

## Sustainable construction and renovation

Variotherm Heizsysteme expands Leobersdorf site

**The annex built by Variotherm Heizsysteme demonstrates how sustainable construction can be integrated into an overall concept. Office space, a consultancy and training centre, research & development areas and the VarioCafé are housed on a surface area of 650 m<sup>2</sup>. The natural materials used for most of the construction ensure a natural room climate.**

It was clear from the beginning that sustainability and building biology would be the central objectives of the project – in all areas. Planning began in 2016 and the building was completed in early 2018.

### Bringing nature inside

The generously spaced premises were built according to a drywall construction system using CLT solid wood panels. A range of constructive surfaces involve exposed timber elements, giving the rooms a cosy atmosphere. Stretching over two floors, a loam wall, which acts as the visual centrepiece of the annex, performs heating and cooling functions.



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336 m<sup>2</sup> of VarioKomp panels were installed in the drywall floor heating.

### Heating and cooling with drywall construction elements

Quick to install and highly responsive: The total of 638 m<sup>2</sup> of ModulePanels installed in floors, walls and ceilings serve heating and cooling purposes. Rooms with higher sound exposure, e.g. offices, meeting rooms and the VarioCafé, are equipped with acoustic ceilings. Hole patterns and acoustic fleeces on the rear side of the ModulePanels absorb most of the sound and have been proven to reduce the noise

level. On top of this, the ceiling also cools and heats the room.

Ing. Alexander Watzek, Managing Director of Variotherm, is convinced: *“When I began using wall heating systems for cooling purposes 25 years ago, I was ploughing a lonely furrow. Today things are different. Summers have become warmer and longer. According to the ZAMG meteorological institute, this year has been the fourth-warmest summer since records began. Our premises needed cooling on 125 days. And, of course, people’s standards have risen significantly. It is very important to plan the cooling system right from the start.”*

### Cooling starts with external shade

The most effective measure against overheated rooms in summer is external shade, which prevents sun rays from entering the room. The south-facing glass facades of the Variotherm annex are shaded by venetian blinds and spectacular folding shutter constructions which are controlled by a Loxone building automation system.

### Smart control system

Eight kilometres of data cables were installed to control the annex's building technology. The data lines serve IT, phone, camera and control purposes using the Loxone control technology. Smart office: In the morning, the light comes on and the displays boot up. In the evening, the external doors are locked, the light goes out and Loxone's artificial intelligence checks whether all doors and windows are closed.

### Energy from the power of the sun

Variotherm Heizsysteme will exploit the countless hours of sunshine in southern Lower Austria. The production halls at the company's site in Leobersdorf provide 760 m<sup>2</sup> of surface for photovoltaic panels: the light energy gained from the sun will be converted into electrical energy. A total of 450 modules will generate a combined output of up to 124 kWp. The energy generated on the roof will power the production plant underneath.



Electricity will be generated on the premises to power the production machines as well as office and storage rooms.

### Old building gets new life

Variotherm's headquarters were also renovated and received new changing and sanitary rooms for the production and logistics department. On top of this, a dedicated R&D space as well as an installation training room were added.

A comfortable working environment is also ensured in summer: the engineering and planning team is delighted with its soundless module ceiling cooling. The former common room was converted into a meeting room including the installation of a new EasyFlex ceiling on plastered surfaces which serves heating and cooling purposes.

### Financing the annex

The extensive annex and the renovation of the old building were financed via the company's own funds, a subsidised loan and a one-off investment allowance by the State of Lower Austria and the EU. All in all, the project costs amounted to approx. € 2.2 million.

*Photos: Variotherm / Reinhard Gombas*

### **About Variotherm**

*The family-owned company from Lower Austria develops and sells ecological and economic surface heating and -cooling systems. The range covers individual solutions for solid and drywall construction in seven different product categories. Depending on the system, consulting and sales are performed by professionals such as installers, architects and drywall construction specialists. [www.variotherm.com](http://www.variotherm.com)*

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