

ComFlor SR

Steel & Tube R&D that's led to a new floor product to market in NZ.

Five megatrends

You need to know if you want to deconstruct your construction risk!

B1/VM1 & B2/AS1

MBIE is calling for comment on proposed changes that will affect our industry.

MetalBase

August 2018

Contents

Innovate@HERA

Steel & Tube launch ComFlor SR in NZ 4

Notices@HERA

MBIE consultation open B1/VM1 & B2/AS1 6

Upcoming events & conferences 7

Projects@HERA

Our members featured on social media 8

ThinkTank@HERA

Five megatrends for construction risk 10

Creating a lean innovation process 12

Video: Page Macrae's Peter Swan interview 13

Why lean start up applies to you! 15

Why isn't manufacturing uptaking technology? 16

Disruption - the engine of prosperity 18

H&S + Environment

Equipment handling courtesy of WorkSafe NZ 22

Cover:

Auckland University of Technology Faculty of Design and Creative Technologies graduation ceremony which our CEO Dr Troy Coyle had the privilege of being the guest speaker of.

Overleaf:

More scenes from the graduation ceremony featured on our cover page | Our CEO Troy Coyle attending the WTW construction risk presentation | Auckland Tourism, Events and Economic Development (ATEED) Business Innovation Advisor Rafael Lee & Innovation READY Facilitator Adrian Packer | Teaching Entrepreneurship Founder Justin Wilcox presenting on customer discovery at Innovation READY program | Recording our NZ steel history - interviewing Cyril Baker and his wife Judy.



From our CEO, Troy Coyle

August was a month of revelation at HERA.

With our Structural Systems team led by Dr Stephen Hicks announcing their collaboration with Steel & Tube on the development of a new construction product. Comflor SR is a composite steel concrete decking product new to the NZ market. It involved all three of our Structural Engineers; Stephen Hicks, Jing Cao and Nandor Mago.

Part of the project made use of our advanced FEA capabilities, with Nandor as our key expert. This is a core capability that is currently under-utilised, which not many of our members seem to be aware of. Please contact Nandor if you have any FEA requirement - it may surprise you how affordable this service is... and it may save you money in the long-run. For example, in the Comflor SR project, the FEA work showed that much thinner slabs could satisfy fire resistance requirements, thus adding a strong value proposition to Steel and Tube's product.

We also held the third session of our Innovation Ready, Set, Go program. US-based expert in customer discovery, Justin Wilcox, joined us to deliver training on customer interviewing and problem discovery during this session. In addition, he helped us to better understand how to develop and test a minimum viable product. Justin also trained the HERA staff on these techniques, which is part of our focus to better understand our member's requirements of HERA. This will ensure we remain relevant and help solve the problems that are important to you.

We have also been preparing for our AGM and hopefully we will see you there on the 12 September, as well as at the launch of the BERL Four Capitals Assessment for the Metals Industry in New Zealand. Stay tuned, too, as we are about to release our Annual Report. This year it will only be coming in electronic form. I know this is polarising as some people really want it to be electronic and some only want it in hardcopy. We have decided to bite the bullet and go completely digital.



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

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

We've been working hard to do just that - recently adding Instagram to our social platforms. It's a great visual space that now allows us to share your great project imagery. Follow us today!





Steel & Tube's new floor product ComFlor SR now available in NZ



Profile of ComFlor SR.



Laboratory tests at Imperial College in the UK for ComFlor SR double span performance.



Loaded fire test at Exova Warringtonfire.

Every day, we're driven to solve our members problems.

So, when the opportunity to work with Steel & Tube came up to help develop their new construction product – we jumped!

We spent 18 months driving R&D focused on getting their new composite slab product ComFlor SR market ready.

Providing design of the test specimens, management of international laboratories, and evaluation of design values from tests in both normal and fire conditions.

The result?

A new type of floor system to the New Zealand market that gives confidence to specifiers because its undergone rigorous testing and evaluation.

As well as the implementation of SCI, UK evaluated design values into a new version of the market leading ComFlor design software to rapidly speed up use and adoption by designers.

Why the move for composite construction?

Composite construction is continuing to gain market share due to the strength and stiffness it can achieve with minimum use of materials.

Composite slabs have the following additional benefits:

- Profiled steel decking acts as a safe working platform and permanent formwork, which increases the speed of construction,
- Unpropped construction may be achieved, removing the need for temporary props,

- The decking can stabilise beams during construction, and
- The decking can provide all, or part, of the main tension reinforcement to the slab.

Although re-entrant decks have been used in Europe for some time, New Zealand hasn't had this type of profile available.

Our members Steel & Tube recognised this as an opportunity ripe for the picking. Setting out to develop a cross-section that would provide a profile that's inter alia (a flat soffit); with thinner slabs. Their hopes – that it would enhance fire performance and improve vibration and acoustic performance due to its larger mass. It just needed to be proved!

ComFlor SR fell outside the scope of current design standards such as AS/NZS 4600 or EN 1993-1-3 and required key design capacities to be obtained through laboratory tests, advanced numerical modelling, first principal based mechanical analysis such as Improved Engineering Method (IEM) and rigorous structural reliability analysis to inform product design.

Facilitating connection, collaboration and knowledge sharing

Together we were able to drive the project forward to completion.

Leveraging our in-house expertise, international connections with testing facilities and a deep understanding of national standards such as Eurocode 4 and AS/NZS 2327 to truly make a difference and fill the knowledge gaps.

Our finite element capability proved much thinner slabs could be achieved than given in international standards to satisfy fire resistance requirements – allowing us to push design boundaries safely.

In addition, we showed that the traditional tension reinforcement bars in the bottom of the slab for the load-bearing capacity in fire could be removed completely – leading to a more cost-effective solution. The fire capabilities were subsequently validated by

full-scale loaded fire tests undertaken at the world renowned Exova Warringtonfire testing facilities in the UK.

We were also able to take account of the non-linear behaviour in the double-span tests through the use of its Improved Engineering Method (IEM) to enable larger spans to be achieved. And, structural reliability analysis including Monte Carlo simulations, meant we were able to evaluate design values from the tests to ensure safety margins required by the NZBC were met. The ambient temperature design properties, full-scale non-composite and composite tests were undertaken at Imperial College London in the UK.

Welcome to the world ComFlor SR (well New Zealand anyway!)

We're proud of the launch of the ComFlor SR product in New Zealand.

Not only has Steel & Tube created a new product range, but the design values have been adopted into the next version of their design software ComFlorTM. A move that will assist engineers in designing building floors with ComFlor SR product more efficiently and easily.

It reinforces that steel is an easy and versatile building material that continues to provide more choice to users. This combined with the products enhanced fire resistance, vibration and acoustic properties – makes it an attractive option in the important multi-storey residential sector – and we look forward to its uptake in the market.

Curious to know how we can help your product development?

Contact our General Manager Structural Systems **Dr. Stephen Hicks** or Senior Structural Engineer **Dr. Jing Cao** to discuss your project today.



This project news was also proudly featured on IRANZ

Notice

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Call for comment – MBIE consultation for proposed changes to B1/VM1 and B2/AS1

Over the last six months, HERA have worked closely with SCNZ and MBIE to get value from the significant investment made in developing the new composite design standard (AS/NZS 2327) and durability technical specification (NZS TS 3404) by having them referenced in B1/VM1 and B2/AS1 of the New Zealand Building Code.

It's important that you have your say in these changes as they'll affect our industry.

They intend to:

- Amend Verification Method B1/VM1, as follows:
 - AS/NZS 2327: 2017 will replace Section 13 of NZS 3404.1 as the cited standard for the design of steel-concrete composite structures.
 - Introduce NZS TS 3404: 2018, which will provide an approved compliance pathway for durability and avoid the need to justify alternative systems.
- Amend Acceptable Solution B2/AS1, as follows:
 - Add NZS TS 3404 as an acceptable solution for meeting the durability requirements of steel elements.

It's proposed the above changes will come into effect on 30 November 2018. However, the existing B1/VM1 (Amendment 16) and B2/AS1 (Amendment 9) will remain in force until 31 March 2019.

