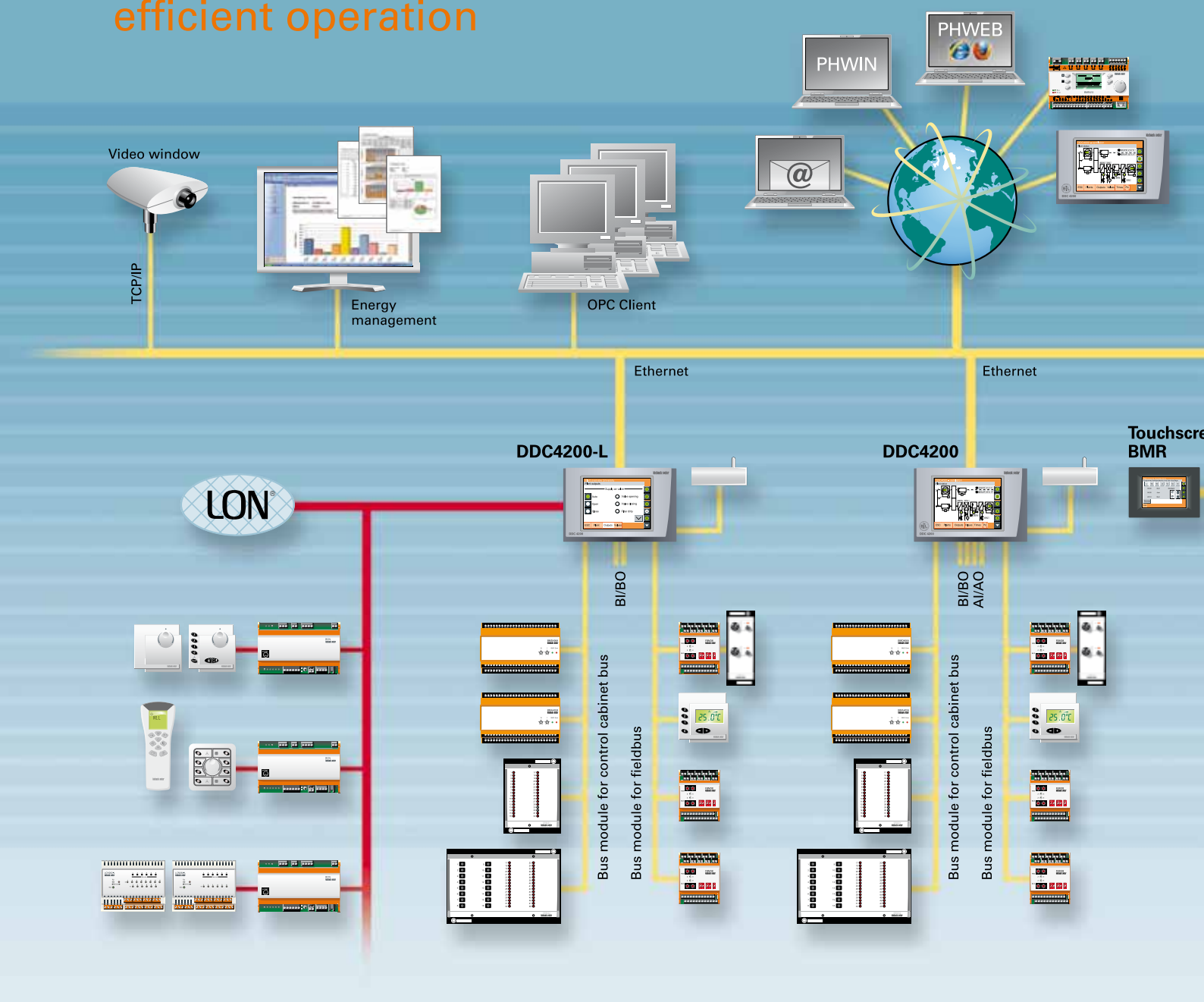
Neutrino-GLT
for building management

kieback&peter

Technology for Building Automation

Building management with Neutrino-GLT

Full integration, transparency, efficient operation

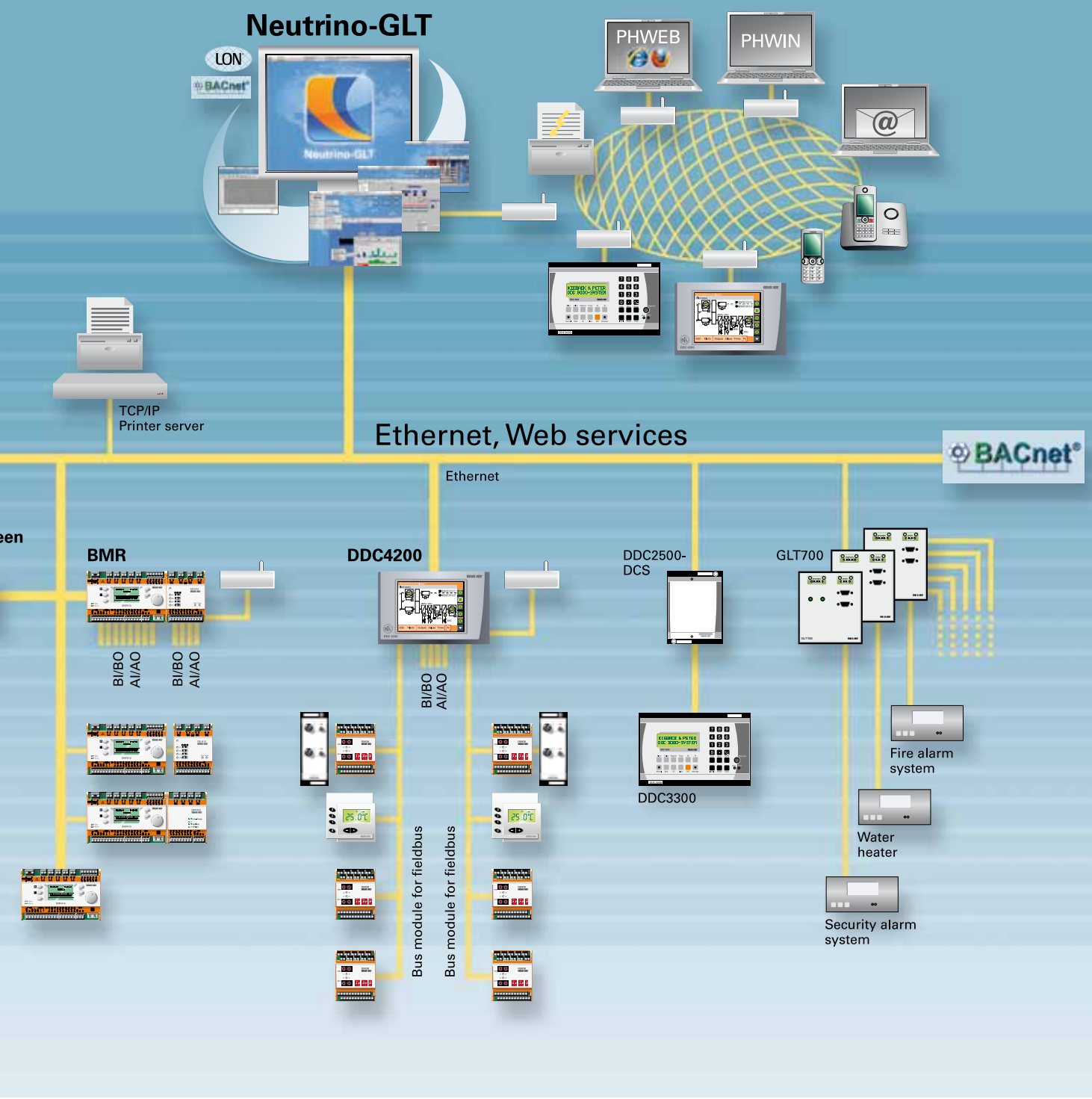


The Neutrino-GLT from Kieback&Peter – GLT stands for building management system – is a system composed of hardware and software for monitoring, operation and optimization of trade-spanning and property-spanning building automation systems. It provides management, data acquisition, alarm and control functions.

