HERA
innovation in metals

# Annual Report 2020

## Future forum of the NZ metals industry

# Kia ora, Welcome!

Cover:

**| D&H Steel |**
Construction of Westfield 309 in Newmarket, Auckland using 4,500 tonne of structural steel!

## Contents


**In a snapshot** 06
Report from our Chair & CEO

**Key wins** 10
Our highlights for FY20

**Four capitals** 12
Natural - carbon initiatives, sustainability: Pg.14
Human - R&D, emplyees, education, innovation: Pg.16
Social - community, trust, standards, institutions: Pg.26
Financial / physical - infrastructure, statements & notes: Pg.42

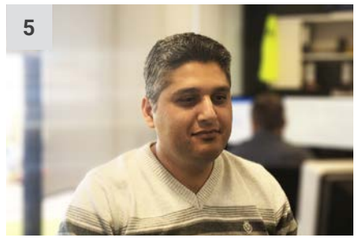
**Our resources** 66
Digital information, publications & resources

**Our membership** 62
Our tribe of metalheads we're proud to represent


**NZSSDA |** The iconic Wind Tree sculpture installed at the Silo Park, originally built in 1972 in grade 316 SS consisting of 40 trusses (26 metres long).


















|1| Senior Welding Engineer, Alan McClintock |2| Senior Structural Engineer, Andrew Pennington |3| Manager Member Value, Brian Low |4| Innovation & Transformation Architect |5| Research Engineer, Hafez Taheri |6| Research Engineer & Automation Cluster Lead, Holger Heinzel |7| Accounts Officer, Kam Subramani |8| CEO, Dr Troy Coyle |9| General Manager Comms 4.0, Kim Nugent |10| General Manager Welding Centre, Dr Michail Karpenko |11| Digital Connections Officer, Musarrat Begum |12| Finite Element Analyst, Nandor Mago |13| First Impressions Officer, Raewyn Porter |14| Welding Engineer, Robert Ryan |15| Senior Welding Engineer, Volkan Yakut

## Our people





## Securing tomorrow's industry by innovating today.

**HERA is building a passionate tribe of metal heads who innovate successfully.**

Our team is focused on making sure our NZ metals industry is looking forward and prepared for the future.

Delivering solutions, developing and maintaining a skilled work force and connecting & inspiring, so our members are supported in technical excellence and knowledge transfer, have the right skills for their needs, and are a community engaged and united.

# Innovation in metals.

**Chair |** Managing Director, Kernohan Engineering Matthew Kidson

**CEO |** Dr Troy Coyle

> “We’re looking at the bigger picture and living by our vision, mission & values.

# Report from our Chair & CEO

In FYI9 HERA focused on its vision “securing tomorrow’s industry by innovating today” through a significant increase in its R&D activity.

**We also invested in our mission to “build a passionate tribe of metal heads who innovate successfully” through the Future Forum: 2020 Vision and range of new membership initiatives.**

FY20 was again a very strong year for metals based engineering. The HERA Levy income was strong and most of our members were still reporting strong order books.

Of course, Covid-19 threw a huge spanner in the works towards year end. Now, our members are reporting a lot of uncertainty about their own business options and the bigger picture around project pipelines.

**Looking at the big picture!**

In FY2020, we decided to really live our vision, mission and values. We looked at what differentiated HERA from the many other metals-related support organisations.

What we wanted to stamp out was our unique strengths in R&D, innovation and future focus. For example, you may notice that we started to position our communication messages and thought leadership in a bigger context, with key messages around innovation, our R&D and the future being much more targeted to key stakeholders.

For this reason also, this Annual Report is addressing the Four Capitals of Treasury’s Living Standards Framework.





As you will see in this report, we have again delivered against our formula to secure our industry’s future of:

**Delivering solutions plus developing and maintaining a skilled workforce plus connecting and inspiring = HERA members who are prepared for the future.**

We walked the walk with our Future Forum: 2020 vision. The focus was certainly on innovation and out-of-the-box thinking, with international speakers Gijs Van der Velden (steel 3D printer), Chris Riddell (futurist) and Des Watkins (steel fabricator early adopter of digital technologies) as our stars of innovation. This gave our members insights into cultures of innovation and lean mindsets.

This was the most well attended HERA only conference for many years. It was a lot of fun and also illicited a number of tough conversations that we as an industry need to have.

**Financial performance**

FY2020 was a short-year for us. Changing our financial year to end 31 March, meant that we had a 9 month long year financial year in the transition period.

HERA had a strong year in FY2020, despite investing more significantly in welding related R&D, we were still able to produce a surplus against a budgeted deficit. This was primarily due to our prolific delivery of welding-related and other technical education. We certainly assisted the industry to develop and maintain a skilled workforce as a result of this focus.

Looking forward, we are not yet in a position to predict the likely impacts of Covid-19 on our industry.

For HERA income, it is likely to have a significant impact but we are confident that we can respond to the changing environment and pivot our support initiatives.

We still do have concerns that there has been increasing use of imported pre-fabricated products. Our levy currently doesn’t apply to these and this is something that we had requested the Minister to address. We are pleased to report that the Minister has supported our request in principle and we are currently going through the process of having these items included in the Heavy Engineering Research Levy Act, 1978.

**Our people**

The key staff change for HERA in FY2020 was the departure of Stephen Hicks, who moved back to the UK to take up a Professorial position at the University of Warwick.

We were very glad to bring Andrew Pennington back to HERA, who people may remember had worked previously for HERA. Andrew has an interesting combination of engineering and IT skills, which makes him perfect for rounding out our structural systems’ team with its recent focus on software development.

We also had Greg Buckley join us in the role of HERA Innovation Centre Manager. Things had looked promising for the development of the Centre prior to Covid-19. Development is currently on hold and Greg is now focusing on digital delivery of our innovation programs.

**CEO outlook**

There is no doubt that things will be different post Covid-19 compared to pre Covid-19. In many ways, HERA was well prepared for the short-term impacts. We had already developed our Putatara offering, which is supported by a multi-media centre with sound and video recording (e.g. podcast) capability. We had also already been thinking about how HERA could support our members to uptake more digital communications, so establishment of Putatara proved to be extremely timely.

We plan to continue our increased focus on high quality and high impact research and development.

In addition, we acknowledge that we need to provide more guidance to Structural Engineering professionals. So, we are committing to delivering at least two design guides per annum as core HERA business.

It is hard to predict the long-term impacts of Covid-19 but there are some signs for optimism for both manufacturing and building and construction in the longer-term. The following likely responses to Covid-19 are likely to support heavy engineering:

- economic stimulus through increased Government support for Infrastructure development;
- shortening of supply chains (to reduce risks associated with reliance on off-shore products), which will favour domestic production; and
- improved Government appreciation for the importance of investing in domestic manufacturing.

In the short term, HERA is likely to be fiscally conservative in order to sustain our ongoing services, while looking for new ways to assist our industry to respond to the changing circumstances that Covid-19 has introduced. In addition, we will be looking at ways to better communicate the overall significant contribution that heavy engineering, and metals more generally, make to the intergenerational wellbeing of all New Zealanders. Hence, we hope you also enjoy our new format, which demonstrates HERA's contributions against Treasury's Living Standards Framework. We think this puts our outputs into a bigger context that will speak more to our Government and community stakeholders.

Thank you to the tribe of engaged metalheads that have supported us through FY2020.

**Matthew Kidson**
Chair

**Troy Coyle**
CEO



# Our Executive Board











| 1 | **Craig Stevenson**, Technical Director - Built Environment Aurecon

| 2 | **Darren O'Riley**, Manager SCNZ

| 3 | **Deputy Chair Dave Anderson**, Technical Director John Jones Steel

| 4 | **David Moore**, Managing Director Grayson Engineering Ltd

| 5 | **Dieter Adams**, Executive Director The Manufacturer's Network

| 6 | **Jennifer Hart,** Principal - Transport Infrastructure, Beca Ltd

| 7 | **Matthew Black**, Head of Innovation and Product Development NZ Steel

| 8 | **Mike Lehan, Former HERA Chair & Contracts Manager Bishop Building**

| 9 | **HERA Foundation Chairman Noel Davies**, Joint Managing Director Hydraulink Fluid Connectors

| 10 | **Raed El Sarraf, Technical Principal - Materials &** Corrosion WSP

# Our key wins in FY20...

**700+**

**free technical advice services provided to industry.**

**54**

**professionals achieved AS 2214 Supervisor Qualifications.**

**11**

**achieved IIW Welding Inspector Qualifications.**

**16**

**technical research publications delivered to our industry.**

**Delivery of the first of our HERA Future Forums: 20/20 VISION.**

20 VISION 20

**MetalMind innovation pivot set to launch to provide maturity index data dashboard.**

**HERA Fabrication Qualification Framework delivery action plan developed.**

**40+**

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

**The design and fit out of Putatara - our inhouse media room. Supporting our connect & inspire strategy for industry.**





## It was a shorter financial year for us but we still had some major wins to be proud of!

Changing our financial year to end 31 March, meant that we had a lot to achieve in a nine month period.

We invested more significantly in welding related R&D, and doubled down on our focus to assist our NZ metals industry to future proof itself by delivering solutions, developing and maintaining a skilled workforce and connecting and inspiring.

# Four capitals.

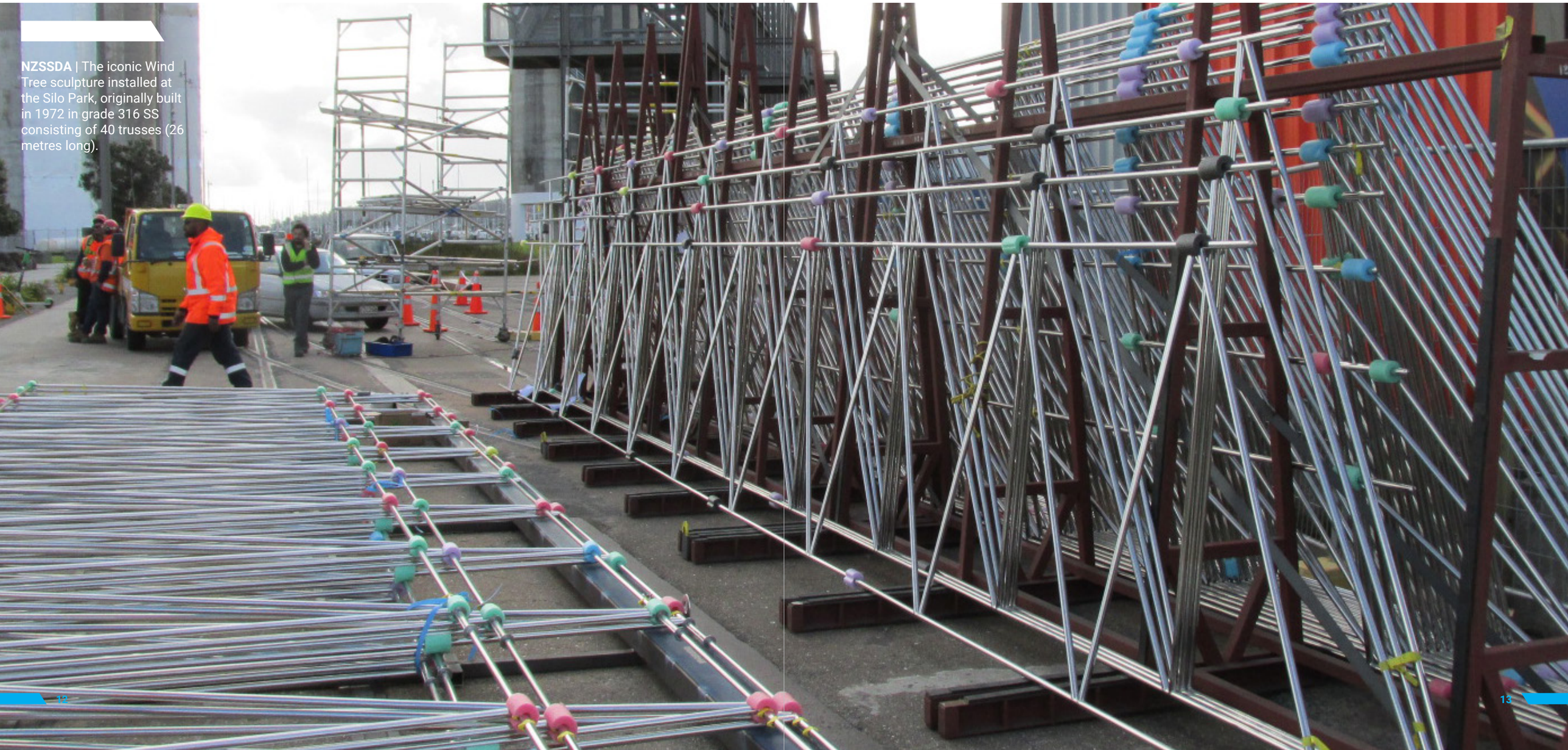


## There is more to wellbeing than just a healthy economy.

The Living Standards Framework - or LSF for short, is a newly developed and broader way of looking at things and was used to develop Government's five Wellbeing budget priorities.

