The Company

MAGAZINE

euromicron

euromicron

next generation solutions

Networking the future

The euromicron Group unites and combines all the expertise and technologies needed for state-of-the-art, future-oriented data transfer. On the basis of powerful broadband networks, we ensure top-class communication, control and surveillance for our customers in the Gigabit age.

We support our customers in Germany and international markets with high-performance components, integrated modules and a broad range of application know-how: We plan and build the infrastructure they require for their business success and for realizing their visions. As a result, we create forward-looking, future-proof, innovative solutions for our customers – next generation solutions.

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next generation solutions

euromicron Magazine

Technology and applications of euromicron

Network solutions

Data transmission is conceivable today only by means of networks. It is based on a complex infrastructure that uses various channels and technologies and enables different applications and transfer scenarios.

Technologies from euromicron

MOBILE COMMUNICATION

Overlapping radio zones create flexible, reliable connections

OPTICAL FIBER

Leading-edge broadband technology for state-of-the-art data transport

- **FIXED NETWORK**
  FIBER OPTICS AND COPPER
- **WIRELESS**
  MOBILE, RADIO RELAY, BOS, WLAN

next generation solutions

- VOICE/UC
- VIDEO
- MONITORING
- PHYSICAL SAFTEY AND ALARM DATA
- ALL OTHER TYPES OF DATA

Applications of euromicron

COPPER

Tried-and-tested standard technology for conventional networks

RADIO RELAY

Ideal when there is visual contact between the sender and receiver

BOS WIRELESS COMMUNICATION

Smooth wireless operation for public authorities and organizations that perform security tasks

02 SOLUTIONS FOR THE ENERGY SECTOR:

Technologies for a changing market

Energy markets are changing. In future, countless small and large producers will feed the power they produce into a complex and ramified grid. Consumers will become producers, while charge systems will have an unprecedented degree of transparency.

euromicron supports producers and network operators in this complex changing arena with state-of-the-art components and systems that can be adapted to a very wide range of different environments. With surveillance systems at huge solar fields or an offshore wind farm, smart grid connections or communications systems – we help our customers tackle the challenges of the future innovatively.

LA PALMA, SPAIN
28° 07' 24'' N, 15° 25' 19'' E

Precision on behalf of science

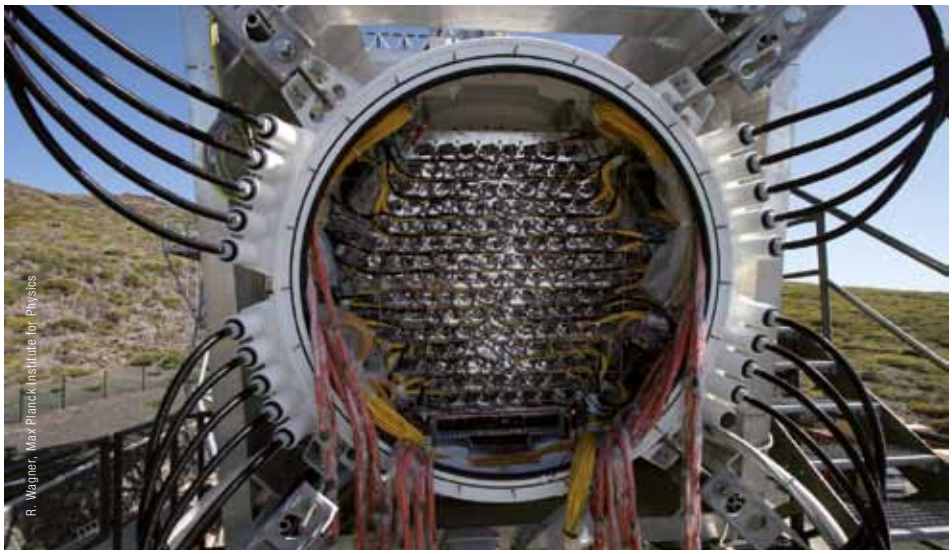
Astrophysicists from the Max Planck Institute in Munich are researching the enormous amounts of energy in black holes using gigantic high-precision reflecting telescopes. euromicron's subsidiary LWL Sachsenkabel GmbH supplied fiber-optic cable meeting all the accuracy requirements demanded in modern science for such a telescope on the Canary Islands.

MAGIC-I is located on a plateau on La Palma. The reflecting telescope consists of more than one thousand precisely measured and grounded mirrors. All of them together are to receive blue light from space in the deep darkness of night on the Canaries: Cosmic gamma rays that are produced in the vicinity of black holes and from which astrophysicists hope to gain new findings on these points of infinite density.

A distinguishing feature of MAGIC-I is maximum precision – and that also goes for the cabling. Munich's Max Planck Institute for Physics, which is in charge of the project, therefore uses a technological standard that ideally supports or can even maximize the performance of the valuable instrument. In this connection, euromicron's subsidiary LWL Sachsenkabel GmbH was commissioned to supply 20 fiber-optic cables in high-end quality for the signal path from the camera to the analysis unit.

Leading technology

"Above all, that was a metrological challenge," sums up Steffen Lüdemann from Research and Development at LWL Sachsenkabel GmbH. In order to achieve the extraordinarily small fault tolerance specified by the Max Planck Institute, the euromicron company equipped itself with sophisticated measurement technology. The measurement setup was formulated in close cooperation with the scientists from Munich.



1,440 individual fibers with extremely low time delays

Project: LWL Sachsenkabel GmbH supplied 3,300 meters of optical cable for MAGIC-I, made up of a total of 20 individual cables, each with 72 optical fibers. That gives 1,440 individual fibers, in which the signal time delay must not be greater than a billionth of a second

Control: The results were controlled at LWL Sachsenkabel and on site under the critical eyes of the scientists from Munich

R. Wagner, Max Planck Institute for Physics

More than a thousand precisely ground mirrors create the connection to space

The stipulation was that the delay time during transit could not exceed one nanosecond – after all, light is quick and that demands quite a bit of the measurement technology.

Virtually loss-free transmission

The result is impressive: The 20 cables, each of which has 72 fibers, deliver virtually loss-free analog transmission of the optical signals. Such precision is of great value, especially for research institutes. “However, that will also be of growing interest to telecommunications providers in future,” predicts Lüdemann. “Precision will become more and more of an issue due to the soaring volume of data, including in traditional networks.”

NORDERSTEDT, SCHLESWIG-HOLSTEIN, GERMANY
53° 40' 14'' N, 9° 58' 51'' E

Bandwidth for the broadband network

It's been a longstanding and successful relationship: euromicron systems and the public utility Stadtwerke Norderstedt have cooperated closely for more than nine years in planning and operating network infrastructure. euromicron not only provides a full range of services in the area of active infrastructure for the telecontrol network – euromicron systems is also currently porting more than 12,000 telephone and Internet connections for the utility's subsidiary wilhelm.tel GmbH.

They're what might be termed the pilot utility in Germany. Almost a decade ago, Stadtwerke Norderstedt converted its network infrastructure to a powerful fiber-optic network. The telecontrol network – i.e. the part of the network responsible for not only the supply lines itself, but also data transport for monitoring and controlling the gas, water, electricity and piped heat stations – was also connected to it. This task reveals one thing: Telecontrol networks are one of the most demanding and sophisticated areas of network technology and they must be highly available and highly convergent. euromicron systems GmbH in Hamburg therefore supported Stadtwerke Norderstedt not only by supplying and installing the active components, but also helped

THORSTEN TRAPP
HEAD OF THE ACTIVE TECHNOLOGY BUSINESS UNIT EUROMICRON SYSTEMS GMBH HAMBURG

"We support our customers – public utilities – in filling out and exploiting their innovative role cost-effectively."

Order: Design and implementation of the highly available fiber-optic telecontrol network. Replacement of the central node by two highly available redundant systems. Renovation of two points of presence (PoPs) and connection with 10 gigabit Ethernet

Follow-up order: Porting of 12,000 telephone and Internet connections for wilhelm.tel GmbH

Further offers: Triple-play voice, data and video transport for households and in future smart metering

Telecontrol networks are a vital element of supply networks and demand sophisticated technology

advise on planning of the network with its end-to-end solution competence.

Tried-and-tested solutions

Since then, the concept and hardware have had time to prove their worth: “There have been hardly no problems in the network in the past six years,” are the words of praise from Jens Steinbrecher, the foreman at Stadtwerke Norderstedt in charge of measurement and control and light signal systems. “And when there was a fault, the euromicron team rectified it right away.” Because the demands on the network are constantly growing, the second generation of hardware for the key components is now doing service: The central node has been replaced in the meantime by two highly available, redundant systems.

Thanks to the intelligent energy management system, Stadtwerke Norderstedt can thus already offer a cutting-edge smart grid and smart metering solution. Images from video cameras used in local public transport can also be transferred over the network. “Local public utilities will assume completely new tasks in future,” is the prediction of Thorsten Trapp, Head of the Active Technology Business Unit at euromicron systems GmbH in Hamburg. “We support our customers – public utilities – in filling out and exploiting their innovative role cost-effectively.”

The know-how and resources for that are available: euromicron has now also ported 12,000 telephone and Internet connections to the broadband network of Stadtwerke Norderstedt’s telecommunications company wilhelm.tel GmbH. “The main challenge here was organizational,” explains Trapp. “We handled the termination work for end customers on our own and everything went smoothly. Once again, we proved we’re a partner who is proficient in all aspects of broadband technology.”

NIESTETAL, HESSE, GERMANY
51° 18' 30" N, 9° 35' 01" E

Sunny times for flexible solutions

euromicron's subsidiary ELABO GmbH is well-known in the industry as a manufacturer of test systems for solar inverters. Thanks to a new concept, the company ensures high flexibility for its customers and outstanding service response times.

Anyone with a solar panel on their roof generates direct current. So that it can be used in our grid, it has to be converted to alternating current. The solar industry is booming. And the many solar cells on roofs all over the world mean that a large number of inverters are required for conversion. As electrical components, inverters are subject to stringent regulations. Every one leaving a factory must undergo a thorough inspection. euromicron's subsidiary ELABO GmbH has supplied its customer SMA Solar Technology AG with 35 test stands for inverters and five systems for inspecting load break switches over the past one-and-a-half years. The company, which is headquartered near Kassel and has branches in Toronto and Denver, is the world market leader in solar inverters and supplies the expanding international markets on a large scale. "After all, it's not only people in Germany who are looking for alternative ways to produce energy," states Thomas Seeger, Head of the Test Systems Division of ELABO. "This is a market that is exploding worldwide. That's why our customer needs a large number of test systems in a very short space of time. And that was no small challenge."

