

Messe News

March 2010

MicroNanoTec

PARTNER COUNTRY 2010
ITALIA
sustainable mobility



GET NEW
TECHNOLOGY FIRST
19 – 23 APRIL 2010

2010 will be

an adventure
into the big
world of
microtechnology:
at HANNOVER MESSE.

Innovations for Industry forum explores key issues

The Innovations for Industry forum is the central information and communication platform at the MicroNanoTec show. It is organized by the IVAM Microtechnology Network and its program, as always, spans a rich array of highly topical themes:

Monday 19 April 2010: MEMS Sensors: from Automotive to Consumer Electronics Applications (Bosch Sensortec) • Polymer Electronics (Bayer Material Sciences) • Panel Discussion: "2010 will be"

Tuesday 20 April: Micromanufacturing session • Printed Electronics & Printed Intelligence session

Wednesday 21 April: Nanotechnology in Russia • Laser Technology for Microproduction session • Nanoengineering – Nano and Surface Technologies for the Mechanical Engineering Sector

Thursday 22 April: Energy Harvesting & Wireless Sensor Networks session • Japan session

Friday 23 April (organized by VDI): Themed "MST VISION vision," the Friday session includes a preview of some of the technical innovations – especially those involving micro-opto-electro-mechanical (MOEM) components – that microsystems technology is likely to yield in the near future.

For further details, visit:

hannovermesse.de/forum_micronanotec_e

Only at MicroNanoTec

Germany's only specialist trade fair for commercial microtech applications is impressively big on information about the stunningly small



Microtechnology saves energy and money

"Microtechnology is essential to continued energy savings in the future," explains Dr. Uwe Kleinkes, Director of the IVAM Microtechnology Network. "The focus is shifting towards the manufacture of microstructured components and, more importantly, complete systems that save energy – and hence money – in processes and day-to-day production."

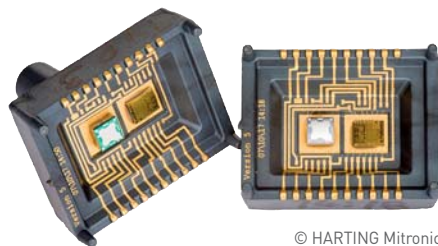
Annual highlight: MicroNanoTec, the world's only dedicated micro and nano technology trade fair

Industry at its micro and nano-scale best is on show at MicroNanoTec, the world's only dedicated trade fair for microtechnology, nanotechnology and laser micro-materials processing. MicroNanoTec is an annual industry highlight featuring a world-class discussion forum (see box on left) and an array of group pavilions and special displays.

This issue of Messe News takes a look at the new products German and international exhibitors will be showcasing at MicroNanoTec (MNT) 2010. For instance, Germany's LIMO Lissotschenko Mikrooptik GmbH (see page 4) will be presenting its LAZO laser workstation, a platform for the development and optimization of laser-based production processes.

Multi-functional micro-packaging

Swiss-based microelectronics firm HARTING Mitronics AG will be showcasing its micro-packaging solutions at MNT. The company's 3D Molded Interconnect Devices (3D MIDs) enable the creation of advanced multifunctional packages. HARTING Managing Director, Albert Birkicht: "We want to exhibit in a setting that is directly relevant to our technology. That is why we decided this year to exhibit our 3D MID technology separately at MNT in addition to our traditional HARTING stand at HANNOVER MESSE."



© HARTING Mitronics



For further information, visit:
[hannovermesse.de/
micronanotec_e](http://hannovermesse.de/micronanotec_e)

Schauplatz NANO

Innovative technology transfer marketplace

Schauplatz NANO, a long-established innovations marketplace for nanotechnology, is back again at HANNOVER MESSE 2010, where it will occupy over 200 square meters (21,500 sq ft) of display space. Among the new exhibitors at this year's Schauplatz NANO is the Swiss-based RhyTech Materials World Technology Park for Material Sciences and Structured Surfaces. RhyTech provides technology transfer and product commercialization services to start-ups, established technology companies and universities. It sees HANNOVER MESSE as a valuable opportunity to expand its network of contacts. Another Schauplatz NANO high-flyer is Sarastro GmbH, a nanotech company specialized in the development and marketing of biologically active functional surface finishes. Sarastro will be exhibiting micro and nano-scale additive systems that give products long-life, low-extraction antimicrobial properties.

