

## Materials bias

Has BRANZ got a soft spot for timber?

## The oil & gas conundrum

Assessing what the Government's carbon neutral commitments mean for our members in the future.

## B1/VM1 Amendment 16

The in's and outs of this latest update & what it means for you in your daily operations.

**MetalBase**

April 2018

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## Cover:

Taking a look back into the innovations that our industry fabricated in the 1920's - pictured is an early edition tar heater and sprayer fabricated by the Steel Construction Co Ltd. Captured on Sales Street, Auckland up on skids ready to be shipped away to make 'better roads - cheaper' (see photo #2 advertising).

Photo courtesy of our Former Chairman Cyril Baker. See photo #3 for full version.



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## From our CEO, Troy Coyle

### April was a busy month for political announcements impacting our industry, with three key announcements:

1. The Government banned all future offshore oil and gas exploration. This made it clear that disruption doesn't just come from competitors, but also Government policy as well.
2. MBIE released the 2018 Manufacturing Report "Beyond commodities: Manufacturing into the future". HERA Executive Dieter Adams, chaired an industry panel at the launch, with Minister Parker present to discuss key issues for manufacturing in NZ.
3. Ministers Woods and Nash released the R&D Tax incentive consultation paper inspirationally titled

"Fueling innovation to transform our economy". We encourage you to provide a submission on this and of course we've also prepared our own.

This month our Standards Updates Seminars had very strong attendance, with over 140 people coming. We're sure the upcoming Cost of Quality seminar (3 May 2018) will do the same with a decent number of RSVPs so far.

In addition, we've been firming up high quality international speakers for our upcoming welding seminar and innovation Ready, Set, Go program. And our team is looking forward to catching up with our members at these events.

April also brought a special visit from our former Chair and founder of HERA, Cyril Baker. Cyril came in for a chat - sharing history about HERA & NZ steel construction before we began. He also gifted some fabulous photographs, books and even a 102 year old sample of steel rolled in NZ (which we're keen to see if we can check the chemical composition of).

We've also started to focus on improving the profiles of our staff. This month shining the light on our FEA expert Nandor Mago and our Accountant, Kam Subramani.

This month also saw us announce a new member co-opted to our Executive - Jennifer Hart. She brings a range of expertise, including strong transport infrastructure technical skills. And indeed, transport and infrastructure will be our communications focus for May!

## 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 support positive change. In fact, why not start by following HERA?



**1** | Former Chairman Cyril Baker (1985-86) on his recent visit to HERA House to share historical documents and photographs **2** | Advertisement shared October 21, 1925 in a local rag by the Council Engineers and the Steel Construction Co Ltd in Auckland on 'Making Better Roads - Cheaper.' This touched on a new innovative material - bitumen, which was touted as being used the world over by road engineers and experts - and something that should be 'of great interest to all engineers' **3** | Old historical project by the Steel Construction Co Ltd **4** | Cyril Baker **5** | Attendees at the Welding Standards Update in Palmerston North



# Key update

## B1/VM1 Amendment 16 now published

**Over the last 12 months, HERA have worked closely with SCNZ and MBIE to update steel industry standards referenced in the Acceptable Solutions and Verification Methods (B1/VM1) of the New Zealand Building Code.**

These amendments to B1/VM1 relate to minimum standards for fabrication and erection; structural steel products and expanding the choice of high strength structural bolts. The three month transition period will result in the amendments coming into force on 3 July 2018.

### An update was needed!

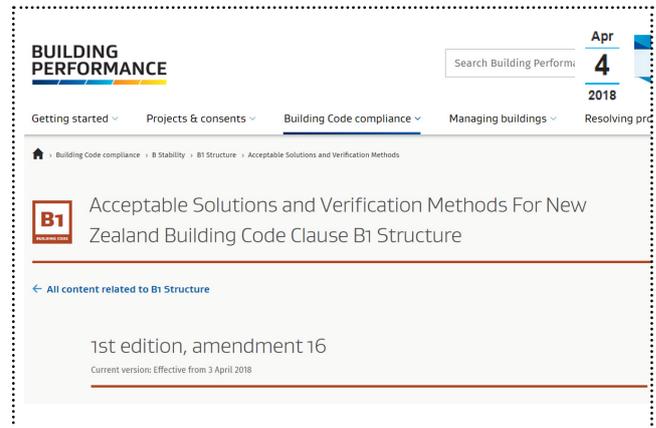
The 1997 version of the steel structures standard NZS 3404.1 is the primary reference document in the New Zealand Building Code (NZBC), but is over 20-year's old. Many of its normative references to structural steel and fastener product standards are outdated, and to compound matters the publication of the fabrication and erection standard AS/NZS 5131 created some ambiguity. This was because it provided rules also considered by Section 14, 15, 16 and 18 and Appendix C, D, K and L of NZS 3404.1: 1997.

Rather than engage in the long process of revising NZS 3404.1, work was undertaken to replace sections of this standard through an amendment of B1/VM1 instead.

These proposed amendments were put out for consultation by MBIE in September 2017, and were driven as part of their response to investigations into the performance of the Statistics House and Canterbury earthquakes.

**“At HERA we believe this is a step in the right direction to ensure B1/VM1 remains relevant to the steel industry.**

It'll also work towards removing some of the doubt



currently existing around NZS 3404.1: 1997 and its reference to outdated standards.

