Editorial

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Welcome to *Infrastructure Asset Management*, a new interdisciplinary journal designed to nurture and promote high-quality research and practice in infrastructure asset management. This editorial sets out the rationale for this endeavour and its future.

The term infrastructure is used to refer collectively to roads, railways, airports, power grids, water supply, telecommunications networks and the like that are required for an economy to function. This can be expanded to define infrastructure as the fixed capital equipment needed for economic development from a Keynesian perspective. The rationale for infrastructure assets is to enable society to derive a wide range of socio-economic benefits. The infrastructure asset life cycle evolves over time through four phases: create/acquire, use, maintain and renew/dispose. The role of infrastructure in enabling economic, social, technological and environmental development over a long time period is of interest to engineers, scientists, technologists, entrepreneurs and policy makers.

It is anticipated that large-scale infrastructure investment is needed globally for the foreseeable future. Infrastructure development is not simply about catching up but about the anticipated needs of the future. In the developing context, it is about countries meeting basic needs such as water, sanitation, transport and energy. Infrastructure asset management is about ensuring that these basic needs are met. In the developed context, it is about countries seeking to modernise to remain competitive in the global context. However, it is not just about the aspirations of development but also about the future challenges of global, social, environmental, economic and political change.

Infrastructure development has been funded through gross domestic product (GDP) growth. The scale of infrastructure spending required will challenge GDP growth sustainability. There is a need to review existing infrastructure financial models as GDP may not meet all the requirements. Infrastructure investment models tend to focus on new capacity, while the requirements of maintenance and renewal to help keep infrastructure operating in an acceptable condition are undervalued. Infrastructure development funding challenges have increased private sector participation in the development, funding, delivery and operation of assets. Private financing is not a panacea for infrastructure finance but provides an alternative to public sector funding. The economic model for financing infrastructure requires partnerships, between public and private sectors, which should be contingent upon the type of assets and infrastructure. The emergence of private participation in infrastructure creates asset owners that are looking at commercial benefits besides the traditional outcomes from infrastructure. The relationship between private and public sector requirements from infrastructure assets is of interest to us.

Infrastructure development is not only about the current aspirations of development but also about the challenges of the future. The world's resources are finite, and the manner in which infrastructure is managed in this context is a challenge. Infrastructure asset management has to contend with the challenges associated with changing climate, environment, population growth, demographic shifts and changing consumption patterns. Infrastructure assets need to be robust and resilient in dealing with current and future, natural and man-made challenges. The science, engineering, technology and management that support new and existing infrastructure will also need to respond to future challenges.

There is a growing understanding that infrastructure is more than just the creation, use, maintenance and disposal of assets; it is also about delivering efficiency, effectiveness and benefits to society. Infrastructure asset management has tended to focus on the public sector. However, infrastructure also needs to be managed within private sector organisations. It is also seen as the structure, support and technology for organisations and their systems. This is about private sector organisations managing their internal infrastructure to support processes, products, services and manufacturing to achieve organisational economic goals. The emergence of a variety of international approaches to managing infrastructure assets has allowed the development of practice that is transferrable between public and private sectors.

The challenges that emerge in infrastructure asset management are multi-disciplinary in nature, although the engineering, economics and management tend to be organised on traditional disciplinary lines. The emerging nature of a body of knowledge and practice in infrastructure asset management has started to highlight the growing interaction between civil, mechanical, chemical, environmental, electrical and electronic engineering with new technology, economics, social sciences and management.

Infrastructure Asset Management is designed to publish refereed manuscripts. By providing a forum for infrastructure asset management research, practice and policy the journal will continue to nurture the growing research and practice community in infrastructure asset management. It is the intention of the journal to present original research articles, review papers, technical notes, case studies and new policy developments related to infrastructure asset management, which may include the following subject areas

- global trends in asset management
- asset management policy, strategy and planning
- infrastructure capacity and demand analysis
- asset investment decision making

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- asset risk management and governance
 - life cycle costs and value/production economics
 - asset delivery/project management/procurement
 - standards for asset management practice
 - building information modelling and whole-life management
 - socio-economic aspects of infrastructure asset management
 - asset information and knowledge management
 - asset operations, maintenance, monitoring and performance management
 - data management, decision support technologies, advanced information and communications technologies
 - infrastructure asset disposal and decommissioning
 - infrastructure resilience, vulnerability and contingency planning

- infrastructure asset failure and analysis
- asset management stakeholder relationships and benefits management
- asset management review, audit and assurance
- asset management leadership and competency
- sustainability, climate change and resource scarcity challenges.

Submission of papers in all of the above areas is welcome. All papers should be submitted online at <http://www.editorialmanager.com/iasma>. *Infrastructure Asset Management* is championed by ICE Publishing, and with the support of their dedicated publishing team and the expert contributions of our international editorial board, we are all focussed on making this new journal a success.