Schauplatz NANO will also be hosting a display



by Nanoinitiative Bayern GmbH, which has set up a nanotechnology cluster to grow and develop a nanotechnology competence network spanning the whole of the German state of Bavaria. The cluster's primary focus is on technology transfer assistance for SMEs.

Ronald Beiersdorff, Schauplatz NANO organizer and Managing Director of Beiersdorff GmbH: "We are delighted that nanotechnology themes will be getting more attention at HANNOVER MESSE from this year on. We believe the name change from MicroTechnology to MicroNanoTec and other associated changes will bring new visitors to Hall 6. Although the economy is still in a delicate phase, we are very confident that MicroNanoTec will be a good generator of new leads and contacts and will send the right signal to the market. With their multiplicity of new, market-ready nanotechnology products and processes, the exhibitors at Schauplatz NANO are sure to be a major industry focal point at the fair."

Hall 6, Stand H10

DeSta presents new dimensions in waterjet machining



Another MicroNanoTec newcomer this year is DeSta microcut GmbH & Co KG, a German-based company that specializes in waterjet micromachining. DeSta uses the latest abrasive waterjet micromachining (AWJMM®) technology to provide undreamt-of levels of precision on even the finest surfaces and the most intricate of structures. The advantages of AWJMM are that

it creates no thermal problems (unlike laser cutting) and requires no pilot holes (unlike wire erosion). Another advantage is that abrasive waterjet micromachined parts seldom require further finishing.

DeSta GmbH & Co. KG Managing Director Jens Degler: "At MNT we will be exhibiting our new micromachining process plus a number of micromachined samples. We are looking to MNT to grow market awareness of our new process, as many new component developments and materials would benefit enormously from it. At the moment, a lot of manufacturing design and development thinking is still tied to processes that have problems. We also hope to meet industrial customers whose component requirements are a perfect fit for our processes. The aim is to manufacture these components for them under contract."

Hall 6, Stand K15/1



IVAM "Micro, Nano, Materials" Product Market

Fraunhofer ENAS showcases eco-friendly printable batteries

This year, the IVAM Product Market will once again have a strong focus on energy harvesting. This reflects the need to power wireless sensor systems from external sources in a growing number of applications.

Wireless monitoring sensors are gaining in importance as the process and factory automation sector looks for ways to monitor and control production processes more efficiently. One area of great promise for the production of cost-effective sensor systems is printable electronics.

Printable battery rated by New York Times Magazine as one of the five best technology ideas

At MicroNanoTec, the Fraunhofer Research Institute for Electronic Nano Systems (Fraunhofer ENAS) will be showcasing a printed battery described in

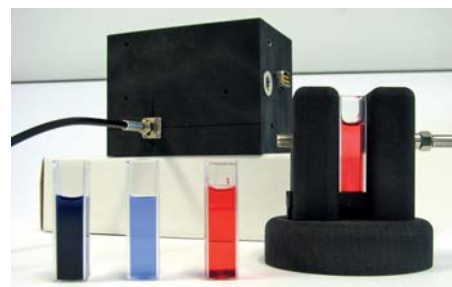
the December 2009 issue of the New York Times Magazine as one of the five best technology ideas of 2009. The battery weighs less than one gram (0.03 oz) and is less than one millimeter (0.04 in) thick. It can be printed in serial connections of up to four batteries and delivers voltages of 1.5 to 6 V depending on the connection. And, containing no mercury, it is highly eco-friendly. This new generation of batteries has potential applications in a number of areas, including medicine and print media. It is designed for use in products that have a limited lifespan or limited power requirements. The batteries are screen printed.