It supports the thinking that intergenerational wellbeing relies on the growth, distribution and sustainability and, it's through this lens that HERA has launched the draft Aotearoa Transformation Agenda and Plan.

It's an industry-wide blue-print to position our industry for a sustainable future, based on Treasury's Living Standards Framework, which looks at performance across the four capitals of human capital, social capital, natural capital, and financial capital. It all starts with commitment.



**NZSSDA** | The iconic Wind Tree sculpture installed at the Silo Park, originally built in 1972 in grade 316 SS consisting of 40 trusses (26 metres long).

# Natural capital.

## With the will of the industry and consumers, we are well placed to meet our environmental responsibilities.

The role of HERA is to stimulate innovation to future-proof our industry.

We certainly don't see ourselves as the spokes group for steel manufacturers - they themselves need to identify and communicate their plans.

What we do believe, is that in the arena of sustainability we've had to step up as a thought leader.

Leading two key carbon initiatives so that the NZ metals industry has the tools and support to address their role to play in this space.

The first investigated the opportunity for zero carbon steel building products in Aotearoa through carbon offsets.

The other, account for our own carbon emissions. We worked with thinkstep anz on these two initiatives.

**Zero carbon steel in Aotearoa through offsets...**

While the focus should always be on eliminating carbon, until the technology exists to do that, offsetting is important.

Thats why in collaboration with thinkstep anz, we're investigating the feasibility of a robust carbon offsetting program for the steel sector within New Zealand.

Given our diverse membership that has a range of product types using a mix of local and imported products - we plan to take a staged approach. And are also exploring the option of including stainless steel.

An overlying program is proposed, under which specific rules will be developed for each sector as required. We're currently working with affiliate membership organisations and individual suppliers to finalise this project.

**Our CEO was elected Chair of the Sustainable Steel Council.**

**We hosted a Q&A discussion focused on steel's role in climate change.**





# Water • Energy Waste • Recycling

**Making the right moves towards sustainability**

Across our members, we've seen a positive move towards sustainability principles.

Inspired to go carbon neutral, HERA member Kernohan Engineering recently went through a process of calculating their carbon footprint and working with Ekos to offset these.

We did a case study on this for the Sustainable Steel Council, which opened our eyes to how simple and affordable this can be. So simple and affordable - that we also plan to go through a similar process and share our learnings in detail. Hopefully, this will inspire more of our members to go through the process too.

BlueScope Steel, the parent of New Zealand Steel, has recently announced commitments to Responsible Steel Certification and has a year on year aggregated emissions intensity reduction target of 1% year on year.

Victoria University researchers, led by Dr Chris Bumby are developing technology that uses hydrogen as a reductant in the uniquely New Zealand steel making process. This is based on iron sands as the key iron input.

The research has had positive outcomes at small scale and further work is required to investigate feasibility for scaling this up to manufacturing scale.

**Our conference was climate change themed. Including a performing arts collaboration with NIWA & University of Auckland; LungSong & a low carbon based menu. The Leading Metalhead & Innovation award recipients were also natural capital focused.**

**We authored a report on steel's role in the circular economy & helped reinvigorate the SSC.**

# Human capital.

## Our R&D is a key deliverable that our industry values. It's why we openly share our ideas and knowledge and value the contribution of others.

### Performance of coastal weathering steels in New Zealand coastal environment

Since the 1930's, weathering steel has been used in railway coal wagons, bridges, buildings, facades and many architectural features such as sculptures and landscaping.

To support industry to leverage this material in their projects, we published our New Zealand Weathering Steel Guide Report R4-97. It provides necessary guidance to assist with the efficient and appropriate application of weathering steels in bridge applications.

Moving forward, we'll be working to extend out this guidance to include coastal weathering steels. Our aim being to evaluate performance of coastal weathering steels in New Zealand coastal environments by conducting exposure tests.

With the support of our member Welding Engineers Ltd, exposure tests are expected to commence mid-2020 in cooperation with BRANZ.

### Seismic research program

Steel is the material of choice for construction of structures such as modern multi-storey and industrial buildings and bridges. Design procedures for such structures are well established, however there is scope for ongoing innovation, improvement and optimisation.

Our work looks to make steel structures even more robust and economical to suit New Zealand's unique seismic environment and fabrication conditions. Our focus over this three year research program is to resolve uncertainties around some of the weld details used to joint critical seismic connections, tolerances and other fabrication details.

So far we've conducted testing of large and small scale specimens and advanced numerical modelling - publishing two papers with our intermediate results.

Moving forward we plan to define properties of steel required to perform in a safe way under repeated seismic load based on the fracture mechanics.

Recommendations covering a range of seismic steels manufactured to national and international standards have been developed and are currently being peer-reviewed by experts of the International Institute of Welding (IIW) Commission X. The results will be used to develop corresponding guidelines and inform the standards committees of proposed changes.





# R&D • Employees • Education • Innovation

Our commitment is to enable our industry and its people to participate fully in their work, and society more broadly.

# Celebrating our people

## It goes without saying that it is our team that make what we do possible.

**Our members trust our employees for their technical excellence, and role as impartial partners supporting industry.**

### We support our staff to be key influencers

HERA is a highly regarded professional organisation that opens doors for our staff. Our staff are often invited/nominated to join influential networks and Boards - including:

AS/NZS joint standards committees (often with Chair responsibilities); NZS standards committees, Metals NZ Executive, Sustainable Steel Council Executive, National Association of Steel Framed Housing Inc., University of Auckland's Department of Mechanical Engineering Industry Advisory Committee, Auckland University of Technology's Pro Vice Chancellors Advisory Board, HERA Certifications, Steel Construction New Zealand and Assessors for Government grants.

### Changes to the HERA team

In FY20, we gained some fantastic team members to take our expertise and support to our members and industry to a new level.

We welcomed Senior Welding Engineer, Volkan Yakut who brings more than 15 years' global experience as a Mechanical Engineer and International Welding Engineer. He's been involved in a number of large scale projects and has been integral in stepping up our training, auditing and technical capabilities in the Welding Centre.

We also saw Senior Structural Engineer Andrew Pennington join the HERA fold once again after a period of time in roles outside of HERA. We're excited to have his newly gained commercial understanding to our research, as well as his IT expertise to improve our digital design software capabilities moving forward.

A pivot for our Industry Development division saw us focus on driving an innovation mindset for future sustainability. We onboarded Innovation & Transformation Architect Greg Buckley to drive this thinking and the growth of a purpose built Innovation Centre at HERA House. Greg's background in various business development roles and exposure to digital optimisation principles and AR/VR development will prove valuable when it comes to developing out our own technical capabilities in-house.

We were also excited to offer HERA Foundation PhD scholarship recipient, Hafez Taheri a role within our team. As a Structural Engineer with six years research experience in assessment and evaluation of structural components, systems and welds - we know he'll play an integral part in ongoing projects we're currently working on in seismic research and welded connections.

### Saying goodbye to key team players

FY20 saw the departure of our General Manager Structural Systems, Stephen Hicks who moved on to an exciting new role  back in the UK as Professor of Civil Engineering at the University of Warwick.

Stephen came to us from the Steel Construction Institute and had an 11 year tenure of collaboration and advocacy at HERA. His key focuses being to harmonise national standards to facilitate greater export of products and services to Australia for our industry and open the door to international software providers to create sophisticated electronic design tools. He also worked hard to improve New Zealand's sustainability credentials.

We also saw the departure of General Manager Industry Development Boaz Habib, who after almost eight years at HERA started a new journey at IANZ as their GM - NZ Quality College. During his time at HERA leading the AGGAT program and Innovation initiatives.





# Employees.






| 1 | Our **Senior Welding Engineer Alan McClintock** celebrating his 30 year milestone working at HERA | 2 | Saying farewell to **GM Industry Development Boaz Habib** | 3 | Thanking outgoing **Executive Chair Mike Lehan** for his contributions to our Executive Board | 4 | **Doctorate Candidate Reza Hamzeh** representing HERA at the International Conference of Casting Technology in Wellington. Presenting on Industry 4.0 and Welding 4.0 initiatives | 5 | Our **Research Engineer Hafez Taheri & Finite Element Analyst Nandor Mago** representing HERA at the 2019 SESOC conference in Auckland with staff from SCNZ.

1

| 1 | SFC CC2 Workshop held at HERA House run by Welding Engineer Robert Ryan, February 2020

| 2 | Prof Hobbacher presenting Fatigue Design Seminar Series, February 2020

| 3 - 4 | Developing and maintaining skills via Welding Supervisor & Inspector training facilitated by our Senior Welding Research Engineer Volkan Yakut, October 2019

2

3

4

# Education & training.





**We want to ensure our members and the wider NZ metals industry have the skills needed to create a strong workforce.**

### Qualification and examination

We continue to provide education and training for those responsible for the supervision and inspection of steel fabrication. Proudly supporting 54 professionals to achieve their AS 2214 Welding Supervisor qualifications, and 11their IIW Welding Inspector qualifications in FY20.

### Defence capability program

More than 30 professionals attended our joint Welding Capability for Defence Platforms Workshop sponsored by NZTE. It's purpose being to establish local fabricator capability to take advantage of business opportunities linked to the $200 billion dollar Australian Defence Project.

So far, seven of our members are actively engaged, and are participating in a further DMTC defence capability study facilitated by us.

### Design of welded structures seminar

Over 70 professionals attended this seminar series presented in collaboration with world renowned Professor A Hobbacher. It covered a range of fatigue assessment techniques focusing on the application of New Zealand standards AS/NZS 5100.6 and NZS 3404.1.

### Workshops with professional growth in mind

In response to the growing need for support to achieve Steel Fabrication Certification (SFC) status within companies, we once again delivered a one day steel fabricator SFC CC2 workshop on the implementation of AS/NZS 5131 under this scheme.

Presented by our Welding Engineer Robert Ryan in collaboration with SCNZ - the aim was to train SME fabricators on implementing this standard and underlying quality management systems. Providing hands on training to this framework to 25 professionals.

We also ran a co-organised Innovative Fabrication Group (IFG) workshop which was attended by more than 30 professionals to establish and sustain an optimal forward thinking steel fabrication capability in New Zealand.

### National and international technical support framework for members

Our technical teams in Structural Systems and Welding Centre continue to provide free technical advice to members on a regular basis.

This includes technical questions such as the interpretation or application of standards, technical enquiries requiring in depth technical knowledge and judgement, technology assistance and implementation of quality systems and design guides.

This financial year providing assistance across topics such as weldability issues, brittle fracture, design of welded joints, quality management, welding procedures, welder's qualification, compliance issues, corroded steel structures, coating structural elements and more.

We also developed and delivered assistance services to five SMEs members to help establish quality systems in compliance with AS/NZS 5131 CC2.

### Standards and compliance works

We represent our members on a number of standards committees such as WD-002, WD-003, ME-001, MT014 and ISO/TC167.

This commitment has resulted in the revision of several standards such as AS/NZS 1554.2, AS/NZS 5131 and AS/NZS ISO 17637.

