

Systems Thinking within the Systems Engineering Paradigm

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Systems Engineers are finding their traditional practices insufficient in considering the complexity and interconnectedness of the new trends in automation, system sciences, and cyber-physical systems. Traditional systems engineering has focused on analysis and reductionism to reduce the complexity and better understand the system they are trying to create.

However, modern complexities require a new emphasis on the System within an even greater System. This means Systems Engineers must now focus on Systems Thinking to look outward and concentrate on using synthesis as a means to understand the system they are trying to create and place within a larger context.

This tutorial will discuss System Thinking Perspectives and how to apply them to situations and problems so they can be framed and reframed in different ways, thus allowing for new kinds of solutions to emerge.