



EUR 3 Million for Plastics Engineering Studies in Linz

- **OMV, Borealis and JKU sign EUR 3 million agreement on initial and further development of plastics activities**
- **Start of a talents promotion programme with “Preliminary Studies” beginning Autumn 2008**

From winter semester 2009/10, Johannes Kepler University Linz (JKU, Austria) will offer a completely new programme of Bachelor and Master degrees in Material Sciences focused on Plastics Engineering. The disciplines of Plastics Engineering, Polymer Chemistry and Mechatronics will form the cornerstones of the new study courses. In addition, the university will establish three new institutes for Polymer Process Engineering, Polymer Product Engineering and Polymer Materials.

The initiative is a response to the growing demands of Upper Austria's plastics industry, which is considered to be an emerging high-technology sector with above-average growth. There is a need for graduates with knowledge in material sciences, particularly in the field of plastics, in combination with skills in mechanical engineering. The design and manufacture of plastic components is essential above all for the industry's competitiveness in the international market.

In embracing these requirements, JKU is building on the interdisciplinary nature of various branches – Polymer Chemistry, Mechatronics, Mechanical Engineering, Material Sciences as well as Plastics Engineering – in parallel with the new courses. Likewise, there is a strong demand for a combination of skills in economics and engineering. To meet this need, JKU has future plans to train Business Administration Engineers with a focus on plastics engineering.

“The project to strengthen Upper Austria's suitability as a location for the plastics industry is a strategic course of direction,” says Governor Dr. Josef Pühringer. The Federal State is set on positioning itself as a “plastics region” with the highest innovation potential. For these reasons, Pühringer appreciates the initiative by OMV and Borealis as strong partners of JKU: *“The educational landscape of Upper Austria works hand in hand with the economy. We need precisely targeted measures that will provide optimum local conditions for this industry. To this end, the Federal State of Upper Austria is investing a total of EUR 7 million into the Plastics Engineering studies programme at Linz. 15 companies involved in the plastics industry will contribute some further EUR 4.1 million to its development.”*

Dr. Gerhard Roiss, OMV Deputy Chairman and Borealis Supervisory Board Chairman: *“Plastics are the materials of the future. In this regard, Upper Austria offers advantages critical for success and is actively supporting its development as a plastics location.”*

“Over the next few years, Borealis will expand its site at Linz into an International Centre of Research, a step that was essentially influenced by the direction taken by the State of Upper Austria. Through the development of infrastructure for research and education in Upper Austria the perfect foundations are being laid. With the new Plastics Engineering studies programme, JKU Linz now meets the industry’s requirements for highly-qualified specialists and research engineers that are so urgently needed for the further growth of our industry.”

“As a declaration of support, OMV und Borealis have decided to allocate EUR 3 million for the installation and development of the institutes for the new studies in plastics engineering,” Roiss continues. *“In line with this, we have signed an appropriate agreement with JKU today.”*

Currently, some 34,000 people are employed at the approximately 220 companies that make up Upper Austria’s plastics industry. The Austrian plastics industry has approximate annual sales of EUR 13 billion, of which EUR 6.7 billion are generated by Upper Austrian businesses.

Dr. Roiss continues: *“The three additional institutes should cover the demand for 35 graduates per year in Upper Austria, as estimated by specialists.”*

“Graduates of the new studies programme will have the potential to explore excellent job and career opportunities in the plastics industry,” emphasizes Dr. Alfred Stern, Borealis Vice President Innovation & Technology. *“The associated fields of activity span from research and development to application engineering, sales and business management.”*

“The installation of the Plastics Engineering studies at JKU provides opportunities for even closer cooperation between Borealis and the University in joint research projects,” adds Stern.

Full Professor and JKU Principal Dr. Richard Hagelauer comments: *“The declaration of support by OMV and Borealis comes as a great help in speeding our educational offensive focused on plastics engineering. In this, Johannes Kepler University has its hands on the pulse of time, responding directly and quickly to the needs of the economy and industry. We now have the resources to immediately establish the three new institutes of Polymer Process Engineering, Polymer Product Engineering and Polymer Materials, including the means for covering the investment costs for research equipment as well as the salary costs for professors, assistants and technicians in the initial stage.”*

The professorships have already been advertised and negotiations are about to be closed. Two positions will be filled in January, another one likely in April 2009. This means that JKU will be able to offer two new branches of study as of the winter semester i2009:

Bachelor studies in Plastics Engineering and Master studies in Business Administration with a focus on Plastics Engineering.

“With the existing study courses in Chemistry – Chemical Engineering, and Business Administration in Chemical Engineering – and the planned Master studies of Business Administration in Plastics Engineering as well as the Bachelor and Master studies in Plastics Engineering, JKU has become a leader in the field of polymer sciences. In order to meet the international nature of plastics research and as an added incentive for foreign students to study in Linz, both Master studies in Plastics Engineering will be offered in English. The new branches of study make JKU a centre of excellence in plastics engineering and plastics chemistry, now comprising 4 branches of study, 12 institutes and 10 professors,” Hagelauer continues.

At JKU there will be plenty of space available to accommodate the new Plastics Engineering Institutes. *“Sufficient space will be made available during construction phase 1 of the Science Park.. The complete extension will take place during construction phase 2, with completion achieved no later than two years from now,”* concludes Hagelauer.

Promotion of Talented “Young Elites”

In order to spark interest in the new plastics engineering studies among talented high-school students, JKU, Borealis and the regional Network of Natural Sciences [Netzwerk Naturwissenschaften, a joint project of general high schools, vocational secondary and high schools in Upper Austria] have launched a programme for promoting “young elites”.

“Our target is to inspire highly-talented young people to get them involved in the study of natural sciences, particularly plastics engineering and chemistry, as early as possible,” underlines Borealis Supervisory Board Chairman Dr. Roiss. *“With this programme, and thanks to the support from JKU and the schools, we will be able to cover our upcoming needs for best skilled professionals in the plastics industry in the long-term and from regional sources. The programme is dedicated to the promotion of young elites and provides guidance to talented chemists as they are introduced to the areas of plastics engineering and chemistry.”*

Approximately 20 school students have already enrolled in the programme, which started in November 2008 and will commence regular activities from Autumn 2009. Students from 7th grade and higher, showing particular interest and skills in the field of chemistry are eligible for the programme.

The “Preliminary Studies” take place over four semesters during normal school days. Graduates take a final examination conducted by a committee and receive a certificate. The results are credited on the high school graduation thesis.

At JKU, lectures in theory and practical laboratory exercises involving real problem solutions alternate on a weekly basis. With a focus on polymer chemistry, topics include Analytical Chemistry, Organic Chemistry, Thermodynamics, and Kinetics.

During their summer holidays, participants are given the opportunity to have four to six weeks of hands-on training at Borealis.

“Here, we focus on the development of a defined research topic, in which the students are supported by a tutor from the company,” explains Borealis Research Leader Dr. Stern. “At this stage, the students should learn how to deal with issues in natural science in a professional way.”

In the ensuing school year, the students' task is to document the results of their work in a final scientific paper. The paper is submitted to a committee with representatives from JKU, the schools and Borealis.

Participants who have successfully passed the final examination receive a certificate. Credits earned in the examination are taken into account in the high school graduation thesis. In this way, the prospective university students are better prepared for their future studies and can finish their studies in less time.

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