The Neutrino-GLT is the interface between people and the building automation system and its integrated equipment. It ensures transparency and provides the user with comprehensive and detailed information about plant operation.

The Neutrino-GLT receives, processes and forwards status reports as well as error messages. It also collects and archives operating and plant data, which are then available for other applications such as billing or documentation. Last but not least, the Neutrino-GLT is an important tool for optimizing operational systems and more economical and energy efficient operation.

The central control point of the Neutrino-GLT offers the user very easy operation. Simple, intuitive navigation and transparency through clearly structured system images and texts are also important elements.



The Neutrino-GLT is able to integrate all equipment in a trade-spanning manner. Prerequisites are an open interface and the ability to understand and process different protocols.

The Neutrino-GLT simplifies plant maintenance with automatic maintenance plans, thus improving their availability. For example, the operating data can be analyzed in trend curves and used for the analysis of weak points.

Additionally, all data is available for office applications. The Neutrino-GLT helps users continually optimize their plant operation in order to improve comfort in buildings, conserve resources and protect the environment.

The Neutrino-GLT meets the latest high value standards, since it is designed to fit the needs of customers.

Neutrino-GLT version 9
Powerful and convenient

Benefits at a glance

- Easy operation
- Transparency
- High security
- Adaptable, flexible and expandable

Through the Neutrino-GLT you have clear and safe handling of your plant and equipment. Intuitive operating menus allow easy and convenient operation. Individually customizable displays of the information and processes provide transparency. Powerful performance as well as optimal security of operations, data and access are included as a matter of course.

Secure operating system

The Neutrino-GLT software is based on the 6th QNX operating system. This real-time, network-oriented multi-user, multitasking operating system, meets all requirements of modern software technology. Symmetrical multiprocessing optimally uses the computing power of the hardware.

The QNX operating system provides secure and effective operation around the clock.

Adaptability

You can configure the Neutrino-GLT to perfectly fit your requirements and wishes. A large number of software menus allow tailored-solutions for each application.

Simple configuration project planning

The Neutrino-GLT makes project planning simple, straightforward and transparent, even with large amounts of data. The characteristics of each data point can be changed quickly.

High functionality

The data structures are managed by the powerful SQL database without any address conversion or index chart.

The Neutrino-GLT software is compatible with notebooks, servers,

The building management system Neutrino-GLT offers tailor-made, secure solutions for any building: Here is a production plant of the company Milupa

and touch panel computers. Multimedia features such as audio or video are seamlessly integrated into the plant operation.

Web server

The Neutrino-GLT software contains a powerful web server, thereby making remote control via a web browser possible. The web server provides images of the operating system levels as well as other operational programs. Thus, the plants can be fully operated in a network.

Flexibility and expandability

The modular setup and strict downward compatibility of the Neutrino-GLT allows for the easy expansion of existing plants and provides security on investments.

Other advantages

The Neutrino-GLT also offers:

- a new, convenient and customizable user interface with lots of useful information,
- new features for data analysis and system optimization, such as quick search or clear trend curves,
- easy data transfer to office programs,
- error message statistics,
- audio response for error messages,
- simplified parameterization,
- internet security,
- clear and paper-saving documentation.

Easy operation
Clearly arranged and easy to operate

Each user can create an individual operating menu with a task bar. A “TOP 5” function recognizes frequently used programs and packages them for quick access.

Everywhere and always well informed

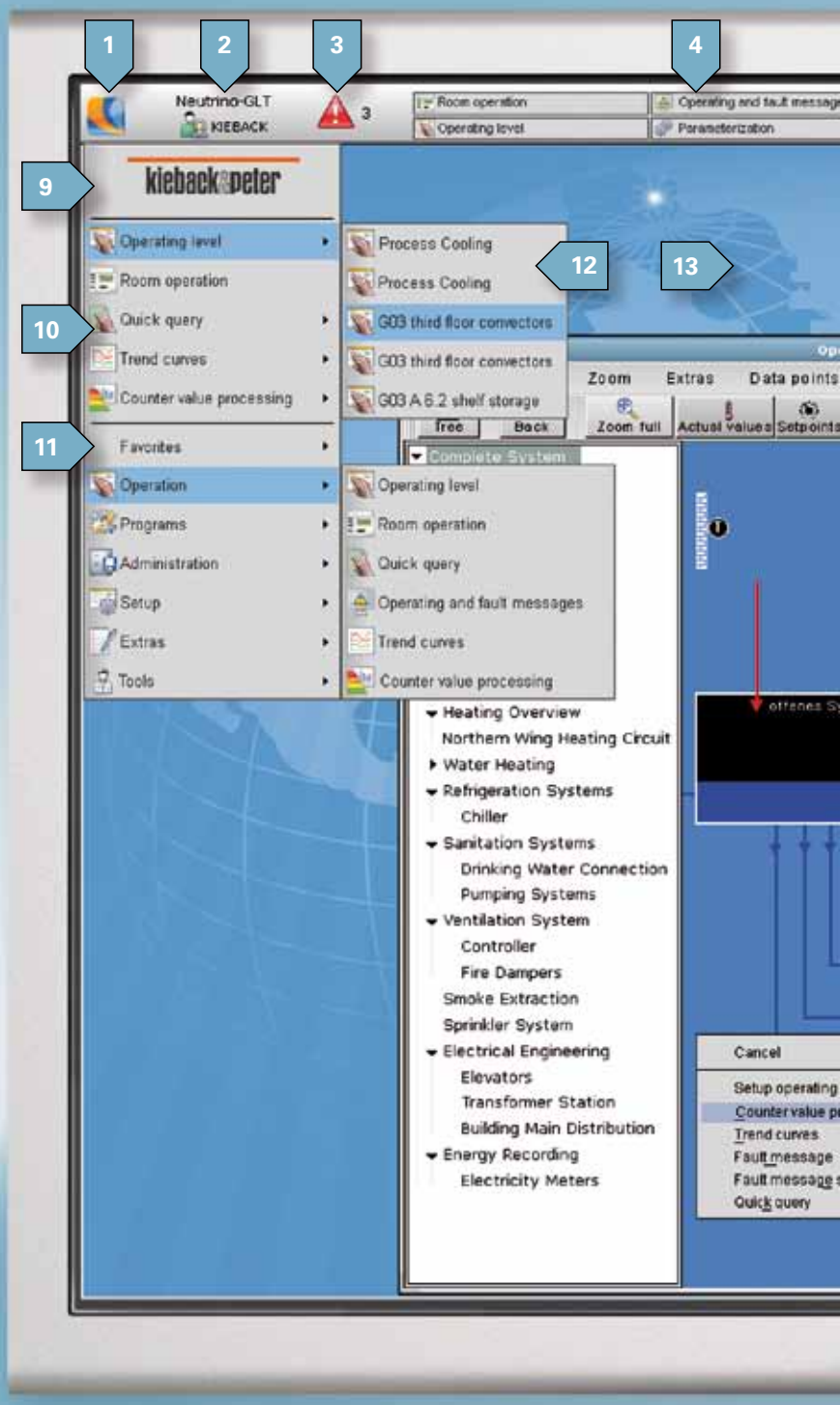
The central element for operation is the plant display. These are customer-specific designs for each purchaser. With just a few steps, the user receives all the important plant information.