### National register of certified welders

This project aims to develop a concept of a 'National Welder Qualification Register' following best international practice from Europe and Australia.

We understand that engineering maintenance companies and contractors face expense testing and qualifying of welders every time they change employers or move from one contract to another.

This register would mean fabricators would have confidence that welders employed can maintain and improve their level of skills.

With New Zealand also recently adopting welders' qualification standard AS/NZS ISO 9606 which cements the requirement for job knowledge tests - this is a valuable step to take.

The project currently focuses on integrating our existing training resources for testing and upskilling welders within the welders' qualification framework.

# Innovation.

20 VISION 20

HERA | FUTURE FORUM

This year we challenged our members to be the disruptor - not the disrupted.

**Launching the first of our inaugural Future Forum Conferences, that moving forward will be held every three years.**

This was a big pivot to what we had previously done. We dropped the focus on technical content, to instead focus on the HERA vision, ***i.e*** to glimpse into what's next for our industry.

This year's conference was aptly dubbed 20/20 VISION, and was all about visualising the future.

It was broken down into four key events: our cluster workshop, nation breakfast, 20/20 VISION and nation dinner (industry awards).

> "This event was made possible through our major sponsors - Kemppi, New Zealand Steel & AUT and support of Weldwell, Ricoh & Pūhoro STEM Academy.

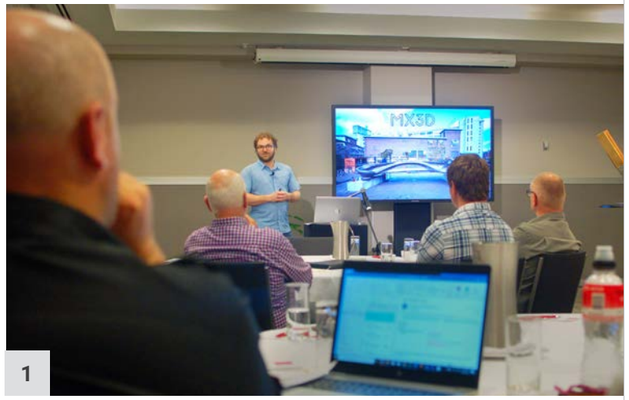
## HERA | FUTURE FORUM cluster workshop

**An exclusive workshop for our innovation cluster members.**

We have many innovation initiatives launching out of HERA from our Innovation READY, SET, GO! training program. To reward those already committed to some of these offerings, we wanted to create an exclusive environment to meet with two of our technical experts featuring at the conference.

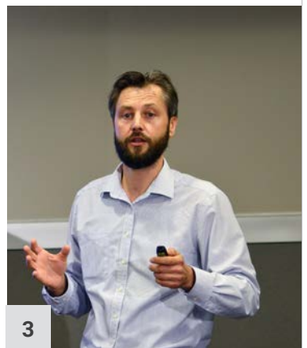
These were Gijs Van der Velden from MX3D | 1 | and Des Watkins who runs Watkins Steel in Australia | 2 | and was facilitated by our GM Welding Centre Michail Karpenko. | 3 |

Both had incredible insight into future technologies for uptake in the NZ metals industry from robotics to 3D printing, and a four step end to end digital process utilising 3D scanning, digital twins, augmented reality and automation.



1


2


3

## HERA | FUTURE FORUM nation breakfast

**Providing a forum to discuss the future workforce of the NZ metals industry.**

We know that the challenges associated with the skills crisis, labour shortages, the future of work and attracting and retaining future engineers weigh heavily on the minds of our members. Nation breakfast was designed to tackle this head on by allowing industry to come face to face with a panel of future millennial engineers | 4 | who spoke frankly on their thoughts around our industry - and most importantly, what it would take to become their future employers.

Opened by our CEO Troy Coyle | 5 | & facilitated by HR Specialist Alia Bojilova | 6 | it became clear that our industry needs to refresh our approach in terms of work environment, technology uptake & sustainability, if we're to position ourselves as employers of choice!

5


6


4

## HERA | FUTURE FORUM 20/20 VISION

**Bringing together five of the world's top thought leaders for our industry.**

The main body of our conference was absolutely about exploring what the future looks like. Focusing on providing practical applications and roadmaps to pivot and prepare for the future sustainability of our industry.

We kicked off by calling on Futurist Chris Riddell | 7 | to help attendees visualise the opportunities and threats of disruption. Also bringing back Gijs and Des from our cluster workshop to speak on fabrication technologies.

We also had Business Commentator Mike Hutchinson | 8 | who explored building a tribe of metal heads and HR Specialist Alia Bojilova who brought a unique perspective to achieving a workplace filled with engaged and skilled employees to those in attendance | 9 |.

7

8


9

# Creating a hub that drives and inspires innovation

## We've said it once before, and we'll continue to say it... innovation is at the core of everything that we do!

**It's why we're proud to have made some bold moves in the innovation space in FY20.**

We revamped our Industry Development division and onboarded our Innovation and Transformation Architect, Greg Buckley to lead the charge!

Our hope is to create a hub that drives and inspires innovation. The idea being to create a physical space that is dedicated to helping our members stay on the cutting edge.

Offering a framework for exploration and creativity to achieve a specific outcome in creating new products, entering new markets, and improving culture and employee engagement.

We envision an interactive space that will allow demonstration of new technologies, collaborative innovation thinking, hackathons and brainstorming sessions, state of the art training and more.

The disruption of Covid-19 at the end of this financial year has certainly seen us re-assess this approach and moving into FY21 we'll be making some pivots to ensure our value proposition still meets the demand of our industry and its recovery.

**Embracing digital approaches to innovation**

We've come to recognise that in order to thrive in uncertainty, our members and industry need to have business models that are underpinned by strong innovation strategy and process.

metal mind
POWERED BY HERA

We started this journey through the development of our READY, SET, GO leadership program to upskill leaders to implement this into their businesses.

In doing so, we soon saw that those embarking on this journey with us were at different stages of innovation adoption and placing them all through the same program often didn't align to their needs.

A missing piece to this puzzle was giving context to each companies innovation readiness or maturity.

Since then, we've been working towards a digital dashboard dubbed MetalMind which assesses companies on a range of innovation metrics. This will allow us to target our leadership training program to the specific needs of the company as well as create a valuable data baseline to measure how this training and development is helping their bottom line.

**Innovation clusters continue to link like-minded companies and individuals**

We continue to grow and support our innovation cluster works in the space of automation, defence capability and digital content development.

Our biggest moves have been for our Matauranga digital works interest group. Engaging an external market research company to understand NZ societies perception of the metals industry in Aotearoa so that we can create more meaningful connection.

We've also created Putatara - which is an inhouse media room facility to assist our members in creating content that can deliver these key messages.


1

3


2

4


5

**HERA Training | 1 & 4 |** Innovation insights workshop **| 2 & 3 |** Innovation READY program in action **| 5 |** Welding Defence Capability workshop presented by DMTC & NZTE for innovation cluster group, November 2019

# Community • Trust Standards • Institutions

Respect is one of our values - driving us to be seekers of diverse perspectives and to embrace the  norms and values underpinning society

**Community**

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.

This also means better engaging with Kiwi's and helping them to understand our value proposition and what we stand for.

One way we've worked towards achieving this, is collaborating with local organisations with similar goals.

We welcomed Pūhoro STEM Academy as a tenant of HERA House as we work to develop a more meaningful Māori in Engineering engagement program. | 1 |

In return, we've started to learn Te Reo Māori with their facilitators. | 2 | This has been a great team journey to gain greater cultural understanding of Māoridom. Also learning tikanga appropriate for business situations which we've since shared at our recent Future Forum 20/20 VISION conference with attendees so they can take similar steps in their own organisations.

This aligns strongly with our commitments to our Whanake HERA scholarship, in collaboration with the Māori Education Trust. It's core target is to extend our industry's capacity by creating a more diverse and attractive industry to work within. It awards an annual $5,000 undergraduate scholarship and paid summer internship over four years to a Māori student in their first year of a four-year Bachelor of Engineering degree.





# Social capital.

Last year's Whanake recipient, Sarah Lewis, is studying a Bachelor of Engineering, majoring in mechatronics at Massey University in Palmerston North, and recently completed her first internship with HERA. | 3 |

Her key project was to develop a Māori engagement rautaki (strategy) to determine effective ways to better understand Māoridom and how our industry can implement this important relationship into their businesses.

We were also proud to announce the recipient of our 2020 Whanake Scholarship to Lily Sanson. She'll be studying a Bachelor of Civil Engineering at the University of Canterbury. | 4 |

In her application essay she said:

**"Within the modern world, it is important that each of us are represented in equity. I want to be part of a movement that changes this. I hope to become a Maori leader who helps to positively influence our tamariki into being involved in science and technology.**

**I am rangatahi passionate about creating opportunities through science and technology innovation for women."**




# 20/20 VISION

# Building trust in our industry

**An indigenous approach to STEM engagement**

We invited Pūhoro STEM Academy to delve into Te Ao Māori and ideas of diversity at our recent Future Forum 20/20 VISION conference.

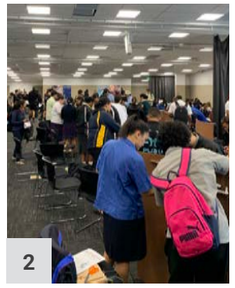
We invited Locwood Ruwhiu and Taniora Herewini **| 1 |** to share statistics on Māori in engineering, and their goals to help tauira (students) navigate toward an understanding of science and technological advances of the future.

Launched in 2016, Pūhoro is currently being delivered in 20 kura (schools) throughout Aotearoa. They have over 630 tauira engaged in Pūhoro STEM pathways - a number that is continuing to grow as their kaupapa (policy/plan) spreads and gains awareness.

We have seen first hand the benefits of this support - attending one of their day events to bring together tauira showing promise in STEM to help them explore this as a potential career pathway. **| 2 - 4 |**

As well as having our General Manager Welding Centre Michail Karpenko and Welding Research Engineer & Automation Lead Holger Heinzel attending a 'Career Speed Dating' event to share their experiences working in the NZ metals industry. **| 5 |**


1


2


3


4

5


6

7

8


9

10


11

**Nation Dinner Industry Awards**

It goes without saying, that the performance of forward thinking companies play a pivotal part in propelling our industry into the future, and making sure we are trusted by Kiwi's.

Our prestigious Keith Smith Memorial Award went to Warwick Downing for his contributions to developing the metal additive-manufacturing industry in NZ. A step which has allowed NZ to have a significant presence on the world stage, making us world-class – if not world-leading in this space. **| 6 - 7 |**

Our Innovation Award went to the Victoria University of Wellington **| 8 |** for their exciting research into the development of hydrogen as a reductant for iron ores. A massive step in building trust in the sustainability space if successful. Runner up was Steltech **| 9 |** for its innovative approach to developing artificial intelligence based software to design optimised clear span portal frame buildings.

Our newly introduced Leading Metalhead Award went to Scott Morrison of Fletcher Steel **| 10 |** for his strong contribution to sustainability leadership across the New Zealand metals industry. Runner up going to Mikaela Keir **| 11 |** for her contributions at NZ Steel to diversity, inclusion and innovation initiatives.

We value integrity. It calls on us to be responsible for our actions and deliver on our promises.

**One thing we've come to learn is that our industry has not been the best at sharing our heart story or being clear and concise on our stance in certain arenas.**

We've worked hard over the past year to rectify this. We have taken a role in providing thought leadership where it counts.

We know that our industry is a major contributor to the wellbeing of New Zealand's economy.

We're committed to telling that story better so we can earn the trust of Kiwis and demonstrate the major role we have to play in making a better New Zealand.

**How have we done that?**

We have served on the Sustainable Steel Council as Chair and initiated key projects, such as the Draft Aotearoa Steel Industry Transformation Agenda and Plan and SSC Certification which is hoped to launch early FY21.

We have also been active in fronting conversation on sustainability for the NZ metals industry. For example, our CEO was interviewed on Q+A with Jake Tame about the Metal's industry being the first to assess its economic contribution to Aotearoa using the Living Standards Framework. She shared opportunities to address our carbon embodiment issues, and the challenges we've come across in measuring ourselves against this framework.

