



LEAN Times

Monthly Update of JEG Lean Information

JEG Strength in people—Brendan Stafford retires
NCH Project team share their success using Trimble

Lean Construction Ireland will host a unique one day symposium in Croke Park Dublin on the 3rd October 2019. The theme of the event is “Lean Innovation - Inspiring our Future in Construction”. The aim of the event is to gather experts in the field of lean construction to both inspire, and challenge the industry to implement lean practices on their projects. Participants will have the opportunity to learn from others how they can leverage the benefits of lean concepts to deliver quality projects that are safer, faster and more profitable leading to increased stakeholder satisfaction and value for money.

Keynote Speakers & Lean Stream Topics Plenary Session & Welcome

- Minister Heather Humphreys - Dept. for Business, Enterprise & Innovation
- Richard Fitzpatrick - Chair - Lean Construction Ireland
- Amr Abdel-Azim – Senior Architect - Michigan State University
- Graeme Shaw - East/West Railways (UK)

Stream A: Leadership & Culture

- Felipe Engineer-Manriquez – McCarthy Building Companies
- Dr. Selim-Tugra Demir – Project Manager – Fischer Consulting GmbH
- Gary Wiger - Head of Innovation - Mercury Engineering

Stream B: Lean Transformation

- Jason Casey – Director - Ardmac
- Jeanette Mair – Policy Research Executive - CIF
- Richard Casey – European Operations Manager - DPS Group

Stream C: Collaboration

- Jan Koeleman – Partner - McKinsey & Company
- Martin Searson – Quality Manager – Kirby Group
- Andrew Norris – CI Manager – Suir Engineering

Stream D: Lean Learning & Contracts

- Maria Ryan/Darrin Taylor - Lean Pass – Waterford IT
- Ruairí Ó hAilín – Senior Lean Advisor - Enterprise Ireland
- Allison Bearpark – Senior Associates - Eversheds Sutherland

Stream E: Public Sector Client Projects

- Robert Moore – BIM/Information Manager - GDA
- Amr Abdel-Azim – Senior Architect - Michigan State University
- Katie Jones – Lean Development Manager - Graham Construction

Stream F: Private Sector Client Projects

- Karl Page – Department Manager - Jacobs
- Kevin McHugh – Associated Director - Mace Group
- Paul Carter – Director of Processing - Eli Lilly

Stream G: Rapid Delivery Housing

- Seán Armstrong – Dept. of Housing

- Planning and Local Government
- Seán Balfe - Director - NSAI
- Peter McMahon - Principle - McMahon Engineers

Stream H: Lean Technologies

- Joe O’Sullivan – Regional Director – Sisk (4d BIM)
- Mark Bryden – Co-Founder - Bryden Wood (UK)
- Grayson Galloway - Account Executive - Procore Technologies

Deliver Projects Better, Faster, Together

Lean Construction Ireland leads a community of learning and practice that promotes the application of Lean Thinking & Practices throughout the Irish Architecture, Engineering, Construction (AEC) sector so as to realise value-add for all stakeholders in the value chain. It supports the free and open exchange of knowledge, information, and experiences around good practices and case studies.



GOT A STORY TO TELL?WELL, WHAT’S THE STORY BUD?

If anyone has information or news they want to share regarding innovations or Lean Principles on their site, or maybe you have an article or story you want to share. Please feel free to contact the LEAN Development Group at the email address below and we will be delighted to help.



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An organisation is only as strong as it’s people..

By Holly Branson—Virgin Management Team
I truly believe that an organisation is only as strong as its people, so here are my top five points for when it comes to building a strong and happy workforce:

Put people at the centre of your business. Your employees are by far the best advocates for your business. Make sure they feel valued and cared for so that they love your business just as much as you do. Little things make all the difference – remembering birthdays, celebrating success when hard work has led to results, etc.

Choose the right talent and keep them. People are what make the cogs turn in a business. A business simply can’t succeed without the success of its people, so not only should you pick the right people, but you should do everything in your power to help them grow and develop. Don’t second guess them, empower them.

Listen to your staff. If there’s one thing I’ve learnt, it’s to listen to your staff. People can be your best asset, or your most fierce opposition, so making sure you know how they feel and getting them on board is important. Nobody likes a dictatorship.

