KMM-VIN 3rd Industrial Workshop (IW3)

"Current Research on Materials and Technologies for Transport Applications"

From November 3 to 4, 2014 the Fraunhofer Institute for Manufacturing Technology and Advanced Materials IFAM-DD (KMM-VIN member) hosted in Dresden the 3rd KMM-VIN Industrial Workshop devoted to "Current Research on Materials and Technologies for Transport Applications". Around 40 participants came to Dresden to discuss the latest R&D topics in materials and technologies for transport applications.

Speakers from both industry and science presented topics ranging from the state of the art to prospects in applications in the automotive, aerospace and rail sectors. Lightweight vehicle construction, thermoelectric materials for waste heat recovery and sustainable composite materials were some of the issues dealt with. The technologies presented ranged from joining technologies to Electron Beam Melting as well as to Selective Laser Melting and Metal Injection Melting.

In addition to 17 oral presentations listed below, a poster session with 14 contributions added to the high quality of the workshop. The social evening at the end of the first day was used for discussions and cooperation planning.

Oral presentations

Materials in Automotive Application; State of the Art and Prospects, *D. Pullini, Centro Ricerche FIAT, Italy)*

Materials in Aerospace Applications; State of the Art and Prospects, *M. Schloffer (MTU Aero Engines AG, Germany)*

Lightweight materials challenges for rail vehicle construction, *G. Kotsikos (Newcastle University, UK)*

Catalytic oxidation of C-C aircraft brakes, *A. Chrysanthou (University of Hertfordshire, UK)*

Advanced siliconization process for Ceramic Matrix Composites, *M. Orlandi (Brembo SGL Carbon Ceramic Brakes S.p.A., Italy)*

ZrB-SiC ceramic composites for air and space 2 applications, *J. Kübler (EMPA, Switzerland)*

The development of a monolithic thermoplastic storage vessel for high pressure hydrogen in automotive applications, *P. Hansen (Element, UK)*

Development of thermoelectric materials for waste heat recovery in transportation industries, *V. Pacheco (Fraunhofer IFAM Dresden, Germany)*

Sustainable composite materials based on the revalorization of industrial wastes: applications in transport sector, *E. Fages (AITEX; Spain)*

Joining of Dissimilar Materials, *M. Ferraris (Politechnico Torino, Italy)*

Innovative strategies for joining of metals and plastics in lightweight constructions

A. Hälsig (TU Chemnitz, Germany)

Advanced joining technologies for aerospace applications, *A. Schmidt (Fraunhofer IFAM Dresden, Germany)*

Advanced composite materials in automotive industry, *A. Langkamp (University of Technology Dresden, Germany)*

Electron Beam Melting – an additive manufacturing technology for metallic parts for transport applications, *B. Klöden (Fraunhofer IFAM Dresden, Germany)*

Selective Laser Melting - opportunities and challenges for complex-shaped parts for transport applications, *J. Weise (Fraunhofer IFAM Bremen)*

Powder Metallurgy – an innovative technology for Automotive, *L. Wimbert (GKN Sinter Metals, Germany)*

Metal Injection Moulding – an innovative technology for complex shaped parts for transport applications, *P. Imgrund (Fraunhofer IFAM Bremen, Germany)*