HERA
innovation in metals

Automation for welding

A new service capability for fabrication.

Addressing the skills gap

HERA introduces 'Whanake' to make our metals industry diverse & attractive to youth.

Roadmapping the future

Exploring how we can address IP concerns, take advantage of export opportunities, and adopt technology advances.

MetalBase

February 2019

Contents

Cover:

A recent shot taken by our General Manager Industry Development, Boaz Habib on a member visit to NDA Group in Hamilton as part of the Innovation SET & Go program.

Overleaf:

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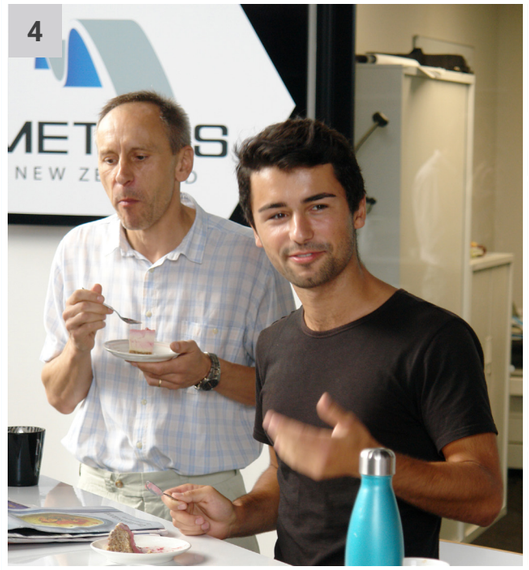


Connect to your industry, clients and stakeholders via social media!

It's a step in the right direction to market your capabilities, share major milestones and news and promote your projects. And the best part is, it's completely free!

We've been working hard to do just that - so, follow us today!

From our CEO, Troy Coyle

Embracing diversity in thought.

Together with SCNZ we hosted a visit from Australian Steel Institute and Weld Australia staff in February. These meetings were reinvigorated last year and we hold them twice yearly to share industry trends, learnings and programs across the ditch.

This fed well into our Strategic Planning Day held on 22 February. This year, we'll be making our high level strategy public and updating our Vision and Mission, We'll do this as soon as they've been finalised and approved by our Board. I think you'll see quite a shift in focus and greater inclusiveness of our members in generating that focus. You'll also notice new initiatives that are focused on greater support for our SMEs.

Part of the new services we are offering is the creation of innovation clusters. We've identified a number of areas through member feedback that are needing additional support and networking. The idea of the clusters is to facilitate this, by providing learnings across the industry on best practice, new thinking, shared experiences and more, as well as tailoring HERA support in these areas.

Our members are quite disparate in terms of the sectors they service but there are some commonalities. For example, some areas we've identified as being of industry-wide interest in relation to innovation are: automation (cluster managed by Holger Heinzel), HR innovation (cluster managed by Boaz Habib), and digital content innovation (cluster managed by Kim Nugent). We've also identified an emerging opportunity in defence (cluster managed by Michail Karpenko).

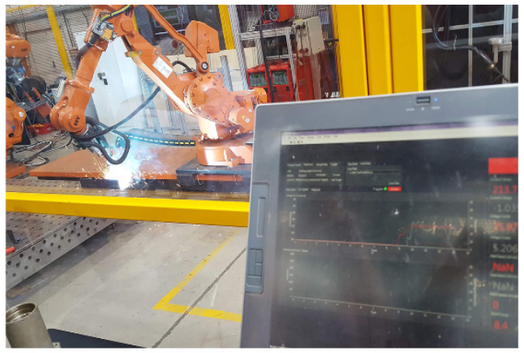
These clusters are a new initiative and we'll be setting aside funding to provide practical support for them.

Our Welding panel also met in February. Next month will be Industry Development & Structural Systems panel meetings. The increase in the welding levy commenced from 1 February 2018 and this has enabled us to start developing some exciting new initiatives within the welding centre. We can't wait to be able to share these with you… but they'll probably sound familiar as they're mostly ideas coming from our members!

New service available to HERA members interested in automation of welding

The University of Wollongong's Facility for Intelligent Fabrication (FIF) team in the robot workshop. From left: Nathan Larkin, Dr. Philip Commins, Holger Heinzel, Dan Gailer and Prof. John Norrish.

Our Welding Research Engineer Holger Heinzel in the UoW FIF robot lab.



Robotics in action.

Last month our Welding Research Engineer Holger Heinzel spent two weeks at the University of Wollongong (UoW) Facility for Intelligent Fabrication (FIF).

Gaining hands on experience on the latest technology. It's valuable insight that we can't wait to bring to our membership!

Whilst there Holger explored 3D scanning, virtual-reality assisted fabrication planning, CAD data driven tool-path generation, robotic cell setup, and 3D printing. It now means we're well placed to carry out automation and productivity audits.

And, as part of our commitment to develop out this automation support, we'll also be upgrading our own Welding Centre facilities to include robotic and industry 4.0 capabilities for research, demonstration and education purposes.

The UoW's FIF is a technology transfer centre providing support and industry advice. Their core competences are in the area of welding and robotic automation. For over 30 years, they've been at the forefront of their field, carrying out research to develop new ways to integrate robots into the fabrication chain.

Being part of the university eco-system, the FIF's research work is heavily supported by students, many of them at post-graduate level. The core team itself, consisting of highly enthusiastic people with a wealth of industry experience.

Programming and accuracy

The two main perceived challenges in robotic welding are programming time and the required accuracy of the setup.

A robotic arm for welding purposes usually has six degrees of freedom allowing a greater range of parts to be welded with optimum tool orientation. The addition of positioners or linear tracks can increase flexibility and increase the systems reach.

When it comes to programming, the multiple axes present a challenge to the programmer of the system. The tool of choice is often the touch pendant which is used to teach the robot where to go, point by point. A more elegant way is to use CAD data and a computer to generate the program for the robot.

Other systems also allow the robot to scan the work piece and identify possible weld locations itself. Based on this information, the user can select the seams on the screen, add weld data from a database and send the program to the robot. It's a great tool for companies with 'varying parts' small production runs which otherwise wouldn't be able to take advantage of the technology.

Traditional programming of a robot requires the parts to be located at precisely defined locations. The results are often expensive and complicated fixtures. Different technologies have been developed to alleviate this problem. Touch sensing is one of the lower-cost options to allow a robot to adjust its path based on the actual geometry of the part. More expensive systems use 2D or 3D visual sensors for this task. We'll certainly be delving more into these technologies and will share our findings with you when we do!

Virtual Reality (VR)

Now that the program for the weld job on hand is generated, it's time to verify that the robot is performing the required tasks. That is, that all the right bits are welded with the required settings and, of course, without damaging the part or the robot itself in the process!

Nowadays, it is possible to do all this without even leaving the office. A range of software packages are available to generate a digital replicate of the workshop setup and review the program. Throw on a pair of virtual reality glasses and the reviewing becomes truly immersive. This is also a great tool to communicate and discuss such programs with clients and customers.

Time to embrace the future

At HERA we know that automation of fabrication processes has been around for quite a while, and that our members are well aware of that. However, we're equally aware that there is a perception that the associated cost and time for programming doesn't make for a great business case. This is a perception we're challenging.

While this may of been the case when it first came on our radar, today we can see newer developments are changing the equation. We urge our members to look again so they don't miss the train.

That's why, we'll continue offering welding automation and productivity assessments to our members to identify fabricators and/or fabrication processes that they can automate. And, as mentioned, we're also planning to have a facility set up for robotic and industry 4.0 capabilities such as VR so we can demonstrate it's value first hand.

Interested to learn more and explore this idea further?

Join our Automation Innovation Cluster!:

This cluster allows us to coordinate services for like-minded members – developing productivity assessment programs for fabricators, exclusive opportunities, sharing of insights and more.

Simply contact our Welding Research Engineer Holger Heinzel to become an active member!

Meet Jing Cao - a Structural Engineer driven to solve problems

It's amazing what you get to learn about someone when you take the time to sit down and really chat.

My latest catch up with our Senior Structural Engineer Jing Cao was no different!

Growing up in Shanghai China – I think Jing was destined to be an engineer. Although as a youngster he was an avid reader (and amateur basketball player inspired by the NBA in the 90's!) – his true passion was always solving problems.

This may be something that many of our members can relate to!

According to Jing, in China's schooling system you must learn everything – but it was the logical and 'less emotional' aspects of physics that really drew his attention.

"There's something about the mechanics of it all and being able to see with your own eyes the challenge in front of you that I really fell in love with."

I also don't doubt that Jing's great grandfather being a famous master builder in his time probably had a big influence into his career path too! That, and strong role models in his parents who always encouraged him to follow his passions.

