at the reporting date (2020: Nil).

14. CONTINGENT ASSETS AND LIABILITIES

In 2020 year, HERA has requested an investigation of levy collected on the 7306 tariff code items as it is HERA's belief that those tariff codes were removed as active codes by Customs without consultation with HERA. They were replaced by new codes that Customs could not collect the levy on as the new codes are not in the HERL Act 1978. This has had a material impact upon levy income, in the vicinity of $50,000 per annum. Once the Act is updated to include the new codes, back payment is not possible.

15. EVENTS AFTER THE REPORTING DATE

There are no events which require disclosure or any adjustment in the financial statements.

16. OPERATING LEASE COMMITMENTS

The Society has entered into contractual agreement for building lease and photocopier lease with the outstanding commitments as follows:

Future minimum rentals payable under non-cancellable operating leases are as follows:

	2021	2020
	$	$
Within one year	341,448	288,690
After one year but not more than five years	1,259,110	1,134,414
More than five years	852,500	207,165
	2,453,057	1,630,269

17. INCOME TAX EXPENSE

HERA is a research society established mainly to promote and encourage scientific or industrial research and it has applied the income tax exemption in section CW 49 of the Income Tax Act. The tax exemption treats all income as exempt and it applies where the association is approved by the Royal Society of New Zealand and where none of its funds are used or available to be used for the private pecuniary profit of a member, proprietor, shareholder or associate. The New Zealand Inland Revenue has approved HERA's status under section CW 49 of the Act. HERA has also received an approval from the Royal Society of New Zealand on 2 October 2018 confirming that HERA meets the criteria required to promote/encourage scientific or industrial research under section CW49 of the Income Tax Act 2007.

18. GOING CONCERN

These financial statements have been prepared on a going concern basis. The Board believes that the entity will be able to meet its financial and regulatory obligations for the foreseeable future and that the going concern assumption adopted in the preparation of these financial statements is appropriate.

19. COMPARATIVES
The comparatives are for 9 months i.e 1 July 2019 to 31 March 2020.

RSM

Future developments

The following comments relate to future developments, in financial reporting or legislation, that we believe are relevant to your organisation.

Statement of service performance

The deferral in 2020 of the mandatory adoption of PBE FRS 48, Service Performance Reporting means you are now required to be adopting this new non-financial reporting from the 2022 financial year, albeit you are required to present 2021 comparatives at that time. Hence from 1 January 2021, you are essentially in "live" mode for the gathering of whatever information you need to enable to report on 2021 service performance.

This new standard applies to all Tier 1 and 2 charities and represents a significant extension of the scope of annual reporting, as well as the audit function, given there is a requirement for this information to be audited.

The intent of the standard is to result in a more holistic view of performance that will be more relevant and useful for external stakeholders than just financial results. However, it is also an opportunity to "tell your story" of what you have done and achieved in an honest but compelling way.

Hence, it is now very important for management and the Board to engage with the development of your service performance reporting. The starting point is ensuring there is a clear definition of the entity's vision, mission, and goals. The key performance measures should cascade from and be aligned to these. The performance measures reported may be a combination of quantitative and qualitative information.

One of the challenges may be distilling lengthy narrative information into performance measures that are easily understood and verifiable. The clarity of reporting the nexus between outputs delivered and achievement of outcomes, should you wish to report these, is another area for further consideration. The standard gives you flexibility around the extent to which you measure and report impact.

There are specific requirements in the standard and, of course, the external audit requirement means that focus needs to be put on ensuring adequate data capture systems, controls, and audit trails are in place.

For your benefit, we refer you to a useful guide that the XRB has published in advance of entities adopting PBE FRS 48, being EG A10 Service Performance Reporting. This will help ensure you understand the requirements of the standard which will be useful as you develop your own reporting, found on:

https://www.xrb.govt.nz/accounting-standards/not-for-profit/explanatory-guide-eg-a10/.

In short, under FRS 48 an entity's service performance information shall:

a. Provide users with sufficient contextual information to understand why the entity exists, what it intends to achieve in broad terms over the medium to long term, and how it goes about this; and

b. Provide users with information about what the entity has done during the reporting period in working towards its broader aims and objectives, as described in (a) above.

Auditors are obliged to apply a new auditing standard written specifically for service performance reporting as well (NZ AS1 The Audit of Service Performance Information).

Under this, the responsibilities of those charged with governance, include that they acknowledge and understand their responsibility on behalf of the entity for:

i. The preparation of service performance information in accordance with the applicable financial reporting framework;

ii. Service performance criteria that are suitable in order to prepare service performance information in accordance with the applicable financial reporting framework; and

RSM

iii. Such internal control as those charged with governance determine is necessary to enable the preparation of the service performance information that is free from material misstatement, whether due to fraud or error.

