

Systems Engineering Fundamentals Risk Management

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Abstract

Systems Engineering offers many methods and techniques to detect and mitigate risks. This presentation touches upon methods like Failure Mode Effect Analysis, Hazard Analysis, etc. addressing related concerns such as reliability, safety, and security.

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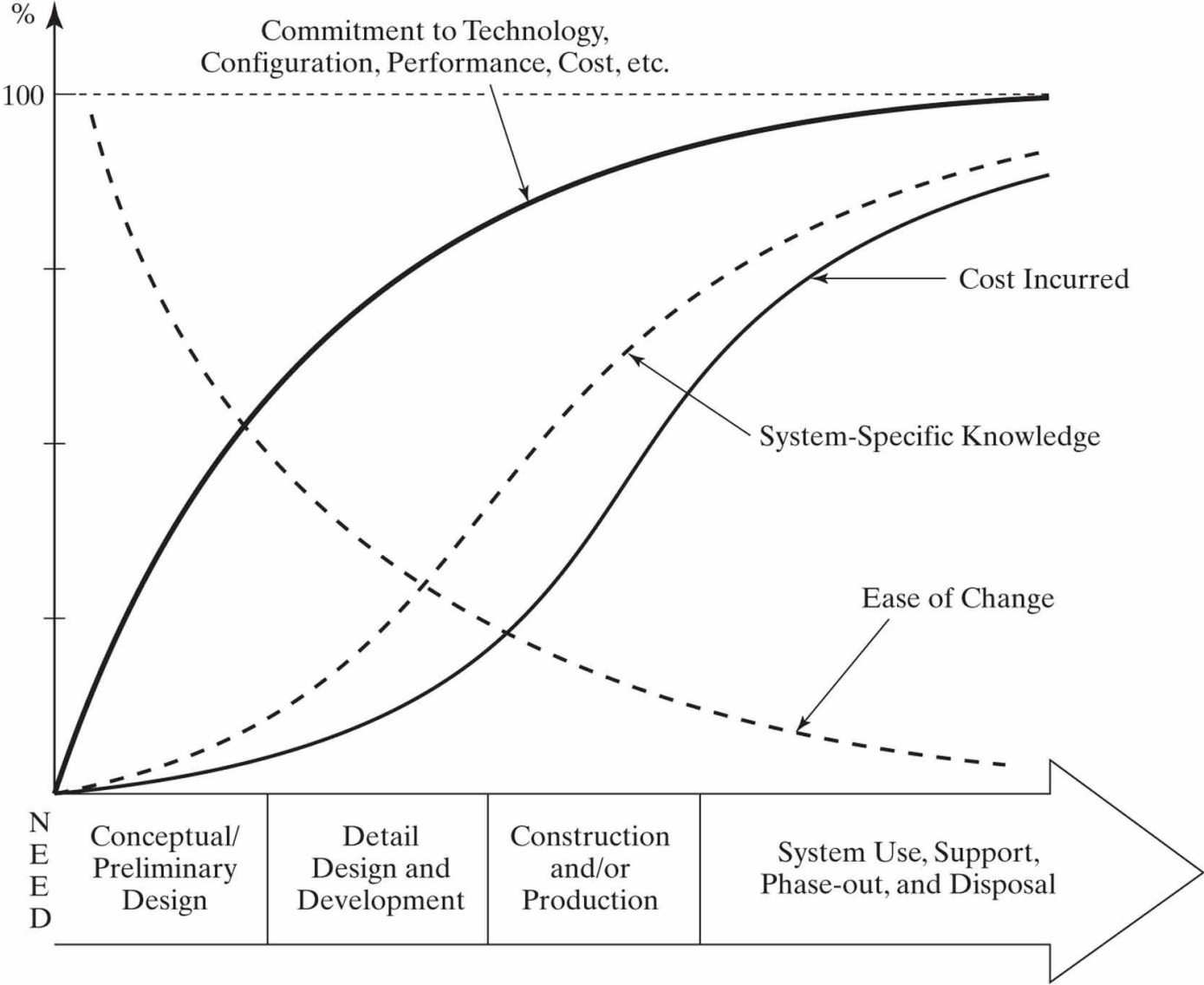
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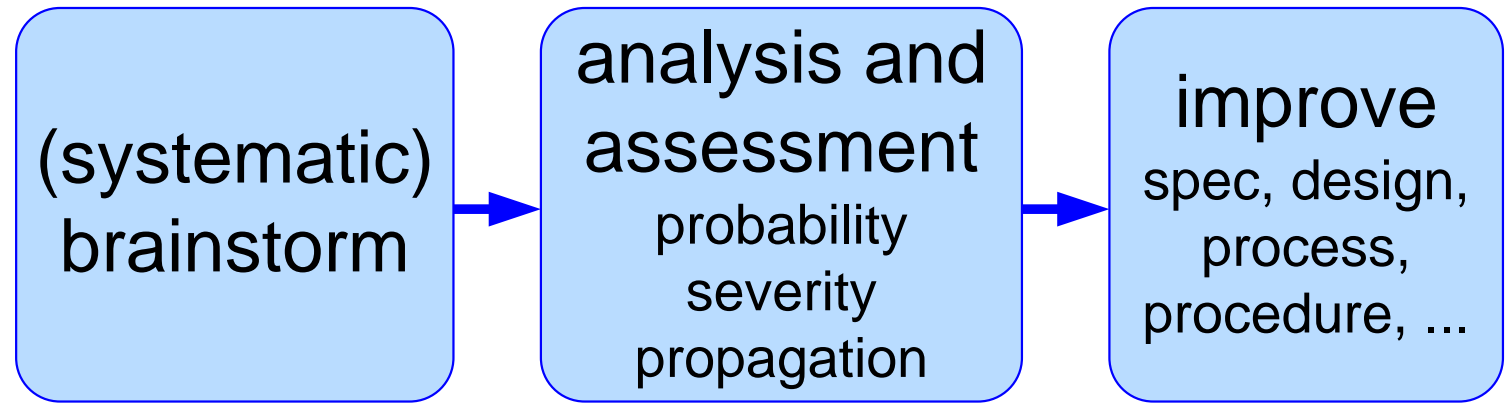
Life-cycle Commitment, Knowledge, and Incurred Cost

Systems Engineering and Analysis, Fifth Edition
 Benjamin S. Blanchard • Wolter J. Fabrycky
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FMEA-like Analysis Techniques



safety hazard analysis	potential hazards	damage	measures
reliability FMEA	failure modes exceptional cases	effects	measures
security	vulnerability risks	consequences	measures
maintainability	change cases	impact, effort, time	decisions
performance	worst cases	system behavior	decisions

Severity-Probability Classification Matrix

probability ↑	E	moderate	moderate	high	unacceptable	unacceptable	unacceptable
	D	low	moderate	moderate	high	unacceptable	unacceptable
	C	low	low	moderate	moderate	high	unacceptable
	B	low	low	low	moderate	high	unacceptable
	A	low	low	low	low	moderate	high
		I	II	III	IV	V	VI
							severity →

based on https://en.wikipedia.org/wiki/Failure_mode_and_effects_analysis