

Beyond commodities

A timely report from MBIE that puts perceptions of materials bias into focus.

Transport infrastructure

See some of the great projects that our membership is delivering in this space!

Hidden values now transparent

Why you couldn't back a better horse if you tried. Find out how our Welding Centre takes every levy dollar, to give you 24 back.

MetalBase

May 2018

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Cover:

Welding in action at our member company Jensen Steel Fabricators workshop in Mt Maunganui, Tauranga.

Overleaf:

Images taken at a May visit to Associate Members NDA Group in Hamilton during a tour around their workshop facilities.

As fabricators of stainless steel and specialty alloy process vessels and heat exchangers for the dairy, wine and food processing industry - it's inspiring to see how they're hugely invested in innovation within their workplace processes, and product development.



From our CEO, Troy Coyle

During May we've focused a lot on quality - including the quality of our services.

We ran a Quality Seminar in Auckland, as well as seminars on Welding Standards Updates in Auckland, Hamilton, New Plymouth, Palmerston North, Christchurch and Queenstown. These were well attended by over 140 professionals.

We also launched our Innovation Ready program, which includes high quality international presenters. This is a five day program to develop best practice innovation processes and to change workplace culture. It's aimed at high potential staff at Senior levels and is available exclusively to members.

We currently have a \$200 early bird discount for that, and the first session will be held 29 June so please register now if you're interested in participating or would like one of your high potential team members to.

We're also pleased to announce the start of our new Information Services Officer, Musarrat Begum. She comes to us with extensive librarianship experience in the research sector and she is in the process of transforming our library services.

Our Welding Centre did some excellent work on quantifying the return on investment that it provides to our members; showing an impressive 24:1 return. The detailed results are available online.

This month I reviewed MBIE's 2018 Manufacturing Report, which shows the significant part that manufacturing

plays in the NZ economy. The report also demonstrates that manufacturing jobs in metals outnumber those in timber.

Work has also been done to prepare a response to the R&D Tax Incentive discussion paper "Fuelling Innovation to Transform our Economy" - suggesting that the definition required significant amendment to be more relevant to industry. We also welcomed the broad approach of the R&D Tax Incentive.

On a personal note, I was very excited to join Nanogirl, Michelle Dickinson, on a panel supported by the British High Commission to discuss how to attract more women to STEM. This is certainly a challenge for our industry that probably needs further consideration.

Overall, May was a frenzied time for HERA as we had a significant server backup failure. This meant that many of us lost email functionality, calendars and even some historical filed emails. We apologise for any impact this had on our communications with members. It was also a very good reminder to continually invest in office innovations!



Time to get connected!

Our industry needs to break the perception that we're traditional and behind the times.

If you don't have a social media presence - it's time to 'up' your communication game, and join the conversation. In fact, why not start by following HERA?



Beyond commodities

Manufacturing companies make significant contribution to NZ's BERD according to a report released recently on the state of manufacturing in New Zealand.

"Manufacturing Report 2018. Beyond commodities: Manufacturing into the future" identified that in 2016, national BERD was just \$1.6 million, with manufacturing accounting for 42% of that (\$671 million).

The report also identified that the metals manufacturing sector employs more people than the wood and paper sector – with 21,950 people employed in wood and paper manufacturing versus 29,000 in metals for 2017. This means metals employment was more than 30% greater than wood and paper.

However, while it's clear that our industry makes a significant contribution to New Zealand's economy and that our engagement in R&D is higher than the national average – its important to note we still fall behind global benchmarks and our own national best practice.

Metals = manufacturing tall poppy

The report also identified that the manufacturing sector as a whole contributes 12% of New Zealand's economy (\$23 billion). Put in context, this means metals manufacturing plays a key role in the success of our nations economy.

R&D activity was also reported to be more common in manufacturing firms than most others part of the economy. The NZ average percentage of firms reporting R&D activity was 9%, with 12% of metals manufacturing reporting R&D activity. However, this is below the average of manufacturing overall, with 19% of firms reporting R&D activity and the chemicals and refining classification reporting the highest activity, at 45%.

Our sectors reported activity in innovation was just



on the national average, with 49% of firms reporting innovation activity in 2015. The highest reported average was in the media and telecommunications sector, reported at 64% and the manufacturing average overall was 53%.

What is a really exciting trend is the growth in R&D expenditure per firm for the metals classification, growing from \$147,000 in 2008, to \$971,000 in 2016. The machinery and equipment classification reported the highest average manufacturing spend, at \$1.17 million per firm.

A timely report putting perceptions of materials bias into focus

We're very pleased that MBIE has released this report. It's very timely given Government's recent focus on supporting the timber industry (which we also support) - but also feel we need support too. The reported figures certainly demonstrate this.

In saying this, we also recognise that there is room for improvement. Our engagement in R&D, while higher than the national average, still falls behind global benchmarks and NZ best practice. Our commitment in innovation is lower than all other manufacturing sectors except wood and paper (48%) – and is something we certainly would like to see increase.

That's why we're taking action to assist our members to more actively engage in this space. We've commissioned BERL to undertake an economic study of metal's performance against Treasury's Living

Standards Framework. It's our belief that our metals-based industry is making a very strong contribution to the Living Standards of New Zealand – which is supported by the Manufacturing Report 2018, but we'd like to validate this with more indepth data.

Excitingly, some of our members have agreed to be interviewed by BERL's economists and we'll be sending a survey to assist in this assessment to you all in the near future.

Share your two cents' worth

Our industry makes a significant contribution to the New Zealand economy. However, while there are certainly some great case studies for innovation for our sector (like NZ Steel who were profiled in the Beyond Commodities report), the fact remains we're still falling behind in terms of our sector's participation in innovation activity.

Help us turn this around by sharing your perspective on the matter when our survey is sent out. If we're to improve the R&D and/or innovation capability of your company we have to understand clearly what is holding you back.

We've also taken steps to develop an exciting Innovation program which arms your leadership team with a key team player to mobilise and innovate your commercialisation strategy. Stop wasting time, get your products to market quickly and efficiently and maximise your success – it's as simple as investing in someone who has the potential to implement this approach into your organisation.

Our new Innovation Ready-Set-Go program is exclusive to our members and is specifically designed for our industry – boasting exciting international guest speakers and practical tools for implementation.

We're absolutely committed to upskilling our industry to close the R&D and innovation gap that has been highlighted. That's why as your catalyst for innovation we've stepped up to heavily subsidise this course for our members.

On top of this we've worked with NZTE to get this course fee further subsidised by 50% for those members with less than 50 full time employees on their books at time of application. We're also open to flexible payment schemes to work with you to forge a greater future in the long term.