The introduction of AS/NZS 2327 expands on the information currently in NZS 3404.1 and **provides design information on a wider range of composite structures.**

A Preliminary Impact Analysis undertaken by the Australian Building Codes Board (ABCB) indicates that the use of this new standard will result in more economical, higher quality buildings using fewer building materials. Overall, reducing cost and environmental impact. ABCB have also signaled that AS/NZS 2327 will be referenced in the 2019 edition of their NCC. And, may be considered for use as part of a Performance Solution in the interim. As a consequence, it's important our members currently considering exporting composite products or services to Australia, comply with this standard.

Currently there's no means of compliance with Building Code clause B2 Durability for steel construction. Most often, compliance is demonstrated using Appendix C of NZS 3404.1 (which references AS/NZS 2312). This Standard is difficult for designers to interpret and generally requires specialist expertise. **NZS TS 3404** clarifies the application of AS/NZS 2312, meaning that more designers can specify corrosion protection systems. Meaning, this proposed addition to B2/AS1 will provide an approved compliance pathway, avoiding the need to justify alternative solutions.

What does this mean for you?

From 1 April 2019 building consent and territorial authorities must take these changes into account when deciding whether a building consent application applies with the building code. So it's important that you have our say. To do this, MBIE has released a consultation document on the proposals. **The deadline to supply written comments is before 5:00pm, Friday 21 September 2018.**

HERA AGM - 12 September 2018

Our CEO Troy Coyle would like to let our valued members know, that our Annual General Meeting (AGM) is scheduled for Wednesday 12 September 2018.

Excitingly, the AGM will be followed by the launch of the 'NZ Metals Industry - A Strong Contributor to Living Standards' report we commissioned. It'll be presented by BERL Economist Hugh Dixon and Chief Economist Dr Ganesh Nana, and is an important study of metals contribution to NZ's economy.

We'd also like to give you sufficient notice of proposed changes to our HERA Rules. The purpose of these alterations being to remove gender specific language when referring to the Chair, the CEO and members. Our HERA Executive has endorsed the proposed alteration, and is recommending to the AGM to approve by resolution. Voting shall be by a show of hands unless a ballot is requested, in which case, each Ordinary member is entitled to the number of votes calculated in accordance with Rule 8.3.

View the AGM agenda: www.hera.org.nz/wp-content/uploads/HERA-AGM-2018-agenda-papers.pdf

View the proposed rule changes : www.hera.org.nz/wp-content/uploads/HERA-Rules-with-changes-as-proposed-for-the-2018-AGM_.pdf



Welcome to another year with HERA!

We're excited about the positive changes we're making within our organisation – and that you'll be part of that journey too.

Six easy steps to get more from your membership today:

- Step 1**
Update to our new HERA logo on your emails & website, and take advantage of 40 years of trusted expertise.
- Step 2**
Contact our Finite Element Analyst to see how you can optimise your project, save costs and eliminate uncertainty.
- Step 3**
Upskill your workforce & meet certification needs. Invest in your staff becoming a Welding Supervisor or Inspector.

The year ahead 'in focus'

From our CEO

HERA represents a strong and growing multi-billion dollar metals engineering industry sector. One that is strategically important to New Zealand's economy as a high value and high paying sector competing effectively against imports, while also exporting to a global market.

This year, we'll be strongly supporting the introduction of Government policies and programs aimed at increasing innovation, transformation and R&D in the metals-based engineering sector. We want to bring greater recognition of the importance of our industry to the NZ economy and showcase the value and innovation that we deliver.

We are also re-evaluating our services to industry, in collaboration with our members. You may notice us engaging more proactively with you and we want you to engage more proactively with us.

RSVP – to attend our AGM by contacting our Reception Administrator on admin@hera.org.nz



#Events #Conferences

NZHERA @NZHERA · Aug 2

Do you have an interest in innovation and development processes for surfactants such as industrial paint and coatings? If yes, then the @ACIChemicals 3rd edition of the Future of Surfactants Summit North America may be of interest. Chicago 19-20 Sep 2018. bit.ly/2M0dB7f

NZHERA @NZHERA · Aug 14

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

NZHERA @NZHERA · Aug 16

Through our association with #NZSSDA we'd like to inform our members about @ASSDA1 #stainlesssteel conference from 3-4 October. Its theme - trends in urban infrastructure & modern architecture. Be sure to secure your spot today! #PacRimStainless2018 bit.ly/pacrim18

PROUDLY SPONSORED BY



Brought to you by the Australian Stainless Steel Development Association (ASSDA), PacRim Stainless is the premier annual conference event bringing together Australia's stainless steel industry and colleagues from abroad in an exclusive networking environment. The conference provides a broad range of national and international speakers and delegates, plus a variety of social opportunities to network, share knowledge and enjoy the conference destination.

PacRim Stainless 2018 will be ASSDA's 25th National Conference and 14th International Forum focusing on the Asia-Pacific region.



innovationinmetals

innovationinmetals The amazing #calderstewart steel factory

steel #construction #freshandclean #welding #buildingcommunities #annualreport2017

6 likes
AUGUST 7

Add a comment...



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innovationinmetals The beauty of #GraysonEngineering and their sculpture on display at #gibbsfarm - #atahaua

steel #construction #design #NZproject #membersuccess #proudasapunch #nzmade #kiwingenuity

9 likes
AUGUST 9

Add a comment...



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innovationinmetals A great shot from our members #FitzroyEngineering of one of their mooring buoys developed for a client based in Monaco!

steel #construction #design #NZproject #membersuccess #proudasapunch #nzmade #export #internationalreach #transportinfrastructure #sea

6 likes
AUGUST 23

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innovationinmetals 2018 #MetalSaw at work on a 4 megawatt wet wood waste water tube steam boiler under construction at our member #Lyttelton Engineering's fabrication workshop. It's destination? A local Canterbury timber processing plant!

See our latest article from our CEO @troycoble on #deconstructing #construction #risk - #linkinbio

steel #construction #design #NZproject #membersuccess #proudasapunch #nzmade #kiwingenuity #hiddenbeauty #AR2017shot

7 likes
AUGUST 24

Add a comment...



innovationinmetals

innovationinmetals Seriously - how beautiful is #steel in this shot! An amazing image from our members #QuinStructuralConsultants of the #Norwest on Victoria in #Christchurch - a \$9m four storey commercial building constructed on a complex triangular shaped corner site! Featuring of course, beautiful steel moment resisting frames and metal louvers.

steel #construction #design #NZproject #membersuccess #proudasapunch #nzmade #steelart

13 likes
AUGUST 13

Add a comment...



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innovationinmetals An amazing image supplied by our members #CWbeams and #D&HSteel of the install of custom welded beams on site - an orchestra of #cranes

steel #construction #design #NZproject #membersuccess #proudasapunch #nzmade #kiwingenuity #hiddenbeauty

6 likes
AUGUST 14

Add a comment...



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innovationinmetals #IMGGroupNZ on site building a de-watering plant at Vale's Goro Mine facility in #NewCaledonia - the project was situated 1.5 hours drive south of #Noumea in a remote location.

The best part? They completed the project on time and to budget with zero LTI's!

steel #construction #design #NZproject #membersuccess #proudasapunch #nzmade #internationalreach #exportingtalent #pacifics #propertyinfrastructure #industrial

2 likes
AUGUST 25

Add a comment...



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innovationinmetals 20 Customhouse Quay #Wellington in construction in 2017. A new 14 level office building with #NZGBC 5 + Green Star rating boasting features such as #baseisolation #diagrid and improved #seismic performance & resilience!

