

Preface

As a set of structural elements that serve and supports purposeful function, Infrastructure – buildings, roads, bridges, ports, power plants, water supply, underground spaces – is vital and essential for the development of human society. It supports manufacture of products, creates jobs, facilitates mobility of goods and people, helps distribution of water and energy, keeps people healthy, and protects communities from natural and man-made hazards. Infrastructure drives economic growth in many countries and enables society to thrive and have better living condition. People recognise the importance of infrastructure when they discover that it fails to serve their needs

In developing countries there is an obvious demand to build more infrastructures to boost the economy, distribute income, and move forward the progress of these countries. Despite the careful planning, design, and construction many infrastructures exhibit unsatisfactory performance and deteriorates in its operational phase of service life. In developed countries, many infrastructures have achieved its end of service life and shows ageing phenomena with declining function and performances.

In the era where our planet is now under severe ecological stress, depletion of natural resources, and threat of adverse climate change, it's not just a matter of building more. We must maintain our infrastructure stocks to its adequate level of performances in order to sustain our earth life support capabilities and capacities. Building or maintaining, infrastructure needs to sustainable.

The 4th International Conference on Rehabilitation and Maintenance in Civil Engineering raise this issue by taking theme of “Smart Rehabilitation and Maintenance in Civil Engineering for Sustainable Construction”. Public works professionals, engineers, planners, policy makers, researchers, academicians, and students gather together to discuss and share ideas on the issues of rehabilitation, repairs, maintenance, and its wide aspect within the field of civil engineering. In meeting highly technical specifications, tackling challenging problem, and addressing community needs, the conference provides a forum for broad spectrum of relevant topics.

The keynote papers address innovative technology in construction system that to make buildings resilient and sustainable, the use of artificial intelligence for managing and maintaining large scale, complex and interconnected asset, ingenious rehabilitation techniques and waterproofing, and perspectives of maintenance at urban scale.

All peer reviewed papers published in the proceedings discuss various topics from detailed engineering rehabilitation techniques and numerical modelling of service life prediction, to the higher abstraction such as maintenance strategies and policies. The papers examines multiscale level of infrastructure from material levels to the structural levels to the networks of infrastructure at urban level. The papers address testing and inspection procedure to the use of new innovative material and techniques for Restoration, preservation, rehabilitation and maintenance. The paper covers wide areas of rehabilitation and maintenance in the field of Civil Engineering; material, structure, soil mechanics, transportation, water resources, and construction management

The proceedings of the 4th International Conference on Rehabilitation and Maintenance in Civil Engineering (ICRMCE) provides wealth of information and ideas for the professionals in civil engineering in supporting their day-to-day works of rehabilitation and maintenance of infrastructure.