The auditor is required to;

i. Obtain an understanding of the process applied by the entity to select what and how to report its service performance;

ii. Evaluate whether the service performance criteria are suitable so as to result in service performance information in accordance with the applicable financial reporting framework; and

iii. Evaluate the overall presentation, structure, and content of the general-purpose financial report, and whether the general-purpose financial report represents the underlying transactions, events, and service performance in accordance with the applicable financial reporting framework.

We are working with some organisations who are intending to do a dummy run for 2021 in advance of having to adopt the standard and are engaging auditors early to provide feedback on any potential issues regarding the measures adopted or systems in place. Others are looking to engage us to audit the comparatives for 2021 in 2022 so as this work is not required to be done two years in arrears.

We suggest that management promptly develops a project plan and timeline which engages the governing body, management, and staff to finalise the intended service performance reporting on the 2021 year.

This project plan should then also consider the times to best engage with the auditors in the process, as we strongly recommend this is not left late. Should the auditors raise any issues regarding the intended performance measure framework, the systems in place to capture information or the intended format of reporting, it is better to have discussions about these matters as soon as they arise.

We encourage this new reporting to be viewed as a stakeholder engagement opportunity rather than a compliance exercise.

We look forward to engaging with you soon about your service performance development and implementation plan and determining the most useful extent and timing of our involvement.

RSM Hayes Audit
PO Box 8588
Newmarket
Auckland 1149

Dear Partners

LETTER OF REPRESENTATION FOR THE YEAR ENDED 31 MARCH 2021

This representation letter is given in connection with your audit of the financial statements of Heavy Engineering Research Association Incorporated for the year ended 31 March 2021 in connection with your responsibility to express an opinion as to whether the financial statements comply Public Benefit Entity Accounting Standards Reduced Disclosure Regime and present fairly, in all material respects, the financial position of Heavy Engineering Research Association Incorporated as at 31 March 2021 and of the results of its operations and cash flows for the year ended 31 March 2021.

We have fulfilled our responsibilities for the preparation and presentation of the financial statements as set out in the terms of our audit engagement letter which include:

- **ensuring that the financial statements are in compliance with Public Benefit Entity Accounting Standards Reduced Disclosure Regime;**
- **the selection and consistent application of appropriate accounting policies in compliance with the requirements of Public Benefit Entity Accounting Standards Reduced Disclosure Regime;**
- **preparing financial statements that present fairly, in all material respects, the financial position and performance of the organisation; and**
- **the security and controls over information on our organisation's website, including electronic presentation of the financial statements.**

The organisation and its governing body accepts that it is responsible for establishing and maintaining a system of internal control designed to provide reasonable assurance as to the integrity and reliability of financial reporting. The board acknowledges its responsibility for the design and implementation of internal controls to safeguard assets and prevent and detect error, fraud and non-compliance with laws and regulations.

We have made available to you all accounting records, including supporting documentation, and there have been no material transactions which have not been recorded in the accounting records.

We confirm, to the best of our knowledge and belief, the following representations:

- **The financial statements are free of material misstatements, or omissions.**
- **Significant assumptions used by us in making accounting estimates, including those measured at fair value, are reasonable.**
- **No transactions or balances have been offset, except where a right of set-off is permitted by generally accepted accounting practice in New Zealand.**
- **The records maintained during the period were in accordance with the requirements of the Inland Revenue Department.**
- **All minutes of meetings of governing body, and any sub-committees held to date have been made available to you for inspection, including summaries of recent meetings for which minutes have not yet been prepared or approved.**
- **We have no plans or intentions that may materially alter the carrying value or classification of assets and liabilities reflected in the financial statements.**
- **Other than described in the financial statements, we are not aware of any events subsequent to period end which require adjustment of, or disclosure in, the financial statements or notes thereto.**

- The information contained in the organisation's financial statements is consistent with the information contained elsewhere in the annual report.

Internal Control Systems and Compliance with Laws, Regulations and Contractual Obligations

- There have been no changes to, or introduction of new, information systems during the period that could adversely impact the completeness and accuracy of the organisation's information systems and underlying data.
- The organisation accepts that it is responsible for ensuring, and has in place appropriate mechanisms to ensure that all applicable legislative, regulatory and contractual requirements which impact on the activities and functions of the organisation have been complied with. To the best of its knowledge the organisation has complied with all legislative, regulatory and contractual requirements during the period.
- The board and management acted during the financial period according to and within their respective powers. In addition, we have disclosed to you all known actual or potential instances of non-compliance with any legislative, regulatory or contractual requirements which we have considered for inclusion in the financial statements as a liability, contingency or commitment.
- No claims or notices of litigation have been or are expected to be received.
- The board has not been directly represented by solicitors in any legal claims or disputes for the year ended 31 March 2021.

