

A City of Science prepares for the Millenium

The new engineering research centre in Garching.

In Garching, near Munich, a new city of science has been created within the last few years. The Technical University of Munich's Faculty of Mechanical Engineering moved there during the summer semester of 1997. Almost 4,000 students attend lectures and are engaged in research there. A large compressed air installation is also part of the technical equipment of the new facility.



The new buildings of the Technical University of Munich's Faculty of Mechanical Engineering in Garching house what is probably the largest mechanical engineering research center in Europe.

Since March 1994 a building complex covering 50,000 square meters has arisen next to the well known Garching research reactor (the atomic egg). What is probably the most modern engineering research centre in Europe owes its origin to unusual cooperation between state, industry, freelance architects and engineering consultants.

Part of the "Bavaria of the Future" program

The Euro 258 million building project is part of the "Bavaria of the Future" program, financed from the net profits of privatization with which the Free State wants to improve science and research infrastructure. In his inauguration speech on May 14, 1997, Dr. Edmund Stoiber, Bavarian Minister-President, described the founding of the new city of science as "the sign of a break-out" and "innovative signal". The project will have a positive effect on the future-oriented further development of the mechanical engineering industry which, with a 15.4 percent segment of total exports, will remain one of Germany's key industries.

Innovative cooperation

Within the framework of a futuristic development plan, the Bavarian state government instructed car manufacturer BMW in 1991 to take over the planning and management of the Garching project. This order was given on condition that it be completed, ready for occupancy, within a maximum of six years. At the opening ceremony Bavaria's Minister of Culture, Education and Church Affairs, Hans Zehetmaier thanked BMW's chairman, Dr. Eberhard von Kuenheim for his commitment. BMW not only brought know-how into the project but also supported it generously with DEM 30 million.

Urbanized communicative architecture

In Garching institutes, lecture halls, drawing offices and seminar rooms, workshops, labs, library, administration and cafeteria are arranged along a 220 metre long axis like the houses of a street and networked with each other. The architecture of the building complex uses traditional urban design allowing the creation of diverse communication options. "As on a campus, a main thoroughfare interconnects the entire complex, working like a vein of communication, providing entry to the forums at the entrances of the institutes - they are the market places of faculty-wide communication for students and researchers. The forums provide access to the professorate chairs. Passing through the office zones, one enters the laboratories

directly", said Prof. Gunther Reinhart from Technical University of Munich as he explained the structural concept. Many of the lecture rooms are integrated directly into the office environment and the research laboratories of the individual chairs."That brings clarity to areas of study, experiment and office space. The route from the idea to the product and its production can be communicated and experienced directly", explained Prof. Reinhart further.



In the air center, seven KAESER screw compressors with state-of-the-art air treatment and control engineering are installed.

The MVS 8000 master controller guarantees regular loading and efficient use of energy by the compressors.

13,340 cubic meters of air per hour

In the mechanical engineering faculty all disciplines of this scientific branch are represented, from classical mechanical engineering through production, energy and process engineering up to aerospace. Part of the faculty's technical equipment is a compressed air centre with a total capacity of 13,340 cubic meters per hour supplying a wind tunnel. Altogether, seven institutes and 28 chairs carry out research in Garching, supported by compressed air from KAESER COMPRESSORS.

The compressed air system of the mechanical engineering research centre in brief:

- Five KAESER FS 440 (13 bar) screw compressors
- Two KAESER ES 300 (10 bar) screw compressors
- Two MVS 8000 master controllers
- Two KAESER TD 367 energy saving refrigeration dryers.