### Significant changes include:

- AS/NZS 5131 will replace NZS 3404.1 as the cited standard for fabrication and erection of structural steelwork.
- The inclusion of the latest AS/NZS structural steel material and welding standards, specifically:
  - 2016 version of AS/NZS 1163, AS/NZS 3678, AS/NZS 3679.1 and AS/NZS 3679.2 together with the 2002 version of AS/NZS 1594.
  - 2014 version of AS/NZS 1554.1
- The inclusion of the European standard for high strength structural bolts to expand user choice and prepare industry for the bolt standard AS/NZS 1252 being replaced in the future. As a consequence, fasteners to the following standards can be used:
  - 2015 version of BS EN 14399-1, BS EN 14399-2, BS EN 14399-3 and BS EN 14399-5.

Looking at the bigger picture, these changes to conformity requirements will also encourage improvements to the quality of steel products being used in New Zealand's built environment. Ensuring design assumptions made by relevant design standards remain valid.

We also feel the reference to the new Structural Steelwork Fabrication and Erection Standard AS/NZS 5131, is of particular relevance. As it not only defines best practice for national projects, but forms the basis for the Steel Fabricators Certification (SFC) Scheme we jointly introduced with SCNZ in 2014.

### What does this mean for you?

From 3 April 2018 building consent and territorial authorities must take these changes into account when deciding whether a building consent application applies with the building code.

If you're involved in this part of a projects life cycle, make sure you're well versed in the updates to design and construction requirements B1/VM1 Amendment 16.

It's also important to note that an exception has been made regarding the use of cast iron anchors and couplers, which will continue to be compliant under B1/VM1 Amendment 16 until 1 November 2018.



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## Are you actively delivering projects in the transport infrastructure sector?

If yes, we'd love to hear from you - and we'd love to hear from you now!

During May we'd like to bring our membership stories or case studies with transport infrastructure in mind.

It's our hope to provide value to you by promoting your projects, thoughts or innovations in this space. So whether you work in road, rail, sea or air - get in contact today!

Email [kim.nugent@hera.org.nz](mailto:kim.nugent@hera.org.nz) for more details.



## A shout out to the ladies!

This 23 June will see us salute our industry ladies as we celebrate International Women In Engineering Day.

And what better way to do this, than to profile some of you out there and share the amazing things that you do!

If you'd be interested in partaking in a short interview, we'd love to hear from you! This is a great way to profile your contributions, but also inspire those girls out there who are looking to enter a career just like yours.

Come on ladies - time to share your voice!

Email [kim.nugent@hera.org.nz](mailto:kim.nugent@hera.org.nz) for more details.

# ThinkTank

## Less oil strikes but more job strikes... striking the right balance?

**The coalition government recently announced a plan to transition to a carbon neutral future. One that will look 30 years ahead.**

But what exactly are the implications for the NZ oil and gas sector and transformation of our industry?

Join us as we take a closer look – because it's very clear that we certainly need to be prepared and brace ourselves for change.

This is not a 'head in the sand' scenario.

### Climate change and the oil and gas industry

The upstream oil and gas sector contributes over \$2.5 billion to New Zealand's Gross Domestic Product (GDP), with oil exports worth approximately 1.5 billion per annum yielding approximately \$500 million in royalties and income tax for the government annually.

This sectors workers earn twice the national average salary, create seven times the average value earned per annum and accounts for 30% of Taranaki's GDP and 2% of regional employment. It's also one of the key reasons Taranaki has the highest regional GDP per person in New Zealand.

As a fossil fuel, oil and gas poses a significant threat to the environment and creates a climate change issue. The New Zealand government has recognised this, recently committing to carbon reduction targets via the Paris Agreement in 2015. To meet these obligations, the Labour-led New Zealand government has now decided to end issuing new offshore oil permits as a first step.

They're committed to becoming a net zero emissions economy by 2050 with the interim step of making electricity systems 100% renewable by 2035. Claiming they've looked at the needs of security of supply and ongoing regional employment to fulfill this goal with



recent decisions made.

One of the pathways identified to achieve this objective is to encourage and incentivise innovation and investment in clean green carbon systems. However, the government maintains that all 57 existing exploration and mining permits will remain protected – many valid for decades from now.

### The Taranaki transition

About 4,500 people are employed directly in the oil and gas exploration industry and with related industries it accounts to about 11,000. The bulk are based in Taranaki, as an established oil industry for over a century. Prime Minister Jacinda Ardern said none of the jobs in the industry would be immediately affected by the decision, but the landscape would change down the track.

On 6 April, Shane Jones announced almost \$20 million in funding from the provincial growth fund, mostly to improve tracks on Egmont National Park and improve the Taranaki Cathedral as a tourism destination. A decision met with shock for the region's bread and butter industry – not just across the Taranaki region but across New Zealand. Not surprisingly, questions around job security and regional stability have been raised.

HERA has long maintained the view that our industry needs to prepare for change. Whilst this announcement from our government sends disturbing ripples across industry and region – it's not unexpected. Bracing for change and disruption

and preparing ourselves to meet them head on (even if uncomfortable), is still within the realms of possibility.

We know, this inevitable disruption will affect our Taranaki members working in this sector. When talking to one of our members from the region Fitzroy Engineering Managing Director Richard Ellis, he said "The skill sets we have here are oil and gas ones. Unless there's another type of industry which requires these types of guys – they'll be gone from the industry and gone from New Zealand."

### Where to from here?

The government's aware of the repercussions of their policy on the regional business community and maintains skilled expertise of this sector can be turned to more environmental and economically sustainable enterprises. Examples cited include transfer of mining skills from oil industry to mine silica for solar panels and expertise of oil and gas workers for infrastructure upgrade projects such as provision of water.

However, reducing future opportunities in striking oil may carry the parallel risk of striking workers off jobs too.

To strike the right balance, it'll be imperative they provide a clear plan and pathway to support regional businesses in this mammoth transition. We support our members' concerns that the path for transformation is not clear, nor their plans to assist industry transformation.