You see, Jing's parents grew up in a period when China wasn't open and was in the throes of the Cultural Revolution. In a time of displacement, his parents had to work extremely hard to gain social respect. There was also little support for education, which meant they weren't able to seek higher education until they turned 30 – something that his mother pursued with tenacity by studying for her English degree.

"My parents probably didn't even realise how much of a role model they were to me. For instance, seeing my mother learn English gave me the confidence to think 'if she can do it, so can I'."

The formative years of study

As a child, Jing went to a boarding school. It was regarded as one of the best schools with high competition to be selected to attend. So, its easy to see he had a very firm educational start!

From here, he headed to Tongji University – a school whose history can be traced back to 1907 with roots to Germany. It has a very strong reputation for civil engineering which sent Jing along his trajectory of becoming a Structural Engineer. "Learning about this field gave me a sense of achievement, and gave me a forum to excel. It's certainly what led to me heading to England on scholarship, to gain my PhD in Civil Engineering at Southampton University. Here, I was focused on shear capacity of pile caps and nonlinear numerical modelling for RC structures."

Jing eventually found himself in Australia with his wife – and before long headed to NZ, where he landed a role at HERA. "Working at HERA has been great as it has allowed me to work on the things that are outside of the 'traditional' sphere and to help others push boundaries, interpret data and develop standards."

"I've also grown a lot in my knowledge whilst I've been a part of this team. Expanding out my competencies to now include composite structures, structural reliability analysis and product development."

Leading R&D

Since Jing has been with us at HERA he's played an integral part in getting many of our structural R&D and consultancy projects across the line. Recently he took responsibility for a project co-funded by BRANZ and NASH to conduct a comprehensive study on the construction feasibility of light steel framed multi-storey residential buildings to solve the housing crisis in Auckland.

"To deliver this project well, I really had to step up and work in a different style. For me, ensuring all project partners were on the same page was my biggest challenge. The consultants and subcontractors were profit driven and wanted to build quickly, whereas the universities were more academic, technology driven and fastidiously focused on building accurately. Striking a balance was key."

Jing has also had a lot to do with conquering concrete shrinkage which is bit of a black box for structural engineers. He achieved this by designing software to help predict, check and validate behaviour by creating a convenient and user friendly platform. He's also worked with clients to launch their own products such as the ComFlor SR project. And, is currently part of a team effort to provide R&D to develop out composite steel in New Zealand.

The future looks bright!

Jing says there is nothing much that keeps him up at night and he's optimistic for the future. He firmly believes that no matter what happens, there will always be a need for engineers in the world… where artificial intelligence, augmented reality and the like won't replace him but instead, help to streamline work processes.

For him, so long as his family is healthy and well, he is happy. This sure is testament to some of the fundamental values that HERA lives by – particularly in terms of work-life-balance where we are committed to total wellbeing and safety.

"For me, my career has always been very important. I am really driven to continually learn, contribute to society and make a difference."

"As I look forward, I'm excited to see what the new innovations and technologies will mean for society and the work I do. So far they've made life easier and more convenient, and it's this thirst to continually improve that will keep our industry moving forward. It's just part of our culture."

HERA House has a prime office space available for rent!

A 14.5m² office space in the downtown Manukau district, it's a stone's throw from Westfield Manukau.

This space is ideal for independent workers who are looking to create presence in their business by developing a hub to operate from.

And, if you're in the metals industry - what better place to start than surrounded by like-minded organisations like HERA, Steltech, Metals NZ and SCNZ who are also based here!

Tenants also benefit with access to facilities such as meeting, seminar and conference rooms at discounted rates. This means you're able to host your key stakeholders on site to numbers up to 60 people!

Rental also includes kitchen facilities, tea and coffee, printer and network access (at a usage cost rate), one car park space and office furniture and storage. We're also willing to provide basic office support.

If you'd like to find out more, or register your interest – contact our Manager Member Services and Support Brian Low by phone at +64 9 262 4845 or by email brian.low@hera.org.nz

SAFE is on the move, and down scaling their operations. This means they now have manufacturing equipment looking for a new home!

Are you in New Zealand and interested in increasing your workshop capabilities with additional equipment offerings? Then this is an opportunity for you!

As rural farmland in South Auckland is developed to make way for Auckland's growth, the long-established heavy engineering company South Auckland Forgings Engineering (SAFE) must uproot and move. A task not easily done with presses weighing 100 tonnes!

That's why after 46 years, one of New Zealand's largest forging and heat-treatment plant, is downsizing their operations as they move to new premises.

SAFE has been operating in Drury since 1973, where the last seven years have been almost entirely solar powered - something that not many heavy industrial plants in the world can claim! But with a new town centre and thousands of homes to be built next door, their very comprehensive plant is being ring-fenced into smaller, simpler business units.

These business units are comprised of different types of forging, heat-treatment, metallurgy & failure-prevention training - and are being developed so they are more easily transferred to other organisations.

The work isn't disappearing, so who will deliver it?

General Manager Barry Robinson saying "The work SAFE does can't be done anywhere else in NZ."

"That's why I'm convinced the machinery simply must be relocated and skills grown to look after NZ's needs going forward - we just can't afford to lose this key infrastructure."

Their furnaces process many large fabrications for post-weld stress relief and a great many other types of heat-treatment such as solution-annealing large stainless work, hardening & tempering, normalising, and more.

In the next few months their biggest presses will be forging many tonnes of special large seismic bolts unable to be sourced elsewhere and one rudder for a very special yacht. They'll also be extruding several 5kg billets of titanium alloy powder into solid high-strength titanium alloy bar - something not done anywhere else in the world.

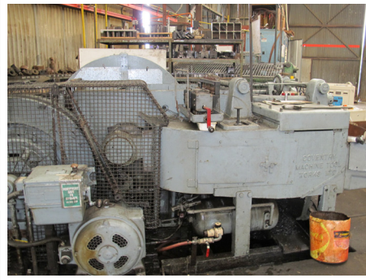
The titanium powder project is interesting and a little unknown. You see, not many people realise that NZ is leading the world in some key areas of additive manufacturing using powder metallurgy.

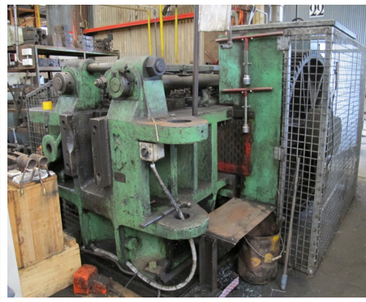
RAM3D in Tauranga also grew out of the titanium powder project and is now making full-strength 3D-printed metal parts in Ti64, 15-5-PH high-strength stainless, 316L stainless, and Inconel 718. And it all started because of a project to convert NZ's titanium reserves into valuable products for NZinc!

After these current jobs are complete, the big presses, forging hammers and heat-treatment furnaces will be looking for a new home. But the work for them isn't going anywhere.

No Kiwi engineer would want to see them go offshore, so SAFE is encouraging interested parties to contact them without delay.

For further info please contact Barry Robinson via mobile on 027 286 4722 or by email at Barry@safegroup.co.nz.





R&D project

The ‘Sky’ is not the limit – R&D into the feasibility of a Skycycle project in Auckland

The world is full of congested cities and Auckland is one of them. Public transport is a main issue and cycling on dedicated cycle paths is suggested as a solution by many including interest groups, city councils and governments.

Moving into the age of electric bikes and scooters you’d think large cycle path acceptance by commuters is a no brainer. But as reported widely, getting people on cycle paths and in line with business case predictions isn’t achievable. There are many challenges here, but the main ones are safety, accessibility and most of all susceptibility to bad weather.

This is where our SkyCycle project comes in. It aims to explore if creating weather shielded, dedicated cycle paths are a competitive option to building expensive roads such as a second Auckland Harbour crossing.

The Skycycle concept in a nutshell.

Firstly, this isn’t a new idea. London’s proposed Skycyle project by architect Norman Foster was one inspiration for this proposal. But by far the driver was the proposed Auckland Harbour Skypath receiving Government support via Transport Minister Phil Twyford.

In fact, with the emergence of electric bikes and a growing population looking for more sustainable and healthier ways of living, the chance for high usage SkyCycle concepts being realised has never been better. Danish research shows a one-way two-lane cycle track has the capacity of 3000 bikes per hour – indicating the potential to take 3000 cars off the road. By comparison the eight lane Auckland harbour bridge has a peak hourly capacity of 12,000 cars or 1,500 per lane, indicating that a two lane cycle way could replace two motor way lanes if used at capacity!

So, why aren’t these ideas more widely implemented and used? The two main issues raised by experts are projected usage versus cost and visual impact. It’s also very likely that cycle way commuting concepts can only compete with options like cars, buses and trains if it can be used reliably regardless of weather.

