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Frankfurt Trade Fair, Hall 12:

UNPARALLELED
project

Rome Airports:

FLYING HIGH
with a powerful partner

Know-How:

EDGE COMPUTING:
Real-time data processing
at the network edge

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EDITORIAL

Internet of Things – CURSE OR BLESSING?

Dear Readers,

"In the future all things will be digital, connected and intelligent", prophesied Huawei three years ago at an event in the Chinese metropolis of Guiyang. Around us these "things" are gradually coming to life, gathering data, and transmitting increasing amounts of it into the World Wide Web – via cable or even 5G and LPWAN wireless technology. Sensors and cameras record everything that is happening around us. Machines with artificial intelligence can easily evaluate this data over long periods of time, detect even the tiniest anomalies, and draw conclusions which a human would never be able to do.

The new technologies are therefore opening up a plethora of new (business) opportunities – and at the same time all kinds of applications from which Datwyler is already reaping substantial benefits.

Our engineers and specialists are hard at work on solutions based on these state-of-the-art technologies and the opportunities they present. Examples of Datwyler's contribution to the provision of cutting-edge IT infrastructures are our Micro and Mini Data Centres, which together with the appropriate software and service offerings

allow efficient and seamless integration into the concept of Edge Computing. Our international customers are showing enormous interest.

On the other hand, the above innovations in the IoT sphere ought of course not only to be greeted ecstatically, but also approached with a healthy measure of criticism. For example, the potential for cyberattacks is vastly increased, particularly when you remember that the transmission protocols relating to the OT (Operational Technology) are by no means standardised and not systematically protected to the same extent as we are familiar with in IT. In today's jumble of around 300 existing protocols associated with the OT, i.e. the "things", professional hackers can wreak really colossal damage with minimum effort. This means that the industry is under tremendous pressure to work on effective defensive measures.

On the whole, however, I view the trend as very positive and see no reason to fear it. What matters is to use the new technologies for the benefit of mankind. Let us ensure that in future we can live more comfortably, securely and sustainably!



Kind regards and enjoy our analogue "Panorama"!

Johannes Müller
CEO



Frankfurt Trade Fair, Hall 12:

An UNPARALLELED project

Despite the demanding schedule, Datwyler and the installation firms involved managed to connect new Exhibition Hall 12 on time.



In the autumn of 2018, after a construction period of just under two years, Frankfurt Trade Fair opened its new Hall 12. At 30 metres in height the hall provides exhibitors with a gross area of 33,600 square metres on two levels. It has open foyers with a view of the "European Quarter" and 13 leased offices, together with restaurants and bistros to seat 500. There is also a multi-storey car park with 800 parking bays.

Invitations were issued to tender for high-quality, future-proof solutions for the communications infrastructure and the cabling of the safety equipment in the new exhibition hall. For the data cables this meant, for example, a signal propagation time (NVP) of over 80 percent, low attenuation losses and minimal power loss for Power over Ethernet. The connection technology also needed to be optimised for high electrical power-carrying capacity. The products had to comply with the Regulations on Places of Public Assembly and have all the requisite MPA General Appraisal certificates. In addition, the suppliers had to prove that their products

contained no toxins, that they complied with sustainability requirements (ROHS, WEEE, REACH) and would be disposed of responsibly. Last but not least, current SQS and IQNet certificates were required.

The Frankfurt Trade Fair IT Infrastructure Manager responsible, Leon Tadic, decided on Datwyler. Among the factors which persuaded him were the quality of the solutions offered and the support, which even extended to construction. Another important criterion was the closeness of the European distribution centre, from which Datwyler could always deliver at short notice.

The first deliveries – data technology and fire alarm cables – were called up in August 2017, only a few days after contract award. Coordination on preassembly and installation deadlines were agreed in parallel with the firms involved, the SPIE Lück Group in Lich and WISAG in Dresden.

In the months that followed Datwyler delivered over 130 kilometres of FO Universal

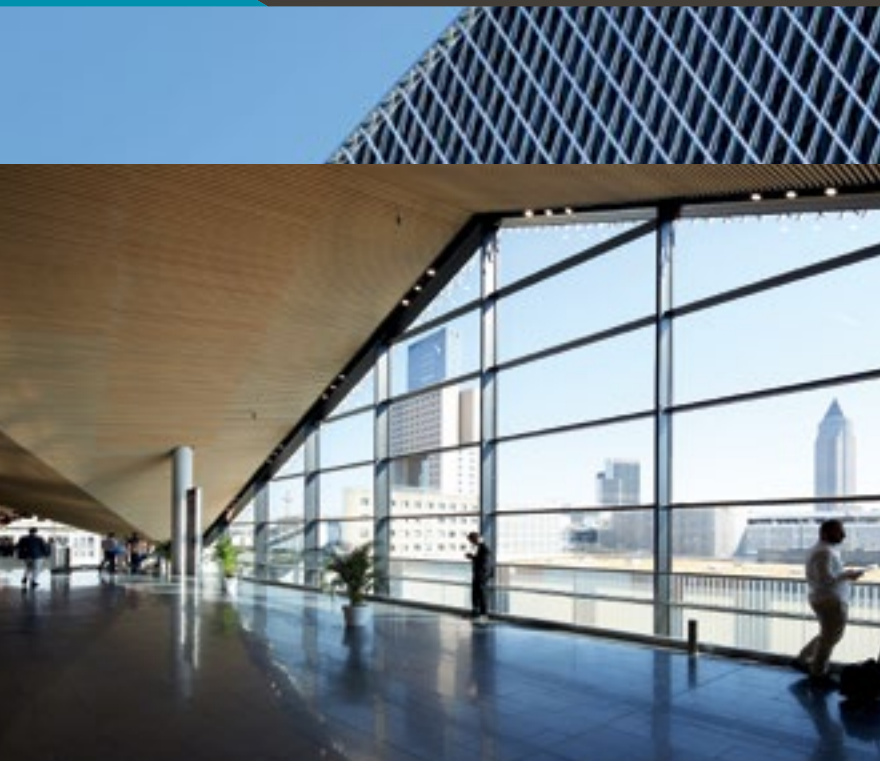
cable with four to 24 fibres, 350 splice boxes, 56 telescopic patch panels each with 48 ports, and 400 FO patch cables for the communications network.

Cutting-edge data and safety technology

The copper technology comprises 300 kilometres of Cat.7 data cable – suitable for 4PPoE –, just under 12,000 shielded Cat.6_A modules, 276 patch panels, 53 telephone panels, 2700 data outlets, 313 surface-mount enclosures, 100 coax outlets with IP44 protection, and 3000 Cat.6_A patch cables.

Approximately 150 kilometres of Datwyler (N)HXCH and JE-(ST)H...Bd cable with a functional integrity of E30 to E90 were also installed for preventative fire safety, fire alarm systems and escape and safety technology.

55 plant rooms were housed in the exhibition hall, each of them containing two data racks with copper and fibre optic panels. At the request of the Trade Fair these rooms are connected in parallel to the main distri-



tribution room by single- and multimode cables. On each of the two levels there are 12 accessible cable passages, so-called utility ducts, from which a stub goes off to the distributors on the exhibition stands. Here the fibre optic, copper and power cables are routed. In order to speed installation Datwyler supplied some preassembled fibre optic panels and cables. The offices and restaurants together with the wall telephones and WLAN access points are connected to the network by copper data cables.

Success despite tight time constraints

The greatest challenge during this project was the narrow timeframe. The hall was to be ready no later than 11th September 2018, for the launch of "Automechanika". As there were no storage facilities on site, Datwyler had to make up and deliver the products required virtually "on call".

The data technology team of SPIE Lück needed to meet the high-quality standards necessary for successful acceptance and the Datwyler 25-year system warranty. As up to 800 people were working in the hall at any one time – including 150 WISAG employees alone –, the installation conditions for the data technology installers were anything but optimal.