We're so proud of our members #Dunning Thornton who delivered the #structuralengineering & #MJHEngineering who #fabricated the 2,000 tonnes of #steelwork

steel #construction #design #NZproject #membersuccess #proudasapunch #nzmade

14 likes
7 DAYS AGO

Add a comment...



innovationinmetals

innovationinmetals Turbine engine repair and balance in action, courtesy of one of our member circa #2012 - a different engine to the #disruption one that our General Manager Boaz Habib is talking about in his latest #ThinkTank article! #linkinbio

steel #construction #design #NZproject #membersuccess #proudasapunch #nzmade #kiwingenuity #hiddenbeauty

4 likes
AUGUST 15

Add a comment...



innovationinmetals

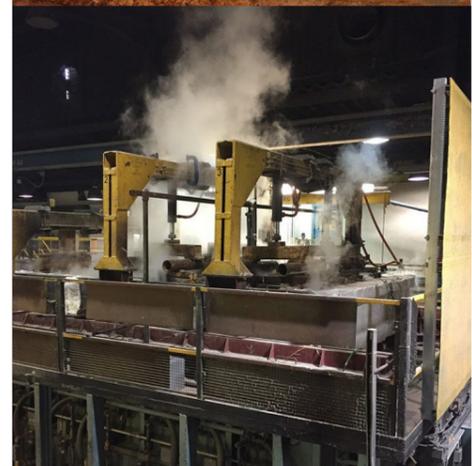
innovationinmetals #crane doing it's thing! The first lift of #steel onsite for member #PegasusEngineering on their 1000 tonne+ Outpatient project. It consisted of 610 channel section and 800 #welded connectors for a maximum height of 27.6m for the #structural steel!

PS. Today we'd also like to say hari huri tau to our fantastic CEO @troycoble - we hope you're having a great #birthday today 🎂🎉

steel #construction #design #NZproject #membersuccess #proudasapunch #nzmade #kiwingenuity #hiddenbeauty

6 likes
AUGUST 18

Add a comment...



innovationinmetals

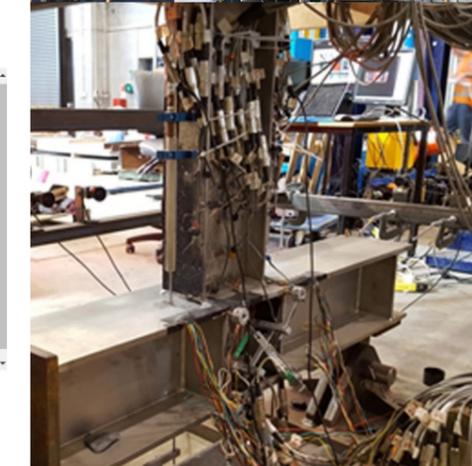
innovationinmetals The news is out! Our members #SteelandTube have launched a new product #ComFlorSR to the NZ market.

We couldn't have been more prouder to have helped them with their R&D during its development & testing phase. That's why we chose this photo today - a shot of the loaded fire tests for their product which was carried out at #Exova #Warringtonfire (now #element) in the UK!

steel #construction #design #NZproject #membersuccess #proudasapunch #nzmade #kiwingenuity #hiddenbeauty #mvp #research #disruption #congratulations #linkinbio

5 likes
6 DAYS AGO

Add a comment...



innovationinmetals

innovationinmetals We've been working on some important research out of our #WeldingCentre with @universityofauckland to better understand the behaviour of #structural #stainless #steel #connections under severe #seismic load. We believe this research will be crucial in giving stainless steel the attention it needs to comply with seismic requirements as a feasible and safe material alternative in NZ.

wires #sensors #testing #steel #laboratory #scholarship #PhD #HafezTaheri #collaboration #design #NZproject #nzmade #kiwingenuity #hiddenbeauty #ingenuity

9 likes
5 DAYS AGO

Add a comment...



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innovationinmetals From lofty heights! Our members #FaraEngineering doing their thing

steel #construction #design #NZproject #membersuccess #proudasapunch #nzmade #kiwingenuity #hiddenbeauty #flyinghigh #AR2017

12 likes
AUGUST 17

Add a comment...



innovationinmetals

innovationinmetals This is a throw back to our past member #InitiativeEngineering while they were working on the Cashen Quay 2 rebuild at @lytteltonport to #weld pile casings quay side. Executing approximately 2,100 welded joints in total as the main contractor for this particular project deliverable!

Sadly, they're no longer operating despite the great work they did. A stark reminder to the rest of our members to keep #innovating in your business to remain competitive.

steel #construction #design #NZproject #nzmade #kiwingenuity #hiddenbeauty #innovation

12 likes
AUGUST 20

Add a comment...



innovationinmetals

innovationinmetals A fantastic shot from @imperialcollege of testing we carried out at their site for our members #SteelandTube

A great example of #collaboration achieved by leveraging our international connections with institutions who are leaders in their fields.

researchanddevelopment #innovation #progress #ingenuity #excellence #test #laboratory #load #composite #newproduct #ComFlorSR #discover #newthinking #diversethinking #reducerisk

10 likes
4 DAYS AGO

Add a comment...



innovationinmetals

innovationinmetals Up among the clouds - our member #NickMorrisEngineering fabricating and installing the steelwork for the #remarkable ski field medical facility for their clients @cookbrothersconstruction

#howstheview #steel #construction #design #NZproject #membersuccess #proudasapunch #nzmade #hiddenbeauty #remoterecess #buildingcommunities #AR2017shot

9 likes
2 DAYS AGO

Add a comment...

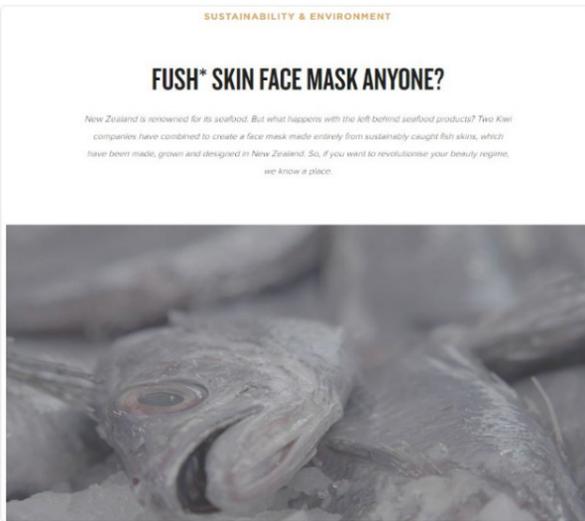
Showcasing your projects to the world on #instagram

NZHERA @NZHERA · Aug 22
The upcoming #StructuralAwards2018 has beautiful projects on their shortlist - and there's one we're particularly proud of! #JacobsLadder sculpture at #GibbsFarmNZ has a powerful impact on its surrounding, & was delivered by our member #GraysonEngineering bit.ly/2wj9r3Y



Jacob's Ladder at Gibbs Farm

NZHERA @NZHERA · Aug 22
Another great story shared by @theNZstory - it oozes the mana of #kiwimade #sustainability #innovation & #collaboration. The best part? Our member #StaffordEngineering played a role in manufacturing the machine that made this product come to life! #nzproud bit.ly/2MlegKO



NZHERA @NZHERA · Aug 23
This year our member @BecaGroup won the 2018 Most Innovative Hi-Tech Service category award for their Beacon System. Showing how #innovation & #technology improve services- in this case prioritising consultancy for clients who are #seismic property owners! bit.ly/2LZrm9F



NZHERA @NZHERA · Aug 31
Great to see our members @oalaviation recognised in the recent Director of Civil Aviation Awards! Recognised for their practical desire to improve their business & NZs aviation sectors #safety culture by implementing safety management systems #SMS #NZproud bit.ly/2BrewwH



Five megatrends you need to know to deconstruct construction risk

What are the big five megatrends in construction risk? And how do they relate to our members?

Last week, I attended the launch of the Willis Towers Watson Construction Risk Index (CRI). The results reiterate what our members are already telling us. They also reiterate what we are asking our members to consider. That is, the importance of HR innovation, business model innovation and technology adoption.

The CRI assessed 50 risks over five megatrends shaping the construction industry. The survey involved qualitative interviews with 11 senior executives of global companies and a survey of 350 global companies.

