

## FOREWORD

In modern world, innovation is the basis of effective economic growth strategies, business development and the driving force towards prosperity. Although the very concept of innovation is a complex one and can therefore be defined in a number of ways, at its basis lies the transformation of existing capabilities into new ideas and putting them to practical use. The so called process innovation is particularly important from the economic point of view, as it imposes changes to the existing manufacturing processes, equipment, methods and services provided. However, the effectiveness of an innovation process depends greatly on the quality of co-operation between the industry and the scientific research and development centers that can provide it with new knowledge.

Realising how important it is to provide such effective knowledge transfer mechanisms, we have invited you to participate in the International Conference on Innovative Manufacturing Technology IMT2013 organized by the Institute of Advanced Manufacturing Technology (IOS) in Cracow in the frame of the international European project " *Development of a sintering center and know-how exchange for non-equilibrium sintering methods of advanced ceramic composite materials* " (FP7-REGPOT-2012-2013-1 SINTERCER). In this project, IOS researchers have been co-operating with leading European research centers in the field of the most advanced sintering technologies. This international co-operation in a number of specialized techniques for sintering advanced ceramics enables extensive knowledge exchange, thus significantly raising the professional qualifications of the researchers involved. Leading, well-known researchers have confirmed their participation in the conference, which will make it a forum for knowledge and know-how exchange, as well as providing the opportunity to conduct informed scientific discussions. In the course of the conference, research results presented will deal with advanced materials and technologies as well as with the measurement and modeling of mechanical material properties. The needs of the tool industry, expressed by their representatives, will also be reflected in the presentations related to the field of machining and grinding. Presentations and discussions on innovative, unconventional and hybrid manufacturing methods will provide motivation for further co-operative research. New developments in product and process computer aiding will serve an easier and more economical performance related to the new production tasks. We also welcome articles dealing with the study of nanostructured materials. As we invite you to read these conference proceedings, we hope that the research presented will be an inspiration for further experience exchange between research centers and industrial partners, creating a forum for discussion on the move towards more innovative processes and products and allowing all the partners to work out strategies for such a move.

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