Special Issue

Actuators in Manufacturing Robotics and Mechatronics

Message from the Guest Editor

Robotics and mechatronics technologies are rapidly changing the face of manufacturing. Robots perform a variety of manufacturing tasks including welding, assembly, materials handling, and materials processing. Thanks to the advances in sensing (vision, tactile, force and acoustic) and machine learning, robots are made smarter and more aware of their situation and surroundings, autonomously performing lights-out manufacturing in factories of the future. The introduction of collaborative robots into manufacturing is posed to revolutionize production lines. Cobots are able to co-work with humans safely. This Special Issue will feature the recent advances in cutting-edge robotics and mechatronics for manufacturing. Keywords:

- Noval actuation for precision manufacturing
- Sensing and mechatronic control in manufacturing
- Collaborative robots for manufacturing
- Autonomous robots in manufacturing
- Automation of manufacturing processes
- Automated materials processing
- Cyber-physical manufacturing systems

Guest Editor

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Deadline for manuscript submissions

closed (31 August 2021)

Actuators

an Open Access Journal by MDPI

Impact Factor 2.3
CiteScore 4.3

mdpi.com/si/73925

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About the Journal

Message from the Editorial Board

We are just entering the Next Wave of Technology (NWT) where actuators will play the same role as the computer chip did for computers/social media approximately four decades ago. Just in the U.S., production of $1 trillion year of electromechanical systems (vehicles, orthotics, manufacturing cells, freight trains, aircraft, etc.) will be impacted by the NWT, all driven by actuators. Five key trends can be found for the future perspectives: “Performance to Reliability”, “Hard to Soft”, “Macro to Nano”, “Homo to Hetero” and “Single to Multi functional”. We invite papers that primarily impact these economic sectors; those illustrating basic scientific principles are also welcome.

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