The five megatrends in order of ranking (and the top ten risks)

1. **Geopolitical instability and regulatory change.**
 - Negative changes to government financing, policies and priorities (1)
2. **Workforce management and talent optimisation**
3. **Business model and strategy challenges**
 - Threat from new and emerging competitors (2)
 - Capital funding and liquidity (3)
 - Macroeconomic environment uncertainty and inconsistency (4)
 - Necessity for increasingly diversified business models (10)
4. **Digitalisation and new technologies**
 - Over reliance on / failure of critical IT systems (5)
 - Liabilities arising out of widespread use of BIM (6)
 - Third party vulnerability/ digital supply chain resilience (7)
 - Increased security threat from cyber-attacks and data privacy breaches (9)

5. **Complex operating models.**

- Complexity of the labour market: dependence on subcontractors or contract labour (8)

What does it all mean?

Industry's direct relationship with public spending and government regulations (Risk #1) highlights the requirement for a review of Government procurement rules – something that Metals NZ is working on.

The need for talent attraction and retention is one that we are consistently hearing from our members. In metals engineering it's an obvious risk and opportunity to make the industry more attractive. This will require expanding innovation strategies to include HR innovation.

One of the presenters at the launch, referred to the Global Talent Management and Rewards Study 2016, which stated:

“Only 38% of construction employees think their organisation provides career planning tools and resources that are helpful.

This is likely to be indicative of metals engineering also. It was stated that the cost of turnover of senior staff is 73% of the annual package of each employee. This provides a strong economic incentive to retain high performing individuals.

It was suggested that organisations create a Modernisation Agenda. Such an agenda would address a holistic HR package, including addressing workplace stress, well-being and health and safety. This is something that HERA has recently included as one of its core values – we're focused on total well-being and safety. The agenda would also include a listening strategy for the organisation to get the pulse on what people value and desire.

Our view is that there is a looming skills crisis for our industry and members will need to get more innovative with their talent management.

The report also reinforced the importance of technology adoption, stating “technology will enable companies to be more nimble and to differentiate themselves”. The report highlights one of HERA's key views “the future will demand more efficiency than ever before, and construction companies will have to

demonstrate their commitment to exploring new ideas and nurturing a culture that supports innovation”. This is something that HERA is assisting our members to develop, through our Innovation Ready, Set, Go program.

NZHERA @NZHERA · Aug 16

Yesterday saw our CEO @DrTroyCoyle head to the @WTWcorporate 'Deconstructing Risk' #construction #risk index 2017 seminar! A great opportunity to understand what solutions and services there are beyond insurance for our industry and members in this space.



The world continues to change at an increasing pace & construction is under pressure! Read Marsh report: Emerging Risks in Construction: Expert Perspectives on the Construction Industry. It examines the challenges, risks, & opportunities facing the sector. bit.ly/2N0WoeB



Creating a lean innovation process

The end of July saw HERA deliver the second module of our Innovation READY program.

The aim – to mould the mindsets of those willing and open to re-assess how they're currently doing business.

As an attendee, I have to be honest. The concept is quite hard to grasp. Like anything unexplored, it's unknown. It challenges the boundaries we've set up in our world. It tells us that change is for the best. But why fix something that ain't broke right?

It's perhaps the very reason we avoid thinking about innovation and disruption in the first place!

I recently was in conversation with an engineer with a long history in our metals industry in New Zealand. He quite openly felt that HERA talking about 'moving forward, innovation, positive change and being aware of disruption' was trite.

It felt a little harsh. But on reflection – perhaps this is how many of you feel. But ask yourself – how else will you be challenged to contemplate these ignored concepts... if no one is consistently pushing you to?

We've been here before... so why haven't we learnt?

As implied by Malcolm Frank, Paul Roehrig and Ben Pring in their book 'What to do when machines do everything,' there's plenty of evidence to show our economy is weakening. Wages are at a standstill, debt is rising, and productivity is weak. On top of that, major business trends are working against us. Increasing global competition, income inequality, erosion of privacy and security and emerging start-ups that are seeing legacy firms die. Last year's A&G Price and Amtec closures a stark reminder of this. And, as we've seen in New Plymouth – political disruption in our Oil & Gas industry combined with new technology are taking our jobs!

It's quite evident the old rules of work and business no longer apply. Yet loyally, much of our NZ metals industry are still trying to cling to them.

We've worried about 'new machines and technology' for a long time. Centuries in fact.

- [The First Industrial Revolution saw the introduction of power looms.](#) The Luddites in England responded by smashing the looms because they recognised it threatened their textile jobs. Quite rightly so – it did. But could you imagine a world today without this machinery?

Where would the clothes on your back come from? And, how much would it cost you?

- [The Second Industrial Revolution the steam engine enabled mechanisation. It was the age of steam and rail](#) – but all that could be focused on was the impending widespread unemployment. Economist John Maynard Keys famously saying, "due to our discovery of means to economising the use of labour, we're outrunning the pace at which we can find new uses for labour." But fast forward to today – and the world didn't end. This new technology didn't stop our economy from functioning... it just changed the way it did.
- [The Third Industrial Revolution of oil and assembly lines of mass production is where we currently sit.](#) And it doesn't take a rocket scientist to see that it is quite literally 'running out of gas'. Whether we want to admit it or not, we're on the cusp of entering:
- [The Fourth Industrial Revolution. One that drips of a data driven age.](#) Full of computers, automation, advanced materials and technology and artificial intelligence threatening to displace us. Looking back on history, you should now realise we've been here before. So why do we keep fearing change and instead defend staying the same? When will we acknowledge, embrace and proactively prepare for these changes instead?

I don't know about you, but you'd have to kill me before I smashed up my iPhone like the Luddites did with the looms!

Has a computer put me out of a job? No.

Has it shortened my work day because I have less to do? No.

Has it changed the tasks I do in a workday? Absolutely!

They've made me more productive. I don't have to spend hours doing mundane tasks, because an app or software can now do it for me more efficiently. It gives me more time to focus on the tasks that a computer can't.

There will be blood

But let's get real. My rosy outlook isn't quite right either. People will lose jobs. And as Malcolm Frank and his colleagues state 'there will be blood.'

They refer to Oxford University research which predicts 47% of US jobs could be automated away by 2025. This equates roughly to 75 million jobs. If we apply this across all industrialised nations we're looking at around 173 million jobs gone in eight years! However, across the many studies done on

this topic, the consensus is it won't be that dramatic. More realistically ranging between 5 to 15% of jobs disappearing over the next 10 to 15 years.

This is still significant, 19 million for the US in fact. But in the age of the machine, history tells us we'll also see the creation of jobs too. If we look at our journey since 2010 post the Great Recession, 15 million private sectors jobs were created in the US alone. This tells us although jobs will disappear, there will be more created than lost. So, what we should be asking ourselves is what is our succession plan for this displacement?

Saying you were too busy with day to day operations won't cut the mustard when you find yourself out of a job.

How the heck do you innovate and pay the bills at the same time?

I'm not the only one attending the Innovation READY program – there are 17 others. And it seems to be the most commonly asked question.

With relief, this means I'm one of many on the innovation train for future sustainability seeking the answer. But on the flip side, it also points out how many aren't thinking about their future enough to invest in it.

In today's global market – 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.

It'll come down to one/some of our members being brave enough to give this innovation approach a go. Those that are willing to apply lean start up methodology to their operational processes, services, and product developments.

Let's face it, we're all looking for case studies, practical steps and tangible evidence before we take a punt. The truth is, the future won't be run by those who created the new machines. But the ones who took

the time (and risk) to figure out what to do with them in their business model before they became worth worrying about!

This boils down to leaders shifting their mindset away from just dollars in the bank right now. Instead, allocating and protecting a pool of resources solely focused on the future, while also running business as usual.

Our Innovation READY program can help achieve that. By equipping prospective innovation managers with the theory to prepare themselves and their businesses for implementing this innovation process.

The August session will focus on customer discovery – where to find your next innovation ideas and how to determine which ones will add value to your customers.

Manufacturing can lead this transition!