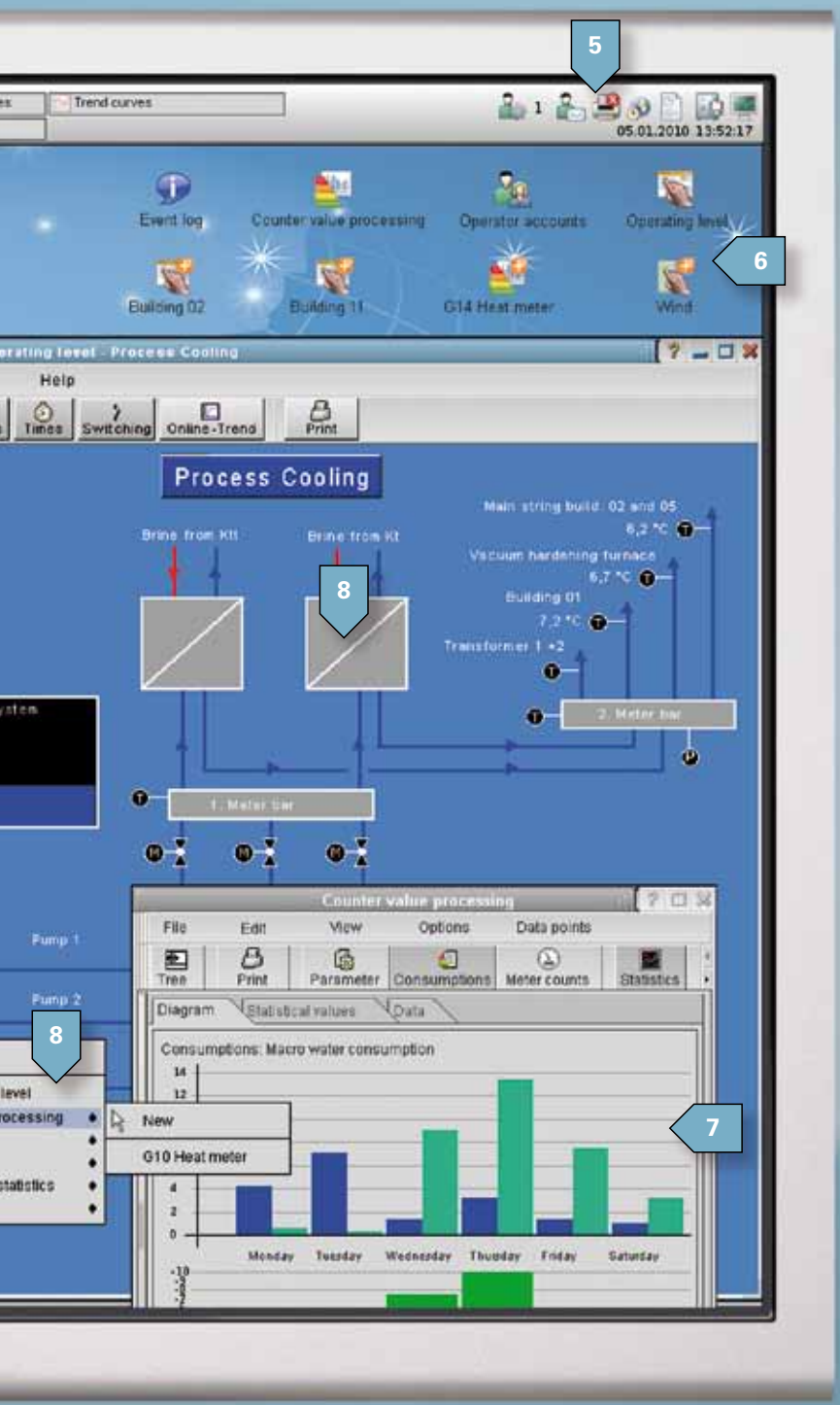
Thus, with just a mouseclick, the error message statistics for a plant can be displayed, for example – without prior project planning. Just as quickly and easily, a graphical overview of the existing meters can be produced in the plant display in comparison with figures from the previous year.

Simple, safe operation

With the left mouse button, set-points or times can be adjusted or switching operations performed. With the right mouse button a context menu is activated which provides all available information on the selected data point.

If this data point is defined as an error, for example, one receives a statistical overview of all events pertaining to this error. If the data point is defined as a trend, the trend curves are displayed. No matter what information is needed, it is always available in the current plant display.





A comprehensive system monitor constantly gives information on the status of the Neutrino-GLT. It displays information about the hardware components in use, network utilization, hard disk activity and available memory.

1 Start button

2 Registered operator and plant display

3 Current system status display

4 Open application display – up to 20 sections

5 From left to right:
- User monitor
- GMS (GLT message system)
- Printer
- Time synchronization
- Cyclical plant value archiving
- Automatic data backup, system backup
- System monitor, display of all resources

6 Program with links

7 Counter value statistics

8 Plant display with associated context menu screen

9 Interchangeable logo

10 TOP 5 list of frequently used programs

11 Favorites of the registered operator

12 List of recently opened files

13 User-specific background image

The Neutrino-GLT
Communicative and secure

The Neutrino-GLT is open for comprehensive system integration of the most diverse systems from the various trades. The entire building system is transparent and can be easily monitored, operated and optimized.

The Neutrino-GLT provides maximum security. This is achieved through simple, intuitive operation which prevents operational errors, just as with the secure operating system, access safeguarding and accurate documentation.

Open communication

The Neutrino-GLT speaks LON® and BACnet®, the international communication standards for open, trade-spanning building automation, thus ensuring comprehensive system integration. BACnet® and LON® are implemented natively in the Neutrino-GLT and brought together under a common user interface.

Connection possibilities are available for LON FT10, TP1250 or LON over IP. The Neutrino-GLT scans the LON network, consequently obtaining all the information needed for visualization. The amount of network variables and LON nodes are unlimited.

The Neutrino-GLT provides comprehensive system integration thereby providing transparency and energy efficiency: In this case the headquarters of the company Bionorica

QNX –
Real-time operating system
with high stability

Highest safety standards

Despite all the openness in communication, the Neutrino-GLT also provides the highest security. Access protection is guaranteed by a professional, user administration with the highest standards. The Neutrino-GLT is safe from attacks and threats coming from the Internet.

Suitable for sensitive applications

The Neutrino-GLT records each user action. These are still traceable after years. The data are archived and can not be tampered with.

The Neutrino-GLT fulfils the highest security standards required, for instance, by Title 21 CFR Part 11 of the U.S. Food and Drug Administration (FDA).

Thus the Neutrino-GLT can also be used for the supervision and control of equipment in pharmaceutical or cosmetic production, as well as for food production and other sensitive applications.

The real-time multi-user, multitasking QNX operating system is the guarantor for the safety and reliability of the Neutrino-GLT. It is always one hundred percent available; 24 hours a day, 365 days of the year.

Stable and secure with high availability

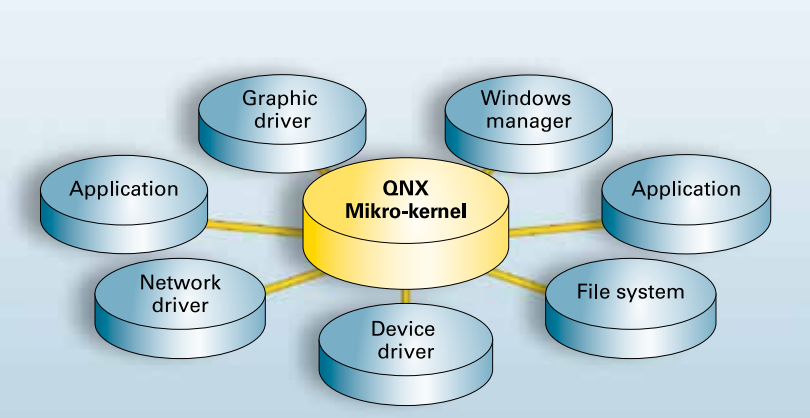
The architecture of the QNX operating system is designed so that only the basic functions of the operating system run on a very compact microkernel. Network drivers, graphics drivers, file systems and other applications and drivers run as separate, isolated processes on their own, via the memory management unit (MMU) of the processor's own protected memory area. This prevents the entire operating system, and therefore the building management system as well, from coming to a standstill when faults and problems occur. This architecture of the operating and filing system protects against computer viruses as well – to this point not a single virus incident has occurred with the QNX systems.

Easy, complete data exchange

Through the modern surface transfer, the surface of the QNX programs can also be accessed and used by other operating systems – one hundred percent data exchange, beyond operating system borders, is possible.