That's why we maintain an advocacy position which promotes transferability of skills into sustainable energy sectors in consultation with our members – push to develop pathways for effective government investment and industry transitioning.

To make this work, businesses need to call on innovation initiatives internally and change mindset towards long term business development. During this time we'll be pushing to work collectively with government and members in the region to drive innovation and incentivise investment into new technologies.

Last year, we undertook a research partnership approach that didn't get industry commitment to support long term innovation. Prior to this, we also led a government co-funded clean energy initiative to drive innovation that didn't take seed due to a lack of sustained funding. In hind sight these were missed opportunities to be well prepared for this very disruption.

The government needs to acknowledge this pulse of our industry and respond through dedicated

systems and mechanisms that guarantee long term commitment for industry growth that reward innovation.

In the meantime, we've taken it on our shoulders to develop a bespoke innovation course that specifically addresses this challenge. We strongly encourage members to consider attending – particularly those in the oil and gas sector, or those who may face similar disruptions in their current industry sector focuses in the future.

### Time to seek new business models?

The oil and gas sector is a significant contributor to the New Zealand economy and faces disruption due to the latest government policy announcements on carbon reduction targets. Our industry needs to be prepared for this through innovation approaches and investment into sustainable energy sectors.

We know this is easier said than done, given we attempted to lead such change in the past with no success. Industry transformation of such scale is often daunting and seems unachievable while balancing day to day operations and survival. But the alternative of 'business as usual' is bleak if disruptions of this magnitude continue.

HERA remains committed to achieving a sustainable future for our members in this industry and urge government to support industry transformation endeavours.

We need more engagement on how they'll transition the industry to new business models and apply their expertise and capability to new technology platforms. We hope they realise this requires significant, substantial and sustained support!



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## Is BRANZ material neutral?

### BRANZ is New Zealand's independent, impartial research, testing and consulting organisation for the building and construction industry.

However, there is a current perception that they aren't as impartial as they should be – and have a bias towards timber. But is that really true?

Our CEO Dr Troy Coyle decided to take a closer look, assessing their primary communication tool – Build magazine. The results will surprise you.

#### Does BRANZ adequately communicate metals innovation?

BRANZ is funded via the Building Research Levy which is focused on research and information transfer activities for the benefit and education of the building and construction industry. It funds activities such as Build magazine, and as such, it should be material neutral and not focused on promoting any single building material.

#### Is perception reality?

Evidence of a bias, can be examined by at least four mechanisms:

1. looking at the independence of the Board and its Committees;
2. looking at the skills capabilities within BRANZ itself;
3. looking at the types of projects that are supported by BRANZ;
4. looking at the communications that BRANZ makes.

I investigated the latter, with surprising results.

Examining six issues of Build, from Issue 160 (1 June 2017) to Issue 165 (1 April 2018). I looked at the content of each issue by counting articles in the following categories:

1. material neutral;
2. metals focused;
3. concrete focused;
4. timber focused;
5. other; and
6. advertising.

I also counted the portion of a page allocated to these categories as well, to give a measure of prominence.

#### The perception of a timber bias is only somewhat justified

The results, showed there is certainly more prominence given to timber vs metals and concrete. However, it is only slight in terms of number of articles (2% vs 1% vs 3% respectively).

It also showed that the size and pages allocated to timber articles were greater than for metals and concrete combined. (2% vs 1% vs 4%).

#### What is driving the perception of a material bias?

What might be providing this view is the way that each material is dealt with in some of the articles assigned as material neutral. For example, “[Magical Mystery Material](#)” on page 73 of Build 165, is an article that looks at the latest material innovations. Wood and timber- related innovations get a look in, but nothing on metals.

Theme	Material neutral	Metals	Concrete	Timber	Other	Advertising	Total
<b>Build 165: Changing landscapes</b>	54.5 (48%)	3 (3%)	2 (2%)	2.5 (2%)	9.5 (8%)	42.5 (37%)	<b>114 (100%)</b>
	34 (36%)	5 (5%)	1 (1%)	3 (3%)	7 (7%)	45 (47%)	<b>95 (99%)</b>
<b>Build 164: Seismic learning</b>	51 (46%)	0 (0%)	3 (3%)	1.5 (1%)	17.5 (16%)	38 (34%)	<b>111 (100%)</b>
	26 (29%)	0 (0%)	1 (1%)	1 (1%)	15 (16%)	48 (53%)	<b>91 (100%)</b>
<b>Build 163: Better building</b>	61 (53%)	0 (0%)	1 (1%)	3.5 (3%)	11.5 (10%)	38 (33%)	<b>115 (100%)</b>
	36 (39%)	2 (2%)	1 (1%)	1 (1%)	5 (5%)	47 (51%)	<b>92 (99%)</b>
<b>Build 162: Rust never sleeps</b>	42.5 (36%)	8 (7%)	0 (0%)	8 (7%)	12.5 (11%)	45 (39%)	<b>116 (100%)</b>
	30 (31%)	5 (5%)	0 (0%)	7 (7%)	6 (6%)	48 (50%)	<b>96 (99%)</b>
<b>Build 161: Fire safety</b>	58.5 (51%)	0 (0%)	0 (0%)	2.5 (3%)	12.5 (11%)	41.5 (36%)	<b>115 (100%)</b>
	43 (45%)	0 (0%)	1 (1%)	1 (1%)	5 (5%)	47 (49%)	<b>97 (101%)</b>
<b>Build 160: Maintenance</b>	56 (50%)	0 (0%)	0 (0%)	6 (5%)	9.5 (8%)	40.5 (36%)	<b>112 (99%)</b>
	43 (48%)	0 (0%)	0 (0%)	2 (2%)	4 (4%)	41 (46%)	<b>90 (100%)</b>
<b>GRAND TOTAL</b>	<b>323.5 (47%)</b>	<b>11 (2%)</b>	<b>6 (1%)</b>	<b>24 (4%)</b>	<b>73 (11%)</b>	<b>245.5 (36%)</b>	<b>683 (101%)</b>
	<b>212 (38%)</b>	<b>12 (2%)</b>	<b>4 (1%)</b>	<b>15 (3%)</b>	<b>42 (7%)</b>	<b>276 (49%)</b>	<b>561 (100%)</b>

