

SCIENCE MEETS MARKET – TRADE FAIR REVIEW 2014

RETROSPECTIVE





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The institute showed its broad topic and application spectrum with numerous technology and product-news at many national and international trade fairs and exhibitions. The expansion of the research portfolio with competencies from materials diagnostics and testing extended the presence of IKTS.

Selected highlights

As an animalistic symbol for highest flexibility, the “Pastemäleon” found its way into the exhibition under the motto “Customized functional films” at the beginning of the year. On the occasion of the institute’s 5th appearance at the International Nanotechnology Exhibition and Conference in Tokyo, a modern REACH- and RoHS-compliant paste portfolio, which can be individually customized, was presented to partners for the first time. In the simultaneously offered and well-attended seminar, the focus was placed on thick-film pastes for the application on silicon – an excellent substrate material in the manufacturing of prospective power electronics. These activities were promoted by the Fraunhofer Representative Office in Tokyo as experienced mediator between German research and Japanese market.

In February, the FC Expo, also in Tokyo, attracted likewise numerous international visitors. The first-time demonstration of the fuel cell system eneramic[®] ranked as the highlight of the appearance. In the course of the year, prospective customers throughout Germany but also in Korea and Brazil had the opportunity to learn about Fraunhofer IKTS and development results regarding mobile, off-grid and reliable power supply.

At the globally significant industrial gathering Hannover Messe International (HMI) in April, the IKTS demonstrated novel solution concepts for the fields energy and environmental engineering as well as mechanical and plant engineering. The ceramic high-temperature battery cerenergy[®], presented for the first time in Hall 27, showed how a cost-efficient stationary energy supply is secured in the future. Furthermore, our scientists showcased the application of the eneramic[®] fuel cell system as energy source for traffic control systems. During the trade fair, a set of traffic lights was fed by the system, which guided the visitors luminously to the IKTS booth from far away. Another premiere in the area of ceramic shaping tech-

nologies approached prospective customers from the chemical industry and instrumental analytics at the structural ceramics area in Hall 6. The novel process of glass powder injection molding allows for a new variety of forms for glass components.

The International Trade Fair for Life Science Process Technologies Technopharm as well as the Trade Fair for Processing, Analysis, and Handling of Powder and Bulk Solids Powtech took place simultaneously at the end of September in Nuremberg, where the IKTS experts introduced innovative solutions for the areas process control and quality assurance, as well as modern methods and developments in the fields of powder technology and mechanical process engineering. For the efficient processing of granulates and powdery particles in industrial products, an infrastructure for the simulation of air-granulate flows in characterized materials, developed in collaboration with Fraunhofer ITWM, was presented. Great attention was attracted by the novel product labeling process, which enables the reliable sterilization control of product and packaging surfaces via electron radiation by using powdery ceramic materials.

The newest generation of an optical cancer diagnosis device was introduced at the leading trade fair for the medical supplier industry and product development CompaMed in November in Düsseldorf. The prototype for cell diagnostics was

- 1 Lutz Kiesel explains the ceramic membranes developed in Hermsdorf at HMI.
- 2 Dr. Nataliia Beshchasna in an interview at the CompaMed in Düsseldorf regarding the optical cancer diagnosis device.
- 3 By means of visualized operating data, Thomas Pfeifer describes the mobile electricity generation via the eneramic[®] system.



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developed at the IKTS in Dresden-Klotzsche and allows physicians to directly and automatically evaluate the obtained biopsies of the patient with the help of the autofluorescence of human tissue and a threshold algorithm, specifically created for the respective tissue region, within minutes. The presentation received wide international press coverage.