Proven standard

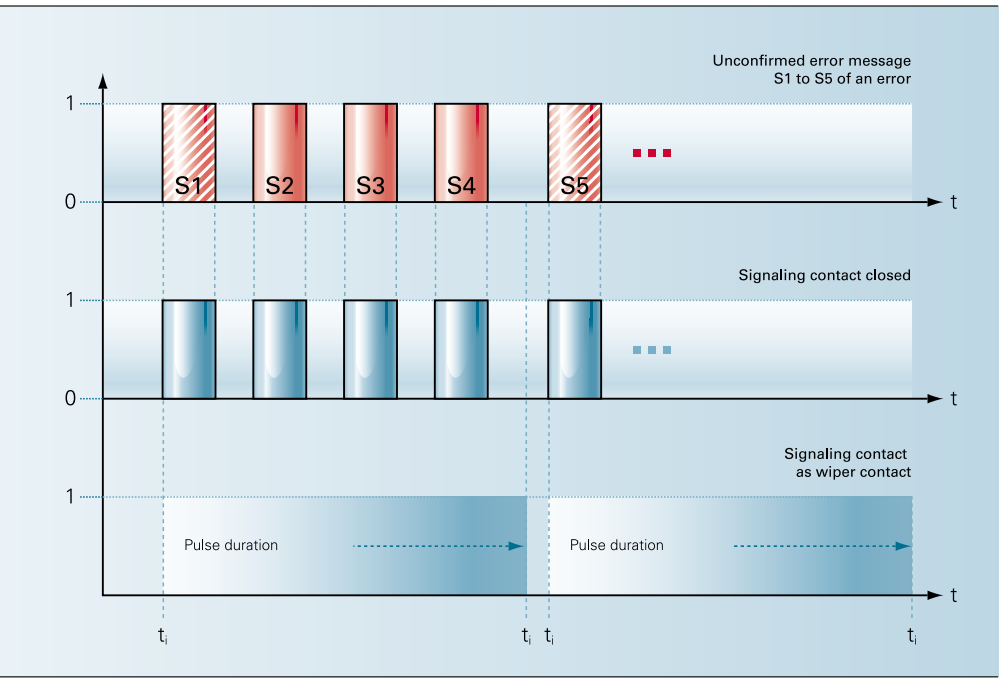
The QNX operating system is additionally very small and very fast. Today, it runs on almost any modern computer, and is used primarily in industrial applications but also in the medical, automotive and telematics fields.



Micro-kernel architecture of QNX – the guarantor for reliability and real-time capability

Neutrino-GLT software modules
Perfect fit for individual applications

The Neutrino-GLT software consists of powerful basic software and a variety of special software modules. Thus, depending on the application, the Neutrino-GLT software modules and functionalities can be upgraded. This allows for a customized solution for every application.



SM35 Message file monitoring

Suppressing error messages with wiper contact *Signal contact is closed*

Error Message Management

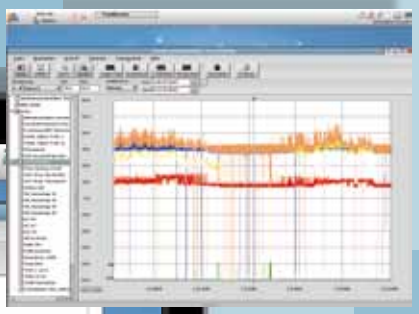
- **SM06 Message suppression**
  for suppressing storms of messages triggered as a result of a priority message
- **SM20 Alarm screens**
  for displaying a particular BMS plant schematic if the system issues an error message with text
- **SM35 Message file monitoring**
  for indicating unconfirmed messages from the BMS message files to 8 voltage-free contacts

Data Exchange/Archiving

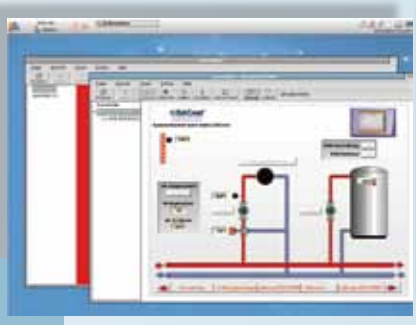
- **SM10 ASCII exchange file**
  for transferring BMS values in ASCII format
- **SM15 Trend curves**
  for long-term recording of historic setpoints and actual values (both binary and analog)
- **SM38 Trend curve archiving**
  for archiving and managing recorded trend curves
- **SM55 BMS ASCII file for heating logbook**
  for receiving files in the BMS to be transferred to the Bundeswehr (German armed forces) as an ASCII file
- **SM68 Automatic data backup**
  scheduled backup of all data relevant to the plant
- **SM78 Incremental data backup**
  for periodic export and backup of historical values according to a schedule

Kieback&Peter offers a comprehensive selection of software modules that allow you to configure the Neutrino-GLT according to your specific requirements

SM15 Trend curves with OTW

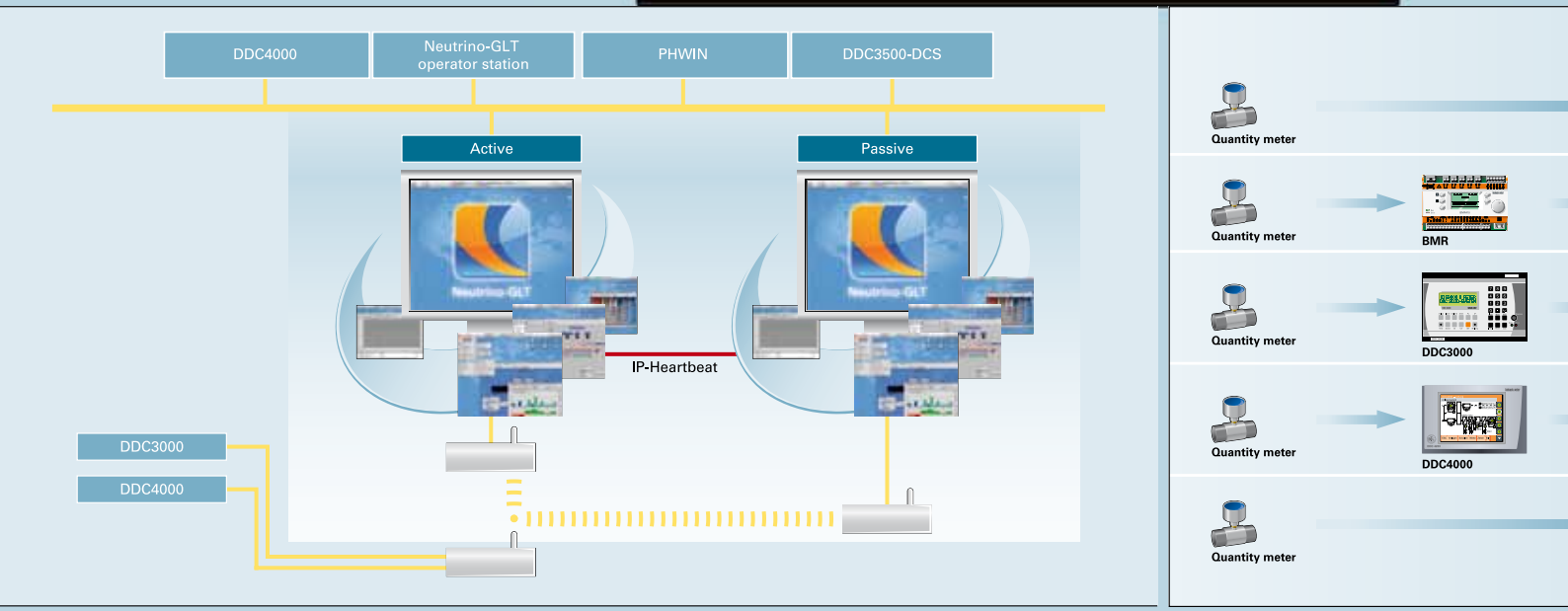


SM15 Trend curves



SM20 Alarm screens

The SM87 software module counter value statistic clearly represents meter readings and energy consumption in the form of a diagram



