EC Framework 6 - Network of Excellence (NoE)
Design for Micro & Nano Manufacture (Patent - DfMM)
- Lowering the barriers to commercialisation for the next generation of micro and nano technology based products -

SIXTH FRAMEWORK PROGRAMME

PRIORITY 2

Information Society Technologies IST

Project n° 507255

WP 1: Design for Testability of Micro & Nano Systems

Deliverable D1.8

Summary report on 3rd call results

PUBLIC version of D1.1.4

March 2005

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1 Introduction

Task force on design for testability of MNS is willing to establish itself as a virtual lab with a recognized expertise in the field. Among the 2005 budget a large part (60k€ out of 160k€) have been devoted to a call for proposals for research and integration of research. The main objective was to launch or to pursue some common research activities.

The call was part of a global call of the NoE distributed to all partners with a deadline for submissions in the early days of February 2005. This report is a publishable summary of the decision made by the management board of the network.

2 Overview of the call for Proposals

The 3rd call for proposals of WP1 (see annex 1) has been distributed to all partners by the end of december 2004 with a deadline for submissions fixed on end of January 2005 (then extended till February, 7th). This call was opened to all "PATENT-DfMM" partners and the total budget allocated to this call was 60k€ to be spent in 2005. Longer actions were eligible as soon as they can be split both in terms of deliverables and budgets.

The global grant was initially split between:

- Integration of research (20 k€)
    - Partner to partner mobility.
    - Access to training and to off-site equipment and/or prototyping facilities.
    - Collation of data for Virtual Lab (IPR, skills, equipment, …)
    - Tutorial and course material preparation (WP5 and WP6 may help)
- Joint research (40 k€)
    - Actuation strategy
    - Fault modelling and associated tools
    - Test method
    - Self-calibration and characterisation methods

3 Overview of submissions

We received three submissions with one of them as a cross WP activity and two of them as a continuation of 2004 projects. The total request of funding (about 63 k€) was slightly higher than the allocated budget (60k€). Both projects in continuation were eligible since final reports for the 2004 grant were received by the deadline of the call. Submitted proposals have been evaluated with respect to our objectives:

- Impact on integration, i.e. the potentiality to make researchers from various institutions working together.
- Impact on knowledge to be evaluated with respect with WP1 interests reported in our website (tackled problems and working groups)
- Impact on sustainability, i.e. the ability to generate results that could be interesting for WP1 in terms of service to industry

4 Summary of results

Two projects have been selected by the management board:

- MEMS Testing through Bias Superposition II, allocated grant: 27,756 €
- DfT for MEMS-Based DNA Sensor Structure Array II, allocated grant: 28,756 €

Notification of the results has been delivered to project leaders by February 25th, 2005.

ANNEX 1

Call for proposals

Towards a New
Design for Micro & Nano Manufacture Community in Europe

Call for Proposals – 14th December 2004

The EC FP6 Network of Excellence in Design for Micro & Nano Manufacture "PATENT-DfMM" is inviting proposals for both new and continuation activities that contribute to integration and spreading of excellence deliverables defined in the projects **Joint Program of Activities**. The call is open to:

- **PATENT-DfMM project partners**.

Proposals are invited for collaborative activities addressing the following:

1. **WP1 – Design for Testability** : partner to partner mobility, virtual laboratory development including the creation of a portfolio of IPR and services for the workpackage, access to equipment and facilities, training and enhancement to the literature database. Research activities are also covered that includes continuation projects and new proposals for work on actuation strategies, fault modelling, test methods and self-calibration / compensation. See annex 1 for further details.
2. **WP2 – Modelling & Simulation :** virtual laboratory activities including assessment of modelling formats and platforms, data exchange formats, development of a service portfolio and expert sites, internet and grid based tool access and IPR protection strategies. Research project support will include both continuation and new grants for work on the micro to nano interface, damping and failure mode and effect analysis support. See annex 2 for further details.
3. **WP3 – Reliability Engineering** : continuation of existing funded projects with an emphasis on management, inclusion of new partners and partner to partner mobility. Cross workpackage projects, design and processing of test-structures and structures for test. See annex 3 for further details.
4. **WP4 – Package Engineering** : test structures for package monitoring, the effect of packaging on reliability and package related failure modes, packaging and die attach materials (including adhesives). Activities that improve the alignment with other workpackage activities are of specific interest including cross workpackage projects and extension of existing activities to optical, microfluidic and bioMEMS. Low cost packaging and activities that contribute towards the "nanoscale packaging awareness initiative". **Continuous call** in year 2 for mobility and capability access (Improved partner research through partner visits, access to off-site equipment, training and access to prototyping facilities). See annex 4 for further details.

Proposals to extend existing projects and activities will NOT be considered without receipt and approval of a progress report by the appropriate workpackage leader before the CALL deadline of Jan 31st 2005. For all actions, proposers should submit 2 page proposals in 10 point, times new roman font that:

1. summarises the proposer's background and competence
2. describes the objectives of the program and deliverables
3. justifies the resources requested
4. identifies the potential impact on the sustainability of PATENT-DfMM or the development of the Virtual Laboratories.

Proposals should be emailed to either the coordinator, Andrew Richardson (A.Richardson@Lancaster.ac.uk) or the appropriate workpackage leader in PDF format by **Monday 31st January 2005**

Proposals will be evaluated by the PATENT-DfMM management board who reserve the right to seek assessments from independent experts where necessary. All applicants will receive notification of the results from the evaluation process by Friday 11th February 2005.

For more information on PATENT-DfMM see: www.patent-dfmm.org.

Annex 1 – WP1 : Design for Testability

The call is open to all “PATENT-DfMM” partners. The maximum budget allocated to this call is 60k€. Proposals are invited from individual partners or a consortium of partners depending on the action. Each proposal must include an estimated budget. The proposals will be evaluated taking into account their research integration potential, research excellence and potential to address existing research challenges. Injection of external resources and co-funding of research projects will be highly appreciated.

WP1 – Integration activities / Spreading of excellence (estimated budget: 20k€)

1. **Partner to partner mobility**. Partner to partner mobility will be funded through grants for short visits. Objectives of these visits includes (but are not limited to): common paper preparation, preparation of an proposal to a national or international research program.
2. **Virtual laboratory**. All partners willing to contribute will be included in the collection and distribution of existing information to create a portfolio of IPR and services for the WP. This includes: access to test equipment and support infrastructure of cluster partners, collection of skills and IPR at partner locations, training that includes operator training, courses for design and test houses, distance learning activities. Contributions to the literature database will be highly appreciated.
3. **Grants to support research.** A significant part of the budget will be devoted to training researchers and/or PhD students and to facilitate access to off-site equipment and/or prototyping facilities.

WP1.1 – Joint research (estimated budget: 40k€)

Projects already running in 2004 are eligible for continuation funding providing an acceptable final report is delivered to WP leader and approved before the call deadline. With respect to the objective of this workpackage, research actions will be funded in one or more of the following topics:

1. **Actuation strategy**
2. **Fault modelling and associated tools**
3. **Test method**
4. **Self-calibration and characterisation methods**

Main measurable outputs will be paper submission at the main European and international events.

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