EVENTS

Feb 25 - March 2
Advanced Lithography
http://spie.org/app/exhibition/index.cfm?fuseaction=welcome&meeting_id=122
San Jose – USA

March 6
MEMUNITY Workshop
www.memunity.com
Grenoble – France

FSRM Courses:
March 6
Microfluidic Application Platforms
Munich – Germany
March 7
Optical MEMS
Zurich – Switzerland
March 13 - 14
Microfabrication Processes
Lausanne – Switzerland
www.fsrm.ch

March 14
2007 Industry Forum Day
www.prc.gatech.edu/events/indforum07
Atlanta – Georgia

March 14 - 16
2nd Vienna Conference Micro- and Nanotechnology
www.oetg.at/nano07/
Vienna – Austria

March 16
Workshop: Nano Materials, Components, Packaging & Systems
www.prc.gatech.edu/events/nanopack
Atlanta – USA

March 21 - 23
SEMICON China 2007
www.semi.org/events
Shanghai – China

March 25 - 29
Optical Fiber Communication Conference and Exposition (OFC) and the National Fiber Optic Engineers Conference (NFOEC)
www.ofcnfoec.org/about_ofc
Anaheim – USA

March 27 - 28
Smart Systems Integration 2007
www.mesago.de/de/SSI/main.htm
Paris – France

March 27 - 29
Nanotech Northern Europe 2007
www.nanotech.net
Helsinki – Finnland

April 16 - 20
Hannover Fair
including **Microtechnology 2007**
www.hannovermesse.de
Hannover – Germany

April 19 - 21
International Meeting on AFM in Life Sciences and Medicine
www.afmbiomed.org/public.home.screen
Barcelona – Spain

April 24 - 26
SMT/HYBRID/PACKAGING 2007
www.smt-exhibition.com
Nuernberg – Germany

April 25 - 27
DTIP 2007
http://tima.imag.fr/conferences/dtip
Stresa – Italy

April 26 - 28
Micromachine Summit 2007
www.mmc.or.jp/summit
Venedig – Italy

May 2 - 4
Microtechnologies for the New Millennium 2007
http://spie.org/conferences/calls/07/emt
Maspalomas – Spain

May 7 - 10
10th Anniversary of MipTec
www.miptec.com
Basel – Suisse

Mai 9 - 10
AMAA 2007
www.amaa.de
Berlin – Germany

May 20 - 24
NSTI Nanotech 2007
www.nsti.org/Nanotech2007
Santa Clara – USA

May 20 - 24
7th International euspen conference
www.euspen.org
Bremen – Germany

May 22 - 24
SENSOR+TEST 2007
www.sensor-test.de/main/Page.html
Nürnberg – Germany

May 23 - 24
Cleantech 2007 - The Cleantech Conference and Trade Show
www.cleantech2007.org
Santa Clara – USA

June 10 - 14
Transducers '07
www.transducers07.org
Lyon – France

June 11 - 12
18th Annual IEEE/SEMI® Advanced Semiconductor Manufacturing Conference
www.semi.org/asmc
Stresa – Italy

June 12 - 14
MiNaT 2007
www.minat-messe.de
Stuttgart – Germany

June 17 - 20
EMPC2007
www.empc2007.org
Oulu – Finland

June 25 - 28
8th International Conference and Exhibition on Laser Metrology, Machine Tool, CMM & Robotic Performance
www.lamdamap.co.uk
Cardiff – Wales

July 16 - 20
SEMICON West 2007
www.semi.org/events
San Francisco – USA

August 26 - 31
CLEO®/Pacific Rim 2007 Conference on Lasers and Electro-Optics
www.cleo-pr2007.org/cleo.html
Seoul – Korea

Call for Papers

May 20 - 23
NSTI Nanotech 2007 Ventures
Abstract Due Date: March 10
www.nsti.org/Nanotech2007/
Santa Clara – USA

August 26 - 31
LEO®/Pacific Rim 2007 Conference on Lasers and Electro-Optics
Abstract Due Date: March 23
www.cleo-pr2007.org/cleo3.html
Seoul – Korea

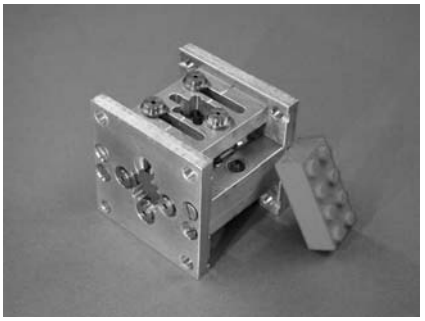
Many more events you´ll find at www.mstnews.de/Hompage/event mstnews publishes selected announcements and calls. Please send your announcement to mstnews@vdivde-it.de.

Status Colloquium on Micro Process Engineering on February 13-14, 2007 in Osnabrück, Germany

Miniaturization in process engineering is a crucial strategic approach towards an efficient and sustainable production in the process industries. Micro process engineering provides the chemical and pharmaceutical industry with many new opportunities for developing and producing innovative products. Great efforts are being made worldwide especially in Japan, the United States and Germany to integrate microstructures into production plants to enhance efficiency and decrease energy consumption.

However, before this technology can enter industry in large scope, tests are to be carried out due to the up to now small practical experiences. And for research and production the industry needs many new experts. In order to help maintain the top international position of German companies in this promising area, the Federal Ministry of Education and Research (BMBF) supports the further development of micro process engineering for industrial use under its "Microsystems" frame programme. In cooperation with the Federation of the Chemical Industry (VCI) and the German Federal Foundation for the Environment (DBU), the BMBF has created an initiative for education and advanced training in micro process engineering. The current status of the two activities will be discussed at the public Micro Process Engineering Status Colloquium to be held in Osnabrück on February 13 and 14.

Seven BMBF-funded network projects address the integration of micro process plants into the industrial environment, the realization of pilot plants for various reactions and the documentation of experience gained with trial productions. They will present their current results at the Micro Process Engineering Status Colloquium. The second day will be concerned with the planned new projects for education and advanced training in micro process engineering. The colloquium will be rounded off by a contribution from the micro process engineering industry platform.



Source: DECHEMA

The Micro Process Engineering Status Colloquium will take place at the Centre for Environmental Communication in Osnabrück on February 13 and 14, 2007.

For further information please contact Ute Ackermann at VDI/VDE-IT: ackermann@vdivde-it.de

Report: Final Workshop on "Production Technologies for Polymer Electronics" on December 12, 2006 in Fürth, Germany

The final workshop under the joined research project "production technologies for polymer electronics - ProPolyTec" took place on 12 December 2006 in the context of the Workshop row "micro-technical production" in Fürth, Germany. The research partners Merck OLED Materials GmbH, University of Ulm/NMTC, TU Chemnitz, Aurentum Innovationstechnologien GmbH, Fraunhofer Institute for Reliability and Microintegration and PolyIC GmbH & Co. KG presented their research results. The meeting was rounded off by a visit to the company PolyIC. The ProPolyTec research partners have developed a series of proprietary semiconducting, dielectric and conducting polymers that are uniquely suited to printing as well as several printing and manufacturing technologies for the fabrication of electronics and sensors within the cent range.

Electrically conducting, semiconducting and bright polymers have lately attracted considerable attention. Flexible and cheap integrated circuits, roll-up displays, organic solar cells and also sensors are applications that will be made possible by polymer electronics. The main advantage of this technology in relation to conventional fabrication methods lies in the simple and economical process ability of polymer materials. As is the case with the production of printed media, organic materials allow comparable processes with printings from the solution. However, it was made quite clear that a technology transfer from conventional printed media processes to printed electronics is a tricky job.

The joined research project ProPolyTec, supported by the Federal Ministry of Education and Research (BMBF), is intended for the development of economical continuous manufacturing processes for the fabrication of polymer-based devices. The project helps to transfer them from the stage of laboratory technology to an industrially usable production technology. For polymer electronics the objective is to integrate circuit and electronic functions on large foils that can be ideally processed in roll-to-roll fabrication. For the conversion of these goals, both polymer materials and different printing and manufacturing methods have been developed successfully. Also, apart from the advancement of the manufacturing equipment, different demonstrators were presented up to ring oscillators. Despite successes obtained under the project, a substantial effort is still needed for the application of these mass production technologies.