Large or Unusual Transactions or Events

- We have provided full and complete information regarding the identification of related parties. The identity of related parties, related party transactions, and related amounts receivable or payable (including fees, commissions, purchases and sales, loans, transfers, leasing arrangements and guarantees) have been properly recorded and disclosed in the financial statements.
- No loan has been made to any member of the governing body or staff member of the organisation. Nor have any guarantees been entered into or securities provided in connection with a loan made to a member of the governing body or staff member during the period that have not been disclosed in the financial statements. No member of staff has been paid for hours that they have not worked.
- All revenue earned during the period has been taken into account and, except as disclosed in the financial statements, the results for the period were not materially affected by:
  - transactions of a sort not usually undertaken by the organisation;
  - circumstances of an exceptional or non-recurrent nature;
  - charges or credits relating to prior years;
  - any change in the basis of accounting or application of accounting policies;
  - losses arising from sale and purchase commitments; or
  - transactions or agreements with related parties (such as members of the board or management which were not in the ordinary course of business).
- We have disclosed to you:
  - the results of any assessment made by the board that the financial statements of the organisation may be materially misstated as a result of fraud;
  - any fraud or suspected fraud affecting the organisation involving members of the governing body, management, employees of the board or any of its subsidiaries, or any other parties; and
  - any allegations of fraud, or suspected fraud, affecting the organisation's financial statements communicated by employees, former employees, analysts, regulators, or others.
- The organisation has no off-balance sheet assets or liabilities, including financial derivatives, except as disclosed in the financial statements.

Assets

- The organisation has satisfactory title to all assets, and there are no liens or encumbrances on the assets, except for those that are disclosed in the notes to the financial statements.
- All current assets are expected to realise, in the ordinary course of business, at least the value at which they are recorded in the financial statements and are expected to be realised within twelve months. Adequate provision has been made for all uncollectible or doubtful amounts owing to the organisation.
- We have no plans to abandon lines of product or other plans or intentions that will result in any excess or obsolete inventory, and no inventory is stated at an amount in excess of net realisable value.
- The carrying amount of non-current assets measured at historical cost has been reviewed to determine whether it is in excess of the assets' recoverable amount. Where an asset's estimated recoverable amount is lower than its carrying amount, it has been written down to that lower value.
- Non-current assets of the organisation that are measured on a valuation basis are recorded at valuations that are not materially different from their fair value.
- All property, plant and equipment is included in the financial statements. Capital expenditure charged during the period is stated at cost and represents actual additions to property, plant and equipment. Property, plant and equipment disposed of or abandoned has been removed from the financial statements. No property, plant and equipment additions or improvements of a material amount were charged to expenses.
- The rate of depreciation applied to each asset is sufficient to amortise the cost or valuation of that asset over its estimated remaining useful life.
- Adequate insurance has been obtained in respect of all assets and insurable risks generally, and all policies are still current.
- All vested assets and/or donations have been accounted for in the financial statements.

Liabilities

- All known or ascertainable material liabilities of the organisation at balance date have been reflected in the financial statements.
- We have made adequate provision for all known and anticipated losses at the date of this letter.

Guarantees, Contingencies and Commitments

- The nature of any guarantee given by or on behalf of the organisation is fully disclosed in the financial statements.
- There are no known material contingent liabilities or contingent assets at balance date other than those disclosed in the financial statements.
- There are no known material commitments at balance date other than those disclosed in the financial statements. The notes to the financial statements also show lease commitments, where applicable. These are to meet existing needs and will be met out of future operating cash flows.

Going concern

- That the organisation has adequate resources to continue operations for the foreseeable future. For this reason the governing body continues to adopt the going concern assumption in preparing the financial statements for the year ended 31 March 2021. We have reached this conclusion after making enquiries and having regard to circumstances which we consider likely to affect the organisation during the period of at least one year from the date of this letter, and to circumstances which we know will occur after that date which could affect the validity of the going concern assumption.

These representations are made at your request, and to supplement information obtained by you from the records of the organisation and to confirm information given to you orally during the course of the audit.

