

## Editorial/Preface

### **Title: Proceedings of the 2<sup>nd</sup> International Conference on Industry 4.0 and Smart Manufacturing (ISM 2020)**

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Nowadays, a significant transformation called Industry 4.0 is setting new goals for the industrial world. We're de facto in the midst of a revolution regarding the way we produce products or deliver services thanks to the intensive digitalization of manufacturing and connected processes. With some of its characteristic elements such as IoT (Internet of Things), digital twin simulation models, cyber-physical systems, collaborative robots, big data, prescriptive analytics, AI (Artificial Intelligence) and virtual/augmented reality, this transformation is expected to increase productivity, shift economics, foster industrial growth and modify the profile of the workforce – ultimately changing the competitiveness of companies and regions.

In this scenario, the International Conference on Industry 4.0 and Smart Manufacturing (ISM) shows a remarkably strong performance not only for a young conference. Already the first event held 2019 in Rende, Italy has confirmed the setup to bring together experts from science and industry in a scientific setup of high quality. The planning of ISM 2020 in Upper Austria, an economic area characterized by a high level of industrial activity and a large number of world leaders in production and plant engineering, has proved to be a particularly productive breeding ground.

This year, well over 100 high quality contributions from authors from more than 15 countries have been accepted after a professional and well-founded review process. Topics range from digital twin to cyber physical systems, from simulation to virtual and augmented reality, from cyber security and privacy to 4.0 production planning and controls, among others. Therefore, also this year, ISM 2020 confirms its nature as a truly international forum providing a full overview of the cutting edge research in the Industry 4.0 and Smart Manufacturing domain.

Furthermore, the scientific top-class framework is flanked by numerous opportunities for encounters between science and companies, which is manifested in around 100 B2B meetings that take place during the conference. This supports the dissemination of the published contents as well as the open access publication of Elsevier Procedia Computer Science and the free access for experts from all over the world, which is made possible by the virtual form of the conference.

With a common focus on industrial applications, the majority of the papers are methodologically motivated and the topics covered are as broad as the challenges of the domain. A special focus can also be observed in the hybridization aspect addressed in many contributions, for example by linking data-based approaches with scientific ones or by intelligently interweaving decision making by combining machine learning with simulation and optimization in the sense of prescriptive analytics. In many places, techniques of industrial artificial intelligence are emerging in this context, which provide and especially highlight aspects of explainability and interpretability that are so important in production applications.

Even though the virtual form of the event allows us a certain degree of freedom, such as the complete opening for the consumption of the lectures, we hope that this form of the event will be the exception and that the 2021 event which will again be held in Upper Austria, Hagenberg, will offer the possibility to deepen the academic and professional networks in a physical and personal atmosphere.

These proceedings have to be regarded as the final result of a joint effort carried out by the conference organizers, authors, reviewers, track chairs, special session organizers that we wish to thank for their contribution and their hard work to improve the quality and the relevance of the papers. Last but not least, special thanks go to the Scientific Partners, Industrial Partners, Institutions and Associations that have sponsored the event as well as the Procedia Editorial Team for the support they gave so far.

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