The joined research project was supported by the BMBF for three years and accompanied by the Project Management Agency Forschungszentrum Karlsruhe. Further information is available via www.propolytec.de.

Contact:
NMTC
Dr. Matthias Werner
Soorstr. 86
14050 Berlin, Germany
E-Mail: werner@nmtc.de

Report: International Conference and Exhibition on Integration and Commercialization of Micro and Nanosystems, January 10-13, 2007 in Sanya, China

Providing a good overview of MNT technology and commercialization issues in the Far East and especially China was the main aim of the International Conference and exhibition on Integration and Commercialization of Micro and Nanosystems. The conference was co-organized by Bob Warrington from ASME/University of Michigan and Steve Walsh from Mancef/University of New Mexico.

About 400 visitors listened to the 90 papers and looked at the 250 posters, both showing the wide range of subjects and the depth of the Chinese research activities. The first day a number of speakers gave an overview of current issues in MST/MEMS, i.e. Clive Davenport, elected president of Mancef, addressed the cooperative efforts to promote the commercialization and industrialization of micro and nanosystems in Australia and announced the COMS2007 in Australia. The second day showed more technically oriented talks, started off with an overview of Chinese research institutes and their topics of interest. Remarkable is the Chinese approach of linking basic research with the development of manufacturing capabilities. However, as Keanu Zhang from Titan Consulting later commented, there is much room for improving the commercialization process of research in China. Presentations gave innovative approaches to overcoming current limitations in micromoulding, fuel cell efficiency, etc. A novel way of narrowing the size distribution of nanoparticles was presented by Prof Frank Träger from the University of Kassel.

The poster session gave a good overview of Chinese research, where it was clearly seen that most research was focused on specific issues, contrary to current Western research on micro and nanotechnology, which tends to orientate on systems or applications and often addresses a wide area of technologies in one project. SiC resonators are the subject of interest of Haixia Zhang, Peking University. In the light of the fast growing Chinese telecom industry and infrastructure, the work of Chin Qinghua, Peking University, was of interest. She presented a paper on a 16x16 MEMS based optical switch. In conclusion this ASME / MANCEF conference turned out to provide a good balance between commercialization issues and technical information especially from China. For attendees and companies, the exhibition also provided ample opportunity for networking.

Henne van Heeren
www.enablingMNT.com

SHORT NEWS

SUSS MicroTec Introduces the PM300WLR - The World's First Dedicated 300mm Wafer-Level Reliability Probe System

SUSS MicroTec AG recently has announced the latest innovation in wafer-level reliability (WLR) testing. The PM300WLR is the first dedicated probe system for wafers up to 300mm that enables semiconductor manufacturers to quickly obtain critical results about the reliability of the device under test (DUT). These results are a vital piece of fee back for design and process improvement. In order to test the reliability of the DUT, it must be subjected to temperature and electrical stress over long periods of time. This was traditionally done after the device had been packaged – an expensive and time-consuming process. By doing reliability test at wafer level, the costs of packaging are saved and the test results can be delivered much sooner. The PM300WLR is specifically designed for ergonomic, high-temperature, multi-site testing. Contact stability is guaranteed at temperatures up to 400°C and test times are significantly reduced using multi-site probe cards. A large programmable microscope movement and clever cable handling solutions heighten ease of use. The advanced design of the PM300WLR also delivers additional savings by reducing gas consumption, which is especially important for devices that must be tested in inert gas environments. For more information, please contact: Mr. Joshua M. Preston, MarCom Manager, SUSS MicroTec Test Systems, Phone: +49 (0) 35240 73-0, E-Mail: info@suss.com

EV Group and Sawatec Extend Long-term Co-operation and Sign Reseller Agreement

EV Group (EVG), a leading supplier of wafer-bonding and lithography equipment for the MEMS, nanotechnology and semiconductor markets, and Sawatec, manufacturer of advanced components and manual loaded instruments for the photolithography have signed a Reseller Agreement. In the long term cooperation with Sawatec as a supplier of instruments for spin/spray-coaters, hot/cool-plates, spray developers and drying spinners, EV Group signs with Sawatec a reseller agreement for package deals. This agreement enables EVG to offer selected Sawatec instruments to their customers in combination with EVG equipment. Qualified EVG field service engineers are specially trained on Sawatec products and will service the sold Sawatec products by EV Group.

Sawatec is located in Balzers, Liechtenstein, and was founded in 1982 with the name Sawatec Engineering. In 1996 the company was converted to an AG (public limited company). SAWATEC is well known for components designed for the optical data storage. Further the founder of the company has long time experiences in the semiconductor industry based on the fact that he also was the co-founder of Convac in Germany. Sawatec AG designs & manufactures all the components and instruments and Sawatec Solutions AG is responsible

for the world wide sales & marketing. For more information, please visit www.sawatecsolutions.com
Founded in 1980, EV Group is a global supplier of wafer bonders, aligners, photoresist coaters, cleaners and inspection systems for semiconductor, MEMS and emerging nanotechnology markets. EV Group holds the dominant share of the market for wafer bonding equipment and is a leader in lithography for advanced packaging, MEMS and Nano-imprint Lithography (NIL). The company's unique Triple I approach (Invent - Innovate - Implement) is supported by a vertical infrastructure, allowing EV Group to respond quickly to new technology developments, apply the technology to manufacturing challenges and expedite device manufacturing in high volume. Headquartered in St. Florian, Austria, EV Group operates via a global customer support network, with subsidiaries in Tempe, Arizona; Albany, New York; Yokohama and Fukuoka, Japan; and Chung-Li, Taiwan. For more information please visit www.EVGroup.com

MeshNetics Wins Industry Honours for its ZigBee™ Solution in Building Automation

MeshNetics, a leading wireless sensor technology provider and 802.15.4/ ZigBee expert from Russia, has won the 2006 European Frost & Sullivan Excellence in Technology Award in the field of wireless sensor network (WSN) solutions based on ZigBee. MeshNetics was recognized with this award for providing stateof-the-art capabilities that will enable the convergence of building automation subsystems such as lighting, HVAC, and security into one interoperable ecosystem.

MeshNetics' ZigBee product portfolio includes the recently launched 802.15.4/ZigBee OEM module ZigBit. An all-Atmel solution, ZigBit combines the ATmega 1281v microcontroller and the latest AT86RF230 radio—achieving ultra small size, high sensitivity, best-in-class range, low power consumption, and various antenna options. All modules come bundled with the eZeeNet mesh networking stack. Available Evaluation and Development Kits facilitate module-based products and applications development. MeshNetics backs its portfolio as a one-stop source of a quality support for both hardware and software. Currently there are hundreds of thousands, even millions of disconnected devices that perform daily functions invisible to people—such as metering and sensor devices taking measurements, industrial and access controls. Connecting these devices and integrating their collected data into enterprise systems is essential for the introduction of new business processes. MeshNetics addressed this critical need by developing the SensiLink gateway server or middleware for wireless data integration. SensiLink helps to integrate data into existing enterprise IT systems using existing interfaces, such as Web Services, OPC and others. MeshNetics is a leading technology provider specializing in 802.15.4/ZigBee short-range wireless sensing and control. It has offices in Moscow, Russia, and Seattle, USA. MeshNetics helps its partners and customers to accelerate time to market by jointly developing and deploying M2M solutions for building automation, HVAC, automated meter reading, predictive maintenance, transportation, asset tracking, and more. MeshNetics has developed a comprehensive portfo-lio of products and services that includes 802.15.4/ZigBee OEM module, the ZigBit; the eZeeNet networking stack software; evaluation and development kits; SensiLink middleware; and customization services. MeshNetics bases its long-term strategy on open standards, and is a member of the ZigBee Alliance and OPC Foundation. For more information, please visit www.meshnetics.com

New SCHMIDT® Flow Sensor for Laminar-flow Monitoring in Cleanrooms

The new Flow Sensor SS 20.415 from SCHMIDT Technology GmbH, St. Georgen, Germany, is a highly specialised sensor for laminar-flow monitoring in cleanrooms. The sensor is based on the principle of a thermal anemometer and can measure the flow velocity in two directions and can precisely detect the flow direction. The housing of the sensor is a thin stainless steel pipe measuring only 9 mm in diameter. The complete electronic -based on a microprocessor- is located inside this small pipe. The sensor is robust due to a metal chamber in which the sensing element is protected against impacts. Beneath the analog output this sensor offers two digital outputs to indicate the flow direction and that flow reaches a preselected switching level. The SS 20.415 comes with the treasured SCHMIDT Cleanroom Quick Mounting System. This is a mounting adaptor made of stainless steel, which is mounted onto a wall or ceiling. After inserting the sensor into this adaptor the sensor gets automatically into the right position in regard to the filter outlet. As there is no separate electronic module, mounting or dismounting can be made within seconds.

