

## Preface

The Technology-Enabled Civil Infrastructure Engineering and Management Conference (TECH-IEM) was held on December 15-16, 2023, at the NED University of Engineering and Technology, Karachi, Pakistan. The two-day event was organized by the NED University Virtual Reality Center in collaboration with the Higher Education Commission's CPEC Academic Research and Development Unit (CARDU), the Institution of Engineers Pakistan Karachi Center, with the aim to bring together leading experts, researchers, and industry professionals from around the globe.

During the conference, many peer-reviewed papers were presented by national and international authors, covering a diverse range of themes in infrastructure development including smart and IoT-based systems, sustainable materials, and resilient infrastructure. In addition to the technical sessions, the conference featured a panel discussion that addressed the challenges of infrastructure development in Pakistan and industry presentations showcasing cutting-edge advancements and practices.

The primary aim of the TECH-IEM Conference was to encourage collaboration and disseminate knowledge in the field of infrastructure engineering and management, with a particular focus on promoting sustainable infrastructure development through innovative technologies. The conference theme aligned with the United Nations Sustainable Development Goals (SDGs 9, 11 and 17), highlighting the importance of resilient infrastructure, sustainable cities and global partnership. With the intention of establishing an ongoing international research and development forum, the conference is planned to continue biannually, ensuring sustained collaboration among experts and practitioners.

I extend our heartfelt thanks to the authors for their valuable contributions and all the guests for their participation. Their collective efforts were instrumental in making this conference a resounding success and a vital platform for advancing the field of civil infrastructure engineering. Appreciation goes to all members of the management committee, organizing committee, and international scientific committee for their invaluable contribution to making the conference possible.

Dr. Farrukh Arif  
Focal Person/Co-Chair, Tech-IEM  
Editor – TECH-IEM Proceedings

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