Another contributing factor may be the use of negative associations with metals. For example, Build 162 deals with material degradation and in fact has more timber content (by page) than metals content. However, the title for the issue is “Rust never sleeps”, which singles out metals in a negative context and somewhat alarmist way. This title is also unusual in the context of the more commonly reassuring titles for each issue, such as Better Building or Fire Safety. For example, Build 164 was titled “Seismic learning” and didn’t focus on negatively singling out particular materials.

### Advertising has room for improvement

More than one third of Build magazine content is advertising. This raises questions over the potential for the magazine to be “bought out” by a particular material. It also raises questions around how the promotional content is representing the values of the industry and BRANZ. For example, the “blokey-ness” content of some of the promotional material, isn’t particularly aspirational in terms of the diversity culture we would want to see in our industry!

Finally, it raises the question on appropriate balance between information content and advertising content as the percentage of advertising is very high, considering BRANZ’ funding model. This is perhaps a missed opportunity for greater levels of innovation and R&D content that can be used to better inform and guide the building industry.

It is great to see that BRANZ overall has a focus on material-neutral content in its Build magazine. We welcome authors ensuring that they are familiar with the latest innovations across all materials and we would like to see greater consistency in how materials are represented. Overall, we want balanced reportage of what is happening across all building materials.

“HERA will continue to provide a check for material neutrality in BRANZ’s innovation and R&D focus.

We hope to see an improved representation of metals innovation and performance in Build articles moving forward. We also hope to have greater visibility and engagement with BRANZ’ innovation road-mapping.

We will continue to investigate other perceived material biases. Please let us know if you have any thoughts on this.

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## #Construction tweets

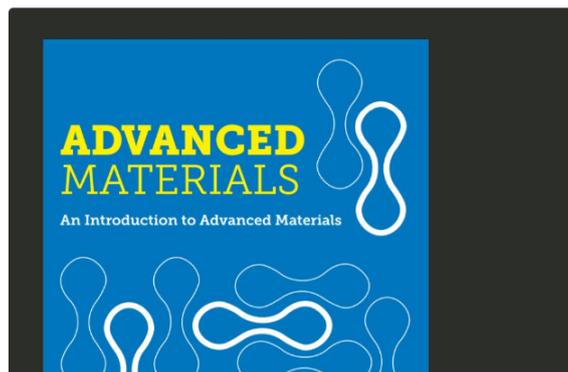
NZHERA @NZHERA · Apr 5

Have you seen this great case study shared by #SCNZ on #CanadaStBridge last month? A fantastic piece of work which showcases strongly how structural steel enables world-first bridge design! @nzta\_news #PFS #NovareDesign @HawkinsNZ #MonkMackenzie bit.ly/canadascnz



NZHERA @NZHERA · Apr 9

While there's nothing new here around metals like BIPV steel roofing vs tiles - we still think this is a great information source for our members to check out to get an introduction to advanced materials. Thanks @EMA\_Nrthn & @callaghannz bit.ly/2lqj8yt



NZHERA @NZHERA · Apr 17

Check out what @ConstructConnx flagged at the end of 2017 as the 5 major changes coming to the construction industry. Are they on point? Maybe yes - with new technology currently pushing this sector to uptake change & green #construction on the rise! bit.ly/2qhi5YE

**5 Major Changes Coming to the Construction Industry in the Future**

Posted on September 21, 2017 by Anastasios Koutsogiannis

It's no secret that construction can be very slow when it comes to change. Nevertheless, the advent of new technologies has dramatically contributed toward the modernization of the whole industry. A general need for change has emerged as a result of the serious productivity problems that are noticed in big markets like the United States and the United Kingdom.

Some changes are apparent today and a further readjustment of the whole sector is anticipated in the near future. For that reason, we decided to do our research and present to you five of the most noteworthy changes which are about to come in construction:

**1. Construction Software and Full Integration**

First things first, construction software is expected to change our industry once and

# Notices@HERA

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## Call for attendance – Get your business ahead of the pack!

### Get innovating within your organisation by attending the Innovation Course starting June 2018!

Asking yourself ‘why?’ Well, quite simply because innovation links to success!

That’s because successful businesses not only respond to their current customer or organisational needs, but also anticipate future trends to develop ideas, products, services or tools to meet future demand rapidly and effectively.

In other words, successful innovation involves a level of prediction and must be part of your business strategy. Our innovation course unpicks this concept so you can practically apply it for commercial gain. So mark it in your diary now!

#### **Firms that incorporate innovation into their strategies consistently outperform their non-innovative peers**

According to the Business Week magazine, the top 25 in the list of its most innovative firms have an average profit margin of 3.4% while the others average around 0.4%. Unless an organisation is able to adopt innovation, it risks being left behind as others take the lead in changing their offerings, their operational processes or the underlying models that drive their businesses.

#### **The story of steel highlights the revolutionary impact of innovation on industry development**

The “invention of steel enabled an industrial revolution to take place and the invention of stainless steel made yet another leap forward,” says Kirsten Edgar, National Technology Network Manager for Advanced Materials at Callaghan Innovation. She goes on to recognise that “the pursuit of advanced materials has enabled improvement in steel performance – either incremental or exponential. Where such developments



have advanced the prospects of industries reliant on steel.”