Road space availability is also at a premium and costly real estate. Moving into the third dimension “Sky” is the most obvious option.

With so many challenges, why bother?

Last year our Industry Development panel project Advisory Board assessed this Skycycle proposal. Progressing it through to our Executive Board who then approved a small exploratory project co-funded by the HERA Foundation to scope out the concept.

This is because this opportunity could be huge for industry. It’s estimated that for a fully enclosed mass-produced modular path with a one kilometre four-lane Skycycle, it could equate to a $15 million, 15-30k tonne development. Applied to the Takapuna – Northcote Birkenhead – Skypath – Auckland CBD transport line, we’d be looking at around 10 km of steel work at $150 million. This doesn’t even include the prospect for elevators, additional services, and export potential!

As a result, we believe many business opportunities for steel-based systems and construction could emerge. It’ll also position our industry strongly as a socially responsible think tank and solution provider as well.

With this in mind we’re carrying out exploratory research including a technical feasibility and first market acceptance study. We’ll also aim to find development partners and sponsorship to engage in the more serious planning phase.

Basic concepts to achieve cost effectiveness would be to build modular, large span, light weight, prefabricated and at a large scale. Using existing public land and areas above current transport routes such as lamp post corridors and road centre barrier space identifies a build zone that avoids major resource consent issues and space constraints. Innovation will be required to utilise restricted space such as clip in elevator access and bike storage solutions.

Key topic’s we’ll explore include:

- Can architecturally appealing solutions with minimal impact be found? This could look at integrating road dividers with potential quiet zones, adding elevated platforms for bike parking or social spaces, or installing vertical gardens and innovative street lighting. This could also include exploring new material combinations and design concepts.
- Can the extensive investment in the cycle infrastructure be justified? Consenting stumbling blocks and the large development costs will require a lean start up approach. Here, community will literally have to ‘come along for the ride’ to develop and realise the vision of the Skycycle.

An opportunity ripe for the picking?

The approval and realisation of several AT cycle path projects such as SeaPath, or the successful delivery of the Nelson Street LightPath and Grafton Gully cycle way, delivered by our members demonstrates steels potential in elevated cycle paths.

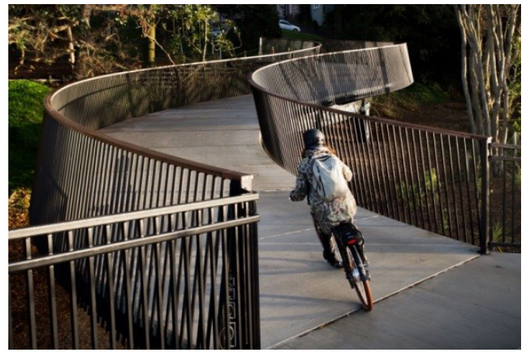
Now, the question that has to be asked is – can a network of covered cycle way options in the draw area of the proposed Harbour Bridge SkyPath significantly delay the need to build a second Auckland Harbour crossing?

If the answer is yes, investment in developing and realising this concept is easily justifiable.

That’s why, our SkyCycle Project Manager Wolfgang Scholz is seeking early feedback from interested parties or those against the idea – so a realistic first assessment can be made.

Provided outcomes from this are positive we’ll then hold an open workshop to explore the idea further. So why not come along for a ride in the Sky?

For more details contact **Wolfgang Scholz** on +64 21 945 159 or by email at wolfgang.scholz@hera.org.nz.



Boaz Habib | General Manager Industry Development
boaz.habib@hera.org.nz | +64 9 262 4753

What's the future of our industry?

If you think you're safe from disruption, then think again. Because by the time a disruptive change has overtaken us, we won't have time to react.

If recent history is anything to go by, our future will be full of change. Innovations in the digital space have already transformed us, and the rate of change has been exponential – this won't slow down.

It's what happened to Kodak when the digital camera disrupted them. It was an opportunity ignored because it would eat into their core business profits – and well, didn't that go down in history as a bad move.

Who rents movies from blockbuster these days? That's right, no one. Because the subscription-based business model of Netflix disrupted them. Blockbuster even laughed them out of their office when they offered themselves for sale in the early days.

Our industry has also seen the closure of some member companies in recent years.

Disruption is real and closer to us than we think

The 2018 manufacturing report by Ministry of Business Innovation and Employment showed that in New Zealand, the annual number of manufacturing firm deaths have exceeded births since 2007.

Manufacturing has had the lowest (0.2%) average annual labour productivity growth rate over the last ten years and the overall share of metals sector GDP (1%) is declining.

Closer to home, only 20% of our members are into export, and half of them aren't even sure about their future growth prospects. They tend to be mostly concerned about IP protection issues – but don't fully understand the changing IP landscape where open innovation is rampant.

A massive reversal needs to take place in these trends. We need to start by setting our sights on what our future could look like.

At HERA, we believe the urgency to plan for our future has never been greater due to rapidly changing market forces and new skills demands. That's why our vision is to future-proof our industry by addressing these demands, delivering innovative solutions, and connecting members to new ways of thinking.

We're actively planning for the future through a number of leadership programs and innovation cluster groups. These are focused on prefabrication, blockchain, Internet of Things (IoT), automation and smart materials. These technologies are already impacting our industry, and certainly have the scope to disrupt us more as they evolve. Think workshop machinery 'talking' to each other to increase productivity, blockchain revamping how construction contracts are managed, an automated robot workforce, or smart sensors giving early alerts to process malfunctions.

Our industry capabilities are spread across those busy firefighting in their day to day jobs, and those who are actively looking for the next disruption and upskilling accordingly.

Neither are wrong in what they are doing – one is just reactive and focused on the here and now, while the other is proactive and focused on the future.

What is our next move?

Last year had our first group of the proactive, future focused members attend our Innovation READY course designed to train members in how to be more innovative in their work places. It was a great learning curve which has led to us setting our sights higher and further – and we want the same for you too.

To support you, we'll of course be running our innovation course again. Kick starting the program this Thursday 13 June.

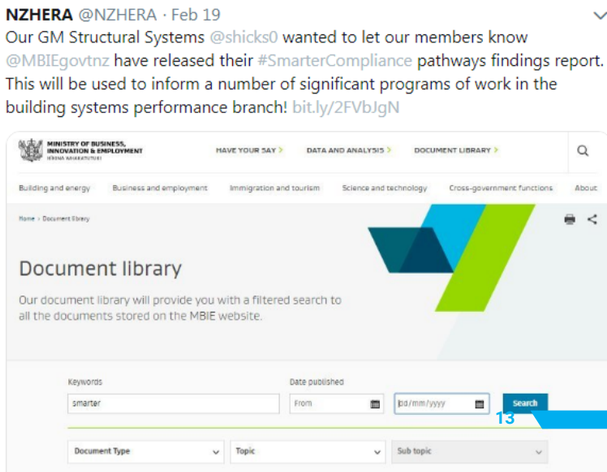
We're also targeting IP concerns, export opportunities and technologies – as more than 80% of our members aren't in this space. In the coming months we'll be planning a session with IP experts and NZTE to explore these ideas further and will also be running a technology road-mapping session to investigate what technology you should be making part of your future.

They're all simple ways you can start planning for your future – and we'll be there every step of the way to support you with the right solutions specifically designed for you.

What are you waiting for?

Be part of our industry future by:

- Registering for our next intake of Innovation READY
- Joining our technology & HR innovation clusters, or
- Exploring upcoming export opportunities.



innovationinmetals

innovationinmetals #flashback of our members @gge_nz and hawkins_nz work on #ProjectDART which was a step change in the

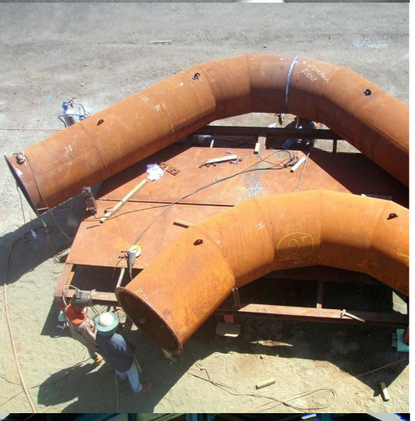
infrastructure of Auckland's rail network. It resulted in
the electrification of all passenger lines with a 25kVac
traction system for @kiwirailnz

Dart 1 Newmarket commuter #raillines saw key elements added in its project scope, such as new tracks and crossovers, and re-signalling to increase the physical capacity and flexibility of the junction.
It also included connecting it with the Grafton Station, situated 800m west of Newmarket, requiring #construction of a relatively short but technically difficult 1.5

Liked by **troy.coyle** and **16 others**

FEBRUARY 1

Add a comment...



innovationinmetals

innovationinmetals As part of the #environmental emissions upgrade of the #societelenickel (SLN) smelter in #Noumea the structures and mechanical air ducting for the Shaking and Bessemer Projects were designed in, and procured from, NZ for shipment and erection in New Caledonia.

