Editorial

Amanda Clack FRICS

Royal Institution of Chartered Surveyors President Elect, London, UK

The Institution of Civil Engineers (ICE) and the Royal Institution of Chartered Surveyors (RICS) are pleased to announce the launch of a new, collaborative publishing relationship that will lead to our two organisations working closely together on future editorial projects in the infrastructure arena. As a result, we look forward to jointly publishing key major research for infrastructure going forward.

Two of the papers published here are the first fruits of this new relationship and are a direct result of a major research enquiry from the industry.

Developing two key themes from the ongoing project discussions, Richard Graham and Ilias Krystallis *et al.* have produced ground-breaking and dynamic research papers covering two critically important thematic areas that are central to the infrastructure project and its intended outcomes.

The first paper, ‘Sustaining supply chains’ by Graham (2016) focuses on the cost savings that could be achieved by the UK rail industry once its supply chain model is better integrated and more sustainable. The study notes that supply chain sustainability and performance take on far greater significance for sustained economic GDP growth when one considers the not-inconsiderable sums involved in rail infrastructure investment. HM Treasury’s *National Infrastructure Plan 2014* (HM Treasury, 2014) gives a rail investment figure of £38 billion up to 2019, with ‘much of it delivered by the construction supply chain’. Therefore, economic infrastructure is of vital importance to the economy as a whole, and particularly so to that of the UK, which is ranked only 27th in the global quality of infrastructure rankings. Graham’s paper convincingly sets out the case for ‘greater understanding and dialogue vertically across the supply chain.’ As he suggests, barriers to effective vertical supplier integration persist within a rail infrastructure industry that is naturally fragmented.

Overcoming such barriers will not be the responsibility of government but will, instead, be driven by better client standards and improved procurement practices that will encourage change. More specifically, Graham’s paper highlights better managed supply chains (tiers 1, 2 and 3, etc.), the effective use of evolving technologies such as Building Information Modelling (BIM), improved skills and training, and the development of high-calibre leadership as the key components in any drive toward any improvement in rail supply chain practices. The task is gargantuan but, crucially, achievable through effective industry dialogue.

What is key is how the sector fosters a greater awareness of the conditions required to deliver national economic infrastructure, and the commercial conditions that promote efficient delivery and enable effective supply chain innovation.

BIM is a term with which most readers will be more than familiar. Nevertheless, despite the frequency with which the term is used within the modern day construction and infrastructure industries, there can be no doubt that BIM technology is vitally important and here to stay. Vas Vernikos and a team of experts made up of Ilias Krystallis, Sam El-Jouzi and Peter Burchill look in detail at BIM’s importance in the ‘future proofing’ (FP) of sustainable assets in their paper, ‘Future-proofing governance and BIM capabilities for owner-operators’ (Krystallis *et al.*, 2016).

This is paramount as more owner-operators are managing and maintaining their infrastructure assets and need to consider carefully the associated risks. Findings from this study showed that improvements can be achieved if the concept of FP of assets, as a structured approach against uncertainty, becomes more explicitly defined.

For the purposes of their paper, Krystallis *et al.* define FP as ‘a proactive planning and project management initiative employed for mitigating risks found in asset management.’ In short, FP permits asset owners and managers to have a better decision-making process at their disposal throughout the asset life-cycle, and creates ways to reduce the effects of any problems that might occur during this time span.

BIM, defined succinctly here as ‘the process of generating and managing component data within an integrated database and parametric model throughout the project’s design–build–operate lifecycle’, is the fundamental tool identified by, for one, the UK government as a key mechanism for the effective life-cycle management of assets. As Krystallis *et al.* suggest, the great value of BIM lies in its very simplicity as a cost-management tool that focuses on identifying

- geometry: where is it? How long is it? How tall is it? What is it close to?
- and data: what is it called? What is it made of? Does it need any power? Does it have a warranty?

By making effective use of case study material – in this instance an ‘owner-operator’ that is a government company managing ‘major linear infrastructure assets’ – the writing team are able to look at ways in which BIM specifically supports FP. Among

the supporting capabilities they identify are: (i) flexible data; (ii) project evaluation; (iii) standardised object catalogues; and (iv) whole life-cycle costing.

As they conclude, only the effective use of BIM technology can lead to the establishment of a series of protection measures against uncertainty when it comes to asset management. What is key is the combination of information management to ensure delivery of asset management strategies, and thus the assets themselves will be responsive to a number of future changes in requirements.

As the ICE/RICS editorial collaboration develops, we will look to publish further well-researched and thoughtfully considered infrastructure-focused content that will be of professional use to

both of our memberships. For those who worked toward establishing this new relationship, we can only say thank you, and we very much look forward to its development in the years to come.

REFERENCES

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