A further point made in this article is that a key barrier to innovating in advanced materials is a lack of understanding about what is an advanced material.

At HERA we believe raising awareness on this can improve the potential to innovate through creation of a better innovation ecosystem.

Applied to the broader context of innovation in general, learning about innovation concepts can give a better understanding and appreciation of how to innovate within your own organisation.

We’ve touched on this idea in a previous article ‘How are you innovating your business?’ Here we acknowledged the range of innovative ability in our members with some being very innovative and others, not so much. It’s our hope to ensure the innovative members continue their journey supported with additional tools, networks and resources to catalyse these efforts. But also to introduce the concept of innovation to those in the ‘not so much’ category.

We want this to be part of ALL of our member’s strategies and operations for the long term benefit of our New Zealand metal-based industry.

#### **HERA’s solution**

To facilitate this positive shift towards ‘advancement’ in operations we’re hosting an innovation course for our members starting this June.

It'll equip you with a solid understanding on how to take an idea from concept to implementation for a product, process or service innovation.

Our program is being developed in collaboration with a range of high quality third-party innovation experts and will incorporate some key activities via the University of Auckland's Business School. It's underlying methodology will be based on the principles of lean philosophy and how these can be built into your organisation to maximise benefits.

The program will be delivered under three core modules: READY-SET-GO.

### Innovation READY

Giving you the innovation management theory to take an idea forward. It'll present ideas based on lean start-up principles from design thinking to validated learning, customer discovery, leap of faith assumptions, evaluating ideas and more. Participants will come out with a stage gated process by preparing an innovation strategy for their firm. They'll also have a clear understanding of the requirements to develop an innovation process from idea generation to commercialisation.

### Innovation SET

Armed with the knowledge gained in Innovation READY, you'll be introduced to a set of innovation tools to help guide your company's innovation process through a LEAN innovation pipeline. Participants will be introduced to how to identify potential disruptor's for their business, innovation business models & accounting, funding sources, market validation and pivoting tools. They'll also developing a business strategy and road-map for at least one product innovation in their company. This stage-gating process requires participants to attend one-day SET session every two months over a year. Giving them exposure to experts in innovation and one-on-one 'on-site' coaching visits to expand their own knowledge base and support networks.

### Innovation GO

Having advanced through Innovation READY & SET you'll be provided tailored assistance for growth, integrated and suitable feedback loops, funding and marketing support. You'll also become part of an ongoing series of networking events, speaker series and professional development opportunities. It's the last step to innovation success – and the most important, as participants will now be trained Innovation Managers, who with the supported commitment of their company will be empowered to implement their project plans to commercially realise

a new product(s) and lead these projects as a lean start-up.

Attendees will also learn about the essence of entrepreneurship, the management principles of lean innovation, getting comfortable with the concept of iteration on the run (build-measure-learn) and measuring success through the metrics of learning and validation in an environment of innovation.



**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 miss your opportunity to potentially contribute to the next industrial revolution  
**Register today!**

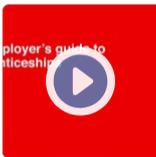
[www.hera.org.nz/event/innovation-ready-set-go/](http://www.hera.org.nz/event/innovation-ready-set-go/)

# #SocialStreamApr

**NZHERA @NZHERA · Apr 5**  
 A @MOTAT\_NZ trip by our CEO @DrTroyCoyle turned out to be very inspiring for both her son & herself! Here, an interactive 'construction focused' activity proved you really can inspire kids to think of construction or engineering as a career from a YOUNG age! #skillsgapsolved 😊



**NZHERA @NZHERA · Apr 10**  
 Have you seen this great video from @competenz - an employers guide to apprenticeships? If not, we recommend our members take a closer look. It could be the answer to filling your future skills gap & makes running #onthejobtraining more achievable!



**An employer's guide to apprenticeships | Competenz**  
[youtube.com](https://www.youtube.com/watch?v=...)

**NZHERA @NZHERA · Apr 10**  
 Yesterday @BlueScope\_Steel announced the appointment of their new Chief Executive #GrettaStephens for NZ & Pacific Island operations - great to see more #WomenLeadership in the metals-based industry occurring here! [bit.ly/2qh4Lt2](https://bit.ly/2qh4Lt2)



**NZHERA @NZHERA · Apr 12**  
 Great to have our GM Welding Centre #MichailKarpenko & Senior Welding Engineer #AlanMcClintock in #PalmerstonNorth delivering the last of our standards update seminars! It's been a great success with over 140 professionals attending throughout NZ to come up to speed in this area!



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

If you're a user of our Welding Centre services and haven't yet filled out our survey or received an invitation to participate - this is for you!

We're currently performing a survey of both past and future users of services such as welding related free technical advice, training, or support towards achieving compliance with the Steel Fabrication Certification (SFC) scheme. These are all funded from a legislated levy on welding consumables, currently set at 5 cents per kilogram used. Unfortunately, demand (and hence cost) for these services has far outstripped the levy funding to support it. Which is why, both the NZ Welding Centre Panel and HERA Executive have approved exploring the raising of the levy to correct this imbalance.

This survey is the first of two consultation process steps, with an aim to get an understanding of both current user satisfaction and future needs. Assuming positive feedback, our next step will be to then work to get formal support from membership, supply chain and other stakeholders.