There's no escaping the gravitational pull of the Fourth Industrial Revolution. So, deciding what you do about the new machine era will be the single biggest influence on what your future success looks like.

Automation has been the initial step in each industrial revolution. The Fourth Industrial Revolution will see the manufacturing sector become more intuitive, reliable and productive. And as the 'what to do when machines take over the world' book states:

"Much of this shift won't be driven by companies that were started last year or even 10 years ago. But by companies started by our grandparents. Because they have access to the richest lodes of data. The 'fuel' for the new machine."

News flash – that is a lot of our industry!

So, if you're a business trying to make the best decisions for your operations, join the waitlist for our Innovation READY program by contacting our General Manager Industry Development [Dr Boaz Habib](#).

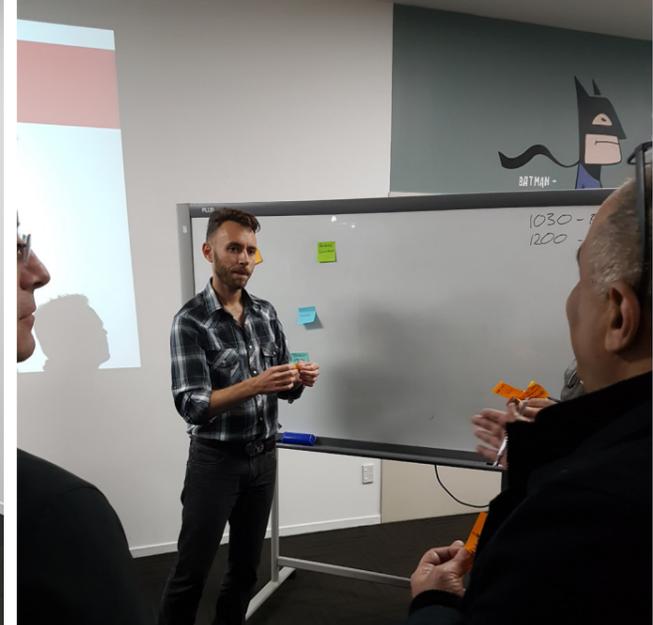
Page Macrae Peter Swan talks innovation

We've been on a quest to help our members become more Innovation READY.

Developing a bespoke course focused on arming them with the tools and understanding to implement innovation strategies into their organisations.

So of course, when Page Macrae signed up their Business Development Manager Peter Swan to attend, we knew we had to pop down to Mt Maunganui and find out their motivations!





Why lean startup applies to you – even if you're not a startup!

Lean startup is an innovation process with an unfortunate name.

Although it is based on lean principles, it isn't the same. And, although it was based on startup evidence, it also applies to businesses of all sizes, Government agencies and not-for-profits.

It also applies to well established businesses who are well past the startup phase!

Even big companies want to think like startups

For example, did you know that General Electric uses Lean startup approaches? And, they are the oldest company on the US Stock Exchange and one of the biggest companies in the world.

Lean Startup is a methodology for new product development that evolved from agile software development. It focuses on fast learning from customers and fast product development cycles. And, has been used increasingly in the manufacturing sector to improve product-to-market cycles.

GE has used these principles to create FastWorks, a process designed to get products out fast, learn and iterate, and then adjust the design. The program has been so successful since its inception in 2013, that GE lost count of the number of products FastWorks has delivered, at 800! In its first year, 100 FastWorks projects were launched in the U.S., Europe, China, Russia, and Latin America, ranging from building disruptive healthcare solutions to co-creating a new solution for flow metering in multiphase oil wells.

In order to support the cultural change required to make FastWorks a success, GE businesses restructured into cross-functional teams. Each team listened to customer feedback together, bouncing ideas off sales and testing products with designers. They engaged suppliers early on to improve responsiveness to their changing mindsets.

This is how GE explains FastWorks.

Think about how a startup approaches a problem. Successful entrepreneurs test solutions, develop prototypes and adapt along the way. Learning, iterating and paying close attention to data and metrics is necessary at every step. FastWorks isn't about being fast or simple, though. It's a rigorous process where

a lot of time can be spent on customer discovery and understanding what clients really need and value.

It's this customer discovery and validation part that's key. FastWorks begins by asking customers questions to find out what outcome they're trying to achieve or problem they'd like to solve. Whether it's being used within areas of GE or other clients, the team working on an issue comes up with a hypothesis for a solution, which also includes certain assumptions. The objective is to find ways to test those assumptions or to get customer validation that says your assumptions are right or wrong. The idea is to test and learn and then make changes based on those findings.

In 2017, the former CEO, Jeff Immelt, who created FastWorks, was replaced by incoming CEO, John Flannery. So far, Flannery has continued to support FastWorks.

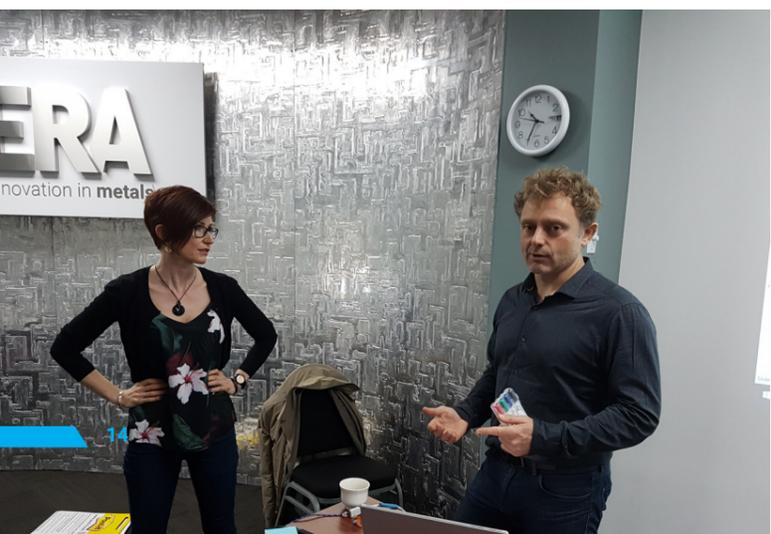
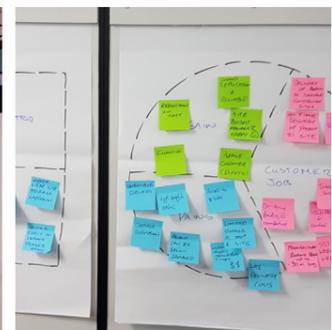
With GE maintaining that FastWorks is "changing the way the company makes decisions the way it works with customers. It emphasises continuous innovation, space to experiment and provides a way to validate assumptions and ideas".

Key messages from General Electric's experience with lean startup

- Change is inevitable.
- We can't focus on perfection. Don't waste time building the perfect version of something that nobody wants.
- Innovation is the key to differentiation and it has to be faster than our competitors.
- R&D has to be market-focused.
- We have to be able to pivot our strategy when we find information that doesn't support the existing one.
- We need a learning (vs blame) culture.
- Ideas vs experience OR ideas and experience?
- Teams need to have cross functional accountabilities.
- Look for new ways to do things better/faster.
- Ensure that innovation processes can withstand changes in leadership to maintain momentum.

Lean startup is an innovation approach that can apply to our members. Its focus on rapid learning with minimal investment to de-risk product development. While, its engagement with customers maximises the likelihood of innovation (product or service) success. We recommend our members investigate lean startup methods and how they would help them to innovate faster.

NZHERA @NZHERA - Aug 17
The countdowns on to have the wonderful @Justin_Wilcox in our midst! We've got him to NZ to deliver #customerdiscovery insight to our Innovation READY program - & as result he'll also be sharing the love with #Waikato businesses in collab with @callaghannz bit.ly/innovm3



Why isn't manufacturing uptaking exponential technologies?

Why isn't manufacturing uptaking exponential technologies

There are many logical and psychological barriers stopping people from uptaking exponential technologies.

In fact a study of US manufacturing firms' adoption of exponential technologies has many similarities to feedback that HERA receives from its members. Key findings being, that companies are too focused on the day-to-day operations to respond to longer-term disruption opportunities. And, that attracting and retaining talent is a key challenge... perhaps, even, a looming crisis.