Yours faithfully

Chairperson

Treasurer

Date 13 May 2021

Uncorrected misstatements

Unadjusted misstatement detail	Profit or loss	Balance sheet
2021 unadjusted differences	Dr/(Cr)	Dr/(Cr)
Dr Asset - Term Deposit	5,788	
Cr Interest Income		(5,788)
TO accrue Income on Term Deposit Investments		

NEW ZEALAND HEAVY ENGINEERING RESEARCH ASSOCIATION INCORPORATED

Financial Statements
FOR THE PERIOD ENDED 31 MARCH 2020

Contents

NEW ZEALAND HEAVY ENGINEERING RESEARCH ASSOCIATION INCORPORATED

Directory
FOR THE PERIOD ENDED 31 MARCH 2020

Registered office	Level House 17-19 Gladding Place Manukau City Auckland
Number	218260
Nature of business	Research Association
Board Members	Trey Coyle (CEO HERA) Matthew Gibson, Kemshar Engineering (Chair) Neal Davies (Chair of HERA Foundation) Matthew Black, New Zealand Steel Ltd (Nominee of General Manager of NZ Steel) Dieter Adam, NZMEA Mike Lehan, Bishop Building Ordinary and Associate Members David Moore - Grayson Engineering Ltd Dave Anderson - John Jones Steel (Deputy Chair) Craig Stevenson- Autocrat New Zealand Ltd Jennifer Hart - BECA Reed El Sarrat- WSP Opus Darren O'Riley- Steel Construction New Zealand Inc.
Independent auditor	BDM Hayes Audit Level 1, 1 Broadway, Newmarket 1023
Bankers	Bank of New Zealand ANZ Bank New Zealand Limited
Solicitor	Gaze Burt Auckland

1

We're able to deliver value through income generated from several sources.

But of most significance is the industry contribution we receive through the Heavy Engineering Research Levy Act 1978.

The Heavy Engineering Research Levy Act, 1978 is a common good research levy imposed on all heavy engineering goods comprising items defined by certain tariff codes within the Act.

These are defined in Schedules 2 and 3 of the Act and put simply, cover heavy steel and welding consumable sales.

Broadly speaking, we use this levy for the promoting and conducting of research and other scientific work into or relating to the heavy engineering industry.

This can include:

- Establishing research facilities and equipment;
- Carrying out tests and experiments- eg. on materials or techniques;
- Maintaining our digital library and resources;
- Encouraging the study of heavy engineering research;
- Allocating grants;
- Holding lectures, seminars, exhibitions, and public meetings;
- Publications;
- Providing general advisory services;
- The acquisition of land and premises, and their maintenance;
- The erection of premises;
- Acquiring intellectual property;
- Refunding incorrect levy payments; and
- General administration of HERA activities.

The levy in a nutshell

Our membership.

FY21

In FY21 we welcomed:

33 new company memberships

70 new students to our student membership category.

Successfully growing our tribe of metal heads!

Platinum 'Ordinary'

- 3Way Solutions Ltd
- Accurate Instruments NZ Ltd
- ACH Consulting Limited
- Acme Engineering Ltd
- AECOM New Zealand Ltd
- Airey Consultants Limited
- AKSA Ltd
- Alpha Training Centre
- Alrite Steel & Services NZ
- Altex Coatings Ltd
- Ara Institute of Canterbury
- ARC Welding & Safety Supplies Ltd
- Atco Steel Developments NZ Limited
- Atlantic Engineering Co Ltd
- Auckland Welding School
- Aurecon New Zealand Limited
- Aztech Engineering
- Babbage Consultants Limited
- Ballance Agri-Nutrients Ltd
- Base Consulting Engineers Ltd
- Batchelar McDougall Consulting Ltd
- BB and Sons Ltd
- BCD Group Limited
- Beca
- Betteridge Engineering Ltd
- BGT Structures Ltd
- Bill Cassidy & Associates Ltd
- Black Steel Mobile Ltd
- Bloxam Burnett & Olliver Ltd
- Blueprint Consulting Limit
- BOC Gases New Zealand Ltd

Our membership at a glance

- Bromley Steel
- Brown & Thomson Consulting Engineers
- BSK Consulting Engineers Ltd
- Burleigh Engineering Ltd
- Burnsfield Engineering
- BW Engineering
- Bycroft Petherick Limited T/A BPL Group
- C & R Engineering Ltd
- C&P Carter Ltd
- Cable Price (NZ) Ltd
- Calder Developments Ltd
- Calibre Consulting Ltd
- Canterbury Steel Structures
- Cavotec MoorMaster Ltd
- CCL 2015 Ltd (Cook Costello)
- Certified Welding Ltd
- CGW Consulting Ltd
- Chambers Consultants Ltd
- Chapman Sanders Consultants
- Chester Consultants Ltd
- Chris W Howell & Associates Ltd
- CLC Consulting Group Limited
- Clendon Burns & Park Ltd
- Compusoft Engineering Ltd
- Coulter Engineering Services Ltd
- Create Ltd
- Crow Refractory Ltd
- Cullen Engineering Ltd
- D&H Steel Construction Ltd
- Dart Engineering
- David Smart Consulting Ltd
- Davidson Group Ltd
- Davis Ogilvie & Partners Ltd
- Day Consultants Limited
- DBM Vircon
- Denis Cunningham Ltd
- Design Engineering
- Design Management
- Design Production Ltd
- DHC Consulting, Ltd.
- Dixon Manufacturing Ltd
- Dobbie Engineers Ltd
- Dodd Civil Consultants Ltd
- DTCE
- Dunning Thornton
- East Coast Steelwork Ltd
- Eastland Engineering
- Eaststeel Ltd
- EB Engineering Solution
- Eckford Engineering 2002 Ltd
- Energyworks Ltd
- Engenium Ltd
- Engineering Design Consultants Ltd
- Engineering Graphics Ltd
- Enovate Limited
- Envivo Limited
- EQ STRUC Ltd
- Equipment Engineering (2008) Ltd
- ETS Engineers Ltd
- Ewing Construction Ltd
- Farra Engineering Limited
- Forbes Consultants
- Ford Steel Engineering
- Fortis Weld Inspection
- Fraser Thomas Limited
- Genesis Energy

