

Hermos AG presents a versatile software tool for building and industrial automation

Facility Information System meets Beckhoff Building Automation

With the development of the FIS# Application Server, Hermos AG has proven that made-to-order automation solutions at a reasonable price are achievable. The versatile software tool can be used both in the automation of buildings and in industrial and process automation.



Hermos AG, with head office in Mistelgau near Bayreuth in Germany, has also made a name for itself internationally as a specialist for the development and implementation of IT solutions in production processes and buildings. "Our utmost goal," says Frank Spinger, Marketing Manager at Hermos, "is to keep our customers satisfied with products and services in the form of made-to-order solutions. In doing so, we focus consistently on openness and flexibility, so that the customers can serve themselves on the market without restrictions when making future investments."

A platform for building and industrial automation

The software platform developed by Hermos is a versatile tool that can be used both in plant and process automation, in building technology (facility and building automation) and in home automation. As Harald Köhler, Sales Manager and authorized signatory at Hermos AG explains, the open and modular framework makes scalable solutions possible: "Using our technology, which is based on the global standards of the Microsoft Windows Server system (Microsoft Windows, .NET and Microsoft SQL Server

Hermos AG, with company headquarters in Mistelgau near Bayreuth, Germany, is an internationally operative group of companies working in the field of automation and information processing. The Hermos group creates automation and integration solutions for machines, plants and buildings from a total of nine locations in Germany and six international branch offices. The services range from consulting, engineering and software development to commissioning and service. With around 340 highly-qualified employees, half of whom are engineering graduates, Hermos achieved turnover of 42 million euros (approx. \$57 million) in 2009.



In order to illustrate the whole spectrum of different concepts and technologies in a real application, Hermos has carried out what is virtually a prototype installation at its Mistelgau headquarters.

Database), customized IT solutions between ERP and the automation level can be implemented. On the basis of one platform, this software tool provides our customers with every option for horizontal and vertical integration, so that the customer's expenses for the administration and maintenance of different systems are reduced accordingly."

"Beckhoff offers the openness and flexibility that we need."

The openness of the Application Server offers flexibility both to the customer and to Hermos. Changing requirements and customized solutions can be achieved without exploding costs. Hermos bases its software on the open control platform from Beckhoff. "The Beckhoff system offers the openness and flexibility that we need," explains Harald Köhler. "We are certainly not a typical user of the Beckhoff platform, who utilizes TwinCAT automation software exclusively. We use TwinCAT ADS to connect our system platform with the Beckhoff hardware and the openness of the TwinCAT system permits a flexible solution for the task."

Since there are many different systems involved in building automation, methods of integration based on standardized technologies must be used. The Beckhoff automation platform offers the necessary prerequisites here. On the one hand, it consciously relies on Ethernet as a central communication standard; on the other, the Beckhoff Bus Terminal system offers interfaces and gateways to all established fieldbus systems. The Beckhoff Bus Terminal system provides appropriate modules for major bus systems used frequently in building automation, such as EIB, LON and DALI, as well as for EnOcean technology used for the transmission of radio signals. However, Beckhoff's range of products also includes terminals



Harald Köhler, member of the board of directors, Sales Manager and authorized signatory at Hermos AG



Frank Springer, Marketing Manager at Hermos AG

for M-Bus (Metering Bus) coupling, a fieldbus for the acquisition of data from consumption meters as well as measuring terminals, e.g. for the recording of temperature values or weather sensor systems.

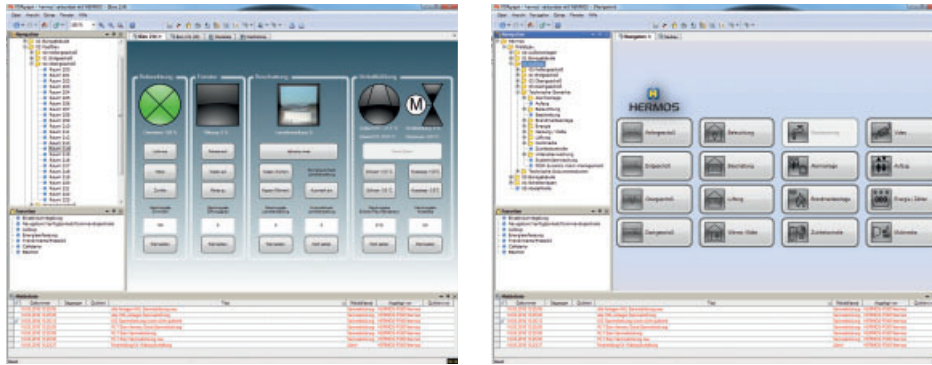
Connection of FIS# and TwinCAT unites the acquisition of consumption and operating data as well as Condition Monitoring in one software