Fabricating in NZ was economical, and the project's success showed the calibre of our steel design and construction expertise. Approximately 300 tonnes of ducting manufactured from Cor-ten plate steel, and 250 tonnes of structural steel for the towers and trestles to support them were shipped to Noumea. @becagroup #GraysonEngineering
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Liked by **troy.coyle** and **18 others**

FEBRUARY 7

Add a comment...

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innovationinmetals @tagoil #skids #gas #exchangers #oilandgas #fabrication #steel #construction #NZproject #nzmade #hiddenbeauty #buildingcommunities

Liked by **boazhabib** and **19 others**

FEBRUARY 13

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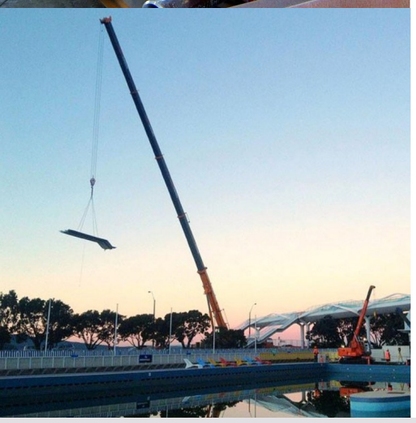

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innovationinmetals #PFSengineering #PFSmacarthur #crane #towercrane #build #towercraneclub #mobilecrane #towercraneoperator #towercranepics #towercranes #towercranelife #cranespotting #cranelife #cranepics #bridge #transportinfrastructure #howsthesunset #steel #strength #infrastructure

Liked by **troy.coyle** and **89 others**

FEBRUARY 19

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innovationinmetals Life gets better together. .
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#diversityagenda #collaboration #connecting #inspiring #respect #changingmindsets #HERArainbow #HERAqueenofgods #HERAvalues #ourpride @aucklandpride

lacidar_ecnarongi great

Liked by **troy.coyle** and **8 others**

FEBRUARY 4

Add a comment...

innovationinmetals

innovationinmetals #FitzroyEngineering had the job to load the $35 million #yollamodule aboard a heavy lift ship at Port Taranaki.

In one hour the 650-tonne platform accommodation module was loaded on to the Jascon 25 using the vessel's 800-tonne capacity crane. The biggest challenge being to ensure the centre of gravity on the Jascon 25 was perfect.
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Liked by **troy.coyle** and **17 others**

FEBRUARY 8

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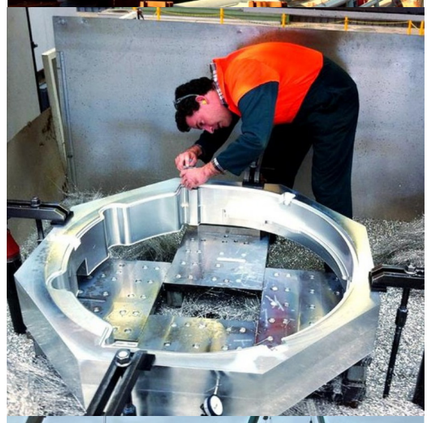

innovationinmetals

innovationinmetals #AIE #turbine component for their Esk Hydro project.
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Liked by **troy.coyle** and **17 others**

FEBRUARY 14

Add a comment...

innovationinmetals

innovationinmetals A fantastic shot from our member #BakerCranes - a manufacturers for a wide range of New Zealand industries for over 20 years!
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Liked by **troy.coyle** and **101 others**

FEBRUARY 20

Add a comment...

innovationinmetals
D&H Steel Construction

innovationinmetals Member visit to D&H Steel Construction - #impressiveworkshop 👀 | | #circa2011

Liked by **troy.coyle** and **8 others**

FEBRUARY 5

Add a comment...

innovationinmetals

innovationinmetals Construction of @manukau.institute - a purpose built campus in the heart of #Manukau which is an #environmentally friendly building designed by @warrenmahoney
At six storeys high with a central atrium it was constructed of #steel and delivered by our member @hawkins_nz
.
.
.

#construction #design #NZproject #membersuccess #proudaspunch #nzmade #kiwiingenuity #hiddenbeauty #buildingcommunities #propertyinfrastructure

Liked by **troy.coyle** and **20 others**

FEBRUARY 11

Add a comment...

innovationinmetals

innovationinmetals #steelisbeautiful - an amazing sculpture fabricated by our members #GraysonEngineering - @anish.kapoor #talltree #contemporaryart #innovationinart

It stands a staggering 15m tall - as high as the surrounding buildings - and consists of 76 highly polished #stainlessssteel balls that appear to bubble weightlessly up towards the sky. The mirror-like stainless spheres create consistently changing reflections of their surrounding
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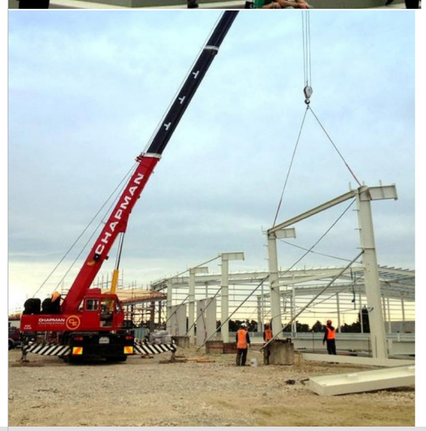
#construction #design #NZproject #membersuccess #proudaspunch #nzmade #kiwiingenuity #mirrors #beauty #solid #strength

Liked by **troy.coyle** and **12 others**

FEBRUARY 15

Add a comment...



innovationinmetals

innovationinmetals Our members #ChapmanEngineering who are based in #Christchurch constructing the #mitre10papanui
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#structuralbones #propertyinfrastructure #steelconstruction #construction #civilengineering #cranes #towercrane #build #towercraneclub #mobilecrane #towercraneoperator #towercranepics #towercranes #towercranelife #cranespotting #cranelife #cranepics #bridge #steel #strength #infrastructure #design #NZproject #membersuccess #nzmade #hiddenbeauty #buildingcommunities

abovendbeyondclothing Mind showing some love back to our page

Liked by **troy.coyle** and **72 others**

7 DAYS AGO

Add a comment...

innovationinmetals

innovationinmetals The #cantilevered roof of the South Stand at @edenparknz is supported by 16 large #steel box girders, #bracing and infill steel work which was supplied and erected by our member #GraysonEngineering as a contractor of @fletcherbuild
In total the project used approximately 900 tonnes of structural steel!
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#steel #construction #design #NZproject #membersuccess #proudaspunch #nzmade #kiwiingenuity #hiddenbeauty #buildingcommunities

Liked by **troy.coyle** and **16 others**

FEBRUARY 6

Add a comment...

innovationinmetals

innovationinmetals An #export #crane in our member #JJNivenEngineering workshop ready for shipment.
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#design #beauty #solid #structuralsteel #strength
#steel #construction #design #NZproject #membersuccess #proudaspunch #nzmade #kiwiingenuity #buildingcommunities #circa2012

Liked by **troy.coyle** and **15 others**

FEBRUARY 12

Add a comment...

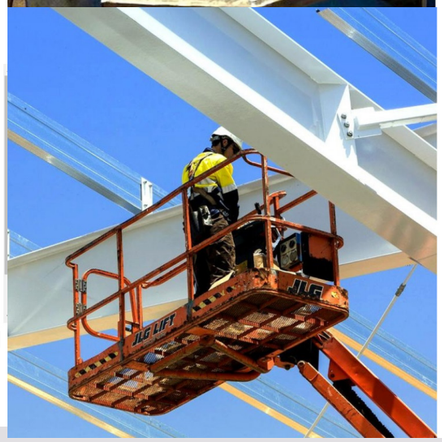
innovationinmetals

innovationinmetals #eastcoaststeelwork #welding #fabrication #steel #strength #structural #propertyinfrastructure #Christchurch

Liked by **jason.collins84** and **24 others**

FEBRUARY 18

Add a comment...



innovationinmetals

innovationinmetals With over 25 years experience in #Steel #Fabrication our members #JensenSteel have #fabricated #infrastructure in NZ with the best of them!
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#fabrication #hydraulicslift #workingatheight #cranes #crane #cranelift #structuralsteel #steel #construction #fabricator #constructor #civilengineering #building #build #structuralbones #heavyengineering # #design #NZproject #membersuccess #nzmade #hiddenbeauty #buildingcommunities #propertyinfrastructure #healthandsafety

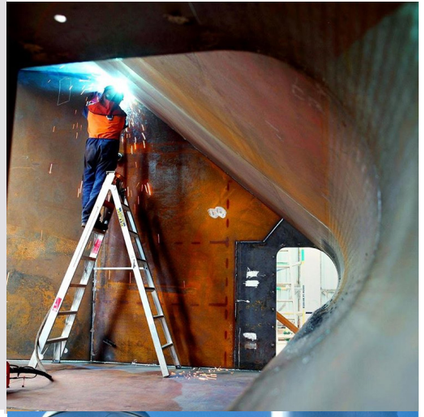
Liked by **jason.collins84** and **21 others**

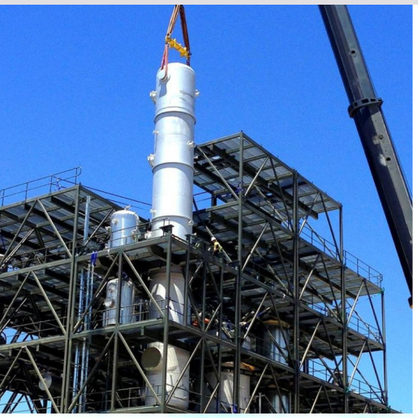
6 DAYS AGO

Add a comment...