THOMAS SEEGER
HEAD OF THE
TEST SYSTEMS DIVISION
ELABO GMBH

"After all, it's not only people in Germany who are looking for alternative ways to produce energy."

Testing with a plug-and-play method

So as to offer SMA Solar the right solutions for all requirements, ELABO's engineers developed a new testing concept distinguished above all by its modularity. The advantage: The systems can be set up and individual units replaced extremely quickly. "A plug-and-play method is used," enthuses Seeger. Such a technique is useful, for example, if you want to erect new plants quickly in a bustling market or carry out conversions in production. Modularity also increases availability: Whole units are simply replaced if they need to be serviced.

Order: Delivery of 35 test stands for testing inverters and around five systems for inspecting load break switches

Innovation: Visualization of the measured results, data networking of all test stands and locations, modularity of the systems, adapter exchange system

Technology: System consisting of three exchangeable modular components: Test stand, test cell and test adapter

Benefits: Product safety (protective earth conductor and high voltage) and the function of switches and fans are inspected at up to 15 test points.

New energy boosts growth at ELABO

Whether solar panels, inverters or switch units – ELABO has established itself as a leading producer of high-quality measurement and test systems for all application cases in the solar industry.

ELABO's solution portfolio ranges from stand-alone safety testing equipment for testing and certification institutes to partly or fully automated test systems for the manufacturing industry.

A further focus of ELABO GmbH in designing the test systems was on the graphical displays and precise documentation of the test data. "Safety is top of the agenda in the electrical industry," explains Thomas Seeger. "Manufacturers always have to prove its products are safe. And that's where we support them."

High-voltage tester for manual inspection of solar modules

High-voltage system module for integration in automatic test systems

Modular test systems for solar inverters

03 SECURITY SOLUTIONS:

We combine technical excellence with far-sighted consulting for your safety

Security is an issue of growing importance at enterprises and public institutions. Intelligent and powerful electronic alarm, fire prevention or surveillance systems protect property and people. The success of a security measure depends considerably on its technical design.

euromicron installs and integrates alerting systems at business and public organizations. We tailor our solutions to your needs: A museum requires different security measures than a financial institute. A prison or a data center has to cover different potential dangers to those facing an airport. You profit from our wide-ranging experience in the shape of reliable and effective alarm systems.

FRANKFURT/MAIN, HESSE, GERMANY
50° 06' 36" N, 8° 40' 45" E

Security, cleared for take-off

In international aviation, there is no issue more important than security. And the terminal extension A-Plus at Frankfurt airport is the test bed for cutting-edge security concepts. euromicron solutions GmbH is supplying showcase alerting technology at the new pier in the shape of innovative, yet rugged solutions.

Eleven aircraft will be able to dock onto the new pier of Frankfurt Airport's longest-serving terminal. 6 million visitors a year will then converge on the total space of 185,000 square meters. And as mighty as such a facility may seem: It is sensitive and open to attack. People and luggage come and go through a total of 700 doors, airlocks and hatches. Who can ensure security under such circumstances, especially in view of the threat of international terrorism?

Expertise in airport security

euromicron solutions shouldered part of this huge task and worked with Fraport AG to develop and install a refined alerting system. For many years, euromicron has worked reliably in the field of

Security has to be maintained, inspite of millions of people moving every day on the airport

airport security. At the A-Plus pier, the main objective was to install burglar alarm technology, escape door control, access control and alerting technologies. “We had already cooperated successfully in the area of security for Frankfurt Airport in relation to the topic of “critical parts” in the apron,” says the responsible key account manager at euromicron solutions GmbH. “It’s an advantage for our customer Fraport that we have a broad technological line-up and also boast specialist airport know-how.”

Flexible solutions

Rapid response to alarms, precise alerting and a high level of quality with reliable functions – those are things a airport must depend on. In some cases, existing systems were expanded in the project, while completely new ones were implemented. Access control and escape door control are designed very specifically for the airport and its needs. The fact that they are fully freely programmable is an innovation that gives a living organism like the airport flexibility. “As a result, we can really fulfill customer wishes,” says the delighted key account manager, adding. “We contributed consulting expertise and a lot of suggestions for improvement to the project – to great benefit for the overall solution.”

Projects at such a large and highly frequented airport are always something special and a challenge. Much of the work had to be carried out at night so that non-stop flight operations were not impeded. Under such circumstances, the unforeseen is a normal part of the job. Yet euromicron still managed to deliver on time and without errors, which is not just a source of pride and pleasure for the euromicron solutions team. “That was truly great commitment,” are the words of praise from project controller Ronald von Brandenstein from Fraport AG. “euromicron did all in its might to ensure that the great challenge of providing alerting technology at the A-Plus pier was accomplished on time.”

Order: Security technology for the A-Plus pier at Frankfurt Airport

Solution: Burglar alarm technology, freely programmable access control, video surveillance and escape door control for 700 doors, airlocks and hatches, as well as alerting technology

Secured area: 185,400 m²

BERLIN, GERMANY
52° 31’ 24” N, 13° 24’ 41” E

Stable connection at high and low tide

The German Federal Water and Shipping Authority (Wasser- und Schifffahrtsverei-nigung WSV) is building a single network to monitor shipping along the country’s coasts – and euromicron’s subsidiary telent GmbH is creating the technical condi-tions for that at 120 locations. That is an exacting task, especially at sections with strong tides.

There’s a lot going on off Germany coastlines. The North Sea and the Baltic Sea are some of the busiest sea routes in the worlds. Ships pass by the coastal regions, while others are headed for German ports. Offshore wind farms and oil platforms also contribute to the traffic. Monitoring and safeguarding maritime shipping is the duty of the Water and Shipping Offices – a complex and responsible task and one where the aim is to ensure smooth traffic operations and avoid disasters or pollution of the environment.

One of the key instruments in this are not only cable but also wireless communication networks, which are used to enable surveillance of stretches of the coast and establish connections to platforms, lighthouses or ships. They transport radar and positioning data, video information or water level and operating data. Consequently, the Federal Water and Shipping Authority invited to tender as part of its plan to standardize the enterprise network on the basis of IP technology with radio relay. The advantages of the new

Project: Equipment of 120 locations of the WSV with a new enterprise network

Technology: Native IP radio relay technology used in the range requiring a license, cabinet management with electronic card access

Longest RF link: 66 km

Total length of the RF links: Approx. 1,560 km

network are security, availability and high bandwidth. It will gradually replace the existing individual networks and facilitate communication between the Water and Shipping Offices thanks to scalability and flexible data distribution.

telent GmbH won the invitation to tender of the Water and Shipping Offices with the most cost-effective bid and so was commissioned to equip a total of 120 locations with the foundations for a new enterprise network. “We were awarded this large project due to our fine radio relay expertise,” states Martin Neudek, Account Manager at telent. “However, another important factor was that we are a one-stop shop for infrastructure, planning and technology, which gave us further scope for offering a competitive price.”

The project comprises installing system cabinets for the components that enable secure access to the enterprise network. They include the routers, power supply and battery buffer. In addition, a total of 90 radio relay links are being planned, supplied and commissioned. “They are a challenge in this project,” says Neudek. “The radio fields above the Wattenmeer are especially difficult to calculate. There are areas where the air is still due to evaporation and the reflection points over water and land differ. That means the disturbance changes and that makes it more difficult to set up the connection.”

Some of the new radio relay links are already in service. 7 GHz microwave links are mainly used and so they are largely insensitive to rain. They are administered using a central management system.

“The package also included in-depth training of staff from the Water and Shipping Offices so that the important network can be supported by the customer itself,” adds Neudek. That is why telent has also equipped spare parts warehouses for the authority at four strategic points – a service that was also requested in the tender.

Monitoring and safeguarding maritime shipping is the duty of the Water and Shipping Offices – telent is supporting them in this responsible task

ERFURT, THURINGIA, GERMANY
50° 58' 45" N, 11° 0' 49" E

Protection for a treasure

When conventional technology is confronted by out-of-the-ordinary requirements, specialists are needed. ssm euromicron GmbH provided its expertise and agility in designing and installing the alarm technology for the "Old Synagogue in Erfurt". With excellent success: The historical building has already welcomed 70,000 enthusiastic visitors in its first year as a museum.

"There are inhospitable environments that are really just not at all suitable for sensitive technology," is how Thomas Pabst, Head of Sales and Project Planning at ssm euromicron GmbH, puts the challenges in the "Old Synagogue in Erfurt" in a nutshell. In 1992, while a condemned house was being cleared out in the old quarter of Erfurt, a unique cultural gem was discovered: Both the building itself – an old synagogue dating from the 11th century – and genuine treasure excavated nearby proved to be items of inestimable cultural value. And they have to be preserved.

Certified security

Protection at all levels – that was the key concern of the historians and restorers in the subsequent renovation work: The Old Synagogue was to be restored as a museum housing the valuable exhibits. And protecting a museum with the highest level of security calls for cutting-edge alarm technology – and it also has to be certified by the insurer. ssm euromicron GmbH fended off competition from a large number of rival bidders with an offer that united cost-effectiveness, in-depth expertise and high-quality technology. "We were naturally interested in a project that

THOMAS PABST
HEAD OF SALES AND PROJECT PLANNING
SSM EUROMICRON GMBH

"We were naturally interested in a project that attracts so much attention in the region."

Protection for cultural heritage by video surveillance

Project: Burglar/fire alarm and video surveillance system certified by the VdS

Special aspects: A listed building and museum containing exhibits of very great value concentrated at a single location

Solution: Fire prevention with a smoke extraction system, non-visible display cabinet surveillance in the vaulted cellar, VdS-compliant surveillance of the doors in cooperation with the restorer

attracts so much attention in the region," says a delighted Thomas Pabst about the contract.

Special services included

Fire surveillance is provided in the form of a smoke extraction system installed in the vaulted cellar. In addition, a burglar alarm system which integrates not only the windows and doors, but also the display cabinets and is completely hidden from sight was installed. "That was a very exciting part: Laying state-of-the-art technology in the old stonework and in strict compliance with the requirements for preservation of historical monuments in such a way that it cannot be seen, but still accessed and the old substance of the building is not impaired," says Thomas Pabst. "We came up with special solutions together with the door restorer and the cabinet makers. There were so many unforeseeable developments during the restoration that we basically had to plan in real time as the work proceeded." The project was interesting, demanding and above all instructive in the assessment of the employees of ssm euromicron GmbH, who had to coordinate the different trades. It also called for a great deal of flexibility in dealing with the uncertainties as regards schedules.