The IVAM Product Market will also feature a portable infrared spectrometer for environmental and food testing.

Hall 6, H16



Printed battery comprising two cells in series (3 Volt)



Portable infrared spectrometer

From micro-ceramics to fiber laser scalpels

Mikro-Nano Thüringen clusters expertise across the spectrum, from research to production

NEW: highly stable piezo-resistive tactile sensor chips for topology measurement and micrometer resolution in the fiber-laser precision machining of ceramic and special materials in specially designed machines. These are just some of the innovations on show at the group pavilion operated by Mikro-Nanotechnologie Thüringen, an industry cluster in Germany's Thüringen state comprising 30 companies. The cluster is headed by Dr. Knuth Baumgärtel, CEO of Micro-Hybrid Electronic GmbH: "The pavilion illustrates perfectly the wide variety of services provided by Thüringen's microsystems and nanotechnology industry. These range from materials and process research at universities and institutes to industrial production and processing." The cluster integrates and represents a diverse grouping of companies from across the entire micro and nanotech spectrum. These include HANNOVER MESSE 2010 exhibitors CiS Forschungsinstitut für Mikrosensorik und Photovoltaik GmbH (CIS Institute for Micro Sensors and Photovoltaics) and LCP LASER-CUT-PROCESSING GmbH plus numerous other specialists from many sectors and disciplines. Baumgärtel: "The decision to

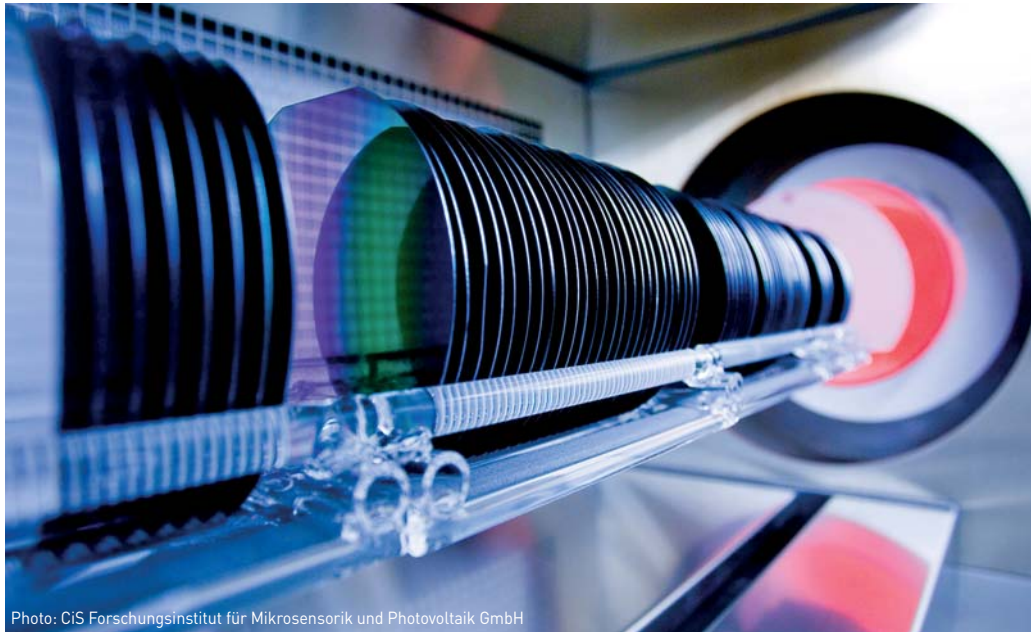


Photo: CiS Forschungsinstitut für Mikrosensorik und Photovoltaik GmbH

High-temperature water treatment process

exhibit at the new MicroNanoTec fair, the only dedicated tradeshow of its kind for our industry,

