

1. Record Nr.	UNINA9910254320203321
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Titolo	Reliability Engineering : Theory and Practice // by Alessandro Birolini
Pubbl/distr/stampa	Berlin, Heidelberg : , : Springer Berlin Heidelberg : , : Imprint : Springer, , 2017
ISBN	3-662-54209-9
Edizione	[8th ed. 2017.]
Descrizione fisica	1 online resource (650 p.)
Disciplina	658.56
Soggetti	Quality control Reliability Industrial safety Organization Planning Economic policy Electronics Microelectronics Quality Control, Reliability, Safety and Risk R & D/Technology Policy Electronics and Microelectronics, Instrumentation
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	"With 210 Figures, 60 Tables, 140 Examples, and 80 Problems for Homework."
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Basic Concepts, Quality & Reliability (RAMS) Assurance of Complex Equip. & Systems -- Reliability Analysis During the Design Phase -- Qualification Tests for Components and Assemblies -- Maintainability Analysis -- Design Guidelines for Reliability, Maintainability, and Software Quality -- Reliability and Availability of Repairable Systems -- Statistical Quality Control and Reliability Tests -- Quality & Reliability (RAMS) Assurance During Production Phase.
Sommario/riassunto	This book shows how to build in and assess reliability, availability, maintainability, and safety (RAMS) of components, equipment, and systems. It presents the state-of-the-art of reliability (RAMS) engineering, in theory & practice, and is based on over 30 years

author's experience in this field, half in industry and half as Professor of Reliability Engineering at the ETH, Zurich. The book structure allows rapid access to practical results. Methods & tools are given in a way that they can be tailored to cover different RAMS requirement levels. Thanks to Appendices A6 - A8 the book is mathematically self-contained, and can be used as a text book or as a desktop reference with a large number of tables (60), figures (210), and examples / exercises (220, of which 80 as problems for homework). The request for a Chinese translation of this book and the very high eBook requirements (> 10,000 per year since 2013) were the motivation for this final edition, the 13th since 1985, including German editions. Extended and carefully reviewed to improve accuracy, it represents the continuous improvement effort to satisfy reader's needs and confidence. New are an introduction to risk management with structurally new models based on semi- Markov processes & to the concept of mean time to accident, reliability & availability of a k-out-of-n redundancy with arbitrary repair rate for $n - k=2$, 10 new homework problems, and refinements, in particular, on multiple failure mechanisms, approximate expressions for large complex systems, data analysis, comments on , MTBF, MTTF, MTTR, R, PA.