All the obstacles have been overcome, the technology works and the museum is open. "We have obtained a high-quality solution commensurate to the site's cultural importance," is the verdict of Ines Beese, Director of the Old Synagogue. Alongside the projects for the State Museums in Mainz and Trier, euromicron has again demonstrated its expertise in delivering optimal security solutions for museums. "It's good to see how enthusiastic the people from the museum are," is also the opinion of Tobias Jahn, holder of commercial power of attorney at ssm euromicron GmbH and head of the Erfurt branch office. "A project like this is more than just business."

INES BEESE
HEAD OF THE OLD SYNAGOGUE ERFURT

"We have obtained a high-quality solution commensurate to the site's cultural importance."

Mobility has become a mass phenomenon. Billions of people on our planet travel by plane, car or public transport every day. They are increasingly reliant on a technical infrastructure that enables traffic flows to be optimized and controlled safely.

Network solutions from euromicron support coordination of traffic in all types of mobility thanks to rugged components and intelligent concepts: In traffic control systems, for example, in airport surveillance or in passenger information systems in local or long-distance public transport, our highly available systems ensure that our customers can implement processes as planned.

04 MOBILITY SOLUTIONS:

Trend-setting concepts that affect people

AVIANO, ITALY
46° 03’ 56” N, 12° 34’ 45” E

A good antenna for customer benefits

If you have good local knowledge, then you have an advantage when it comes to buying things – and that is also true as regards technical components for an airbase. The US armed forces in Northern Italy benefited from the cooperation between euromicron solutions GmbH and euromicron’s Italian subsidiary Qubix.

The US airbase Aviano is located at the foot of the Alps in Northeastern Italy and is where the US army has its fighter planes stationed. The aircraft are accommodated in 24 hill-shaped bunkers arranged around the airfield. These bunkers are far more than just places to park the planes. They are service points where craft are also repaired and maintained. To help them in their work, the service technicians use notebooks and WLAN so – just like with modern cars or civil planes – they can read out data from the aircraft’s software and analyze it.

euromicron solutions GmbH was commissioned in Aviano with creating the network infrastructure and connecting the network to the data center. “We are a preferred contact for our American partner companies for such projects because we have know-how in American and European standards,” is the reason Thomas Stretz, head of the euromicron solutions GmbH branch office in Bamberg, gives for the fine working relationship.

Security is key

In Aviano, a fiber-optic cable was led from every bunker to the data center and linked there to the control station. euromicron installed the active and passive components, as well as three antennas for the WLAN both inside and outside the bunker. Each bunker was also equipped with further antennas for monitoring security – their task is to “listen” whether anyone is accessing the network without Authorization. If that is so, a signal is sent to the control station and an alarm triggered.

Order: Expansion of data communications to enable networked service and maintenance work

Technology: Laying of approx. 10 km of fiber-optic cable and delivery and integration of switches, routers, antenna and data cabinets complying with protection class IP64

Service: Fiber-optic backbone, installation, lining up the antennas

Each bunker is equipped with fiber-optic cable and antennas for monitoring security

Proximity to the customer

The cooperation with euromicron's Italian subsidiary Qubix networking solutions S.p.A. ensured smooth local procurement of all the components in the project. "Good regional knowledge was an advantage," explains Stretz. "Our customer benefits from short routes and customer proximity in the true sense of the word."

Order: Dynamic passenger information system for 711 small stations, commissioning of 1,135 displays

Technical design:
Digital data transfer via a standardized interface, network assembly, fitting with carriers and loudspeakers, adjustment of the carriers to all masts and roof constructions, commissioning and documentation

Reference: euromicron has already equipped 610 medium-sized and large stations of Deutsche Bahn – including Berlin Central Station – with information displays

BERLIN, GERMANY
52° 31' 22" N, 13° 22' 52" E

Big logistics for small train stations

A train can run late now and again. Most passengers do not mind the inconvenience – but only if they are provided with specific information on all changes of the timetable. Information on a display panel used to be provided only at large and medium-sized stations. Together with euromicron, Deutsche Bahn has now equipped more than 700 smaller stations with a dynamic passenger information system.

Information in real time – on a display panel, over the Internet or from service staff – is something taken for granted at large stations. But not at small ones: As little ago as 2009, reports on delays and changes to the train timetable were received solely by fax or phone. Passengers then also obtained the information with a delay. That has now changed radically.

Rollout of dynamic displays (DSAs) at a total of 1,071 stations means that all information is now shown on the panels without delay thanks to electronic data transfer via a standardized interface. The displays are part of the dynamic passenger information systems. The announcement centers and service staff also receive the information in real time.

The collaboration has also already proven its value at large stations, such as Berlin Central Station

DIETER CELLER
HEAD OF THE
DEUTSCHE BAHN
COMPETENCE CENTER

"The dynamic display is a low-cost alternative to standard passenger information systems."

Wireless connection

And this is how the system works: Information on deviations from the static timetable is recorded and the new details are displayed on a ticker at the affected stations. In addition, announcements can be broadcasted via a built-in or external loudspeaker. There is a wireless connection to the central information system, i.e. data lines are not required. The information is sent fully automatically from the passenger transport system by SMS to the new equipment and displayed on it.

"The dynamic display is a low-cost alternative to standard passenger information systems. Although only delays are shown on it at the moment, additional information will be able to be transferred in a further step. As a result, the entire system is future-proof," is how Dieter Celler, Head of the Deutsche Bahn Competence Center at euromicron systems GmbH, explains the advantages of the solution. euromicron had previously equipped large stations, such as Berlin Central Station, with display systems and also commended itself for the task in the "Pilot project for small stations".

The rollout was a masterly achievement

euromicron installed a total of 1,135 displays at 711 stations throughout Germany, as part of which 304 masts, 1,968 display carriers and 1,224 loudspeakers were supplied and mounted. Cable installation, commissioning and documentation – everything was in our hands," states Celler. However, the special challenge was the complex task of coordination. Just storing and delivering the materials entailed demanding efforts, as did nationwide coordination with 53 station managers. "From creation of the plans for securing the platforms and tracks to optimize work where there were no infrastructure facilities – the entire logistics abilities of euromicron were called on," says an enthusiastic Celler about his team's performance. "Such a project is our calling card for all other transport companies."

BERLIN, GERMANY
52° 31' 24" N, 13° 24' 41" E

Service for the toll system

Germany's motorways are equipped with a cutting-edge, satellite-aided toll system for trucks weighing 12 tons and above. euromicron's subsidiary telent GmbH provides support for all terminals, control bridges and the mobile control units of the Federal Office for Freight Transport (BAG) with its nationwide service network.

Germany lies at the heart of Europe and this favorable location makes the country's roads the hub of international trucking. However, the constantly increasing volume of traffic results in considerable burdens – and the aim is to cushion them at least in part by means of a motorway toll. So that the charges are as use-related as possible and so far, the company Toll Collect has operated the world's first satellite-aided toll system on behalf of the German government since January 1, 2005. It is a free-flow system which calculates the charges proportionally to the distances covered. Unlike in conventional toll systems, Toll Collect therefore does not impede the flow of traffic. Trucks can move freely on the roads and are not confined to certain lanes.

XXL service network

Toll terminals for manual registration and control bridges and vehicles of the Federal Office for Freight Transport – the toll system comprises a broad range of technical facilities throughout Germany. euromicron's subsidiary telent has been tasked with supporting and servicing them. "From fleet management, maintenance of the toll terminals, repair work to the bridges, spare parts logistics to servicing of the technical units in the vehicles of the Federal Office for Freight Transport – we carry out all service work for the customer Toll Collect," states Martin Belovitzer, Account Director at telent GmbH. "We have set up spare parts warehouses spread across Germany to comply with the service level agreements." telent was entrusted with various

tasks in preliminary work on the toll system. “Our customer conducted a thorough examination of our nationwide service network,” recalls Martin Belovitzer.

Working round the clock

And the requirements were by no means minor: telent’s service staff is in action 24 hours a day, 7 days a week and 365 days a year on behalf of Toll Collect. The system is monitored at Toll Collect and employees at the control center then pass on every technical failure to telent in the form of a job order. “We are connected to Toll Collect online all the time so as to keep our response times extremely low,” explains Martin Belovitzer. They are two hours for the technical unit on the BAG vehicles and four hours for the toll terminals – tightly calculated deadlines that demand a closely-knit network of service staff covering the whole of Germany.

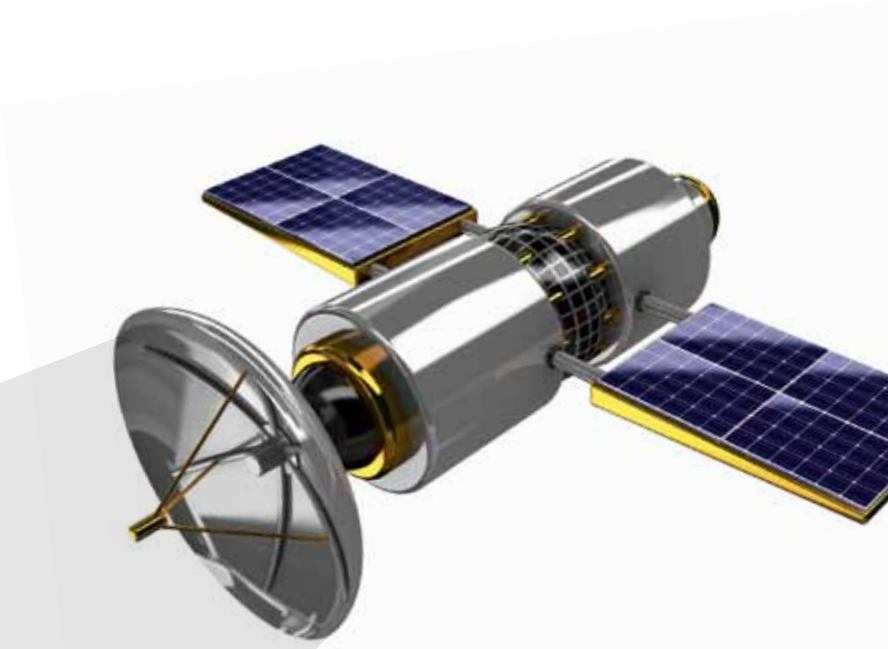
Maintenance of the more than 3,700 toll terminals demands extremely short response times

This team with its many technical skills contributes daily to enabling toll collection to function smoothly and the system to run stably and reliably. That ensures that the burdens on people, the environment and the roads can be compensated for. “The technology must function continuously,” says Belovitzer from his many years of experience. “Then people wanting to dodge paying the toll don’t have a chance.”