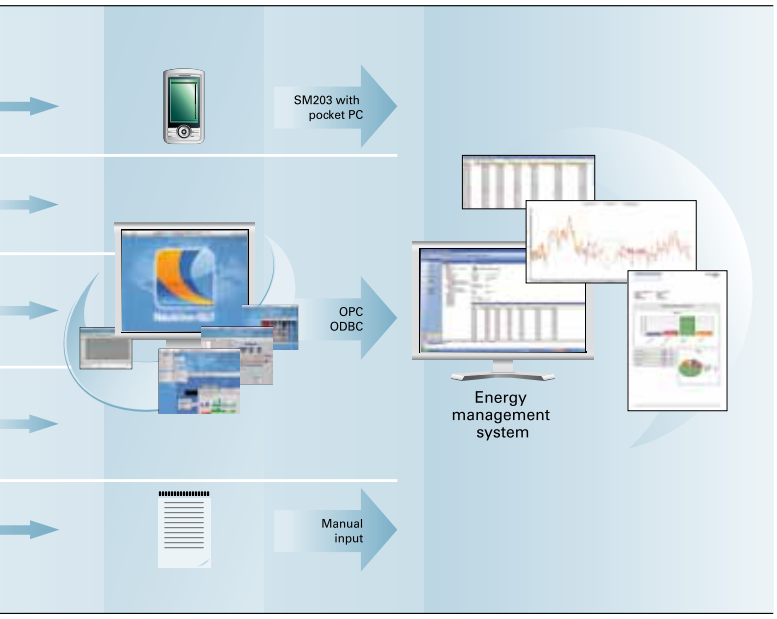
SM104 Redundant GLT

Security Management

- **SM41 Password locking**
  for automatic password locking when the BMS is not used for long periods of time
- **SM50 Multiple operating code**
  allows for multiple users with different user rights to view plant schematics
- **SM104 Redundant GLT**
  provides long-lasting operation in case of failure of a Neutrino-GLT. All functions are transferred automatically to second Neutrino-GLT in the event of an error

Standby Service

- **SM24 City paging**
  For transferring time and event-based error messages to alphanumeric city paging recipients
- **SM27 FAX**
  for transferring time and event-based error messages to fax devicese
- **SM44 Text messages**
  for forwarding and confirming time and event-based error messages to cellular phones
- **SM72 E-Mail**
  for forwarding and confirming time and event-based error messages via e-mail



SM202 Energy management

- **SM82 SNMP**
  Simple Network Management Protocol
  for forwarding time and event-based error messages to SNMP clients

- **SM89 Voice output**
  for issuing time and event-based error messages as spoken text over a telephone or loudspeaker

Statistics

- **SM08 Maintenance program**
  for precautionary maintenance of operational plants and plant components

- **SM14 Heating logbook**
  for keeping multiple heating logbooks in accordance with the military BFR guidelines

- **SM22 Meter value processing**
  for processing meter values and measuring and backing up consumption values

- **SM49 Error message statistics**
  For evaluating and backing up error messages

- **SM75 Logbook**
  for keeping long-term records of operator actions and events, tamper-proof

- **SM79 Plant recording**
  for displaying and analyzing historical records in the plant schematic

- **SM87 Counter value statistics**
  displays consumption and statistical evaluations in the form of diagrams

- **SM202 Energy management***
  energy evaluation system with SQL database. Measurement and evaluation of consumption media on an MS Windows computer

- **SM202-OPC500UP Expansion data points***
  expand SM202 to include additional BMS data points

- **SM203 Mobile energy management***
  allows the user to calculate data points with a Pocket PC (not included) and conduct and automatic data comparison with the SM202

- **SM203-P Energy management mobile* incl. Pocket PC**
  allows the user to calculate data points with a Pocket PC (included) and conduct and automatic data comparison with the SM202

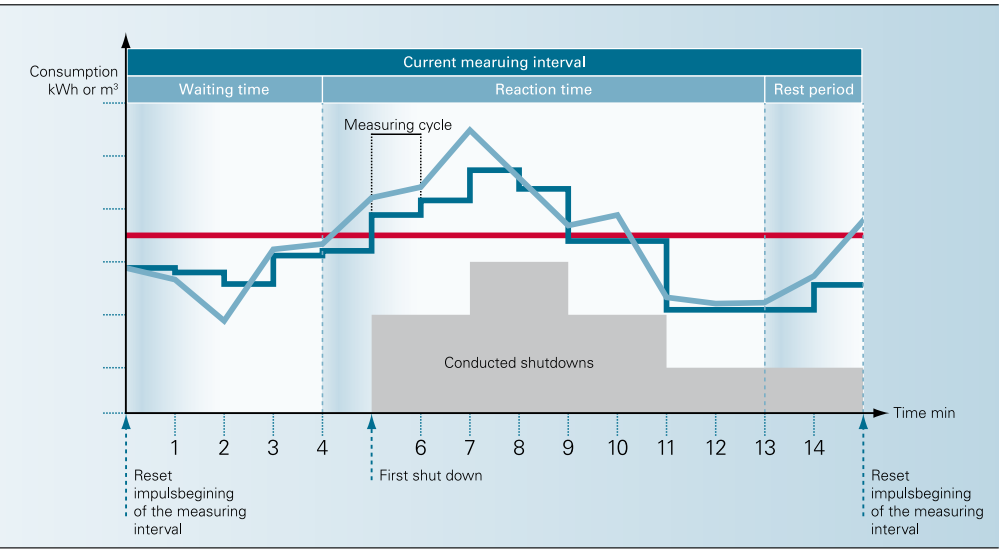
** Performance varies regionally*

SM79 Plant recording

SM73 Video window

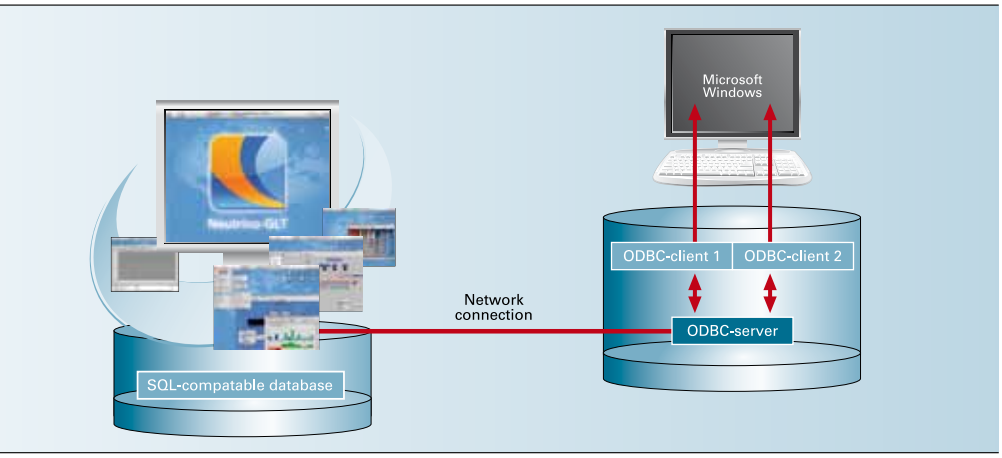
Open-Loop Control, Logic

- **SM04/D E-Max**
  load shedding program for electrical consumers to avoid load peaks
- **SM05 Link**
  enables cross-system strategies and links between any plant states
- **SM21 Time switch program**
  for time-based switching with cross-system strategies



SM04/D E-Max

Entered performance value *Power consumption* *Trend calculations*



SM205 ODBC interface

- **SM42 Fidelio hotel reservation system**
  for connecting to a hotel reservation system Enables occupant-dependent room temperature control of the hotel room
- **SM71 Timetable program**
  energy-efficient open and closed loop control of classrooms depending on a timetable
- **SM80 Room control**
  enables simplified, structured operation of room control systems
- **SM207 Remote room temperature operation**
  graphical operation of room controllers using a PC

Network

- **SM70 PHWEB**
  for remote operation of the BMS with a web browser
- **SM73 Video window**
  for displaying video images of one or more network cameras within the plant schematic
- **SM78 Incremental data backup**
  for periodic export and backup of historical values according to a schedule
- **SM100 BACnet client**
  BACnet client in accordance with DIN EN ISO 16484-5 for communication with BACnet-capable controllers

