

# Quantifying the Effectiveness of Systems Engineering

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**Abstract.** This presentation summarizes the results of a survey that had the goal of quantifying the connection between the application of systems engineering (SE) best practices to projects and programs and the performance outcomes of those projects and programs. The survey population consisted of projects and programs executed by system developers reached through the National Defense Industrial Association (NDIA) Systems Engineering Division, the Institute of Electrical and Electronics Engineers (IEEE) Aerospace and Electronic Systems Society, and the International Council on Systems Engineering (INCOSE). Analysis of survey responses revealed strong statistical relationships between project performance and several categories of specific SE best practices. The survey results show notable differences in the relationship between SE best practices and performance between more challenging and less challenging projects. The statistical relationship with project performance is quite strong for survey data of this kind when both SE capability and project challenge are considered together.