For more information, please contact our General Manager Industry Development [Boaz Habib](#). Alternatively, [book your place today](#) – the first of five modules over five months kicks off on Friday 29 June, make sure theres a seat with your name on it!



H Heavy Engineering Research Association
491 followers
2w

We've been working hard to secure a great line up of speakers to deliver our Innovation READY-SET-GO program. That's why we're so thrilled to announce that IMS Projects [Adrian Packer](#) will be our course facilitator! Having run over 30 business transformation programs, he brings a wealth of knowledge to course attendees as a seasoned innovator with deep experience in the New Zealand manufacturing sector - working with companies such as [ARGUS HEATING LIMITED](#), [Goodman Fielder](#), [Allied Concrete](#) and our member Southern Cross Engineering. Don't miss your chance to learn from some of the best - register for our course today! <http://bit.ly/inovcourse>



H Heavy Engineering Research Association
491 followers
1w

If you thought our Innovation Ready-Set-Go program couldn't get any better – then think again! We've secured Australia's [Pia Williams](#) from [6th Sense Innovation](#) to deliver valuable insights to our attending members to help them unlock their innovation mindset and processes. Pia is no stranger to overcoming organisational barriers stopping them from doing work smarter having worked with reputable international companies such as [The Coca-Cola Company](#), [Austrade, Inc.](#), [Unilever](#), [Hasbro](#) and [BT Financial Group](#) to name a few.

Come on, what are you waiting for? Register today and improve your innovation game. <http://bit.ly/inovcourse>



May news

Hidden values now transparent.

If you're a user of HERA's New Zealand Welding Centre (NZWC) you'll have a good idea of what this service is worth to you. But can you put it into dollars?

It's ok if the answer is 'no,' because we couldn't either. Especially when more broadly investigating value created through improved products, services, quality, productivity and reduced rework.

That's why we decided to try put a figure on it – and you'll be surprised what we found! In a nutshell your industry levy from welding consumables gave you a conservative return of investment of more than 24 times what you put in!

NZWC's role

As part of HERA, NZWC provides a wide range of services to industry and members across New Zealand.

Providing technical advice, R&D, standards development, training and education, certification via HERA Certifications Ltd and support for general industry promotion and advocacy.

We're also New Zealand's representative as one of 56 other countries of the International Institute of Welding (IIW) and are actively involved in numerous initiatives to improve our industry's competitiveness.

Our strategic planning has streamlined our activities to four areas:

1. research and development;
2. education and training;
3. certification and verification; and
4. technology transfer.

And, to deliver valuable outcomes and continuous improvement in these spaces, it's essential a feedback loop is established to quantify value in financial terms.

Establishing the baseline

The methodology used to establish NZWC's dollar value is based on the estimated direct benefits to our members and the wider industry using assessment models leveraged by international and reciprocal member organisations such as UK based TWI, Australian WTIA and IIW.

In our evaluation we limited our review to services delivered between 1 July 2017 to 30 April 2018. Actively excluding several outcomes such as R&D projects and also accepting we're yet to complete the current year.

“The outcome was a conservative estimated ratio of 24:1. In other word for every industry levy dollar, \$24 in value is created.

These findings allow us to say with great confidence investing in our activities directly and through the research levy pays industry back handsomely.

We know at first glance this ratio sounds overly optimistic especially if compared to return of investments for new machinery for example.

But when you scratch under the surface, it's clear you've been able to access a lot!

We've delivered:

- More than 1200 technical enquiries, company assistance or consulting.
- Five technology forum seminars and workshops with 275 expert attendees.
- Welding supervisor and inspector courses to 85 students
- AS 2214 Welding Supervisor certification to 41 students
- Welding Inspector qualifications to 14 students
- 28 SFC audits via HERA Certifications Ltd

- Nine research papers and guidance notes
- Four technical standard reviews
- 1000 training modules to training providers, and
- We also have ongoing works for four major R&D projects on our books.

What does this all mean for you?

This work to measure our value not only assists us to better understand what activities give the greatest return but allows us to prioritise funding and be accountable to our members, Government and key stakeholders. For more information, please contact our General Manager Industry Development Boaz Habib. Alternatively, book your place today – the first of five modules over five months kicks off on Friday 29 June, make sure theres a seat with your name on it!

This is important to explore following the recommendation from our industry member based Welding Centre Panel and HERA Executive approval to increase the levy on welding consumables from 5, to 10 cents per kilogram. This comes after 16 years of the levy staying static despite inflation and increasing service pressures.

Currently in the consultation phase for this increase, we believe the change will be supported given it'll create additional annual funds of \$200k – translating to \$4.8 million in benefits to our industry.

Let's be clear – cost and value creation are key tools to measure performance for any organisation. Having just gone through the process ourselves, the outcome confirms that investing industry money via a levy on welding consumables makes economic sense. The returns sound better than putting money in the bank or in an investment property at a 1:24 ratio!

Delve into our findings deeper

A big part of this research was a result of a membership survey sent out to a cross-section of our Welding Centre users ranging from welders, to supervisors, inspectors, engineering consultants and more.

This feedback was invaluable to understanding how you interact with us and confirmed the value we provide as a result of the levy we're supported by. Special congratulations must go out to Unitec's Rhys Davey and Culham Engineering's Grant Withers who won the two camera's that were up for grabs.

#Welding #SocialStream

NZHERA @NZHERA · May 17
Users of #NZweldingcentre services gave us feedback in a survey on the value of what our team's work for members, with a chance to win 2 action cameras. The winners are Rhys Davey @UnitecNZ and Grant Withers, Culham Engineering! Drawn by NZWC GM Michail and consultant Wolfgang



NZHERA @NZHERA · May 8
It's not every day you get the chance to make contact with a world renowned expert like @UMich Prof. Pingsha - but that's all about to change because he'll be here in NZ for 3 exclusive seminar dates in July! #WeldedConnections #Seminar #AKL #WLT #CHCH bit.ly/pdongakl



Want more information?

If you're interested in our approach used to assess our value, be sure to contact our General Manager Welding Centre Dr Michail Karpenko at mkarpenko@hera.org.nz

And of course if you're a levy payer we'd welcome your support to increase the levy when we call for your vote. This voting paper will be sent shortly.





HERA
innovation in metals

Hidden value now transparent

124 survey participants across a cross section of users told us...

