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Sommario/riassunto	This book, as a Special Issue, is a collection of some of the latest advancements in designing and scheduling smart manufacturing systems. The smart manufacturing concept is undoubtedly considered a paradigm shift in manufacturing technology. This conception is part of the Industry 4.0 strategy, or equivalent national policies, and brings new challenges and opportunities for the companies that are facing tough global competition. Industry 4.0 should not only be perceived as one of many possible strategies for manufacturing companies, but also as an important practice within organizations. The main focus of Industry 4.0 implementation is to combine production, information technology, and the internet. The presented Special Issue consists of ten research papers presenting the latest works in the field. The papers include various topics, which can be divided into three categories-(i) designing and scheduling manufacturing systems (seven articles), (ii) machining process optimization (two articles), (iii) digital insurance platforms (one article). Most of the mentioned research problems are solved in these articles by using genetic algorithms, the harmony search algorithm, the hybrid bat algorithm, the combined whale optimization algorithm, and other optimization and decision-making methods. The above-mentioned groups of articles are briefly described in this order in this book.