**Have your say & enter the draw to win one of two cameras! <https://www.surveymonkey.com/r/5WSDWLB>**

## The cost of 'quality' HERA seminar

**As part of our commitment to deliver value to our membership our lead team has come together to develop a seminar addressing a call for more clarity around the 'cost of quality'- being held Thursday 3 May 2018.**

Whether a SME or a large company – it's become clear that the adoption of quality management systems into our members operations are key if we're to remain competitive in an increasingly challenging market.

Join us for this informative seminar as we delve deeper into this concept. And, explore the idea of quality through the lens of various perspectives – all delivered by experts in their field.

### Why has quality assurance become so important?

Globalisation of the structural steel market coupled with changes in Australasia's steel-making capability over the past two decades has led New Zealand to source structural steel long and plate products from a wider range of countries.

While this has allowed constructors to price competitively and meet supply demands for their projects at hand – it has also driven the need for more appropriate product conformance requirements to ensure imported materials are compliant.

Recent media around steel dumping, substandard steel use and fair and free trade have certainly spurred this conversation. Particularly given the negative impacts it can have to the safety critical nature of structural steel components.

At HERA, we strongly believe that our members need to be aligned to international best practice, which dictates requirements for the steel fabricators quality control systems.

It's an approach that has since been adopted into many of our member company's operations – such as those who've aligned to SFC. A scheme that ensures New Zealand steel fabricators have the capability to manufacture product to the requirements of AS/NZS 5131 Structural Steelwork – Fabrication and Erection.

From the perspective of HERA Certification, we think this is critical for two reasons.

Firstly, for those in the steel industry who take steps to become certified and align their businesses to appropriate quality management systems – they're able to have a key point of difference in the procurement process. This is because they're able to independently verify their capability and strongly demonstrate their commitment to quality.

It is also thought that efforts to align practices with quality management has the potential to improve a company's bottom line through effective process control which in turn leads to increased productivity and mitigation of costly re-work.

Secondly, procurers of locally fabricated structural steel will have peace of mind in the knowledge that fabricators are certified to appropriate quality management systems and required standards. Helping them to evaluate tender bids more effectively by leveling the playing field as well as reducing compliance risk.

### Barriers – the cost of quality

There are many hurdles that stop companies from adopting robust quality management processes into their operations. That's why HERA is holding this seminar for our industry.

It'll provide comprehensive insight into normative requirements of the existing standards framework. In particular we'll be taking a closer look at NZ 3404.1, AS/NZS 5100.6 and AS/NZS 5131, third party certification and specific quality management systems.

Our aim is to clearly demonstrate a greater understanding of not only the standards framework, but also the cost of NOT adopting robust quality assurance approaches in the long term.

**Don't miss out - and see if there are still places available!**

<https://www.hera.org.nz/event/quality-seminar/>



# Our people

## Meet Jennifer Hart – the latest expertise to join our Executive!

**Our Executive is key to our association. Not only do they represent the diverse range of members we serve, but they bring us valuable insight into the current industry pulse.**

That’s why we’ve decided to start acknowledging the great (and voluntary) work that they do by [profiling them on our website](#). And, as this team changes, we’ll be letting you know – starting with our latest executive member to join us, Jennifer Hart!

As the acting Alliance Director for Auckland Motorways and Principal and Technical Director focused on Port and Coastal projects for Beca Ltd, Jennifer brings a wealth of knowledge to our executive. She also is a much needed female presence and voice to our leadership (and we hope she’ll help keep the boys in line too!).



We’re certainly excited to see the positive impact she can make by being part of our associations vision to create a sustainable advantage for our New Zealand metals-based engineering industry globally.

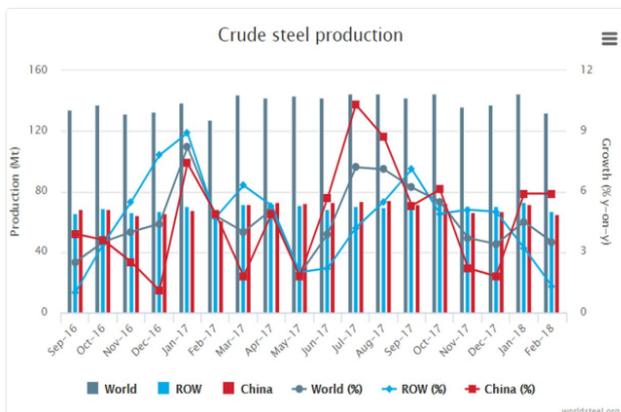
It’s certainly our commitment to help our members stay one step ahead, and to be the leading catalyst for metals innovation. And, we think Jennifer will be a great technical asset in making that happen by bringing her project knowledge to the table when it comes to large transport infrastructure projects.

We hope you’ll join us in welcoming her to our team.

## #Steel #Economy tweets

NZHERA @NZHERA · Apr 4

For those who are interested - there is some great steel data here from @worldsteel which shows Australia & NZ steel production is up in the past 12 months - with a drop in China... [bit.ly/2q3ecLH](https://bit.ly/2q3ecLH)



NZHERA @NZHERA · Apr 24

Finance Minister @grantrobertson1 budget will be guided by the Treasury's #LivingStandardsFramework #4capitalsApproach - a surplus doesn't mean good economic management, nor lowering debt. It's putting people & #Wellbeing at the core of decisions. @nzherald [bit.ly/2qnWhQe](https://bit.ly/2qnWhQe)



Finance Minister Grant Robertson's Budget will be guided by the Treasury's "Living Standards Framework" or "4 capitals approach" Photo / Mark Mitchell

## Offering our members the 'FEA factor'

**As crucial as it is to be able to identify problems experienced by engineers – solving those problems with the right tools is equally important.**

Today, virtual design and modeling is becoming common place and one almost expects it to be a given part of any process – but is that really true?

We've found that there are barriers stopping our metals-based industry from adopting tools such as Finite Element Analysis (FEA) into their work-flow. The question is why?