FOR EVERY
levy dollar,
our Welding
Centre delivers
you in value:

\$24



Of those who responded:



16% were on the shop floor

42% were managers

42% were professional engineers or technical



ONLY 14% Of respondents weren't members. And of them, 63% didn't know they were entitled to free Associate membership as a welding consumable user as part of the welding levy

TECHNOLOGY TRANSFER

82% use our free technical advice for work

52% use, or plan to use our SFC technical support

CERTIFICATION VERIFICATION

Across NZWC's strategic focuses

85% use, or plan to use our services in EDUCATION QUALIFICATION



94% use welding related standards



HERA

For more information
Contact: Dr Michail Karpenko
Phone: +64 9 262 4849
Email: michail.karpenko@hera.org.nz

As part of HERA, our New Zealand Welding Centre (NZWC) provides a wide range of services to industry and members. Providing technical advice, R&D, standards development, training and education, certification via HERA Certifications Ltd and support for general industry promotion and advocacy.

Changes to welder qualification standards

The recent series of "Welding Standards Update" seminars held in Auckland, Hamilton, New Plymouth, Palmerston North, Christchurch and Queenstown were a great success with more than 140 professionals attending the seminar series.

Covering issues around welding and fabrication standards AS/NZS 1554.1:2014 Structural steel welding – Welding of steel structures and AS/NZS 5131:2016 Structural steelwork – Fabrication and erection attendees were able to get an overview of their responsibilities under this standards requirements.

Attendees were also taken through a session on the newly revised welder qualification standards AS/NZS 2980:2018: Qualification of welders for fusion welding of steels and AS/NZS ISO 9606.1:2017 Qualification testing of welders – Fusion welding Part 1: Steels adopted as an Australian and New Zealand standard. A mechanism helping to stay up to date with the latest changes to ensure their work is adhering to guidelines stipulated.

Both standards are referenced in AS/NZS 5131 as the requirement for qualification of welders – where these changes to the above standards were shared in discussed our November 2017 article 'Update – AS/NZS 1554.3:2014 A1 Structural steel welding – Part 3: welding of reinforcing steel amendment.'

The feedback received from the seminar attendees revealed that the wording of some sections can be ambiguous to our industry. In addition, strong views were expressed that a specific guideline should be developed for the industry that clarify some of the issues.

The aim of the guideline is to level the playing field to the benefit of the parties involved:

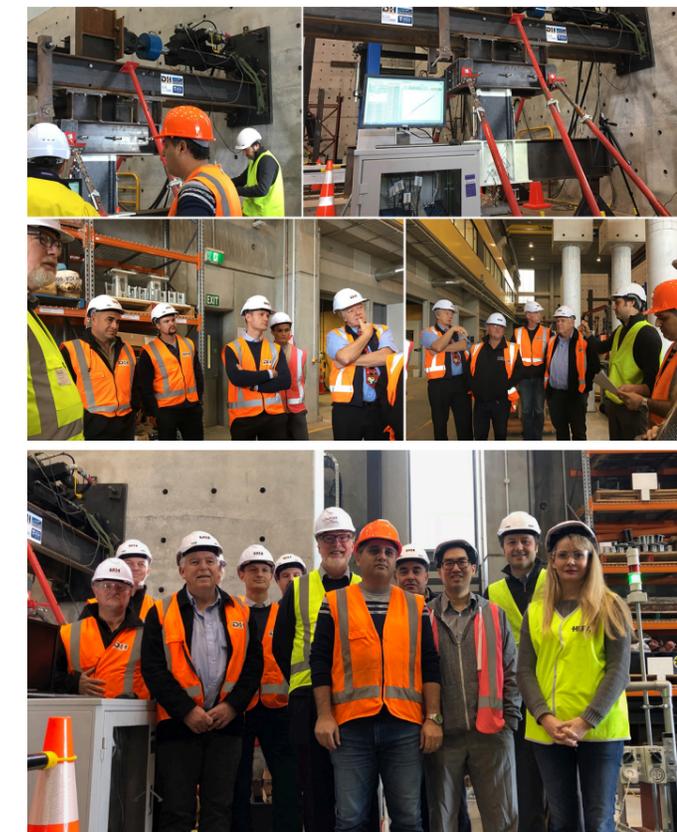
- the examiner/examining body,
- the manufacturer/fabricator,
- the welder, and
- importantly our clients be it the "principal", the inspection body, or the engineer/designer.

Author

Alan McClintock | Senior Welding Engineer
alan.mcclintock@hera.org.nz | +64 9 262 4840

Seismic testing

This month our HERA Foundation Scholar recipient from the University of Auckland Hafez Taheri ran his 5th seismic test to improve our understanding of the performance of welds subject to earthquake loads. This research project is leading to optimised design of steel framed buildings and is sponsored by D&H Steel and Grayson Engineering.



Have demand for the guideline?

The idea is to establish an Industry Working Group to create a guideline, and possibly a welder database along the lines of the Australian Welder Certification Register. Compliance to such a guideline could only be voluntary, however with sufficient stakeholder support it would be a very useful industry benchmark.

In order to identify the demand for the guideline, we're asking our members to complete an online survey to inform this process.

Click here to do our survey: <http://bit.ly/nzwcsvr>



Want to win a Sony HD-AS50 video camera? Answer our membership survey!

We're on a mission to know you better - and part of that means updating our data we have about you! Will you help us?

We're all about our members and how we can add value to your business processes and assist in your future sustainability through innovation. But a fundamental part of achieving that is understanding you better in terms of your needs, position, and desired outcomes for your organisation.

This will help us define our value offerings, so that going forward we're addressing the right needs of our industry to serve you the best we can. The last time we did a survey like this was 2014 - and as you know, a lot can change in this time frame, so we're long overdue to check our industry pulse!

All it takes is a nine minutes of your time, which will also secure the chance to enter into a draw to win one of two Sony HDR-AS50 HD action video cameras with underwater housing.

Click here to
complete our
survey!

<http://bit.ly/indvsurv>

For more information contact:

Dr Boaz Habib

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

Are you looking for a place to call home?

**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.

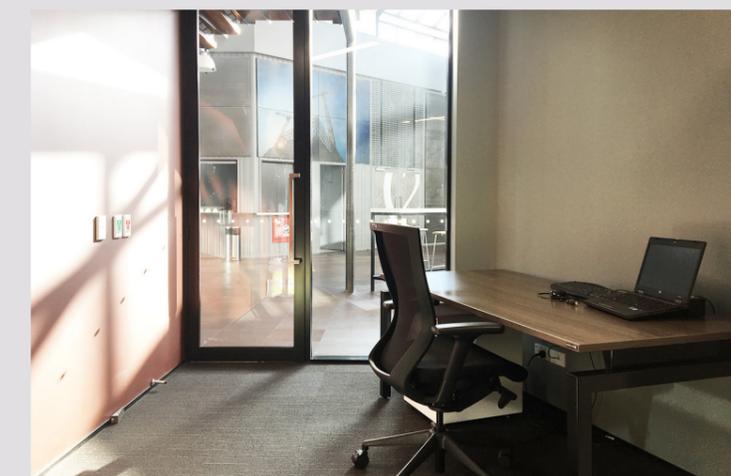
This space is ideal for independent workers who are looking to create presence in their business by developing a hub to operate from.

