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Nota di contenuto	Title Page; Copyright; Table of Contents; Preface; Chapter 1: Introduction to System Engineering; 1.1 Definition of a System; 1.2 The Current Environment: Some Challenges; 1.3 The Need for System Engineering; 1.4 Related Terms and Definitions; 1.5 System Engineering Management; 1.6 Summary; Questions and Problems; Chapter 2: The System Engineering Process; 2.1 Definition of the Problem (Current Deficiency); 2.2 System Requirements (Needs Analysis); 2.3 System Feasibility Analysis; 2.4 System Operational Requirements; 2.5 The Logistics and Maintenance Support Concept 2.6 Identification and Prioritization of Technical Performance Measures (TPMs)2.7 Functional Analysis; 2.8 Requirements Allocation; 2.9 System Synthesis, Analysis, and Design Optimization; 2.10 Design Integration; 2.11 System Test and Evaluation; 2.12 Production and/or Construction; 2.13 System Operational Use and Sustaining Support; 2.14 System Retirement and Material Recycling/Disposal; 2.15 Summary; Questions and Problems; Chapter 3: System Design Requirements; 3.1 Development of Design Requirements and Design-To Criteria; 3.2 Development of Specifications 3.3 The Integration of System Design Activities3.4 Selected Design Engineering Disciplines; 3.5 SOS Integration and Interoperability

Requirements; 3.6 Summary; Questions and Problems; Chapter 4: Engineering Design Methods and Tools; 4.1 Conventional Design Practices; 4.2 Analytical Methods; 4.3 Information Technology, the Internet, and Emerging Technologies; 4.4 Current Design Technologies and Tools; 4.5 Computer-Aided Design (CAD); 4.6 Computer-Aided Manufacturing (CAM); 4.7 Computer-Aided Support (CAS); 4.8 Summary; Questions and Problems; Chapter 5: Design Review and Evaluation

5.1 Design Review and Evaluation Requirements 5.2 Informal Day-to-Day Review and Evaluation; 5.3 Formal Design Reviews; 5.4 The Design Change and System Modification Process; 5.5 Supplier Review and Evaluation; 5.6 Summary; Questions and Problems; Chapter 6: System Engineering Program Planning; 6.1 System Engineering Program Requirements; 6.2 System Engineering Management Plan (SEMP); 6.3 Determination of Outsourcing Requirements; 6.4 Integration of Design Specialty Plans; 6.5 Interfaces with Other Program Activities; 6.6 Management Methods/Tools; 6.7 Risk Management Plan 6.8 Global Applications/Relationships 6.9 Summary; Questions and Problems; Chapter 7: Organization for System Engineering; 7.1 Developing the Organizational Structure; 7.2 Customer, Producer, and Supplier Relationships; 7.3 Customer Organization and Functions; 7.4 Producer Organization and Functions (the Contractor); 7.5 Tailoring the Process; 7.6 Supplier Organization and Functions; 7.7 Human Resource Requirements; 7.8 Summary; Questions and Problems; Chapter 8: System Engineering Program Evaluation; 8.1 Evaluation Requirements; 8.2 Benchmarking 8.3 Evaluation of the System Engineering Organization

Sommario/riassunto

"A practical, step-by-step guide to total systems management Systems Engineering Management, Fifth Edition is a practical guide to the tools and methodologies used in the field. Using a "total systems management" approach, this book covers everything from initial establishment to system retirement, including design and development, testing, production, operations, maintenance, and support. This new edition has been fully updated to reflect the latest tools and best practices, and includes rich discussion on computer-based modeling and hardware and software systems integration. New case studies illustrate real-world application on both large- and small-scale systems in a variety of industries, and the companion website provides access to bonus case studies and helpful review checklists. The provided instructor's manual eases classroom integration, and updated end-of-chapter questions help reinforce the material. The challenges faced by system engineers are candidly addressed, with full guidance toward the tools they use daily to reduce costs and increase efficiency. System Engineering Management integrates industrial engineering, project management, and leadership skills into a unique emerging field. This book unifies these different skill sets into a single step-by-step approach that produces a well-rounded systems engineering management framework. Learn the total systems lifecycle with real-world applications Explore cutting edge design methods and technology Integrate software and hardware systems for total SEM Learn the critical IT principles that lead to robust systems Successful systems engineering managers must be capable of leading teams to produce systems that are robust, high-quality, supportable, cost effective, and responsive. Skilled, knowledgeable professionals are in demand across engineering fields, but also in industries as diverse as healthcare and communications. Systems Engineering Management, Fifth Edition provides practical, invaluable guidance for a nuanced field"

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