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Soggetti	Industrial engineering Production engineering Data structures (Computer science) Information theory Materials science Production management Business logistics Industrial and Production Engineering Data Structures and Information Theory Materials Science Production Logistics Supply Chain Management
Lingua di pubblicazione	Inglese
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Sommario/riassunto

This seminal compendium, available through open access, illuminates the forefront of digital collaboration in production. It introduces the visionary concept of the Internet of Production (IoP), an ambitious initiative by Germany's esteemed Cluster of Excellence at RWTH Aachen. This handbook pioneers the integration of data, models, and knowledge across development, production, and user cycles, offering interdisciplinary insights into production technology's horizons with the overall objective to create a worldwide lab. The work is organized into seven key parts, each contributing to a comprehensive understanding of the IoP. Part I lays the foundation with interdisciplinary visions and concepts. Part II delves into IoP's infrastructure, encompassing digital shadows and actionable artificial intelligence. Part III examines materials within the digitalized production landscape. Part IV confronts the challenges and potentials of production processes under novel digitalization methods. Part V focuses on production management with data-driven decision support, while Part VI explores agile development processes. Finally, Part VII delves into the interplay between internal and external perspectives in the IoP, human-centered work design, and platform-based ecosystems. Supported by the German Research Foundation (DFG), this compendium redefines manufacturing through the transformative IoP lens. Embrace this scholarly endeavor to embrace technological advancement. This is an open access book.