Mission: Support for the nationwide service network of the BAG

Number of service units:
300 control bridges on German motorways, around 3,700 toll terminals and 252 BAG vehicles

Number of stocked spare parts:
A few thousand



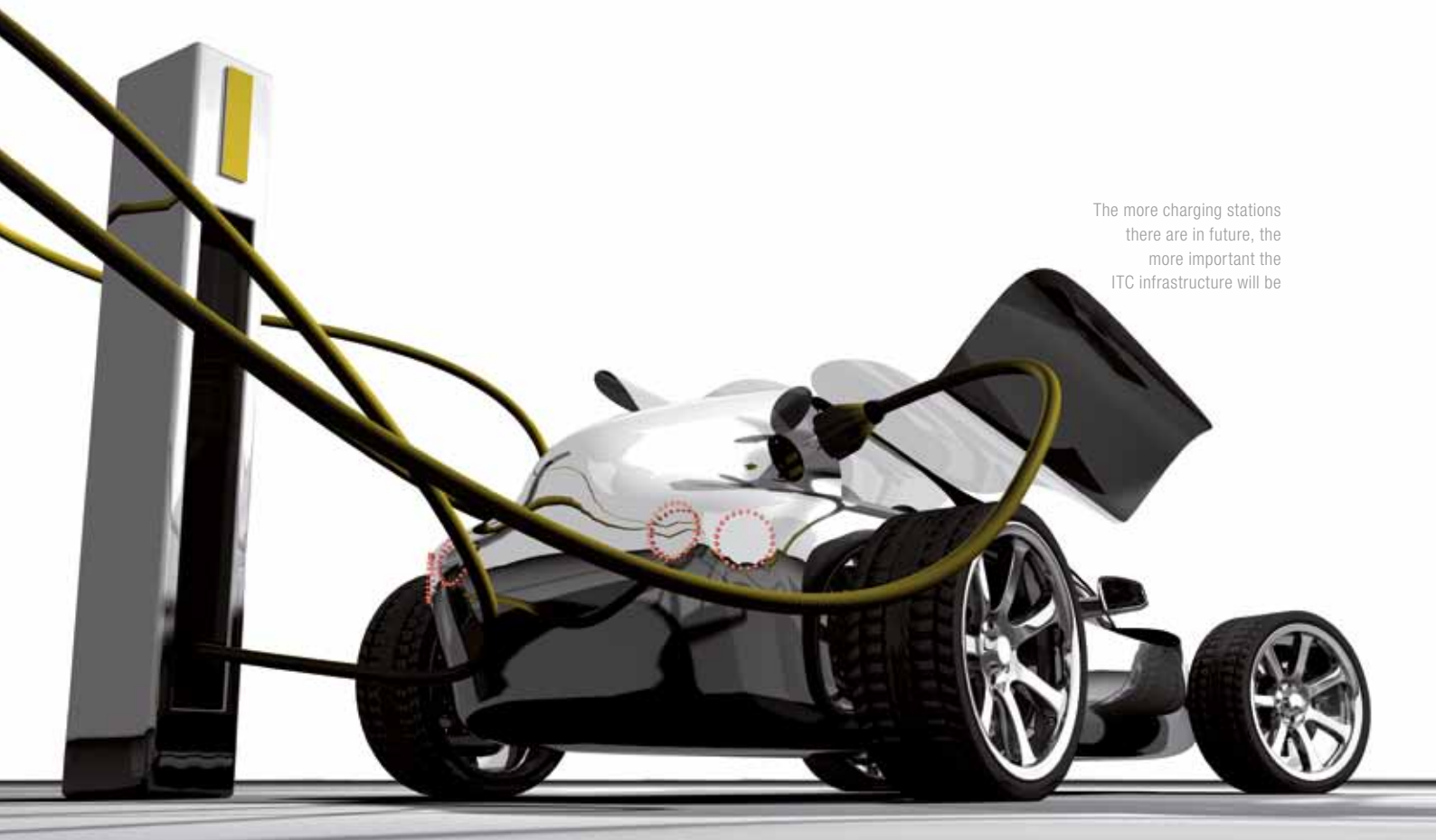
MUNICH, BAVARIA, GERMANY
48° 09' 05" N, 11° 33' 27" E

euromicron supports networked and secure electromobility

The German government has set itself an ambitious target: 1 million electric vehicles are to be on the country's road in 2020. Experts expect up to 2.5 million vehicles in Germany and more than 10 million in Western Europe, i.e. Germany would account for 19% percent of the newly registered cars. The power utility RWE estimates that there will be 300,000 e-cars and plug-in hybrids in the EU's most important cities in 2015.

So that this goal can be achieved, there not only have to be enough electric vehicles with a sufficient range, but also the infrastructure required for electromobility: For example to recharge the vehicles, bill the electricity used and share the necessary information between the electric vehicles, transport network and power grid.

euromicron can already support all these tasks: With innovative test systems for charging columns, stations for monitoring grid capacities, and planning, installation and maintenance of the ITC infrastructure required for networking the various players.



The more charging stations there are in future, the more important the ITC infrastructure will be

Test systems for e-fuel out of the socket

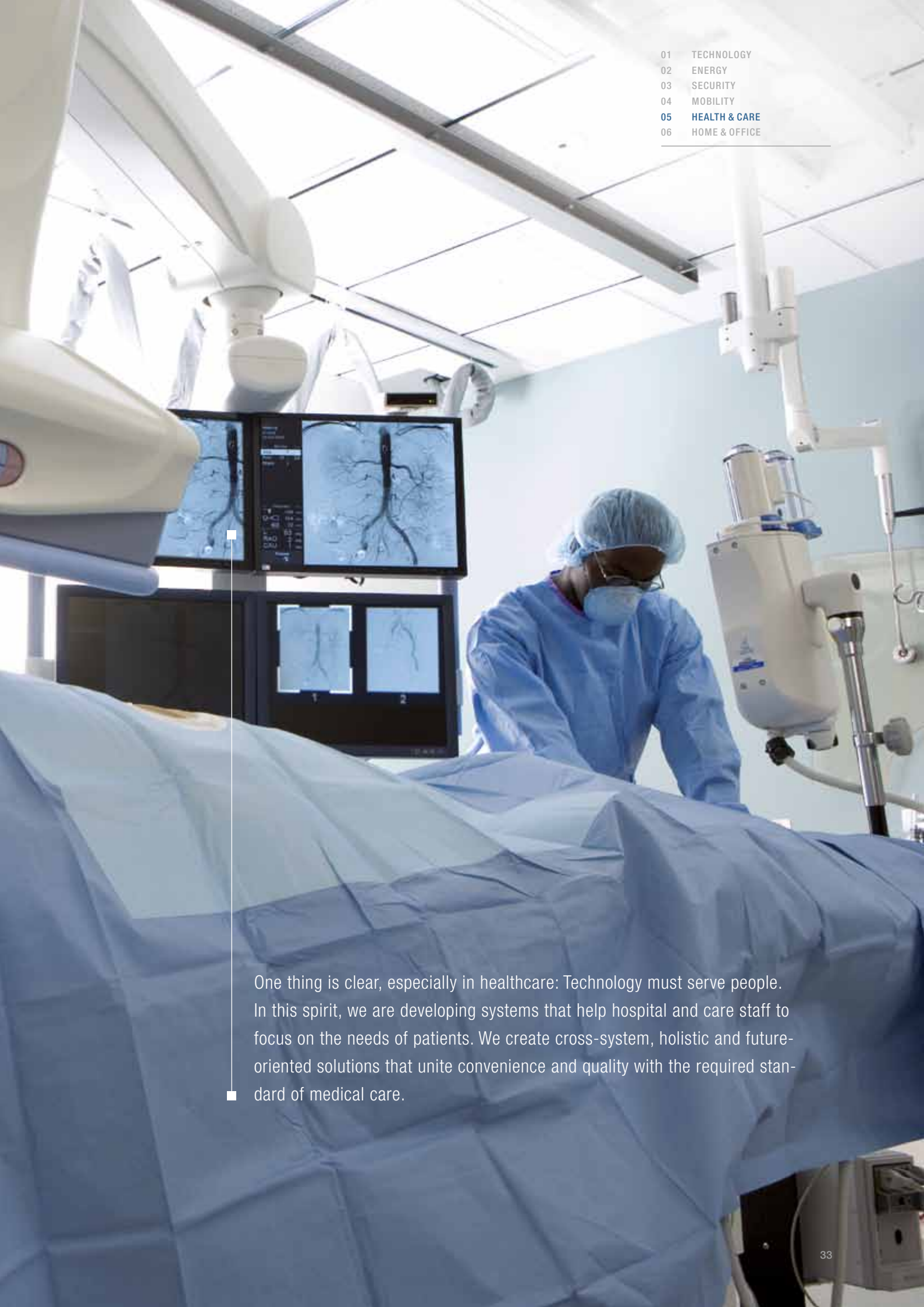
Electricity will be the fuel of the future – at least in the view of many carmakers, who are working flat out to develop e-vehicles intended to give large cities all around the world more air to breathe in future. And because these automobiles are fueled from the socket, attention is also being directed toward ensuring adequate numbers of service stations where they can be recharged. In a pilot project presented at ELECTRONICA 2010 and CeBIT 2011, euromicron's subsidiary ELABO GmbH has developed a test system charging stations that examines all the technical regulations for outdoor operation and protection of persons. "We've got our nose ahead," is the comment of Thomas Seeger, Head of the Test Systems Division at ELABO GmbH, about the project. "Others are still at the development stage, but we're already producing our solution."

Premiered at ELECTRONICA 2010: Test systems of charging columns and cables

Healthcare and nursing pose great challenges for our society. We can overcome them better with the aid of state-of-the-art network technologies: After all, it is the technical infrastructure for security concepts, telephony services, monitoring systems and networked workplaces that permits the standard of care we now expect from modern care institutions.

05 HEALTH & CARE SOLUTIONS:

Technology in the service of people



One thing is clear, especially in healthcare: Technology must serve people. In this spirit, we are developing systems that help hospital and care staff to focus on the needs of patients. We create cross-system, holistic and future-oriented solutions that unite convenience and quality with the required standard of medical care.

FRANKFURT/MAIN, HESSE, GERMANY
50° 07’ 14” N, 8° 39’ 26” E

“We need someone who has a deep insight in the healthcare sector”

The Clinic of the Johann Wolfgang Goethe University in Frankfurt/Main is one of the largest healthcare establishments in the Rhine/Main region. As part of an all-round modernization measure, euromicron solutions GmbH was commissioned with renewing the fire alarm system.