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



HERA adds value to our information services with our new librarian

**We're excited to announce the start of
a new team member to our Information
Centre this month - Musarrat Begum!**

She'll be offering support to our membership through her role as librarian as well as divisional support for health and safety.

She brings with her a wealth of knowledge, holding a masters in Library Information Studies and degrees in teaching and education. She's also a professionally registered member of LIANZA - the Library & Information Association of New Zealand Aotearoa.

Manager Membership Services and Support Brian Low said "Her experience working in larger libraries of educational institutions such as Unitec, Auckland University, Massey University and Manukau Institute of Technology will be a real strength to HERA and our hopes to build up our resource offerings for members."

"We believe this, coupled with her strong skill base will also add value to each division's scope of work. Particularly in terms of our various programs, such as the ANBCC and business research panel projects



which are focused on delivering opportunities to our New Zealand metals-based industry."

"Her proficiency in knowledge sharing really stood out to us. It will ensure we're able to keep our staff up-to-date with the latest copyright legislation, information management and more. And, thanks to her language and research skills, she'll also be able to assist our staff in their work too - ensuring they have more time free to dedicate to our members," he said.

Musarrat's exposure to the academic environment has also served her well in helping her work easily with diverse cultures and backgrounds, so we are sure she will fit in well with our equally diverse and driven team.

The timing couldn't be better for her to start at HERA.

As we work to develop and streamline our digital resource capabilities and process for our members, so they're able to search our extensive library database for information that may inform their works. As a catalyst for innovation this is really important for us to achieve. We want our industry to be armed with the latest updates, standards, guidelines, best practice and research so they can push 'conservative' boundaries for their clients to deliver novel, efficient and cost effective solutions.

On asking Musarrat how she felt about her new role, she said "It's really exciting to be part of a leading organisation in research and development of steel based engineering projects."

"I'm confident my experience and knowledge in librarianship, skills in academic research resources and methods will contribute to the success of HERA's projects. I'm also a proponent for our clients, staff and workplace health and safety wellness and hope to promote, inform and advise in these areas as opportunities arise."

"I believe working at HERA will be a most rewarding experience for me as it will offer a challenging and professionally stimulating environment to work in."

Author

Brian Low | Manager Member Services and Support
brian.low@hera.org.nz | +64 9 262 4845

#SocialStreamMay

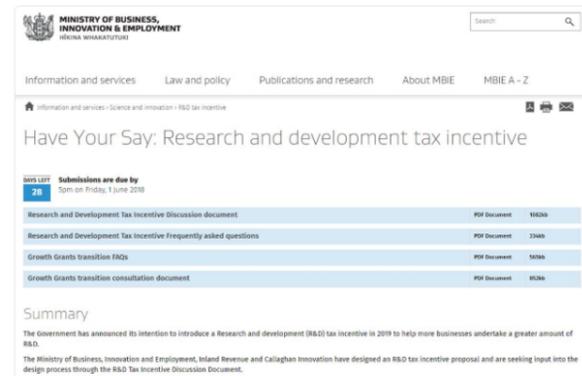
NZHERA @NZHERA · May 1

Our executive is amazing - & we're so proud when we get to see them in action! Last month our @DrTroyCoyle did just that! Spotting Chief Exec Manufacturers Network #DieterAdams chairing a panel in collaboration with @MBIEgovt.nz @callaghannz @EMA_Nrthn & attended by @DavidParkerMP



NZHERA @NZHERA · May 10

The Government has announced its intention to introduce a R&D tax incentive in April 2019 to help businesses undertake a greater amount of R&D - but they need your input! Submissions close Fri 1 June, 5pm - shape our future & have your say bit.ly/rdtaxincent



NZHERA @NZHERA · May 3

Last week it was great to have a chance to pop in & see one of our local members - ABS (Advanced Boiler Services). They're a great example of a business expanding their reach from Hamilton to Auckland, by developing a sales arm that compliments their manufacturing capability!



NZHERA @NZHERA · May 15

Metals NZ CEO #NickCollins has been busy advocating for our metals industry. Recently raising a flag to the wood-first policy. It's great - but what will be the cost consequences of imposing this on the construction sector when its already constrained? bit.ly/mnzwood



NZHERA @NZHERA · May 3

It's great to have a number of professionals working in or dealing with the NZ metals-based industry here at HERA today. Our lead team is delivering a seminar on the cost of quality - to better inform them around dealing with structural steel & the standards applicable to them.

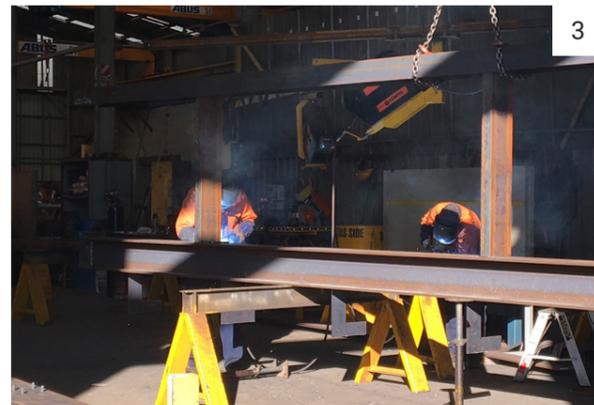


NZHERA @NZHERA · May 24

Some great advice via #Southerncross tackling the importance of #worklifebalance - The fast pace of modern life has come at a cost, so it's time to encourage staff to #EatWell #sleepwell #movewell #thinkwell - their productivity will go through the roof! bit.ly/2J0Sd3n

NZHERA @NZHERA · May 24

Our @DrTroyCoyle has been raising awareness of industry issues, last week was one close to her ❤️ - achieving equilibrium in #STEM. Hosted by @UKinNZ @bnzba @AUTuni it celebrated NZ & UK's 125 & 100 yrs of #womensuffrage w. panelists @medickinson @SheSharp_NZ @VectorLtd #Babcock



