REFERENCE PROJECTS

ABU DHABI: ONE-STOP SOLUTION PROVIDER FOR TELECOMS INFRASTRUCTURE

PREASSEMBLED SOLUTION FOR HUAWEI DATA CENTRE

INNOVATION
DATA CENTRE SOLUTION: PEAK VALUES SURPASSED YET AGAIN
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Dear Readers

In highly industrialised countries we are used to a lot of luxuries which many of us would probably not describe as such, since we have long taken them for granted. These “luxury goods” include the uninterrupted availability of means and opportunities for high speed data communication. We use apps such as Google Maps, consult online flight schedules and timetables and book hotels and restaurants by smartphone as if we had done it all our lives. We no longer store photos locally but prefer the cloud, and are firmly convinced that we can access material whenever and wherever we need it. Some of us may even have complained about temporarily having to make do with 3G instead of LTE or 4G in the toilet of a public building...

Yet not so long ago we had to grapple with downloads which took hours, airline tickets were still pieces of paper and mobile phones were used for virtually nothing but phoning.

Recently I was forcibly reminded of the old days when I wanted to change my holiday travel arrangements in an emerging Asian nation: I had trouble getting through on the phone, it was hard to understand and various interruptions made things even more difficult. I couldn’t access my booking confirmation as the online mailbox was not available at precisely that moment, nor could the seats in the plane be confirmed directly due to IT problems. And to cap it all, the hotel couldn’t find the reservation... In the end I managed it – after two hot and sweaty hours. Not the most efficient of processes, as my wife remarked.

Efficiency in business processes is an important competitive driver. Modern means of communication and the rapidly increasing data traffic have long made us dependent on the consistently excellent functioning of our communications infrastructures. At Datwyler Cabling Solutions we play an important role in ensuring and enhancing the efficiency of our customers’ business processes with our products, integrated solutions and services – and we are proud of it. You will find up-to-date examples in this issue of “Panorama”.

I hope you enjoy reading about them.

Datwyler Cabling Solutions

Johannes Müller
CEO
Over the past two years Datwyler has been acting as general contractor for the cabling of thousands of new offices, shops, apartments and villas on Al Reem Island and in the Rawdhat district of Abu Dhabi.

High-rise buildings dominate the skyline of Al-Reem Island – as here in the Marina Square district.
Al Reem Island is a residential, commercial and business project in Abu Dhabi on the north coast of the United Arab Emirates. The new neighbourhood, developed by Sorouh (Shams Abu Dhabi), Reem Investments and Tamouh, is being created on a natural island in the Persian Gulf about half a kilometre off the coast. The island is planned to provide 6.5 million square metres of residential and working space for around 180,000 people. The total cost is estimated at 30 billion dollars. This gigantic project has attracted international interest, not least due to the fact that it is one of Abu Dhabi’s first free trade zones.

The Rawdhat development area in Abu Dhabi is “modest” by comparison: it will comprise 18,000 residential and business units covering approximately 800,000 square metres and costing around 5 billion dollars.

Datwyler Middle East was appointed general contractor for the telecoms infrastructure of the buildings in both projects. Amongst other things this includes structured cabling systems for data, voice and TV/video, fibre optic backbones, home automation cabling, the installation of optical network terminals (ONT) and video monitoring systems (CCTV). The contract was awarded by the Emirates Telecommunications Corporation (Etisalat) and UT Technology, the authorized subsidiary of Etisalat acting as Telecom Authority & Service Provider in Al Reem and Rawdhat.

Datwyler is responsible not only for planning, supplying and installing the telecoms infrastructure for these projects, but also for overall project management including cost control. On top of this there is network commissioning and acceptance as well as reporting and documenting the systems installed.

**Numerous high-rise buildings cabled**

Over the past two years Datwyler has completed projects in 17 buildings on Al Reem Island, including the Reem Diamond, Marina Bay, Amaya Towers, Mangrove Palace and Sky Towers, several major commercial properties, the Paragon Bay Mall and one villa. By August 2013 Datwyler had handed over seven multi-storey residential blocks in Rawdhat.

These projects included structured cabling for 1160 homes, when around 430 kilometres of copper data cable and 75 kilometres of single-mode fibre optic cable were installed. The ONT installations – always including patching and measuring the fibre optic backbone – even took in more than 2500 apartments in 12 buildings, involving the testing of around 9700 fibre optic links.