Be bold! Try new things. When it comes to testing out new ideas in the workplace it can feel like a bit of a gamble. For example, this year Virgin introduced unlimited holiday and nobody can predict whether or not it will work... but then again, how do you know until you try? It’s certainly no fun standing still!

Create a workplace that generates its own legacy. If a business is good, does good, and makes others feel good, then it creates its own legacy. It’s a lot harder to try and convince people that they’re looking at a good brand, rather than simply being a great one.

Catch-up Corner

JEG Vehicles and plant
EHS-SOP19 Driving for work explained
lean@joneseng.com



Brendan Stafford pictured receiving presentations from Diageo and H.A. O’Neil and along with the current JEG team in Diageo



In our business this is normally what we think about when we talk about a 45

However, on the JEG team in Diageo this month, Brendan Stafford had something completely different on his mind as he came to terms with his impending retirement from H.A. O’Neil after 45 years service.....I think we need to say that again for effect.....

Tom Horan from Guinness can be seen presenting Brendan with a lovely picture frame of “The Gentle Art of Making Guinness” and our own Paddy Kenna is presenting a caricature representing Brendan’s time with HAON in the brewery.

There are over 50 people in the photo above and Brendan has been there for everyone’s first day on site in St James gate! He’ll be sadly missed both personally and professionally by a lot of people from JEG and Diageo.

Best wishes for the future Brendan!

45 years' service

That really is a great achievement!



Give new ideas a chance

Taiichi Ohno

When a new idea is presented we often hear people say, “That won’t work.” But there is something worse than having colleagues, friends or family take shots at your ideas. Worse is when we tell **ourselves** that our idea is no good.

So your idea is not ready to be implemented. So what? Give new ideas a chance. As Lean leaders, we will never create the conditions ripe for innovation and learning in our organisation if we don’t first learn to challenge our own fear, uncertainty and doubt—or as marketing and software professionals like to call it: FUD. The expression “we are our own worst enemy” rings true. Fear, uncertainty and doubt (FUD) is a habit—a bad habit.

Fear, uncertainty and doubt keeps us from pursuing our dreams and ambitions, and worse, it gets in the way of what we care about most. We want the people in our lives to do well, be well and be supported in their dreams. Every day there are the germs of ideas that can grow into the big ideas that will take care of our own concerns and our concerns for others—if we just give ideas a chance.

Fear and doubt—particularly self-doubt—are quite familiar to most. But what about uncertainty? Uncertainty arises from what we don’t know about our current situation and what we can’t know about the future. Uncertainty is the basis of financial speculation, all games of chance, and the wonder of life. Uncertainty won’t go away, but you can have a different approach to dealing with the unknown—and unknowable.

What is the opposite to FUD? Bravery, wonder and confidence (BWC). Let’s explore how to break the FUD habit. Let’s create a new relationship with our new ideas and the new ideas of others.

This article is written by Hal Macomber & Calayde Davey and published in “The Pocket Sensei”



NCH team break new ground

“The reason we’re using Trimble is to find a better way to do something we’ve always done before.” says Rosa Kirwan (JEG intern on the NCH Project)

The sheer scale of this project has forced the JEG team to ‘think outside the box’ and draw in new ideas and methods that they may not have used before in this country or industry.

Some of the numbers displayed in the chart below give an idea of the enormity of the task that the team face over the course of this job.

However.....the same scale can also have a big positive effect on efficiency, as any improvements implemented can multiply up quite substantially and provide schedule certainty in this complex environment.

Due to the size of the hospital (160,000m²) and the high density of services in the building the team estimated there was over 400,000 individual anchor points to be set out for the Mechanical and Sprinkler systems. Setting out in the hospital is further complicated as there are a mixture of straight and curved gridlines due to the shape of the building.