FY21

Our membership at a glance

- Genweld NZ Limited
- GHD Ltd
- Gisborne Engineering
- Global Steel Detailing Ltd
- Gough Brothers Engineering
- Gray Brothers Engineering Ltd
- Gray Consulting Engineers Ltd
- Grayson Engineering (2015) Ltd
- H J Asmuss & Co Ltd
- Hanlon & Partners Ltd
- Hawthorn Geddes Engineers & Architects Ltd
- Helix Flight Manufacturer Machines Ltd
- Hellacious Enterprises Ltd
- HFC Structures Ltd
- Hill Design Engineering Ltd
- Hilti NZ Ltd
- Hi-Spec Stainless Ltd
- Holmes Consulting Limited Partnership
- Hornell Industries Ltd
- Hyland Consultiants Ltd
- Index Engineering Ltd
- Inspection & Test Services NZ Ltd
- Insteel Ltd
- Integrated Maintenance Group Limited (IMG Ltd)
- ITSS Engineering
- iweld Ltd
- J & R Slecht
- Jensen Steel Fabricators Limited
- JF Contracting Ltd
- Jireh Contracting & Engineering (1998) Ltd
- John Jones Steel
- JP Engineering Services
- Kaipipi Ltd
- Kawerau Engineering Ltd
- Kea Engineering Consultants
- Kemppi Australia Pty Ltd
- Kernohan Engineering Limited
- Kerslake & Partners Ltd
- Kirk Roberts Consulting Engineers Ltd
- KiwiRail Limited
- KM Mechanical Ltd
- Kordia Ltd
- Kraft Engineering Ltd
- Lautrec Technology Group
- LDE Limited
- Legacy Steel Ltd
- LM Structural Ltd
- Lough Associates Ltd
- Lyttelton Engineering Ltd
- Macweld Ltd
- Mainarc Engineering Services Ltd
- Manktelow Consulting Engineers Ltd
- Manukau Institute of Technology
- Markplan Consulting Limited
- Matrix Applied Computing
- McCannics Waikanae Holdings
- McConnell Dowell Constructors Ltd
- MEC Engineering Consultants Ltd
- Mercer Stainless Ltd
- Mercury NZ
- Metals Test & Associates
- MH Design Ltd
- Milward Finlay Lobb Ltd
- Mitchell Vranjes Consulting Engineers Ltd
- MJH Engineering Ltd
- Modern Construction Ltd
- Monocrane 2010 Limited
- MSC Consulting Group Ltd
- MTL NZ Limited
- MWS Otago Ltd
- Nagel Consultants Ltd
- NDT Weld NZ Ltd
- Net 2018 Limited
- New Zealand Steel Ltd (NZS)
- Nigel Harwood Engineering consultant Ltd
- North End Engineering Ltd
- Novare Design Ltd
- NZ Army Trade Training School
- NZ Welder Supplies Ltd
- OBD Consultants Ltd
- Offshore & Coastal Engineering Limited (formally OCEL)
- Optimech International
- Otahuhu Welding Ltd
- P J Hindin Engineering Ltd
- Pacific Steel NZ Ltd
- Pakuranga Engineering Ltd
- Patton Engineering Limited
- Pegasus Engineering Ltd
- Pengelly Engineers Ltd
- Peter Swan Consulting Engineers
- Petone Engineering Ltd
- PFS Engineering Ltd
- Philips Engineering Services Limited
- Phoenix Engineering
- Pipe & Tube Welding Engineering Ltd
- Pipes NZ
- Plant & Platform Consultants Ltd
- Plumb Consulting Engineers Ltd
- Port Of Tauranga
- Powell Fenwick Consultants Ltd
- Prendos New Zealand Limited
- Pressure Equipment Integrity (PEI) Ltd
- Proconsult Limited
- Progressive Engineering Co Ltd
- PT Industries Ltd
- PW Engineering
- Q Designz Limited
- Quoin Structural Consultants Ltd
- Qvalitas Compliance & Consultants Ltd
- R W & V Roberts Consultancy Ltd
- Randall & Associates Ltd
- RD Sullivan & Associates Ltd
- Real Steel Ltd
- Red Jacket Ltd
- Redco NZ Limited
- Rees Engineering Ltd
- Robert Page Engineering Ltd
- Robin King Engineers Ltd
- RS Eng Ltd
- RSL Steel Enterprise (NZ) ltd
- Ruamoko Solutions Ltd
- Sable Engineering Ltd
- Sawrey Consulting Engineers Ltd
- Sentinel Inspection Services Ltd
- SGS New Zealand Limited
- Sigma Consulting Engineers Ltd.
- Sigma Consulting Ltd
- Silvester Clark Consulting Engineers Ltd
- SNC Steel
- SNP Welding
- Southern Institute of Technology