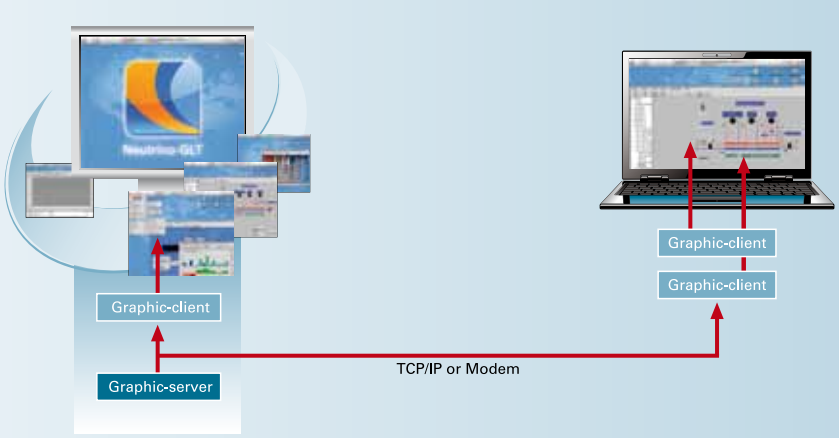
The SM207 software module remotely adjusts the temperature in individual rooms via a Windows computer

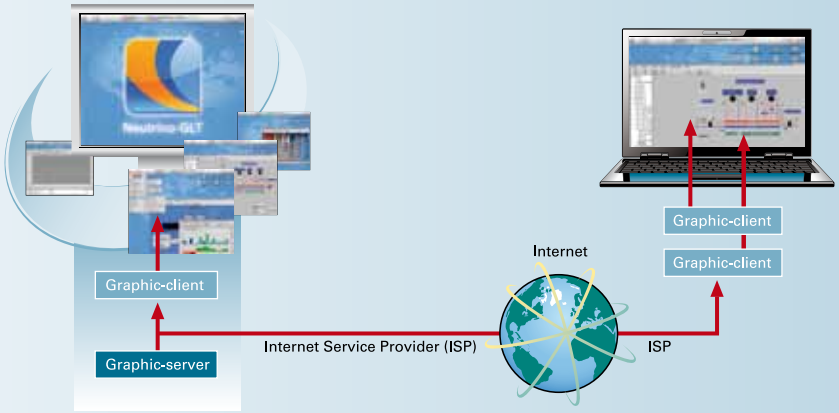
- **SM101 BACnet server**
  BACnet server in accordance with DIN EN ISO 16484-5 for communication between BACnet clients and the BMS
- **SM-LON-IP Connection to a LON network**
  via Ethernet
- **SM-LON-TP Connection to a LON network**
  via FTT10, TP1250, RS485
- **SM200 PHWIN**
  program for remote operation of Neutrino-GLT by MS Windows computers using a network or modem connection
- **SM201 BMS OPC server**
  OPC server for providing BMS data points for MS Windows OPC clients
- **SM205 ODBC interface**
  for transferring historical and current plant data to other systems

Setup and Parameterization

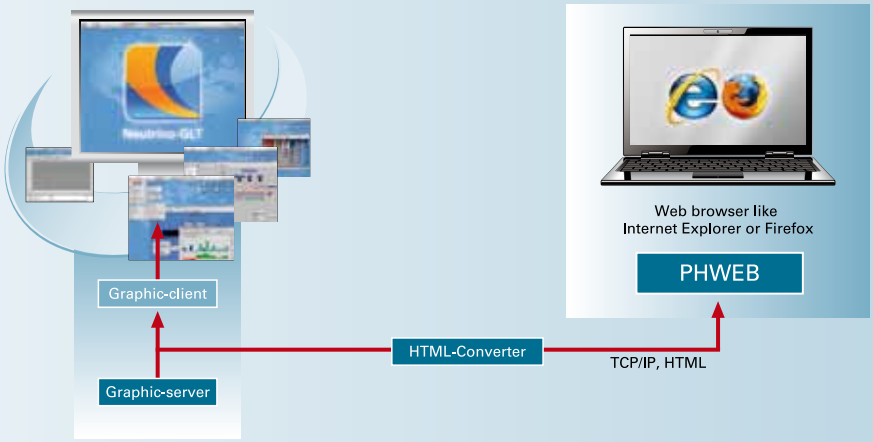
- **SM47 Structured parameterization**
  for structured software menu call-up and controller parameterization
- **SM74 Comfort operating level**
  for visualizing open loop control for gates and doors with touch-screen and video fade-in for building access control personnel
- **SM80 Room control**
  enables simplified, structured operation of room control systems
- **SM85 DDC callback**
  callback function from controller to Neutrino-GLT via modem. The controller assumes the connection costs.
- **SM86 Viessmann FMS**
  for modem-based communication between the Neutrino-GLT and Viessmann Vitotronic control systems for heating plants
- **SM90 Plant schematic setup**
  for creating plant schematics with dynamic fade-ins
- **SM99 Multitenant BMS**
  for simultaneous use of multiple different projects on one Neutrino-GLT

PHWIN, PHWEB
Data accessibility – easily and location-independent





SM200 PHWIN



SM70 PHWEB

SM200 PHWIN

With PHWIN all the operational interfaces of the Kieback&Peter Neutrino-GLT are transferred to a computer running on the Microsoft operating system. It is therefore able to be controlled remotely. The prerequisite is a network or modem connection.

This is possible through the client-server approach. The Neutrino-GLT client is simply stored in another computer and/or another operating system. The name of the client for Microsoft Windows is PHWIN.

PHWIN is a so-called “thin” client. This program, just 140 kBytes small, can be easily installed on any Microsoft Windows operating system. Existing programs or software configurations are not affected.

Through compressed data transmission, the Neutrino-GLT can be directly operated via network, modem, internet or intranet connections. Every Microsoft Windows computer can be made into a Neutrino-GLT operator station using PHWIN.

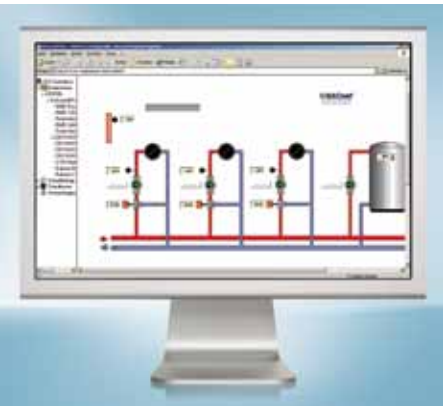
Access to the Neutrino-GLT is easily available at any time and from any location