Showcasing your projects to the world on #instagram

More from the grid





innovationinmetals

innovationinmetals #civilmadeeasy #architect #civilwork #building #exteriors #exteriordesign #exterior #builder #construction #civilproject #civilconstruction #civilengineering #civil #civilengineers #civilengineer #fieldwork #site #working #steelstructure #siteengineering #steelstructure #steelmanufacturing #steelerection #crane #build #cranespotting #cranelife #steel #strength #infrastructure

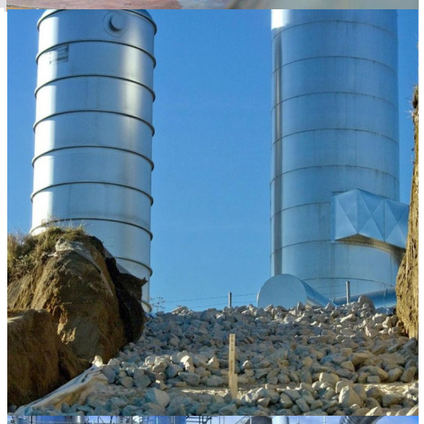
architecture_for_you Wow great page ♥ Check out my website if you are interested in doubling your IG followers!

chan.jerome

Liked by jason.collins84 and 79 others

3 DAYS AGO

Add a comment...



innovationinmetals

innovationinmetals #steel #construction #NZproject #nzmade #hiddenbeauty #buildingcommunities #civilmadeeasy #civilwork #building #builder #civilproject #civilconstruction #civilengineering #civil #civilengineers #civilengineer #site #working #steelstructure #siteengineering #steelstructure #steelmanufacturing #steelerection #geothermal #energy #rig #rigsystem #power #cleanenergy #renewable

innovationinmetals @advance_boiler_services - circa 2014

profection_sa

Liked by troy.coyle and 46 others

1 DAY AGO

Add a comment...

innovationinmetals

innovationinmetals #JensenSteel #steelisbeautiful #hues #design #beauty #solid #structuralsteel #strength #hiddenbeauty #welding #fabrication #artistichot #howstheangle #arcweld #fabrication #structuralsteel #steel #construction #fabricator #constructor #civilengineering #structuralbones #heavyengineering #design #NZproject #membersuccess #nzmade #hiddenbeauty #trickyspots #weld

troy.coyle Stunning

Liked by troy.coyle and 28 others

5 DAYS AGO

Add a comment...

innovationinmetals

innovationinmetals #steel #construction #design #NZproject #membersuccess #nzmade #pressureequipment #tank #stainlesssteel #beauty #solid #structuralsteel #strength #civilmadeeasy #civilwork #building #builder #civilproject #civilconstruction #civilengineering #civil #civilengineers #civilengineer #working #steelstructure #siteengineering #steelstructure #steelmanufacturing #steelerection #infrastructure

construction_web Theres alot of detail in this photo innovationinmetals

southernnrr Nice!

Liked by troy.coyle and 50 others

2 DAYS AGO

Add a comment...

innovationinmetals

innovationinmetals @downernz #steel #construction #NZproject #nzmade #hiddenbeauty #buildingcommunities #civilmadeeasy #civilwork #building #builder #civilproject #civilconstruction #civilengineering #civil #civilengineers #civilengineer #site #working #steelstructure #steelstructure #steelmanufacturing #steelerection #geothermal #energy #rig #rigsystem #power #cleanenergy #renewable #heitiki

Liked by migweld7 and 27 others

6 HOURS AGO

Add a comment...

Welcome to our new 'platinum' members!

- **Hilti NZ Ltd,** Auckland Product Supplier in construction system solutions
- **Betterridge Engineering Ltd,** Petone Fabricator in structural steel fabrication & installation
- **Henderson Structural Engineering Ltd,** Auckland Fabricator in structural steel fabrication
- **Ace Steel Beam Ltd,** Auckland Fabricator in supply and installation of structural steel to the residential market
- **Peninsula Engineering Ltd,** Auckland Fabricator in structural steel fabrication
- **J Dodds Ltd,** Auckland Consultant in heavy vehicle certification, transport consultancy and design

HERA innovation in metals

Innovation Ready, Set, Go!

A leadership program designed to prepare you for your future.

If you can answer 'yes' to any of the below questions, then this course is for you!

- Do you want to do more innovation, but don't know where to start?
- Are you being disrupted by competitor products?
- Do you need to change direction in your production development?
- Do you want to learn more quickly about what works and discard what doesn't?
- Do you have great ideas but don't know how to get them to market?
- Are you spending a lot of time on ideas that are going nowhere?
- Do you have a bureaucratic innovation process slowing things down?
- Has your innovation process gone stale and in need of a refresh?

What you get

Attending this course gives you exclusive access to world renowned speakers in areas of design thinking, innovation mindset, culture for innovation, innovation metrics, strategy, best practice innovation capabilities and more!

Why attend?

Focused on innovation, this program is based on lean start up principles and is an ideal vehicle to inspire entrepreneurship within your company so you can stop wasting time, get products to market faster, and maximise success.

Prepare a next generation of innovation managers for your company or become one yourself - by connecting with high quality presenters who are the perfect tool to help take your ideas to the next level and convert them into reality!

Dates for 2019

Innovation-READY - 6 days over 6 months

Day 1 13 June - Creating the innovation mindset

Day 2 11 July - The innovation process

Day 3 8 August - Innovating through ideation

Day 4 5 September - Innovation metrics

Day 5 31 October - Preparing an innovation strategy

Day 6 28 November - Building innovation & productivity culture

Innovation-SET and Innovation-GO

Following the completion of Innovation READY, attendees then have the opportunity to do Innovation SET and GO modules the following year.

This looks to put theory learned into action through strategic plans and support to commercialise an identified product using lean start up methodology.

This course is exclusively for our members only!

Start date: Thursday 13 June 2019

Location: HERA House, Manukau Auckland

Register online: www.bit.ly/innov-ready2019

HERA

For more information

Contact: Dr Boaz Habib

Phone: +64 9 262 4753

Email: boaz.habib@hera.org.nz

Driving discussions on diversity

Introducing ‘Whanake’ – a HERA Scholarship and step towards addressing the skills gap

At HERA we have a real commitment to help our members address the challenges that are facing them. One we hear often is the skills gap which is hindering our members from delivering what’s in their pipeline – particularly as we look to the future.

If recent history is anything to go by, our future will be full of change. Innovations in the digital space have already transformed us, and the rate of change has been exponential – this won’t slow down.

As a research association, it’s often hard to find a mechanism which sits within our remit to assist with this issue – but we’ve excited to say we’ve found one!

We’d like to announce the creation of Whanake – a HERA scholarship, in collaboration with the Māori Education Trust.

This aligns with our core target to extend our industry’s capacity by creating a more diverse and attractive industry to work within.

The future should be diverse

To further our aim to strengthen and extend our industry’s capacity, this scholarship is targeted to a female Māori student in their first year of a four-year Bachelor of Engineering degree (B.E ., or B.Eng). The scholarship comprises of an annual scholarship award of $5,000 and a paid summer internship (with HERA) over four years.

There is compelling evidence of the importance of diversity – particularly in Governance and leadership. But we won’t get diversity at these levels if we don’t get diversity amongst those coming through at the starting levels.

Whanake is a te reo Māori verb meaning to:

- Move onwards or upwards;
- Grow;
- Rise up; and
- Develop

We think it’s meaning is apt – and we see this growth and development going both ways. We’ll benefit from co-operating with the student in practical ways, and the student receives a yearly internship opportunity in return.

