



Machines

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Special Issue Reprint

Recent Developments in Machine Design, Automation and Robotics, Second Edition

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This Reprint collects recent advances in machine design, industrial automation, and robotics, aiming to highlight the integration of intelligent systems, digital technologies, and high performance mechanical solutions. The contributions reflect the transition to highly automated and interconnected production systems, where data driven approaches, adaptive control, and advanced modelling have a main role. This Reprint covers a wide range of topics including robotic systems and human robot interaction, mechatronic design, smart manufacturing, digital twins, predictive maintenance, and artificial intelligence applied to industrial processes. Emphasis is given to developing autonomous and collaborative systems, integrating industrial internet technologies, and enhancing the reliability and efficiency in complex engineering systems. Several works address emerging challenges related to sustainability, energy efficiency, and the electrification of industrial systems, while others focus on advanced diagnostics, monitoring techniques, and data driven decision making. Contributions also explore novel configurations and methodologies for mechanical design, additive manufacturing, and robotics applications in diverse fields. This Reprint aims to provide a comprehensive overview of current trends and future directions. It is intended to support researchers and practitioners seeking to advance knowledge and adopt innovations in modern machine design, automation, and robotics.



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