SCHMIDT offers the mounting adaptors in different versions fitting to all standard cleanroom ceiling systems. The sensors housing is completely tight and can be sterilized during operation with alcohol or hydrogen peroxide. Significant is also the fact, that the sensor starts to measure from a velocity of 0,05 m/s. SCHMIDT operates also a high precision wind tunnel and thus offers a calibration certificate for this sensor which is traceable to national standards.
For more information please see www.schmidttechnology.de

Kyodo International Represents Micronit at Japanese Market

Micronit Microfluidics BV (Micronit), a leading company in microfluidics and lab-on-a-chip devices made of glass from Enschede, The Netherlands, has chosen Kyodo International (Kyodo) to be their representative for the Japanese market. The two companies strengthened and showed their partnership during the Exhibition Micromachine which was held in Tokyo last November. Thanks to the fast-growing demand for Micronit's lab-on-a-chip products, the company needed to expand its sales network. "The cooperation with Kyodo International helps us in developing our business in the Japanese market even further", said Micha Mulder, CEO of Micronit. "Kyodo has a network of prestigious companies and have proven to be able to provide a high level service to our customers in Japan." Kyodo's area of expertise lies in offering its clients different merits by selling products. Biotechnology is a key market for Kyodo.

"We are excited to be able to offer one of the best solutions to the Japanese market by combining our expertises in biotechnology and microelectronics with Micronit's unique technologies", comments Kenshin Ikeda, CEO of Kyodo International.
Further information on Micronit: www.micronit.com.
Further information on Kyodo International: www.kyodo-inc.co.jp.

New MST-enabled Analytical Tools for Environmental Monitoring from CNR-IMM Bologna

Micro Systems Technologies can efficiently increase the performance of analytical tools for environmental monitoring applications, as shown by CNR-IMM, Bologna, Italy, with the recent development of an extremely selective and sensitive, low power consumption, palm-size Gas Chromatographic system, which was awarded with the price for best runner-up application at the recent IEEE Sensors 2006 conference in Deagu, Korea. The most relevant features of the newly developed palm-size Gas Chromatographic system are represented by a much lower cost (purchase and maintenance), very compact palmtop size, low power consumption, and enhanced selectivity and sensitivity.

Through the technological facilities and multidisciplinary knowledge on micromachining, gas microsensor technologies, NDIR and advanced adsorption-desorption chemistry, available at CNR-IMM and by its partners (like the Dep. of Organic and Industrial Chemistry of the Parma Univ. in Italy and IMSAS, Bremen, Germany), all issues concerning the development of MST-enabled tools for environmental monitoring can be addressed. Application scenarios include outdoor and indoor air quality monitoring for the reduction of the Sick Building Syndrome, portable analytical tools for easy, fast and reliable in-site measurements of harmful hydrocarbon compounds, home security and safety. Future activities within the EC 7th Framework Programme will exploit the experience acquired in more than 13 years of activities in MST-based air quality assessment. More detailed information can be found at www.bo.imm.cnr.it/mstnews/

attocube systems - a Finalist for the 27th Innovation Award of the German Economy
A nanotechnology company from Munich amongst the best in research and industry

attocube systems AG, one of the leading suppliers of nanopositioning devices for extreme environments from Munich, Germany, has been nominated as a finalist for the 27th Innovation Award of the German Economy. In the category "Start-up Companies" attocube systems and four other finalists have reached the final round. The competition is promoted each year by the Wirtschaftsclub Rhein-Main e.V. and the German weekly business news magazine WirtschaftsWoche.
attocube systems specializes in the development, manufacturing and sales of nanopositioning devices and scanning probe microscopes which are suitable for extreme environmental conditions; for example: close to the absolute zero point of temperature; high magnetic fields; or ultra-high vacuum. Due to a significant technological advance, attocube's products meet the requirements of cutting edge research and at present do not face strong competition in the cryomagnetic market. This assures a top position in research and industry and allows them to strike new paths into areas such as semiconductor-, nano- and biotechnology, life sciences, telecommunication and aerospace.

Large European (e.g. CERN, ESRF, the Berlin Electron Storage Ring for Synchrotron Radiation, the Research Reactor II in Munich) and American (e.g. CalTech, Stanford University, MIT, NASA) research facilities, as well as international companies (e.g. IBM, HP, Carl Zeiss, Toshiba), are customers of attocube systems. Founded in 2001, attocube has in the meantime grown to more than 25 highly qualified employees.

attocube systems, a German company located in Munich, manufactures and provides ultra-high precision spatial positioning systems and complete probing tools, such as scanning probe microscopes. Their systems are particularly suitable for extreme environmental conditions such as cryogenic temperatures, high magnetic fields and ultra-high vacuum environments and have enabled pioneering investigations and developments in both, science and industry. The revolutionary concepts of attocube systems' products have opened new markets in the areas of semiconductor industry, biotechnology, material science, medicine, chemistry as well as the aerospace industry.
For more information please visit www.attocube.com

Foundation Laid for Growth Without Limits - Bartels Mikrotechnik Buys Back Shares from Venture Capitalist

During this year Bartels Mikrotechnik GmbH, Dortmund, Germany, has changed its financial partner structure. Founder and director Dr. Frank Bartels bought back the complete shares from its venture capitalist partner microventure GmbH&Co KgaA, which they had acquired in 2000. At present Dr. Bartels holds 95% , 5 % of the shares were taken over by the long term financial officer Monika Kremer. At the same time all present liabilities also were completely erased. After 10-year company history Bartels Mikrotechnik GmbH has now established a secure base of operation for the growth in operational activities. The successful segment of MEMS innovation processes and the product oriented activities are further enforced. 2007 will be a year in which position of points are taken.

Bartels Mikrotechnik is providing innovative technologies and product solutions spanning various branches from its MEMS background. The technological know-how, the long time experience in micro systems technology and the powerful affiliate network next to the combination of MEMS solutions centre, excimer laser jobshop and own products defines the unique selling proposition of Bartels Mikrotechnik GmbH. For more information please visit www.bartels-mikrotechnik.de

Dear Readers,

many more short news and press releases belonging to this mstnews issue you will find for the next 2 months at
www.mstnews.de/Homepage/shortnews.html

Report from the Nexus Annual General Meeting, 29 Nov 2006, Milan, Italy

More than 30 NEXUS members attended this first NEXUS AGM following the transfer of the NEXUS activities from France to Switzerland. Main presentations and key discussion topics:

Negotiations for the transfer of the following contracts to Nexus Switzerland were successfully completed: NEXUSplus & SmartHEALTH. The Healthy AIMS was not transferred.

The following officers and steering committee members were (re-) elected for the NEXUS Organisation:

President: Thomas Hinderling, elected for 3 years
CEO: Sean Neylon, elected for 2 years
Operations Manager: Jean-Pierre Dan
Vice Chairman: Patric Salomon
Eastern Europe Coordinator: Carmen Moldovan
Treasurer: David Holden
SC members:
Roberto Della Marina / Henning Wicht / Ayman El-Fatatry & Andrew Richardson

Strengths and strategy of NEXUS:

- An industrial and research based organisation
- Promoting Pan-European MNT
- Independent
- Focus on the promotion of SMEs and Eastern European Competences
- A platform for dissemination via the "yellow pages" of European MNT Database

The Chairman's report was accepted. Financial Reports were presented and accepted. Income from the EC will be supplemented by sponsorships and membership fees. Sponsorship packages will be drawn and agreed with sponsors. Membership fees will be set at 200 Euros per annum. Membership benefits were presented by Sean Neylon to the AGM for consideration.

