

Executive Briefing

Beyond 3BL: Towards more sustainable and resilient infrastructure systems

Presented by the Faculty of Engineering & Information Technology



Understand how to contribute beyond triple-bottom-line and apply sustainable and resilient engineering systems.

Overview

With the world's increasing population and consumption patterns, diminishing resources and increasing pollution, effectively addressing the multi-dimensional aspects of the global sustainability challenge has become even more important, difficult, and urgent by the day.

Global warming has become a priority focus internationally and by many economies and industries. Its impacts have been practically manifested through climate-related extreme events that have brought deaths, injuries and significant socio-economic losses, amongst many others.

Thus, the robustness and resilience attributes of engineering and infrastructure systems have also become of significant importance. And improving both the sustainability and resilience of our essential infrastructure and engineering systems has never been more important.

This dual goal is at the heart of the 2021 Australian Infrastructure Plan, released by Infrastructure Australia, which presents a 15-year roadmap with practical and actionable reforms and policy recommendations that will deliver better infrastructure outcomes for Australian communities.

This webinar provides an overview of a wide range of issues related to the engineering enterprise and infrastructure systems, with a particular focus on first-principles concepts, and relationships between, sustainability and resilience, especially in the context of whole-life systems performance frameworks.

You'll gain a holistic understanding of the complexities of, and potential trade-offs in, decision-making, including considerations of social impacts, quality of life and wellbeing, and assessment of economic and environmental impacts.

Outcomes

- Improve the ability to apply the first-principles concepts, and relationships between, sustainability and resilience, especially in the context of whole-life systems performance frameworks

- Understand the concept and potential application of the different layers of resilience planning
- Critically analyse the role, utility, value, and limitations of various sustainability assessment frameworks, metrics, and methods at different scales (including similarities and differences of the terms “assessment”, “rating”, “tool”, “label” and “certification”) and better appreciate their potential future developments
- Apply first-principles frameworks alone or to complement/extend other assessment or rating systems to projects
- Identify the key factors and issues in the assessment and decision-making process, and through the asset life cycle

Key topics

- Foundational principles, concepts, and convergence of sustainability, resilience, and the n-bottom-line (nBL) performance approach
- Scope (flexibility/expandability), hierarchy, and interdependencies of performance metrics in the framework of the nBL systems
- Assessment methods and decision-making, including the role of sensemaking (or when “best practice” is not the best, or not even good enough)
- Case applications – selected projects
- Integrated approaches and key considerations through different life cycle phases

Presenter

Greg Foliente leads interdisciplinary and transdisciplinary research, education, consulting, and collaboration that advance innovation across various sectors, with a primary focus towards improved sustainability, liveability, and resilience.

He is an academic and leading researcher and has a long-standing and sustained international reputation in research innovation and science leadership.

Greg has over 20 years’ experience as a strategic leader and effective manager of high-performing interdisciplinary teams, large multi-stakeholder initiatives, and has delivered high-impact programs alongside senior leaders in government at all levels across multiple industries.

Greg has also designed and facilitated a wide range of workshops and sustainable development charrettes.

Delivery mode

Lecture-style briefing with Q&A on-site or online