

Opinion

The view from abroad

Taking the pulse of the European construction industry, Professor *Larry Bellamy*, Department of Civil and Natural Resources Engineering, University of Canterbury, found that, while disruptive change is a reality, digitisation alone won't provide the necessary solutions to issues like productivity.

RECENTLY, I TOOK part in a study tour to get a better understanding of how construction is being digitised overseas. My trip took me to Helsinki where my host, while giving me a tour of the city, drove past Nokia's headquarters and remarked how this once great company was a source of national shame.

Change can come swiftly

His comment jolted me. It reminded me how quickly the fortunes of a company, industry or indeed a whole country can change and the impact change has on people. In Nokia's case, its share of the global smartphone market dropped from approximately 50% in 2007 to less than 5% just 6 years later, largely due to Apple's disruptive innovations.

Similar experiences have been part of our history too. Our wool export volumes, for example, fell about 50% between 1989 and 2011. Change needn't be negative, of course, provided we can prepare for it.

The question on my mind in Helsinki was how digitisation will change our construction industry and how innovative technology can be exploited to strengthen it.

BIP helping find answers

Helping the industry find answers to these questions is an important goal of the Building Innovation Partnership (BIP) - www.bipnz.org.nz - which supported the study tour. BIP, a Quake Centre initiative, is a 7-year \$12.5 million industry-led research programme funded 60% by industry and 40% by government through MBIE's Partnerships Scheme.



On the tour with me was Robert Amor, a BIP theme leader. We met leaders from across the construction spectrum, including builders, engineers, technology managers, government officials, software developers and researchers. The BIP team is preparing a report on lessons from overseas for digitisation of our construction industry. So what did we learn?

Disruptive innovation is happening

Virtually everyone we talked with expected major changes in the construction industry - and soon. Disruptive innovation is expected to come from new players to the industry, like IKEA, which has developed flat-pack houses, and Kattera, a Silicon Valley start-up providing an end-to-end service covering design, engineering, materials, products, off-site manufacture and construction. Both companies have deep pockets and expertise in complex supply chains and technology.

My main takeaway was that digitisation and technology by itself will not address the productivity and profitability issues facing the construction industry, not only in New Zealand but around the globe.

Technology needs to be combined with the people side of the equation - efficient processes, collaborative relationships and suitable skills - to make a positive impact. Will these disruptive forces be felt in New Zealand? It would be a brave person to bet against it.

BIM use varies

Our study tour mainly focused on digital technology use by industry and future technologies under development. Contractors in the Netherlands have embraced building information modelling (BIM) more than their building design professionals - the opposite to the situation here. Dutch contractors value BIM as a tool for reducing mistakes, improving on-site coordination and managing risks.

The German industry appears to be struggling with the learning curve associated with BIM, and mixed messages about the value of BIM on small to medium-sized projects were coming out of the UK. As for technologies complementary to BIM such as robots, 3D printing, laser scanning and off-site manufacture, some leading companies appear to be gaining competitive advantage through carefully deploying selected technologies.

Much has been said about the challenges facing the construction industry. Disruptive innovation may be the last thing the industry wants to consider at this time. It appears to me, though, change is in the wind. ◀