The Articles of Association and By-Laws as published on the Nexus website prior to the meeting were unanimously accepted.

The SC were requested to consider two proposals from the membership:

1. Should there be a special representative on the SC for SMEs?
2. How could Nexus adapt its strategies to place more emphasis on emerging 'Nano integration' needs?

Copies of the presentations will be archived and made available on the Nexus website.

www.nexus-mems.com

NEXUS to Organise a Series of FP7 Workshops

In close collaboration with the EC and local/regional networks, NEXUS (through the NEXUSplus project) will organise a series of workshops to support the launch of FP7. Latest information about current calls will be given but the major objective will be to establish a forum for industry and researchers to meet, discuss proposals and to find the best partners for collaboration. Initial workshops are planned to take place:

March 2007,
Paris/F, in conjunction with Smart Systems Integration Conference

April 2007,
Stresa/I, in conjunction with DTIP

May 2007,
UK, in collaboration with CEMMNT

Updated information will be published through the NEXUS E-Zine and on the NEXUS website.

EC FP7 - Specific Programmes Adopted and First Calls for Proposals Published, 22 December 2006

On 18 December 2006, decisions establishing the Seventh Framework Programme of the European Community (EC) for research and technological development for the period 2007 to 2013, and the FP7 for nuclear research activities (Euratom) for 2007 to 2011 were adopted by the Council. The Council also adopted a regulation laying down the rules for the participation of undertakings, research centres and universities in actions under FP7-EC and for the dissemination of research results. Following the adoption of the Seventh Framework Programme on 18 December, the Specific Programmes were also adopted by the Council on 19 December. The first calls for proposals were published on 22 December 2006. All the information can be found on the CORDIS web site:

http://cordis.europa.eu/fp7/dc/

NEXUS and FP6 IP & NoE Calendar

5-6 Feb 2007
GOSPEL Workshop on Selectivity enhancement through sampling & preconcentration technologies
Lyon, France
Organized by the GOSPEL NoE
www.gospel-network.org

12 – 13 Mar 2007
GOSPEL Workshop on "Smart Gas Sensors"
Freiburg, Germany
Organized by the GOSPEL NoE
www.gospel-network.org

29 – 30 Mar 2007
FlexiDis Training Event
Cambridge, UK
Organized by the IP FlexiDis
www-oe.phy.cam.ac.uk/fet/

24 Apr 2007
NEXUS MWG Reliability and Test Workshop in conjunction with DTIP
Stresa, Italy
Organized by NoE PATENT-DfMM
www.patent-dfmm.org

SmartHEALTH Competitive Call for an Additional Project Partner Deadline for Submissions: 14 Feb 07

The role of the new partner will be to assist with the instrument design & integration, and to build the prototype instruments. An early prototype instrument will be available with limited capability, and the new partner will be required to further develop this and to produce two further prototype instruments in order to demonstrate the overall SmartHEALTH concept. This includes integrating the necessary mechanical, electrical, thermal & optical components within the instruments in order to amplify and detect nucleic acids in addition to detecting proteins. The capability for ambient intelligence is also required to be integrated in the instruments (using modules supplied by other partners). One of the instruments is required to demonstrate the feasibility of a hand-held device for detecting proteins only. Therefore, the new partner will be required to miniaturise and optimise the various instrument modules, subassemblies, fluidic actuator components etc. in order to achieve this.

Between them, the various instruments will cover the entire range of SmartHEALTH concepts including protein and nucleic acid biomarker detection for breast cancer, cervical cancer and colorectal cancer, using electrochemical, transmission plasmon biosensor and circular disc resonator sensors.

The partner would be expected to be fully involved in the subsequent evaluation and clinical validation of the SmartHEALTH instruments, as well as planning for future exploitation and commercialisation of the instruments and technology.

All details are available at: https://www.smarthealthip.com/opencall.aspx.

Contact:
Heather McGrath
Newcastle University, UK
E-Mail: H.R.McGrath@newcastle.ac.uk

RF-MST Community Toward the FP7

Two important events on RF-Microsystems Technology have been unfolding in the last few weeks, organized by AMICOM NoE (WS on RF-MST needs and perspectives (Leuven 10 October) and a networking session at the IST 2006 (Helsinki, 22 November).

The aim of these events was to gather R&D stakeholders on RF-MST/MEMS and related fields in order to discuss and promote joint activities under the forthcoming 7th Framework Program (FP7). These events have seen an active participation of experts including AMICOM members, partners coming from academic research, industry and European Technology Platform alike (ENIAC and EpoSS).

The general understanding about RF-MST gathered during these two events was that:

- Companies are optimistic about RF-MST/MEMS (EADS, Lucent Bel Lab Europe, AAS, ST-MICRO, PHILIPS, ESA…) and RF-MST/MEMS technology is recognized as an enabling technology for smart integrated Microsystems. This is acknowledged also by the strategic research agenda (SRA) of the two major ETPs in the field such as ENIAC and EPOSS, by including RF-MST/MEMS in their roadmaps. The representatives of these ETPs have expressed a clear interest to establish a bridge with AMICOM in future activities.
- Only systems level integration of RF-MST/MEMS technology makes sense (not as a stand-alone component). This requires a co-design approach at architecture level (find the best architecture and not simply do technology replacement on conventional ones) and at process level (the packaging solution should be conceived at the very beginning of the design flow along with the components/systems).
- AMICOM has played the strategic role of gathering and bridging research expertises and specialized infrastructure traditionally far away each other. This has yielded a research community with a focused and highly competent critical mass of expertise that should be maintained and supported in the future. The network commitment should be now addressed to service providing and specialized knowledge-based management and dissemination.

Contact :
Fabio Coccetti
LAAS – CNRS, France
E-Mail: coccetti@laas.fr
www.AMICOM.info

NEXUS Contact

NEXUS News is provided to NEXUS members and other interested mst-news readers by the NEXUS Association.

NEXUS

The NEXUS Association is partly funded through the NEXUSPLUS project within the EC IST programme in FP6 to:

- Disseminate and cross-fertilise between FP6 Integrated Projects and Networks of Excellence.
- Increase ACC participation in NEXUS activities and within EC FP6 projects.

Information Society Technologies

NEXUS Programme Manager:
Isabel Vergara Oganda, European Commission
E-mail: Isabel.vergara-ogando@ec.europa.eu

NEXUS Office:
NEXUS c/o CSEM SA
Neuchatel, Switzerland
E-Mail: info@nexus-mems.com

NEXUS News Contact
Patric Salomon, Germany
NEXUS News Editor
4M2C PATRIC SALOMON GmbH
E-mail: nexus-news@4m2c.com

Rapid Prototyping Process for Lab-on-a-Chip Systems Offered in the Europractice Project INTEGRAMplus

Complex tasks in today's Lab-on-a-Chip systems very often require a number of design cycles until the final solution is reached. Thus, short periods from the design idea to a tested chip are mandatory to obtain microfluidic solutions within a reasonable overall time frame.

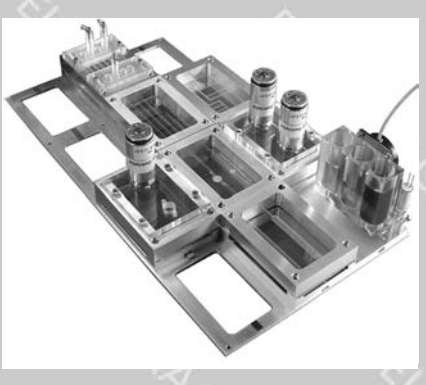


Figure 1: The Chip-based Lab, developed by IMM for the evaluation of rapid prototyped chips.