Project: 50 fire alarm systems and 6,000 fire detectors based on IP, networking across 40 buildings, distribution over 40 buildings

Solution: Networking of all fire alarm facilities in a single situation room

Special aspects: Installation while the clinic was still operating, maintenance agreement for 6,000 fire detectors

50 fire alarm systems with a total of 6,000 fire detectors in 40 buildings – equipping the clinic in Frankfurt is not just a mammoth project in terms of volume. Fire prevention here requires intelligent solutions at all levels – after all, the health and life of sick and sometimes helpless people is at stake. That is why euromicron has developed a system that not only enables immediate emergency calls to rescue services, but also central management of the fire detectors. Each fire alarm system is one of a kind, tailored to the area it is situated. However, the entire system is networked and is visualized centrally in a situation room for security staff. “All alarm levels of relevance to fire prevention and security can be initiated and controlled from here,” states Project Manager Mathias Klöber.

Security for the builder-owner

However, the system’s design is far from being the only challenge for euromicron’s network experts. The task of installing such a large system while the hospital went about its normal work or maintaining the 6,000 fire detectors every year also demands a lot of experience. And euromicron solutions GmbH has just that: From in-patient telephony to monitoring of the medical refrigerators – it has established a long and proven relationship with the hospital in Frankfurt/Main. That is also confirmed by Harald Zorbach, Head of the CCM-VOC Communications Technology group at the clinic: “We are cooperating with a partner who has a thorough knowledge of requirements in the health sector. Neither research work nor medical processes must be disrupted by such work. In this respect, we rely on excellent coordination with the medical experts.”

It is not only the hospital’s work organization that benefits from this know-how that has been built up over many years. Cutting-edge technology and in-depth knowledge of the regulations and guidelines for fire prevention at hospitals ensure that the owner-builder has nothing to fear when solutions are tested and accepted by the technical inspection authority TÜV. Such knowledge also enables solutions that deliver lasting cost-effectiveness. A network based on fiber-optic cabling and smart devices ensures future-proofness and reliability. And those are precisely what is required at such a large clinic: “An alarm at highly sensitive awards,” says Mathias Klöber, “immediately sets off a complex system of different technical scenarios, such as fire control system. Mistakes should not occur. Lives are at stake. So people have to rely on our work.”

A central control room is the hub of the fire prevention concept

HEIDELBERG, BADEN-WÜRTTEMBERG, GERMANY
49° 24’ 0” N, 8° 40’ 25” E

Health needs security

The very highest requirements for reliability and accuracy are demanded of many medical devices in a hospital – after all, the wellbeing of patients is at stake. euromicron’s subsidiary ELABO GmbH has equipped the central Medical Engineering Workshop at the University Clinic of Heidelberg with new workplaces and so created greater safety thanks to a networked testing solution.

The University Clinic of Heidelberg pooled all its technical know-how at a central workshop for medical equipment and in this connection planned a complete refitting of the department. euromicron’s subsidiary ELABO GmbH was able to win this large and prestigious contract. “We impressed the customer with our great reliability as early as the bid phase,” reports Dirk Schmidt, who managed the project for ELABO GmbH. “As the market leaders in this field, we also contribute the expertise such a renowned clinic as Heidelberg needs.”

DIRK SCHMIDT
HEAD OF SALES FOR THE NORTH/WEST REGION
ELABO GMBH

“We impressed with our great reliability as early as the bid phase.”

Networked workplaces

Just about every hospital has a medical engineering department, where all medical equipment is repaired, serviced and maintained. Nowadays, such devices are increasingly controlled by electronic means and can be networked with the hospital’s IT – modern technology that entails new tasks. The ELABO team equipped a workshop in Heidelberg with a total of 14 state-of-the-art workplaces – worktables with cockpits and networked testing devices with the relevant software. The latter are connected to the IT via

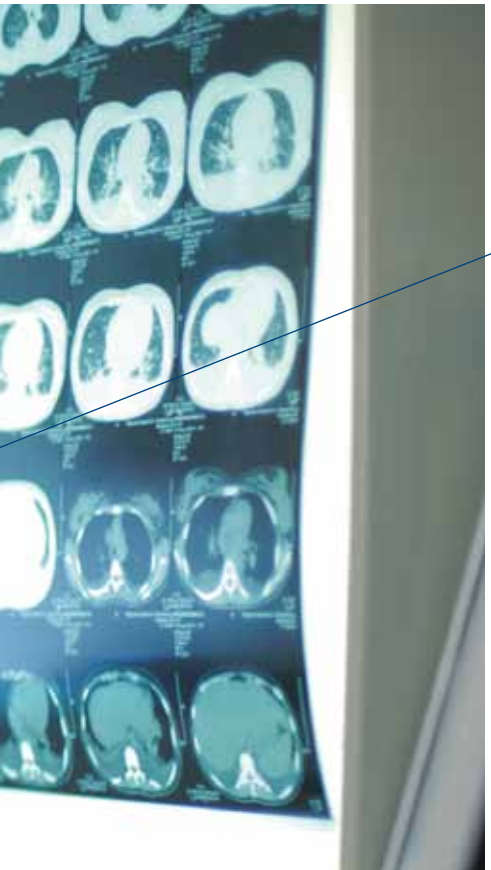
Medical workplace

Health needs security. The results of tests at the Medical Engineering Workshop are documented as proof that error-free technology is used for the well-being of patients.

an Ethernet interface and permit automated testing and perfect documentation of all tests. “We have thus supplied the clinic with an end-to-end solution for an urgent matter,” stresses Dirk Schmidt. “Medical technology must not only work without any problems – the hospital must also be able to prove that in cases of doubt.” Such questions of legal security are very important at hospitals. That is also why absolutely no compromises were made when it came to the quality of the technical equipment. “We benefit in this from the know-how of our group, which enables us to tap into high-quality technology. The finest example of that are the switches from MICROSENS.”

Experience counts

From consulting, design to reliable technology – ELABO GmbH boasts a unique portfolio in Germany for medical engineering workshops. It also includes finesses, such as a cable management system for which it has filed a patent or the completely ergonomic design of the workplaces. “We feel the company’s great experience and strong focus on our concern,” are the words of praise from Thomas Weiß, Head of the Medical Engineering Service department at the University Clinic of Heidelberg, about the collaboration with ELABO GmbH. “And we also appreciate its regional sales structure. There’s always someone there when you need something. That is also an aspect of reliability.”



Project: Networking of 14 workplaces, connection via an Ethernet interface with switches from MICROSENS cockpits with networked test equipment

Benefits: End-to-end data flow across different work operations and documentation of the results

Solution: Switches from MICROSENS

BAIERSDORF, BAVARIA, GERMANY
49° 39' 37" N, 11° 01' 58" E

One contact for all concerns

Modern housing and care establishments aim to offer their residents and patients an environment in which they feel at home. A natural part of that nowadays is a technical infrastructure that makes life safer and more comfortable for old people and the people looking after them. On behalf of SeniVita Holding, euromicron solutions GmbH equipped the St. Martin old people's home in Baiersdorf with state-of-the-art network technology and all connected systems.

Modernization of the existing building and a newly planned extension – those were the preconditions for a radical reorientation of the network infrastructure at the St. Martin old people's home. The objectives of the project included both safety and convenience. An inter-disciplinary overall package was to be put together for the 120 places in the home, comprising a state-of-the-art fire alarm system, a nurse call system and modern data and TV transmission. "The goal was to find solid solutions and cater for all the desired functionalities at a high and reliable level," explains Thomas Stretz, head of euromicron solutions GmbH's branch office in Bamberg. The concept was realized on the basis of copper cabling.

The special aspects of the healthcare sector

euromicron assumed the role of a central point of contact for the builder-owner in this project and coordinated all low current tasks in the project with the other construction trades. It was an advantage for SeniVita to have just one point of contact which was able to cater for the whole range of tasks. In this regard, coordination with the nursing staff was particularly important. "We endeavored to plan the processes so as to take the concerns of old people into account and avoid the dust, noise and other bother during construction," states Stretz. "Anyway, particularly clean and dust-free work was a must, especially in an environment like the home where medical care is provided."

euromicron's experience in the health and care sector were key to the project's success, as were its technical solution and consulting expertise. Soft factors such as sensitivity toward others are also demanded in a field involving people. The fire alarm system is a good example of this: Alerting has been implemented without a control station – alarms are routed to the telephone system. The individual fire detector is identified by the room number. Help is called immediately and the rescue plan kicks in. "A general alert is not triggered," says Stretz. "The disquiet would simply be too great, especially for people who are not as mobile as they once were."

THOMAS STRETZ
BRANCH HEAD
EUROMICRON SOLUTIONS
GMBH BAMBERG

"We endeavored to plan the processes so as to take the concerns of old people into account and avoid the dust, noise and other bother during construction."

Project: Data network and light call, telecommunications, intercom, doorbell, fire alarm and digital satellite TV systems

Services: Planning, installation and connection of the individual systems (telecommunications for the fire alarm, doorbell and light call systems and SAT data network)

The special concerns of old and sick people demand experience and sensitivity

HAMBURG-EPPENDORF, HAMBURG, GERMANY
53° 35’ 64” N, 9° 59’ 68” E

Precision landing for patients

It is regarded as the most modern hospital in Europe – the University Clinic of Hamburg-Eppendorf (UKE) – and comprises more than 80 clinics, polyclinics and institutes that cooperate across disciplines in 14 centers. As part of relocation to a new building, around 100 rooms in various wards were equipped with a monitoring system from Dräger. It decided in favor of mini-switches from euromicron’s subsidiary MICROSENS in creating the system.

Monitoring systems are growing in importance in the health sector. Keeping watch over patients’ vital functions can save lives. That is why the UKE equipped the operating theater sections and the wards of the clinic’s new building with the option of connecting monitoring systems. Since the network is based on fiber-optic technology, the switches and converters from MICROSENS offered the right technology for the UKE. “The network is a qualified one designed for running medical products,” explains Antonio Di Salvio, Account Manager at MICROSENS. “Consequently, our components were tested in advance by Dräger and to determine whether they were compatible with the monitoring system.”

ANTONIO DI SALVIO
ACCOUNT MANAGER
MICROSENS
GMBH & CO. KG

„Delivery of technically perfect components exactly on time was important for the clinic – and we made a precision landing for our customer.”

