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Nota di contenuto	1. Literature Survey and Trends -- 2. Current Status and Recent Development in Cloud Technologies -- 3.Advances in Cyber-Physical Systems -- 4.Challenges in Cyber Security and Solutions -- 5Sensor-Driven Machine Availability and Capability Monitoring in Distributed Environment -- 6.Cloud-Enabled Adaptive and Collaborative Process Planning Based on Real-Time Machine Availability -- 7.Process-Embedded Function Blocks for Adaptive Machining in Cyber-Physical Environment -- 8.Fleet-wide Condition Monitoring for Predictive Maintenance Using Cyber Prognostic Techniques -- 9Energy Map and Resource Efficiency Calculation as a Cloud Service -- 10.Human Safety and Cyber Security in Remote Robotic Assembly -- 11.Cloud Robotics towards Development of a Cyber-Physical Assembly System -- 12.-Symbiotic Human-Robot Collaborative Assembly with Embedded Sensing and Decision Support -- 13.CPS Systems Design and Lifecycle Analysis.
Sommario/riassunto	This book presents state-of-the-art research, challenges and solutions

in the area of cloud-based cyber-physical systems (CPS) used in manufacturing. It provides a comprehensive review of the literature and an in-depth treatment of novel methodologies, algorithms and systems in the area of architecture design, cyber security, process planning, monitoring and control. The book features detailed descriptions of how to derive solutions in a cloud environment where physical machines can be supported by cyber decision systems when engaged in real operations. It presents a range of novel ideas and is characterized by a balanced approach in terms of scope vs. depth and theory vs. applications. It also takes into account the need to present intellectual challenges while appealing to a broad readership, including academic researchers, practicing engineers and managers, and graduate students. Dedicated to the topic of cloud-based CPS and its practical applications in manufacturing, this book benefits readers from all manufacturing sectors, from system design to lifecycle engineering and from process planning to machine control. It also helps readers to understand the present challenges and future research directions towards factories of the future, helping them to position themselves strategically for career development. .