### Eliminating uncertainty

Engineers are often concerned with creating new products that don't exist and have never been done before. A challenge that often places the principle of uncertainty into their works.

In the case where the geometry and physics are sufficiently simple we're able to yield accurate results. However, in reality – industrial products and processes are highly complex. As a result, simple physical relations are quickly replaced by complex partial differential equations and complicated geometries. Many resort to experimental testing of prototypes to close the knowledge gap – requiring significant investment of time and resources, which don't always yield the certainty wanted.

At HERA, we've found that certainty of outcome is where FEA offers a main advantage. This is because it delivers a more detailed set of results that can offer the same, if not more certainty as traditional models and processes.

### Making a difference in project outcomes

We feel so confident in the benefits that FEA can deliver to our member's projects that we've built up strong in-house capability in this service offering. Our Finite Element Analyst Nandor Mago lives and breathes FEA – bringing over 20 years' experience working in this space.

As one of the country's leading analysts, he's able to help clients push their design boundaries when it comes to finding innovative solutions and de-risking the need for more costly and conservative design approaches.



Working on projects both nationally and abroad, he's helped our member Beca Group by providing timely and critical support on their major multi-storey steel-framed building in Singapore. Giving them the confidence in their structural design to meet safety thresholds – in particular with the installation of tuned mass dampers to reduce floor vibrations.

He's also delivered critical numerical predictions to estimate the fire performance of a composite slab with a re-entrant profiled steel sheet. Predictions that were subsequently verified through full-scale loaded fire tests conducted in the UK to obtain a fire rating to international standards. This work also led to the optimisation of the composite slab by eliminating the need for unnecessary reinforcement bars – a move that translated to \$180K in cost savings to our client.

### Your projects don't have to cost the earth

The biggest risks are the ones you can't see – which is why we believe adopting FEA should be the norm... (not the exception) for projects with uncertainty. This is a message we particularly want our architects, structural engineers, design and build fabricators or others involved in the early design phase of a project to know.

What we'd encourage you to consider, is that this work is an investment which in the long term improves the quality of an asset over its lifetime and minimises the risk for costly re-work. It also has the potential to significantly reduce costs by optimising designs.

### Contact us today!

We'd like to invite those currently working on projects that may need FEA to contact our Finite Element Analyst Nandor Mago for a no obligation discussion at [nandor.mago@hera.org.nz](mailto:nandor.mago@hera.org.nz)

We're so confident in our offerings that we're also open to adopting different payment models that may be more suitable to the project at hand.

## #MBIE #Resource



## #EMA #Resource



## Meet Kam Subramani – a man clocking up almost 30 years of service at HERA!

**This month the idea of work culture has been playing heavily on our mind. In particular, how we go about fostering a good one.**

In the end, the answer couldn't have been more simpler – he tangata! (the people). That's why we'd like you to meet a gleaming example of this – our Accountant, Kam Subramani.

Kam has been our accountant for almost 29 years, and is turning 73 in January 2019. Without any effort, he recalls his first day with us on 29 March 1989. Originally employed as a part time Accounting Officer by our Former Director Llew Richard – it only took Kam three weeks to prove his worth! With Llew putting up a proposal to the Board (with John Fraser as Chair) to allow HERA to employ Kam full-time.

As a new immigrant to New Zealand, Kam was very grateful for this opportunity. At the time he had a young family to support (a son aged 11 and a 5 year old daughter) – and had just left Fiji to escape the coup.

## Innovation in the 80s: shift over, I need to use that computer!

Over his years with us, Kam has seen the implementation of many innovations within our association. And one thing he's proven is that he's always been open to adapting to these disruptions. Because innovation isn't just for the young – but also for the young at heart!

One of these innovations was the personal computer. Where he recalled when he first started, there was only one computer shared between the receptionist, accountant and librarian. If someone wanted to type something up, he'd have to get off the computer to allow them to do that!

He was also responsible for introducing the rubber stamp to our processes. This ensured appropriate financial governance and internal controls were maintained – and, it's something we still apply today!

Recently, we also decided to update our accounting system. A change that meant Kam has had to familiarise himself with new software and processes for budgeting.

While this may seem old hat to many – when you consider Kam is 73, it's easy to see this could be very overwhelming if it was not for his determination and willingness to learn. It's a great reminder that it's not just the younger members of staff who need to embrace innovation.

## #Disruption #Transform #Innovation #risk

**NZHERA** @NZHERA · Apr 13  
 A must read for our members - UK expert @MFarmer\_Resi warns that #businessasusual is no longer an option - "we've entered a period of declining industry resilience and the industry needs to urgently transform or risk market failure."  
 @transforming\_NZ bit.ly/2JynGHY



**NZHERA** @NZHERA · Apr 24  
 How can @SirKenRobinson insights be applied to transform our industry? A challenge to nurture creativity in the workplace, foster innovation & lead people differently is key! #innovation requires a tolerance of risk & permission to create.  
 @transforming\_NZ bit.ly/2JzMRda



### Focus on health and hard work

It's hard to believe Kam's age when you see him. Particularly, as he has been managing Type 2 Diabetes since he was diagnosed at age 55. With our focus on 'work and safety culture' this month, I asked him what his "secret" was. He explained he was very particular about managing his diet and getting regular exercise.

I'm particularly impressed by Kam's memory. Not just remembering recent details but even specific dates of key activities or the name of the lady who first processed his immigration application to enter New Zealand! He's also a very busy contributor to HERA activities and manages the accounts for Metals NZ and Metal Roofing Manufacturers (MRM), NZSSDA, Casting Technologies, HERA Foundation and HERA Certifications as well.