Security by monitoring

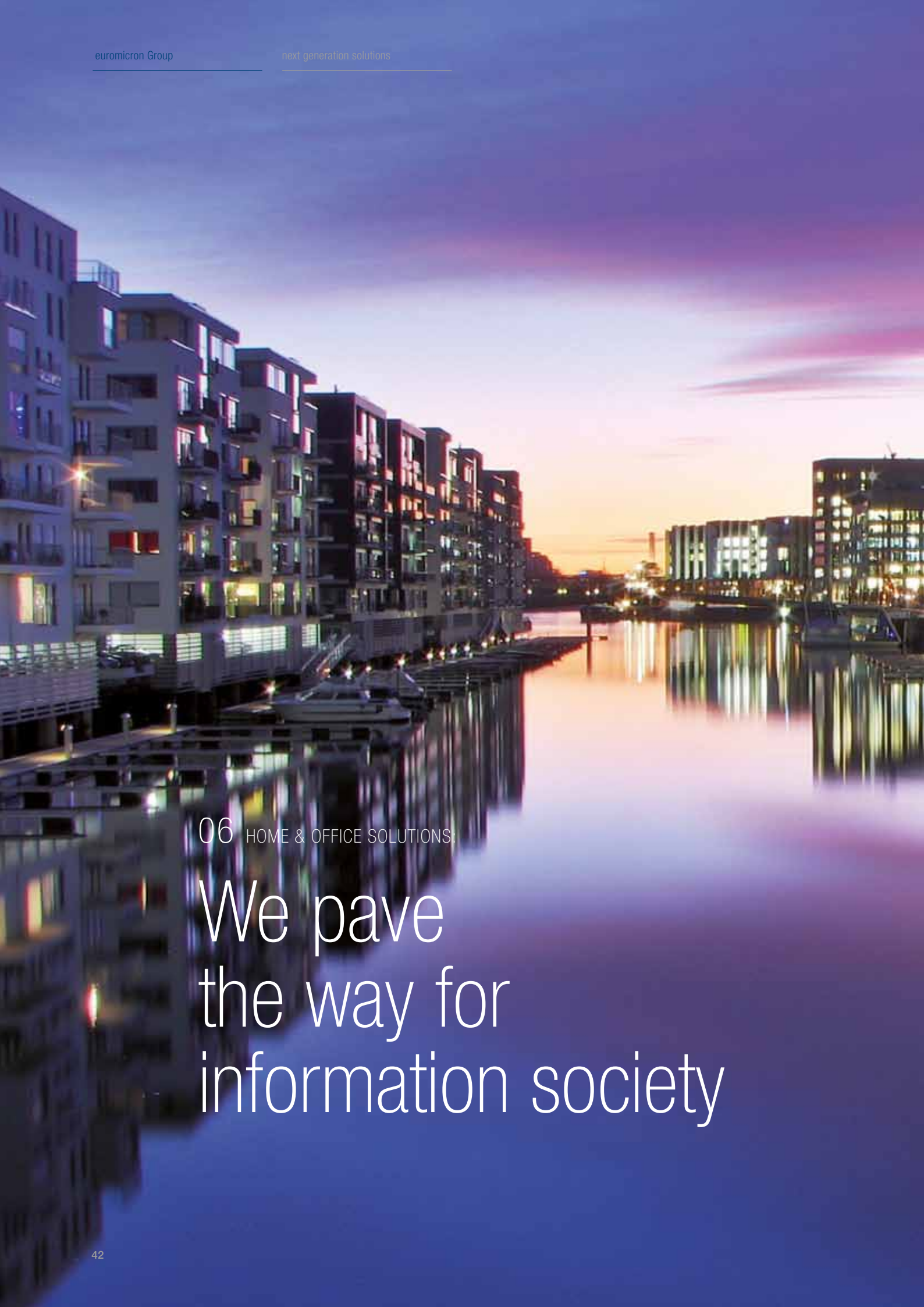
Then everything had to go very quickly, since relocating a large clinic is a balancing act in terms of logistics and scheduling and must run absolutely smoothly. That is why MICROSENS supplied pre-assembled voltage connection cables, fiber-optic cables and switches in surface-mounted housings. The choice of an aluminum design means these housings blended with the ceiling supply systems from Dräger. “Delivery of technically perfect components exactly on time was important for the clinic – and we made a precision landing for our customer,” says a delighted Di Salvio.

An average of 50,000 in-patients a year are treated at the UKE and a further 70,000 out-patients, plus around 43,000 emergencies. Many of them now benefit from the security a monitoring system offers: Many complex operations in Hamburg and its environs can only be performed in the UKE. They include, for example, life-saving heart, lung, liver, kidney and bone marrow transplants.

Project: Equipment of the operating theater sections and wards with the option of connecting monitoring systems

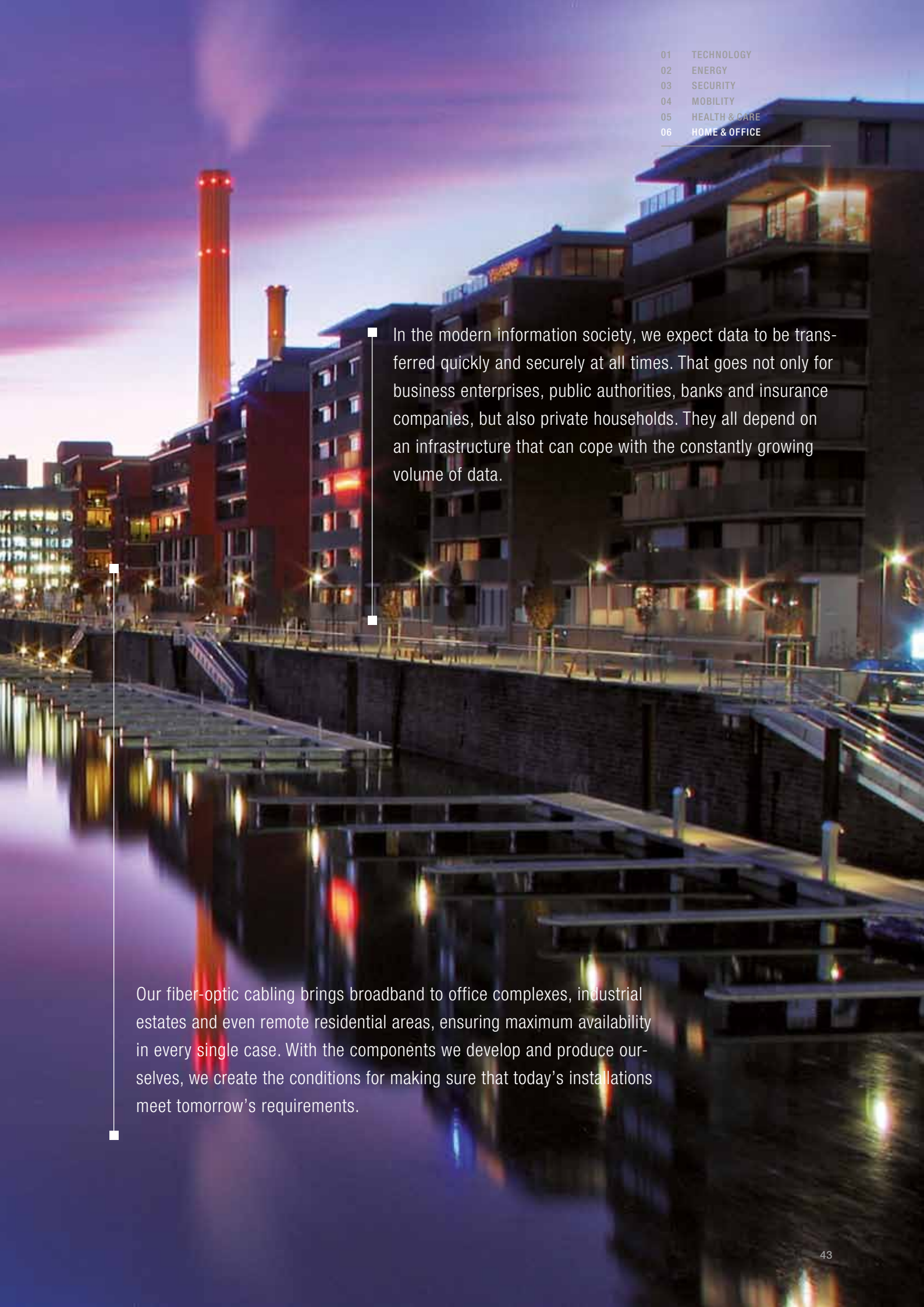
Objective: Seamless integration of MICROSENS mini-switches in Dräger's monitoring systems

Products: MICROSENS supplied 200 installation switches and 220 media converters



06 HOME & OFFICE SOLUTIONS:

We pave the way for information society



In the modern information society, we expect data to be transferred quickly and securely at all times. That goes not only for business enterprises, public authorities, banks and insurance companies, but also private households. They all depend on an infrastructure that can cope with the constantly growing volume of data.

Our fiber-optic cabling brings broadband to office complexes, industrial estates and even remote residential areas, ensuring maximum availability in every single case. With the components we develop and produce ourselves, we create the conditions for making sure that today's installations meet tomorrow's requirements.

HANOVER, LOWER SAXONY, GERMANY
52° 22' 56" N, 9° 44' 01" E

Longstanding partnership

"No noise, no dirt and no disruption to operations. Anyone wanting to change the network infrastructure at a bank while it continues its operations needs quite a bit of experience," says Matthias Wolff, head of euromicron systems GmbH's branch office in Hanover.

And he knows what he's talking about. For more than ten years, euromicron systems GmbH has been supporting NORD/LB in Hanover and in the meantime has created a standardized infrastructure for future-proof data transmission in just about all the financial institute's properties there. The starting point was the new building NORD/LB constructed in Hanover. In the contest to supply the structured cabling, euromicron won with the best price/performance ratio. Within 25 months, the euromicron team installed the complete cabling along with all the ports in the new building. The customer NORD/LB was given a 15-year warranty on the high-quality overall system, including the primary cabling.

Main building networked

The dedication paid off. euromicron was able to win subsequent invitations to tender for equipping the other NORD/LB properties in Hanover with network infrastructure. "We've been doing a good job here for many years and have now networked five buildings," states Matthias Wolff. "We've also implemented the technical LAN and WAN concept developed by NORD/LB." Praise for the cooperation also comes from the customer NORD/LB: "euromicron systems does technically competent work and takes our business processes into consideration. That is the foundation for a long-lasting partnership."