The tender specification stipulated horizontal level structured cabling comprising Category 6 cables and connecting technology, data outlets – some in floor boxes in the offices – and wall-mounted housings with signal converters for fibre-to-copper signal conversion. Twin-fibre optic cables were used to connect the apartments to the cabinets in the floor telecom rooms (FTR). Each FTR cabinet is connected to a dedicated 42 U rack in a main telecom room (MTR) using riser fibre cable with 12 to 48 fibres depending on floor capacity. Patch cords were provided at FTR for linking twin fibre with riser fibre cable and at MTR for linking riser cable with the service provider’s racks. All the connections are labelled at both ends and all the fibre optic links were tested prior to handover.

**To date Datwyler has implemented CCTV monitoring system in the two PoP rooms on Al Reem Island, one of them being in Sky Tower.**

**Keys to success**

Datwyler has always been able to complete the projects implemented to date within the time specified and within budget – despite the challenges typical of this size of construction site. These challenges include, for example, architectural modifications at short notice and delays caused by other construction trades. The two most important factors for success were continuous design optimization, material and resource planning as well as close coordination with the clients, the other firms operating on site and the respective installation partners.

Datwyler used Category 6 cable, the appropriate connecting technology and separate wall-mounted enclosures for cabling the home automation systems – monitoring and control panels, motion detectors, thermostats and equipment for shading and access control. Here again all the connections were labelled and tested.

Datwyler implemented a CCTV monitoring system in the Sky Tower PoP room
The city of Nürtingen, with a population of just under 40,000, is an important business and service centre in the Stuttgart region. In order to lay the technical foundations for new communications services in the urban area and surrounding region, in 2010 Stadtwerke Nürtingen GmbH created the NT-net broadband supply division, which will set up an extensive fibre optic access network (AN) over the next few years. This new “information superhighway” provides commercial and private customers with high bandwidth access of currently up to 100 megabits per second, allowing superfast Internet and high-definition television among other things. At the same time it forms the basis for future offerings, for example the connection of intelligent energy consumption meters.

Gradual expansion
Since October 2011 both Fiber-to-the-Curb (FTTC) and Fiber-to-the-Home (FTTH) networks have been created in Nürtingen. This was done first of all by accessing street distribution cabinets with fibre optic cables in three sub-municipalities. Here multifunction devices provide connections to the existing copper cables for FTTC. For FTTH, cable distribution frames were installed in the street cabinets and additional fibre optic connections into the buildings created at what is known as network level 3.

REFERENCE PROJECT

NÜRTINGEN GETS “INFORMATION SUPERHIGHWAY”

Nürtingen’s Municipal Utilities will continue to expand the city’s fibre optic network for private and business customers with its NT-net Service Division. The company is relying on Datwyler products and services to connect its NT-net customers.
Nürtingen’s Municipal Utilities found Datwyler to be an expert and reliable product and installation partner for their broadband expansion, and this successful collaboration has proved its worth in many individual projects since October 2011. Initially private households and small businesses in the district of Reudern were able to surf and telephone using cutting-edge technology from autumn 2012 onwards. Since early 2014, the districts of Raidwangen and Neckarhausen have also been benefiting from the services provided.

**Over 50 sub-projects completed**

Datwyler is expanding the fibre optic network in close cooperation with trained, certified installation partners. The first orders, executed in 2011, included connection of the Municipal Utilities control room, of IT company Bürotex Metadok and green roofing company ZinCo Dachbegrünung. These projects focussed primarily on creating the requisite fibre optic splice closures, splicing and measurement work and drawing up the relevant documentation.

Since then – in line with the Municipal Utilities’ requirements – Datwyler has been responsible for the turnkey implementation of around 50 other projects. In addition to the work described above these included blowing, installing and connecting various types of cable in manholes and buildings both inside and outside urban areas.

By summer 2014 approximately 17 kilometres of cable had been installed, around six kilometres of which were used to link the central distribution points (Point-of-Presence, PoP) to street cabinets, with about eleven kilometres of cable entering the buildings. The connection of private households was realised for the most part with 12-fibre cable, that of business customers with Datwyler’s 24-fibre Micro and S-Micro cable.

In FTTH projects the fibre optic cables are normally terminated in a wall-mounted cabinet which is located in the basement of the building. As a rule an optical / electrical media converter is installed at the building entry point (BEP). Depending on the contract, users can connect their own home network and telephone or telephone system here. Some of the cables, however, were also routed into the network cabinets of larger companies and connected directly to type OV-A patch panels.