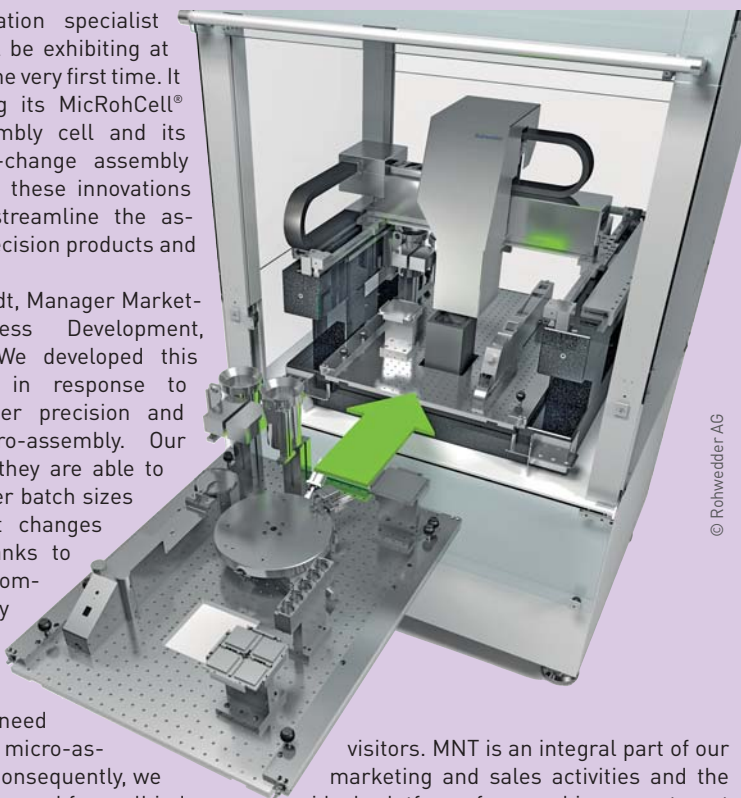
was an obvious choice for us."

Hall 6, Stand J10

Rohwedder presents flexible micro-assembly cell

This year, automation specialist Rohwedder AG will be exhibiting at MicroNanoTec for the very first time. It will be showcasing its MicRohCell® (MRC) micro-assembly cell and its MicRoh-Flex® fast-change assembly platform. Together, these innovations are designed to streamline the assembly of small precision products and components.

Albrecht Wiesenfeldt, Manager Marketing and Business Development, Rohwedder AG: "We developed this modular concept in response to demand for greater precision and flexibility in micro-assembly. Our customers tell us they are able to accommodate larger batch sizes and more product changes cost-effectively thanks to the MicRohCell compact. Our assembly solutions are not limited to any one user industry, but rather address the need for flexibility in micro-assembly generally. Consequently, we anticipate strong demand from all industries. We are confident our showcase at MNT will yield a lot of quality leads among trade



© Rohwedder AG

visitors. MNT is an integral part of our marketing and sales activities and the ideal platform for reaching our target markets."

Hall 6, J15/1

Physik Instrumente showcases piezo motors



© Physik Instrumente GmbH & Co. KG

Physik Instrumente (PI) GmbH & Co KG, Germany, makes nano and micro positioning systems. At MicroNanoTec 2010, PI will be showcasing a range of piezo precision systems and actuators (photo above), including its PILine® family of piezoelectric motors. These offer superior precision to conventional step and DC servo-motors because they are direct linear actuators and therefore involve no conversion of rotary motion to linear motion. They can achieve speeds of up to 500 millimeters per second at a positioning resolution of one micrometer.

Steffen Arnold, Manager Marketing and Products: "MicroNanoTec is the world's only dedicated trade fair for applications-focused microsystems technology, nanotechnology and laser technology and thus provides the perfect setting for exhibiting nanometer-resolution positioning systems."

Hall 6, Stand J32

Laser Centre Hannover presents the world's tiniest TIPP-KICK figure

The Laser Centre Hannover (LZH) will be exhibiting the world's tiniest TIPP-KICK tabletop football figure at HANNOVER MESSE 2010. Made using a laser micro-stereolithography process, the player stands at only 6.8 mm (0.27 in) tall and the control pin through its head is as thin as a single human hair.

