

PATENT Network of Excellence - Design for Micro and Nanomanufacturing Packaging, Test and Reliability Engineering in Micro & Nanosystem Technologies Coordinator: Dr. Andrew Richardson (A.Richardson@Lancaster.ac.uk), University of Lancaster, UK

PATENT is a reactive initiative that aims to realize a new concurrent engineering or Design for Micromanufacture Methodology (DfMM) for M&NT based products that provides designers with the means to design for performance, testability, robustness and dependability competitively, whatever the operating environment. This methodology will also be capable to support reliability verification through design, fault tolerant design and self-monitoring capabilities. To achieve this vision, major technical challenges need to be solved that are both technically difficult and require workable cross-disciplinary teams from the fields of packaging, test, engineering, simulation and modelling.

PATENT will provide an increase in cooperative work between partners in the field of DfMM and also increase in the total number of trained engineers employed or studying within the field of DfMM and the core disciplines involved.

A meeting with all partners involved in PATENT took place in Paris in the period 16-17th March 2004. During the event, the status of the project and technical aspects of all workpackages were presented and problems related to the process for the release of funds and Industrial Advisory Board were also discussed. On 18th March, the meeting of the Management Board took place, when they decided that the next meeting of PATENT members will be held at IMEC, Belgium, on 16-17th June 2004.

PATENT participants:

Coordinator: University of Lancaster (ULAN), UK

- Universität Bremen (ITEM), Germany
- IMEC vzw (IMEC), Belgium
- Universite Paris XI (IEF), France
- University of Montpellier (LIRMM), France
- National University of Ireland (NMRC), Ireland
- QinetiQ Ltd (QINETIQ), UK
- National Institute for R&D in Microtechnologies (IMT), Romania
- Institute for System Level Integration (ISLI), UK
- 4M2C Patric Salomon GmbH (4M2C), Germany
- Fraunhofer Institute for Reliability and Microintegration (IZM), Germany
- Fraunhofer IMS (IMS), Germany
- LAAS-CNRS, Paul Sabatier University (LAAS), France
- Katholieke Universiteit Leuven (KUL), Belgium
- Budapest University of Technology and Economics (BUTE), Hungary
- Thales (TRT), France
- Heriot Watt University (HWU), UK
- Council for the Central Laboratory of the Research Councils (CCLRC), UK
- Politecnico di Milano (POLIMI), Italy
- Fraunhofer IZM-M (IZMM), Germany
- Warsaw University of Technology (WUT), Poland
- Universite de Liege (CSL), Belgium
- Ecole Nationale Supérieure D'Electronique, Informatique et Radiocommunications (ENSEIRB), France
- Universiteit Twente (MESA), Netherlands

"Design for Micro & Nano Manufacture" Workshop on 11 May at DTIP, Montreux

Patent -DfMM is seeking close interaction with the groups that are projected to be the major users of the project's achievements:

- Design Tool (EDA) providers through the implementation of Patent-DfMM methodology into their tools,
- Design and Engineering Companies or business units within companies (Design Houses) through the use of Patent-DfMM methodology in their design work.

In order to achieve this, Patent-DfMM together with the NEXUS Methodology Working Group "Design Modelling Simulation" (MWG-DMS) will organise this workshop in conjunction with DTIP - the Symposium on Design, Test, Integration and Packaging of MEMS/MOEMS (12-14 May). The aim of this workshop is to present the Network of Excellence Patent-DfMM and discuss the needs of organisations expected to be the major users of DfMM methodologies, algorithms, and simulation models.

Participation in the workshop is free of charge, but advance registration is advised.

DfMM workshop date: 11 May 2004, 13:00 - 18:00

Venue: Montreux, Switzerland

Registration by email to: patric.salomon@4m2c.com

enablingMNT - a New Series of Reports on World-wide Services and Infrastructure for MNT

In reply to a strong need for low-cost reports in this area, the enablingMNT (www.enablingMNT.com) series of MST/MEMS industry reviews has been set up to cover dedicated topics of the supply chain (services, infrastructure, and supply) to give orientation to new users of Micro Nano Technologies (MNT), but also help developers and manufacturers of micro/nano technology to reach customers, select suppliers, and analyse their competition. The following reviews are available from publisher 4M2C Patric Salomon GmbH (E-mail: info@enablingmnt.com):

- Design and Engineering Companies for MST/MEMS, Sep-03
- Foundries for MST/MEMS, Sep-03
- Packaging and Assembly Services for MST/MEMS, Oct-03
- Front-End Manufacturing Equipment Suppliers for MST/MEMS, Nov-03
- Back-End Manufacturing Equipment Suppliers for MST/MEMS, Nov-03
- Equipment Suppliers for Nanofabrication, Apr-04
- MNT Web Directories and On-line Communication Channels, Apr-04

Post-doctoral Position in Design for Testability in Micro- and Nano-Technologies

LIRMM (Montpellier, France) is the leader of the Design for Testability (DfT) task force in the area of Micro and Nano Technologies within the Patent-DfMM project. LIRMM is now offering a full-time post-doctoral position to support the project activities.

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