Solution: Standardization of the data transfer infrastructure

Technology: euromicron installed 15,000 ports and 1,000 km of data cable based on copper and fiber optics at the new building of NORD/LB. A total of 20,000 RJ45 ports were installed and 1,250 km of cable laid at all properties

Project: Planning and support of the FTTO concept

Design: System solution SKM ProfiLIGHT and SKM ProfiLINK 1000 cabling system Cat. 6A, flexible floor box solution with a fiber-optic consolidation point, SKM ProfiRACK with cable management, IP camera networking with ProfiLINK 1000, MICROSENS Gigabit Ethernet installation switch 45 x 45 with PoE

Special aspects: Central management with the MICROSENS Network Management Platform, reserve for extensions

BRIXEN, SOUTH TYROL, ITALY
46° 43' 03" N, 11° 40' 42" E

High-tech in historical vestments

Brixen in South Tyrol has a beautiful old quarter, the center of which extends around the market square with listed, renovated buildings. The Raiffeisenkasse Eisacktal bank resides in one of the historical buildings, the former Milchhof.

And even if its exterior looks like it has been impeccably preserved, the interior of the bank is equipped with leading-edge technology. "Everything runs via IP here," is how Andreas Nerbl, Head of Sales South at euromicron's subsidiary SKM Skyline GmbH, sums up what is special about the technical solution in Brixen. Not only telecommunications and video surveillance – even the beamers or piped music in the foyer have been implemented in top IP transmission quality.

Central server solution

The system's heart is a central server which is addressed by all the applications – from central management of video surveillance to file management, which is available everywhere. Anyone wishing to hold a presentation, for example, retrieves the intended files directly in the conference room from the server and transmits them to the screen using a beamer – without any further technical complication.

Future-proof solution

euromicron acted as a one-stop shop, providing all services for the entire project from planning to installation and supplying all the active and passive components," explains Andreas Nerbl. "SKM Skyline ascertained the requirements of Raiffeisenkasse Eisacktal, planned a truly high-quality solution for it and implemented it in conjunction with other partner companies, such as euromicron's subsidiary MICROSENS." That included fiber-to-the office (FTTO) cabling that dovetails very smoothly into the old building substance thanks to its small cross-section and simple installation in the floor boxes. "And that was also another objective here in Brixen," is how Antonio di Salvio, Account Manager at MICROSENS GmbH & Co. KG, summarizes the successful project. "The technology has to work, but it doesn't have to be visible."

MAINZ, RHINELAND-PALATINATE, GERMANY
49° 59’ 49” N, 8° 15’ 22” E

Satisfied customers at Sparkasse Mainz

The Sparkasse Mainz has been an important partner to citizens, regional business and municipal corporate bodies in the Rhinehessen region since 1827.

For more than ten years, the branch office of euromicron solutions GmbH in Mainz has been helping the savings bank in its business processes with its communications technology.

Savings banks are distinguished by being close to customers and Sparkasse Mainz is no exception with its 27 branches in its sales territory. euromicron installed a new communications system for the Sparkasse to integrate all the branches. A Siemens HiPath 4000 system was chosen for this.

As part of this modernization, extensive application solutions were also integrated, such as unified messaging, GSM integration and call center solutions.

Telephony at no cost

These application solutions enable a standardized means of making internal phone calls free of charge across all locations and so have helped slash costs.

Greater customer satisfaction

Renovation of the communications structures also permits flexible assignment of staff. Now it is possible – regardless of the location – to connect a caller directly to the responsible contact person. 50% of inquiries from customers are now clarified when they call for the first time. “The benefits for the bank are obvious. Customers are more satisfied and costs are cut.” Apart from the order to modernize the system, euromicron has also been tasked with supporting it.

As is typical for a bank, above all the security requirements in this project were high. From encrypted voice connected to remote maintenance via secure connections – the bank and its customers can rely on their data being protected and safe.

Task: Standardization of the communications infrastructure in two main and 14 other branches

Services: Connection with remote locations, common platform for data and voice (Voice over IP), connection to an IP VPN (Internet Protocol Virtual Private Network) of Deutsche Telekom

Special aspect: Use of MPLS technology

Network topology: Point-to-point

Main components: Ethernet switch in the central office with firmly assigned optical fibers for each business customer

Performance: Bandwidth of 100 MBit/s

Flexibility: Passive distributor technology enables local connection of new customers, increase in the number of ports thanks to active components

STEINFURT, NORTH RHINE-WESTPHALIA, GERMANY
52° 09' 25" N, 7° 20' 49" E

Utilities pave the way to the countryside

Electricity, gas and water – the bread and butter of local public utilities. This portfolio may well include rapid data transfer in future: Especially in rural areas, public utilities in particular could offer all households and business enterprises future-proof broadband coverage by comprehensive expansion of the existing infrastructure.

It's impressive just what is possible today: High-speed Internet in the office, IPTV and video on demand in each household. That, at least, is the vision of full broadband coverage in Germany. Yet rural regions in particular are far removed from achieving that. That's mainly due to the high investments required. "Nationwide fiber-optic expansion in Germany will probably cost in the range of 40 to 50 billion euros," states Dr. Petra Hesselbarth, Director of Business Development for Broadband Networks and the Energy Industry. "No one – large carriers or the government – can shoulder that alone. As a result, expansion outside conurbations is sluggish."

New role of utilities

This large sums needed are due to a considerable extent to underground construction measures for the fiber-optic network. In this connection, the utilities acquire a completely new role. "The existing supply lines means we already have direct access to all buildings.

As a result, we can improve what we have to offer citizens and give our municipality a source of revenue that pays off for citizens and strengthens the municipality's independence – a classic win-win situation," says Rolf Echelmeyer, Managing Director of Stadtwerke Steinfurt. And he knows what he's talking about: Together with euromicron systems GmbH, Steinfurt has proactively made the network infrastructure state-of-the-art. To enable that, euromicron has developed an implementation concept that integrates existing empty pipes and fiber-optic links and so keeps down the new investments required by the municipality. Enterprises and citizens are already benefiting from broadband transmission. That is a great advantage for Steinfurt in the struggle by municipalities to create better conditions so as to attract business. "We support municipalities from start to finish," states Dr. Hesselbarth. "We've put together a comprehensive package ranging from consulting to implementation."

ERFURT, THURINGIA, GERMANY
50° 58’ 45” N, 11° 0’ 49” E

High speed enhances dwelling value

What factors can make a good residential area a true top address? In the Dichterviertel (Poets’ Quarter) in Erfurt, the investors decided among other things in favor of state-of-the-art fiber-optic technology. Transport rates of 100 megabits per apartment add the multimedia icing on the cake for the up-market residential properties.

The infrastructure for powerful data transfer is taken as granted in the development of a new residential area. And that was also the case with the Dichterviertel in Erfurt. The only question the investors asked was about which provider to engage for the 17,000 square meter estate and it eventually decided in favor of a conglomerate of Thüringer Netkom, which runs Thuringia’s largest broadband network, the carrier MyGate for voice, internet and TV and – last but not least – euromicron, which is responsible for overall planning of the project. In this connection, euromicron assumed the constant coordination required for all fiber-optic installations and installation at the end customers.

“This is an exciting project for us because the infrastructure to be provided was really out-of-the-ordinary,” states Tobias Jahn from ssm euromicron GmbH. Indeed, transport rates and availabilities of 100 megabits are delivered to each apartment on the basis of the fiber-optic technology used.

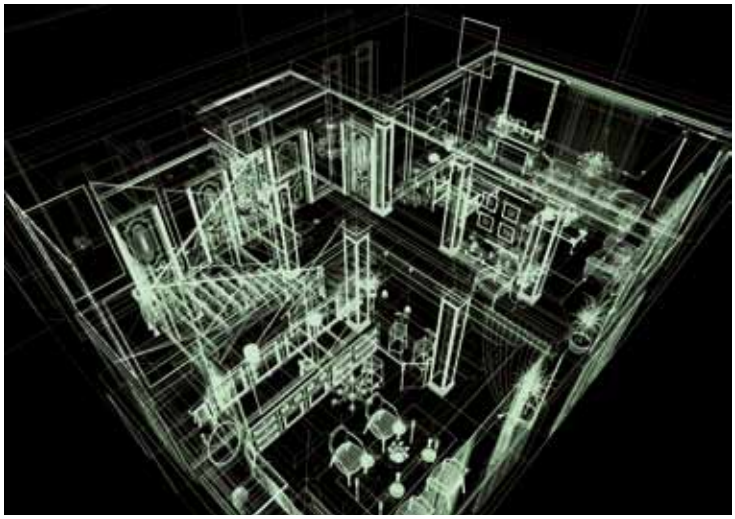
TOBIAS JAHN
BRANCH HEAD
SSM EUROMICRON GMBH
ERFURT

“This is an exciting project for us because the infrastructure to be provided was really out-of-the-ordinary.”

Project: Development of a 17,000 square meter residential area, Internet, TV and voice over IP

Service: Open access model (IP-BSA) FTTH with 100/100 Mbits/s possible, HDTV (full HD 1920 x 1080 24p) approx. 8 – 25 Mbits/s per channel. Available transport rates of 100 Mbit / sec. for each apartment

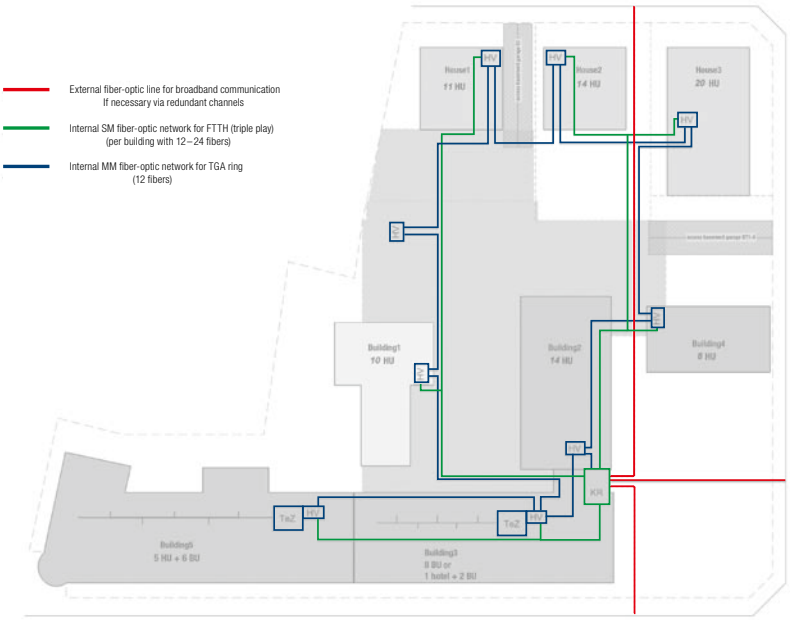
Special aspect: Overall planning of the project



