

## Towards "Design for Manufacture" Service Clusters

The PATENT-DfMM project has further developed its concept of offering services to industry. Specific "Service Clusters" will be established in discrete areas of "Design for Micro & Nano Manufacture", where a clear need can be identified, especially from small companies. PATENT-DfMM will bring added value to the Industrial community through synergies and distributed critical mass in focused areas formed by these collaborative clusters. These teams can define an offer to the in-

dustrial community that may be in the form of training, access to equipment & operating support, design, test, packaging or reliability services, consultancy or prototyping.

It is planned to collaborate closely with other projects and existing industrial service providers. Service clusters may –depending on market needs and business opportunities- develop into commercial service organisations (launch a company that is providing

services) or keep the format of a collaborative network that works on a project basis.

The distinct "service offers" of the clusters are in the definition process currently and will still have to be validated through a market test process which is ongoing throughout 2006. A sub-project on "Business Development" was launched in March 2006 with a draft business plan to be set up by October 2006. PATENT-DfMM partners that are closely working with industry are involved in this activity.

## PATENT-DfMM and NEXUS MWG Reliability and Test Workshop 27-28 Nov 2006, Milan/Italy

This "NEXUS Methodology Working Group (MWG) in Reliability and Test" was launched in December 2005 in close collaboration with the PATENT-DfMM project and MEMS Industry Group (MIG) in the US. A joint public workshop is planned with the following topics:

**27 Nov** afternoon:

Tutorials in MNT Reliability and Test

**28 Nov** all day:

MWG Reliability and Test Workshop: Industry Needs, Ongoing Research, Services offered

**29 Nov** all day:

NEXUS annual general meeting (AGM)

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The NoE Patent-DfMM aims to establish a collaborative team to provide European industry with support in the field of "design for micro nano manufacture" to ensure that problems affecting the manufacture and reliability of products based on micro nano technologies (MNT) can be addressed before prototype and pre-production.



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## PATENT-DfMM at the IEEE Testing Workshop, Edinburgh, UK, 21-23 June 2006

The IEEE International Mixed-Signals Testing Workshop (IMSTW) was a forum for discussing all aspects of testing, design-for-test and reliable design of integrated mixed-signals/mixed-technology functions and systems. The event attracted both industrial and academic delegates from fields of Micro & Nano Technology, Electronic System Design, Integrated Microsystems and System on Chip Engineering. It provided an ideal environment for sharing best practice, initiating collaboration and gaining awareness of the new methods, crucial to the manufacturability of future highly integrated electronic, optical, bio-chemical and MEMS based systems featuring micro & nano technologies. The objective was to mix the two communities of "mixed signal" and "design for micro & nano manufacture" and highlight the importance of MEMS to the systems' markets.

PATENT-DfMM had a booth and organised a session on MEMS Testing with the following presentations:

- Fault simulation of heterogeneous integrated biological systems
- Built-in test of electrode degradation of multi-electrode array biosensors
- Pseudorandom functional BIST for MEMS - a case study
- Towards a health monitor for system in package with MEMS functionality

Participants agreed that MEMS was the future and something they needed to learn more about as they could see the mixed signal area moving into MEMS once reliability and test issues had been addressed. More information is available from the PATENT-DfMM website.

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