The Datwyler specialists from Hattersheim monitored the installation from conception through planning to implementation. Despite the tight time constraints, they were able to assist the Trade Fair, for example by devising special solutions. These included a cable management device which allowed large amounts of fibre optic cable to be neatly terminated behind the splice boxes. Thanks to good prior documentation individual routings could also be rescheduled at short notice, saving material and cutting costs.

In this way the firms involved succeeded in rising to every challenge and complying with the Trade Fair's stringent requirements. Most important of all is that the opening date was met.

Today Hall 12 has a future-proof communications infrastructure and safety equipment which conforms to all the applicable standards. No wonder that those in charge are very satisfied with the solutions implemented. They now list Datwyler as one of the leading brands for the Frankfurt Trade Fair. (emr/hek) ■



Mazoon Dairy Company, Muscat:

MINI DATA CENTRES FOR DAIRY FARM

Mazoon Dairy Company, Oman, is the first customer in the Middle East region to implement Datwyler's modular mini data centre.



Modular mini data centre with side coolers

Datwyler supplies its Micro Data Centre (MDC) and mini data centre solutions for "edge computing", decentralised data processing at the network "edge". The modular mini data centres (MMDC) were tested and optimised by the Datwyler experts responsible to ensure that they meet all customer requirements for reliability, efficiency, ease of use and high quality standards.

The Datwyler Middle East team has also been actively promoting these innovative technologies. Successfully: in late 2018 the first order was received for modular mini data centres and a complete cabling infrastructure. It came from the Mazoon Dairy Company S.A.O.C., based in Muscat, Oman.



The high-tech farm is being launched in 2019 with some 3800 cows



Complete data centre

In order to achieve optimum performance and maximum transmission speed in the high-tech farm, the Mazoon Dairy Company commissioned Datwyler to supply a powerful IT infrastructure solution which among other things includes a complete data centre at the head office in Muscat. The system solution comprises 150 kilometres of Cat.6_A data cable and 3000 RJ45 modules as well as around 100 kilometres of 4- and 24-core single-mode fibre optic cable, in each case with patch panels, patch cables and accessories. In addition, there are several 42U racks and 12U wall-mounted cabinets.

Datwyler's modular mini data centres are an integral part of the solution. Depending on the size of the site these comprise four racks with a separate cooling system or two racks with side coolers. The MMDCs are ready-to-run solutions tailored to customer requirements and include the power supply, emergency power, cooling, fire alarm and fire extinguishing systems and access control as well as user-friendly monitoring and management software.

The material was delivered by May 2019. Phoenix Technologies & Solutions, Datwyler's local partner in Oman, has worked closely with the end customer since the specification phase and dealt with the full service. Phoenix Technologies & Solutions is confident that the Datwyler infrastructure solution will meet all the end customer's project requirements. *(suk)*

Flagship project in the desert village

Mazoon Dairy Company is currently constructing a high-tech dairy farm in the desert village of As-Sunaynah in Al Buraimi Governorate in the northeast of Oman – a milestone in the agricultural and economic development of the country. Production should start by June 2019 at the latest. This flagship project, which is supported by numerous national investment companies and funds and will employ a staff of up to 2300, should enable Oman to achieve a leading position in the production of high-quality milk on the Arabian Peninsula.

The integrated milk production and processing business is being launched with some 3800 cows. A herd of 25,000 cows is planned by 2026. Feeding centres, milking parlours and a centralised processing plant also form part of the concept in addition to reception centres, administrative offices, a control office and a storage facility for raw materials. Onsite sales, logistics and distribution should ensure that the products will be delivered on time in Oman and the wider region.



MMDC: the side cooler is visible on the left when the front doors are open



Pan Asia Logistics Investments, Singapore:

EQUIPPED FOR THE FUTURE



Pan Asia Logistics Investments Holdings Pte. Ltd – PALI for short – is an independent company within the Pan Asia Logistics group of companies. Established in Singapore in 2013, PALI supplies a complete spectrum of bespoke asset management services, from financial, investment and design consultancy, to property construction and operation. In addition to state of the art engineering experience, the company has an international track record and in-depth familiarity with logistical processes and solutions.

As part of a tailor-made agreement a multinational European automotive group has awarded PALI the contract for the construction of an international parts dis-



For the parts distribution centre of a European automotive group in Malaysia the property developer implemented a high-performance Datwyler solution.



tribution centre in the Port of Tanjung Pelepas. The container port is located in Johor Bahru, the capital of the Malaysian state of Johor, in the heart of a free trade zone. The new distribution centre comprises 140,000 square metres of storage and office space and was designed and built to cutting-edge warehousing specifications.

IT infrastructure for IoT and 5G

In order to be well prepared for future technical developments such as IoT – the Internet of Things – and the 5G Standard, it was of course necessary to equip the building with a powerful high-quality IT infrastructure which could keep up with the rapid advances in the IT world.

In previous projects PALI has already relied on Datwyler, a Swiss brand which has acquired a global reputation for quality and its in-depth understanding of the requirements of each particular project. This means that the company has established a trusting relationship with its customers.

Hand-over on time

For the parts distribution centre in the Port of Tanjung Pelepas the property developer also implemented a Datwyler solution, including flame-retardant, low-smoke and halogen-free Category 7 "CU 7080 4P" cable. This cable was selected because of its outstanding electromagnetic shielding and good transmission characteristics at frequencies of up to

1000 megahertz. The fibre optic backbone comprises flame-retardant Datwyler universal cables which are metal-free and of dry and rodent-proof design.

The network was installed by Datwyler's Value Added Partner Bond M & E Sdn Bhd in Johor Bahru, specialists in all types of mechanical and electrical systems for public and commercial buildings.

Thanks to its experienced team of on-site experts Bond M & E were able to complete this project on time. *(ads)* ■

