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Nota di contenuto	Introduction to Digitalization of Energy Domain -- Energy Cyber-Physical Social Systems -- Smart Grid Applications: Information and Communication Technologies -- Standardization and Protocols of Energy Informatics -- Energy Internet of Things -- Distributed Ledger Technology based Energy Use Cases -- Optimization and Digitalization of Power Markets -- Outlook and Discussions.
Sommario/riassunto	The objective of this textbook is to introduce students and professionals to fundamental principles and techniques and emerging technologies in energy informatics and the digitalization of power markets and systems. The book covers such areas as smart grids and

artificial intelligence (AI) and distributed ledger technology (DLT), with a focus on information and communication technologies (ICT) deployed to modernize the electric energy infrastructure. It also provides an overview of the smart grid and its main components: smart grid applications at transmission, distribution, and customer level, network requirements with communications technologies, and standards and protocols. In addition, the book addresses emerging technologies and trends in next-generation power systems, i.e., energy informatics, such as digital green shift, energy cyber-physical-social systems (E-CPSS), energy IoT, energy blockchain, and advanced optimization. Future aspects of digitalized power markets and systems will be discussed with real-world energy informatics projects. The book is designed to be a core text in upper-undergraduate and graduate courses such as Introduction to Smart Grids, Digitalization of Power Systems, and Advanced Power System Topics in Energy Informatics. Comprehensive introduction to fundamental principles and techniques; Explores emerging technologies and trends in next-generation power systems; Designed to be a core text in upper-undergraduate and graduate courses.