KIT – A Successful Year Reviewed

2010 Annual Academic Celebration – Number of KIT Students above 20,000

KIT presidents Professor Eberhard Umbach and Professor Horst Hippler (from left to right) welcome the guests of the 2010 Annual Academic Celebration. (Photo: Martin Lober)

Monika Landgraf
Press Officer (acting)

Kaiserstraße 12
76131 Karlsruhe, Germany
Phone: +49 721 608-7414
Fax: +49 721 608-3658

At this year's academic celebration, KIT presidents Professor Horst Hippler and Professor Eberhard Umbach underlined that the concept of the merger of Universität and Forschungszentrum Karlsruhe into KIT one year ago has clearly worked out well. "We can witness developments we would not have managed as individual institutions: Science on a large-scale research level, university education meeting current high demands, and innovation paving the way to industry in an unprecedented manner," said Hippler in his review of one year KIT.

According to Hippler, KIT presently is the most successful German institution in acquiring European research funds and prestigious projects, such as the Knowledge and Innovation Community (KIC InnoEnergy) of the European Institute of Innovation and Technology (EIT) in December 2009. Success of the merger concept and the resulting high attractiveness of KIT in education are also reflected by increasing numbers of students. In this winter semester alone, nearly 4800 new students have enrolled at KIT. Compared to the past year, this corresponds to an increase by nearly 600 students. The number of students on the Campus totals nearly 20,600, of which 16% come from abroad, about 10% more than last year. "We expect to reach a total number of 23,000 students in two years," said Hippler who also pointed out that KIT will require additional infrastructure, including areas, buildings, and funds to cover staff, energy, and

operation expenses."

To strengthen the subjects of mathematics, informatics, natural sciences, and engineering and to increase the flexibility in organizing the studies, it is planned to establish a dedicated course of lectures in these fields in the winter semester 2011/2012 together with the University of Stuttgart. At KIT, this program will be named "Redtenbacher-Kolleg".

In his speech, KIT President Hippler also addressed an issue frequently discussed in the past, namely, maintenance of the title of Diplom-Ingenieur (graduate engineer). Hippler emphasized that the already established two-stage system of bachelor and master programs shall not be eliminated. According to the KIT president, however, elimination of the "brand" of Diplom-Ingenieur will frequently result in a loss of quality when graduates start their career. Hippler therefore underlined that he will continue to fight for maintaining the title Dipl.-Ing.

Hippler pointed out that KIT success in the field of innovation is reflected by the KIT incubator established in 2008 on KIT Campus North being booked out. The incubator can be used by project groups that intend to found a start-up or spin-off.

In his address, lord mayor Heinz Fenrich underlined KIT's importance to urban development. Science is a central feature and driver of the economic development of the city and the Karlsruhe Technology Region as one of the most dynamic technology regions in Germany. The city wishes to strengthen Karlsruhe as a location of science and plans to host a science festival on the occasion of its anniversary in 2013.

According to Dr. Andreas Kreimeyer, KIT is a positive example of the constructive further development of German science. Kreimeyer, member of the board of BASF SE, is Deputy Chairman of the KIT Founding Supervisory Board. At the annual academic celebration, Kreimeyer pointed out that KIT is a model institution for Germany and that the merger of the former university and the former research center is a win-win story.

Honors are important constituents of programs of annual academic celebrations. With the medals of merit of the Fridericiana, KIT presidents Umbach and Hippler honored three persons for their outstanding services to KIT. Professor Kuno Egle, special representative of the Senate, was responsible for the relationship between the Fridericiana and China over many years. Joachim Klaus was honored for his long commitment to meeting the needs of handicapped students at the Study Center for Visually Impaired Students and the KIT Remote Studies Center. The medal of merit of the Fridericiana was also granted to the director of the German-French Center of the ENSAM Metz, Professor Godefroy Kugel, for his merits relating to the cooperation of German-French education and research institutions.

The KIT presidents also handed over eleven department teaching prizes. The prizes in the amount of EUR 10,000 per department serve the purpose of improving education. Professor Detlef Löhe, KIT Vice President for Research and Information, presented the PhD Awards for excellent PhD theses to five doctoral candidates. This award reflects the high importance of the promotion of young scientists at KIT. Presently, more than 2500 PhD students are working at KIT. With increasing third-party funds, the number of PhD students at KIT has increased as well. At the moment, nearly 400 doctoral candidates are conferred their PhD per year. It is expected that the number of completed PhDs will rise to 600 to 700 in the next years.

Professor Manfred Popp, former Chairman of the Executive Board of Forschungszentrum Karlsruhe, handed over the Otto Haxel Award of the Freundeskreis des Forschungszentrums Karlsruhe e.V. (friends of Forschungszentrum Karlsruhe). This award is granted for scientific and technical achievements that are expected to result in effective innovations and, hence, major impulses for industry. This year's award was granted to the inventors of Celitement®, a novel type of cement developed by KIT. The inventors are Dr. Peter Stemmermann, Dr. Günter Beuchle, Dr. Krassimir Garbev, and Dr. Uwe Schweike. According to Popp, cement works annually emit more than 2 billion tons of the greenhouse gas carbon dioxide. Carbon dioxide emissions of cement industry exceed those of global air traffic by a factor of four. Celitement®, by contrast, is an environmentally compatible and energy-efficient cement, the production of which will consume far less energy than conventional cement production processes. Its emission balance will be much more favorable. Compared to conventional processes, production of Celitement® will presumably be associated with half of the carbon dioxide emissions only.

The central speech on communication technologies in the 21st century was delivered by Professor Jürg Leuthold. Since 2004, he has been heading the KIT Institute of Photonics and Quantum Electronics. Among others, the internationally renowned scientist and winner of the Baden-Württemberg State Research Award has developed a silicon chip by means of which data can be processed at a speed of up to 160 gigabits per second. This corresponds to about five DVD motion pictures per second. Performance of this silicon chip exceeds that of the previous record holder by a factor of four.

In his presentation, Leuthold first pointed out that communication since its early beginnings has always focused on transmitting more information within shorter periods of time over longer distances. Scientists from Karlsruhe played an important role in history. The electromagnetic waves that are crucial to communication were discovered by Heinrich Hertz in Karlsruhe, for instance. Ferdinand Braun taught in Karlsruhe before he and Marconi were granted the Nobel Prize for the development of telegraphy. Then, communication technologies developed rapidly. A few years ago, a bandwidth of one gigabit per second was considered a data highway. Today, such a bandwidth is used by private persons already. Data highways

are transmitting terabits of data per second. According to Leuthold, this development will continue in the foreseeable future. In his opinion, scientists now need to work on the peta- and exabit era. New applications, such as three-dimensional TV, virtual walls, or autonomous driving leave no doubt that we will require components and systems to process these data volumes.

The Collegium Musicum of KIT conducted by Hubert Heitz and Martin Engel on the piano framed the annual celebration.

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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