Looking into a sub-distributor

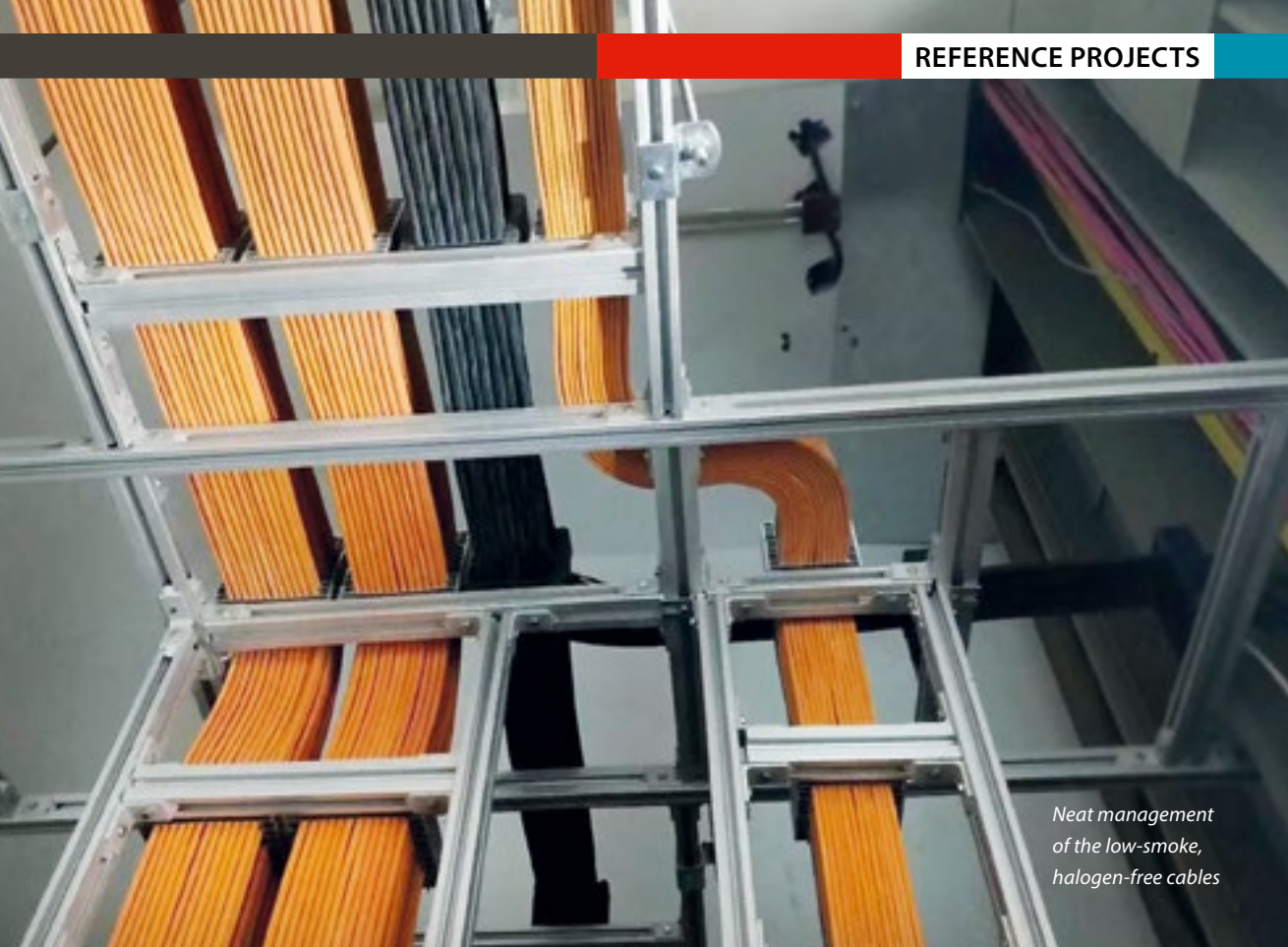


*The "Bamboo Shoot",
the 400-metre-high head office
of the China Resources Group*

China Resources, Shenzhen:

HIGH-PERFORMANCE DATA NETWORK

for new CRC headquarters



*Neat management
of the low-smoke,
halogen-free cables*

Datwyler supplied the structured cabling system for the 400 metre-high “Bamboo Shoot” in Shenzhen Bay.

On 18th December 2018 China celebrated the 40th anniversary of the reform and opening-up of the country. In the same year the Chinese conglomerate China Resources (Holdings) Co., Ltd. (CRC) turned 80. Through its subsidiaries the Group is involved in, among other things, logistics, property, brewing, food, the retail sector, engineering, petrochemicals, construction, energy and microelectronics, the property business being the Group’s flagship.

The group subsidiary China Resources Land Ltd. has been active in urban development for more than 20 years, responsible for example for the development of the 2.26 square kilometre district of Houhai in the city of Shenzhen. The “Shenzhen Bay” complex, completed in 2018 after a ten-year construction period, is its most recent masterpiece. Some of the buildings included in the complex are the new headquarters of the China Resources Group, the China Resources Finance building, a high-rise hotel and apartment block, the six-storey “MixC” shopping centre, the head office of the China Resources Vanguard supermarket chain, the “Spring Cocoon” Sports Centre plus an arts and cultural centre.

The head office of the China Resources Group – an office tower 400 metres high – has now been completed. The highest building in Shenzhen Bay, it was designed by New York architects KPF Kohn Pedersen Fox Associates. Externally the tower is modelled on a bamboo shoot, symbolising the vigorous fighting spirit of our time. For China Resources Land the construction of this 66-storey high-rise block with a usable space of just under 270,000 square metres represents a milestone in office block construction.

The data network in the “Bamboo Shoot”, the central building in the complex, was installed using a high-performance structured cabling solution from Datwyler. On the floors this comprises Category 6_A cables among others. Low-smoke, halogen-free OM4 fibre optic cables ensure fast transmission in the backbone. In this project a total of approximately 5000 Cat.6_A data connection points were installed and around ten kilometres of fibre optic cable were laid. (sip) ■

ADR Tel, Rome:

FLYING HIGH

with a powerful partner

For five years the two airports in Rome have relied on high-performance Datwyler network solutions. They were thus able to significantly improve their passenger services.



“ We are relying more and more on suppliers and brands which are capable of offering security and reliability.

Tancredi Biancatelli, Network Engineer at ADR Tel

The Italian capital city Rome has two international airports. Rome Fiumicino uses two passenger terminals and is dedicated to business and leisure customers on domestic, international and inter-continental routes, while Rome Ciampino, the smaller one, is mainly used by low cost airlines, express couriers and General Aviation operations. In 2018, both airports handled 48.8 million passengers who used the approximately 100 airlines to travel from Rome to over 230 destinations worldwide.

The operating company of both commercial airports is Aeroporti di Roma S.p.A. (ADR), a company of the Italian Atlantia Group since 2013. One of ADR's subsidiaries, ADR Tel S.p.A., has been the telecommunications operator on both airports since 2002. The company's mission is to provide, manage and develop the telecommunications networks and solutions at the airports and deliver all related services.

High safety requirements

At Rome Fiumicino airport ADR Tel manages about 150 technical rooms which serve to provide many services: flight information, advertising, video surveillance, access control and sound system, for example. In short, ADR Tel takes care of everything that is mechanized and remote-controlled, and has been investing more and more in the network for a long time to cope with the ever-increasing demand for functionality and security, particularly with regard to





air-traffic control and passenger management as well as internal and external airport security.

The particular attention to safety – and therefore to the redundancy of the various systems – has led ADR Tel always to select products which ensure the high long-term reliability of active and passive network solutions.

Avant-garde system solutions from Datwyler

“For the protection and efficiency of the systems we are relying more and more on suppliers and brands which are capable of offering security and reliability”, emphasises Tancredi Biancatelli, Network Engineer of ADR Tel. “Datwyler, which has been supporting us together with its partner GFO Europe for over five years, actively participates in the identification of increasingly sophisticated and avant-garde products and systems. And this happens both in the structured building cabling and in the extensive optical network, such as the one for our three airstrips covering a distance of more than 40 kilometres in total. We are increasingly in need of quality solutions to which we can entrust our AVL systems, air-traffic control and remote control of lights and strips with an ever-increasing degree of reliability, such as we are gradually gaining thanks to our partner Datwyler.”

In all these years Datwyler and its distribution partner GFO Europe have supplied

Category 6 copper cables and systems, indoor and outdoor cables as well as complete fibre optic systems in both single-mode and multimode OM3 versions. From July 2017, when the European Construction Products Regulation (CPR) came into force, only Class B2_{ca} cables have been supplied which comply with the directives issued by the Comitato Elettrotecnico Italiano (CEI) with regard to application in airports. For new projects, extensions and changes over 25,000 copper links and more than 3000 fibre connections have been installed, distributed among various buildings, data centres and external infrastructures.

Because of the continuously growing demand for both the performance and dimensions of the infrastructure, ADR Tel is evaluating the transition to shielded Class EA/Cat.6_A cabling solutions which would be suitable for a transmission speed of 10 gigabits per second.

Significant improvements

In recent years Fiumicino airport has received several accolades and awards for its services, for example from Skytrax and the Airport Council International. “At Fiumicino we have increased the quality of passenger services to the point of obtaining the 2018 Best Airport Award for the optimization of Wi-Fi services, baggage delivery and the flow of landings”, explains Giovanni Badiale, Network Manager of ADR Tel. “The recognition of recent years is also a consequence of the improvement of the data

network and the tripling of the number of access points inside the airport. We can track people’s movements inside the building, see if the passenger management flows are correct, and further enhance our services. In addition, we provide all passengers with free WLAN of more than 2 MB bandwidth which they can use as if they were at home.”

“Our airports are constantly evolving, and in the coming years we will have to face further challenges”, Badiale continues. “A new pier will be created at Fiumicino, ›Molo A‹, and Terminal 1 will be completely modernized. Additional investments will be approved and new facilities will be built outside the terminal.” These too will be supported via an advanced data network from which ADR Tel will demand an even greater degree of performance and reliability. (lud)





Hyperion Insurance Group, London:

ALL-ROUND PROTECTION

At its London head office, the Hyperion Group relies on a high-performance data network from Datwyler.

The Hyperion Group is one of the world's leading insurance intermediary groups, with a workforce of 4500 in Europe, the Middle East, the Asia-Pacific region and America.

