

## EDITORIAL:FEBRUARY 2015

## Editorial

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Welcome to the February 2015 issue of *Civil Engineering*, the general journal of the *Proceedings of the Institution of Civil Engineers*.

We start with the presidential address from David Balmforth (2015), reviewing the global challenges facing civil engineers and comparing them to those faced by the institution's founders nearly 200 years ago. He concludes 'I am confident that we will prove ourselves, and our profession, fit for the future . . . we will have the skills and capability to do it, but most of all, we genuinely believe that it is our job to make a difference.'

The papers in this issue describe four diverse examples of how civil engineers are continuing to make a difference – enhancing, protecting and maintaining essential infrastructure in an ever-changing world.

The first paper, by Wells (2015), concerns the stunning space-frame roof of the new terminal at Shenzhen Bao'an airport in China. Its 1.2 km long complex, award-winning and imaginatively shaped concept was designed, fabricated and constructed in only 6 years, largely due to the collaboration between the international companies involved.

The client is delighted with the success of the project outcome and is reportedly copyrighting areas of the innovative design.

The development of the Phuoc Hoa–Dau Tieng irrigation system, reported by Meigh *et al.* (2015), involves a project in Vietnam funded from the Asian Development Bank and World Bank. It combined water extraction and transfer with irrigation refurbishment to upgrade existing provisions which had been affected by reliability issues.

It claims to be the longest artificial water complex in Vietnam and is aimed at securing reliable irrigation and water supplies for the domestic and industrial expansion of the area by enhancing the original design flow by a factor of five. It combined innovation with declarations on the lessons learned for new dams, barrages and canals with aqueducts, together with a sustainable operations management regime.

The paper by Clubley *et al.* (2015) introduces an exciting new trial of how sophisticated high-resolution sonar in conjunction with marine laser techniques has been applied to review the existing river foundations of a rail bridge in the UK. Its application allowed the inspection engineers to determine rapidly and comprehensively a three-dimensional record of the scour erosion.

Development of the technique will strengthen a critical area of risk management by creating data more quickly and reliably than traditional diver-based inspections. The trial revealed unexpected and previously unnoticed scour features requiring early attention and is already being extended to other bridges deemed to be at high risk from increased river flow from climate change rainfall.

The last paper, by Boath (2015), involves a project to replace existing strengthening of the M5 Quinton Interchange bridges with bonded carbon-fibre plates. The bonding of the existing steel plate strengthening (innovative itself at the time) had reached its serviceable life. The award-winning graduates and students paper sets out how existing material was removed and the replacements successfully applied in low temperatures without the need for live load restrictions, thereby keeping the vital network moving.

The use of early contractor involvement (ECI) was extended to include discussions with specialist contractors, thereby leading to an example of best practice on a project which was facing key constraints. The extended ECI brought about improvements to programme and costs, together with operational and safety benefits where the practical application and life of the adhesive bond is critical.

On behalf of the editorial panel, I would like to extend my thanks to everyone who has helped to produce this issue, especially the authors of the papers for sharing their experiences with us. I hope you will find them sufficiently enjoyable and interesting reading to encourage you and your colleagues to consider writing about your own work in this and other ICE *Proceedings* journals.

Finally, please note that future papers in the journal will be available online as soon as they are processed. This should remove delays imposed by the traditional print model, providing readers and authors with a better service. Please visit the journal webpage [www.civilengineering-ice.com](http://www.civilengineering-ice.com) for more details.

## References

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**CALL FOR PAPERS:** *Civil Engineering* relies entirely on material contributed by civil engineers and related professionals. Illustrated articles up to 750 words and papers of 2000 to 3500 words are welcome on any relevant civil engineering topic that meets the journal's aims of providing a source of reference material, promoting best practice and broadening civil engineers' knowledge. Please contact the editor for further information