FY21

Our membership at a glance

- Southern QA Ltd
- Speedfloor Ltd
- Spencer Holmes Ltd
- Stainless Engineering Co Ltd
- Stantec New Zealand
- Steel Co Limitedtax
- Steel Master Co Ltd
- Steel Pencil
- Steelcraft Engineering Ltd
- Steltech Structural Limited
- Stephen Mitchell Engineers
- Stevensons Structural Engineers 1978 Ltd
- Stiffe Hooker Ltd
- Stiles and Hooker Ltd
- Stork Technical Services New Zealand Ltd
- Strata Group Consulting Ltd
- Stratum Consultants Ltd
- Structural Concepts Ltd
- Structurflex Limited
- Tanker Engineering Specialists Ltd
- Taylors Manufacturing Limited
- TD Structures
- Techlogix NZ Ltd
- Tectonus Limited
- Texco Steel Limited
- TH Consultants Ltd
- The Engineering Company Ltd
- The Market Intelligence Co. NZ Limited
- Thermarock Engineering Ltd
- Thorburn Consultants (NZ) Ltd
- Titan Marine Engineering Ltd
- TM Consultants Ltd
- Todd Engineering Ltd
- Tonkin & Taylor Limited
- Transport Design & Certification Ltd
- Transtech Dynamics Ltd
- Tray-dec NZ Ltd
- Triangle Steel Construction Ltd
- Truesteel
- Tse Taranaki & Associates Ltd
- Turnco Engineering Limited
- Two Degrees Network Ltd
- Universal Engineering Ltd
- University of Auckland
- Vert-X Ltd
- VIP Steel Limited
- Vulcan Stainless
- Waikato Engineering Design Ltd
- Waikato Steel Fabricators (2015) Ltd
- Warren Engineering Ltd
- Watson Engineering
- Weld IT Ltd
- Weld IT Ltd
- Welding & Engineering
- Welding Engineers NZ Ltd
- Welding Inspection & Compliance Services Ltd
- Weldtest New Zealand Limited
- Weldtrade Engineering Ltd
- Weldwell New Zealand
- WestArc Engineering Ltd
- WFM Limited
- Whakatiki Engineering Ltd
- Wilkinson Transport Engineers
- Worley New Zealand
- WSP NZ
- X-Ray Laboratories Ltd
- Zigliani Technologies Ltd

Gold 'Associate'

- A W Trinder Ltd
- ABB Power Limited
- Active Engineering Ltd
- Advance Boiler Services (NZ) Ltd
- Aimecs Ltd
- All Steel Services Ltd
- Allwin Steel Enterprises
- ALRO Truck Smash Repairs Ltd
- Angus Robertson Mechanical Ltd
- Apex Greenhouses Ltd
- ATCO Controls Ltd
- Ateck Steel Construction
- ATI Engineering Ltd
- Awesome Awnings Ltd
- Axiam Engineering Limited
- Babcock (NZ) Ltd
- Bailey Engineering Ltd
- Baker Cranes Limited
- BBC Technologies Ltd
- BDX Group
- Bedford Engineering Ltd
- Bernie Jordan
- Best Bars Ltd
- Brightwater Limited
- CALD Enterprises Limited
- Cambridge Welding Service (1953) Ltd
- CAS Enterprises Ltd
- Chemical Industry Engineering Ltd
- Christian Church Community Trust
- Consolidated Engineering Company Ltd
- Contract Connections Ltd
- Croucher & Crowder Engineering Co Ltd
- Culham Engineering Co Ltd
- Del Engineering Ltd
- Dialog Fitzroy
- Dispatch & Garlick Ltd
- Domett Trailers Ltd
- Donovan Group NZ Ltd
- Drury Construction Ltd
- DSK Engineering Ltd
- Duncan Agriculture Ltd
- Eastbridge Ltd
- Eastern Institute of Technology
- EHL Group Ltd
- Etech Industries NZ Ltd (also Etech)
- E-Type Engineering Ltd
- Fairbrother Industries Ltd
- Fairfax Industries (2011) Ltd
- Fletcher Steel
- Fraser Fire & Rescue Ltd
- Fruehauf Limited
- Gamman Industrial Componentry Ltd
- General Engineering North Shore Ltd
- George Grant Engineering (GGE)
- Gisborne Development Incorporated
- Global Engineering Products Ltd
- Global Welding Supplies (GWS) Ltd
- GM Engineering Services Ltd
- Gray Construction Ltd
- Greymouth Petroleum
- GSE Engineering

