Digital Manufacturing and Industrial Metaverse: Current Status, Applications and Future Trends

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Message from the Guest Editors

The key contribution of the industrial metaverse is the ability to engage in real-time multidisciplinary sessions, irrespective of geographical barriers, by navigating a 3D virtual environment. The integration of the industrial metaverse into current manufacturing systems can reduce scrap and faulty parts, decrease unscheduled downtime, decrease operating costs, increase throughput, and improve training capabilities, among others. Furthermore, communication barriers related to different languages can be eliminated, additional functionalities enabling the development of spatial presence are provided, and usability is improved; following recent developments, four main challenge areas can be identified, these being i) cyber security, ii) implementation and operation costs, iii) compatibility as well as interoperability, and iv) computational performance. Therefore, this Special Issue is dedicated to the investigation of the current status of the industrial metaverse and corresponding technologies, as well as to highlighting the ongoing challenges. Consequently, two types of contributions are welcome: i) research manuscripts and ii) critical literature reviews.

Special Issue

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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.

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