© C.Devan/Corbis

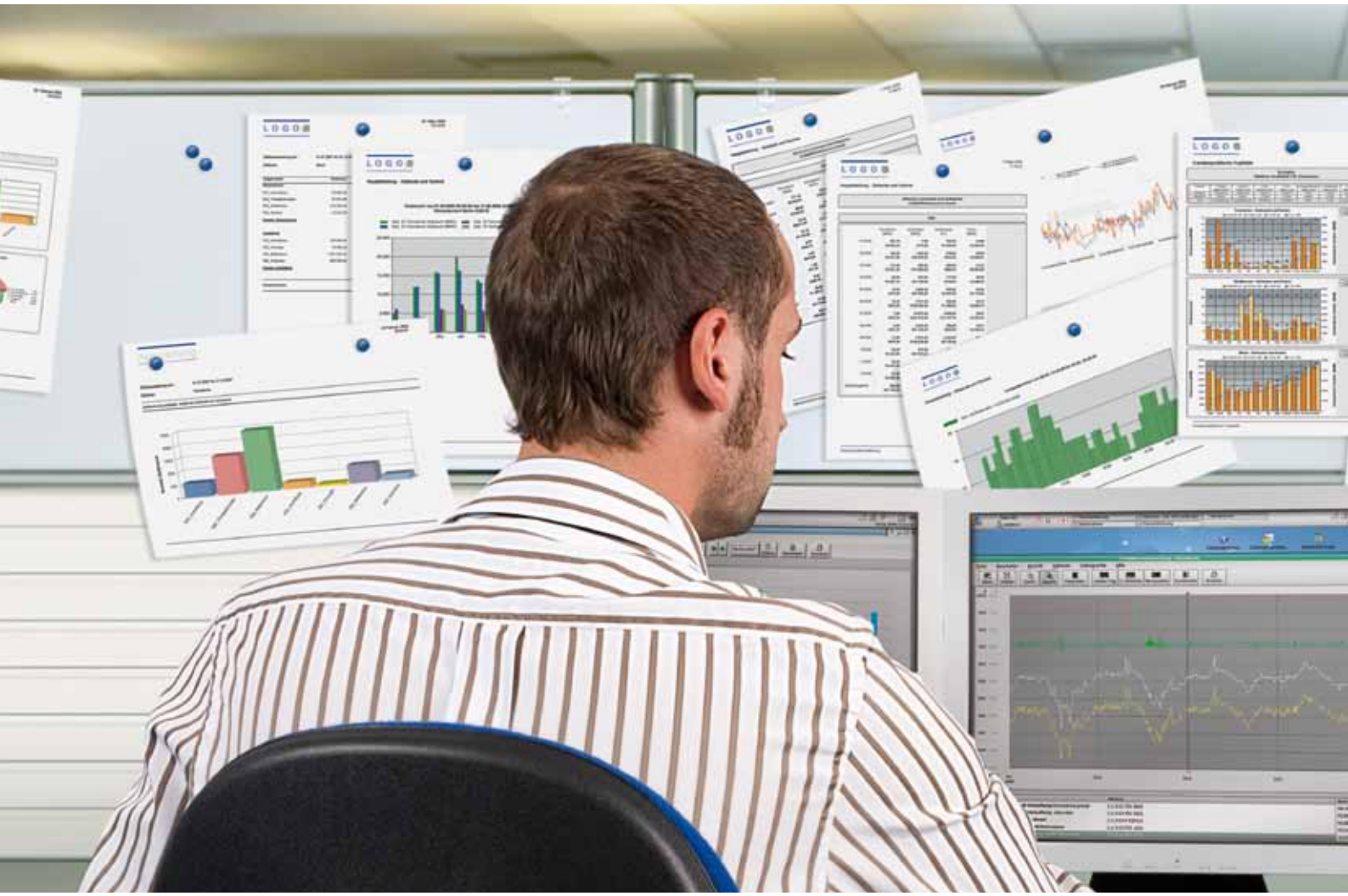
SM70 PHWEB

With PHWEB, the display and operation of the user interface of the Neutrino-GLT is set up with a conventional web browser, such as Microsoft Internet Explorer or Mozilla Firefox. Therefore, the operational interface of the Neutrino-GLT is written in HTML, the programming language of the Internet. The architecture of the Neutrino-GLT makes itself decisively apparent in this way.

The Neutrino-GLT can recognize that the requesting client is a web browser. As a result, the data is converted to the HTML format. Even setpoint adjustments over a web browser are possible. Globally accessible, the most important functions of the Neutrino-GLT can be operated and requested from virtually any computer in the world.



Transparency and simple optimization
via counter value processing and trend curves



Through the Neutrino-GLT all plant data is available, easily and tamper-proof. This includes the consumption data of the utility meters integrated in the system.

To display the data for evaluation and analysis, the Neutrino-GLT offers special functions, thus enabling data to be displayed in tabular form (through a quick search function) or displayed in trend curves, for example.

The operation of the trend curve is very simple and has a clear layout. Options such as color, form, scale, etc. can be modified directly. It is also possible, with an additional time scale, to compare one trend curve of a certain time period with another trend curve of any other time period, directly on the screen. These comparison and evaluation capabilities simplify examination and statistical analysis. Consumption control is clear, weak points and potential savings can be identified, quickly and safely. The user receives all the information he needs to optimize his installations.

Plant security through error message statistics

The error message statistic is a tool to identify system errors quickly, easily and safely. The error message statistic provides information for when a disturbance first occurs, its frequency as well as its duration.

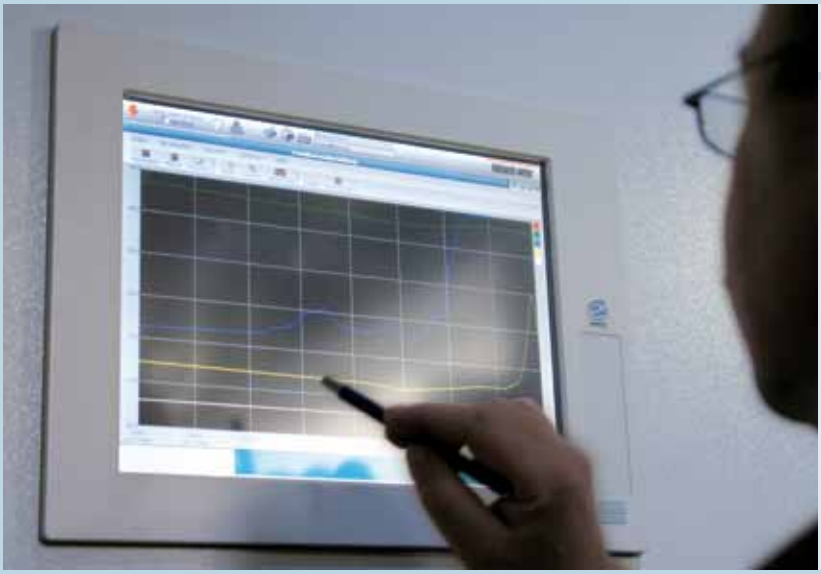
The statistics are generated via a plant display selection or a "quick search table" based on the included data points. The error messages are stored in a database so that statistics can be created retroactively for each time period. Upon request, the Neutrino-GLT will automatically provide cyclical documentation of error message statistics. This saves time and ensures continuous information.

Easy data transfer to Office applications

All statistics can be automatically converted into a CSV spreadsheet. This can be further processed by current Office applications.

The analysis and processing steps are supported by software modules such as SM22 counter value processing, SM49 error message statistic, SM87 counter value statistic as well as SM202 energy management* and SM203 energy management* mobile. With the SM202 and SM203 software modules energy and media consumption are easily stored, evaluated and monitored. The data is available via standard OPC and ODBC interfaces as well as for other applications. The SM202 software module can be combined with electronic heat cost allocators.

** Performance varies regionally*



Benefits at a glance

- Simple, transparent analysis of consumption data
- Fast, safe localization of failures
- Use of consumption data for further applications
- Extensive tools for continuous optimization

Use in practice
The solution for building and properties of any kind

Roissy Charles de Gaulle Airport, Paris

The Roissy Charles de Gaulle Airport in Paris is one of the largest airports in Europe. In its new Terminal 2G, building automation from Kieback&Peter monitors and controls the heating, ventilation and air conditioning. Safety and reliability are the highest priority. Passengers, visitors and employees of the airport additionally receive optimum comfort.

The building automation system is monitored and operated via the Neutrino-GLT. The Neutrino-GLT speaks native BACnet®, so it works in all systems and can be seamlessly integrated. The control technology additionally includes an industrial control computer. Error messages are analyzed and transmitted via a modbus protocol for each device. A modbus BACnet® Gateway connects to the external host computer.

Roissy Charles de Gaulle Airport

ENDO-Clinic

ENDO-Clinic, Hamburg

The Endo-Clinic in Hamburg is one of the largest and most prestigious specialised clinic for bone, joint and spine surgery. In 2009, a generous extension was opened. The new clinic building is seven storeys high and contains eight modern operating rooms among other areas.

The Kieback&Peter DDC4000 automation system controls heating, ventilation and air conditioning. Systems for managing the medical gases, sanitary facilities and fire protection installations are all integrated. All the integrated systems are monitored operated and optimized via the building management system with a Neutrino-GLT. The system is safe and easy to use and provides operational safety around the clock. Even the highest standards of energy efficiency, economy and comfort are always met. A maintenance contract guarantees quick help with problems.