When specifying the network infrastructure for its new head office at Creechurch Place in London, Hyperion opted for a high-performance cabling solution from Datwyler. To implement the new network and bring the project to a successful conclusion, Hyperion's contractor, Cordless

Consultants, worked closely with Excel-Redstone, a Datwyler Certified Solution Partner, and with iDaC Solutions, Datwyler's exclusive distributor in the United Kingdom and Ireland.

Eight-storey installation

The installation extends over eight floors. It comprises 9000 Category 6_A copper links – 5785 in the horizontal cabling and 3317 preassembled rack-to-rack connections – as well as an OM4 fibre optic backbone.



Paul Hunter, Technical Director at iDaCs, attended acceptance testing.



Fibre optic panels

Picture left: angled copper patch panels in the network rack

Datwyler’s angled patch panels are used in the network racks. They give the user especially easy patch cable routing without the need for additional cable management panels. This cuts costs and increases port density in the rack.

To avoid damage to the cables, for example due to kinking, and to preserve the integrity of the extremely powerful system, Excel-Redstone used velcro tape for bundling and fixing. Rounded metal plates also aid gentle management of the cable bundles.

On-site support

Between September and December 2018 an iDaCs specialist visited the site several times to provide technical and logistical support. He was also present at the tests and acceptance inspections as part of the certification process for the Datwyler System Warranty. Actual certification took place in January 2019.

As an eligible Datwyler warranty site, the Hyperion head office also benefits from a free technology maintenance check – ini-

tially three years following certification of the installation and every four years thereafter – until the end of the 25-year system warranty. These checks, which are carried out jointly with the installer, form part of the exclusive “iDaCs Network MoT” range of services. *(pah)*



The new General Secretariat building a few months ago

Supreme Council for Planning, Muscat:

ANXIOUS FOR SUSTAINABLE SOLUTIONS

The Supreme Council for Planning in Oman chose a sophisticated communications infrastructure from Datwyler for its new head office.

Photo left: angled KS 24x-a copper patch panels

Photo right: preassembled MTP trunks and plug-in modules





Photo right: Category 6_A cable and connection technology from Datwyler



In Muscat, the capital of the Sultanate of Oman, a new building for the General Secretariat of the Supreme Council for Planning has been in construction since early 2018. It is a three-storey building and with its own data centre.

In order to provide the numerous members of the organisation with as fast and as powerful a network connection as possible, the Supreme Council for Planning commissioned Datwyler to supply a high-quality “end-to-end” cabling infrastructure including a preassembled software-based intelligent cable management solution.

The job of the Supreme Council for Planning is to develop the requisite strategies and guidelines for the sustainable growth of the Sultanate. For this reason, it always

makes sure to choose only the best products, solutions and partners for its projects. The IT infrastructure in the new building is state-of-the-art thanks to a highly qualified engineering team and clever product selection.

All-in-one solution

Datwyler had the edge over other well-known brands mainly because the end customer wanted an established manufacturer with a reputation for high quality

who could at the same time provide an all-in-one solution to his project requirements.

The Datwyler system solution currently being installed comprises 300 kilometres of Cat.6_A data cable terminating on just under 10,000 Category 6_A RJ45 modules. After commissioning in 2020 the building’s users will have altogether 6000 data connections in 1-port or 2-port outlets at their disposal. In addition, for the main and intermediate distribution frames (MDF, IDF) Datwyler supplied a space-saving, pre-assembled high-density MTP solution (HDPS) as well as the desired intelligent cable management solution.

WDS Middle East, the local Solution Partner, is confident that Datwyler’s high-end products and solutions will meet all the expectations of the Supreme Council for Planning. (suk) ■





Hilversum Town Hall:

LATEST TECHNOLOGY

for a national monument



Neat cable management in the distribution rack

The Datwyler network in Hilversum Town Hall is an example of how installation can be carried out in a listed building during ongoing operation.

The town hall in the Dutch city of Hilversum is a “Rijksmonument”, a national monument. It was designed by the famous architect Willem Marinus Dudok, completed in 1931, and is considered to be his most important work. It is one of the buildings to be seen in Madurodam, the miniature park in The Hague.

When MIT Installatietechniek was awarded the contract to modernise the communi-

cations network in the Town Hall, it was clear from the outset that this would be no simple job, for the building’s status as a national monument presented the installers with major challenges.

Experienced partners

For 15 years MIT Installatietechniek, based in Almere, has been implementing building technology installations for customers in the municipalities of Almere, Gooise Meren,



Hilversum Town Hall in the 1930s



The architect Willem Marinus Dudok

Hilversum, Huizen, AMC and Waternet. Together with Redlink B.V., Datwyler’s official distributor in the Netherlands for many years, the MIT team has also completed this project successfully.

To future-proof the office environment, the existing Category 5e network, which unfortunately was poorly documented, was replaced by a new 10-gigabit-compatible network with Cat.6_A cables and components from Datwyler. First the backbone network had to be renewed. MIT set up a fibre optic ring, which connects a total of four sub-distribution rooms in the building with the central plant room. This structure was needed to keep the copper links to the workstations at less than the maximum 100 metres.

All challenges overcome

The Town Hall remained open during the renovation. It could have been very inconvenient for everyone working at the Town

Hall if the requisite inlets and openings for the backbone network had been created at the same time. Thanks, however, to close coordination with the municipality, intelligent project planning and the great care taken by the installers, who moved forward section by section as planned, the staff remained largely inconvenienced.

Another challenge was posed by the new European Construction Products Regulation (CPR), which in the Netherlands led to temporary bottlenecks of cables with no CE marking or Declaration of Performances. “Some big players simply no longer had these cables in stock. Redlink was very help-

ful in delivering to us and ensured that any cable problems were sorted quickly,” explained Edwin van den Bogaard, the MIT project manager in charge.

34 kilometres of cable, 580 connections and eight months later the job was finished and the new Datwyler communications network was handed over to the Municipality of Hilversum – together with the manufacturer’s 25-year system warranty. “We received the system warranty in January 2018. Since then the installation has been operating smoothly. The customer is very happy with this aspect of the new data network,” reports Bogaard. (mek) ■



Photo right: fibre optic patch panel

ASM Technology, Pasir Gudang:

ONLY THE BEST

for the expansion

During the expansion of its Malaysian production site ASM Technology put its trust in a dependable fail-safe communications network from Datwyler.

ASM Pacific Technology (ASMPT), headquartered in Singapore, operates as a comprehensive solutions provider to the semiconductor and electronics industry in over 30 countries. The company, which is listed on the Hong Kong stock exchange, is using its high-performance IT infrastructure, resources and talents to further expand its core businesses, Back-end Equipment, Materials and Surface-mount Solutions (SMT).

In 1995 a subsidiary, ASM Technology (M) Sdn Bhd, was established in Johor, Malaysia's most southerly state. It is based in the city of Pasir Gudang, right by the border with Singapore, and produces semiconductor automation equipment.

Solution with investment protection

As part of its "Phase 2" expansion project ASMPT recently began expanding the Malaysian production site. Datwyler was

Andy Teo, founder of the Datwyler-certified company AlphaMedia Pte Ltd



Photo above: the extension at the beginning of 2019





*Class E_A network:
for transmission rates of
up to 10 gigabits per second*

selected for the new communications network. The key factor in this decision was the high quality and dependability of the solution offered by Datwyler, which provided the user not only with security but also with long-term investment protection.



The project began in December 2018. Among other things used for the horizontal cabling were low-smoke halogen-free Category 6_A "CU 6502 4P" cables, which provide high bandwidth and excellent electromagnetic

shielding. Almost 88 kilometres of these were installed. In combination with the appropriate connection technology they produced a Class E_A network which made transmission rates of up to 10 gigabits per second possible.

The fibre optic backbone comprises around three kilometres of OM4 universal, indoor and outdoor cable: metal-free, with dry interstices, rodent-proof and naturally flame-retardant.

Experienced partner company

Project coordination and installation was carried out by Datwyler-certified partner AlphaMedia Pte Ltd, which has over 25 years of experience in the structured cabling sector.



