Special Issue

Digital Transformation and Occupational Safety in Industry

Message from the Guest Editors

Industry 4.0 (I.40) and Industry 5.0 (I5.0) mark new stages in production based on the integration of advanced technologies to achieve more flexible and personalized processes. Beyond optimizing manufacturing, these innovations offer key advantages for occupational health and safety (OHS): they enable the design of safer environments, reduce human exposure to high-risk tasks, and improve ergonomics through automation and the continuous monitoring of parameters such as noise, temperature, and humidity. Tools such as virtual reality facilitate training in hazardous scenarios without exposing workers to risk, and artificial intelligence and big data enable real-time risk assessment, while digital twins optimize contaminant control and monitor fatique or work statuses. Research on OHS and I.40 and I5.0 is still in the exploratory phase. It is vital that organizations review their management systems, strengthen human capital, and promote new digital skills. Therefore, more studies are needed that correlate Industry 4.0 and 5.0 technologies with occupational health and safety.

Guest Editors

Dr. Andres Pastor Fernandez

Dr. Alberto Cerezo Narváez

Dr. Magadalena Ramirez-Peña

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Applied Sciences Editorial Office MDPI, Grosspeteranlage 5 4052 Basel, Switzerland Tel: +41 61 683 77 34 applsci@mdpi.com

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Message from the Editor-in-Chief

As the world of science becomes ever more specialized, researchers may lose themselves in the deep forest of the ever increasing number of subfields being created. This open access journal Applied Sciences has been started to link these subfields, so researchers can cut through the forest and see the surrounding, or quite distant fields and subfields to help develop his/her own research even further with the aid of this multi-dimensional network.

Editor-in-Chief

Prof. Dr. Giulio Nicola Cerullo

Dipartimento di Fisica, Politecnico di Milano, Piazza L. da Vinci 32, 20133 Milano, Italy

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