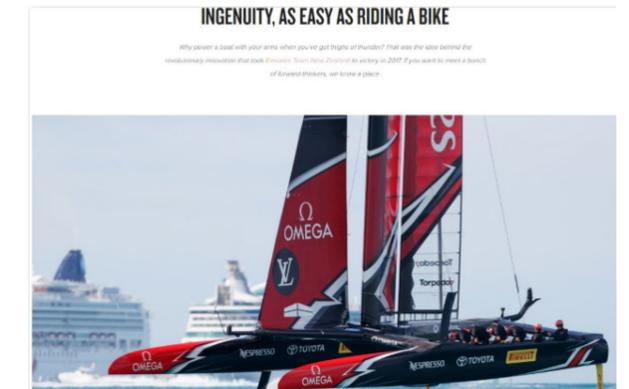
NZHERA @NZHERA · May 17

There's nothing more inspiring than heading on a member visit to see how seriously they take #healthandsafety in their work culture. Recently our CEO @DrTroyCoyle & GM Industry Development @BoazHabib headed to @McConnellDowell and saw this first hand - #HomeWithoutHarmEveryday 🙌



NZHERA @NZHERA · May 29

'Ingenuity as easy as riding a bike' - an amazing read from @theNZstory on #innovation that drove #EmiratesTeamNZ to victory at the #AmericaCup - thinking outside the box is something we encourage our members to do if they want to stand out from the rest! bit.ly/2x49vln



| 1 | Visiting Managing Director Pam Roa at Longveld, Hamilton **| 2 |** Steel conformity in full display at Modern Construction Hamilton while on tour with Managing Director Phil Counsell **| 3 |** Welders hard at work at Jensen Steel Fabricators, Tauranga on this months visit with Director Greg Jensen **| 4 |** Heavy machinery in action at BOP Gear Cutters, Tauranga with Managing Director Bill Ross.

H&S+Environment

Author

Kim Nugent | Manager Marketing & Communications
kim.nugent@hera.org.nz | +64 9 262 4759

#roadsafetyweek – why should you care?

Like many organisations, we want to ensure that our team gets home safely after their day's work. Raising health and safety awareness is a fundamental step in ensuring that happens.

The heavy engineering metal-based sector is full of hazards in workshops that must be managed and controlled, but driving is an unsuspecting one that often flies under the radar – but affects all.

Keep your mind on the task

The [Ford Motor Company](#) carried out a survey of drivers in New Zealand and Australia mid-way through last year to provide data to better understand distracted driver behaviour and attitude. Results found that those using mobile phones are four times more likely to be involved in a crash than drivers who aren't.

Of the respondents who admitted to using their phone while driving – 28% was attributed to answering work calls or emails. But overwhelmingly the most popular reason was being stuck in a traffic light or at a stoplight. We are clearly creatures who can't turn the distraction switch off.

Fundamentally this is a habit we need to stop. Sending a text message takes about 10 seconds – which on the road is equivalent to 280 meters when a car is going at 100 kmh. This is scary given that using a phone while driving slows reaction times particularly for braking and reaction to traffic signals. It also can make it difficult to keep in the correct lane and follow at the right distances.

Why should you care?

Regardless of role, every one of your employees are placed in a position where they'll have to drive to get to work, for work, or as a passenger. That's why this week it's important that the message of road safety is being driven home (pardon the pun).



As drivers we play a vital role in reducing devastating road casualties here in New Zealand. As of Monday this week (7 May), we've already racked up 384 accidents. That's 43 more than the same time last year. The sad part being, 136 of those were fatal ([NZTA Road death statistics](#)).

As employers, we have a duty of care to protect our workers on roads and reduce the risk your staff face. But there are also positive flow on effects of doing so. It goes a long way in improving your reputation, staff morale and reducing road accident related cost.

Talking to your staff will no doubt show that at one point or another they've been affected by road crashes or casualties. With this in mind, it's not hard to draw the conclusion that driving safely would be deeply embedded in their minds and they're already open to rallying around the idea of promoting and supporting you in road safety in your workplace.

But it's up to us to ask these questions and draw these connections. It starts with conversation.

When driven unsafely, cars are like weapons

At HERA, we acknowledge that driving requires complete attention. You need to keep control of not only your vehicle, but also what is going on around you. It's something we strongly believe in having lost one of our [industry greats Nick Calavrias](#) in January 2017 from a cycling road incident.

Recently, our CEO Troy Coyle began the task of reviewing our policies. Last month safe driving popped

up in our in-boxes for attention. Its clear objective stating "To ensure that staff who drive company vehicles or other (e.g. personal or hire) used for work purposes demonstrate safe, efficient driving skills and other good road safety habits at all times." It also outlined both the responsibilities of the employee and employer. Two points that stood out to me and gave me confidence that our organisation is on top of our approach, and in alignment with this years #roadsafetyweek focus was:

- Wear a seat belt at all times, and
- Not use a mobile phone while driving, including via hands-free if the driver is distracted by this.

Our next step is making sure these responsibilities are values that our drivers live by.

Moving forward, we challenge our members to actively promote road safety and ingrain it into your social responsibility work. Over the long term it'll establish yourself as a 'heart' company that cares about your staff, customers and communities. This is something that is hard earned, but hugely valuable.

Give your staff the confidence that it's ok to switch off their phones or activate the 'do not disturb while driving' feature to filter out the distraction of work calls and email notification alerts while driving.

Talk about road safety in your morning meetings.

Advocate for seat belts on... or for those who may remember – making it click.

Make it clear that driving safely is a mandate you strongly call for.

Given our health and safety focus was road safety - it made sense that we back that up by making 'transport infrastructure' our communications focus this month!

And what better way to do that, than to showcase some of the great projects our membership have delivered across New Zealand in this space.

First up is Dixon Manufacturing Ltd, who are a key example of how our members are actively diversifying their business model to react to local market conditions. For over 30 years they've been supplying stainless steel solutions for the transport infrastructure industry in marine related solutions. Ten years ago, their business all changed when they delved into the manufacturing side of the operation in a move that now allows them to better control their future pipeline and custom product development.

With such a strong track record, it's no surprise they were approached to be a part of the Westhaven Marina project through Panuku Development Auckland to supply marine grade 316 stainless steel ladders for upgrade works. What makes this story particularly unique is Dixon Manufacturing's ability to think outside the box. Recognising that their expertise and machinery could offer more to the project than just ladders – they were able to offer smarter solutions for the repair of other marina infrastructure, suggesting new products and designs to better meet client needs.