Experience and project management skills are extremely important in a project like this, particularly as ASM Technology expects the new IT infrastructure to comply with the highest standards and give trouble-free operation (zero downtime).

"Datwyler is the obvious choice when our customers demand the best, especially as we enjoy excellent support from Datwyler," explained Andy Teo, founder of AlphaMedia. (ads) ■

*ASM Technology (M) Sdn Bhd
in Pasir Gudang*

Saudi Arabia: **CUSTOMER SEMINARS**

in Riyadh and Al-Khobar



Customer seminar in Riyadh: chaired by Shaheer Shaaban, Head of Technical & Project Management at Datwyler Middle East (front, 6th from r.), and Ahmed Samer Fattal, Sales and Business Development Manager of Bright Wires (centre back)

In order to continue their business network expansion in the kingdom, Datwyler Middle East and local distributor Bright Wires Co. Ltd. again arranged customer seminars in the Saudi capital Riyadh and in Al-Khobar in September 2018. The events, held in the Movenpick Hotel in Riyadh and the Kempinski Al Othman in Al-Khobar, were both well attended. Representatives from leading Saudi consultancies were present in addition to customers and strategic partners from different industries.

The Datwyler team gave the participants an overview of the company's services and innovative IT infrastructure and data centre solutions. A lively open discussion took place after each presentation, once again demonstrating that events like these are a useful and informative method of exchange for all those involved. The participants appreciated not only the information given on current innovations and solutions, but also the recommendations made by the Datwyler experts. (soa) ■



Shaheer Shaaban gave a talk on structured cabling solutions.

Ihab Gazawi (right) explained Datwyler's Micro Data Centre to stand visitors.



Shaheer Shaaban discussed structured cabling solutions with trade visitors.



United Arab Emirates:

FOCUS ON DATA CENTRES

The GITEX trade fair in the Dubai World Trade Centre was a resounding success, with over 4800 exhibitors and 110,000 visitors.

In mid-October 2018 Datwyler Middle East again participated in GITEX Technology Week, one of the largest and most important technology trade fairs in the Middle East. The company's latest "Edge" solutions were featured on the exhibition stand. These are intelligent future-proof IT infrastructure solutions with which Datwyler enables organizations around the world to run their IT infrastructures seamlessly and scale their business with ease.



The visual focus of the exhibition stand was also on Datwyler's data centre solutions.

Focus on MDCs

The focus was on the new Micro Data Centre (MDC), a "plug-and-play" system which provides a complete data centre solution in a self-contained unit. This modern solution is particularly appropriate for small and medium-sized office buildings, banks, hospitals and shops.

To manage the MDC a local user interface as well as Cloud-based access via browser or app with user-friendly software are available.

Datwyler Middle East also presented its modular data centre solutions. These provide intelligent modular cold aisle containment connected to in-row cooling and energy distribution units in each rack. The latter are intelligent PDUs, characterised by numerous functions for effective energy and environmental management.



The Datwyler Middle East team with support from Germany and China, including Gökhan Özcan and Karsten Lengnink (3rd and 5th from right)

Italy:

NEW BRANCH OFFICE OPENED

Because of the very positive business development in Italy over recent years, Datwyler Cabling Solutions has set up its own branch office there. Since November 2018 Datwyler Cabling Solutions S.r.l. based in Brunico (Bolzano) has been operating as a separate legal entity of Datwyler's European organisation.

Luca Dalla Grana is Managing Director of the Italian office. He previously worked for three years as Area Sales Manager for Datwyler and in that capacity successfully expanded sales in Italy. (dir) ■

Talks on the stand

The Datwyler experts outlined the benefits of Datwyler technology to the stand visitors in several short sessions. Ihab Gazawi, Head of Datwyler Data Centre Experts, explained and demonstrated data centre architecture, central components and their advantages to the visitors. Shaheer Shaaban, Head of Technology and Project Management, presented the variants of structured building cabling.

On this occasion the Datwyler Middle East team enjoyed international support from Johannes Müller, CEO of Datwyler Cabling Solutions, Gökhan Özcan, Vice President Global Sourcing, and Karsten Lengnink, Head of Category Management and Development. (ass) ■



Mexico:

CERTIFICATION

in Querétaro



Practical exercise: termination of fibre optic cables in the splice box

In Mexico Datwyler held a certification seminar at the end of 2018, a year marked by political instability and delayed projects.

The seminar was organised by distributor Marathon Eléctrica de Puebla and held by Datwyler's agent Manuel Pujol, who has over 30 years of experience in the structured cabling sector. As altogether 40 network installers had registered, they were spread over two dates.

Datwyler's 25-year system warranty provides an incentive for many system integrators to attend, and at the same time it is a factor which differentiates them from their competitors. The course was very useful, particularly to Datwyler's new integrators. The focus was on current market trends as well as new products, technologies and standards. It is very important that those responsible for their company IT infrastructures and the network installers carrying out the work are familiar with the standards and are able to apply them, so that Datwyler's products and system solutions can be implemented in compliance with the standards for various applications.

As with previous seminars, the participants were full of praise for the instructor's and distributor's work and commitment. *(toh)* ■

United Arab Emirates:

DATA CENTRE WORKSHOP

in Dubai

Datwyler Middle East launches strategic training initiative for partners.

New innovative products and solutions from Datwyler have significantly expanded its product range in the data centre sector. The Datwyler Middle East team began training regional partners in early January 2019 so as to bring them up to date.

A start was made with Scientech LLC. This company is one of the leading suppliers of integrated electromechanical systems, power supply, automation and mobility technologies on the Arabian Peninsula. The company plans to join with Datwyler in expanding its portfolio in the data centre sector.

The workshop, which covered data centre design and data centre solutions, was held at the Scientech's head office in Deira. Ihab Gazawi, Head of Datwyler Data Centre Experts, provided the participants with a great deal of valuable information on these topics, and assured them that Datwyler would continue to give them its full support. *(ahk)* ■

Ihab Gazawi explained to the Scientech team what they need to know about data centre design and solutions.



China:

Datwyler SCORES AGAIN



CECS award for "Progress in Integrated Cabling Technology"

In 2018 Datwyler in China received altogether six awards from respected associations, companies and trade magazines.



The Qianjia Brand Lab "Oscar"

Construction Technology Information Research Institute and the journal "Electrical Engineering in Intelligent Buildings" chose Datwyler as one of the ten "Excellent Brands" in the intelligent generic cabling sector.

"Smart Building" magazine again included Datwyler among the "Top 10" brands for innovative integrated cabling systems, likewise the portal www.rdyww.com, which named Datwyler as one of the "Top 10 Generic Cabling Products Brands" of 2018. Last but not least, Datwyler received yet another award as "China's Preferred Brand for Integrated Cabling in Airport Construction", presented jointly by "Airport Construction Magazine" and the "China Airport Construction Network".

Twenty years ago now Datwyler took its first steps on the Chinese market. Since then the company has won numerous major industry awards.

Datwyler is still on course for success in China – thanks to innovations, high-performance IT infrastructure solutions and close collaboration with its partners. (chc) ■

The success story continued last year. The Qianjia Brand Lab again awarded Datwyler one of the sought-after "China Intelligent Building Brand" awards regarded as industry Oscars, namely fifth place in the "Generic Cabling Systems" category. From the China Association for Engineering Construction Standardization (CECS) Datwyler received an award for "Progress in Integrated Cabling Technology". China Construction Technology Consulting Co., Ltd., the Asia-Pacific



Top-ten placement as "Excellent Brand" in the intelligent generic cabling sector.



Czech Republic:

The Datwyler family has **A NEW MEMBER**

In 2019 the previous joint venture in Děčín changed its name to Datwyler Cabling Solutions s.r.o.



Datwyler Cabling Solutions s.r.o. commenced operations on 1st January 2019. It was originally the “WDA Assembly” joint venture, founded in 2012. The 100-percent Datwyler-owned subsidiary will stay in the existing premises on the Děčín site in the north of the Czech Republic.