### How things change: remembering to embrace innovation

I think it's sometimes nice to reflect on how much things have changed in the work environment over the years. The pace of innovation in our lives is so rapid that sometimes we forget how "old fashioned" we used to be. For example, I was amongst the first cohort of students at the University of NSW who had to submit typed assignments versus hand-written ones. In that year, having an electric typewriter was key (pardon the pun). Two years later, students having a home computer became common practice and emails started to become more popular. All that change, and I

still don't feel very old!

Now, when we talk about block chain, cryptocurrency and the like, we think this is all so revolutionary... but we have all experienced similar changes in our lives. It's worth remembering this, so that we can embrace changes and look forward to innovations.

### Innovation is key to HERA culture

A comment from Llew Richards that has stayed with Kam is that he was "working for HERA, not for himself." This is evident now as it was then. And what that really means is that Kam is working for our members to ensure that we apply appropriate financial governance controls and innovate our administrations.

Looking back on Kam's career, it becomes clear that innovation is a strong part of our HERA culture. Not just through our R&D services, but right throughout the organisation.



# H&S + Environment

## Safety lies in numbers... (staff numbers that is)

### April's health and safety focus for HERA is innovation in safety culture.

More specifically – the need to find new ways to rally our staff toward common safety values, attitudes, and goals within our workplace as part of our commitment to health and safety.

I know. It sounds a heavy and perhaps 'waste of time' task for many – but the reality is, the more workers who take health and safety more seriously within your organisation, the safer your work environment will be for all!

#### Health and safety should be seen as 'the way things are done' NOT 'a task on a list'

A good safety culture in a business often dictates how engaged an employee is. It also works to attract, motivate and retain good workers as well.

Steps taken to embed safety into the culture of any business is varied – but what is clear, is that it must be led from the top. This is because influencing positive change takes significant contribution not only by employees but in management's commitment to hold employees accountable.

#### If there is an intent to be a safety leader, a business must ask themselves:

- how important is safety?
- is safety important some, or all of the time? And,
- is it ok to compromise on safety if it's going to be more expensive?

The Construction Safety Competency Framework out of Australia identified nine core actions that could help develop a positive safety culture within organisations.

1. Communicate company values – indicate what is rewarded and supported by management, and expected by employees and subcontractors with

regard to safer behaviours, actions and decision making.

2. Demonstrate leadership – motivate and inspire others to work towards achieving a common goal or outcome by gaining their involvement to build positive relationships within the workforce.
3. Clarify required and expected behaviours – by sending clear and consistent messaging about the importance of H,S+E and reinforcement and recognition of desired behaviours.
4. Personalise safety outcomes – make it more obvious and relevant for individuals by personalising to their role in preventing and eliminating risks and hazards.
5. Develop positive safety attitudes – encourage open conversations about safe and unsafe behaviour, and the courage to challenge unsafe behaviours if they see it.
6. Engage and own safety responsibilities and accountabilities – increase input, actions and involvement in the safety management process by individuals. Participation leads to empowerment, which in turn leads to conviction that safety management plans, decisions and procedures are driven by shared interests and purpose.
7. Increase hazard/risk awareness and preventative behaviour – increased awareness not only works to build engagement but also works to reduce hazards and risks through oral and written communication, inspections and enforcement of safety needs.



8. Improve understanding and effective implementation of safety management systems – which means workers are better able to solve problems and develop safe work processes to improve safety performance. It also drives uniformity and a sense of predictability of safety management behaviour.
9. Monitor, review and reflect on personal effectiveness – this enables fine tuning and continual improvement of safety management systems through feedback loops, self-reflection and performance management.

### HERA's health and safety journey for our staff

With the inception of our new CEO Dr Troy Coyle, I've personally noticed a new view on health and safety has begun to take form within our organisation. This is not to lessen what we've done in the past which has always been to meet our legislated H&S requirements. But what has changed is the attitude towards it.

From the first staff meeting Troy led, the importance of health and safety under her mandate was made very clear. And staff were asked to share any health and safety related issues around the table.

Since then, our team has been issued monthly safety themes. And, a buddy system has kick-started for reviewing various areas of our workplace to identify potential hazards or risks and identify ways to eliminate or reduce them.

Safety actions are being recorded more regularly, and distribution of emails alerting to health and safety aspects we should be aware of have started coming. Most recent examples being around loud workplaces and associated hearing hazards, and actions to take if in contact with hydrofluoric acid stored in workshops.

While there is still a long way to go in this journey, even I can see that we've ticked off many of the positive actions recommended – all led from the top. The most interesting part being that I didn't even notice it was happening... it was innovation by stealth!

### H,S+E isn't hard work and a waste of time – if you change the way you think about it

Health and safety needn't be a chore. Immobilising your team to be health and safety champions requires only for you to show your commitment to making this part of your business culture, and holding your team accountable.

I've personally never actively taken the time to think about health and safety in my day to day living. All it took was raising my attention to health and safety, and our team actively sharing stories together on what could happen if we take a 'not my problem' attitude.

I strongly encourage our members to take a similar tack in their leadership – who knows what you could prevent from happening.

### Author

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We're proud to have had IRANZ share this story to their membership network this month!

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## News



### Health and safety focus for HERA

April 2018: April has seen a new focus on health and safety for HERA. With a new CEO, Dr Troy Coyle, at the helm, the philosophy has become that health and safety should be seen as 'the way things are done', not 'a task on a list'.

Comms manager Kim Nugent writes that a good safety culture in a business often dictates how engaged an employee is. It also works to attract, motivate and retain good workers as well. "Steps taken to embed safety into the culture of any business is varied – but what is clear, is that it must be

led from the top."



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