

## Photonics Know-how for European Companies

New European Access Center "ACTMOST" with KIT Participation Facilitates Industrial Product Innovations by Photonics Technologies



*The ACTMOST initiative is aimed at supporting European companies with cutting-edge photonic technologies. (Photo: University of Eastern Finland, Joensuu)*

**Photonics is one of the key technologies of our information society. It uses the unique properties of light for innovative products. Photonic components are applied in communication technologies and in the renewable energy sector. They conquer the safety technology market and the medical sector. ACTMOST, the access center established in autumn this year by experts from 14 high-tech research institutions, including KIT, makes photonics know-how and infrastructure available to European companies.**

Often, companies do not have any direct access to the complete chain of expensive high technologies and highly qualified experts in the field of photonics. To overcome this innovation obstacle in Europe, research institutions from the six European countries of Germany, Belgium, Finland, France, Norway, and Poland have joined to create a so-far unique "one-stop" provider of microphotonics technologies.

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“The name of our European center ACTMOST stands for ‘Access Center to Microoptics Expertise, Services, and Technologies’, that is for a contact point providing European companies with access to expertise, services, and technologies in the field of microoptics,” explains Professor Hugo Thienpont, coordinator of the initiative and head of the photonics team of the Vrije Universiteit, Brussels. “Our main goal is to provide European companies with timely access to necessary know-how and professional cutting-edge technologies to support the development of new microphotonics products. The support we provide encompasses the entire process chain from optical design, measurement, prototyping, replication, and packaging all the way to proof-of-concept demonstration, reliability testing, and production of small series.” The initiative aims at providing complete solutions to companies through focused cooperation of the ACTMOST partners and hands-on training of industry staff at their laboratories.

The KIT Institutes of Microstructure Technology (IMT) and Applied Information Science (IAI) contribute know-how and technologies for the production of microoptical components and systems, for example, experience gained from the assembly of microparts using a microassembly machine in a clean-room box or know-how relating to the LIGA process. Based on deep-edge lithography and molding, this process allows for the production of plastic, metal, or ceramic microstructures of smallest dimensions.

In principle, the support provided by ACTMOST is fully subsidized by the European Commission, which is particularly attractive for industry. “In this way, the risk for industry is reduced. The barriers to start cooperation with us are lowered and it is contributed to validating microphotonics technologies for product innovations. ACTMOST will help European industry in maintaining its leading position in the field of microoptical and microphotonic products, strengthen the competitiveness of Europe, and create new jobs,” underlines Thienpont. According to the European technology platform “Photonics 21”, the European photonics market is estimated to be EUR 55 billion. This corresponds to more than 20% of the worldwide production volume of photonics industry.

“For the 5000 mainly small and medium-sized enterprises in Europe, which are involved in photonics, ACTMOST represents the unique chance of being granted practically cost-free access to complex technologies, latest research results, and excellent experts,” explains Dr. Jürgen Mohr, deputy coordinator of ACTMOST responsi-

ble for the activities at Karlsruhe Institute of Technology. “ACTMOST ideally complements the KIT concept of the high-tech platform for the structurization and characterization of functional materials on the microscale and nanoscale, the Karlsruhe NanoMicro Facility, and the science infrastructure EUMINAFAB (European Infrastructure for Micro- and Nanofabrication and Characterization). By both KIT initiatives, groups of researchers are granted access to KIT technologies. Participation in the ACTMOST initiative is another element of the KIT mission of translating new ideas and research results into innovations.”

To inform European companies about all the opportunities it has to offer, ACTMOST will organize its first workshop for industry on December 3, 2010, at Brussels. In January 2011, ACTMOST will then start operation for the benefit of European enterprises. Further information can be found at [www.actmost.eu](http://www.actmost.eu) .

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**Karlsruhe Institute of Technology (KIT) is a public corporation and state institution of Baden-Württemberg, Germany. It fulfills the mission of a university and the mission of a national research center of the Helmholtz Association. KIT focuses on a knowledge triangle that links the tasks of research, teaching, and innovation.**

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