

Systems Engineering Competency: Emergent Trends

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Abstract. Numerous competency models exist today, many of which were developed by individual companies for their own internal use. In some cases, these models have been shared with the public, especially those developed under Department of Defense contracts and by professional organizations such as Project Management Institute (PMI) Project Manager Competency Development Framework and the INCOSE United Kingdom chapter (UK) Systems Engineering Competency Framework. No single competency framework for an individual has emerged as a reference standard which is an indicator that competency frameworks are still in their infancy. That is certainly true of Systems Engineering (SE) Competency frameworks. Competencies can be evaluated in many different ways. Examples of other instruments for competency evaluation will be shared, although the INCOSE Competency Framework will be the focus of the presentation. The presentation will share what INCOSE's Corporate Advisory Board (CAB) has identified as their needs and a look into the future of what the framework could become. As we advance the state of the art and practice of SE competency, emerging trends could inform and evolve the INCOSE Competency Framework into a defacto standard. This panel will explore the following as a subset of trends observed today: Evolving tools and techniques MBSE – predictive risk modeling New approaches (requirements, capabilities) Assessment methods Variety of techniques Recognition that cross discipline research is a contributor to SE competency – Psychology - Personal competencies Project Management - SE leadership Neuroscience Government and Industry common knowledge awareness and needs Tailoring and reuse of current models Sustainable performance and effectiveness The plan for evolving SE competency as we advance the state of the art and state of the practice includes creation of a Project Plan, currently in-work.