FY21

Our membership at a glance

- GT Liddells Contracting Ltd
- Harford Greenhouses
- Hayes International Ltd
- HEB Construction Ltd
- Honnor Drilling Ltd
- Howard Wright Limited
- Hydraulink Fluid Connectors Ltd
- Hytools NZ Ltd
- IBA Engineering Ltd
- Industrial Services South Auckland (ISSA) Ltd
- J&D McLennan Ltd
- Jay Cee Welding Ltd
- JCD Engineering Ltd
- Jetweld Engineering Ltd
- JP Marshall & Co Ltd
- KAS Customs Limited
- Lakeland Steel Products Ltd
- LHT Design
- Linear Design Ltd
- Loader Construction Eng Ltd
- Longveld Ltd
- Machine Part Welding & Engineering Ltd
- Maskell Productions Ltd
- MB Century Limited
- Metal Spray Suppliers (NZ) Ltd
- Mike Christie Sheetmetals Ltd
- Millar Engineering Ltd
- Milmeq Limited
- Modern Transport Engineers Ltd
- Morgan Engineering & Marine Ltd
- Morgan O'Shea Engineering
- Morrow Equipment Co (NZ)
- Mouats Engineering Ltd
- MSC Engineering Ltd
- Mulcahy Engineering Ltd
- Murray Landon Limited
- NDA Group Limited
- Nelson Stud Welding Ltd
- Niven Engineering Ltd
- Noble Engineering Services Ltd
- North Shore Towbars 2006 Ltd
- NZMP Kauri Ltd
- Otago Polytechnic
- Otahuhu Engineering Ltd
- Outside Broadcasting Ltd
- Page Macrae Engineering Ltd
- Parr & Co Limited
- Patchell Industries Ltd
- Peninsula Engineering Ltd
- Phoenix Steel Limited
- Piako Transport Engineering
- PLP Electropar
- Port of Napier Ltd
- Profab Central Engineering Ltd
- Pyramid Engineering Ltd
- Quality Auto Machinists (1988) Ltd
- Queenstown Engineering 2009 Ltd
- Q-West Boat Builders Ltd
- Razos Engineering Ltd
- Read Industrial Ltd
- Red Steel Limited
- Renold New Zealand Ltd
- Rex Barnes Engineering Ltd
- Roadmaster Trailers Ltd
- Rocktec Ltd
- ROTIG Ltd
- SAFE Engineering Ltd
- Seaview Engineering Services Ltd
- Select Engineering ltd
- Shape NZ
- Sharland Engineering Ltd
- SHIPCO 360
- Site Steel Ltd
- Skookum Technology Ltd
- Smartweld Ltd
- SMWT Ltd
- Snaga Industries Ltd
- Snorkel NZ Ltd
- South Pacific Industrial Ltd (SPIIND)
- Specialised Container Services Ltd
- Stafford Engineering Ltd
- Stainless Down Under Ltd
- Stainless Steel & Aluminium Welding Academy Ltd
- Stark Bros Ltd
- Steelfort Engineering Company Ltd
- Steelpipe Limited
- Stevensons Structural Engineers (1978) Ltd
- Superior Fabrication Ltd
- Taslo Engineering
- Tasman Engineering Company Ltd
- Technical Welding Services (1998)
- Tidd Ross Todd Ltd
- TP Mechanical & Engineering Ltd
- Track Industries Ltd
- Transfleet Equipment Ltd
- Trident 2000 Ltd
- Tru-Test DTS Limited
- Truweld Engineering Kerikeri Ltd
- Ullrich Aluminium Co Ltd
- Villa Maria Estate Ltd
- W M Ross Engineering Ltd
- Waratah NZ Limited
- Warner Construction Ltd
- Webforge NZ Ltd
- Weld Fabrication Engineering Ltd
- Weld Tests Hawkes Bay Ltd
- Welding Technology Ltd
- Wells & Boe Ltd
- Westside Welding Ltd
- Windsor Engineering Group Ltd
- Windsor Group Ltd - Ipsco Division
- Wyma Engineering NZ Ltd
- Zealsteel Ltd
- Zeanova Ltd