Within the EU-funded project INTEGRAMplus, whose aim is to provide a broad range of microfluidic solutions, IMM offers the so-called "1-week-2-chip" service concept for rapid prototyping. This basically allows a complete design cycle from the idea to the tested design within one week. The first crucial point is to start with standard blank chips (dimension: 64 x 43mm2) manufactured by injection moulding and available in e.g., polymethyl methacrylate (PMMA), polycarbonate (PC), polystyrene (PS) and cycloolefin copolymer (COC). These blanks are transformed to a working fluidic chip by standardized structuring and assembly processes, which may be adapted to the special needs of single applications. As the last step the characterisation takes place within a Chip-based Lab platform specially developed by IMM to evaluate the proof of principle of a single chip or a combination of several chips and functionalities (Fig. 1). The time line of this process is as follows (Fig. 2):

Day 1-2
The customer presents a new idea to a project team on day 1 for which a concept is sketched. This is transformed by a design engineer, who is part of the team, to a CAD drawing with a tool such as ProEngineer. For complex questions, a parallel process, viz. CFD simulation, is launched to identify further potential for design optimisation. This also provides a sound theoretical basis for the interpretation of the experimental findings.

Day 3-4
After design freeze the CAM manufacturing process begins. Supported by software, the CAD data is easily transferred to machine code. Down to 200 µm the channel structures are realized by CNC milling (Fehlmann Picomax 60 CNC). Between 200 and 5 µm structure size laser treatment (eximer laser Exitech 700, 193 nm, 200 mW) is applied, not only as one manufacturing option but also as a subsequent process step after micro milling. The latter process forms rough surfaces compared to injection moulding and hot embossing; however, it is less time-consuming for prototyping. In later design cycles where larger number of chips are needed and which are in a less ambitious time frame hot embossing and especially injection moulding are the preferred manufacturing processes used by IMM.

Day 4-5
After the manufacturing of the microchannels the chip is sealed. For fast and easy tests, adhesive tape is a good choice. For longer durability or chemical resistivity, the chips are sealed by solvent or laser welding. The above-mentioned platform serves as test stand for the design evaluation.

The 1-week-2-chip process establishes an efficient route to sensitive clinical and industrial applications that require a rapid development providing many advantages:

- a multi-disciplinary project team
- support by mathematical modelling
- rapid prototyping of test chips
- a standardised platform for evaluation
- a strategy of up-scaled tests

leading to a reduced time to market and a reduced risk in Lab-on-a-Chip system development.

Contact:
Frithjof v. Germar, Götz Münchow, Klaus S. Drese
Institut für Mikrotechnik Mainz GmbH, Germany
E-Mail: germar@imm-mainz.de
www.imm-mainz.de
www.integramplus.com

Day 1-2 Engineering **Day 3-4 CNC-Milling** **Day 4-5 Validation**

Figure 2: Process chain from the idea to an evaluated fluidic chip

News from the GOSPEL Network: Upcoming Workshops

GOSPEL Workshop on Selectivity enhancement through sampling & preconcentration technologies, 5-6 Feb 07, Lyon, France

Successful applications of gas sensing in complex real-world environments depend critically on the selective sampling and concentration of target species. This two-day GOSPEL workshop is an opportunity for expert debate on the opportunities offered by a range of technologies including macro and micro solutions. Participants will include researchers, end users and system developers from industry and academia. In addition to oral contributions and comprehensive discussion sessions, there will be posters describing recent results and current needs.

The workshop will cover the technological development of pre-concentrators and their applications in the fields of security, environment and health and critically evaluate their miniaturization prospects. The outputs of discussions will help guide the funding policy of the GOSPEL Network in developing new solutions, and is also intended to broker collaborations between participants. The program and discussions will be oriented on the state of the art of conventional preconcentrators, adsorbent materials and related technologies. In terms of applications, the main focus will be on the field of security (explosive and chemical warfare agent detection), environment (odours and contaminants) and point-of-care monitoring in health applications.

More information at http://www.gospel-network.org/content/view/308/99/

GOSPEL Workshop on "Smart Gas Sensors" – Workshop on Technology and Application of Intelligent Gas Sensors, 12-13 Mar 07, Freiburg, Germany

This second workshop on "Smart Gas Sensors – Technology and Application" is organized in co-operation with the Fraunhofer Institute for Physical Measurement Techniques IPM in Freiburg, Germany. International scientists and representatives from the industry are invited to discuss the state of the art in gas sensor technology as well as new applications for different industries such as automotive, biotechnology, security and safety, food, medical and environmental technology. The workshop focuses on miniature gas sensors, i.e. metal oxide sensors, optical sensors, FET based gas sensors as well as electrochemical and microoptical gas sensors. The workshop language is English.

More information will be posted soon at www.gospel-network.org

GOSPEL Workshop on Low Dimensional & Nanostructured Oxides: Bridging Surface Science and Sensor Science, 15-16 Jun 07, Tübingen, Germany

This two-day GOSPEL workshop is an opportunity for expert discussion about the opportunities offered by the new class of model systems, single crystal quasi-1D metal oxide nano-structures. These structures will improve our understanding of the fundamental interplay between surface and transport processes in solid-state sensors especially at nano-scale and ultimately determine the next generation of solid-state gas sensors. In addition to oral presentations and comprehensive discussion sessions, there will be posters describing recent results.

The workshop will provide plenty of discussion time around the relationship between fundamental surface sciences, nanotechnology and sensor research on metal oxides. To stimulate discussions lectures will be presented by world-renowned experts in the field.

More information is available at www.gospel-network.org/content/view/307/1/

Contact:
Niko Papamichail
University of Tübingen, Germany
E-Mail: gospel-ipc@ipc.uni-tuebingen.de

PATENT-DfMM Workshop Planned in Conjunction with DTIP, 24 Apr 2007, Stresa, Italy

As with past DTIP conferences, PATENT-DfMM will organise a workshop on DfMM again.

This workshop will feature ideas for services in Design for MNT Manufacture, specifically for MEMS Testability and Reliability and how such services could be set up under FP7.

Contact:
Patric Salomon
4M2C/enablingMNT, Germany
E-Mail: patric.salomon@4m2c.com
www.patent-dfmm.org

EP Contact

EUROPRACTICE

EUROPRACTICE News is provided to mstnews readers by EUROPRACTICE - Microsystems Service for Europe.

Information Society Technologies

EUROPRACTICE is funded by the European Commission, Information Society & Media Directorate-General, Integrated Micro & Nano Systems

EUROPRACTICE Programme Manager:
Isabel Vergara Oganda,
European Commission
E-mail:
Isabel.vergara-ogando@ec.europa.eu

EUROPRACTICE News Editor:
Patric Salomon
4M2C PATRIC SALOMON GmbH
E-mail: ep-news@4m2c.com

For information on specific activities please contact Service Providers directly: www.europractice.com

EURIPIDES
The story must go on…

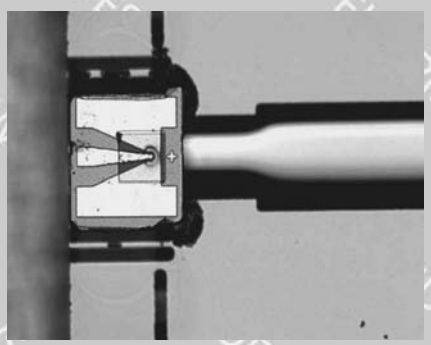
The EURIPIDES cluster, after the period of merger, is now on track. It is running its third call and launching its first EURIPIDES FORUM in mid-2007.

In addition, as first positive results, EURIPIDES announces that several labeled projects from the two previous calls have planned their Kick-off Meetings for Q1 2007. Others are on the way to conclude their national agreements.

EURIPIDES, launched under the aegis of EUREKA, was to succeed, as a logical merger of the two famous previous programs EURIMUS II and PIDEA+. This merger was expected by the European Industry and the national public authorities.

EURIPIDES solutions design on an exceptional platform of technologies, with potential applications across a wide range of European industry players.

With more than 7,000 man-years of equivalent high-level researchers, EURIPIDES offers a capability unmatched in Europe to develop and then help to deploy Integrated Smart Systems in such highly diverse and complementary application fields as Automotive, Aeronautics, Medtec and Global Security.



