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Nota di contenuto	ASSURANCE TECHNOLOGIES PRINCIPLES AND PRACTICES; CONTENTS; PREFACE; CHAPTER 1 ASSURANCE TECHNOLOGIES, PROFITS, AND MANAGING SAFETY-RELATED RISKS; 1.1 Introduction; 1.2 Cheaper, Better, and Faster Products; 1.3 What Is System Assurance?; 1.4 Key Management Responsibilities; 1.4.1 Integration; 1.4.2 Budget Consistent with Objectives; 1.4.3 Managing Risk; 1.4.3.1 Managing Safety-Related Risk; 1.4.3.2 Risk Assessment; 1.4.3.3 Risk Types; 1.4.3.4 Risk Terms; 1.4.3.5 Risk Knowledge; 1.5 Is System Assurance a Process?; 1.6 System Assurance Programs; References; Further Reading CHAPTER 2 INTRODUCTION TO STATISTICAL CONCEPTS2.1 Probabilistic Designs; 2.2 Probability Computations for Reliability, Safety, and Maintainability; 2.2.1 Construction of a Histogram and the Empirical Distribution; 2.2.2 Computing Reliability; 2.2.3 Failure Rate and Hazard Function; 2.3 Normal Distribution; 2.4 Log Normal Distribution; 2.5 Exponential Distribution; 2.6 Weibull Distribution; 2.7 Data Analysis

with Weibull Distribution; 2.8 Discrete Distributions; 2.8.1 Binomial Distribution; 2.8.2 Poisson Distribution; 2.9 Topics for Student Projects and Theses; References; Further Reading

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3.2.9.2 Fault Tolerance 3.3 Reliability in the Manufacturing Phase; 3.4 Reliability in the Test Phase; 3.4.1 Reliability Growth Testing; 3.4.2 Tests for Durability; 3.4.3 Testing for Low Failure Rates; 3.4.4 Burn-in and Screening; 3.5 Reliability in the Use Phase; 3.6 Reliability and Safety Commonalities; 3.6.1 Common System Objective; 3.6.2 Unreliability and Hazards; 3.6.3 Complex Risks; 3.6.4 Potential System Accidents; 3.6.5 Software Reliability and Safety; 3.6.6 Reliability and Safety Trade-offs; 3.6.7 Reliability and Safety Misconceptions; 3.6.7.1 Redundancy; 3.6.7.2 Monitoring

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4.2.6 Life-Cycle Cost Analysis

Sommario/riassunto

The Second Edition features new content, examples, methods, techniques, and best practices Assurance Technologies Principles and Practices is based on the assertion that safety is not a cost, but an excellent investment. According to the authors, more than sixty percent of problems in complex systems arise from incomplete, vague, and poorly written specifications. In keeping with the authors' passion for safety, the text is dedicated to uniting the gamut of disciplines that are essential for effective design applying assurance technology principles, including system safety, reli