The special characteristic of building automation is the fact that the most diverse systems and plants by different manufacturers must be combined on a neutral platform with a uniform user interface covering all properties. Hermos has fulfilled these requirements with the development of its "Facility Information System": the system acquires, stores and processes information from all areas of the building. The various types of systems necessary for this are connected via the Beckhoff control platform and communication terminals.

The Hermos solution is, however, more than just a classic control and visualization technology. Beyond that, it makes the central technical management of all systems and plants possible and makes the information stored in the database available to ERP and CAFM systems (Computer Aided Facility Management): for example, in the form of consumption or operating data and error messages, as well as data for Condition Monitoring.

Extensive TwinCAT Building Library

Many of the single applications to be included are now programmed using special software solutions and software function blocks, as offered by Beckhoff with its HVAC library, among other things. This extensive TwinCAT PLC library



Functional illustrations of the FIS# Application Server

encompasses more than 70 function blocks for the automation of heating, ventilation, air conditioning and sanitary systems. Various lighting controllers, maximum monitors for energy optimization, the blind controller, the conversion of temperatures and raw values into measured values or scaling functions and much more can be programmed using the "Beckhoff TwinCAT Building Automation Library."

"We also fall back on the Beckhoff control platform with our system, because our systems can be combined very well," explains Harald Köhler. "TwinCAT encompasses a great deal of standardized information in the form of function blocks or libraries that are very useful to us and that we do not even need to develop. Beckhoff is willing to provide the libraries that are relevant to us in an open form, so that we can integrate them into our software."

Hermos system supplier for building and industrial automation

In order to illustrate the whole spectrum of different concepts and technologies in a real application, Hermos has carried out what is virtually a prototype installation at its Mistelgau headquarters. Harald Köhler says about this:

"The background of the planning and concept was that we can demonstrate

interfaces and systems with the appropriate possibilities in our new building. This includes the topics of lighting, heating, air conditioning and ventilation, room automation, distributed network technology and multimedia via IP, security and access control and, finally, video integration using a video server. In principle, everything that corresponds to this high level of facility technology is available." Frank Spenger underlines the fact that some impressive technical highlights are displayed: "We have integrated some options for the room operation, for example, that are not typical, everyday applications with which we demonstrate what is technically possible. Certain aspects will probably never be implemented to that extent in reality, but the room operation via switch, telephone, touch panel and PDA represents a diversity that is a technical reality."

Hermos AG

www.hermos.com

Beckhoff Building Automation www.beckhoff.com/building

Building automation in the 50-story office skyscraper "Tower 185"

After the bidding process for the building management and the facilities management of "Tower 185," a new office building in the city center of Frankfurt, Germany, Hermos AG was awarded the contract. This success is based not only on the close and successful cooperation between Hermos and Beckhoff and the fact that their systems complement each other: the building automation of the 185 m (607-ft) high skyscraper will be handled by the software platform developed by Hermos and with Beckhoff control components.

The 50-story office tower is being constructed in Frankfurt am Main in a premium location between the exhibition center, the main railway station and the banking district – the so-called European quarter. An international

auditing company has already chosen "Tower 185" as its new company headquarters in Frankfurt. In addition to offices, the six-story base building will house a conference center and the employees' restaurant. The construction of the double tower started in August 2008 and is scheduled to be completed by December 2011.

"In addition to the large number of small projects in which we have already used Beckhoff components in the past, both in the most diverse industrial applications and in building automation, 'Tower 185' is the most ambitious and largest project undertaken in cooperation between Hermos and Beckhoff," reports Harald Köhler: "On the hardware side we will be implementing the entire building management and the facility management systems completely with Beckhoff. In a manner of speaking, the full Beckhoff range will be used here, from the Bus Terminals via the Bus Controller to the PC hardware."