System of Systems Engineering
Collaborators Information Exchange (SoSECIE)

March 12, 2019
11:00 a.m. to Noon Eastern Time

Mission Engineering Competency Model

Presenters: Dr. Gregg Vesonder and Dr. Nicole A. Hutchison, Stevens Institute of Technology

Abstract

This webinar will explore the mission engineering competency framework developed by the Systems Engineering Research Center. Mission engineering is the development and deployment of a military capability by applying a mission context to systems of systems (SoS) and to complex systems within the US Department of Defense. From the mission engineering perspective, the individual systems that comprise a military capability are inherently flexible, functionally overlapping, multi-mission platforms supported by a complex backbone of information and communication networks. The SoS approach has arisen in response to the Department's needs for capabilities requiring multiple linked systems that are greater than the sum of the capabilities of the constituent parts.
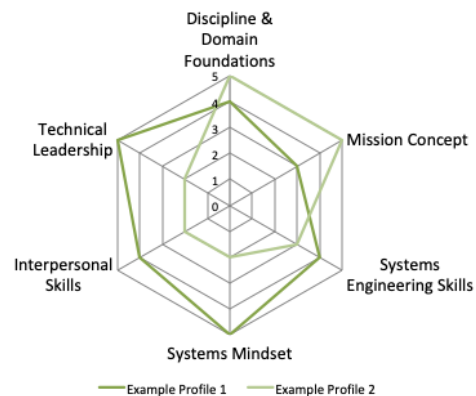
As the Department moves toward a mission engineering approach to defense capabilities, one question is what are the critical skills required to successfully accomplish and shepherd this work? The Mission Engineering Competency research task used in-depth interviews with experts and practitioners in mission engineering currently working in the DoD to develop a competency framework to support DoD mission engineering.

Biographies

Dr. Gregg Vesonder
Dr. Gregg Vesonder is the Industry Professor and Director, Research, Systems and Software Engineering at Stevens Institute of Technology. Prior to that he was Executive Director of the Mobile and Pervasive Systems Research Department at AT&T Labs-Research. Vesonder has developed and managed numerous artificial intelligence projects. He has presented papers in both IJCAI and AAAI. He was named a Bell Labs Fellow as well as an AT&T Fellow for his work on artificial intelligence. Dr. Vesonder also has managed organizations involved in e-commerce(music), C++ compiler development, Speech recognition and text to speech and software design and analysis. Dr. Vesonder has published papers on empirical psychological research involving topics such as meta-cognition and expert novice knowledge differences

supported by mathematical models. He has published several papers on simulations addressing the evolution of evolvability. Dr. Vesonder received his B.A. in Psychology from the University of Notre Dame and an M.S. and Ph.D. in Cognitive Psychology from the University of Pittsburgh.

Dr. Nicole Hutchison
Dr. Nicole Hutchison is the Chief of Staff and a research engineer with the SERC. She has supported the Helix project since its inception and currently serves as its Principle Investigator. Previously, she supported the Body of Knowledge and Curriculum to Advance Systems Engineering (BKCASE) project (2009-2014). Before coming to Stevens, Dr. Hutchison worked for Analytic Services Inc. as a contractor working primarily on public health, biodefense, and full-scale exercise projects for the US Departments of Defense, Homeland Security, and Health and Human Services. Dr. Hutchison holds an MS in Biohazardous Threat Agents and Emerging Infectious Disease from Georgetown and a PhD in systems engineering from Stevens.