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Editorial

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ASMET, the Austrian Society for Metallurgy and Materials, invited decision-makers, engineers, developers, industry experts, scientists, and students to the third Metal Additive Manufacturing Conference with exclusive focus on the processing of metals.

The Metal Additive Manufacturing Conference, MAMC2018, took place from 21 to 23 November 2018, at Wirtschaftskammer (WKO) in Vienna, Austria. The event was the third in the series organised by the Austrian Society for Metallurgy and Metals (ASMET) and attracted over 220 participants from more than 20 countries.

The technical programme consisted of 46 oral presentations and identified the latest trends and innovative developments along the entire Additive Manufacturing process chain as well as numerous novel applications. The opportunities connected with such a dynamic technology raises interest in the materials and equipment industries, and indication of the relevance of AM for global industry was given in the opening speeches by Bruno Buchmayr and Bruno Hribernik. We have selected the following papers for this issue, BHM 3/2019 "Beiträge der Metal Additive Manufacturing Conference 2018":

- Nader Asnafi: 3D Metal Printing from an Industrial Perspective—Product Design, Production and Business Models
- Jasmin Saewe: Feasibility Investigation for Laser Powder Bed Fusion of High speed Steel AISI M50 with Base Plate Preheating System
- Stefan Wallner: Powder Production Technologies
- Horst Zunko: Advances in Maraging Steels for Additive Manufacturing
- Bruno Buchmayr: Results and Conclusions on Metallic Materials made by AM within the Austrian Leader Project "addmanu"
- Simon Ewald: Laser Powder Bed Fusion of Advanced High Strength Steels—Modification of Deformation Mechanisms by Increasing Stacking Fault Energy
- Maximilian Voshage: Formation Quality, Mechanical Properties and Processing Behavior of Pure Zinc (Zn) Metal Parts Produced by Laserbased Manufacturing for Biodegradable Implants
- Jürgen Stampfl: Manufacturing for Digital Dentistry

An extended abstract of the keynote—Challenges of Additive Manufacturing in High Performance Markets - presented by Michael Rotpart and Stefan Seidl can be found in the Section "Neues von der Industrie".

When compared to the MAMC conferences in 2014 and 2016, there has been significant progress regarding materials, understanding of the AM process, and exploitation of new applications. For lightweight applications, such as those in the aerospace and space sectors, there can be a clear argument for using metal AM. Topology optimisation, in combination with lattice structures, offers outstanding solutions for many lightweight constructions.

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The final decision between conventional manufacturing processes and AM remains still a matter of economics for many applications. Yet, as recent presentations show, there is a significant increase of effort in all fields to promote AM for many interesting applications.

Details of the presentations can found in the conference proceedings, which can be ordered from ASMET (please contact Yvonne.Dworak@asmet.at). The 4th MAMC conference is going to take place in Örebro, Sweden, from 25 to 27 November, 2019.

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