The problem is, failure to uptake exponential technologies can be dangerous. They allow businesses to grow and catalyse change at a rapid (i.e. exponential) pace. And, are often used together to disrupt existing technologies, processes and industries. Out of this disruption comes transformation and opportunity.

Often their growth is hard to spot in the beginning. For example, artificial intelligence and advanced analytics have been spoken of for some time. Now they have crept into our daily lives through apps such as Netflix, Facebook and Google.

Examples of exponential technologies in growth phase now are:

- Additive manufacturing (3-D or 4-D printing);
- Block chain;
- Internet of things;
- Cloud computing;
- Advanced analytics; and
- Artificial intelligence.

Transforming the future of manufacturing

Between May and December 2017, Deloitte interviewed Senior Execs from more than 24 companies. Participants included Dow Chemical, PepsiCo, Hewlett Packard, Boeing and Lockheed Martin. These interviews focused on the future of exponential technologies in manufacturing. The resulting report is titled "Exponential technologies in Manufacturing: Transforming the Future of Manufacturing through technology, talent, and the innovation ecosystem".

Deloitte identified four key reasons why manufacturing firms are not adopting these technologies as rapidly as they should. We think these findings sound very familiar!

1. Structural and cultural challenges

This is particularly a challenge for big companies, who are typically not agile. Decades of success and profits may be leading to complacency around the need to change.

2. Regulatory burdens

Drag is on the system because of overly complex or inefficient regulatory and safety standards. The costs of compliance and duration to attain compliance are excessive. Regulatory standards are simply not keeping pace with technology changes.

3. Talent constraints

There is lack of available talent within manufacturing. Retirement of baby boomers is creating a knowledge gap. And, the manufacturing industry is not seen to be innovative or high-tech. Consequently, tech-savvy staff are moving across to more attractive sectors.

4. Leadership mindset

There is a lack of management attention and vision beyond the day-to-day pressures. Executives are unwilling to take risks to invest in technologies with an unclear ROI in advance of getting started. There is a lack of aligning vision, culture and incentives. Also, an absence of asking and answering the difficult questions. This leads to conforming to the status quo. Management is not supporting a learning culture and allowing people

to experiment and "fail".

Should we be asking and answering the difficult questions ourselves?

We think these findings lead to four big questions for NZ manufacturing to consider.

1. Do we have a culture that is receptive to change and agility?

Maybe we steadfastly enforce the "norms" of what we do every day without even realising it. If we are reliant upon our supplier to roll out innovation down the value chain, we may be caught out. The bigger the company, the more difficult it is to innovate quickly. If you are the small "guy" down the channel, it may be quicker for you to do it yourself rather than wait for the big guys up the road with the big R&D team to do it!

2. Could regulatory response be a competitive advantage for NZ?

If Government undertook a proactive review of exponential technology trends and likely conflicts with existing regulation, this would be a huge competitive advantage. Perhaps such a progressive approach would attract more R&D to NZ too. It is worth considering.

3. Is there a looming talent crisis in manufacturing?

Probably. Six out of ten open production positions in US manufacturing industry remain unfilled. 2 million jobs will remain unfilled in the US manufacturing industry in the next decade.

The most common feedback that we get from members about future challenges is that they are having difficulty attracting and retaining talent. So, it does appear that this is already a significant issue in our sector.

4. Shouldn't leaders be leading?

Of course, the answer should be "yes"!

Have you considered exponential technology adoption from a HR- perspective?

The future of manufacturing has many challenges

to address. A key one is talent. Rather than seeing exponential technologies as something to fear or think about in ten years timeonce they mature, they could be a key way to address our talent gap.

We are aware that we have a talent problem. This tells us that there is an underlying PR problem with metals manufacturing simply not being an attractive employer. Exponential technology adoption is one way that manufacturing immediately becomes more attractive to tech-savvy employees.

"Anyone still waiting for the cloud to mature is probably tripping over the stretchy cord on their phone at this point.

(from "What to do when machines do everything" by Frank, Roehrig and Pring, 2017).

NZHERA @NZHERA · Aug 23
Great to have had our @nugent_kim at the @anthemnz sessions on #innovation at @awscloud hosted by their Principal Solutions Architect @cloudguyapac today Super inspiring to see how customer feedback, driving an innovation culture & disrupting the norm is supported & celebrated!



NZHERA @NZHERA · Aug 29
Great to have our GM Industry Development @BoazHabib down in #Hamilton for this fantastic collaboration with @WIPLTD & @callaghannz today! Can't wait to have @Justin_Wilcox with us tomorrow with our #InnovationREADY attendees - so we can get a download of his expertise too! 🙌👍



Disruption - the engine of prosperity

In the next ten years, 40% of the fortune 500 companies won't exist in a meaningful way. When we stop paying attention to being the disruptor – we become the disrupted. Growth matters.

Throughout history we've seen this happen many times. As our CEO Troy Coyle mentioned in her ThinkTank@HERA article 'Are you disruption ready?' the journey of the humble camera is a great example.

Here we see how a great innovation, was guilty of being complacent. They were performing well, but didn't anticipate disruption in their growth trajectory. In other words, they got comfortable.

Food for thought for many of our members who might be guilty of this right now.

Reflecting on the camera journey

In 1886, George Eastman realised carrying a huge camera box with him wasn't ideal on his holiday with family. There must be a better way to capture memories!

Over the next few years he dedicated his time trying to figure out what that was. Discovering how to put a film on a roll instead of a plate and package it inside a cardboard box to become what is now known as the brownie box camera. He managed to transform a complicated expensive process used by the very few, into a simple and more affordable process for millions. It disrupted the industry for the better and Kodak was born.

Kodak continued to improve its technology. In 1947 creating a better version – a sustaining innovation. In 1963, Fuji entered the market. Making film cheaper to model the third type of innovation – efficiency innovation.

Breaking innovation down

- **Disruptive innovations** transform complicated, expensive products into simpler and more affordable ones. These are the innovations that create jobs by making products more accessible.
- **Sustaining innovation** make good products better. They're very important for the economy as they keep the market efficient and productive. But, they don't create jobs – because we buy the new product, not the old one.
- **Efficiency innovation** allows the same product to be sold to the same customer more cheaply. While efficiency innovations may free up capital, in the long run they're responsible for eliminating jobs

In 1975, Kodak labs developed the first electronic camera but chose not to develop it further. In effect, they had created the next disruptive innovation, but were too focused on efficiency innovations and comfortable as the market leader in its field. They failed to see the opportunity the electronic camera presented.

By 2012, everyone was using an electronic camera of which none were made by Kodak. They'd been so blinded by their success that they completely missed the rise of digital technologies and their potential impact on their business. Kodak, the disruptor in 1900, became Kodak the disrupted.

If you think you are performing well, you are going to get disrupted

Jeremy Gutsche, CEO of Trendhunter found that companies can be categorized into three types based on their self-perception of performance.

- Companies that will say they are troubled (20%)
- Companies that are performing well (75%) and
- Companies that are paranoid (5%).

Troubled companies are likely trying new things. Companies doing well are more likely to be protective, repetitive and complacent.

In our recent business innovation member survey, we asked which technology trends were considered most disruptive. Less than 4% considered Industry 4.0 as disruptive – some didn't even know what it was. About 30% considered pre-fabrication as most disruptive

– due to the higher construction sector member response rate. About 21% thought artificial intelligence was disruptive and 22% automation. More worrying, was that 50% of our membership isn't interested in transformational growth.

Nearly 65% of our membership represented in the survey had no new innovation to introduce to market. More than 80% haven't attended or don't intend to attend an innovation training course. Considering 92% of our members made a profit last year (nearly 30% were highly profitable) – is this a case of falling into the lull of 'if it ain't broke, don't fix' thinking because we're performing well? It's exactly the company mindset that is dangerous – because we aren't planning for the future.

Focusing only on efficiency innovations sets us up for failure. Growth lies in disruptive innovations – the true fuel of our economy engine.