This will be a partnership

We’ve been thinking for some time on how to improve the attractiveness of our industry to future employees. It’s certainly a complex issue that needs to be approached from many angles. But we firmly believe our Whanake Scholarship is one way that we can work towards a more diverse and appealing industry.

We recognise that we don’t have a plan for improved engagement with potential Māori engineers. Creation of this scholarship is a first step toward developing a more comprehensive and multi-faceted strategy.

What we can see is that someone from our target audience for this scholarship will be perfect to lead the development of such a scheme, and give us a greater chance of success. That’s why we’re keen for the scholarship to be a collaborative partnership, with the recipient acting as a role-model and mentor to young Māori considering a career in engineering.

How will it work?

In order to be eligible for consideration, applicants must:

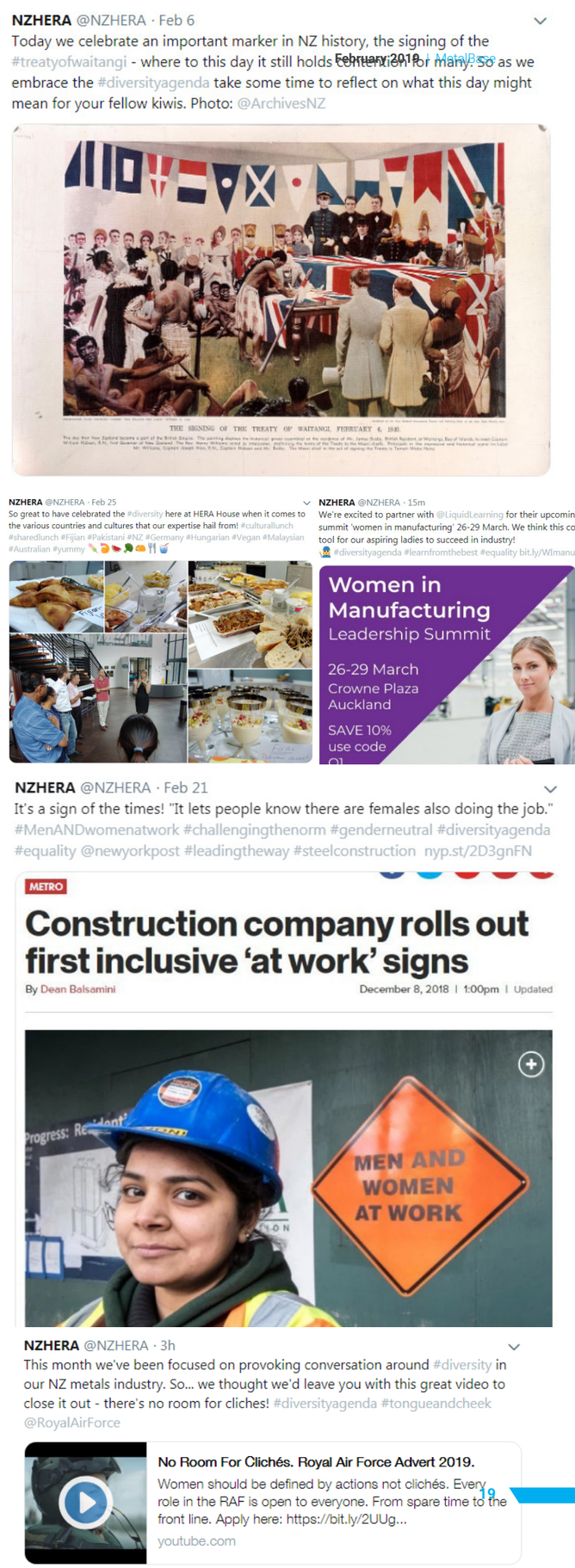
- be of New Zealand Māori descent;
- be enrolled at a New Zealand tertiary institute in 2019;
- be attending full-time study for the full year;
- meet the criteria for the scholarships applied for; and
- submit the application and supporting documentation on time.

Applicants for the Whanake – HERA Scholarship (undergraduate) must:

- be in their first year of a four-year Bachelor of Engineering degree; and
- must meet the contracted scholarship conditions.
- This is a fantastic opportunity for our industry to proactively start to address the skills gap, by making it clear that we’re looking to facilitate stronger relationships with our future engineers.

We’d like to encourage all of our members to share this opportunity within your relevant networks.

Applications must reach the Māori Education Trust by 4.30 pm, Friday, 26 Paenga-whāwhā (April) 2019.



Diversity dissonance – broaching a taboo topic

It's not often you'd expect a heavy engineering research association to talk homelessness. But, having recently discovered that three homeless people were sleeping in the undercover area at the back of HERA House – here we are.

The discovery led to some really challenging discussions amongst HERA House tenants on how to best deal with this.

And as diversity is a communication focus for HERA in February, we thought it worth sharing some of our early learnings.

The way we talk about homelessness

Homelessness is a serious issue and a hot topic amongst Manukau businesses. In the homeless count last year, it was concluded that there were around 800 people sleeping without shelter in Auckland.

It's not often that the homeless are referenced in a positive way. In fact, at the end of last year Business Manukau stated: "Most of our callouts are for antisocial behaviour, aggressive behaviour, threats, and refusal to leave the property from the twenty plus beggars who present themselves as the homeless in order to obtain cash."

HERA House is part of the Manukau business community. And it is a community with considerable difference on this issue.

Language is important and needs to be fair and factual. There are some genuine people in need. Even the people who have homes but still beg are living unenviable lives. We need to make sure they aren't vilified and that we are all acting in ways that give better support to them. We should be educated to give financial support to the agencies supporting people in need, versus homeless individuals – and food instead of cash to individuals.

A diversity challenge we hadn't considered

We all agreed that the safety and wellbeing of our staff was our number one priority. What we struggled with was what was our role in addressing the safety and wellbeing of the homeless people involved.

We had stories of how we had given homeless people food or transport but none of us knew what the process would be for these people to access ongoing services and emergency housing.

We also wrestled with some of the language, attitudes and inherent assumptions being applied to these people as we tried to come to a final decision on how to address this situation.

It is a taboo topic and probably our first responses were not well considered. This is understandable, as it's a topic that we usually don't give much attention to. Certainly, it was not one that we had previously identified as a specific hazard.

We didn't have considered thoughts. We didn't have great awareness of what the experience was like from the other perspective. And we didn't have knowledge about how to make the situation a fair one. We just started making decisions based on our experience.

Addressing our responsibilities

From a health and safety perspective, we'll be installing security cameras that have better viewing of the back area of the building. And, we've advised all staff not to enter the building in the morning from the rear door unless they've first checked that there aren't unauthorised people there. We've also implemented tighter door security measures, and have started to think about means to deter unauthorised visitors in the first place, such as fencing.

In terms of our corporate social responsibility, we've left a note to open up the communication lines between ourselves and these particular unauthorised visitors. We've made them aware that we know they're sleeping on site, but also that we have concerns around our staff safety and their safety too. We've taken this opportunity to also advise them of the process to get assistance from the nearest WINZ and Salvation Army support centres, and that we'd be willing to support them in this process if needed. We don't want to ignore their safety and wellbeing.

They haven't come back and we'll need to re-convene about next steps if they do.

We've also realised that we need to investigate ways that we can better support this part of our community. For example, maybe we can support the service providers better. We actually have one located right next to us, after all!

Addressing our diversity dissonance

This will require further work, discussion and information. We aren't in harmony – and it is clear that there are a range of negative assumptions that we make about homeless people. It's also clear that this isn't an aspect of diversity that we've really considered in great detail. This was remiss of us, given the location of our office and the fact we see homelessness regularly in our immediate vicinity.

This has certainly raised our awareness of how diversity is often considered in terms of gender, ethnicity, religion, sexual orientation, and thought diversity. Whereas, diversity of experience in terms of homelessness is not something we have given a lot of thought to and to be honest, we're still trying to figure out. This has been a diversity blindspot and we were caught out unprepared.

Diversity is a challenge and requires empathy. It also requires discussion and seems to inevitably involve the discomfort of initial dissonance. Hopefully and wilfully, this will lead to a greater level of harmony.

On this specific issue, we've learnt that there is a formal process to access support services. Individuals can help by supporting the agencies who assist homeless. It's also an issue that needs to be discussed more in the mainstream as clearly, it is not something many of us are very knowledgeable about. We also can't ignore that it's an issue that can have business impacts.

Like any aspect of diversity, it's useful to see things from the other person's perspective. In our case, it was important to consider if there was a way for the business imperative for health and safety to remain paramount while also finding room for compassion and empathy.

Can business imperatives and compassion co-exist?

We hope so, but know first hand the dissonance that comes with that.

