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This book is a collection of 11 articles that are published in the corresponding *Machines* Special Issue “Smart Manufacturing”. It represents the quality, breadth and depth of the most updated study in smart manufacturing (SM); in particular, digital technologies are deployed to enhance system smartness by (1) empowering physical resources in production, (2) utilizing virtual and dynamic assets over the Internet to expand system capabilities, (3) supporting data-driven decision-making activities at various domains and levels of businesses, or (4) reconfiguring systems to adapt to changes and uncertainties. System smartness can be evaluated by one or a combination of performance metrics such as degree of automation, cost-effectiveness, leanness, robustness, flexibility, adaptability, sustainability, and resilience.

This book features, firstly, the concepts digital triad (DT-II) and Internet of digital triad things (IoDTT), proposed to deal with the complexity, dynamics, and scalability of complex systems simultaneously. This book also features a comprehensive survey of the applications of digital technologies in space instruments; a systematic literature search method is used to investigate the impact of product design and innovation on the development of space instruments. In addition, the survey provides important information and critical considerations for using cutting edge digital technologies in designing and manufacturing



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