EURIPIDES a tool to fund industrial projects

The EURIPIDES program is a modern and exceptional technological tool to set up industrial projects and reinforce the strength and position of SMEs and LEs on the international market of Smart Systems.

EURIPIDES Call 1 and Call 2 situation

With a forecasted average flow of 170 M€ total cost of labeled projects per year, the results of the EURIPIDES first year, Call 1 + Call 2, are encouraging.

EURIPIDES - JANUARY 2007 PROJECTS SITUATION						
	Call 1		Call 2		Call 1 + 2	
Projects		Total Budget M€		Total Budget M€		Total Budget M€
Received	19	105	4	15	23	120
Labeled	18	79	4	15	22	94

In addition, thanks to the Authorities' decisions, 3 of these projects will start their work during the first quarter of 2007.

EURIPIDES Call 1 and Call 2 technology scope

The different technology domains covered during the two first calls are the following:

- Technologies for high reliability, high-density electronic modules and Microsystems
- Infra-red sensors for medical imaging
- Focal plane array for THz imaging
- MEMs Integration for automotive and security
- Staked chips on MEMs
- On-chip optoelectronic and microwave functions
- Organic LED
- RFID integration
- Smart Wireless sensors for security
- Ultra miniaturized modules for telecom
- Packaging for harsh environment
- IC thermal management
- Embedded systems: hardware and software co-design
- Reliability acceleration parameters for lead-free soldering technology
- Microwave ferrites development
- CTN/ epoxy adhesives
- Metalized foams for tracking antennas

The EURIPIDES Calendar, for 2007

EURIPIDES 3rd Call for Proposals

- Launch date: December 4th, 2006
- Closing date for PO submission: February 2nd, 2007
- PO evaluation meeting: March 15th, 2007
- Closing date for FPP submission: May 7th, 2007
- FPP evaluation meeting: May 31st, 2007
- FPP labeling meeting: June 1st, 2007
- Hearing (if requested by the Council): June 22nd, 2007

EURIPIDES informs you

Please refer to the web site www.euripides-eureka.eu for details on submission and on the labeling process of projects.

Do not hesitate to contact the Offices if you need help to find partners, to have details on specific funding rules of a given country, point of contacts and any question you may ask.

Besides the labeling process, EURIPIDES organizes technical forums with various topics: major results of projects, recent evolution of national and European organizations, presented by selected key speakers.

The 2007 EURIPIDES Forum

After the first Technical Day held in Como in October 2006, the EURIPIDES Forum 2007 is under preparation and the Office, supported by the SAB Scientific Advisory Board and the Technical Committee, is selecting for you an attractive technical program.

This event will take place in Paris or nearby Paris.

It has been planned for the 28 and 29th of June. It will be a two- day event, with a Technical Day and an Industrial Day, presenting the success stories of the parent Clusters EURIMUS II and PIDEA+ plus invited papers.

Next call

EURIPIDES 4th Call for Proposals

- Launch date: June 1st, 2007
- Closing date for PO submission: October 1st, 2007
- PO evaluation meeting: November 16th, 2007
- Closing date for FPP submission: January 8th, 2008
- FPP evaluation meeting: February 7th, 2008
- FPP labeling meeting: February 8th, 2008
- Hearing (if requested by the Council): March 3rd, 2008

EURIPIDES Contact

Email:
euripides@euripides-eureka.eu

Web:
www.euripides-eureka.eu

Offices

17, rue de l'Amiral HAMELIN 75783
PARIS cedex
Tel : +33 (0)1 45 05 70 49
Fax : +33 (0)1 45 05 70 37

CEA LETI
17, Rue des Martyrs
38054 Grenoble Cedex 9
Tel : +33 (0)4 38 78 36 38
Fax : +33 (0)4 38 78 56 70

The EURIPIDES´s team

Main Office Paris

Yves Le Goff
Director of the Euripides Offices

Molly Boissier
Assistant of the Euripides Office

Grenoble Office

Philippe Laporte
Operations Manager

Bénédicte Guehl
Assistant of the Euripides Office

Flagship Projects to Prepare for DfMM Service Clusters of the Future

Continued from last DfMM News issue (December):
RELIABILITY - the reliability flagship project is structured into 3 clusters

RELMETH - Methodology for accelerated testing and reliability analysis of MEMS
The aim of RELMETH is to prepare the NoE Patent-DfMM for addressing industry requirements on Quantitative Accelerated Life Testing and Reliability Analysis of MEMS. The tool for investigation is the reliability analysis, as developed previously for "classical" devices (ICs, transistors, etc.) and used now for MEMS. The goals of using such analysis for a batch of MEMS are:

- To assess the reliability level of a batch of MEMS;
- To improve the batch reliability by proposing appropriate corrective actions (in design, processes, monitors, etc.);
- To build prediction methods able to foresee the reliability of future batches from the same device, even from the design phase (methods to be used in a Design for Reliability approach).

Contact
Marius Bazu
E-Mail: mbazu@imt.ro
Pascal Nouet
E-Mail: nouet@lirmm.fr

VIBSHOCK - Holistic Reliability Engineering for MEMS harsh conditions
Reliability issues for MEMS can only reasonably be tackled in a holistic way, including package engineering, failure mode modelling and test methodology. This is especially true of MEMS in harsh conditions, where sometime packaging is even more prone to failure than the MEMS device itself. The final goal of the VIBSHOCK project is the setup of a self-sustainable virtual lab service for reliability engineering of MEMS in harsh conditions. A harsh environment can also be used to accelerate failure mechanisms in MEMS that do not require operation in such harsh environments, but need accelerated reliability test methodology. Also this aspect will be addressed in this flagship project, and should lead to new reliability test methodologies. By multiplying ideas for test methodologies and establishing new testing techniques, this project will generate know-how beyond the state of the art.

Contact
Khiem Trieu
E-Mail: trieu@ims.fraunhofer.de
Ingrid De Wolf
E-Mail: dewolfi@imec.be

Package reliability - Integrated Characterisation of Packaging Hermeticity Combining Test, Modelling, Reliability Characterisation and Packaging Integration of a Humidity Microsensor
This project uses a humidity microsensor as a device to demonstrate DfMM; i.e. the design, fabrication, test, characterisation, simulation and packaging of MEMS. The primary objectives of this project are:

- To design, fabricate and test a humidity microsensor to electrically detect traces of humidity;
- To characterise, measure and simulate reliability and packaging issues for the integration of the microsensor within a package;
- To analyse reliability and packaging concerns of wafer level packaging technologies for MEMS devices;
- To investigate the reliability measurement and modelling challenges associated with humidity, hermeticity and wafer level packaging for MEMS;
- To define mechanisms for bringing together partner knowledge obtained from activities and projects undertaken during the first 2 years of the PATENT NoE to demonstrate DfMM via a specific demonstrator of direct industrial benefit.

Contact
Orla Slattery
E-Mail: orla.slattery@tyndall.ie

PATENT-DfMM/ NEXUS/ MEMUNITY workshop, NEXUS AGM FP7 Workshop, 27-29 Nov 2006, Milan, Italy - Presentations now available
Presentations from the workshop are available from the PATENT-DfMM website free of charge. If you are interested in regular updates from the project, please subscribe to the bimonthly Email newsletter which is also available free of charge - register on our website!

Contact:
Patric Salomon

PATENT-DfMM workshop planned in conjunction with DTIP, 24 Apr 2007, Stresa, Italy
As with past DTIP conferences, PATENT-DfMM will organise a workshop on DfMM again. Please find more information within the Europractice pages of this MST News.

Contact:
Patric Salomon
E-Mail: patric.salomon@4m2c.com
www.patent-dfmm.org

DfMM Contact

DfMM News is provided to mst-news readers by the project "Design for Micro & Nano Manufacture (Patent-DfMM)", a Network of Excellence funded by the European Commission DG INFSO E5 within the Information Society Technologies (IST) Programme of FP6.

Information Society Technologies

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.