We are also active on the New Zealand Construction Industry Council with a focus on the future of construction. We have engaged with the Review of Vocational Educations (RoVE) Workforce Development Council (WDC) to see where we can be more active in creating a strong, unified and sustainable system fit for the future of work and to deliver the skills needed to help communities and businesses thrive.

# Earning trust through transparency.






**| Q+A Studio |** Our CEO Dr Troy Coyle being interviewed by Jake Tame, September 2019

# Fostering trust through thought leadership



1


2


3


4


5


6


7


8


9


10


11


12





# #Podcast

## Our #StirringThePot podcast has continued to thrive in leaps and bounds!

**This financial year taking advantage of connecting with some world class expertise to share with our industry and drive thought leadership.**

**| 1 | Former HERA GM Structural Systems, Stephen Hicks - Focuses for his team in FY20**

Discussing projects such as design software for composite beams and slabs, guides for designing composite beams, the ROBUST project, revisions for design provisions in category 3 seismic load resistance, structural fire design and more.

**| 2 | HERA GM Welding Centre, Michail Karpenko - Focuses for his team in FY20**

Discussing projects such as seismic research program, advanced design capability program, performance of coastal weathering steels, national register for certified welders, training and more.

**| 3 | Treasury Deputy Secretary and Chief Economic Advisor, Tim Ng - How to speak LSF**

Getting to the nuts and bolts of the Government's Living Standards Framework.

**| 4 | HERA Technical Team - Making seismic steel fabrication more cost effective**

Insight into our seismic research program to specify weld details for critical seismic connections in New Zealand.

**| 5 | Puhoro STEM Academy's Leland Ruwhiu & our first Whanake Scholarship Recipient, Sarah Lewis - An indigenous approach to STEM engagement**

Scratching below the surface to better understand how to improve Maori engagement in STEM & why that is important to do.

**| 6 | Former University of Wollongong Executive Dean of Engineering, Prof. Chris Cook - Avoid death by a thousand cuts and automate!**

Delving into the Facility for Intelligent Fabrication to deliver expertise, technology, equipment and training in automating steel fabrication and manufacturing.

**| 7 | AUT's Prof. Charles Walker and Dr Shahab Ramhormozian - School of future environments**

Discussing two new degrees at AUT - the BEng (honours) in Architectural Engineering & Bachelor of Architecture and Future Environments.

**| 8 | Ministry of Social Development Director of Industry Partnerships, Amanda Nicolle - An industry partnership with government to address skill and labour shortages**

Exploring the program, how it works, benefits to industry, what it involves & how it fits with ITO's.

**| 9 | Former Kemppi Managing Director, David Green - Welding through the lens of Industry 4.0**

Sharing global technology trends in welding and it's adoption by industry to remain competitive, improve quality and streamline productivity.

**| 10 | MX3D CEO Gijs Van der Velden - Bridging innovation: 3D printing**

The advantages of 3D metal printing and designing intelligent, robust and easy to use robotic additive manufacturing technology.

**| 11 | Watkins Steel Managing Director, Des Watkins - Digitisation: the future of steel fabrication**

Implementing a four step end to end digital process utilising 3D scanning, digital twins, augmented reality and automation in steel fabrication businesses.

**| 12 | HERA CEO Troy Coyle & Metals NZ CE Nick Collins - 20/20 VISION, HERA's Future Forum**

Reflecting on the event and lessons learnt.

**| No picture | NZ Steel Environment Manager, Claire Jewell & Fletcher Steel Marketing and Innovation Manager, Scott Morrison - Sustainable product development with EPD's**

Environmental product declarations and the process to achieve them - and the benefits of doing so!

# Standards

# Achieving quality and productivity.

Our strategy is to establish a system for the continuous monitoring of the quality of fabricated steel work.

**Industry 4.0 adoption in industry**

We optimise inspection requirements and manage compliance risks based on big data analysis through our quality and productivity research program.

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

Several student projects have commenced on the future of welding, inspection of welded components, comparing robotic welding programming strategies, and creating a welding 4.0 demonstration laboratory.

Following on from our automation audits, we've also conducted Industry 4.0 readiness assessments via surveys and 14 company visits.

It was found that while most have already taken some steps towards a digital underpinned fabrication approach - some are holding back to better understand the implication.

Findings from these assessments will be used in the roadmap to Industry 4.0 for NZ metal fabricators in FY21. Some of the research findings have already been published in a previewed international paper.

**Welding capability review for SMEs**

In this project we aim 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.

We've already introduced a multi-phase assessment program that we've invited SMEs to join.

Corresponding assessment tools and procedures have also been developed to allow for on-site or e-assessments to assist in this process.

A number of HERA member companies have registered their interest in participating in this initiative and we look forward to developing it our further in FY21.

**Design guide update to comply with NZS**

We're currently reviewing and updating R4-97 (New Zealand Steel Weathering Guide), as well as the Seismic Design Guide for Moment Resisting Frames (MRF). We've also developed a number of reports and design work examples that are currently under review.

**Software development**

Driven to make steel the material of choice for designers, we've 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. In the long- term reducing costs and providing increased satisfaction to the developer or asset owner.



# Developing, meeting and maintaining high industry standards

Through our two technical teams, we're committed to driving standards and compliance work.

**Our Welding Centre and Structural Systems divisions represent industry on a number of standards committees.**

This includes WD-002, WD-003, ME-001, MT014 and ISO/TC167. As well as close works with SCNZ, MBIE, NZ Standards and more.

We've had great success in this realm, particularly for our Structural Systems team who worked on a number of Australian and New Zealand Standards Committees such as BD-032, co-opted member of the Building Code Technical Risk Advisory Group (BCTRAG), and recently reviewing proposed amendment (Amd 1) to AS/NZS 2327:2017 and submitting comments.

We've also submitted a nomination document to remain in BD-023, BD-090, BD-006, ME-029, and MT-001 AS/NZ standards Committees moving into FY21 as well - and are now active members of all of these committees.

**Eastbridge Ltd** | Steel fabrication projects underway in their workshop, September 2019.

**Manager |** HERA Certifications & HERA ANBCC

# Standards

## 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.

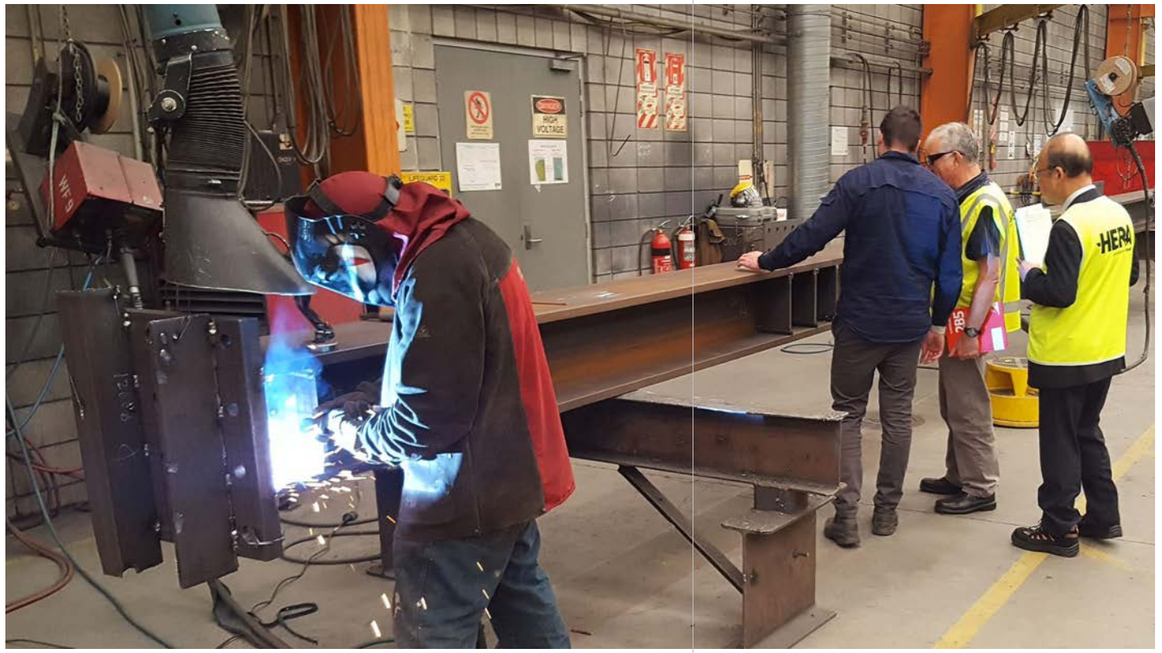
AS/NZS ISO 3834 is a key part of the Steel Fabricator Certification Scheme (SFC), reflecting the significance of the quality of welded connections for the safety and reliability of structures subject to high seismic demand.

Over five years of operation, we're pleased to share we've successfully certified companies to have the appropriate personnel and quality management systems in place - in FY20 performing more than 40 audits on behalf of HERA Certifications Ltd.

**Michail Karpenko**
Manager

# Report from our HERA Certification Manager

> "This financial year, we've performed more than 40 audits on behalf of HERA Certifications Ltd.




**D&H Steel |** SFC Audit process underway on their premise with the HERA team.

# Collaborating with institutions.

## At HERA we're seekers of diverse perspectives.

**That's why connecting in with a wide range of organisations and fostering relationships is so important to us.**

**| 1 |** Research Engineer Hafez Taheri, GM Welding Centre Michail Karpenko, visiting Professor Minami and Finite Element Analyst Nandor Mago at HERA House.

**| 2 - 3 |** Sponsorship of the University of Auckland #MECHA Wellness Day as part of our efforts to drive health and safety awareness and connect with future engineers of our NZ metals industry.

**| 4 - 5 |** Hosting the Rotary National Science and Technology Forum 2020 as we work to .drive engagement in Engineering for young students looking to choose their future career pathway.

**| 6 |** NZTE Australia Defence Program Leader, Graeme Solloway hosting a Defence Welding Capability Workshop at HERA House for our members.

**| 7 - 8 |** Hosting the IRANZ (Independent Research Association of New Zealand) meeting with Shadow Spokesperson for Research, Science and Innovation, Parmjeet Parmar to discuss RS&I strategies and other research focuses across Aotearoa.

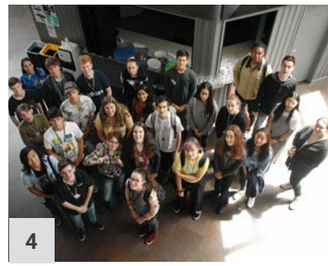
**| 9 |** HERA Foundation sponsoring AUT's 2019 Student Final Year Project Award. Recognising Amjad Mohideen, Kurt Russell and Wen Jun See for their project "TIG Welding of Boron/Boron Free Steels".

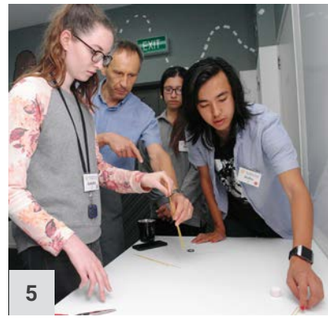
**| 9 - 10 |** HERA Foundation sponsoring the University of Auckland 2019 Final Year Project Awards. Recognising Ravindra Anurithan and Joseph Tildesley for their project on "Design and Manufacture of Compliant Structures for in-road Wireless Electric Vehicle Charging Solutions".

1

2

3


4


5


6

7


8


9

10

**Chair |** Joint Managing Director Hydraulink Fluid Connectors Noel Davies

## Interested in donating?

Contact our Secretary/Treasurer Dr Wolfgang Scholz for further details on +64 21 945 159 or via email on wolfgang.scholz@hera.org.nz

"We are a charitable trust with a mission to promote the study and understanding of the use of ferrous & non-ferrous metals in the engineering industry.





# Report from our HERA Foundation Chair

The HERA Foundation was established by HERA through settlement of its HERA House assets.

### Providing income to the Trust to meet its objectives.

**Our income**

Our total income was $312k – obtained through HERA House earnings, donations, and interest on an endowment fund.