Use in practice
Amsterdam City Center Mövenpick Hotel, The Netherlands

Benefits at a Glance

- Comfort for the guests
- Efficiency for the operator
- Energy efficiency

The Amsterdam City Center Mövenpick Hotel, which opened in fall 2006, is a 4-star plus hotel, located directly on the waterfront in the center of Amsterdam. Not only is the architecture of the building, designed by Claus en Kaan Architecten Amsterdam, very impressive, but the height of about 70 meters is as well. There is a breathtaking view of the harbor and the historic city center from the upper floors. The hotel has 408 rooms, 12 meeting rooms of various sizes and a restaurant.

A hotel of the 4-star-plus category must offer its guests the best comfort. At the same time it must be operated economically. The building owners thus chose building automation by Kieback&Peter. The system reliably and efficiently controls and regulates devices such as boilers, refrigeration equipment, ventilation systems and elevators.

All systems are monitored and operated through the Neutrino-GLT building management system. This is where error messages are collected and therefore any problems that may occur are quickly identified and corrected.

The Neutrino-GLT also gathers operational and consumption data and makes them available for evaluations. Weak points can thus be identified and plant operation continuously optimized.

Comfort and energy efficiency as required

The technolon® room automation system provides comfort for the guest rooms. It communicates via the Neutrino-GLT with the hotel reservation system.

The hotel booking system informs the Neutrino-GLT, whether and when a room is booked. The Neutrino-GLT transmits the reservation data to the technolon® system. Automatically upon arrival, the guest receives the desired comfort. Already during the pre-setting of the temperature, the regional origin of the guest is taken into consideration. In addition, the guest can individually adjust the climate in his own room.

If a guest room is not booked, the room automation shuts the equipment off so that no energy is wasted. This saves money and improves the energy efficiency of the building.

Benefits at a glance

- Integration of distributed real estate
- Integration of different plants
- Energy efficiency via intelligent control and optimization
- Fulfils high safety requirements

Use in practice
Rostock University

Most systems interact with the Neutrino-GLT via a BACnet® protocol. System specific interfaces allow the integration of LON®- and KNX components.

Comprehensive, trade-spanning integration

The Neutrino-GLT's central server is safely located in the University's data center. Approximately 30,000 data points are connected. The Neutrino-GLT is adjusted according to the University's requirements by means of software modules such as the SM21 time switch program, SM22 counter value processing and SM202 energy management. The data is transmitted via PHWIN to the different operator stations.

The plants can be operated easily and safely via a large number of plant images. The Neutrino-GLT stores and documents all data. The SM202 energy management software module allows a transparent display of consumption data and can quickly identify weak points. The success of the measures taken to improve efficiency can also be easily followed by means of evaluations. All plants can be continuously optimized.

Rostock University has for many years used the Neutrino-GLT from Kieback&Peter for its building management. All major operational equipment is integrated: automation systems and devices from Kieback&Peter and other manufacturers control not only the heating, ventilation and cooling, but also anti-intrusion, access control, the elevators and transformer stations.

Use in practice
TF1, Ile de France, Boulogne-Billancourt, France

L'Atrium building in the Parisian suburb of Boulogne-Billancourt, is a 39 meter high, elegant building which has ten floors. The main French TV channel Télévision Française 1 (TF1) has its new media and advertising departments here as well as some other departments. Before TF1 moved in the building was renovated. Focus was placed on the need to protect the environment and be energy efficient.

Energy efficiency

In the course of the renovation a modern, trade-spanning building automation system from Kieback&Peter was installed. The DDC4000 automation system ensures efficient use of energy. It monitors, controls and regulates the distribution of heat, cooling and electricity. Two DDC4200 automation stations monitor and regulate the heat supply within the building. Counters are also integrated in the DDC4200-L automation station which communicates via LON®.

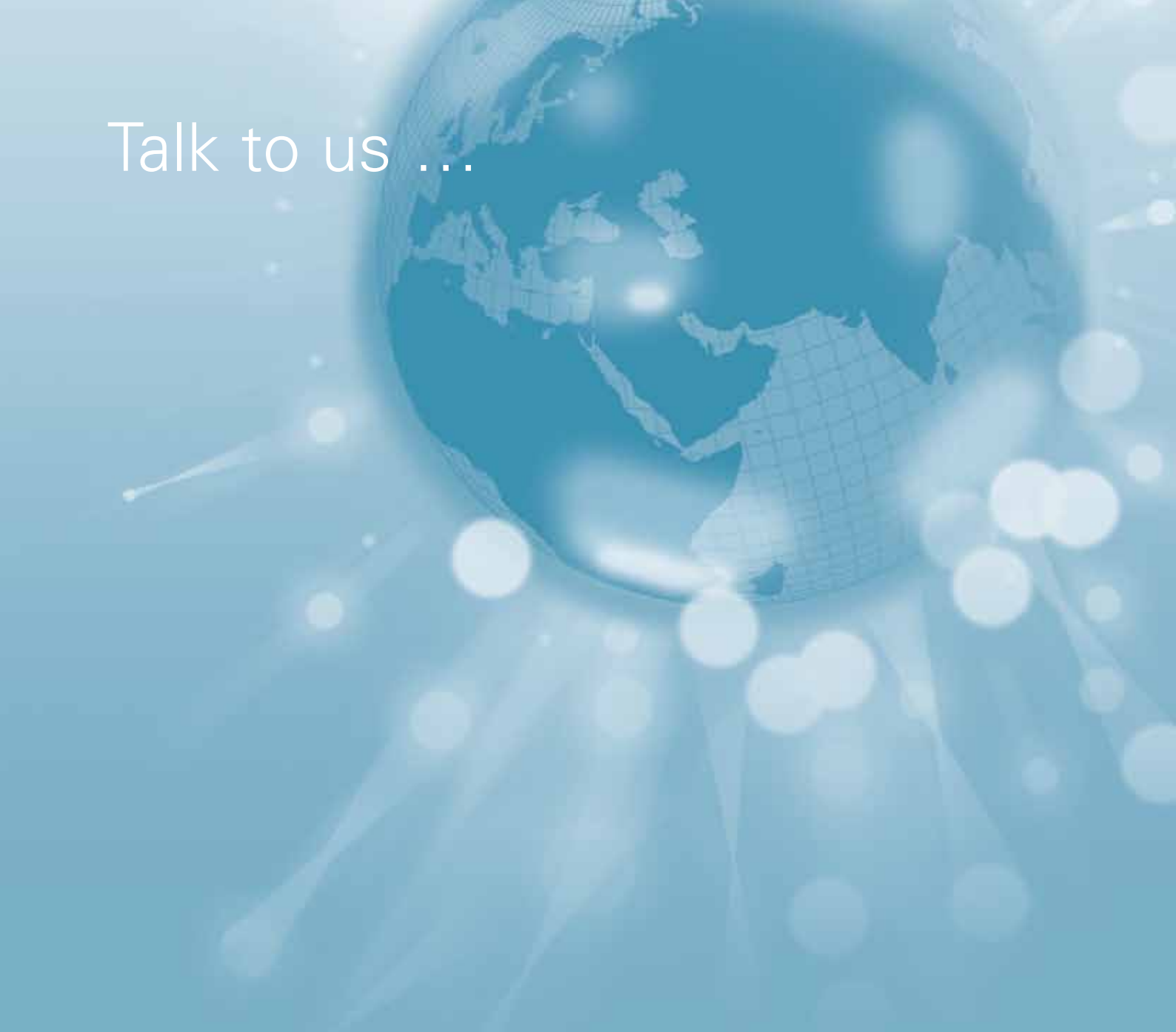
Full integration

The customer put great emphasis on having powerful, independent building management. This is why he chose the Neutrino-GLT, which communicates via Ethernet, BACnet®, LON® and IP. Directly integrated via LON® in the building management system are the LON® controller, the heat pumps which supply heating and cooling in an environmentally friendly way, and LON® zone regulation.

Benefits at a glance

- Energy efficiency via comprehensive integration
- Demand-dependent control of heat production and heat distribution

Talk to us ...



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Technology for Building Automation