

Editorial: is it the time for railway industry to reinvent itself?

Railway infrastructure plays a critical role in urban development, mobility, and economic growth of society. This focus issue of the *Electronic Journal of Structural Engineering* is devoted to a special theme, “Advances in Rail Track Infrastructure and Practice - ARTRP”. It contains articles, which were rigorously peer reviewed and accepted from a list of invited manuscripts that demonstrate significant innovation in the area of the structural engineering aspects of the rail track infrastructure.

Over the past century or two, rail industry slowly but steadily evolved through significant innovations in the industry; academic research in rail is relatively new. Rail is a complex system which is required to compete with other modes of transport and enable economic gains, social wellbeing, and environmental benefits over its life cycle. As an emerging area of research, advancing rail industry practices and rail asset management strategies has set off enormous opportunities ranging from developing new efficient ways for manufacture, design, construction, operation, inspection, maintenance and renewal or disposal. More recently, the field has expanded to incorporate many inventions and applications of new sustainable materials, robotic automation, and smarter systems that hold great promises to cope with real future demands from customers: both passengers and freights.

A specific challenge is the linking of scales from research to practice via knowledge sharing, standardisation, and technological adoption. Here, the journal promotes a charitable knowledge platform. This strategy provides free access for anyone/ any organisation to a broad set of the articles. Application and adoption of such advanced research could make wide impacts to the effectiveness and efficiency of the practice.

Overall, eight articles are featured in this special issue, representing analytical and numerical modeling, laboratory experimentation, together with actual field trials under revenue services. Topics include rails, rail joints, composite and concrete sleepers, track dynamics, ballasted vs. ballastless tracks, and railway bridge approaches. This collection of articles will hopefully stimulate much further research and practical activities.

The guest editors are honoured to have Professor Simon Iwnicki, Director of Institute of Railway Research, University of Huddersfield to write the Foreword and Kevin Taylor, CEO of Australian Rail Industry Standard Board (RISB) to script the Impact for the special issue. On behalf of the Journal we also wish to extend our sincere thanks to all our reviewers for their time and exceptionally high quality critiques of the manuscript.

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