Normally around 30-50% of these funds go back to the Metals Industry via Grants for post-graduate scholarships and supporting several research and educational programs. However, due to Covid19, there will be delays in the commencement of scholarship starts in FY21, and as a consequence only 13% of the available funds were spent. The remainder of income goes back into administration, maintenance and future proofing our main asset which is HERA House. This year paying back the last $171,000 of our refurbishment loan.

We also responded to HERA's request to build a dedicated Innovation Centre. $126,000 was spent planning the new building and achieving resource consent. We also solicited member sponsorship contributions with excellent indicative commitment. However, with the onset of Covid19 and subsequent financial uncertainty, this development is currently on hold.

**Our grants**

Continuing our efforts to drive research and industry development, our Grant to HERA was $41,681 for FY19/20 for five key research programs:

1. **The HERA seismic research program**, performed in conjunction with Auckland University of Technology (AUT), University of Auckland (UoA) and University of Canterbury (UoC). It's been New Zealand's most successful, long-term steel construction program and has led to ongoing improvements to make our buildings both safer and more cost effective. In continuation of this program, two new PhD scholarships were approved for support. A change in plans and Covid19 impacts will now instigate a trustee review.

2. **Completion of three year scholarship support** for PhD scholar Hafez Taheri. His research has identified new design provisions for cost-effective, full penetration T-butt welds in welded moment connections. Now working at HERA - he's focused on implementing his findings into HERA design guides.

3. **Supporting the professional application of the Sliding Hinge Joint (SHJ) design guide** developed in co-operation with UoA and AUT, and authored by UoA PhD, Dr Shahab Ramhormozian. The aim of the guide is to explain the optimised SHJ advantages over traditional systems across the lifetime of a building (particularly in severe seismic conditions) and use of them. Next steps will be an industry trial application to gather useful feedback.

4. **The $25,000 support for the ROBUST (Building Systems) Project** (a co-operative international research project seismically testing a real size building incorporating the latest NZ seismic connections) demonstrated the effectiveness of our grant application, contracting process, and ability for developed IP to be made available for our industry. Good progress has been made, but project delivery is delayed due to Covid19.

5. **Investigation of a disruptive, steel-based, sustainable cycleway concept** by former HERA Director Dr Wolfgang Scholz. The vision being to build weather-shielded cycle highways instead of costly new roads. The concept's feasibility has been researched in a discussion paper and is published as HERA Report R5-89. It is hoped it will stimulate innovative thinking around sustainable transport solutions with the long-term view of becoming a business opportunity for industry.

**Supporting professional development**

Our visiting 2019/20 expert was Prof. Adolf Hobbacher, who delivered a seminar series on 'Design of Welded Structures - Fatigue and Fracture' across NZ in February 2020. With over 75 professionals attending, the seminars covered a range of fatigue assessment techniques focusing on a widely used assessment based on a nominal stress method as used in AS/NZS 5100.6, NZS 3404.1 and AS 4100 as well as IIW Guideline "Fatigue design of welded structures".

We also continued support of the HERA student membership established last year. The funding was used to develop a student resource 'P4001 Steel Design Guide', which is due to be released shortly.

And, again sponsored the final year mechanical engineering student project events for both UoA and AUT. It is certainly pleasing to see metals engineering continues to be a topic of choice for our students!

**Support HERA Foundation**

It's one of the goals of the foundation to support top class research, innovation and understanding of disruptive technologies to boost engagement and innovation within our workforce, and as such, I'd like to remind you that you have an opportunity to make a real difference. A small donation can immediately have an impact on the future of our workforce and ability to share and foster expertise – because if our industry isn't willing to support itself, who will?

As your Chairperson, I'd like to encourage you to make a living donation now – not only to be able to see the positive difference your contribution can make, but also so you can benefit from the tax rebates you're given through supporting our charitable trust.

**Our people**

Our Foundation relies on the generosity of our industry and the support of our board. Together with fellow trustees Duncan Fraser, HERA Chair Matthew Kidson, HERA Deputy Chair Dave Anderson; and HERA Foundation Secretary/Treasurer Wolfgang Scholz - I look forward to seeing the rewards of our efforts to promote and grow the metals industry into the future.

**Noel Davies**
Chair

# Financial & physical capital.

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

Assessing ourselves against the Living Standards Framework we have found that we're a strong contributor to the economic performance of our nation.

In terms of the conventional economic metrics, the manufacturing component of the industry alone currently provides almost 30,000 full-time equivalent (FTE) jobs and generates around $3.3 billion in gross domestic product (GDP) each year.

This is primarily through the supply of vital goods and services used in investments in transport infrastructure, construction and building. Beyond their volume or value, our industry adds to the quality of the investments by increasing the resilience of the built environment and by enhancing the performance of structures and buildings.





## Infrastructure • Export Resilience • Investment

**| D&H Steel |** Various infrastructure projects in construction around Auckland: Westfield 309 Newmarket constructed with 4,500 tonne of structural steel | Foodstuffs Norh Island Distribution Centre covering 73,000sqm - with 7,000m2 of roof lifted into position by 16 cranes | Cordis Hotel - a 14 level new build located at 83 Symonds St

**| Page Macrae |** Fabrication of tank roof truss layout prior to installation.

# Statements & notes.


**Page Macrae** | Strake plate placement of a fuel tank in the Bay of Plenty region.

RSM Hayes Audit
PO Box 9588
Newmarket, Auckland 1149
Level 1, 1 Broadway
Newmarket, Auckland 1023
T +64 (9) 367 1656
www.rsmnz.co.nz

# 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 2020;
- the statement of comprehensive revenue and expense for the nine-month period then ended;
- the statement of changes in net assets/equity for the nine-month period then ended;
- the statement of cash flows for the nine-month period then ended; 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 2020, and its financial performance and its cash flows for the nine months then ended 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.

### Other Matters

The financial statements of the Society are for the 9-month period ended 31 March 2020.











### 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

3 June 2020

# 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.

# The levy in a nutshell.

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.





**NEW ZEALAND HEAVY ENGINEERING RESEARCH ASSOCIATION INCORPORATED**

**FINANCIAL STATEMENTS**
**FOR THE PERIOD ENDED 31 MARCH 2020**

NEW ZEALAND HEAVY ENGINEERING RESEARCH ASSOCIATION INCORPORATED

**Financial Statements**
FOR THE PERIOD ENDED 31 MARCH 2020

| Contents | Page (s) |
|---|---|
| Directory | 1 |
| Board Member's Report and Statement of Responsibility | 2 |
| Independent Auditor's Report | 3 - 4 |
| Statement of Comprehensive Revenue and Expense | 5 |
| Statement of Changes in Net Assets / Equity | 6 |
| Statement of Financial Position | 7 |
| Statement of Cash Flows | 8 |
| Notes to the Financial Statements | 9 -17 |





NEW ZEALAND HEAVY ENGINEERING RESEARCH ASSOCIATION INCORPORATED

**Directory**
FOR THE PERIOD ENDED 31 MARCH 2020

| | |
|---|---|
| **Registered office** | Hera House<br>17-19 Gladding Place<br>Manukau City<br>Auckland |
| **Number** | 218280 |
| **Nature of business** | Research Association |
| **Board Members** | Troy Coyle (CEO HERA)<br>Matthew Kidson, Kernohan Engineering ( Chair)<br>Noel Davies (Chair of HERA Foundation )<br>Mathew Black, New Zealand Steel Ltd<br>(Nominee of General Manager of NZ Steel)<br>Dieter Adam, NZMEA<br>Mike Lehan, Bishop Building |

**Ordinary and Associate Members**
David Moore - Grayson Engineering Ltd
Dave Anderson -John Jones Steel (Dupty Chair)
Craig Stevenson- Aurecon New Zealand Ltd
Jennifer Hart- BECA
Raed El Sarraf- WSP Opus
Darren O'Riley, Steel Construction New Zeland Inc.

| | |
|---|---|
| **Independent auditor** | RSM Hayes Audit<br>Level 1, 1 Broadway,<br>Newmarket 1023 |
| **Bankers** | Bank of New Zealand<br>ANZ Bank New Zealand Limited |
| **Solicitor** | Gaze Burt<br>Auckland |

NEW ZEALAND HEAVY ENGINEERING RESEARCH ASSOCIATION INCORPORATED

**Board's Report and Statement of Responsibility**
**FOR THE PERIOD ENDED 31 MARCH 2020**

**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 period from 1 July 2019 to 31 March 2020, 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 Boaard 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 period from 1 July 2019 to 31 March 2020;

- 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 2020;

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 period from 1 July 2019 to 31 March 2020.

- 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** | 14 May 2020<br>**Date** |
| **CEO** | 13 May 2020<br>**Date** |





NEW ZEALAND HEAVY ENGINEERING RESEARCH ASSOCIATION INCORPORATED

**Statement of Comprehensive Revenue and Expense**
**FOR THE PERIOD ENDED 31 MARCH 2020**

| | Notes | 2020<br>$<br>9 months | 2019<br>$<br>12 months |
|---|---|---|---|
| Revenue from non-exchange transactions | 11 | 1,585,066 | 2,093,173 |
| Revenue from exchange transactions | 11 | 659,502 | 1,019,491 |
| **Total Revenue** | | **2,244,568** | **3,112,664** |
| **Expenses** | | | |
| Employee salaries and wages | | 1,090,932 | 1,433,021 |
| Member Services | | 188,208 | 222,069 |
| Seminar Expenses | | 67,893 | 201,867 |
| Consulting Expenses | | 17,974 | 126,900 |
| External Research | | 143,931 | 329,345 |
| HERA House Expenses | | 88,498 | 104,733 |
| Conference expense | | 147,143 | - |
| Depreciation Expense | | 83,424 | 106,450 |
| Rent Expenses | | 232,518 | 310,024 |
| Other expenses | 12 | 254,671 | 247,612 |
| **Total expenses** | | **2,315,192** | **3,082,021** |
| Finance income | | 13,367 | 21,364 |
| Finance costs | | - | - |
| **Net finance income** | | **13,367** | **21,364** |
| **Net surplus before tax** | | **(57,257)** | **52,007** |
| Income tax expense | 16 | - | - |
| **Net (Deficit) / surplus for the year** | | **(57,257)** | **52,007** |
| Other comprehensive revenue and expense | | - | - |
| **Total comprehensive revenue and expense for the year** | | **(57,257)** | **52,007** |

RSM

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 PERIOD ENDED 31 MARCH 2020

| | Accumulated comprehensive revenue and expense | Total |
|---|---|---|
| | $ | $ |
| Closing equity 30 June 2018 | 1,701,335 | 1,701,335 |
| Total comprehensive revenue and expense for the year | 52,007 | 52,007 |
| **Closing equity 30 June 2019** | **1,753,342** | **1,753,342** |
| Total comprehensive revenue and expense for the period | (57,257) | (57,257) |
| **Closing equity 31 March 2020** | **1,696,085** | **1,696,085** |

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 2020

| | Notes | 2020 $ | 2019 $ |
|---|---|---|---|
| **ASSETS** | | | |
| **Current assets** | | | |
| Cash and cash equivalents | 5 | 443,260 | 244,488 |
| Receivables from exchange transactions | 6 | 145,717 | 128,456 |
| Receivables from non-exchange transactions | 6 | 176,032 | 205,601 |
| Related party Loan | 7 | - | 171,340 |
| Investments- Term deposits (bank) | | 868,936 | 849,019 |
| Prepayment | | - | 40,274 |
| Inventories | | 7,872 | 1,861 |
| | | 1,641,817 | 1,641,039 |
| **Non-current assets** | | | |
| Property, plant and equipment | 8 | 356,925 | 260,285 |
| | | 356,925 | 260,285 |
| **TOTAL ASSETS** | | **1,998,742** | **1,901,324** |
| **LIABILITIES** | | | |
| **Current liabilities** | | | |
| Payables (from exchange transactions) | 10 | 101,801 | 61,257 |
| Payables (from non- exchange transactions) | 10 | 113,841 | 34,388 |
| Subscription received in advance | | 46,297 | - |
| Employee benefits | | 40,718 | 52,337 |
| | | 302,657 | 147,982 |
| **TOTAL LIABILITIES** | | **302,657** | **147,982** |
| **TOTAL NET ASSETS** | | **1,696,085** | **1,753,342** |
| **Net Assets / Equity** | | | |
| Accumulated comprehensive revenue and expense | | 1,696,085 | 1,753,342 |
| **Total Net Assets / Equity** | | **1,696,085** | **1,753,342** |