400,000	•No. of individual anchor points to be set out for Mech. and Sprinkler
160,000	•Size of the hospital in m2
20 - 30	•No. of points set out/hr using traditional method
440	•No. of manweeks to set out traditionally
60 - 80	•No. of points set out/hr using Trimble
180	•No. of manweeks to set out using Trimble
260	•No. of manweeks saved (estimated)

Using traditional methods (tape measure, dimensioned drawing) you would hope to set out between 20 -30 points per hour, which equates to approximately 440 man weeks plus the time it takes to create over 120 dimensioned drawings. Setting out this way over a large area is very inaccurate and as the team are dealing with fine margins for coordination they had to do something different.



Traditional setting out methods

One of the team had seen the Trimble system used before on a project in Australia and suggested this may be a solution worth investigating. Contact was made with the vendor, demonstrations carried out on site and the team felt this could be a winning solution. Setting out using Trimble offers a much higher precision positioning of support points for all M&E installations and ensures that all elements of design and build come together in a construction project. On the NCH we are using the Trimble Robotic Total Station (RTS) 873 to

identify and verify mechanical support points which are to be installed on ceiling and floor slabs.



Trimble Robotic Total Station (RTS) 873

For coordination and clash elimination on site the JEG BIM team were already modelling in the threaded rod supports. By using a BIM plug in, the Trimble system is able to extract the exact point (X,Y,Z coordinate) where the rod intersects with the structure, thus creating a 3-dimensional node. These nodes can be filtered and labelled depending on which service they are supporting. Once an area/zone is fully coordinated the service nodes can be dropped from the model to a .CSV file. This file is then loaded into the Trimble tablet computer and then you are ready to head out into the field.



Trimble tablet computer displaying nodes

Onsite the Trimble Total Station is setup the same as any other surveying station, triangulated off 3 known points. From there the preloaded points can be selected by service and marked out. Once a point has been set out, it’s marked off on the tablet

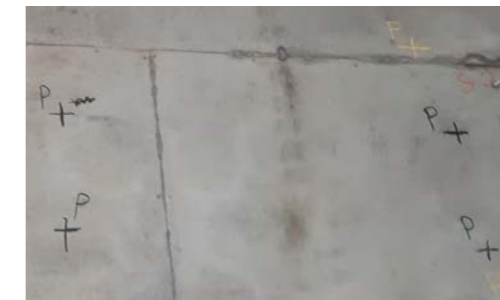
and saved. Therefore, if you weren’t able to complete an area in one visit or there was something blocking access, it’s easy to see what still has to be set out.

The Trimble system means we can set out between 60-80 points per hour to an accuracy of 3mm, which equates to approx. 160-man weeks for the project scope.



Team members operating the Total station

Setting out points are colour coded by service and discipline when marked on the concrete slab for ease of identification by installation teams.



Red, yellow & black colour coded set outs

One of the major issues the team had to overcome on the NCH project is how they could get to install their first fix anchors and drop rods ahead of the construction sequence, but still not interfere with other contractors productivity.

Under normal circumstances, due to the density of services in a building like this we are unable to install our first fix until the civil contractor has completed one side of the internal partitions. This would mean we

would not get access to the majority of the Hospital until mid to late 2020 based on the construction schedule. However, by using the Trimble system and incorporating an idea that was featured in the LEAN Times No. 72 back in February 2019 the team are able to set out and install C-clips before the partitioning is installed.

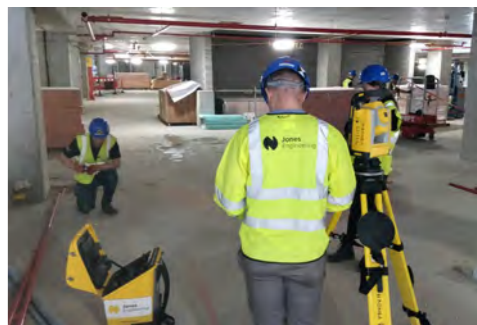


C-clip detail used previously by JEG electrical on satellite hospitals and NRH

This means we can start setting out and installing C-clips as soon as we have access to an area and other trades can progress unhindered as well. Once the civil contractor has finished one side of his partitions in this area we can then start hanging up the pre-fabricated supports directly onto the C-clips.

This system means a lot of schedule time is saved as activities can now happen concurrently instead of waiting for one discipline to complete before another can commence.

Next month we will have more innovations from our JEG NCH team to share with you, so.....watch this space!



JEG team members setting out in the NCH