One of the main display categories at the LZH showcase at this year's MicroNanoTec is laser machining of carbon fiber-reinforced plastics, glass, photovoltaic cells and steel. The other big theme is laser micro-machining, as used for applying micro-structures to product surfaces or in rapid prototyping applications.

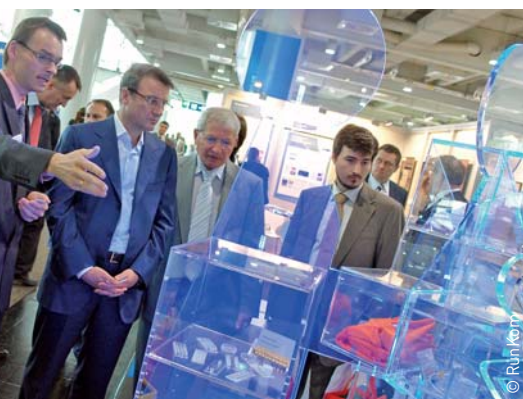
Hall 6, Stand J33



Only 6.8 mm tall: the world's tiniest TIPP-KICK player.

World of Nano

Visitor magnet featuring new materials and surface finishes



A major crowd-puller at HANNOVER MESSE 2009, the World of Nano group presentation is back again this year as part of the new MicroNanoTec show. The World of Nano pavilion is dedicated to the immense diversity and innovative power of nanotechnology. "Here, too, energy will be one of the lead themes. Another of the pavilion's main theme clusters is 'New Materials, Surface Finishes and Nanotechnology for Health,'" comments Dr. Frank Sicking, a consultant with VDI Technology Center (VDI TZ), one of the organizers of World of Nano. "Our aim with World of Nano is to secure the close involvement of international – and not just German – companies, institutes and government representative agencies who are active in the nanotechnology field."

The main organizer of World of Nano is RunKom. Its director, Ralf Unnasch, sees the presentation as an ideal opportunity for the international nanotechnology industry to present its products, processes and research findings to a wide trade audience. "It is HANNOVER MESSE's international composition and reach that make it such an immensely powerful platform for the effective positioning of defining themes like nanotechnology and its associated energy applications."

Special guest
at HANNOVER
MESSE 2010:



Silvio Berlusconi

This year, HANNOVER MESSE will be opened jointly by Italian Prime Minister Silvio Berlusconi and German Chancellor Angela Merkel. Italy is the official Partner Country for HANNOVER MESSE 2010 and has long been one of the fair's biggest international supporters, fielding more than 550 exhibitors every year.

Italy's Partner Country presence will include a 182 square meter (1,960 sq. ft) national pavilion at the MicroNanoTec show.

Hall 6, Stand H02

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b2fair cooperation exchange – special focus on MicroNanoTec

A trade fair can be described as successful only if it generates plenty of quality leads for its exhibitors. Staged in Halls 27 and 2 at HANNOVER MESSE 2010, the b2fair cooperation exchange helps exhibitors win new business partners.

As a provider of tailored, sector-specific match-making services to a wide range of sectors, b2fair is committed to helping MicroNanoTec exhibitors and visitors in their search for cooperation partners. Since its introduction at HANNOVER MESSE 2005, b2fair has supported more than 1,600 companies from over 40 countries in their search for cooperation partners. More than a third of the 18,000 initial contacts generated by the exchange have led to follow-up discussions. Further information at:

b2fair.com/hannovermesse2010

Don't forget the lasers



Solar energy is widely regarded as an energy of the future. Yet it is still only a very small part of the overall energy mix. This calls for innovative research into new processes that can generate usable energy from sunlight more efficiently and hence more cost-effectively. One promising avenue of research in this area involves advanced laser technology. Optics and laser specialist LIMO Lissotschenko Mikrooptik GmbH knows how to harness our biggest energy source. See for your self at

www.2010willbe.com



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