Together with Altdorf (Switzerland) and Taicang (China), the new company in the Czech Republic means that Datwyler now has a third production facility with an experienced team, reliable process flows, high production capacity and proven quality of supply.

Integration into the Datwyler family is well under way. In April Datwyler Cabling Solutions s.r.o. successfully passed the ISO certification audits. A key role here is training the 140 staff who previously worked for WDA Assembly and are now fully employed by Datwyler.

Enhanced range of services

The range of services on offer has been adapted to fit the new company framework. Preambled fibre optic and copper cables for use in data centres, broadband fibre optic networks and other IT infrastructure segments served by Datwyler will now be produced in Děčín alongside harnessed travelling cables. Datwyler Cabling Solutions s.r.o. is also responsible for its own material procurement, production and sales within the Datwyler group of companies. The team in Děčín has taken on the appropriate staff for these new challenges.

Naturally, in the midst of all this activity Datwyler Cabling Solutions s.r.o. never loses sight of the most important thing of all: providing customers with the outstanding service and top quality they have grown to expect from Datwyler for over a century. *(mas)* ■





The Chinese sales team with guests from Global Category Management and the Asia-Pacific sales team

China:

SALES MEETING

at Chinese head office

The main item on the agenda of this year's meeting of the Chinese sales team was the move towards new business areas.

The annual sales meeting was held in mid-January at Datwyler's Chinese head office in Taicang. For the first time it was also attended by the Asia-Pacific Area sales team and the Datwyler Global Category Management Team.

New marketing strategies

Finance and ICT Director Stella Shen started the meeting off with a review of the 2018 financial year and the year's highlights. Sales Director Daniel Zhang then spoke about

CEO Johannes Müller emphasised the need for business transformation.



target markets and sales strategies as well as about the opportunities created for the company by new business areas. He summarised the past year's achievements and presented the challenges and business plan for 2019. In conclusion he encouraged his sales team to actively approach data centre customers and to collaborate closely with Product Development in order to seize the growing opportunities provided by this business area.

Together with his team James Ji, Data Centre and Intelligent Business Director, held an inspirational training session on topics relating to new data centre solutions and sales strategies for turn-key solutions, including hardware, software and services. Global Category Management introduced participants to product strategy and the



Managing Director Xia Xubing motivating his team to take a leading role in change.

development schedule. The Asia-Pacific sales team gave a talk on business development in the APAC region.

Business transformation

In his address Johannes Müller, CEO of Datwyler Cabling Solutions, explained the necessity and urgency of business transformation and the mindset the team needs to develop in order to meet the new challenges. He stressed that Datwyler is a solution provider, not only a product seller, and that Datwyler must be shown to be a dependable partner for the supply of turn-key future-proof IT infrastructure solutions which allow customers to concentrate fully on their core business.

In conclusion Xia Xubing, Managing Director in China, summarised the meeting. He once again stressed the importance and urgency of the company's realignment, explaining that this was the only possible way of achieving the profitable growth to which Datwyler in China aspired in the coming years. Xia encouraged all those present to stand at the forefront of change and to lead by example. *(chc)* ■

China:

SPRING FESTIVAL in Taicang

For Datwyler in China New Year's Day is always a good opportunity to celebrate together and publicly acknowledge the achievements of deserving employees.

This time Datwyler celebrated Chinese New Year in Restaurant Jiale in Taicang. Johannes Müller, CEO of Datwyler Cabling Solutions, also attended the evening event, the theme of which was "Transform and work together for win-win outcomes".

He and Xia Xubing, Datwyler's Managing Director in China, took the stage after the inaugural dance. They summed up the challenges and amazing success of the past year, thanked the staff for their contri-

bution and encouraged them to look forward with optimism to the plans and projects for 2019.

Numerous prizes were again awarded to acknowledge outstanding individual and team performance. The management also presented awards to long-serving employees of outstanding merit.

After that the stage was taken over by the creative types. Individual Datwyler em-

ployees and groups performed dances with panache and great enthusiasm and sang songs in which they expressed their commitment to the company. The guests from the Datwyler office in Singapore happily accepted an invitation to take part and performed a turn of their own.

The party – and with it the Chinese year 2018 – concluded with a song from the production team. (weg) ■



Picture left: the "New Year Address" by Managing Director Xia Xubing



Picture right: turn by guests from Datwyler Singapore



CEO Johannes Müller gave the first speech of the evening



10 years of service: award for employees of outstanding merit



Egypt: **NEW HANDS TO NURTURE THE MARKET**

The Egyptian market offers great potential for growth but is multi-layered and very complex. To meet this challenge and expand its presence in Egypt, in February 2019 the Datwyler Middle East team brought in reinforcement in the shape of Amgad Habib, a Sales Manager with an intimate understanding of the Egyptian market.

Amgad Habib, who has specialised in IT and data centre infrastructures in Egypt for over four years, can look back on a very successful career path. He is an experienced Sales and Business Development Manager and has good contacts with major clients throughout the country. Habib's comprehensive knowledge, practical experience and modern methods of expanding the relevant areas of business will help Datwyler in speeding up market development. Habib will work closely with local distribution partner Connect Information Technology to meet the requirements of all partners and customers. (kaa) ■



Amgad Habib, Datwyler's new Sales Manager in Egypt (l.), with Sami Said, General Manager of Connect Information Technology

Germany / Switzerland:

DIRECT CONNECTION –

from Zurich to Berlin

In 2019 the European Datwyler team is taking part in a lot of specialist industry meetings rather than large trade fairs.



The top-class lectures and workshops at the “Tech Forums” and “Data Centre Symposia” most recently held in Munich, Zurich, Hanau, Baden and Cologne bring together experts, industry insiders and data centre operators.

The editorial team of “LANline”, the prestigious German trade journal, guarantees the quality and impartiality of the events.

*Pius Albisser, Senior Engineer
Data Centre Solutions at Datwyler,
with a Micro Data Centre*

In 2019 Datwyler’s European organisation is attending many of these and other specialist events – always with its own stand, generally with an exciting presentation on a variety of hot topics as well.

At the “Data Centre Symposium” held in Hanau at the end of February, Datwyler focussed on solutions to help cope with the steadily rising volumes of data which have to be transmitted, processed and stored. The need for decentralised “Edge” data centres is on the increase, fuelled by the emergence of new technologies like IoT devices and autonomous vehicles, which



Middle East:

DATA CENTRE HEALTH CHECK

Datwyler Middle East has expanded its range of services.

As one of its professional services the local Datwyler team is offering data centre operators in the Middle East a Data Centre Health Check. This is the assessment of an existing data centre, which helps the respective organisation improve its performance and reliability and in which Datwyler’s technical experts compare it with international data centre standards and best practices on the market.

The data centre infrastructure is a very complex environment. If it is not efficiently designed, managed and monitored, unforeseen potential weaknesses almost inevitably arise because of this complexity. Datwyler’s precautionary on-site assessment is therefore indispensable for maintaining reliable

operation. The “health check” shows the customer ways of improving the data centre’s performance and efficiency, prolonging the life of the system, minimizing the data centre operating cost, preventing downtime and maintaining an optimum environment. At the same time, it serves to identify single points of failure – for example the “hot spots” – as well as major systemic risks and malfunctions and gives the customer appropriate recommendations for remedying the situation.

Among other things Datwyler checks vibration, carries out thermal scans, and measures temperature, humidity, power consumption and airflow. Based on a comprehensive report, a Datwyler data centre expert gives the customer a detailed explanation of the existing problems and risks, and makes recommendations for optimising performance, saving energy and boosting efficiency. (ihg) ■

require very low latencies. One of the ways Datwyler is helping its customers meet this need is with the new "Micro Data Centre".

At the same time current developments call for the monitoring of scalability, security and energy consumption in central data centres. Specialist planners find that Datwyler has the solutions expertise they need to design these data centres for maximum performance and at the same time meet the growing requirement for energy efficiency and cost effectiveness.