Residential complex with powerful data transfer
Full multimedia supply at a completely new level: Internet, telephony over IP in excellent quality, IPTV, video on demand and gaming

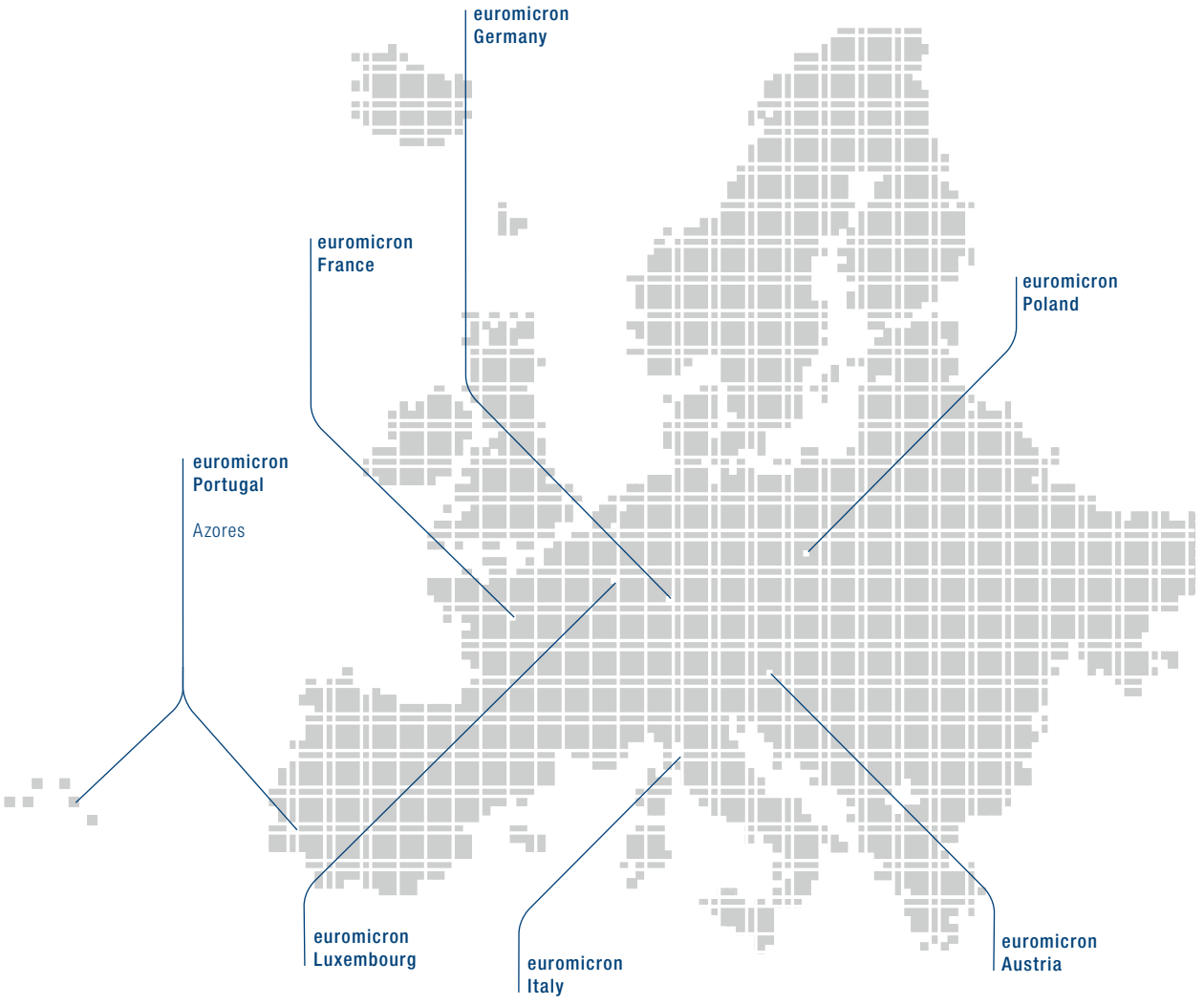
That enables full multimedia supply on a completely new dimension: Internet, telephony over IP in excellent quality, IPTV, video on demand and gaming – and if needs be in all rooms at the same time. In order to complement the all-round carefree package, euromicron even put together a special supply solution ranging from digital TV, IP radio to wireless communication.

“Our goal was to give the customer an overall solution that can also have a lighthouse effect for other development projects,” says Tobias Jahn. In this spirit, euromicron not only delivered technical solutions, but also collaborated in structuring the charges, for example. With excellent success: The solution was able to prove its value almost across the board compared with that of a major rival. Tobias Jahn is pleased at that: “It speaks volumes.” Tobias Kahlo, Managing Director of the co-investor, the engineering firm ARING, also attests to the success of this prime example of FTTH: “Our concept of enhancing the residential estate by state-of-the-art transmission technology is bearing full fruit.”



The smart home has already been achieved in the Dichterviertel in Erfurt. The transmission technology is available.

euromicron
A Europe-wide presence



We seize our opportunities on international markets and avoid incalculable risks. As a result, we are growing continuously into new, global tasks and assignments.

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- Berlin
- Burkhardtsdorf
- Haan
- Hamburg
- Hanover
- Schwerin

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Phone +49 34203 4468-0
Fax +49 34203 4468-20
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Further locations:
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- Schkopau

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- Radeberg
- Teltow

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Further location:
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Further locations:
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- Vienna (A)

euromicron
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euromicron distribution

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Further locations:
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- Hamburg
- Kaarst

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Fax +43 6212 30000-9100

Qubix S.p.A.
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euromicron international services

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Milestones

1998
IPO on the Neuer Markt

2000
Strategic realignment to the core business segment of network and fiber-optics technology

2001 – 2002
First strategic new acquisitions, reconstruction activities, divestments and completion of the first stage of strategic realignment

2003 – 2004
Move to the Geregelter Markt, structural optimization, further acquisitions and divestments, full coverage in Germany, rounding out of network expertise

The Group's Areas of Expertise

They operate under central coordination and are networked, yet flexible and independent of each other.

euromicron components

euromicron develops, produces and assembles high-quality components for optical transmission technology. We provide our customers with top-quality series-manufactured or customized products and components. With our developments, we set a new innovative fair in the market and deliver the hardware required for future-oriented network solutions.

euromicron networks

Security, transmission, communications and data technology are now highly complex subject areas. Only an end-to-end view of all the technologies and trades involved yields future-proof results. Backed by in-depth know-how at our Competence Centers, we offer our customers a one-stop shop for tailored, cross-system solutions in project and system business. In this way, we are advancing on the path toward convergent networks and services.

euromicron distribution

We create the foundation for successful procurement and distribution with long-term partnerships. Our in-depth knowledge of the international market for active and passive network components and experience in procurement management ensure qualified, vendor-independent consulting. As a result, we make sure our customers obtain ideal technical solutions at the best possible terms.

euromicron international services

This unit assumes strategic and cross-business control tasks for the Group, in addition to operational tasks that are not part of the immediate core business, such as real estate and buildings, financing and specific investments.

Multifunctional network solutions

euromicron systems GmbH · euromicron solutions GmbH · euromicron austria GmbH · avalan · ssmeuromicron · euromicron MBG · telent

2006 – 2008
Continuation of the acquisition strategy: 13 more companies (including in VoIP, mobile communications, active technology, Austria)

2009
Focus on build & integrate, 28 DAX-listed companies as customers/partners, sustained growth in sales and earnings despite the crisis

2010
Focus on organic growth (€200 million mark), core phase of integration, further internationalization, expansion of partnerships with manufacturers

2011
Foundation laid for sustained growth, acquisition of telent GmbH, attainment of the €300 million mark on an annualized basis

2012
Continuation of build & integrate, start of agenda 500, growth and integration goals achieved

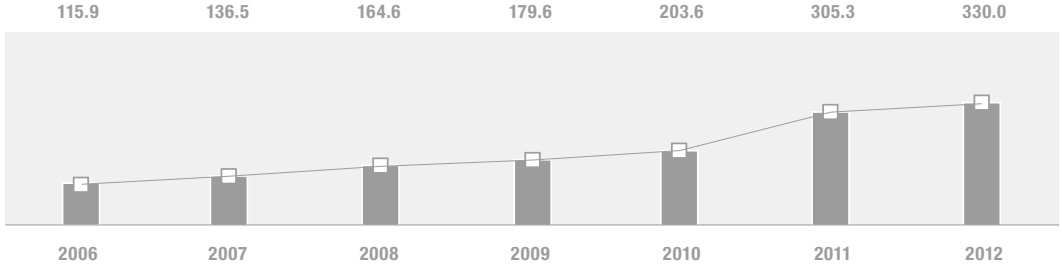
Vision

euromicron AG delivers networks and infrastructure for data transfer based on all media.

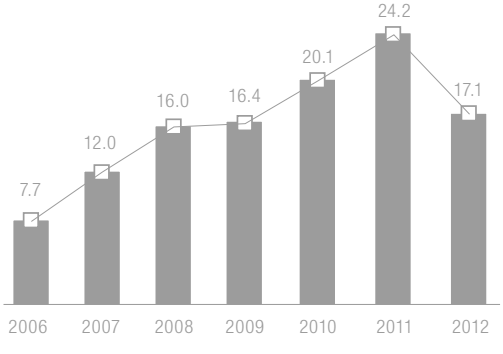
We boast proficiency throughout the entire process chain for transmission of data, voice and video. We unite this expertise with knowledge of the special requirements that different industries demand of communication. Our customers in Germany, and increasingly in other European countries, profit from that:

We create the infrastructure reflecting our customers need to be successful in their markets.

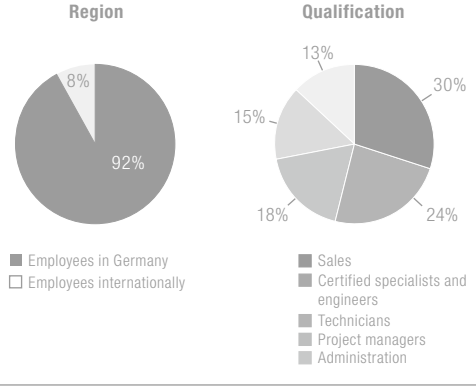
Sales in € million



EBIT in € million



Employee structure



* Figures corrected in acc. with IAS 8

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