History shows us growth has always been fueled by big manufacturing revolutions.

- The steam engine (mid-19th century)
- The mass production model (beginning of 20th Century)
- The first automation wave (1970s).

We're on the verge of the next revolution and not surprisingly this one will also come from manufacturing – the fourth manufacturing revolution.

Become an innovator working on the disruptive edge

Our role as manufacturers will contribute significantly to how the fourth revolution will shape up. We need to start innovating now, if we're to avoid becoming the bunch that gets disrupted.

If we wish to leave a better legacy for our future generations, then we need to start with ourselves as innovators.

Hal Gregerson, executive director of MIT leadership centre interviewed lots of innovators and found that innovation is a skill that can be learned.

He found:

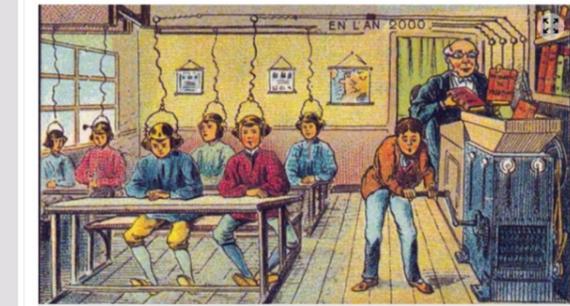
1. Innovators think differently. They connect the unconnected through a process known as association thinking.

Continued overleaf...

#change #block-chain #AI #twitter

NZHERA @NZHERA · Aug 23
A fantastic blog from Future Speculator Dr Robert Hickson via @transforming_NZ on 'avoiding traps in futures thinking.' He says a common one is focusing on change in only one thing & assuming everything else stays the same! #innovation #disruption #change bit.ly/2PkRGK6

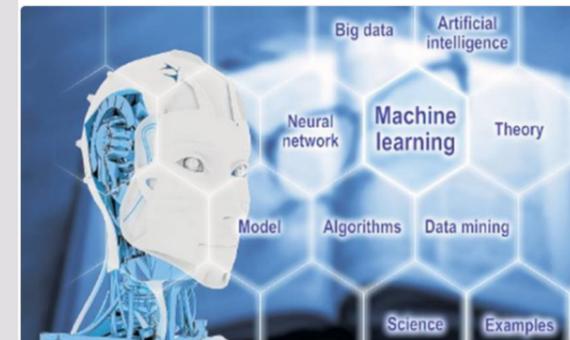
Futures speculator Dr Robert Hickson says a common trap in foresight is to focus on change in only one thing, and assume that everything else will stay the same.



NZHERA @NZHERA · Aug 27
#Blockchain can trace everything from green supply chains to emissions cuts & enable green energy trading. A host of initiatives & start-ups are getting in on the technology - so the question is, how can our NZ metals-based industry do the same? #research bit.ly/2NOGtNh



NZHERA @NZHERA · Aug 28
EXPLAINED: Succeeding with the Fifth Discipline in the digital age via @FinancialXpress - machine learning is further enhanced by deep learning in the digital era. The importance of ongoing learning & adapting to the swiftly changing environment is key! bit.ly/2MDidUj



NZHERA @NZHERA · Aug 28
The future of #automation is coming quickly! In July seeing Sydney launch Australia's first driver-less passenger train for testing! #innovation #disruption #achangeiscomin @smh bit.ly/2ALBrme



The country's first driverless passenger train has passed a major test ahead of the Sydney Metro carrying its first commuters early next year.

- Innovators often go to where they get their best ideas from. Where do you personally get your best new ideas? In the car? Sailing? Walking? Do you go there often enough to get your ideas?
- Innovators act differently so they can think differently.
- Innovators question everything!
- They ask the right questions. For example, AG Lafley, ex CEO of Proctor & Gamble used to ask the question, 'Are consumers delighted when they are buying our products? Getting people on the journey is important not just technically but also

- emotionally.
- Innovators get to the work of innovation. Observing, networking and experimenting as they go along.
- Innovators don't dream up big ideas. They have a little idea that they can make big.

Questions to ask yourself

If we want to leave a legacy for future generations, we need to become innovative ourselves.

This means looking for better ideas to address our challenges. We need to ask better questions and

observe, network and experiment as leaders. Ask different questions and prioritise hot questions (the ones that get you uncomfortable or really excited). Get a different perspective of the same problem!

Specifically ask:

- What business are we in today? For Kodak, the difference meant between framing itself as a chemical film company vs. an imaging company vs. a moment-sharing company.
- What new opportunities does the disruption open up? Disruption is a great growth opportunity which transforms business models but also grows markets.

- What capabilities do we need to realise these opportunities? Position yourself to best seize new market opportunities.

At HERA, we're committed to providing a pathway for our members to prepare for a disruptive future. Our innovation course is an ideal pathway to start thinking about this concept in the context of your own organisation.

Why not sign up for our waitlist to attend our next course intake? Or let us know what your concerns? We're here to assist you become the best company you can be!

Contact GM Industry Development **Dr Boaz Habib.**

#Socialstream #August

NZHERA @NZHERA · Aug 3
We're proud to have had our CEO @DrTroyCoyle as the guest speaker at today's @AUTuni Faculty of Design and Creative Technologies graduation ceremony. Congratulations to all the graduates - many of whom are destined to be our future engineers! #career #inspired 🎓🏆👏🌟



NZHERA @NZHERA · Aug 9
A great way to cost effectively get to market is to develop a minimum viable product #MVP - giving you a valuable #feedbackloop to iterate & improve quickly. The trick is to make sure the MVP is authentic! #donkeyNOTzebra 🤡🐴 #consumersarentfools #epicfail bbc.in/2K78FM0



NZHERA @NZHERA · Aug 7
A new #PrivacyBill introduced to Parliament, represents a long-awaited reform of privacy law in NZ. Join @IoDNZ as they explain the impact it'll have & why the growth of the internet, digital economy & new tech will change the way we use personal info. bit.ly/2OuWjVt

GOVERNANCE LEADERSHIP CENTRE
The Privacy Bill – how will it impact your organisation?
DirectorsBrief Issue 7 2018

A lot has changed since the Privacy Act 1993 came into effect 25 years ago. The growth of the internet and the digital economy, as well as the emergence of new technologies, have changed the way organisations operate and how personal information is used.

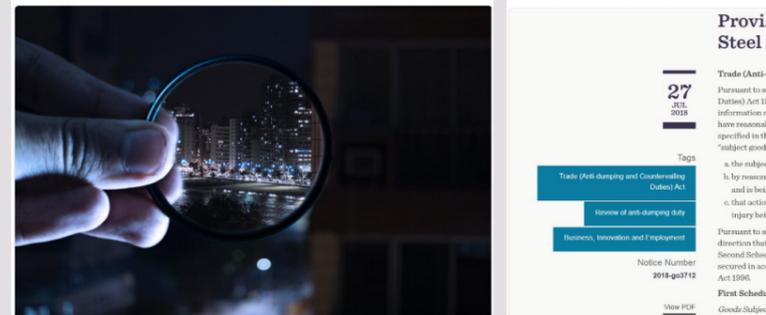
Globally, developed countries have also been reforming their privacy regimes to ensure they are appropriate for the modern world. This includes the European Union's recently introduced General Data Protection Regulation (GDPR). Privacy law reform in New Zealand is well overdue and has been on the horizon for some time.

This DirectorsBrief looks at some of the key proposed changes in the Privacy Bill, including mandatory privacy breach reporting, that boards need to know about.

The current privacy law landscape
The Privacy Act 1993 regulates how personal information should be collected, used, disclosed, and stored in New Zealand, and is based around 12 core information privacy principles.

The 12 privacy principles: a brief guide
Principles 1, 2, 3 and 4 govern the collection of personal information. This includes the process why...