The next "Tech Forum" will be held in Berlin in early June, the next "Data Centre Symposium" in Stuttgart in mid-October. (raf) ■

Fibre optic broadband networks:

ABOVE-GROUND SOLUTION

Excavation work represents a significant time and cost factor in broadband expansion. Now there is an efficient alternative.

For a simple and cost-efficient Fibre-to-the-Home (FTTH) rollout in rural areas Datwyler has supplemented its all-in-one solutions for fibre optic broadband expansion with a solution which is "extraterrestrial" in the truest sense of the word and does away with the need for expensive groundwork.

With this solution the Datwyler cables are installed in non-metallic UV- and frost-resistant microtubes on the existing above-ground infrastructure – i.e. on telecommunication masts or power pylons. Apart from cost savings and a fast rollout, the advantage of this system is that it uses the same network architecture and the same network elements (BEP, OTO, cables), and can be installed by the same firms which install the conventional above-ground power or telecommunications network.

The solution comprises 44 millimetre-thick multi-tubes suspended from steel strips, 10 millimetre-thick drop tubes for connecting buildings, and various mountings, junctions, fixing components, roof entries and the requisite tools.

Datwyler recommends the use of non-metallic, non-reinforced and longitudinally watertight FO Outdoor Micro- and S-Micro cables with external diameters of between 2.6 and 8.4 millimetres. These are available with 12 to 216 fibres as required. (daj) ■



Copper data technology:

More than a PRETTY FACE

“Flex” data outlets are extending Datwyler’s existing range of British Standard products with an easy-to-install and user-friendly version.

Thanks to their innovative design the “Flex” data outlets, developed by Datwyler in China, meet all the current market requirements. At the same time, they give installers and users a hitherto unprecedented degree of flexibility.

For example, the cover fastening is new: the bolted connection, frequently considered to be ugly, has been replaced by a click system. This means that it is easy to remove without a tool.



Without the cover the module can be clicked into the mounting plate from behind as well as from the front, i.e. even after the latter is already screwed to the wall. This is particularly advantageous for maintenance – for example during acceptance if a specific port fails to function.

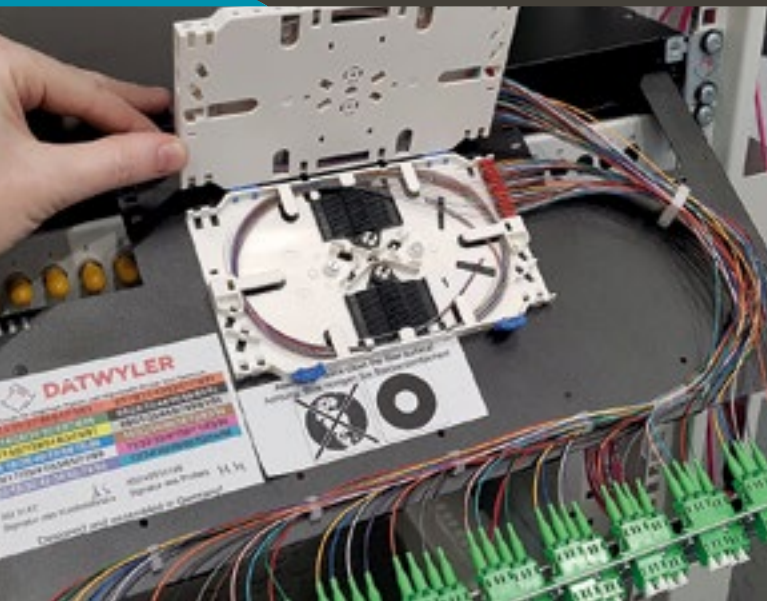


With the new outlets the service activated can easily be clearly indicated to the user by means of a revolver system: “T” stands for telephone and “D” for data.

Unused ports are protected from dust by sliding flaps. Labelling can be fixed with an additional transparent cover.

Datwyler supplies the new outlets in a wide range of colours on the Asia-Pacific and Middle Eastern markets. They are compatible with existing Datwyler products. (bos) ■





Fibre optic data technology: AN END TO CABLE KNOTS

Working on a densely packed patch panel can be nerve-racking, particularly in the field of fibre optics. Datwyler's new splice boxes help to make things a bit easier.

In the fibre optics field Datwyler has recently expanded its range of splice boxes with 19-inch "OV-E" patch panels, which take up to 48 fibres. The boxes – "OV-CH" in Switzerland – are equipped as required with LCD or LSH couplers with ceramic sleeves and ready-to-splice 2-metre coloured pigtailed (with measuring protocol).

They are made from an aluminium-sheet steel mix, so are very light in weight. The boxes also have a drawer with a pullout stop which can be folded down after pulling out. This makes it considerably easier to access the splice trays. At the same time the loose tube excess length storage tray under the drawer makes it more convenient to install cable behind the box, as the cable is fixed to the box and not to the drawer. The drawer can therefore be pulled out without moving the cable behind the box.

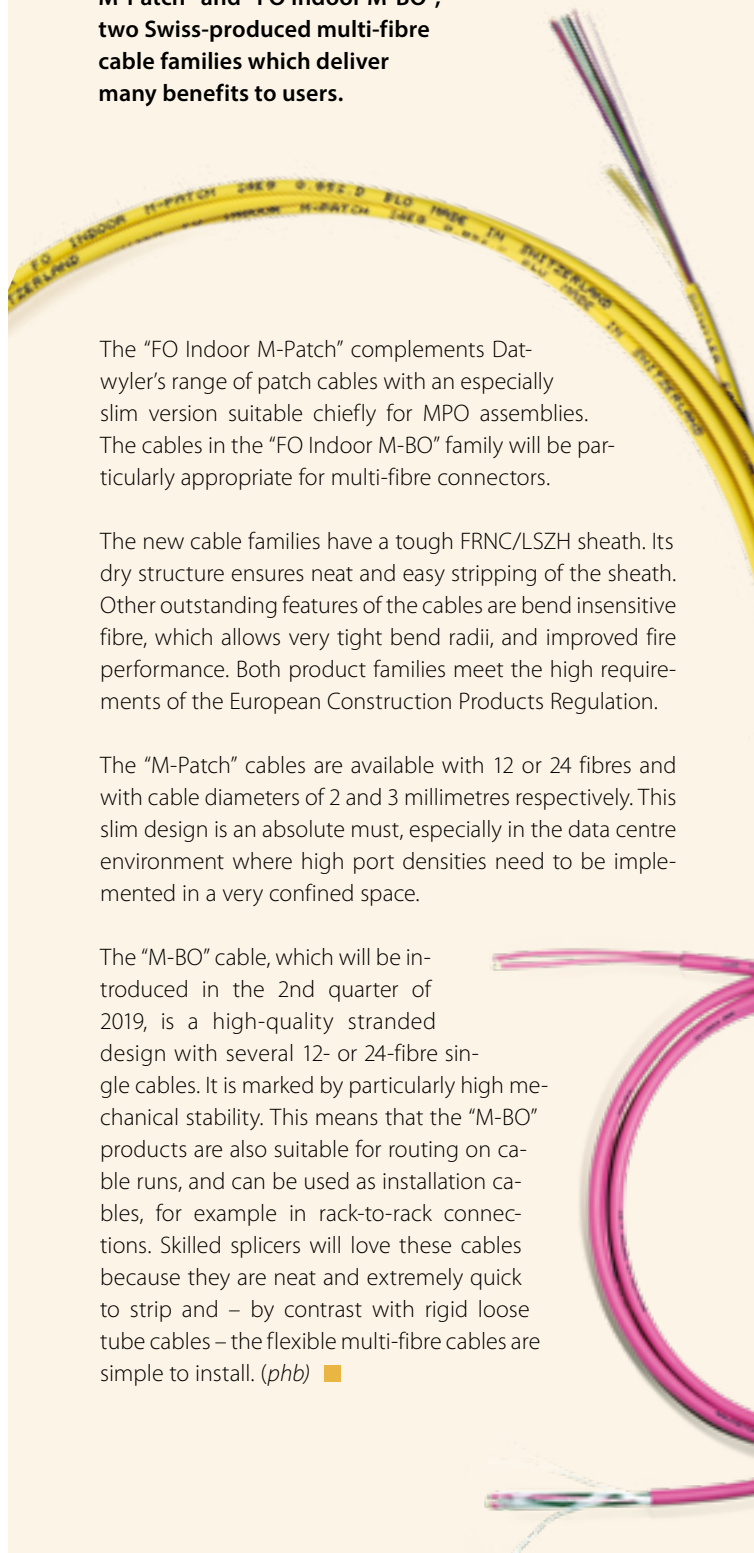
Other advantages include the mounting plate for cable management in the rear area, the easy-to-fold-up splice trays with splice comb and additional labelling strips on the numbered front panel.

