

Coordinator: Cardiff University (UK)Website: <http://www.4m-net.org>**Project objectives:**

The main aim of 4M is to develop Micro- and Nano- Technology (MNT) for the batch-manufacture of micro-components and devices in a variety of materials into user-friendly production equipment, processes and manufacturing platforms for incorporation into the factory of the future. To achieve this, the Network seeks to integrate currently fragmented R&D capacity in non-silicon microtechnologies in the ERA into a European Centre of Excellence.

The Network has 30 partner organisations, including 15 core partners - each an internationally recognised centre of excellence, from 13 member states and 2 associated countries.

4M is organizing **INTERNATIONAL WORKSHOPS** (independent events but possible in connection with the local conference of the NMS partners) to promote the exchange of information with other centres from NMS, to better understand the new trends in European research, to identify promising applications, to increase the visibility of NMS centres in Europe, to promote the formation of clusters academia-university in the field of 4M and to help the integration in ERA.

Four international workshops (independent events but possible in connection with a local conference of the NMS partners) will be organized in Slovenia, Hungary, Romania and Bulgaria. These workshops will be organised by the 4M partners: BUTE, UL, IMT and BAS as local organisers.

These workshops will be forums for the exchange and dissemination of information between universities, research centres, SMEs (from MS, NMS and ACC), as well as opportunities to initiate new RTD projects. The participation of the other NMS and ACC will be stimulated.

The workshops will be used also to prepare the ground for "position papers" addressed to National Organisations (e.g. Ministry of Research) for a "national strategy" for integration of micro-nano

technologies, part of ERA

The workshops location and date:

- Romania - correlated with the Annual Conference of IMT - CAS 2005 (an IEEE event), September 30, 2005, Sinaia
- Slovenia - in conjunction with the conference on Management of Innovative Technologies, September 23, 2005, Piran
- Bulgaria on November 25-26, 2005, Sofia
- Hungary, Budapest, in the middle of March, 2006

The 4M WORKSHOP in Romania "Micro and nanotechnologies and Multifunctional Materials for Life quality and Industry applications" will be correlated with the Annual Conference of IMT - CAS 2005 (an IEEE event). The event will take place in Sinaia, on 30th of September 2005. The workshop will be in a satellite event at CAS 2005.

Deadlines: 30th of July 2005 for abstract submission (1 page) for invited and ordinary papers 15th of August 2005 notification of final acceptance of contributed paper

The workshop (http://www.imt.ro/4M_workshop/index.htm) is organized by the National Institute for Research and Development in Microtechnologies IMT-Bucharest (<http://www.imt.ro>), **Contact: Carmen Moldovan** (cmoldovan@imt.ro).

4M RESEARCH AND ADVISORY SERVICE (RAS) to companies

4M will set-up a RAS Centre for NMS, as a nodal point of information from 4M to external users and inverse. The RAS Centre will become a "portal" to the 4M experts and infrastructure to accelerate the take up of MNT across Europe. This will be achieved through offering a suite of technology transfer services to companies especially SME's.

Location: IMT-Bucharest (<http://www.imt.ro>), Romania with participation of all 4M NMS partners

IMT-Bucharest will provide: a dedicated Web page to NMS RAS Centre, set up and maintenance - the web page will display information about 4M area of interest, events within 4M, description of the RAS Centre, NMS partners and their offer addressed to SMEs; connections to 4M Main page, to NMS partners, if requested to all 4M partners; electronic tool for proposal preparation, electronic brokerage, consultancy. IMT-Bucharest is offering also publishing offers in MNT Bulletin; dissemination and announcements in e-newsletters distributed in NMS; experts in 4M field.

Expected results: increased networking between partners; enhanced participation of NMS in FP6 and FP7; increased linkage with the economic and social environment, identification of needs and interests.

4M 2005, First International Conference on Multi- Material Micro Manufacture; 29 June- 1 July 2005, Karlsruhe, Germany

The aim of this conference was to bring together experts from industry and academia. They shared the results of their in-depth investigations and engage in interdisciplinary discussions about microtechnologies for bath-processing of metals, polymers and ceramics, and the development of new production platforms for multi- material microproducts. At this first conference there were nine

prominent invited speakers to highlight some important aspects of 4M research and participate in a Panel Discussion to debate the future of multi- material micromanufacture. The participants of this meeting were also from industry; they took part to another Panel Discussion to offer their view on the industrial requirements that 4M technologies will need to satisfy.

The topics of the conference:

- Microfluidics
- Nano-Metrology
- Polymer- Processing

Conference Chair: Wolfgang Menz, Germany

Conference Co-Chair: Stefan Dimov, Cardiff University, UK

Programme Committee:

Prof. Wolfgang Menz, Germany (Conference Chair)

Dr. Stefan Dimov, Cardiff University, UK (Conference Co-Chair)

Dr. Holger Moritz, Forschungszentrum Karlsruhe, Germany

Dr. Andreas Schoth, IMTEK, University of Freiburg, Germany

Prof. Lars Mattsson, Royal Institute of Technology, Stockholm, Sweden

Mr. Erik Jung, The Fraunhofer Institute for Reliability and Microintegration, Berlin, Germany

Prof. Ulf Engel, University of Erlangen- Nuremberg, Germany

Dr. Per Johander, IVF Industrial Research and Development Corporation, Sweden

Mr. Sven Carsten Lange, Fraunhofer Institute of Production Technology, Aachen, Germany

Dr. Martin Richter, The Fraunhofer Institute Reliability and Microintegration, Berlin, Germany

Dr. Paul Kirby, University of Cranfield, UK