For and on behalf of the Board:

| | |
|---|---|
| | 15 March 2020 |
| **Chairperson** | **Date** |
| | 13 May 2020 |
| **CEO** | **Date** |

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 PERIOD ENDED 31 MARCH 2020**

| | Notes | 2020 $ 9 months | 2019 $ 12 months |
|---|---|---|---|
| **CASH FLOWS FROM OPERATING ACTIVITIES** | | | |
| Receipts from members | | 2,303,174 | 3,174,007 |
| Interest received | | 13,367 | 21,364 |
| Cash paid to suppliers and employees | | (2,089,128) | (3,049,458) |
| **Net cash inflow from operating activities** | | **227,413** | **145,913** |
| **CASH FLOWS FROM INVESTING ACTIVITIES** | | | |
| Sales/(Purchases) of term deposits | | (19,918) | (218,457) |
| Purchase of property, plant and equipment | 8 | (180,063) | (40,059) |
| Proceeds from sale of property, plant and equipment | | - | - |
| **Net cash outflow from investing activities** | | **(199,981)** | **(258,516)** |
| **CASH FLOWS FROM FINANCING ACTIVITIES** | | | |
| Repayment from related party loan | | 171,340 | 100,000 |
| Loan to related party | | - | - |
| **Net cash outflow from financing activities** | | **171,340** | **100,000** |
| Net increase in cash and cash equivalents | | 198,772 | (12,603) |
| Cash and cash equivalents at 1 July | | 244,488 | 257,091 |
| **Cash and cash equivalents at 31 March / 30 June** | 5 | **443,260** | **244,488** |

RSM

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 2020**

**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 2020**

**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 in 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 2020**

**4. SIGNIFICANT ACCOUNTING POLICIES (CONT'D)**

ii) 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.

**b) 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.

**c) 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.

**d) 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 2020**

**4. SIGNIFICANT ACCOUNTING POLICIES (CONT'D)**

**d) 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.

**e) 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 2020**

**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 2020**

**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 treatment
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 PERIOD ENDED 31 MARCH 2020**

**5. CASH AND CASH EQUIVALENTS**

| | 2020 $ | 2019 $ |
|---|---|---|
| Cash and cash equivalents include the following components: | | |
| Current Account | 104,456 | 87,193 |
| Call Account | 263,710 | 157,295 |
| Term deposits (maturity > 90 days) | 75,094 | - |
| | 443,260 | 244,488 |

The Association has a Visa credit card facility with Bank of New Zealand. The total limit of all credit cards is $30,000 (2019: $30,000).

**6. RECEIVABLES**

| | 2020 $ | 2019 $ |
|---|---|---|
| **Receivables from exchange transactions** | | |
| Accounts receivable | 145,717 | 128,456 |
| Bad debt provision | - | - |
| | **145,717** | **128,456** |
| **Receivables from non-exchange transactions** | | |
| Accrued income - steel and welding levies | 176,032 | 205,601 |
| | **176,032** | **205,601** |

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 $ |
|---|---|---|---|---|---|
| **2020** | **145,717** | 103,830 | 8 | 5,198 | 36,681 |
| **2019** | **128,457** | 95,198 | 24,301 | 7,941 | 1,017 |

**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 HERA Foundation during the year as follows:
- building management fees of Snil (2019: Snil) and administration fees of Snil (2019: $4,653) for the management and administration of HERA Foundation's building (HERA House).
- rental expenses on buildings of $232,517 (2019: $310,024)
- receipts of grants totaling $12,872 (2019: $27,315)
- interest income received of $13,367(2019: $21,364)
- repayment of related party loan of $171,340 (2019: $100,000)

**Related party balances**
The Society's board approved a loan to HERA Foundation in prior year. The interest rate on this related party loan during the year was 3.40% (Last Year 3.40%). The repayment of the loan was on demand therefore was disclosed as a current asset in 2019 year. During the year this loan was fully settled. There was no security held on this related party loan.The outstanding balance therefore as at 31 March 2020 is Nil (2019: $271,340).

All transactions were conducted on an arm's length basis.

**Key management personnel compensation**
The total remuneration paid to key management personnel for the year was $390,895 (2019: $672,019). The total number of key managemet personnel was 3 (2019: 4).

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.

**8. PROPERTY, PLANT AND EQUIPMENT**

**Reconciliation of property, plant and equipment for the year ended 31 March 2020**

| | Opening balance | Additions | Disposals | Depreciation | Closing balance |
|---|---|---|---|---|---|
| Innovation Centre | - | 30,084 | - | - | 30,084 |
| Office Furniture | 62,192 | 16,633 | - | 25,238 | 53,587 |
| Fixtures & Fittings | 7,055 | 11,855 | - | 2,523 | 16,387 |
| HERA House Refurbishment | 29,598 | 71,039 | - | 8,395 | 92,242 |
| Motor Vehicles | 65,573 | - | - | 21,961 | 43,612 |
| Office Equipment | 58,699 | 44,463 | - | 20,874 | 82,288 |
| Training Equipment | 37,168 | 5,989 | - | 4,432 | 38,725 |
| | 260,285 | 180,063 | - | 83,423 | 356,925 |

| | 2020 | | | 2019 | | |
|---|---|---|---|---|---|---|
| | Cost | Accumulated depreciation | Carrying value | Cost | Accumulated depreciation | Carrying value |
| | $ | $ | $ | $ | $ | $ |
| Office Furniture | 78,825 | 25,238 | 53,587 | 93,711.00 | 31,519 | 62,192 |
| Fixtures & Fittings | 18,910 | 2,523 | 16,387 | 8,641.00 | 1,586 | 7,055 |
| HERA House | 100,637 | 8,395 | 92,242 | 34,708.00 | 5,110 | 29,598 |
| Motor Vehicles | 65,573 | 21,961 | 43,612 | 101,244.00 | 35,671 | 65,573 |
| Office Equipment | 103,162 | 20,874 | 82,288 | 85,906.00 | 27,207 | 58,699 |
| Training Equipment | 43,157 | 4,432 | 38,725 | 42,525.00 | 5,357 | 37,168 |
| | 440,348 | 83,423 | 356,925 | 366,735.00 | 106,450 | 260,285 |

NEW ZEALAND HEAVY ENGINEERING RESEARCH ASSOCIATION INCORPORATED

Notes to the Financial Statements
FOR THE PERIOD ENDED 31 MARCH 2020

## 9. 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 2020** | $ | $ |
| Cash and cash equivalents | 443,260 | - |
| Receivables | 321,749 | - |
| Payables | - | 101,801 |
| | 765,009 | 101,801 |
| **30 June 2019** | | |
| Cash and cash equivalents | 244,488 | - |
| Receivables | 334,057 | - |
| Payables | - | 61,257 |
| | 578,545 | 61,257 |

## 10. PAYABLES

| | 2020 $ | 2019 $ |
|---|---|---|
| **Exchange transactions** | | |
| Accounts Payable | 101,801 | 61,257 |
| | 101,801 | 61,257 |
| **Non-Exchange transactions** | | |
| Income received in advance | 3,891 | 330 |
| Wage subsidy | 105,444 | - |
| GST payable | 4,506 | 34,058 |
| | 113,841 | 34,388 |

## 11. REVENUE

| | 2020 $ | 2019 $ |
|---|---|---|
| **Revenue from non-exchange transactions** | | |
| Steel & Welding Levies | 1,572,194 | 2,065,858 |
| Grants from HERA Foundation | 12,872 | 27,315 |
| | 1,585,066 | 2,093,173 |
| **Revenue from exchange transactions** | | |
| Membership Subscriptions | 138,890 | 173,972 |
| Other income | - | 4,563 |
| Conference income | 99,639 | - |
| Consulting & Industry Projects | 25,204 | 348,088 |
| Services to third parties | 13,340 | 18,219 |
| Publication | 30,156 | 21,521 |
| Welding Modules | 168 | 292 |
| Rent | 105,599 | 126,490 |
| Seminar & Courses | 236,941 | 326,346 |
| Profit on sale of assets | 9,565 | - |
| | 659,502 | 1,019,491 |

## 12. OTHER EXPENSES

| | 2020 $ | 2019 $ |
|---|---|---|
| Other expenses mainly includes: | | |
| Metals NZ | 70,200 | 50,000 |
| Recruitment | 39,162 | 1,593 |
| Indemnity | 18,478 | 18,023 |
| Vehicle | 22,800 | 40,054 |
| Innovation | 11,935 | - |





NEW ZEALAND HEAVY ENGINEERING RESEARCH ASSOCIATION INCORPORATED

Notes to the Financial Statements
For the Year Ended 31 March 2020

## 13. CAPITAL COMMITMENTS

There are no capital commitments at the reporting date. (2019: Nil).

## 14. CONTINGENT ASSETS AND LIABILITIES

HERA has requested an investigation of levy collected on the 7306 tariff code items as it is HERA's belief that Customs has not been properly collecting the levy on these items (mainly RHS). If the investigation proves this to be correct, the levy income collected under Schedule 2 of the HERL Act, 1978 would be an underestimate of what is legally due to HERA. Due to high degree of uncertainty, both contingent asset and the corresponding income have not been recognised in the Financial Statements. There are no other contingent assets or liabilities at the reporting date (2019: Nil).

## 15. EVENTS AFTER THE REPORTING DATE

Subsequent to the reporting period and prior to the authorisation of these financial statements, the Government announced a number of measures, including a national lockdown and the recent move from level four to level three to prevent the spread of the virus in the community. Non-essential businesses were closed during the lockdown period and the retail, bar and restaurant sector will continue to be closed under level three. Like most organisations in the not-for-profit sector, the Society is being impacted by the COVID-19 situation. Under COVID-19 level 3 restrictions, certain businesses can operate but under restricted conditions. HERA staff have been operating from home and some staff are working 80% of normal hours. Some courses and seminars cannot be held during level 3 and staff are working from home and developing more digital content for training delivery.
The partial closure has created uncertainty for all businesses, including our Society. The exact financial impact from this uncertainty cannot currently be measured or predicted reliably. At this stage, Management expects an overall decrease in income by approximately 20% to 40% in the year 2020/ 2021 .

The Board and Management have prepared an operational forecast, and based on this forecast, acknowledges that the Society has sufficient accumulated funds and cash and cash equivalent to meet the operating expenses and short-term liabilities for at least the following twelve months, and will closely monitor the situation to ensure any impact is mitigated as best as possible.
The Board is not aware of any other matters or circumstances since the end of the reporting period, not otherwise dealt with in these financial statements that have significantly or may significantly affect the operations of the Society (2019: Nil).

## 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:

| | 2020 $ | 2019 $ |
|---|---|---|
| Within one year | 288,690 | 305,943 |
| After one year but not more than five years | 1,134,414 | 1,142,233 |
| More than five years | 207,165 | 414,330 |
| | 1,630,269 | 1,862,506 |

## 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

At the 2019 AGM, a change to the Society Rules was made to change the financial year to end 31 March each year. This was required in order to meet HERA's requirements for HERA's financial year prescribed in the Heavy Engineering Research Levy Act, 1978. Due to this change the comparatives are for 12 months while current period is for 9 months i.e 1 July 2019 to 31 March 2020.

# Our resources.

**HERA House** | Manukau, Auckland.

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.

Our digital library is still developing out, so at this stage not all of our resources are in digital format and will still come in hard copy form.

Moving forward we plan to do future upgrades like electronic formats, custom access to meet different needs, and improved navigation.

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 FY21.

We've also started making moves to transition some of our training and workshops to online forums and webinars to facilitate attendance to those of our members not physically based in Auckland.

