Editorial

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Welcome to the February 2016 issue of the *Management, Procurement and Law* journal. The journal publishes original research and practice papers, briefing notes, case studies and book reviews covering a wide range of topics in civil engineering. I would like to take this opportunity to wish our readers a prosperous 2016.

I would also like to inform our readers that your Editorial Advisory Panel is working incredibly hard to take your journal forward. I would like to thank the panel's members for their contribution and hard work. We now publish six issues every year which has cut down tremendously the time it takes for a manuscript to move from submission to print. Several themed issues are currently in planning and preparation on topics including: best value in construction procurement; renewable energy projects; occupational health and safety in construction; international dispute resolution; big data in construction; off-site construction; and, last but not least, financing infrastructure projects.

Between now and 2030, the construction industry worldwide is going to change. The industry is going to be shaped by the desire to tackle the challenges that we face as a society. On a positive note, these challenges present opportunities for the construction industry. Allow me to focus on just four examples of these challenges.

- **Education.** It is estimated that 57 million children in the world today remain without schools. At the current rate of improving access to primary education, many will not have access until 2086. Should it really take us as a society another 70 years to achieve universal primary education? Civil engineers supporting governments and the private sector have a role to play in helping society to ensure inclusive and equitable quality education and promotion of life-long learning opportunities for all.
- **Affordable housing.** There are 330 million households in the world today that do not have access to affordable housing. By 2025, the figure could even reach 440 million households – in other words, 1.6 billion people (one-third of the world's urban population). This figure does not even include poor people who live outside cities, on urban streets or as squatters. The Gulf Co-operation Council (GCC) region is expected to face a shortage of 1 million homes by 2018. Access to affordable housing is a basic human right. Is it impossible for us as a society to provide affordable housing for all? While solutions range from improving access to land, integrating planning and land policy, and access to finance, the world is looking to civil engineers to play their role in standardising designs and modernising housing construction technology and management to cut costs and improve delivery times.

- **Water supply and sanitation.** Worldwide, about 800 million people do not have access to an improved water source and 2.5 billion people lack access to improved sanitation. An estimated 801 000 children younger than 5 years old die every year from waterborne diseases. This figure translates into 2200 children dying every day from water-related diseases that are preventable. Studies have shown that water and sanitation interventions are cost-effective across all regions of the world. One US dollar invested in water supply and sanitation produces economic benefits ranging from US\$5 to US\$46. The economic case for investing in improved water supply and sanitation is compelling, but of course engineering skills are required to deliver these projects. Sub-Saharan Africa alone will require 2.5 million engineers and technicians to provide clean water and sanitation. Civil engineers have a contribution to make to ensure availability and access to clean water supply and sanitation for all.
- **Basic infrastructure and communications.** Basic infrastructure including roads, information and communication technologies and electrical power remain scarce in many developing countries. Well up to 1.5 million people in the world do not have access to reliable phone services and about 2.6 billion people in the world face difficulties in accessing electricity. Infrastructure constraints increase production costs. They constrain access to employment, information and training and markets, and constitute a major barrier to business and investment.

This is a very exciting time for the construction industry worldwide and I believe that this optimism is well founded. There is the will to galvanise effort and to assemble resources to tackle these and other challenges. Indeed, in July 2015, the United Nations (UN) Third International Conference, held in Addis Ababa, Ethiopia, adopted a framework for financing development after 2015. Specifically in relation to infrastructure, the conference welcomed initiatives to finance the US\$1.0–1.5 trillion annual infrastructure financing gap in developing countries. New infrastructure initiatives such as the Asian Infrastructure Investment bank, the Global Infrastructure Hub, the New Development Bank, Asia Pacific Project Preparation Facility and the Africa50 Infrastructure Investment Fund will leverage investment into essential infrastructure.

In December 2015, the UN Climate Change Conference held in Paris, France adopted a global agreement on reduction of climate change. The agreement seeks to limit global warming to less than 2°C compared to pre-industrial levels and to pursue efforts to limit the temperature rise to 1.5°C above pre-industrial levels. It is estimated that over the next 15 years, US\$90 trillion will be invested in infrastructure worldwide. Achieving these targets will require

investment in sustainable buildings, development of renewable energy, energy efficiency, low-carbon transport initiatives, low-carbon materials and so on. It is estimated by the UN that the renewable energy sector alone could generate 20 million jobs by 2030.

Meanwhile, the UN General Assembly in September 2015 adopted the 2030 Agenda for Sustainable Development consisting of 17 sustainable development goals and 169 targets. These targets are comprehensive, transformative, ambitious and seek to build on the Millennium Development Goals. Delivering these goals will involve collaborative partnership of governments and the private sector in all countries in the developed and developing world. Civil engineers worldwide will be at the heart of delivering these sustainable development goals.

Turning now to this edition, it consists of three full papers. The paper by Laryea and Watermeyer (2016) reports results of research on early contractor involvement (ECI). Based on research methods employing document analysis, semi-structured interviews and a live observation, they find that ECI is beneficial to all parties including the client, designers and contractors. The paper by Renukappa *et al.* (2016) reports results of empirical research based on a mixed research methodological approach into sustainable procurement strategies and finds that many organisations are well informed about the concept of sustainable procurement and that it is being implemented to reduce costs, and to enhance organisational reputation and value. Lastly, the work by Lucko and

Gattei (2016) based on comparative research finds that the line-of-balance technique – which can be applied for planning repetitive type projects such as high-rise buildings, pavement construction, housing estates, electricity pylons and so on – was actually intended for manufacturing operations, compared to linear scheduling which was intended for construction. The authors compare and contrast the capabilities of the two methods and suggest that a complete understanding will allow project managers and planning engineers to exploit fully the potentialities of these two methods.

I thoroughly enjoyed reading the papers in this edition. I found their content informative and the research rigorous. I commend them to you and look forward to reading your views and feedback.

REFERENCES

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