NZHERA @NZHERA · May 9
This week is #roadsafetyweek & its something thats definitely on our mind given that 'driving' is our #healthandsafety focus for May. We want our staff to get home safely from work & a big part of that is advocating: belts on, phone off - make it a habit. bit.ly/roadsafetynz



NZHERA @NZHERA · May 14
Last week was @brakenewzealand annual #roadsafetyweek - but now it's over it doesn't mean we should forget about the idea of driving safe within our companys. Lets continue the drive to make #RoadSafety a clear mandate for our teams & a value to live by! bit.ly/roadsafetynz





Dixon Manufacturing Ltd: Repairs to Westhaven Marina

Client: Panuku Development Auckland

Duration: Jan 2016 – Ongoing (maintenance)

Location: Auckland, New Zealand

Project value: NZD\$500K per year

Dixon Manufacturing provided cost effective and innovative redesign solutions for the repair of Auckland’s iconic Westhaven Marina – overall, improving the durability and lifespan of their clients existing infrastructure.

The largest marina in the southern hemisphere, Westhaven forms an iconic part of not only the Hauraki Gulf, but Auckland’s ‘City of Sails’ culture – as the home to over 2000 boats and a vibrant marine industry in the heart of the city.

Situation

Earmarked as an integral part of Panuku Development Auckland’s Westhaven Plan to improve facilities for boat owners and the way water space is utilised – ensuring the marina’s existing infrastructure was safe and able to cope with predicted increases in load and demand was imperative. However, after being in operation for more than 70 years, finding cost effective and suitable material replacements able to withstand the elements and heavy duty use was a must.

Solution

Traditionally the marina utilised galvanised steel in

its structures due to its protective coating of zinc making it corrosion resistant when exposed to moisture. Dixons were able to demonstrate stainless steel was a much better option due to its chromium make up ensuring a protective layer is always in place, in comparison to galvanized steels coating which eventually wears away – providing a stronger, longer lasting and cost effective material substitute, supported by detailed cost comparisons for the client.

Dixon’s consultation during the pre-production stage led to simple redesign elements that made a real difference, such as slotting frames instead of bolting them. This not only made the marinas frames more adaptive, but reduced installation time by avoiding the need to re-drill bolt holes – minimising disruption to the public and allowing Dixon to effectively meet project deadlines through a phased delivery approach.

Result

Dixon Manufacturing’s strong consultation engagement has led to the delivery of several project improvements – providing valuable cost savings across the life of the project with robust material use and clever design.

So far their contributions to Westhavens promenade, Y and Z pier and pile mooring development will help their clients achieve plans to ensure the marina can support future growth over the next 30 years – with their success now seeing them extend services to other marinas throughout New Zealand under the endorsement of the [Marina Operators Association](#).

[Download the case study here.](#)

Or contact Dixon Manufacturing Ltd

Email: dixon@pplnet



Prof. Pingsha Dong presents: “Design for joint strength, fatigue and fracture resistances in welded connections.”

Join us for this exclusive full day seminar with world renowned expert University of Michigan Prof. Pingsha Dong as he speaks on welded connections.

Prof. Dong is the inventor of an advanced Master S-N Curve Fatigue Assessment Method adopted by the 2007 ASME Div 2 and API 579/ASME FFS-1 Codes and Standards which is mandated by over 50 countries worldwide. And, over the past 10 years, has taught courses in fatigue design, fracture control, residual stress/distortion control around the globe.

Overview

Proper design and cost-effective construction of welded connections require considerations of some of the unique issues associated with welding, in addition to specific loading environment.

These are weld in-situ strength, residual stresses, and geometric discontinuities, each of which plays a different role in contributing resultant joint strength, and fatigue/fracture resistances under different loading conditions, particularly seismic loading.

Delivered in two core parts

Part one will start with some of the recent developments in supporting national and international codes and standards relevant to design and construction of civil steel structures. These topics include fitness-for-service based quantitative weld defect acceptance criteria; fillet weld sizing criteria,



weld residual stress consideration in fracture control, and fatigue (both high-cycle and low-cycle fatigue) evaluation procedures, e.g., the one stipulated by ASME Div 2 since 2007.

Part two will discuss how new developments can be taken advantage of for supporting the use and making an appropriate interpretation of existing design and analysis methods given by various codes and standards for achieving joint strengths, and fatigue/fracture resistances required of civil steel structures through a series of case studies. These include assessment of load capacity of full penetration butt welds versus partial penetration and fillet welds; low cycle fatigue and unstable fracture evaluation for seismic loading conditions; recommended weld repair procedures and rationales.

The sessions covering New Zealand steel product conformity and fabrication quality aspects will be presented by HERA General Manager Welding Centre Michail Karpenko.

[Click on below locations to register.](#)

Auckland: Tuesday 10 July 2018

Wellington: Wednesday 11 July 2018

Christchurch: Thursday 12 July 2018

Upcoming conferences:

NZHERA @NZHERA · May 17
The National Manufacturing Summit 2018 will be held this 26 June in Canberra. Hosted by #WeldAustralia this is a great forum if you're interested in manufacturing, energy issues or technical training. Find out more about the event here: bit.ly/2I9TxNN



NZHERA @NZHERA · May 29

Through our connections with Les Boulton from the Nickel Institute we let our members know that the Corrosion Conference is now open for registration. Held in Adelaide 11-14 Nov 2018, there's plenty of amazing lined up so book today!



Corrosion Conference 2018
Australasian Corrosion Association
conference.corrosion.com.au

MV Raroa mooring swivel replacement

Kernohan Engineering

Client: OMV New Zealand

Duration: 2013

Location: Nelson, New Zealand

Project value: NZD \$2.2 million

Total project value: NZD \$80 million

Kernohan Engineering provided a cost effective approach for their clients by leveraging extensive relationships and risk management measures. Ultimately finishing ahead of schedule while still meeting stringent health and safety requirements.

FPSO MV Raroa is a 252 metre long, 42 metre wide oil and gas vessel operating in the Maari Field 80km off the coast of Taranaki New Zealand.

Situation

MV Raroa's size presented challenges from the onset. With no pre-existing infrastructure in place at Port Nelson to service a vessel of this size to carry out the works required.

The scale of upgrades also needed a large workforce to support delivery which was not readily available by a single supplier within the region. Specialist expertise would be required throughout the entire process to meet not only stringent health and safety needs, but also to react timely to the additional jobs evolving as the project progressed.

OMV were also mindful of minimising environmental impacts, calling for a rigorous project management approach to keep upgrade works in line with regulations, tight program scheduling and budgets.

Solution

Leveraging a strong track record in the repair and refurbishment of ships, Kernohan were able to work closely with both OMV and Port Nelson Ltd to create the infrastructure needed to successfully accommodate MV Raroa.

Engaging local suppliers and coordinating additional tugs to manoeuvre the vessel through the Cut and into position at McGlashen Quay.

