

MITRE Produces Online Systems Engineering Guide

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BEDFORD, Mass., June 15, 2011 — The MITRE Corporation has published a free, online [Systems Engineering Guide](#) (SEG) as a way to share the knowledge that the not-for-profit organization has accumulated in its more than 50 years of service to the federal government. The SEG, which features the collective wisdom of more than 130 of the company's most highly regarded systems engineers, is organized into an easily accessible format.

“The SEG captures valuable information that, until now, hasn't been available in a single, central location,” said Louis Metzger, MITRE corporate chief engineer and MITRE Fellow. “This isn't a Systems Engineering 101 course; it's an “in the trenches” view of the challenges our systems engineers face every day.”

Since 1958, MITRE has supported large-scale programs for a variety of government sponsors, including the Department of Defense, the Federal Aviation Administration, the Internal Revenue Service, the Department of Veterans Affairs, and the Department of Homeland Security. Developing the SEG was a way to document the technical and organizational issues involved in engineering systems on a broad scale and to compile practical advice for dealing with those issues.

Covering over 100 subjects, the SEG's content is not intended to replace academic textbooks or government policy on systems engineering. The articles are written by MITRE systems engineering practitioners with substantial experience in particular subject areas. Each article identifies real-world problems and conundrums that commonly occur in engineering systems and provides best practices and lessons learned for avoiding or mitigating them. While the articles are written “to” a MITRE engineer performing a federally funded research and development center role, most of the information and advice applies to all members of a government team, whatever their role or specialty—and whatever their experience level.

“We hope the guide will be a resource for experienced systems engineers who may be new to a particular area, those just entering the field, and students,” added Metzger.

The SEG has two introductory sections—the Evolution of Systems Engineering and the Essence of MITRE Systems Engineering—and three comprehensive sections: Enterprise Engineering, SE Life-Cycle Building Blocks, and Acquisition Systems Engineering. Each section has an introduction and background information to set the context for the topics and articles in it. Every article page has a list of references and resources for more detailed reading. Many of the references are hyperlinked for easy access.

According to Metzger, an article “succeeds” when 30 minutes devoted to reading it moves the reader up their personal wisdom curve on a subject more than the half hour invested.

MITRE’s Systems Engineering Competency Model is the basis for the organization of and perspective taken in the SEG. The company uses the competency model, which is included with the guide, to identify the competencies required to fulfill a Federally Funded Research and Development Center systems engineering role and to assess and develop individual employees and teams for the wide range of systems engineering jobs.

For more information about the SEG, visit http://www.mitre.org/work/systems_engineering/guide/.

About The MITRE Corporation

The MITRE Corporation (www.mitre.org) is a not-for-profit organization that provides systems engineering, research and development, and information technology support to the government. It operates federally funded research and development centers for the Department of Defense, the Federal Aviation Administration, the Internal Revenue Service and Department of Veterans Affairs, the Department of Homeland Security, and the Administrative Office of the U.S. Courts, with principal locations in Bedford, Mass., and McLean, Va.

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