



7670 Opportunity Road, Suite 220, San Diego, CA 92111 USA
PHONE: 1-858-541-1725 or 800-366-1164 [US & CANADA] • FAX: 1-858-541-1728
EMAIL: info@incose.org • WEB: www.incose.org

THE DEFINITION OF A TRUE “*SYSTEMS ENGINEERING PROFESSIONAL*” AS INTENDED FOR INCOSE’S MULTI-LEVEL CERTIFICATION PROGRAM

John A. Thomas, ESEP
INCOSE President – 2012 & 2013
Senior Vice President & Chief System Engineer Booz Allen Hamilton *retired*

A *Systems Engineering Professional*^{*}, as it is intended for INCOSE’s multi-level certification program, refers to someone who has done more than simply pass a test. It is someone who is seen by others as an experienced individual who finds a way to get the job done—no matter what obstacles and complications may arise. This is the expectation of someone who has earned an INCOSE certification. And the expectation is not one that can be taken lightly.

This reputation for “getting the job done” is precisely how the *Systems Engineering Professional (SEP)* should be perceived by fellow leaders and staff on a project. The program manager and other members of the leadership team facing a problem don’t have to ask, “Where’s the systems engineer?” Because the systems engineer—the *SEP*—has already come to them and said, “Here’s the problem, and here’s how I’m solving it.” That is the standard the *SEP* is held to—by INCOSE, by the program leadership team, by all program participants.

Systems Engineering Professionals (SEPs) can break down barriers. They have a sense of empowerment—and the good judgment to know exactly where and how far they can push. Members of the leadership team know that a *SEP* will not be intimidated by certain barriers—such as the belief that they are somehow crippled by the contract, by organizational policies, by technology, perhaps even by the leadership team itself. At the same time, the leadership team also knows that the *SEP* will not push hard in inappropriate places, like a bull in a china shop. A *SEP* is clear about what it means to be empowered, and how that power should be exercised.

Systems Engineering Professionals get the job done because they focus on outcome, not process. The program manager and other members of the leadership team know that when problems arise, *SEPs* will not retreat into strict compliance with checklists, or see the mere delivery of documents as a measure of success. As *SEPs*, they know that they can step out of the process role and tackle the larger problem—such as unexpected technology issues, flaws in acquisition strategy, or contradictory policies.

Systems Engineering Professionals are collaborative, not competitive. They recognize that program success is relevant to the program manager as well as the systems engineer, and cannot be achieved without an equal contribution from both. Collaboration means working together with others – even stakeholders from firms that normally are viewed as the competition. The *SEP* knows how to facilitate the delicate negotiations between program participants that determine the success or failure of a project.

* **Note:** Each INCOSE certification level, ESEP, CSEP and ASEP, has consistency with its ending of - Systems Engineering Professional. As highlighted here, the INCOSE-certified *Systems Engineering Professional (SEP)* is to signify the broader notion of demonstrated professionalism -- professionalism recognized from independent INCOSE assessment of the application of knowledge and demonstration of leadership.

Systems Engineering Professionals can solve problems because they understand the nuances and complex interrelationships inherent in a given situation.

Some systems engineers tend to see problems through only one lens, such as a technical perspective. Members of the leadership team know that the SEP has the ability to view problems through multiple lenses simultaneously—to see, for example, how what outwardly looks like a mechanical engineering problem might be related to other issues such as training, policy, doctrine and organizational culture. The SEP also fully considers the perspectives of the program manager and the other members of the leadership team, so that the solution works on all levels. Each of these complexities and nuances must be understood and fully integrated, and the leadership team knows that the SEP can and will take the lead in resolving problems.

Systems Engineering Professionals get the job done because they embrace responsibility.

When problems arise, it is often not clear who has the responsibility to solve them, making it easy to stand aside. Program managers and other members of the leadership team know that the SEP, rather than saying -- “It’s not my job,” instead will say, “I don’t know whether I’m the one to fix it or not, but I’m going to step in and try.” The leadership team is confident that the SEP will say, “It *is* my responsibility. It *is* my job.”

Systems Engineering Professionals solve problems because their skills and knowledge are both deep and broad.

Some systems engineers may be reluctant to confront a problem, fearing they will be unable to work with others who have more knowledge and experience in a particular area. But even if SEPs lack certain expertise, they are able to ask the questions that uncover the fundamental nature of the problem. When dealing with others on a project, SEPs can push through technical details, cost and schedule constraints—even the inevitable office politics—to grasp the larger issues. The leadership team counts on SEPs to have this ability.

Although some SEPs may not feel confident that they can meet all of these expectations, they need to know that this is how they are perceived—and they should use every opportunity to fully develop each capability I’ve shared above. INCOSE strongly believes that certification carries with it an exceptionally high standard of performance. A SEP should be seen as the kind of individual who can be counted on to get the job done, and who will meet whatever challenge comes their way to make the project a success. Program managers and other members of the leadership team—and INCOSE—expect nothing less.

John Thomas is the President of the International Council on Systems Engineering, an organization for systems engineers and the dissemination of systems engineering practices. He can be reached at president@incose.org.

