

Special Issue

Monitoring and Control of Machining Processes

Message from the Guest Editors

The pursuit of greater productivity, efficiency, and quality in manufacturing has made real-time monitoring and adaptive control indispensable for optimizing machining processes. While traditional methods rely on operator experience and periodic inspections, advancements in sensor technologies, data analytics, AI, and automation have revolutionized machining process monitoring and control, making them integral to smart manufacturing systems. This Special Issue explores cutting-edge advancements in machining monitoring and control, with a focus on the following:

- Sensor fusion and intelligent data acquisition;
- Real-time tool and surface condition monitoring;
- Predictive maintenance and fault diagnostics;
- AI-driven process optimization;
- Energy-efficient and sustainable machining;
- Digital twins and Industry 4.0 integration.

By bridging innovation with industrial application, this collection aims to shape the future of intelligent, resilient, and sustainable manufacturing.

Guest Editors

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About the Journal

Message from the Editor-in-Chief

Machines is an international, peer reviewed journal on machinery and engineering. It publishes research articles, reviews and communications.

Our aim is to encourage scientists to publish their experimental and theoretical results in as much detail as possible. There is no restriction on the length of the papers. Full experimental and/or methodical details must be provided.

There are, in addition, unique features of this journal: Manuscripts regarding research proposals and research ideas will be particularly welcomed; Electronic files or software regarding the full details of the calculation and experimental procedure - if unable to be published in a normal way can be deposited as supplementary material.

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Rapid Publication:

manuscripts are peer-reviewed and a first decision is provided to authors approximately 17.6 days after submission; acceptance to publication is undertaken in 2.7 days (median values for papers published in this journal in the second half of 2025).