DfMM NoE PATENT

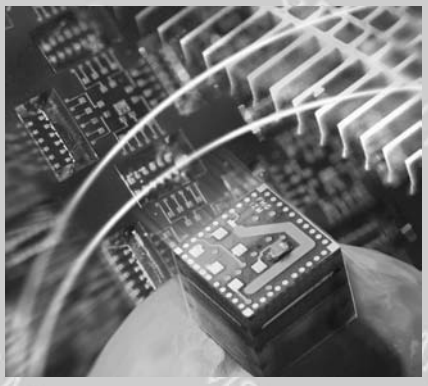
NoE Patent-DfMM Co-ordinator:
Andrew Richardson
University of Lancaster, UK
E-mail:
A.Richardson@Lancaster.ac.uk

NoE Patent-DfMM News Editor:
Patric Salomon
4M2C PATRIC SALOMON GmbH
E-mail: DfMM-news@4m2c.com

www.patent-dfmm.org

Microsystems Technology Congress 2007 in Dresden: Hand in Your Abstracts for Presentations Now!

The 2nd Microsystems Technology Congress, the central microsystems technology event in Germany, will take place in Dresden from October 15th to 17th. The call for papers is out now: Abstracts may be handed in until March 1st.
Many products in the areas of information and communication technology, the modern automobile industry, medical technologies, biotechnologies, consumer industries, optics and other applications are not imaginable anymore without microsystems technologies. Besides signal processing, they integrate miniature sensors and actuating components, thus opening up a wide range of applications. The specific micro and nano technologies are being continually expanded for these applications, as far as both material and technology are concerned. Today, the many successful German companies and research institutes ensure Germany's leading position in microsystems technology.



Even the first Microsystems Technology Congress held in Freiburg in 2005, with its 800 participants and 50 exhibitors, was very successful. Like its predecessor, the forthcoming Microsystems Technology Congress 2007 will be a joint event of the Federal Ministry of Education and Research (BMBF) and VDE. It will be organized by VDE/VDI – Association for Microelectronics, Micro and Precision Engineering (GMM) and VDI/VDE-IT. The Chairman will be Prof. Dr. Thomas Geßner (FhG-IZM, ZfM of the TU Chemnitz), supported by his Co-Chairs Prof. Dr. Helmut Seidel (University of Saarbrücken) and Prof. Dr. Hubert Lakner (FhG-IPMS Dresden, IHM-OES of the TU Dresden).
The Microsystems Technologies Congress 2007 will

- Offer a comprehensive overview of both the current state of research and development in Germany and the international trends in the area of microsystems technology
- Show the great number of current developments taking place in various branches, the enormous potential of leading German companies and research institutes and the resulting chances for growth
- Present current and future topics of microsystems technology at the accompanying exhibition
- Give information, within the framework of the VDE-YoungNet Convention, about career opportunities in future technologies such as microsystems technology
- Present the results of funding by the BMBF under the "Microsystems" framework programme and in European networks
- Introduce current initiatives under the BMBF's "Microsystems" framework programme and enable participants to take an active part in working out research financing priorities.

The Microsystems Technology Congress offers companies and research institutes the opportunity to present their work in the field of microsystems technologies to a broad audience of professionals. Contributions about any special field of microsystems technologies are invited:

- Methods (e.g. design, technology, micro-nano integration, AVT, quality management for MST and other fields)
- Systems (e.g. sensors, actuators, photonic microsystems, polytronic microsystems, etc.)
- Applications (e.g. MST for cars, MST for health, MST for logistics, microenergy technologies, new chemistry with MST, etc.)

For further information about the conference and the exhibition, please refer to www.mikrosystemtechnik-kongress.de or the VDE Conference Service, Phone: +49 (0)69 6308-275/229, e-mail: vde-conferences@vde.com

New Material about Microsystems Technology

Two projects of the BMBF-programme „Microsystems" just have published their results.

In the "Innovations in Microsystems Technology" publication series, the final report from the BMBF project "Telemetric Diagnosis Network for mobile patient monitoring and outpatient sleep diagnosis (TEDIANET)" has been issued. The goal of the project was to develop and construct a miniaturised, intelligently analysing ECG recording and broadcasting system for mobile online ECG analysis with subsequent in-depth diagnosis. At the same time, a system for outpatient monitoring night-time sleep and daytime fatigue was developed, which can be used for screening, for the diagnosis of sleep disorders and for therapy verification. Nine network partners contributed their know-how and combined it into novel solutions in order to realise the necessary MST components. Areas of application include the mobile monitoring of high-risk patients, the treatment of sleep disorders and the area of homecare. The final report (in German language) can be ordered at: www.mstonline.de/publikationen.

The BMBF-funded project MicroWebFab (2001 – 2004) tested a cooperation network of medium-sized companies that combined Microsystems-specific know-how and R&D capacities. They acted as a production network generating a virtual enterprise offering services along the MST value chain: from product development to production and services. The project partners developed methods and tools for the realisation of the cooperation. The recent publication "Kooperationen flexibel und einfach gestalten" (Organising cooperations in a flexible and easy way, Hanser Publishing House, in German) is based on the experience gained with models of cooperation in the project.

University News

Cooperation Agreement
The University of Saarland and the universities of applied sciences of Aachen and Kaiserslautern have signed a five-year joint agreement on cooperation in the field of training in process technologies.

Training in state-of-the-art process technologies in the MEMS sector, one of the key technologies of the new century, can be extremely expensive. Setting up and maintaining adequate high-technology laboratories constitutes an important drain on the resources of Universities and other institutes of higher education. Training and education in this field of cost-intensive technologies therefore requires new funding approaches.

In recent years the three partner universities have developed a blended learning concept that is both resource-friendly and didactically convincing. That process, driven by two projects (INGMEDIA and pro-mst), received major funding by the Ministry of Education and Research (BMBF) and was able to benefit from the Competence Centre Instructional Design in Technology (CCIDT), which itself was supported by Rhineland-Palatinate.

The blended learning concept combines "hands-on" experience from the MEMS laboratory in Zweibrücken and a computer-aided preparation in a virtual technology class.

The partner universities are seeking the state-wide establishment of this unique blended learning approach as an educational foundry for MEMS process technologies. In 2006 three more universities from other parts of Germany also integrated this concept into their classes.
www.pro-mst.de

Source: FH Kaiserslautern

Bachelor for Applied Sciences
Five years ago, the faculty of informatics and microsystems technology of the university of applied sciences in Kaiserslautern prepared for the new challenges on the market: a new professor for Biotechnology was appointed. Since then the life science activities within the MST have increased rapidly so that, as a logical consequence, in 2006 a new study course was introduced: a bachelor for applied life sciences.

Within this study course, the students will be prepared to respond to changing situations in life sciences applications in research and diagnostics. More and more microsystems are being used for biomedical applications, although the ordinary study courses of biology, medicine or pharmacology do not take account of this development. So the students usually do not learn anything about lab-on-a-chip systems or nanotechnological drug delivery.

Within the new course, which is mainly supplied by the Microsystems technology faculty, the students will not only learn the biomedical or pharmacological basics and specializations such as molecular biology, tissue culture techniques or clinical diseases, but will also get a basic introduction into Microsystems technology and beyond that in the wide field of applications of Microsystems in medicine or biomedical investigation. This includes cochlear or retina implants as well as bioMEMS or DNA chips. During practical courses they can also sympathize with the direct interface between biomedicine and MST while growing cells on micro- or nanostructured surfaces, or recording data from neuronal networks on multi-electrode arrays.
www.mst.fh-kl.de/studis/mst_bachelor.htm.

Event Calendar

Status Colloquium
Micro Process Engineering
February 13-14, 2007
Osnabrück
ackermann@vdivde-it.de

Trade Fair
MicroTechnology
April 16 – 20, 2007
Hanover
kergel@vdivde-it.de

Conference
11th international Forum on Advanced Microsystems for Automotive Applications
May 9-10, 2007
Berlin
www.amaa.de
valldorf@vdivde-it.de

Conference
Safety and Security Systems
May 31 – June 1, 2007
Potsdam
kuenzel@vdivde-it.de

Congress
Microsystems Technology Congress
October 15 – 17, 2007
Dresden
ehret@vdivde-it.de
www.mikrosystemtechnik-kongress.de

Contact

GERMAN MST PROGRAMME News is provided to mstnews readers by the German Programme Microsystems (MST), managed by VDI/VDE-IT on behalf of the German Federal Ministry of Education and Research (BMBF).