We think this new offering will not only allow a greater number of our members to take steps to upskill, but also work to reduce costs associated with travel. This in turn will also contribute to reducing the carbon footprint of both ourselves and attendees - a win win for all!

# Digital information





# Publications & resources.

## Structural Systems

- International Collaboration and Harmonization of Design Standards, SJ Hicks, Structural Engineering International 30 (2), 161-161 2020
- Experimental behaviour of steel beam-column subassemblies with different slab configurations, T Chaudhari, G MacRae, D Bull, C Clifton, S Hicks, Journal of Constructional Steel Research 162, 105699 2019
- Post-installed shear connectors: Push-out tests of coiled spring pins vs. headed studs, R Hällmark, P Collin, SJ Hicks, Journal of Constructional Steel Research 161, 1-16 3 2019
- Review of strength behaviour of circular concrete filled steel tubes under monotonic pure bending, YKR Gunawardena, F Aslani, B Uy, WH Kang, S Hicks, Journal of Constructional Steel Research 158, 460-474 3 2019
- Establishing new brittle fracture provisions for the Australasian steel structures standards, AF Hobbacher, M Karpenko, SJ Hicks, P Schneider, B Uy, Journal of Constructional Steel Research 155, 20-32 12019
- Post-installed shear connectors: Fatigue push-out tests of coiled spring pins, R Hällmark, P Collin, SJ Hicks, Journal of Constructional Steel Research 153, 298-309 2 2019
- Chaudhari, T., MacRae, G., Bull, D., Clifton, C. and Hicks, S., 2019. Experimental behaviour of steel beam-column subassemblies with different slab configurations. Journal of Constructional Steel Research, 162, p.105699.
- Mago, N., 2019. Validation of structural fire design for steel framed carparks, HERA Report R4-152

## Welding Centre

- Michail Karpenko, Holger Heinzel, Thore Broderson, Alan McClintock. Repair rates in structural steel fabrication. Welding in the World (2020) 64:419 – 427.
- Adolf Hobbacher, Michail Karpenko. Provisions for avoiding brittle fracture in steels used in Australasia. International Institute of Welding IIW doc. X-1965r8-2020.
- Taheri, H., Clifton, G. C., Dong, P. S., Karpenko, M., Raftery, G. M., & Lim, J. B. (2019). Performance of partial Penetration Welds in Seismic Moment Connections. Paper presented at SESOC Conference 2019- Challenging the Profession, 18-20 August 2019, SkyCity, Auckland.
- Taheri, H., Clifton, G. C., Dong, P. S., Karpenko, M., Raftery, G. M., & Lim, J. B. (2019). The Use of Effective Full Penetration of T-butt Welds in Welded Moment Connections. International Institute of Welding (IIW) Document X-1955-19/ XIII-2824-19/XV-1590-19.
- Hamzeh, Reza; Thomas, Luke; Polzer, Jan; Xu, Xun William; Heinzel, Holger. Connectivity and Interoperability of Machines in the era of Digitalization. FAIM 2020 - 30th International Conference on Flexible Automation and Intelligent Manufacturing.
- Taheri, H., Clifton, G. C., Dong, P. S., Karpenko, M., Raftery, G. M., & Lim, J. B. (2019). The Use of Effective Full Penetration of T-butt Welds in Welded Moment Connections. Welding in the World (Submitted on 14 Oct 2019).
- Hafez Taheri: "HERA report - Shear test and strength analysis of fillet welds based on the traction stress method". Internal HERA Report 2019.

# Our membership.

**Calder Stuart** | Steel fabrication in the workshop

# FY19

## In FY20 we welcomed:

**30** new company memberships

**38** students to our newly created student membership category.

**Successfully growing our tribe of metal heads!**

## Platinum 'Ordinary'

- Accurate Instruments NZ Ltd
- ACE Steel Beam Ltd
- Acrow Limited
- Advance Boiler Services NZ Ltd (ABS)
- AECOM New Zealand Ltd
- Air Liquide New Zealand Ltd
- AKSA Ltd
- Akzo Nobel Coatings Ltd
- Alpha Training & Development Centre Ltd
- Altex Coatings Ltd
- Ara Institute of Canterbury
- Atco Steel Developments NZ Ltd
- Atlantic Engineering Co Ltd
- Auckland Council
- Aurecon New Zealand Limited
- BE Hall Ltd (T/A Arc Welding & Safety Supplies)
- Base Consulting Engineers Ltd
- Batchelar McDougall Consulting Ltd
- BB & Sons Ltd
- BCD Group Ltd
- BDS Vircon Ltd
- Betteridge Engineering Ltd
- BGT Structures (Auckland) Ltd
- Bill Cassidy & Associates Ltd
- Birtson Engineering Ltd
- Black Steel Mobile Ltd
- Blake Steel Ltd
- Bloxam Burnett & Olliver Ltd
- Blueprint Consulting Limited
- Bob Doe Co
- BOC Gases New Zealand  Ltd





# Our membership at a glance

- BPL Group Ltd (formally Bycroft Petherick Ltd)
- Bromley Steel Ltd
- BSK Consulting Engineers Ltd
- BT Mining Ltd (Bathurst)
- BTW Company Ltd
- Buchanan & Fletcher Ltd
- Bureau Veritas (NZ) Ltd
- Burleigh Engineering Ltd
- Burnsfield Engineering
- Cable Price (NZ) Ltd
- CADPRO Systems Ltd
- Calder Developments Ltd
- Calibre Consulting Ltd
- Carbonscape Ltd
- Cavotec MoorMaster Ltd
- Certified Welding Ltd
- Chambers Consultants Ltd
- Chapman Engineering Ltd
- Chapman Sanders Consultants Ltd
- Charles Consulting Ltd
- Chemical Management Solutions Ltd
- Chester Consultants Ltd
- Chris W Howell & Associates Ltd
- CLC Consulting Group Ltd
- Clendon Burns & Park Ltd
- Community Asset Management Ltd
- Compusoft Engineering Ltd
- Coulter Engineering Services Ltd
- Create Ltd
- Crow Refractory Ltd
- Cullen Engineering Co Ltd
- DC Weld Ltd
- David Smart Consulting Ltd
- Davidson Group Ltd
- Davis Ogilvie & Partners Ltd
- Day Consultants Limited
- DC Welding Ltd
- Design Engineering International Ltd
- Design Management Consultants Limited
- Design Production Ltd
- Dexion New Zealand Ltd
- DezignWorks BOP Ltd
- Digitalweld Limited
- Dispatch and Garlick Ltd
- Dixon Manufacturing Ltd
- Dodd Civil Consultants Ltd
- Don Thomson Consulting Engineers Ltd
- Dunning Thornton Consultants Ltd
- East Coast Steelwork Ltd
- Eastland Engineering 2004 Ltd
- EB McDonald Ltd
- Eckford Engineering 2002 Ltd
- Energyworks Ltd
- Engco Consulting Engineers Ltd
- Engenium Ltd
- Engineering Design Consultants Limited
- ENI Engineering Ltd
- Enovate Limited
- Envivo Ltd
- EQ STRUC Ltd
- Equipment Engineering (2008) Ltd
- Ewing Construction Ltd
- Farra Engineering Limited
- Fitzroy Engineering Group Ltd
- Fletcher Construction Infrastructure Ltd
- Forbes Consultants Ltd

# FY19



# Our membership at a glance

- Ford Steel Engineering Ltd
- Fortis Weld Inspection Ltd
- Fraser Thomas Limited
- Genesis Energy Ltd
- Genweld New Zealand Ltd
- Gisborne Engineering Ltd
- Global Steel Detailing Ltd
- Gray Brothers Engineering Ltd
- Gray Consulting Engineers Ltd
- Grayson Engineering (2015) Ltd
- GVK Design & Engineering Consultants Ltd
- H J Asmuss & Co Ltd
- Hanlon & Partners Ltd
- Harrison Grierson Consultants Ltd
- Hawthorn Geddes Engineers & Architects Ltd
- Helix Flight Manufacturer Machines Ltd
- Hellacious Enterprises Ltd
- Henderson Structural Engineering
- Heslops Engineering Limited
- HFC: Harris Foster Consulting Group
- Hill Design Engineering Ltd
- Hilti NZ Ltd
- Hi-Spec Stainless Ltd
- Holmes Consulting Limited Partnership
- Holmes Solutions Ltd
- Hornell Industries Ltd
- HSM Engineering 2017
- Iassure Inspection Limited
- Index Engineering Ltd
- InfraBuild NZ Ltd
- Inspection & Test Services NZ Ltd
- Insteel Ltd
- Integrated Maintenance Group Limited (IMG Ltd)
- J Dodds Limited
- J&R Slecht Limited
- Jacobs New Zealand Ltd
- Jensen Steel Fabricators Ltd
- JF Contracting Ltd
- Jireh Contracting & Engineering (1998) Ltd
- John Jones Steel Ltd
- JP Engineering Services Ltd
- Juken New Zealand Ltd (Wairarapa)
- Kawerau Engineering Ltd
- Kemppi Australia Pty Ltd
- Kernohan Engineering Ltd
- Kerslake & Partners Ltd
- Kirk Roberts Consulting Engineers Ltd
- KiwiRail Limited
- Konnect Fastening Systems
- Kraft Engineering Ltd
- Lautrec Technology Group Ltd
- Lewis Bradford & Associates Ltd
- LM Structural Ltd
- Lough Downey Ltd
- Lowes Industries Ltd
- LTH Limited
- Lyttelton Engineering Ltd
- MA Corkery & Associates Ltd
- Mainarc Engineering Services Ltd
- Manktelow Consulting Engineers Ltd
- Manson Engineering
- Manukau Institute of Technology
- Markplan Consulting Ltd
- Marubeni-Itochu Steel Oceania Pty Ltd
- Materials & Testing Laboratories
- Matrix Applied Computing Ltd
- MaxiTRANS Industries (NZ) Pty Ltd
- McCannics Waikanae Holdings
- McConnell Dowell Constructors Ltd
- MCU South Pacific Ltd
- MDL
- MEC Engineering Consultants Ltd
- Mercury NZ Limited
- Metal Test Ltd
- MH Design Ltd
- Milward Finlay Lobb Ltd
- Mitchell Vranjes Consulting Engineers Ltd
- MJH Engineering Ltd
- Modern Construction Ltd
- Modern Maintenance Products Ltd
- Monocrane 2010 Ltd
- Morgan Steel Ltd
- Mott MacDonald Ltd
- MS Engineering Ltd
- MSC Consulting Group Ltd
- MTL NZ Limited
- MWS Otago Ltd
- Nagel Consultants Ltd
- NDT Weld NZ Ltd
- Net 2018 Limited
- New Zealand Refining Co Ltd
- New Zealand Steel Ltd (NZS)
- New Zealand Transport Agency (NZTA)
- Nick Morris Engineering Ltd
- Nigel Harwood Engineering Consultant Limited
- North End Engineering Ltd
- Nova Energy Ltd
- Novare Design Ltd
- NZ Army-Trade Training School
- NZ Welder Supplies Ltd
- OBD Consultants Ltd
- Offshore & Coastal Engineering Limited (formally OCEL)
- Otahuhu Welding Ltd
- P J Hindin Engineering Ltd
- Pacific Steel NZ Ltd
- Page Macrae Engineering Ltd
- Pakuranga Engineering Ltd
- Patton Engineering Ltd
- Pegasus Engineering Ltd
- Pengelly Engineers Ltd
- Peter Swan Consulting Engineers
- Petone Engineering Ltd
- PFS Engineering Ltd
- Philips Diesel Ltd
- Pipe & Tube Welding Engineering Ltd
- Pipes NZ Limited
- Plant & Platform Consultants Ltd
- Plumb Consulting Engineers Ltd
- Port of Tauranga Limited
- Powell Fenwick Consultants Ltd
- Prendos New Zealand Limited
- Pressure Equipment Integrity (PEI) Ltd
- PT Industries Ltd
- PW Engineering Ltd
- Q Designz Limited
- Quoin Structural Consultants Ltd
- Qvalitas Compliance & Consultants Ltd
- R W & V Roberts Consultancy Ltd
- RD Sullivan & Associates Ltd
- Real Steel Ltd
- Red Jacket Ltd

