# System of Systems Engineering Collaborators Information Exchange (SoSECIE)

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**New Digital Engineering Enabled Systems and Mission Engineering Performance Measures**

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#### Abstract

Traditional systems engineering measures like Technology Readiness Level (TRL), Integration Readiness Level (IRL), and System Readiness Level (SRL) provide guidance to systems engineering processes but offer no quantitative information about the performance of new technologies on components, subsystems, or systems. The ability to integrate collaborative knowledge to master risk at the speed of need separates the future impact of Digital Engineering to developing systems from past systems engineering practices. A primary focus for creating value through thinking digitally is to transform systems engineering processes and measures using model-based engineering to support better decision making under risk. A new set of digital engineering enabled, performance-based systems engineering measures are introduced that will enable quantifying technology performance risks at critical decision points to guide best courses of action to achieve system and mission requirements.

#### Biography

Dr. Edward M. “Ed” Kraft has over 50 years’ experience in testing and evaluation in industry and government. He recently retired as a Senior Leader in the US Air Force as the Technical Advisor in the AF Test Center. He is a nationally recognized leader in the innovative integration of high-performance computing to improve defense acquisition and testing. He was one of the initiators and principal architects for the AF Digital Thread/Digital Twin initiative and is a strong advocate for the applications of Uncertainty Quantification in developing the digital authoritative truth source in support of decision making. He currently consults with industry and the government on implementation strategies for digital engineering.