A dedicated project management team and full-time manager meant Kernohan were able to organize and coordinate the infrastructure and resources for over 150 specialised workers from various local companies to repair and manufacture parts and respond to transport, electrical services and logistic needs. This ensured costs were competitive and fair for OMV, while boosting the regional economy as well.

With the supply of eight dedicated health, safety and environment staff on 24 hour shifts and introduction of comprehensive risk management measures, Kernohan met stringent international safety and quality standards applicable to the oil and gas sector. Successfully managing hazardous substances, sludge and rubbish removal along the way.

Result

Kernohan's ability to coordinate the expansion of existing Port infrastructure, adoption of comprehensive risk management plans and delivery of technical expertise for swivel replacement meant works were completed in less than four weeks – delivering ahead of schedule, with zero injury recorded and to budget.

“The spirit and professional attitude of the team was extraordinary and complemented OMV's expertise. Everyone involved gave their best to complete a very large scope of work within a tight time-frame, but even more importantly, it was all done in a safe and efficient manner without a single lost time accident.

Peter Zeilinger | Managing Director
OMV New Zealand

[Download the case study here.](#)

**Or contact Regional Operations Manager
Alastair Sutton for more information
Email: alastair.sutton@kernohan.co.nz**





Structural steel enables world first bridge design – SCNZ | Hawkins Infrastructure | Novare Design | PFS Engineering

Through our relationship with SCNZ, we're excited to share a recent case study distributed by them which profiles the amazing work on the Auckland Canada Street Bridge/Nelson St Cycleway project for NZ Transport Agency.

Client: NZ Transport Agency

Duration: Oct 2014 – Dec 2015

Location: Auckland, New Zealand

This project was delivered by leveraging collaborative and innovative thinking, cutting-edge structural analysis and 3D modelling to overcome the challenges of an extremely complex structure.

The award-winning Canada Street Bridge is a world-first curved, triangular orthotropic steel bridge, and is part of Auckland's Nelson Street Cycleway. The unique structure was built to fulfill the NZ Transport Agency's vision of providing world-class cycling infrastructure throughout each major town and city in New Zealand.

Located amid the Central Motorway Junction – the bridge infrastructure required 300 tonnes of structural steel with an average mass of 1.35 tonne per meter run of deck for the 160m long, 4m wide structure. From concept to delivery it took 14 months to complete, and consisted of seven spans, five horizontal curves of different radii, with its heaviest 54 meter beam weighing 109 tonnes.

Situation

The location for the bridge construction was on one of the country's busiest and most complicated section of highway. Requiring smart thinking to ensure minimal disruption to road users and existing infrastructure in the area. In addition sloping and poor ground conditions posed further site preparation challenges to overcome.

Function, elegance, cost efficiency, build-ability, low maintenance, and a quick turn around were clear mandates for the project team to deliver. Demanding clever engineering and designers, fabricators and contractors all working collaboratively on the same page.

Several environmental considerations also had to be taken into account in the design and construction of this bridge. The existence of contaminated land and the need to safeguard protected pohutukawa trees on-site of key concern.

Solution

From the outset, Novare envisioned a bridge that would set an aesthetic benchmark for future neighbourhood development. Their final design being dictated by practicality and functionality, where they

changed the original brief to build a straight bridge to one that suited the end user. Curving the structure over the motorway, they provided a seamless cycling experience inspired by the urban surroundings. Visually unique, it's sculptural elegance is found in its cross-section, which have a depth of 1,500mm at the main piers and tapers to a shallow 800mm mid-span.

Steel was the 'go to' choice for the project due to its easy of construct-ability for the challenging horizontal and vertical curves, haunching, pre-cambers, and changing gradients, spans and supports. The assembly of thin steel plates for the isotropic deck allowing the bridge to avoid sharp turns, despite its complex geometry. Extensive precautions were also taken to ensure seismic stability and ability to withstand additional stresses. Introducing closed-cell isotropic decks and ribs running along the inside of the shell to provide extra strength and buckling resistance.

PFS used Novare Design's 2D engineering drawings to produce a 3D model of the bridge, enabling computer-controlled cutting of the curved steel plates. This precision meant the bridge beams and piers were fabricated within a 1mm tolerance of the 3D model – reducing costs in time, rework and more.

On top of this, disruption was a key consideration for the project team. Leveraging Hawkins Infrastructure's experience with similar projects, they overcame this by effectively coordinating smooth site works. Referring to the 3D models to efficiently install sections – often during the night when traffic was minimal. Partnering with PFS Engineering they minimised disruptions further by fabricating manageable sections offsite to a size safe for transport to its final location.

The introduction of a corrosion protection system specified for the bridge's deck and piers further streamlined the project in terms of ongoing maintenance costs. Consisting of 50-micron-thick layer of thermal sprayed zinc, a seal coat system of 75-micron-thick epoxy zinc phosphate primer, and a 75-micron-thick glossy black acrylic polysiloxane top coat – maintenance attention isn't required for 40 years, as it's proven to be weather resistant and have excellent colour and gloss retention.

The introduction of steel deck and piers meant there would be minimal earthworks required – overcoming environmental concerns in terms of the contaminated land present, and risk to protected pohutukawa. It also provided space to enable the planting of natives on the steep banks and under the bridge to reduce erosion.

Result

A time frame-driven attitude by all involved was essential to deliver the program within the tight time-frame, which was achieved thanks to a colossal effort from the team of designers, fabricators and contractors.

Together, they transformed the world-first design of the Canada Street Bridge and Nelson Street Cycleway into a reality.

Today, it's created a stunning, interactive urban space and is the recipient of 19 awards, including the Supreme Overall Winner in the SCNZ Excellence in Steel Awards 2017.





Holmes Consulting LP: Design and technical solutions for the Perry Bridge

Client: Emmetts Civil Construction for Waikato District Council & Te Awa River Ride Charitable Trust

Duration: Jul 2016 – Nov 2017

Location: Horotiu, Waikato New Zealand

Project value: NZD \$2.4 million

To deliver New Zealand's first constructed pedestrian and cycle network arch bridge, Holmes Consulting LP provided a number of innovative engineering solutions to their clients.

Overcoming the complex technical challenges presented by the long slender crossing of the Perry Bridge, including footfall vibration and arch buckling phenomena. They also conceived a novel launch solution to enable the bridge to be transported across the river during construction.

The Te Awa River Ride is a 70km cycleway along the Waikato River from Ngaruawahia to Karapiro. Part of this project was the delivery of the Perry Bridge – a crossing for the cycleway over the Waikato River.

Perry Bridge is one of only four network arch bridges in New Zealand, and is the only one designed solely for pedestrian and cyclist use in the country. It boasts the longest length for this type of bridge in New Zealand, with a very long and slender design spanning 130m at just 3m in width.