Overview

nano tech

13th International Nanotechnology Exhibition and Conference
Tokyo, January 29–31, 2014
IKTS booth at German pavilion

Battery Japan

5th International Rechargeable Battery Expo
Tokyo, February 26–28, 2014
Joint booth Fraunhofer Battery Alliance

Fuel Cell Expo

10th International Hydrogen and Fuel Cell Expo
Tokyo, February 26–28, 2014
IKTS booth at German pavilion

Intertraffic

International trade fair for infrastructure, traffic management
safety and parking
Amsterdam, March 25–28, 2014
Joint booth FABEMA

Printed Electronics

Berlin, April 1–2, 2014

International Green Energy Expo

Daegu, April 2–4, 2014

Hannover Messe

Hannover, April 7–11, 2014
IKTS booth (Hall 6)
IKTS booth (Hall 27)
Joint booth Fraunhofer Adaptronics Alliance (Hall 2)
Joint booth LEG Thuringia (Hall 4)

Joint booth Fraunhofer Energy Alliance (Hall 13)

Joint booth Energy Saxony (Hall 27)

IFAT

Trade Fair for Water, Sewage, Waste and Raw Materials
Management
Munich, May 5–9, 2014
Joint booth Fraunhofer Water Systems Alliance

RapidTech

Trade Fair and User's Conference for Rapid Technology
Erfurt, May 14–15, 2014
Joint booth Fraunhofer Additive Manufacturing Alliance

Optatec

International trade fair for optical technologies,
components and systems
Frankfurt, May 20–22, 2014
Joint Fraunhofer booth

ILA Berlin Air Show

International Aerospace Exhibition
Berlin, May 20–25, 2014
Joint booth Fraunhofer Innovation Cluster LCE
Joint booth Saxony Economic Development Corporation

Innovationstag Mittelstand

Berlin, May 22, 2014

Sensor + Test

21st International Measurement Fair
Nuremberg, June 3–5, 2014
Joint booth "Forschung für die Zukunft"

Actuator

14th International Conference on New Actuators
8th International Exhibition on Smart Actuators and
Drive Systems
Bremen, June 23–25, 2014
Joint booth Fraunhofer Adaptronics Alliance

CFK-Valley Stade Convention

Stade, June 24–25, 2014
Joint booth with Fraunhofer IFAM



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European SOFC Forum

Lucerne, July 1–4, 2014
Joint booth Energy Saxony

Green Energy and Biogas Brazil

São Paulo, July 16–18, 2014

Euro PM

European Powder Metallurgy Congress and Exhibition
Salzburg, September 21–24, 2014

WindEnergy Hamburg

Hamburg, September 23–26, 2014
Joint booth Wind Energy Network

Powtech

Trade Fair for Processing, Analysis, and Handling of Powder
and Bulk Solids
Nuremberg, September 30–October 2, 2014

TechnoPharm

International Trade Fair for Life Science Process Technologies
Nuremberg, September 30–October 2, 2014

World of Energy Solutions

Stuttgart, October 6–8, 2014
Joint booth Energy Saxony

Composites

9th European Trade Fair & Forum for Composites, Technology
and Applications
Düsseldorf, October 7–9, 2014
Joint Fraunhofer booth

Semicon Europe

Trade fair for the European Semiconductor Industry
Grenoble, October 7–9, 2014
Joint booth Fraunhofer Group for Microelectronics

CellMAT

3rd Conference for Cellular Materials
Dresden, October 22–24, 2014

ASNT Fall Conference

Charleston, October 27–30, 2014
Joint booth Quality Network

12th FAD Conference and Exhibition

Dresden, November 5–6, 2014

electronica

26th International Trade Fair for Electronic Components,
Systems and Applications
Munich, November 11–14, 2014
Joint Fraunhofer booth

CompaMed

Trade fair for the medical supplier industry and product
development
Düsseldorf, November 12–15, 2014
Joint Fraunhofer booth

Hagener Symposium

Conference and Exhibition for Powder Metallurgy
Hagen, November 27–28, 2014

EuroMold

World Fair for Mold- and Patternmaking, Tooling, Design,
Additive Manufacturing and Product Development
Frankfurt am Main, November 25–28, 2014
Joint booth Fraunhofer Additive Manufacturing Alliance

1 *Martin Grund explains the functionality of the ceramic high-temperature battery cerenergy® at HMI.*

2 *IKTS booth at Powtech: great visitor interest in Nuremberg.*

3 *Dr. Markus Eberstein, Miho Sakai from the Fraunhofer Representative Office Japan and Dr. Nikolai Trofimenko at nano tech in Tokyo.*