



## **Sensors and Signal Processing in Manufacturing Processes**

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### **Message from the Guest Editors**

Manufacturing processes play a critical role in industrial manufacturing. Optimizing these processes is vital for improving the industry's efficiency, quality, and productivity. In this context, sensors and signal processing play a crucial role. Sensors are used to measure different physical variables and capture real-time information about the manufacturing process, such as cutting forces, temperature, vibrations, and displacements. These sensors can be integrated into machine tools or specific cutting tools.

The use of sensors and signal processing in manufacturing processes provides numerous advantages. It enables real-time monitoring of the process status, facilitating early detection of issues and reducing downtime. It also helps improve the precision and quality of end products by optimizing manufacturing parameters. Additionally, it contributes to workplace safety by providing information about hazardous conditions or abnormal situations.

Deadline for manuscript  
submissions:

**31 August 2024**





an Open Access Journal by MDPI

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