Situation

The Perry Bridge section of the Te Awa River Ride provided a means to avoid the river frontage near the AFFCO meat processing plant. Holmes' client Emmetts Civil Construction wanted to submit a competitive structural alternative to the originally proposed timber suspension bridge being considered by the council and Te Awa River Ride Charitable Trust.

Their successful pitch was a visually striking yet highly efficient structural steel form which minimised the cost of materials and construction, while reducing environmental impacts during erection. However, while this design was hugely innovative it posed many technical challenges to deliver the design safely and fit for use.

In addition, a key challenge to overcome was how to install the structure over the Waikato river without disturbing it's river bed.

Solution

Holmes' unique design provided the opportunity for Te Awa to capture the public's imagination – giving them a platform to foster engagement with local schools, artists and other stakeholders in the process.

Holmes overcame technical challenges by leveraging advanced modelling and full non-linear analysis to assess potential buckling of the slender arch chords, and for detailed assessment of lateral pedestrian vibration performance.

As a result they introduced steel tube arch chords braced together by folded channel vierendeel plan bracing and inclined towards each other to add stiffness and stability. The deck was longitudinally post tensioned and integrally connected to the abutments with no joints or bearings. The steel UB stringer beams and fabricated T-section transoms along with precast concrete deck panels were made fully composite and continuous using in-situ stitches.

The deck was supported from the arch by high strength steel hanger rods inclined and crossed in a network pattern for greater structural efficiency.

Holmes also conceived a novel solution to install the bridge and minimise environmental impact by launching the bridge across the river by sliding the leading end along tensioned cables. To their knowledge it's the first time this had been done for this type of structure.

Result

The network arch solution for the Perry Bridge provided Te Awa with a landmark structure said by Holmes Senior Project Engineer Tim Brook to have been "strongly supported by the community and key stakeholders, and far exceeding initial expectations for the basic functional river crossing it was first earmarked to be."

Holmes' smart cable launch concept worked within their client's budget, allowing Emmetts to use more of their own plant and materials for the steel erection, and removing program risk, as well as reducing risk of failure or accident.

"Today, the Perry Bridge is considered one of the best features of the Te Awa Great River Ride by locals and visitors to the region."

[Download the case study here.](#)

Or contact Senior Project Engineer Tim Brook

Email: timb@holmesgroup.com



#MaD2018 conference #manufacturing #design

NZHERA @NZHERA · May 22
It's fantastic to have our CEO @DrTroyCoyle be able to share insight from our metals-based industry on manufacturing and design - thank you for having us!



Engineering at UoA @UoAEngineering
Day 2 of #MaD2018 begins with a keynote by @NZHERA's @DrTroyCoyle
Show this thread

NZHERA @NZHERA · May 22
Today kicked off solidly for day 2 of #MaD2018 in AKL if we do say so ourselves! Why? Because our CEO @DrTroyCoyle was starting keynote speaker - talking to attendees on #manufacturing R&D in NZ - a job story, job story or job story! @UoAEngineering #sustainability #innovation



NZHERA @NZHERA · May 22
Amazing day at #MaD2018 - saw our Tauranga based members Ian McRae & Peter Swann from Page Macrae & Mike Fry of TiDA! Also the inspiring #Sistema Brendan Lindsay speak "You don't need 💰 you need drive, dreams & surrounding yourself with people who think like you!" #INNOVATION



Do you have a project full of innovation that you're busting at the seams to share?

[If yes, we'd love to hear from you!](#)

During August we'd like to bring our membership stories or case studies with innovation in mind.

It's our hope to provide value to you by promoting your projects, thoughts or innovations in this space. So don't be shy, and get in touch today!

Email kim.nugent@hera.org.nz for more details.

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 two Welding Inspection Part 2 courses during July:

- Auckland Part 2, IWI-B - 2 to 6 July, full day
- Auckland Part 2, IWI-S - 2 to 11 July, full day

Please note, to attend this course you must have completed Part 1 with our Welding Centre first.

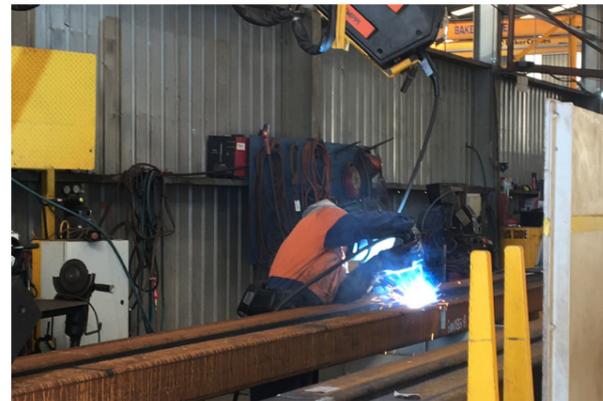
Book at www.hera.org.nz/events/

NB: Please keep checking in at our events page as Welding Supervisor/Inspection Part 1 courses during August will be listed shortly to book in to.



#WomenInEngineering

NZHERA @NZHERA · May 15
This is a shout out to all of the ladies in our metals-based industry - @LiquidLearning is running the 2nd Women in #construction #infrastructure #engineering leadership summit this Sep 19-20 in Auckland - HERA members also get 10% discount so book today! bit.ly/WIEsummit



Steel Structures Seminar

Important Update: Practical Steel Frame Design & Fabrication Standards

NATIONWIDE: AUCKLAND TO DUNEDIN
25 July - 24 August 2018



Get yourself innovation ready!!

Attending our course could be the best decision you ever make!

This is a high-quality training program for current and future innovation managers.

If you want to invest in developing a high potential candidate to assist your business to become more innovative, or want to fast track your company into innovation - then register today.

An insight into the world of advanced materials shows the revolutionising impact of material innovations and the need to stay abreast of developments by integrating innovation into your own organisation. Our lean start-up innovation course is an excellent pathway to achieve this, by arming your organisation with the tools and understanding to take an idea from concept through to implementation for your company.

Course requirements

Participants need to attend one day per month for a total of five months starting from 29 June 2018 to complete Innovation READY.

Costs

Starting from \$3450 for our Ordinary members - this is a significantly subsidised course by HERA. Similar courses sit around \$8000 and aren't tailored to our industry like ours.

Companies with less than 50 full time employees are also eligible to apply to NZTE to have this subsidised a further 50%. And... if you book before **Friday 8 June** you'll get an early bird discount of \$200!

Don't let cost be the barrier. Please talk to us so we can see how we can assist.

Register today!

www.hera.org.nz/event/innovation-ready-set-go/



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