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Sommario/riassunto

This book reports on advances in manufacturing, with a special emphasis on smart manufacturing and information management systems. It covers sensors, machine vision systems, collaborative technologies, industrial robotics, digital twins, and virtual and mixed reality. Further topics include quality management, supply chain, agile manufacturing, lean management, and sustainable transportation. Chapters report on theoretical research and experimental studies concerning engineering design, simulation, and various machining processes for classical and additive manufacturing. They also discuss key aspects related to engineering education and competence management in the industry 4.0 era. Based on the 6th International Conference on Design, Simulation, Manufacturing: The Innovation Exchange (DSMIE-2022), held on June 6-9, 2023, in High Tatras, Slovak Republic, this first volume of a 2-volume set provides academics and professionals with extensive information on trends and technologies, and challenges and practice-oriented experience in all the above-mentioned areas.