# FY19

- 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
- Simuserv Ltd
- SNC Steel Ltd
- SNP Welding Ltd
- Southern Institute of Technology
- Speedfloor NZ
- Spencer Holmes Ltd
- Stainless Engineering Co Ltd
- Stantec New Zealand
- Steel Co Limited
- Steel Master Co Ltd
- Steel Pencil Holdings Limited
- Steelcraft Engineering
- Steelworks NZ Ltd
- Steltech Structural Limited
- Stephen Mitchell Engineers
- Sterile Services Ltd
- Stevensons Structural Engineers (1978) Ltd
- Stiffe Hooker Ltd
- Stiles & Hooker Ltd
- Stork Technical Services New Zealand Ltd
- Strata Group Consulting Ltd
- Stratum Consultants Ltd
- Stroude Ltd
- Structural Concepts Ltd
- Structure Design Ltd
- Tanker Engineering Specialists Ltd
- Tasman SV Consulting
- Taylors Manufacturing Limited
- Techlogic NZ
- Technix Industries Limited
- Tectonus Limited
- Texco Steel Ltd
- TH Consultants Ltd
- The Fletcher Construction Co Ltd - Trading as Piletech
- The Market Intelligence Co Ltd
- Thermarock Engineering Ltd
- Thorburn Consultants (NZ) Ltd
- Thorne Dwyer Structures Ltd
- Tino Structures Limited
- Titan Marine Engineering Ltd
- TM Consultants Ltd
- Todd Engineering Ltd
- Toi Ohomai Institute of Technology
- Tomsoffroad & Custom Ltd
- Tonkin & Taylor Limited
- Total Industrial Limited
- Transport Design & Certification Ltd
- Transport Technology 2018 Ltd
- Transtech Dynamics Ltd
- Tray-dec (NZ) Ltd
- Triangle Steel Construction Ltd





# Our membership at a glance

- Tri-Guard Engineering Limited
- Tse Taranaki & Associates Limited
- Turnco Engineering Limited
- Two Degrees Mobile Ltd
- Universal Engineering Ltd
- University of Auckland & UniServices
- Valmont Coatings Ltd
- Verstoep & Taylor Ltd
- Vert-X Ltd
- Victoria University of Wellington
- VIP Steel Limited
- Voortman Australasia Ltd
- Vulcan Stainless Ltd
- Waikato Engineering Design Ltd
- Waikato Institute of Technology (WINTEC)
- Waikato Steel Fabricators (2015) Ltd
- Warren Engineering Ltd
- Watson Engineering
- Weld IT Ltd
- Welding & Engineering Ltd
- Welding Engineers NZ Ltd
- Weldtrade Engineering Ltd
- Weldwell New Zealand Ltd
- Wellington Institute of Technology (WELTEC)
- Westarc Engineering Ltd
- WFM Limited
- Whakatiki Engineering (1984) Ltd
- Wilkinson Transport Engineers
- Worley New Zealand Ltd
- WSP New Zealand Ltd
- X-Ray Laboratories Ltd
- Zigliani Technologies Ltd

## Gold 'Associate'

- A & S Engineering Ltd
- ABB Power Limited
- Action Engineering Ltd
- Active Engineering Ltd
- Advanced Plasma Technology Ltd
- Aimecs Ltd
- Airwork (NZ) Ltd
- All Steel Services Ltd
- Allwin Steel Enterprises
- ALRO Truck Smash Repairs Ltd
- Alstom Northern Wagons Ltd
- Angus Robertson Mechanical Ltd
- Apex Greenhouses Ltd
- APV New Zealand Ltd
- ATCO Controls Ltd
- ATI Engineering Ltd
- Awesome Awnings Ltd
- Axiam Engineering Limited
- Babcock (NZ) Ltd
- Bailey Engineering Ltd
- Baker Cranes Limited
- BBC Technologies Ltd
- Bedford Engineering Ltd
- Bernie Jordan
- Best Bars Ltd
- Bitumen Equipment Ltd
- Blake Steel Ltd
- Bradken Dunedin Ltd
- Brightwater Limited
- CALD Enterprises Ltd
- Calder Stewart Steel Ltd

# FY19



# Our membership at a glance

- Cambridge Welding Service (1953) Ltd
- Campbell Tube Products Ltd
- Canco Engineering Ltd
- CAS Enterprises Ltd
- CFM Engineering Ltd
- Chemical Industry Engineering Ltd
- Christian Church Community Trust
- Consolidated Engineering Company Ltd
- Contract Connections Ltd
- Cook Brothers Construction Ltd
- Courtney Engineering
- Croucher & Crowder Engineering Co Ltd
- Cuddon Limited
- Culham Engineering Co Ltd
- Del Engineering Ltd
- Dimond Roofing (Fletcher)
- Domett Trailers Ltd
- Donovan Group NZ Ltd
- Drury Construction Ltd
- DSK Engineering Ltd
- Duncan Agriculture Ltd
- Eastbridge Ltd
- Eastern Boiler Service
- Eastern Institute of Technology
- Ede Engineering Ltd
- EHL Group Ltd
- Engineering Contractors Ltd
- Enterprize Steel Ltd
- Etech Industries NZ Ltd (also Etech)
- E-Type Engineering Ltd
- Fairfax Industries (2011) Ltd
- Farmex Hawkes Bay Ltd
- Farmgear Ltd
- Felix Research Labs Ltd
- Fraser Fire & Rescue Ltd
- Fruehauf Limited
- Gamman Industrial Componentry Ltd
- General Engineering North Shore Ltd
- George Grant Engineering (GGE)
- Gisborne Development Incorporated
- GLG NZ Manufacturing Ltd
- Global Engineering Products Ltd
- Global Welding Supplies (GWS) Ltd
- GM Engineering Services
- Gray Construction Ltd
- Greymouth Petroleum
- 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
- Iain Codling Stainless Steel 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 Ltd
- Keith M J Adams Ltd
- Kerry Dines Ltd
- Lakeland Steel Products Ltd
- Laser Limited
- Laser Welding Ltd
- Linear Design Ltd
- Loader Construction Eng Ltd
- Longveld Ltd
- Mace Engineering Ltd
- Machine Part Welding & Engineering Ltd
- Maskell Productions Ltd
- MB Century Limited
- McEwans (Division of Cut & Fold Ltd)
- Metal Spray Suppliers (NZ) Ltd
- Michael Harris (NZ) Ltd
- Mike Christie Sheetmetals Ltd
- Millers Mechanical (NZ) Ltd
- Milmeq Limited
- Morgan Engineering & Marine Ltd
- Morgan O'Shea Engineering
- Morrow Equipment Co (NZ)
- Mouats Engineering Ltd
- MSC Engineering Ltd
- Mulcahy Engineering Ltd
- Multi Engineering Ltd
- Murray Landon Limited
- Necklen Engineering Ltd
- 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
- Pacific Timber Engineering Ltd
- Parr & Co Limited
- Patchell Industries Ltd
- Pearson Engineering Ltd
- Peninsula Engineering Ltd
- Phoenix Steel Ltd
- Piako Transport Engineering
- Pilcher Engineering Ltd
- PLP Electropar
- Port of Napier Ltd
- Pro Custom Concepts 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
- Rigweld Engineering Services Ltd
- RNZAF
- Roadmaster Trailers Ltd
- Rocktec Ltd
- ROTIG Ltd
- Ruakaka Engineering Ltd
- SAFE Engineering Ltd
- Seaview Engineering Services Ltd
- Select Engineering Ltd
- Service Engineers Ltd
- Shape NZ
- Sharland Engineering Ltd
- SHIPCO 360

# FY19

- Site Steel Ltd
- Skookum Technology Ltd
- Smartweld Ltd
- SMWT Ltd
- Snaga Industries Ltd
- Snorkel NZ Ltd
- South Pacific Industrial Ltd (SPIIND)
- Southern Cross Engineering Limited (SCE)
- Specialised Container Services Ltd
- Specialist Energy Engineering Developments (SEED) Ltd
- Stafford Engineering Ltd
- Stainless Down Under Ltd
- Stainless Steel & Aluminium Welding Academy Ltd
- Stark Bros Ltd
- Steelfort Engineering Company Ltd
- Steelpipe Limited
- Stud Welding New Zealand Ltd
- Superior Pak Ltd
- Taslo Engineering
- Tasman Engineering Company Ltd
- Technical Welding Services (1998)
- The Blacksmiths Ltd
- The School of Welding
- Tidd Ross Todd Ltd
- TP Mechanical & Engineering Ltd
- Track Industries Ltd
- Traction Lab Ltd
- Transfleet Equipment Ltd
- Transport & Engineering Ltd
- Trident 2000 Ltd
- Tru-Test DTS Limited
- Truweld Engineering Kerikeri Ltd
- Ullrich Aluminium Co Ltd
- Villa Maria Estate Ltd
- Wainuiomata Training Centre
- Waratah NZ Limited
- Warner Construction Ltd
- Webforge NZ Ltd
- Weld Fabrication Engineering Ltd
- Weld Tests Hawkes Bay Ltd
- Welding Services Nelson Ltd
- Welding Technology Ltd
- Wells & Boe Ltd
- Westside Welding Ltd
- Wilson Bros Engineering Ltd
- Wilson Precast Construction Ltd
- Windsor Engineering Group Ltd
- Windsor Group Ltd - Ipsco Division
- WM Ross Engineering Ltd
- Wyma Engineering NZ Ltd
- Zealsteel Ltd
- Zeanova Ltd

## Student

- Benjamin Hughes
- Hannah Wu
- Reza Hamzeh
- Wilbur Peters
- Abdul Altaf Imbrahim
- Behnam Zaboli
- William MengScott Rhodes
- Jack Hu
- Brandon Samountry
- Yeu Sheuan Khor
- Hayley Ngo





# Our membership at a glance

- Wen Jun See
- Lucy Douglas
- Zilong Zhang
- Eldhose Thoyalinkara Paulose
- Rajnil Rohit Lal
- Mike Angelo Dela Fuente
- Taruki Gunawardana
- Andrew Kelly
- Rakshith Natesh
- Siavash Nourani
- Tao Xiong
- Sarah Lydia Elizabeth Lewis
- Paul Siviter
- Nainesh Praful Chheda
- Setu Raman Agarwal
- Aathira Nair
- Jaynie Ng
- Benjamin Hemara
- Jason Liu
- Dylan Townsend
- Liam van Mechelen
- Spencer Johnstone
- Ryan Orense
- Meilyka Amir
- Justin Bayangos
- Amanpal Sagoo
- Pouya Pouladi

## Affiliate

- Leap NZ Ltd
- Blind Bolt Co
- HTC Ltd
- CoreBrace
- Downer Group
- Hawkins Infrastructure Ltd
- Fulton Hogan
- TBS Corporation Limited
- Vulcan Steel Ltd
- Fletcher Steel

## Reciprocal

- American Institute of Steel Construction
- American Welding Society
- Australian Steel Institute
- Australasian Corrosion Association (ACA)
- British Constructional Steelwork Association (BCSA)
- Bioenergy Association NZ (BANZ)
- Building Research Association of New Zealand (BRANZ)
- Canadian Welding Bureau
- Canadian Inst of Steel Construction
- Competenz
- Crane Association of NZ
- DVS German Welding Society
- Fire & Emergency NZ Library
- Japan Welding Society
- National Library of New Zealand
- National Steel-Framed Housing Association (NZ)
- NZ Defence Industry Association
- NZ Institute of Economic Research
- NZ Geothermal Association (NZGA)
- NZ Marine Industry Association
- NZ Marine Industry Association
- PreFabNZ inc
- Straterra inc
- Steel Construction Institute (SCI)
- Steel Construction New Zealand (SCNZ)
- The Manufacturers' Network
- Waikato Engineering Careers Association (WECA)
- Weld Australia

HERA House, 17-19 Gladding Place
PO Box 76-134 Manukau, Auckland
2241
New Zealand

**www.hera.org.nz**