

MBSE – Perspectives on the Past, the Present and the Future

Robert Halligan

Abstract:

This talk will trace the history of MBSE from 3000BC to a landmark Rand Corporation paper in 1954, to the ground-breaking work of TRW at Fort Monmouth that led to tools such as RDD and CORE, to today's tectonic shift taking place as SysML v2 is industrialized. Robert will give an overview and provide a perspective on the significance of differences between SysML 1.x and SysML v2, then, looking to the future, Robert will discuss further capability improvements to SysML v2 that Robert champions via his company's membership of the OMG.

Potential improvements to be discussed are the inclusion of state-based modelling that is better aligned to requirements capture and validation, the incorporation of a requirements structural model that bridges the gap between text-based requirements and MBSE, and the addition of Decision Patterns for improved decision making and decision traceability.



Speaker Bio:

Robert Halligan is a renowned executive project manager, engineering manager, and engineering practitioner with broad international experience. He has contributed to major systems projects in 42 countries. Robert worked with organizations including Telecom Australia, Rockwell International, and Andrew Corporation before forming Project Performance International (PPI) in 1992.

Robert has developed innovative systems engineering-related artifacts, such as the Wedge Model and advanced data item descriptions (DIDs) for key systems engineering documents. He has developed methodologies for state-based and function-based requirements capture and validation, and design methodologies relating to the conduct of trade-offs and design optimization. He has led numerous systems engineering efforts on projects up to \$1 billion and consulted on systems engineering processes, requirements quality and project risk. Robert has contributed content to four significant systems engineering standards.

Robert has also delivered systems engineering courses and modules for universities worldwide, including the Sydney University, University of Technology Sydney, Keio University Japan and University of Cape Town, South Africa.

Robert is an affiliated member of several professional organizations, including the International Council on Systems Engineering (INCOSE), where he has served as a member of the Board of Directors and Head of Delegation to ISO/IEC JTC 1 SC 7 on Software and Systems Engineering. He is PPI's representative to the Object Management Group (OMG) in the field of MBSE. He is a founding member and past President of the Systems Engineering Society of Australia (SESA) and an honorary member of the Korean Council on Systems Engineering (KCOSE) and INCOSE BRASIL.