

Social Manufacturing: Fundamentals and Applications

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Deskripsi Lengkap: <https://lib.ui.ac.id/detail?id=9999920520332&lokasi=lokal>

Abstrak

This book introduces social manufacturing, the next generation manufacturing paradigm that covers product life cycle activities that deal with Internet-based organizational and interactive mechanisms under the context of socio-technical systems in the fields of industrial and production engineering. Like its subject, the book's approach is multi-disciplinary, including manufacturing systems, operations management, computational social sciences and information systems applications. It reports on the latest research findings regarding the social manufacturing paradigm, the architecture, configuration and execution of social manufacturing systems and more. Further, it describes the individual technologies enabled by social manufacturing for each topic, supported by case studies. The technologies discussed include manufacturing resource minimalization and their socialized reorganizations, blockchain models in cybersecurity, computing and decision-making, social business relationships and organizational networks, open product design, social sensors and extended cyber-physical systems, and social factory and inter-connections. This book helps engineers and managers in industry to practice social manufacturing, as well as offering a systematic reference resource for researchers in manufacturing. Students also benefit from the detailed discussions of the latest research and technologies that will have been put into practice by the time they graduate.