Of course, the panel can be fitted in five depth-adjustable steps up to a maximum of 50 millimetres. The cables are fed to the rear via lead-through openings on either side. A breakout lead-in is included in the scope of supply. The cable fixing can be implemented either by way of this breakout mounting or via one or more cable glands.

The boxes available from Datwyler include all the splice accessories with crimp splice protection and a mounting kit. *(thg/phb)* ■

Fibre optic technology: NEW MULTI-FIBRE CABLES

Datwyler introduces the "FO Indoor M-Patch" and "FO Indoor M-BO", two Swiss-produced multi-fibre cable families which deliver many benefits to users.



The "FO Indoor M-Patch" complements Datwyler's range of patch cables with an especially slim version suitable chiefly for MPO assemblies. The cables in the "FO Indoor M-BO" family will be particularly appropriate for multi-fibre connectors.

The new cable families have a tough FRNC/LSZH sheath. Its dry structure ensures neat and easy stripping of the sheath. Other outstanding features of the cables are bend insensitive fibre, which allows very tight bend radii, and improved fire performance. Both product families meet the high requirements of the European Construction Products Regulation.

The "M-Patch" cables are available with 12 or 24 fibres and with cable diameters of 2 and 3 millimetres respectively. This slim design is an absolute must, especially in the data centre environment where high port densities need to be implemented in a very confined space.

The "M-BO" cable, which will be introduced in the 2nd quarter of 2019, is a high-quality stranded design with several 12- or 24-fibre single cables. It is marked by particularly high mechanical stability. This means that the "M-BO" products are also suitable for routing on cable runs, and can be used as installation cables, for example in rack-to-rack connections. Skilled splicers will love these cables because they are neat and extremely quick to strip and – by contrast with rigid loose tube cables – the flexible multi-fibre cables are simple to install. *(phb)* ■

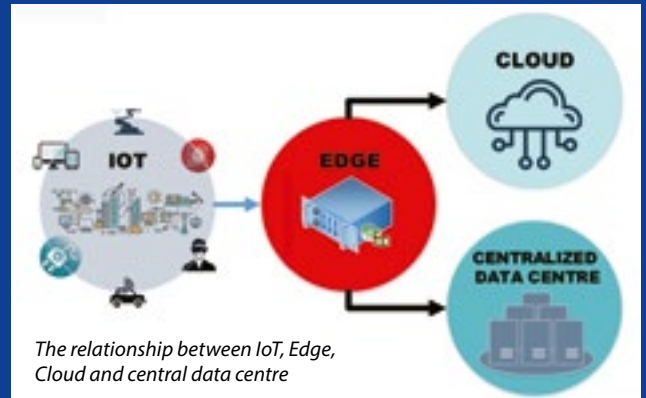
Edge Computing:

Real-time data processing at **THE NETWORK EDGE**

The rapid spread of IoT technologies and edge computing is leading to the increasing decentralisation of data centre architectures. There are so-called mini or micro data centres for data processing at the “edges” of the network.

“Edge computing” is real-time data processing directly at or at least in the vicinity of the place where the data are generated, whether by individuals or linked IoT (Internet of Things) devices. The name “Edge” describes the peripheral position in relation to the central “Core”. Edge computing is used as a decentralised extension of, or supplement to, the Cloud and the central data centre.

Hybrid IT environments like these are already relatively widespread. Gartner expects that by 2020 over 90 percent of all organisations will administer their physical infrastructures by means of so-called “mixed Cloud” architectures. No wonder, given its many benefits: The “last mile” to each device is generally in its immediate vicinity and has a low bandwidth. The nearer the connected devices are to the edge, the more stable



and reliable the connectivity. Latencies are significantly below those of the Cloud. The devices use less power. Last but not least, the Edge makes it possible to use energy-saving wireless network protocols.

Edge computing is a must for applications and users who need data processing in real time: for building management, intelligent production and “smart cities”; for drilling rigs, mines, hospitals and mobile health monitoring; also, for retail branches, healthcare, banking and education; and not least for self-driving cars and 5G mobile communication. Edge computing helps organisations improve user satisfaction, drive forward innovation, and stand out from other providers.

Various manufacturers provide an interesting Edge solution for infrastructures such as those described above: so-called Mini or Micro Data Centres (MDC) which as a rule are of considerably smaller size than the central data centre. Edge data centres generally consist of only one or two racks with an output of 1 to 7 kilowatts each. These “smart” racks are wireless or connected directly to users and devices by cable.



*Example of a Micro Data Centre
in a 42U rack*

*It gets even smaller:
Datwyler MDC*



The advantages of an MDC

A standardised MDC design makes it easier for organisations to roll out Edge data centres at all locations. At the same time, it simplifies the central management of all the distributed Edge infrastructures. The standardised design facilitates simultaneous maintenance and scaling with no downtime for companies aiming at Tier III or other comparable classification for their data centre.

A single-rack Micro Data Centre only needs minimal space. In the rack itself high-density solutions ensure that the limited storage capacity is put to optimum use. This relates both to the cooling technology, power distribution and UPS as well as cabling, access control, fire safety and intelligent monitoring.

The MDC design may perhaps only comprise a couple of components – but it has to meet the user's special requirements and comply with national directives. These components can present quite a challenge in this respect.

Configuration as required

In a compact 42U rack, for example, the Datwyler Micro Data Centre comprises a fully preassembled IT infrastructure solution consisting among other things of power distribution, UPS, cooling, an environmental and safety monitoring system together with the associated sensors. Configurations for different working scenarios are available ex works and can be "plug and play" installed for the user by the IT staff. A local user interface and Cloud-based access via browser or app with user-friendly software are also available for the MDC.

Such a solution provides users with a high level of data security and is characterised by a comparatively low total cost of operation (TCO). Real-time monitoring of the UPS and cooling unit helps save energy. A fully enclosed rack has high power usage effectiveness (PUE).

In addition, the Datwyler MDC is comparatively simple to maintain, as its key components are of all-modular design. The UPS has a maintenance bypass. Software upgrades can be implemented online. And in the event of a malfunction the remote management of all the equipment in the rack makes it possible for authorised personnel to be alerted promptly and rectify faults before they have serious consequences.

The above advantages mean that the Micro Data Centre for Edge applications is an ideal solution which is gaining increasing acceptance. *(chj/dir)* ■

EVENTS CALENDAR 2019

May 21, 2019

Data Centre Update, Munch

Weber Grill Academy

May 23, 2019

Data Centre Brunch, Innsbruck

Rowa-Moser headquarters

June 04, 2019

Tech Forum Berlin 2019

Holiday Inn Berlin - City West

June 04 – 06, 2019

Expo Eléctrica Internacional, Mexico City

Trade Fair & Conference, Centro Citibanamex

June 04 – 06, 2019

ANGA COM 2019, Cologne

Cologne Fair Ground

June 20, 2019

Data Centre Summit, London

The Business Design Centre, Islington

June 27, 2019

Data Centre Update, Ingelheim

Engelthal Monastery

July 03, 2019

Data Centre Update, Reichenbach

esscapade culinary school

October 06 – 10, 2019

GITEX 2019, Dubai

Dubai World Trade Centre

October 15 – 16, 2019

Data Centre Symposium, Stuttgart

Maritim Hotel Stuttgart

October 15 – 18, 2019

Interlift, Augsburg

Augsburg Fair Ground

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