Integrated Building Automation Solutions for Specialist Engineers
Enabling a completely new way of planning – Implementing building functions in software.

Multiple planning tasks – Beckhoff reduces complexity.

Specialist engineers have numerous responsibilities when it comes to implementing controls in residential and functional buildings. At the interface between the building requirements and the wishes of the building owner, these engineers bear responsibility for the functionality, identification and specification of the systems, and for ensuring compliance with regulations and standards in addition to assuming cost accountability. PC-based Building Automation integrates all building systems into one control platform and reduces the complexity of building automation significantly.

Implementing all functions in software – Building Automation from Beckhoff.

Building Automation from Beckhoff enables maximum planning freedom. Implementing all functions in software – and decoupling functions from hardware – increases planning security.
significantly, since product compatibility issues no longer arise. Even if the building project changes, the planning process does not. Software-based control not only makes it easier to handle follow-up requirements, modifications and solutions to problems — above all it makes system integration more cost-effective.

One control platform for all building systems — Planning was never so easy.

The PC-based control platform from Beckhoff allows integrated automation of all building systems in functional buildings and infrastructures — from single-room control to window control to shading, lighting, HVAC MCI, smoke and heat removal systems, access control, energy monitoring and process visualisation. A single control system means four-fold simplification for engineers: planning, interdisciplinary thinking, time management and responsible cost control.

Open control technology — Enables alternative usage scenarios.

The Beckhoff principle of an open and highly-scalable control architecture enables interoperability with standard products — for integrated planning that provides a wealth of freedom for current and future building usage scenarios. All elements can be expanded, independently of products, brands and integrators, with only marginal additional costs. Beckhoff Building Automation provides engineers with the certainty that projects created and executed today will also be viable in the future, since modifications to the building control system can be implemented primarily in software.

Building Automation from Beckhoff at a glance:

- Integration of all building systems in one platform
- Replacing hardware with software functions enhances flexibility
- Interoperability with standard products
- Direct integration of all fieldbus systems and protocols
- Maximum freedom in designing
- Independence in terms of product/device manufacturer/integrator
- Faster and more efficient planning
- Increased planning security
- Long-term availability
- Automated documentation
Practical experience is key:
Selected references.

Tower 185, Frankfurt a. M., Germany

Tower 185 is one of the four tallest skyscrapers in Germany, extending over 50 floors with floor space of approximately 100,000 m². Full HVAC management and room automation are implemented with a Beckhoff automation platform and operated by means of a shared building management system. This allows flexible room usage, definition of different utilisation scenarios, simplified controlling and benchmarking, as well as efficient maintenance management for all building systems. The control architecture for processing the 60,000 data points is based on 170 CX9010 Embedded PCs, 500 CX9001 devices, as well as 80 C6925 Industrial PCs.
"Zukunftsmeile" – "Future Mile" research and development cluster, Paderborn, Germany

The building automation solution in the 3,200 m² Building 1 of the “Zukunftsmeile” not only includes the HVAC system, but also encompasses full lighting control, integration of MCI technology, energy data acquisition, control of the blinds and the central locking system, as well as multimedia technology. The lighting can be adjusted to suit the varying needs of the respective tenants or different space requirements through DALI-compliant lighting control. A simple software modification is all that is needed if, for example, rooms are to be combined to form one large space or divided to form individual spaces.

The global solution: Building Automation from Beckhoff

Office and residential buildings, hotels and museums, shopping centres and industrial building complexes, rail stations, and theatres all around the globe use holistic and scalable building automation solutions from Beckhoff:

- Centre for Virtual Engineering,
- Fraunhofer IAO, Stuttgart, Germany
- Miele Administration Building, Germany
- Microsoft Technology Centre, Germany
- KölnTriangle, Cologne, Germany
- Park Hotel Vitznau, Switzerland
- Dolder Grand Hotel, Zurich, Switzerland
- Dresden City Museum, Germany
- Schauspielhaus Nürnberg, Germany
- Ferry Porsche Museum, Austria
- Zayed University, Abu Dhabi, UAE
- Basler Nordtangente, Basel, Switzerland
The intelligent modular system simplifies planning requirements in buildings.

The PC-based control philosophy from Beckhoff offers you a new type of planning. With a single control platform for all building systems and a modular range of software and hardware components, your project can be implemented more easily and faster while providing planning security in every phase from engineering through to unplanned changes or enhancements. The Beckhoff portfolio offers you a wealth of freedom. Powerful Industrial PCs from building management to field level, a comprehensive I/O system with more than 400 terminals for all conventional data points, as well as the engineering software TwinCAT Building Automation, with its extensive libraries and tried and tested software templates, assures maximum flexibility, custom-fit scalability and reliable functional integrity.

For maximum planning freedom – All functionalities provided as software modules.

Beckhoff facilitates modular and holistic planning of all automation tasks with TwinCAT Building Automation software. This powerful solution provides all functionalities as software modules. This simplifies interdisciplinary thinking, reduces planning complexity and ensures simple expandability.
We reserve the right to make technical changes.

Beckhoff at a glance:

As a specialist for PC-based control systems, Beckhoff is renowned for universal automation solutions that are used in industrial, energy management and building automation applications worldwide, and help users maximise savings potentials, even exceeding the highest energy efficiency standards.

Facts and figures:
- Owner-managed, medium-sized company
- Corporate headquarters: Verl, Germany
- Innovation leader in PC-based control
- Sales 2014: 510 Mio. Euro
- More than 2,900 employees worldwide
- 34 subsidiary companies
- Represented in more than 75 countries worldwide

“Lot-size 1 planning” for smart buildings – With the eXtendable Room Box.

With the eXtendable Room Box, Beckhoff further minimises planning effort. Apart from configuring the PLC, TwinCAT Building Automation also provides the “Box Configurator” to enable automated configuration of customised hardware assemblies, which can then be fully prefabricated and easily integrated.

As simple as the planning – Operation via multi-touch panels.

Beckhoff uses TwinCAT to integrate HMI engineering conveniently into the Visual Studio® integrated development environment (IDE), ensuring uniform user interfaces. At the same time, the broad multi-touch panel portfolio offers unlimited scope for individual operating concepts – and a powerful frontend for building systems.
Building Automation for Specialist Engineers:
See all information at
▶ www.beckhoff.com/building