Do you value your female staff enough to give them an opportunity of a lifetime?

We have a free ticket to the Women in Manufacturing Leadership Summit valued at approximately $3000 that we'd like to offer to an up and coming female in our membership.

If you see potential in one of your employees and would like to nominate them for this opportunity then we want to hear from you! After all, this is a perfect chance for you to upskill one of your team members without the financial outlay of the course attendance!

About the Women in Manufacturing Leadership Summit

It's a two day summit being held 27 & 28 March 2019 in Auckland, with a focus on unlocking capacity to innovate, overcome obstacles and pursue ambitions. There will be speakers from NZ Steel, Business NZ, Fonterra, Fisher & Paykel and more.

The winning nomination will be drawn at the beginning of March. We'd also seek to profile nominees and their companies as part of our yearly showcase of Women in Engineering. This way all who participate in this opportunity can draw some value from it!

Click here to nominate someone!

Please provide the nominees name, position and company they work at, as well as why you think they deserve the opportunity.

For more information:

www.bit.ly/WImanufacture

THE DIVERSITY AGENDA

HERA is proud to announce that we've signed up to The Diversity Agenda and committed to the goal: #20for2021.

To live by our values - we have to lead with them.

That's why joining Engineering NZ, the New Zealand Institute of Architects and ACENZ's 'The Diversity Agenda' was a no-brainer. We want our industry to be diverse so that we can innovative more. But we can't do that if we don't have a pool of diverse ethnicities, genders, socio-economic status, ages, beliefs and ideologies in our workforce.

Will you join the cause? Find out more here: https://diversityagenda.org/#!/up

We're here to challenge the status quo in engineering and architecture.

We're addressing the real issues that hold people back, like retention and promotion of women, equal pay and a modern work culture that benefits everyone.

At the Agenda's core is a clear target: 20 percent more women in engineering and architecture roles by 2021. It's a goal which gives all organisations something to commit and measure up to.

The leaders of tomorrow are waiting for you to act. Now's the time to start.

HS+E. Stand up and move: is sitting the new smoking or bacon?

Sitting for long periods is thought to slow the metabolism, which affects the body's ability to regulate blood sugar, blood pressure and break down body fat.

This makes it a serious health and safety consideration with emerging awareness of its impacts.

A range of studies show growing evidence for the serious consequences of pro-longed sitting.

For example, a study of 125,000 adults in the USA, found that people who sat the most were more likely to die from 14 different diseases. The survey found that those who sat six or more hours a day were 19% more likely to die over the next 21 years than those who spent less time sitting!

The 14 diseases were: cancer, coronary heart disease, stroke, diabetes, kidney disease, suicide, COPD (such as emphysema), pneumonitis due to inhaling something, liver disease, peptic ulcer and other digestive disease, Parkinson's disease, Alzheimer's, nervous disorders and musculoskeletal disorders.

"Risk was significantly higher for 14 of the 22 specific causes of death examined, and importantly, for eight of the top 10 leading causes of death in the U.S.," the American Cancer Society's Alpa Patel and colleagues wrote in their report, published in the American Journal of Epidemiology.

Put the health of your staff first

A workplace that supports staff to sit less is likely to improve staff health and productivity. It is generally recommended that people move for 1 to 2 minutes every half hour. There also appears to be evidence that being active for at least 60 minutes per day helps to combat the impacts of being sedentary.

There are a range of ways that employers can

encourage their staff to sit less. Most of these are zero cost to implement.

Employers should encourage staff to:

- Walk over and talk to colleagues instead of phoning or emailing them (this is better for staff relationships too).
- Use the stairs instead of the lift.
- Use a bathroom on a different floor.
- Go outside and get some fresh air during the day (also helps staff to get vitamin D).
- Substitute some daily sitting desk time with walking or standing.
- Set up individual reminders/prompts such as to stand up every time the phone rings.
- Stand up to eat lunch (or walk around the block during the lunch break).
- Schedule activity breaks into daily calendars.
- Walk to external meetings.
- Hold stand-up meetings.
- Walk, run, cycle or scoot to and from work.

Some simple actions that employers can take directly:

- Provide a stand-up reading area.
- Display posters that prompt staff to sit less and move more.
- Encourage the use of active transport (walking, running, cycling, or scooting) to and from work or external meetings.
- Put 'Standing meetings welcomed' signs in meeting rooms.
- Set up a lunchtime walking or jogging group.
- Put a high table with no seats in the lunch room.
- Centralise printers or office rubbish bins so staff have to get up to use them.

At HERA we've kick started lunch time soccer sessions and are exploring the idea of getting a badminton net, outdoor exercise equipment stations or a ping pong table as more low impact or solo sporting options to encourage our team to move more. To us, achieving a good work-life-balance forms one of our core values – so we're committed to finding ways to support this in our work environment.

NZHERA @NZHERA · Feb 5
What are you doing to #standupandmove in Feb as part of wellplace.nz's #healthandsafety challenge? Our team is trialing out lunch time soccer - & we're lucky enough to have the former Captain of the Iranian soccer team (turned #Steltech engineer) to school us up! 🚴‍♂️⚽🚴‍♂️

February was 'stand up and move more' month

Evidence strongly suggests that sitting is a health hazard, and there is no better month to address this than the last official month of summer!

Behavioural change and changes to office lay-out seem to be key ways to reduce sedentarism. As these changes are so simple and low-cost, it's no-brainer to implement them.

If you're interested to explore what other steps you can take during this month, information and resources at Wellplace NZ are a great start!

Get qualified to become a Welding Supervisor or inspector!

If you aspire to take your career to the next level - why not book in to our 'Welding Supervisor or Welding Inspection' courses.

Designed for those already working in the industry it delivers the learnings necessary for you to upskill and broaden your understanding of your current supervisory role.

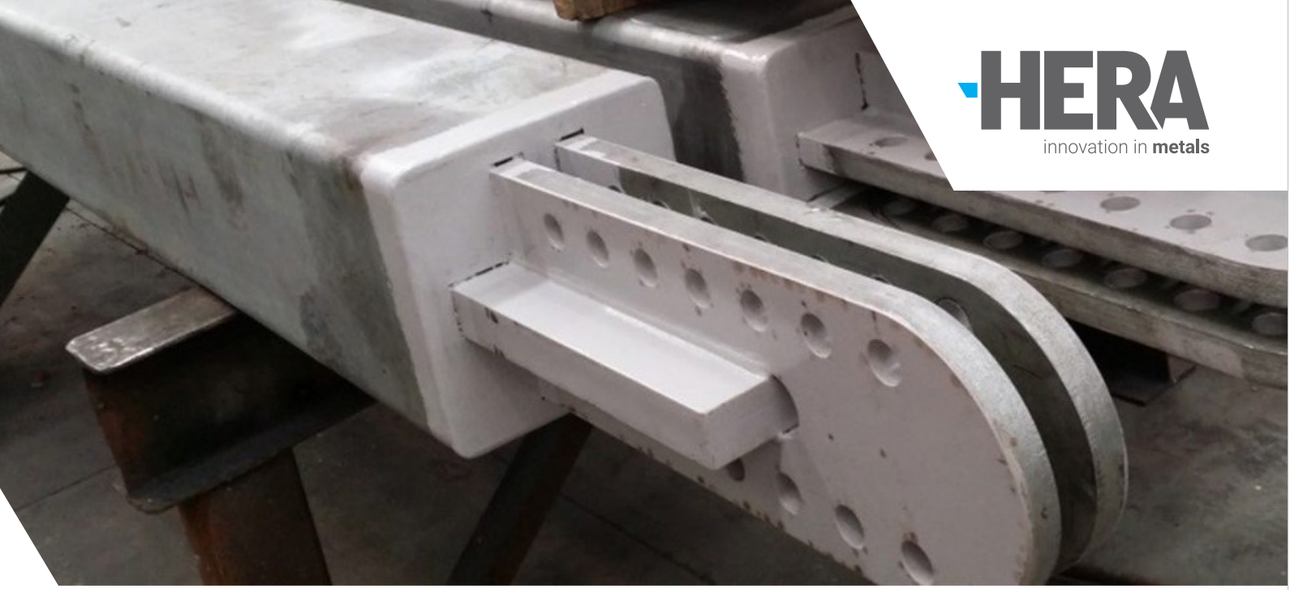
It's also perfect for those wanting to progress to a supervisory role, or get the necessary qualifications to become a welding inspector. Providing an in-depth understanding of quality management systems for structural steel welding and its associated standards, and the necessary metrics to meet SFC certification requirements.

Find out more

We're holding Welding Inspection Part 2 courses during May:

- Auckland: Part 2 IWI-B, 13 - 17 May, full day
- Auckland: Part 2 IWI-S, 13 - 22 May, full day

NB: There are limited spaces available and places book out quickly, so secure your spot as soon as you can!



