

Mechanical Engineering Lecture

Designing and Implementing Large Systems: Overcoming Cost Over-Runs and Missed Project Schedules



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On Friday, September 25th at 4:00pm in 3-370

For centuries, people have developed imaginative and innovative solutions to satisfy human and societal needs in many fields, including non-technological fields. Many of these innovations have been in the form of systems that were designed to satisfy a specific set of outcomes, or functional requirements (FRs), within a set of constraints (C). In system design, the goal is to develop and deliver an optimized system on time and within the original budget. Unfortunately, achieving these goals has proven challenging. Many highly publicized projects, such as the new Berlin airport, the F-35 fighter airplane, Boston's underground highway ("The Big Dig"), and the U.S. health care system, have missed their original cost estimates and delivery schedules, and some, even with more time and money, initially performed subpar. These projects have been staffed with some of the most experienced, skilled and intelligent engineers and managers, who put in countless hours to ensure their success. While there were most likely non-technical factors that affected the outcomes of these projects, what were the technological causes for the cost over-runs and missed schedules? This seminar explores this question by examining the system design and delivery of some highly successful projects.

Refreshments will be served before the seminar.

Please contact Tony Pulsone at pulsone@mit.edu with any questions.