

European Centre of Excellence in Microwave, Millimetre Wave and Optical Devices, based on Micro-Electro-Mechanical Systems for Advanced Communication Systems and Sensors MIMOMEMS

Capacities - Part 4 - Research Potential. Activity: 4.1.Unlocking and developing the research potential in the EU's convergence regions and outermost regions (REGPOT-2007-1)

Cooperation – Theme 3 - Information & Communication Technologies. Challenge 3: Components, systems, engineering
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The overall aim of the MIMOMEMS project is to bring the research activity in RF and Optical-MEMS at the National Institute for R&D in Microtechnologies (IMT) to the highest European level, an European Centre of Excellence in Microwave, Millimeter Wave and Optical Devices will be created, based on Micro-Electro-Mechanical Systems (MEMS) for Advanced Communication Systems and Sensors.

The main objectives of the project is to support high level research activities in RF and Optical MEMS, through the following objectives:

i. Know-How and Experience Exchange: Twinning actions with two research centres: a) LAAS-CNRS Toulouse with a strong expertise in silicon based millimetre wave microsystems and photonic devices, and b) FORTH-IESL-MRG Heraklion with excellent knowledge of IIIV's

The Centre of Excellence will be created by developing IMT- Bucharest's existing scientific expertise and capacities and collaborating closely with specialist research groups at LAAS-CNRS in Toulouse and FORTH-IESL-MRG in Heraklion.

ii. Recruitment by IMT projects: Post-Docs. with expertise in nanophotonics and microwaves, will be hired for increasing IMT s human potential

iii. Development and Upgrade of Research Equipment: About 50% of project funds will be used for the upgrading and purchasing new equipments (on wafer characterization up to 110GHz, new nano-characterization equipment SNOM, etc)

iv. Workshop, Conference Organisation and Policy Development. Organize of scientific events, thematic sessions and seminars supporting knowledge transfer and research policy development

v. Dissemination and Promotional Activities: Promotion of activities and results through a project website; publication in reviewed journals and conferences;



Equipments to be acquired in the MIMOMEMS project:

- Vector Network Analyzer (VNA) up to 110 GHz and on wafer measurement facilities (see photo on the left) in order to upgrade the 0.8-65 GHz existing on wafer characterization system.
- Frequency synthesiser up to 65GHz
- Au plating facility for semiconductor wafers

Micro-NANOSystems EUROpean NETwork pursuing the integration of NMS and ACC in ERA MINOS-EURONET

Contract no. 015704 financed by the EC, June 2005 - May 2008, (IST3 call, FP6)

Dissemination tools provided by the MINOS – EURONET project are:

- **Web Based Magazine** (see <http://www.minos-euro.net/wbm>), covering various activities in MNT (national programmes, networks, initiatives, research centres, specialists etc.), grouped on each NMS country (see photo on right).
- An **electronic newsletter** is disseminating information about various events, cooperation opportunities etc. to more than 1600 specialists in the field.
- **On-line BROKERAGE** (see <http://www.minos-euro.net/brokerage>) is provided by using databases for partner matching structured by FP7/2007 calls (<http://www.nano-link.net/expl.php>) and related to *micro/nano/bio technologies*, advanced materials. These databases contain synthetic profiles of research groups, companies etc. and their expression of interest related to specific topics (calls). **Advantages:** The profile and the expressions of interest could be combined in one document, indicating relevant data for partner matching (i.e. resources, previous experience in EU projects, and interest to a certain topic). *The result is a "pdf" document*, for easy circulation and printing (more than 200 reg.).
- **DATABASES** (www.minos-euro.net) - the potential of the FP6 networks (big consortia) involved in MINOS and also Eastern Europe research competences are reflected in the databases of: • research centers (420 reg.); • specialists (375 reg.); • networks (18 reg.); international projects (47 reg).



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