HERA
innovation in metals

Having trouble getting your business SFC certified?

Our expertise at the SFC beginners workshop can help!

Now more than ever, getting yourself SFC certified has never been more important.

Why? Because the citation of AS/NZS 5131 on the Building Code earlier this year, means project specifications are increasingly calling for SFC certified steel constructors. Also, the unanimous resolution by SCNZ members late 2016 for all Steel Constructor members to become certified under the SFC scheme by 2020 means time is running out for fabricators to get aligned.

But this is a good thing! It signals a real industry commitment to reduce risk and ensure quality management systems are in place to consistently produce compliant products to a required standard. And, will ensure NZ fabricators within this scheme have a strong competitive advantage.

Why attend?

On the ground, we're hearing that Steel constructors are finding the SFC certification process overwhelming, time consuming or too costly to do. They need practical advice on where to start, and guidance to implement all the requirements correctly, effectively and efficiently.

That's why in collaboration with SCNZ we're offering this new SFC for Beginners Workshop – to meet this need.

Who can attend?

This is an exclusive course available only to NZ fabricators who are registered as both a HERA and SCNZ member (or are in the process of becoming one).

Cost

	1 person	2 people	3 people
HERA Ordinary (45% discount)	$225+gst	$390+gst ($195pp)	$540+gst ($180pp)
HERA Affiliate or Associate (15% discount)	$350+gst	$600+gst ($300pp)	$750+gst ($250pp)
Full price	$410+gst	$700+gst ($350pp)	$990+gst ($330pp)

Book today!

Auckland: **Fully booked, no seats**

Christchurch: Friday 15 March 2019

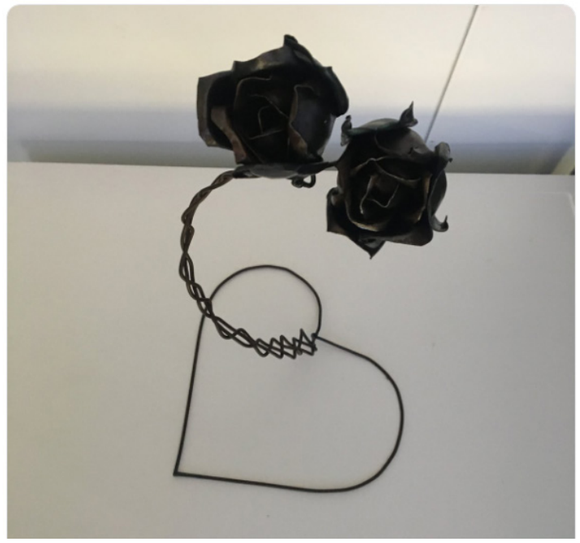
With support from:

SCNZ

For more information

Contact: Robert Ryan | Welding Engineer
Phone: +64 9 262 4842
Email: robert.ryan@hera.org.nz

NZHERA @NZHERA · Feb 14
Happy #valentines day to our members. In the romance of it all, here's a little creation from our Welding Engineer #RobRyan
#steelisbeautiful #hearts #roses #welding #sculpture ❤️🌹💘



NZHERA @NZHERA · Feb 21
Have you booked to attend our Welding Supervisor/Inspection Part 1 course in Christchurch, 11-15 March 2019? It's the perfect course to take your #Welding #qualifications to the next level! Secure your place ASAP as there are limited spaces available! 👮👮 bit.ly/event-hera

NZHERA @NZHERA · Feb 26
Time is running out to book into our Welding Supervisor/Inspection Part 1 course in Auckland 4 - 8 March 2019. It's the perfect course to take your #Welding #qualifications to the next level so secure your place ASAP - this course is starting next week! bit.ly/event-hera

NZHERA @NZHERA · Feb 15
A big farewell to our amazing #welding intern Jürgen Inkoferer who had his last day with us this week! We wish him all the best & a safe trip back home. Thanks for your contributions to our investigation into #quality of #structuralsteel #fabrication & IT platform developments!

NZHERA @NZHERA · Feb 18
Wow! So great to have hosted our first SFC beginners course here at HERA house. It was a great turn out with 26 attendees joining us to find out how to get their SFC system for #certification in place - one more session left to book in CHCH on 15 March! bit.ly/sfc-chch

NZHERA @NZHERA · Feb 27
Its that time of year when our divisions reassess their R&D focuses for the new financial year. Yesterday, our Welding Center Panel coming together to do just that, as well as celebrate the contributions of #PhilStacey who reached a major #milestone of 30yrs serving on the panel!

Welding centre updates

New resources now available in our online library.

Every month our Librarian Musarrat Begum will be letting you know about new resources available for your use in our digital library.

We're also always looking for suggestions on resources we should consider acquiring for our membership - so if you have something in mind, feel free to touch bases with Musarrat by email at mbegum@hera.org.nz or by phone +64 9 262 4844.

Structural systems

- Design of composite beams using precast concrete slabs in accordance with Eurocode 4. Couchman G - 2014.

Welding Centre

- The Master S-N Curve Method: an implementation for fatigue evaluation of welded components in the ASME B&PV code, Section VIII, Div 2 and API 579-1/ASME FFS-1 no. 523. Couchman G - 2014.

Industry Development

- Focus Framework: How to find product market fit - currency. Wilcox, J - 2016.
- Focus Framework: How to find product market fit - offer. Wilcox, J - 2016.
- Focus Framework: How to find product market fit - scaling. Wilcox, J - 2016.
- Focus Framework: How to find product market fit - utility. Wilcox, J - 2016.
- Ten types of innovation: the discipline of building breakthroughs. Keeley, Larry, Pikkel, Ryan, Quinn, Brian, Walters, Helen - 2013.

Information Centre

- Beyond commodities: manufacturing into the future. 2018
- Workplace exposure standards and biological exposure indicies. 2018.

Changes are happening that could affect the way you operate your business.

We need you to step up and share your views on them, so these changes are informed ones.

Addressing the skills gap?

The Government is proposing a reform on vocational education which will signal major changes in funding structures. In place of existing Industry Training Organisations (ITOs), such as Competenz, the Government is proposing to create "Industry Skills Bodies" (ISBs). It says ISBs will "extend the leadership role of industry and employers across all vocational education, including provider based vocational education".

From HERA's perspective, we aren't sure these recently announced reforms to training will deliver the right outcomes for our members - who of course, are the main stakeholder. We also believe the consultation period is too short given the massive structural changes proposed.

In a time of critical skills shortages, we don't want inertia and especially when we've been receiving feedback that the existing ITO process was just starting to work well.

So - is a dramatic change warranted? We aren't clear and need your feedback. We need you to prepare your own responses to the consultation paper. And, to let us know these views too, so we can include them in our own HERA submission.

Click here to tell us your views on the proposed reform.

For more information:

- **Read the 'reform of vocational education' technical discussion document.**
- **Read what Competenz thinks about the proposed changes.**
- **Contact our CEO Troy Coyle to discuss further on +64 9 262 4848.**

Improve your business significantly with Bottleneck Analysis

Find out how you can lift productivity through systems thinking to significantly improve delivery time, production lead time, cost, quality and excellence.

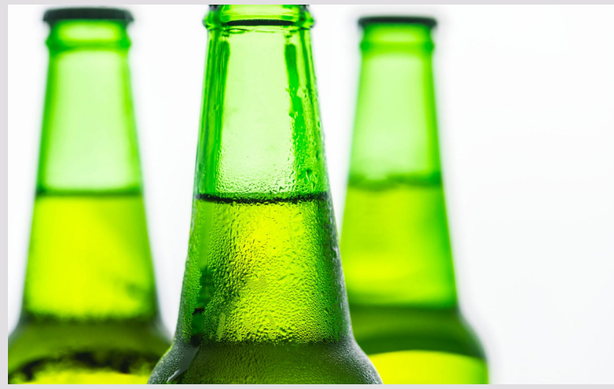
This two day workshop introduces the Theory of Constraints (TOC) concepts to attendees to give them a strong grasp of its application and potential.

TOC is a systems approach for the fabrication, construction, manufacturing, asset management and maintenance industries. It challenges some of the root beliefs that drives current measures and behaviours and offers powerful alternatives to existing methods.

It'll demonstrate why and how it's possible for the same factory, infrastructure, people and equipment to produce at least 20% more by doing things differently. Ultimately, attendees will be challenged to change the way they think, plan, measure and execute their operations. The physical work will be the same, but the way it is streamlined will be different.

Register today - spaces are limited! Click link below:

- Auckland: 10 - 11 June, full day
- Christchurch: 12 - 13 June, full day



HERA
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