Support Programme
Dr. Yvette Kaminorz
VDI/VDE-IT
e-mail: kaminorz@vdivde-it.de

Accompanying Measures
Alfons Botthof
VDI/VDE-IT
e-mail: botthof@vdivde-it.de

German MST Programme News is compiled by:
Wiebke Ehret
VDI/VDE-IT
e-mail: ehret@vdivde-it.de
Fax: +49 30 310078 281

The 7th Framework Programme has started!

With the beginning of the New Year, the European Commission has started the Seventh Framework Programme for research and technological development (FP7) with an overall budget of 54 billion Euro for the next seven years. The first calls for proposals were launched on 22nd December. The current call in the EU programme "Nanosciences, nanotechnologies, materials & new production technologies (NMP)" addresses also the research for new production technologies and equipment for micro-manufacturing. The research focus should be on developing and characterising high throughput processes for length scale integration (micro/nano) and the manufacture of components and devices with complex 3D features.

Info at:
http://cordis.europa.eu/fp7/home_en.html

Surface acoustic wave (SAW)-based temperature and pressure sensors

A French SME has developed surface acoustic wave (SAW)-based sensors. These sensors are miniature, wireless, battery-less, low-cost and multifunctional (temperature, pressure/strain), and can be used in difficult-to-access places or in harsh environments. The company is looking for partners for technical collaboration.

Low-cost chip-less RFID system with all printed tags.

A Swedish research institute has a developed a chip-less RFID technology for low-cost tagging of flexible substrates. The ID codes are all-printed and compatible with EPC (electronic product code). Possible applications are product and asset tracking, supply chain automation, access control, brand name protection and authentication. The institute is looking for technical co-operation and application development with industry.

Contact sensor to force workers to use certain tools with both hands

A Spanish company would like to incorporate contact sensors into some of its products to force workers to use them with both hands, and they are thinking of an active transmitter located at one point and an active receiver located at another, forcing users to act two-handed if they want to use it.

For more information about the technology offers and requests, please contact Ms Miriam Kreibich
IRC Northern Germany
kreibich@vdivde-it.de

Safety and Security Systems in Europe

2nd Information and Partnering Forum Call for papers

After the great response with which the 1st Safety and Security Forum met last November, the organisers are now inviting for the 2nd forum with a special focus on IT for security applications. The forum will be held from 31st May to 1st June in Potsdam/Germany.

With regard to the priorities of the 7th European Framework Programme for Research and Development, which started on 1st January 2007, security research in the FP7 is required to develop new technologies and knowledge needed to ensure the security of citizens from threats such as terrorism and organised crime while respecting fundamental human rights. The challenges can be solved only with the help of information and communication technologies.

The S3 Programme Committee invites papers under the following topics:

- Robust autonomous ad-hoc communication concepts
- Embedded systems for signal and image processing, pattern recognition, data reduction and communication
- Simultaneous localisation and mapping
- Tracking of persons and objects
- IT for identification technologies, e.g. RFID, biometrics
- IT system concepts for surveillance of critical objects or areas

These topics include data privacy, inherent security concepts and standardisation for the named focuses. Classic IT Security (e. g. firewalls, antivirus concepts, …) is not in the focus of the forum.

The conference is addressed to companies and research institutions which develop new technologies for these applications. Small and medium-sized enterprises engaged at all positions of the value-added chain of security products are especially invited to participate and present their ideas.

The organisers are particularly interested in receiving unpublished papers from industry and specialised research institutions discussing the application and deployment of security technologies in future.

Please send a summary or abstract (up to 1000 words) by 2nd March using the registration form at:
www.safety-and-security.eu/registration

International Conference on Personal Health Systems, February 12-13, Brussels

The conference "Personal Health Systems - Deployments opportunities and ICT research challenges" is organised by the European Commission in Brussels, February 12-13, 2007. It will address Personal Health Systems (PHS), what is available, what are the challenges, R&D needs, policy options, possible changes in the health care delivery systems, and the way ahead.

The European Commission has been supporting PHS for some years (homecare, chronic care solutions, health monitoring, wearable systems, etc.) and PHS will be further supported in our new R&D Framework Programme 2007-2013. The targeted audience will be researchers from academia and industry, industry leaders, health care professionals, and representatives (e.g. policy makers) from authorities and ministries from EU Member States & EFTA countries.

More information about the conference is available at:
http://ec.europa.eu/information_society/events/phs_2007/index_en.htm

MNT ERA-Net Transnational Call 2007 - Open for Submission of Proposals

MNT ERA-Net has launched its second call for transnational projects in the area of Micro- and Nanotechnologies (MNT). Again a large network of 19 regional and national funding programmes participate in this co-ordinated call, which has proven to be a well-accepted new funding instrument on a European level. New partners include OSEO Anvar and the German National Framework Programme Microsystems as well as the associated partners Nordic Innovation Centre NICe and Micro Systems Technologies Bavaria.

Since 1 January 2007 transnational project consortia are invited to submit pre-proposals through an online submission form until 15 March 2007. Deadline for full proposals will be 22 May 2007.

Detailed national and regional contact information as well as an overview of funding criteria can be found at http://www.mnt-era.net. Results from the pilot call 2006 are also available.

MNT ERA-Net Mid-term Conference Showed ERA-NETs as Promising Instrument for Sustainable Transnational Research Co-operation

On 30 November 2006 MNT ERA-Net, a network of European Micro- and Nanotechnology (MNT) support programmes, organised a conference in Mainz, Germany. The event attracted 80 participants from national and regional ministries and councils, representatives of funding programmes, EUREKA, European Technology Platforms, the European Commission as well as clients from industry and academia.

In the first session several ERA-NETs discussed their experience with joint transnational calls. MNT ERA-Net presented first results of its pilot call 2006; 14 projects with participants from 14 countries and regions have been funded. Two of those projects were presented by their co-ordinators: "Nanocopper", a project with partners from Austria, the Basque Country and Poland aiming at the development of nanostructured coatings, and "MNT-IS", a project with partners from Romania and Spain focusing on the development of coatings for implants.

With the coordinated funding of such projects MNT ERA-Net has proved that the ERA-NET scheme is a suitable instrument for establishing transnational collaboration in micro and nano technology. Moreover, the common call procedures require little bureaucratic effort - making the scheme highly attractive for project consortia and funding bodies at the same time, as Julia Mirza, project co-ordinator from the University of Las Palmas, and Roland Brandenburg, MNT ERA-Net co-ordinator, stated unanimously. "MNT ERA-Net is about to become a well-accepted channel for broad transnational MNT co-operation", claims Roland Brandenburg. "Major challenges will be the sustainable continuation of common calls as well as the mutual opening and streamlining of participating funding programmes".

Wolfgang Wittke and Hans-Hartmann Pedersen from the EC pointed out the need for an intensified co-ordination of regional and national programmes and European research strategies. Hans-Hartmann Pedersen presented the draft Work Programme for the first micro- and nanomanufacturing calls in FP7, including the opportunities for "ERA-NET plus" calls.

The need for a common approach to transnational calls was identified in a panel discussion involving the coordinators of five ERA-NETs. Converging and overlapping areas such as Bio- ICT-, Micro-, Nano and Materials Technologies could be addressed by co-ordinated calls in variable geometry.

This topic was also discussed in one of the three workshops in the afternoon session: participants agreed that the present ERA-NETs have a high potential to realise cross-technology bridging in the future.

In another workshop the role of MNT ERA-Net in FP7 was discussed. ERA-NET plus activities and co-operation of MNT ERA-Net with European Technology Platforms were considered relevant for the implementation of European MNT strategies.

The conference showed that the ERA-NET scheme and in particular MNT ERA-Net have gained momentum. They are maturing to become a viable network for the integration of the European Research Area - based on autonomous regional and national decision-making on a call-by-call base.

Figure: MNT ERA NET Midterm Conference, Mainz

Contact:
Roland Brandenburg, FFG
E-Mail: roland.brandenburg@ffg.at