

# MEETING THE CHALLENGES OF DESIGN DELIVERY THROUGH THE COVID-19 PANDEMIC

By Michael O'Reilly, O'Connor Sutton Cronin



Leamouth North Footbridge, London

It is beyond my wildest imaginings to be in this space, the oxymoron of, "continuous connection in isolation."

As an industry we have been challenged by, and responded to, the adversity of lockdowns, the fears of COVID-19, the uncertainty in the market and the discontinuity of projects. While we are not "out the other side" by any means, we have changed the way we do things and are better for it. At least some positives have resulted from the pandemic.

Not so long ago, some might have thought that the professionals we charged with the design of multi-storey structures, life safety critical systems and infrastructure projects couldn't really be trusted to work unless we could see them; "presenteeism".

We now trust our people to work and deliver designs, drawings and models from almost anywhere there is an internet connection.

Adaptability, determination and engineering excellence supported by technology have been the key.

Starting with the simple things in life we used take for granted, a printer. Surprisingly, not everyone has one at home. We had to change. Design calculations, drawing mark-ups once done by hand, printed and stored in lever arch folders. To be honest, we had tried and struggled over previous years to become a paperless office. The lockdowns and working from home have forced us along the road a little quicker than it might otherwise have taken. We are on the journey to the goal of "the digital engineer".

Calculations are now carried out and stored electronically, scheme designs and drafting mark-ups are done with Bluebeam and copies stored on our CDE system. All ensuring that there is no loss of information.

A few years ago, the technology to assist this revolution was only the thing of science fiction. Interacting and

collaborating in real time, with multiple parties in disparate locations was something I never thought would be possible, at least in my lifetime.

We are now conversant with multiple conference platforms, MS Teams, Zoom, Google meet, where screen sharing and live collaboration have become second nature. After the initial frantic flurry (which might have been to prove that productivity wasn't affected), we have settled into the normality of a more organised work day without the need to physically travel between meetings. It does however make for a very intense working environment. Meetings are shorter, more structured, with less chat and most of the time they directly follow each other, either in quick succession or in a slight "interference fit" requiring us to bunny-hop before the end of one to get to the next. At least it's at the touch of a button.

We've almost become acclimatised to that underwater feeling, when we take the "cans" off, coming up for a breather.

I recently answered a Teams call on the phone, while sitting in a carpark. I set up a hotspot and connected my laptop, then switched over seamlessly to view someone else's screen while talking via Bluetooth through the car speaker. A few years ago, a colleague had to show me how to connect the phone to the car. As with all things, someone knows more than you do, so don't be afraid to ask.

As expected, there have been some hiccups along the way; the VPN system had never envisaged the numbers requiring remote access to servers. In fairness, quickly fixed.

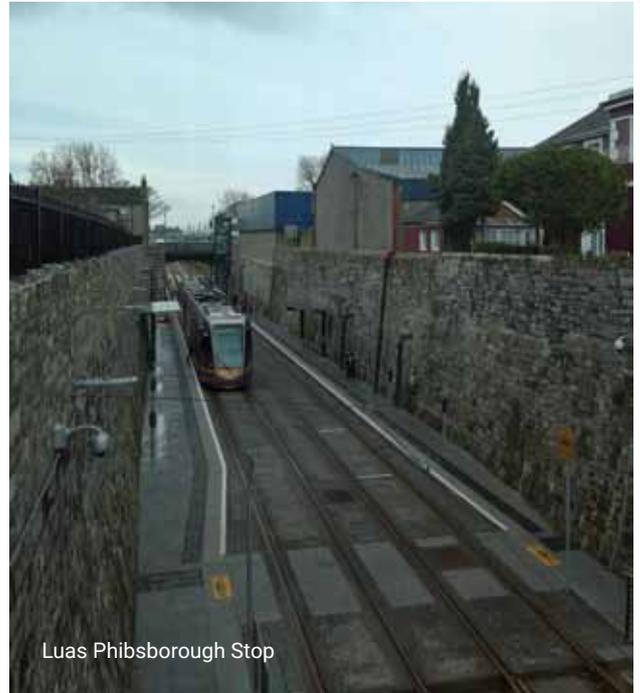
In response to request for better work / life balance, we had started a few years ago, to change from Desktops to Laptops, now accelerated by COVID-19. At least we were well on the way. Sometimes it's better to be lucky than good.

We had struggled to have multiple BIM technicians working on the same model in differing locations and initially thought that it could only be done with direct connection to the servers. Models were separated, worked on in different locations then reassembled. After some research and trialling, it turned out that the once impossible, is indeed possible and it's faster than our original process.

The gripes that attracted staff away from our companies; a shorter commute, more flexible working arrangements, a better overall life balance; were at one stage key drivers in the movement of staff. I know that "greenbacks" were the other driver and the above might have been excuses that tripped off the tongue.

Be careful what you wish for.

At the heart of it, we as Engineers are not really 'people persons' (at least that's how my better half describes me),



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happier with numbers, the laws of physics, results, and other quantitative measures. However at this stage, half way through the six week Level 5 lockdown in late 2020, even the most stony-faced of us are suffering from the isolation, lack of social interactions and probably mission fatigue. Most of us are also a little tetchier than normal. So, before you blow the lid completely, think about your colleagues probably being in the same boat as yourself.

From a career development viewpoint, we find that the recent graduates are probably suffering more than the rest of us. There isn't someone sitting on their shoulder to ask that question of; no one there to save them the time going down a rabbit hole. We've trialled open mic sessions with limited success and buddy systems. None are perfect, but as I said at the start, we continue to respond and adapt, with the goal to become better at what we do and how we do it.

If we have learned anything from the pandemic, it is that engineers are a resilient bunch. We react, adapt and strive to overcome whatever adversities are put in our path, and in doing so, we continuously improve.



Royal College of Surgeons Ireland, York Street