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ISO 9001
TL 9000
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Reference report

Higher port density, more flexibility and ready for high-speed transmission via fibre optics

Copper today, fibre optics tomorrow: tde rewires mdex Data Centre with tML cabling platform

Whether wind and solar farms, robots, energy and building technology or security equipment as well as devices, machines and plants - they all have to be securely networked via mobile radio, satellite and DSL. That's why Wireless Logic mdex GmbH has been supplying customers from industry, commerce and small and medium-sized businesses with suitable network components for more than 20 years. The portfolio includes industrial routers, M2M SIM cards, IP services, encryption and own data centres. The ICT service provider for encrypted data communication thus provides data security and flexibility for its customers. In order to be able to manage the growing demands on data rates now and in the future, while also being flexibly equipped for future expansions, mdex decided to re-cable its data centre with the scalable tML cabling system from Dortmund network expert tde - trans data elektronik GmbH.

The mdex-owned data centre in Tangstedt, north of Norderst-

edt, comprises 20 racks with currently 500 to 600 virtual machines. Until the re-cabling, the IoT service provider had installed fixed TP cabling with 24 ports per cabinet. Increasing demands on the network infrastructure made the re-cabling necessary: "The port density per server rack was no longer sufficient," says Michael Kornrumpf, Technology Team Leader at mdex, and explains: "Our goal was to achieve a higher port density per rack. At the same time, we wanted to be able to react more flexibly to future requirements. This was not possible with the solution we used before."

However, a complete replacement of the cabling was out of the question: rather, mdex wanted to keep the existing copper cabling for the time being in order to be able to switch to the new solution later. The company was also faced with the challenge of consolidating the existing, spatially limited space of their existing data centre during ongoing operations. The search for a suitable project partner was quickly decided: "Since we had special requirements especially for the adaptability of the cabling solution and wanted to handle it extremely flexibly, we decided on tde," says Kornrumpf. This includes the option of using fibre optics by replacing or adding individual modules at a later date and thus being able to migrate to higher transmission rates of currently up to 400G and more.

tde is not an unknown supplier to mdex: Both companies have customers in common. In addition, the IoT specialist was able to convince itself of the flexible and at the same time reliable and failure-proof functionality of the tde tML cabling platform during a cabling project for the city of Norderstedt in 2021.

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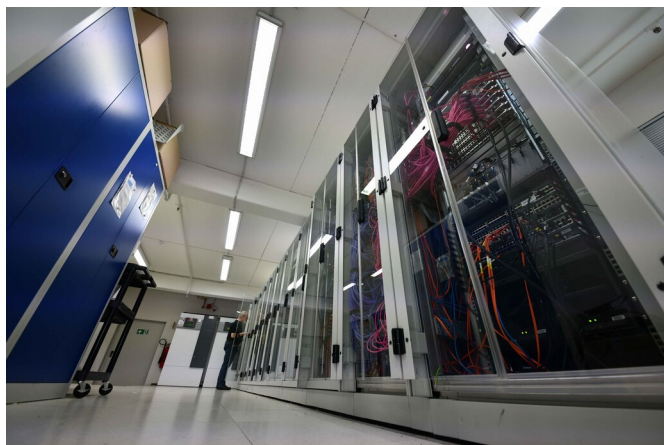
Order for tde

After mdex had placed the order with tde, the Dortmund-based network specialists visited the site to get a precise picture and took measurements of the length of the premises. tde took over the entire project, from conception to implementation with plug-and-play to installation and acceptance measurement on site. The network expert designed the backroom cabling in the raised floor. The implementation was quite challenging: the tde network experts had to connect 672 ports in the shortest installation time. To do this, they established 48 high-performance and reliable port connections from a concentrator to each of seven individual cabinets. The tML cabling system with TP modules was used. The patented and modular cabling system consists of the three key components module, trunk cable and rack mount enclosure and scores with high packing density for copper cabling on one height unit. On a 19-inch height unit, 48 x RJ45 ports can be accommodated with a very slim cable volume. At the heart of the tML system at mdex are high-performance direct wiring modules: They can be used to connect at least six ports with 10GbE at once. Eight tML TP modules can be accommodated on one height unit of the tML

module rack.

After tde had taken the measurements, the network specialist completely prefabricated the trunk cables and factory-labelled them on both sides according to customer specifications. All system components are 100 per cent manufactured by tde at its state-of-the-art production site in Germany. They are also pre-assembled and tested there so that they can be laid and connected very quickly on site simply by plug-and-play. "Our installation team laid the trunks completely and carried out the acceptance measurement on site," says Elmar Herwig, Sales Consultant at tde. With the tML system platform, mdex has not only achieved the desired higher port density, but also remains prepared for increasing requirements: "The flexibility of the cabling platform and its modules means that a later exchange to fibre optic modules can be realised without any problems - that is a clear advantage, with which we also ensure the future security of the investment," says Kornrumpf and Herwig adds: "Thanks to the tML platform, mdex can migrate to higher transmission rates at any time - no matter what data rates the customer wants to achieve." This is made possible by the modular design of the tML system, thanks to which changes can be made at any time and individual components can be replaced, systems can be converted and expanded, rewiring can be carried out, the same components can be reused or parts of the system can be quickly dismantled. "The customer benefits from the true plug-and-play of our solution - in other words, if he plans to switch from copper to fibre optics in a few years, he can take our components and simply reuse them elsewhere. This is sustainability and investment protection that no other cabling platform offers in this form," says Herwig.

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Das mdex-eigene Rechenzentrum in Tangstedt nördlich von Norderstedt umfasst 20 Racks mit aktuell 500-600 virtuellen Maschinen. Bis zur Neuverkabelung hatte der IoT-Service-Provider eine feste TP-Verkabelung mit 24 Ports pro Schrank installiert. Steigende Anforderungen an die Netzwerkinfrastruktur machten die Neuverkabelung erforderlich.

Another challenge during the implementation was the cable outlets: "We had to create some of these ourselves from the raised floor," recalls Herwig. Despite these hurdles, tde completed the installation of its tML platform in only two days and also stayed within the contractually agreed framework.

At the end of the successful project, Michael Kornrumpf draws a thoroughly positive conclusion: "We were convinced by the professional advice, the quick recording of the problem and finally the high-quality and on-time implementation of the project by the network experts at tde."

About tde – trans data elektronik GmbH
For more than 30 years the tde - trans data elektronik GmbH, an internationally successful company, has specialised in the development and production of scalable cabling systems for highest packing density. The nuclear research centre CERN relies on the know-how of the leading company in multi-fibre technics (MPO) as well. The company's portfolio "Made in Germany" contains complete system solutions with a focus on Plug-and-play for high speed applications in the field of data-

com, telecom, industry, medical and defence. tde offers both planning and installation services through its own service department and supports the "European Code of Conduct" when it comes to energy efficiency in data centres. For more information, visit www.tde.de/en/ or follow us on LinkedIn, Twitter and Xing.

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About Wireless Logic mdex GmbH
Wireless Logic mdex GmbH is part of the British Wireless Logic Group with eight branches throughout Europe. For more than 20 years, the company, based in Tangstedt in the north of Hamburg, has been using its technologies and services to securely network wind and solar farms, robots, energy and building technology, security equipment as well as devices, machines and systems via mobile radio, satellite and DSL. The range of services includes all network components such as routers, SIM cards, IP services, encryption and own data centres to provide data security and flexibility for customers. All IoT solutions for M2M communication and Industry 4.0 applications are freely scalable. Ready-to-connect package solutions are possible from as little as one piece.