NZHERA @NZHERA · Aug 9
Researchers from @UWaterloo have found a way to accurately detect different atomic structures in metallic materials using #ArtificialIntelligence - finding imperfections previously undetected. This could be a game changer for our members in steel selection bit.ly/2OMdQEQ



NZHERA @NZHERA · Aug 16
Ladies! An observational study published online found that working more than 45 or more hours a week is linked with heightened risk of diabetes in women! 63% higher in fact! With odds like that, its important you have #WorkLifeBalance #industrialsafetyNZ bit.ly/2vFFjpv

Longer working hours increase diabetes risk in women
JULY 27, 2018 HEALTH

Working 45 or more hours in a week is linked to a heightened risk of diabetes in women, finds an observational study published online in the journal *BMJ Diabetes Research & Care*

NZHERA @NZHERA · Aug 9
Are we seeing a change of stance? Provisional direction: hollow steel sections from Malaysia #metalsnz #advocacy #NickCollins #NZSteel #PacificSteel #fairtrade #antidumping #steel #conformance #import #NZgazette @MBIEgovtNZ bit.ly/2vOqK15

Provisional Direction: Hollow Steel Sections From Malaysia
Trade (Anti-dumping and Countervailing Duties) Act 1998
Pursuant to section 10(1) of the Trade (Anti-dumping and Countervailing Duties) Act 1998 ("the Act"), I hereby give notice that, on the basis of the information made available and analysed during the investigation to date, I have reasonable cause to believe, in relation to the importation of the goods specified in the First Schedule to this notice (hereinafter referred to as the "subject goods"), that:

a. the subject goods are being dumped;
b. by reason thereof, material injury to the New Zealand industry has been and is being caused; and
c. that action, under section 10 of the Act, is necessary to prevent material injury being caused during the period of investigation.

Pursuant to section 10(3) of the Act, I hereby give notice of a provisional direction that persons of the role of anti-dumping duty set out in the Second Schedule to this notice, in respect of the subject goods, shall be secured in accordance with sections 150 and 157 of the Customs and Excise Act 1996.

First Schedule
Goods Subject to Investigation

NZHERA @NZHERA · Aug 24
Want help predicting the future? Have a read of the 'future scenarios & implications for the industry' report published via @wef - incremental change isn't an option any more in the construction industry. The widespread adoption of innovations will be key. bit.ly/2vYxW6Z

Future Scenarios and Implications for the Industry
Report
Published 5 June 2018
Download PDF

NZHERA @NZHERA · Aug 30
Find out the 30 measures earmarked as part of a #construction 'industry transformation network.' @wef describes & promotes the effort needed by all stakeholders for the industry to fully realize its potential for change. #disruption #NZmetals #innovation bit.ly/2N1ZL4Q

Industry Agenda OF THE WORLD

NZHERA @NZHERA · Aug 30
This month our CEO @DrTroyCoyle & GM @Welding Centre #MichailKarpenko were at the #NZIOB awards attended by Minister @JennySalessa - a great opportunity thanks to #SCNZ where our member #WayneCarson from #DHSteel presented the #Steel #Construction #NZ Projects \$5 - 8M award! 🏆



#Info #News #Notices

BEST PRACTICE GUIDELINES

Safe Use of Machinery

MAY 2014



WORKSAFE
NEW ZEALAND

New Zealand Government

Safe equipment handling

HERA's H&S+E focus during August was on safe equipment handling.

So we thought a good way to give some knowledge on the subject was to share the WorkSafe NZ best practice guidelines.

Although written in 2014 - a lot still remains the same in terms of what you can do to improve your H&S in this area.

H&S+Environment



Figure 3: Processes are used together to identify hazards

Designers, manufacturers, suppliers and employers all have responsibilities to ensure machinery is safe to use. Figure 1 shows who has health and safety responsibilities for each phase or aspect of the machine's life cycle.

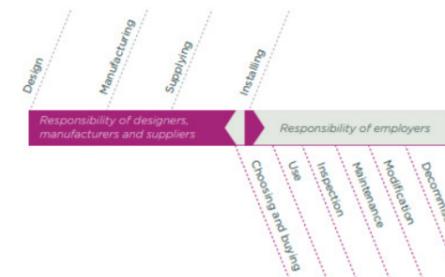
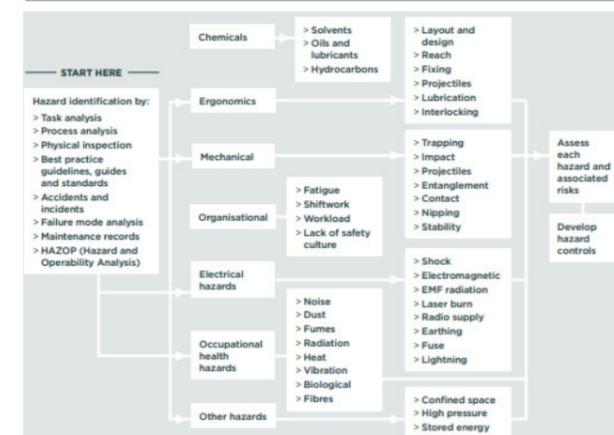


Figure 1: Division of health and safety responsibilities during a machine's life cycle



Flowchart 2: Common machinery hazards

	HIERARCHY OF CONTROLS	GROUP CONTROLS	INDIVIDUAL CONTROLS
DESIRABLE	ELIMINATE	> Design or modify machine to eliminate the hazard > Eliminate by substitution > Eliminate human interaction (eg automate handling) > Eliminate pinch points > Increase clearances or remove forces	
		ISOLATE	> Fixed guard > Interlock guard > Interlock distance bars > Failsafe interlocking
	MINIMISE	> Presence sensing devices > Light curtains > Computer warnings > Light beacons and strobe lights > Lock-out systems	> Two-hand controls > Emergency stop
LESS DESIRABLE	MINIMISE	> Safe system of work > Signage > Training > Supervision > Safe operating procedures and instructions > Administrative controls (eg safety inspections)	> Personal protective equipment

Table 1: Matrix of guarding controls

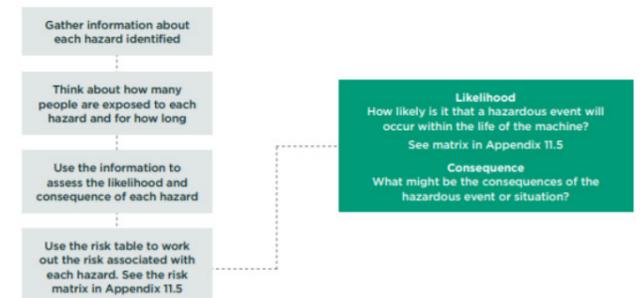


Figure 17: Risk assessment explains one process for assessing risks and hazards

Likelihood of injury or harm to health	RISK RATING TABLE			
	Consequences of injury or harm to health			
	Insignificant no injuries	Moderate first aid and/or medical treatment	Major extensive injuries	Catastrophic fatalities
Very likely	High	Extreme	Extreme	Extreme
Likely	Moderate	High	Extreme	Extreme
Moderate	Low	High	Extreme	Extreme
Unlikely	Low	Moderate	High	Extreme
Highly unlikely (rare)	Low	Moderate	High	High

Extreme = immediate action



Welding supervisors course
Auckland attendees



Lead team communications
'key message' workshop



**NEW ZEALAND STRUCTURAL STEELWORK
SPECIFICATION IN COMPLIANCE WITH AS/NZS 5131**

REPORT NO 112.2018

**STEEL CONSTRUCTION NEW ZEALAND
ENDORSED BY HERA**

New Zealand Structural Steelwork Specification in Compliance with AS/NZS 5131
Copyright © 2018 by Steel Construction New Zealand

**STEEL
AGENDA**
2018 AGM AND CONFERENCE

**SCNZ Steel Agenda
and AGM 2018**

28th September
Novotel Rotorua Lakeside
Tutanekai St, Rotorua

A busy month for HERA!

We ran our Welding Supervisor courses in both Auckland and Christchurch to upskill our industry.

We're also pleased to announce that the NZ Structural Steelwork Specification in Compliance with AS/NZS 5131 document was released - as a tool to embed these requirements into NZ engineering and steelwork procurement.



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