

## Keynote Lecture

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**Keynote Lecture: Circular Asset Management safeguarding Railway Systems beyond  
Net Zero**

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The 6th International Conference on Key Technologies in Railway Engineering  
(ICRE 2023)

Beijing Jiaotong University, Beijing, China

1-2 July 2023

**Abstract:**

This keynote lecture will highlight the best practices and recent research advances in circular economy implementation in railway asset management. The implementation tools and strategies to safeguard railway systems as a whole and to enable the transition to net zero and beyond have been fully discussed. The key strategies and challenges to implement new technologies sustainably have been fully addressed. The insights in systems circularity and the challenges in risk-averse international standards have been highlighted in the keynote presentation. The focus of the presentation is placed on systems thinking and multi-level, multi-scale interconnected digitisations that are matter to every stakeholder. Each stage of life cycle and associated risks and uncertainties have been correlated with new railway technologies for all systems including railway tracks, infrastructure, electrification, rolling stocks, signalling systems, buildings and siding, as well as air space development and the environments.