1. Record Nr. UNINA9910337618203321

Titolo	Cyber-Physical Systems: A Reference [[electronic resource] /] / edited by Xue Wang
Pubbl/distr/stampa	Berlin, Heidelberg : , : Springer Berlin Heidelberg : , : Imprint : Springer, , 2020
ISBN	3-642-54477-0
Descrizione fisica	1 online resource (1500 p. 200 illus., 100 illus. in color.)
Disciplina	621.3815
Soggetti	Electronic circuits Computer organization Control engineering Robotics Mechatronics Energy systems Circuits and Systems Computer Systems Organization and Communication Networks Control, Robotics, Mechatronics Energy Systems
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	From the Contents: Part I Introduction -- Definition of Cyber-Physical Systems and Common characteristics -- Applications -- Challenges in Cyber-Physical Systems -- Part II Principles and Methodologies of Cyber-Physical Systems -- Part III Applications -- Cyber-Physical Systems in Smart Grid -- Part IV Future Trends.
Sommario/riassunto	This handbook provides a comprehensive and systematic introduction to the Cyber-Physical Systems (CPS) from the aspects of fundamental concepts, major challenges, and effective solutions. The focuses are on: infrastructure and design methodology, communication protocol, embedded systems, real-time CPS, time synchronization in CPS, CPS collaborative computing, reputational computing in CPSs. A comprehensive vision on the applications are also presented in the fields of smart Grid, software infrastructure for smart building

monitoring, healthcare monitoring, safety & security in industrial process, structure monitoring, etc. This handbook is intended for a wide range of audience, including academic researchers, graduate students, practitioners in industry, and research engineers. It can be an excellent reference work for the academic researchers, industry practitioners, and research engineers working in the field of CPS to learn the state-of-the-art technologies.