Student

ARA Institute of Canterbury

- Amandeep Singh,

Auckland University of Technology

- Ahamed Khalid Al Mutairi
- Alisha Jaggi
- Avneet Prasad
- Cristina Luces
- Daniel Ruwangalegedara
- Edran Rowland Gopal
- Hamid Ziaei
- Hayley Ngo
- Ibrahim Sarwar
- Inderjeet Sandhu
- Israel Hughes
- Jaime Ramirez
- Jaiz Joy

FY21

Our membership at a glance

- Jinendra Chamara Warnakula Edirisooriya
- Julius Tolentino
- Kenes Biju
- Lynn Catton
- Misha Versteeg
- Muhammad Izzat Aidil Bin Abd Aziz
- Neehara Karthiatt Sreejith
- Nurul Atiqah Mohd Rizar
- Osh Manoj Hettiarachchi
- Paulus Chapman
- Pui Yan Kong
- Ragavan Subburaj
- Richuls91
- Ricky Singh
- Sabrina Naseem
- Samita Dossa
- Samuel Park
- Shahzaib Abbas Qumber
- Shivram Khunt
- Simardeep Kaur
- Sithum Nanayakkara
- Swaminathan Subramanian
- Taja Marcelo Canlas
- Tenzin Lhazey
- Videesha Pahalu
- Vishnu Kumaresan
- Wei-Hsiang Chang
- Zane Yee Shye Jang

Canterbury University
- Shelby Peter David Inwood

Massey University
- Sarah Lewis

Open Polytechnic
- Aleshia enever

Otago Polytechnic
- Rodney Stringer
- Scott Rhodes

Unitec Institute of Technology
- Ishika Vishwasrao

University of Auckland
- Alex Puliyodil
- Amin Ahmadi
- Behnam Zaboli
- Benjamin Hughes
- Ethan Kilsby
- Hamed Bagheri
- Hannah Wu
- Harmeet Singh
- Hossam Al Manasir
- Jack Hu
- Jason Liu
- Johnathan Elias Coe
- Jordan Cooke
- Kieran MacKay
- Lucy Douglas
- Monique Oliver
- Muhammad Shahryar Haque
- Nainesh Praful Chheda
- Pouya Pouladi
- Rajas Sachin Fuladi
- Rajnil Rohit Lal
- Reza Hamzeh
- Setu Raman Agarwal
- Wayne Patrick Areki
- Wilbur Peters
- William Meng
- Zhenduo Yan

University of Canterbury
- Abdul Altaf Imbrahim
- Ana Isabel Sarkis Fernandez
- Ariel Denise Seux
- Becky Young
- Belal Haidari
- Cain Stratford
- Calisa Mcleary
- Cameron Gribbon
- Ernesto Hernández
- Fransiscus Asisi Arifin
- Hayato Auman
- Hossein Soleimankhani
- Joma Mabazza
- Jonathon David MacIntyre
- Joshua Rodgers
- Kiran Rangwani
- Miguel Leon-Becker
- Nguyen Thi Thuy
- Paul Horne
- Reza Kordani
- Sam Stanton
- Sean houlahan
- Siavash Nourani
- Sirui Wang
- Tavis Graham
- Thomas Wright
- Tirth Patel
- Wenchen Dong
- Yongjia (Jason) Wang
- Zayne Jennings

University of Waikato
- Dave Dimond

Wellington Institute of Technology
- Daniel William Elliott

Affiliate

- Corebrace
- Fletcher Easysteel
- Fulton Hogan (Northern Civil) Ltd
- Juken New Zealand Ltd (Wairarapa)
- Weld Australia

Reciprocal

- American Institute of Steel Construction
- American Welding Society
- Australasian Corrosion Association (ACA)
- Australian Steel Institute
- BCITO
- Bioenergy Association NZ (BANZ)
- British Constructional Steelwork Association (BCSA)
- Building Research Association of New Zealand (BRANZ)
- Canadian Inst of Steel Construction
- Candian Welding Bureau
- Competenz
- Construction Health and Safety NZ (CHASNZ)
- Crane Association of NZ
- DVS German Welding Society
- Fire & Emergency NZ Library
- GNS Science
- Japan Welding Society
- National Library of New Zealand
- National Steel-Framed Housing Association (NZ)
- NZ Defence Industry Association (NZDIA)
- NZ Geothermal Association (NZGA)
- NZ Institute of Economic Research
- NZ Marine Industry Association
- PreFabNZ inc
- Site Safe NZ
- Steel Construction Institute (SCI)

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