In recent months 30 commercial and over 200 private customers have been connected to the new “information superhighway”. To date all the installations and respective start-ups have proceeded without a hitch, so the Nürtingen’s Municipal Utilities are very happy with Datwyler’s products and services – and will also make increasing use of them during subsequent extensions of their network.
Huawei Technologies, established in Shenzhen in 1987, is the world’s second largest supplier of communications equipment, it is the third largest manufacturer of smart phones and the leading telecommunications solutions supplier. Its portfolio features integrated solutions for telecom networks and business networks, professional services and software solutions as well as mobile devices including tablet PCs. Today Huawei services 45 of the top 50 telecom operators. One third of the world’s population directly or indirectly uses Huawei products. The company operates in over 140 countries throughout the world and employs a workforce of over 150,000, of which 70,000 work in Research and Development.

Huawei has collaborated with Datwyler in China since 2012, during which time Datwyler has supplied universal communications cabling solutions for the infrastructure projects on several Chinese sites.

Datwyler installed a communications cabling system with Category 6 cables and around 24,000 high-performance connections in the extensive building complex. This was supplemented by the use of backbone cabling incorporating a fibre optic solution with metal-free lightning-resistant fibre optic outdoor cables, thus guaranteeing the reliable transmission of data throughout the complex.

The solution was tailored specifically to the customer’s requirements and comprised 12-fibre cables preassembled with connectors and 24-port high-density modules, also supplied preassembled. Using preassembled products meant that installation was simple, neat and, above all, fast.

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500 racks were cabled with a fibre optic system
As the general contractor appointed by Emirates Telecommunications Corporation (Etisalat) based in the United Arab Emirates, Datwyler Middle East was responsible among other things for design validation and optimisation, the supply and installation of fibre optic cables and system accessories, project monitoring and cost control, testing and acceptance, and for reporting and documentation.

The project on Al Reem Island essentially involved installing a PoP (Point of Presence) – also called a control centre, node or head station – in the Sky Tower, the installation of fibre optic networks in the individual buildings and connections between the PoP and the high-rise blocks. These were Gate Tower 3, 4, 5, 7A and 7C as well as the new buildings on the Sorouh site, i.e. the Sea View, Al Wifaq and Ocean Scape Towers as well as both Beach Towers.

Datwyler started the requisite work in late December 2011 and completed it in September 2013, using high-fibre cables, splice closures, optical distribution frames and thousands of fibre optic patch cables in the aforementioned buildings.

**Redundant links**

The PoP in the Sky Tower is connected to each individual high rise by one primary and one redundant (secondary) fibre optic link. Connecting the Gate Tower involved bridging distances of between 600 and 2000 metres with between 300 and 1300 single-mode fibres, depending on the size of the building.

The fibre optic links to the buildings on the Sorouh site consist of 300 to 600 fibres and are between 850 and 4400 metres long.
The indoor cabling on the PoP site is of redundant design, terminated in high-density racks on high-density distribution panels. In the individual towers the optical fibres are terminated in 42 U racks on the respective panels provided by the client. Here, among other things, Datwyler has installed splitters and patch cables to prepare the building for connection to Etisalat services.

Flexible response essential

The specifications stipulate that each link of the outdoor cabling should have several fibre optic closures in accessible manholes. Among other things a large closure was provided in each of the individual high-rise buildings as a point of entry to the outdoor cabling. The cable access points and manholes had not yet been completed in several buildings, however, so in order to avoid delays and additional expenditure Datwyler placed the fibre optic closures on their own cable runs. This simple solution was then copied in all subsequent projects.

Datwyler was faced with even more challenges in the course of the individual development stages, for example modifications to the network structure on the PoP site, where a flexible response was once again essential. Continual network design optimization, cost control, careful material and resource scheduling and, last but not least, close collaboration with Etisalat, several authorities and the many firms involved in the project enabled Datwyler to complete this demanding project on time, as planned and within budget.

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MULTIMEDIA NETWORK FOR NEW UNIVERSITY BUILDING IN BASEL

The new campus of the renowned Academy of Art and Design at the University of Applied Sciences Northwestern Switzerland (FHNW) is currently being constructed on the Dreispitz site in Basel. Datwyler is supplying the universal communications cabling system for the new campus tower block. Among its features making it possible to transmit up to 10 gigabits per second are type CU 7702 Category 7 cables and MS-C6, 1/8 Cat 6, (IEC) RJ45 modules for the horizontal cabling as well as a fibre optic backbone cabling. Datwyler Data Centre Solution OM4 multimode and OS2 single-mode cables and components were installed on the floors, in parallel to the copper network, for the FO connection of cutting-edge audio/video technology. For the new communications network Datwyler also supplied various patch panels and racks made to the customer’s requirements as well as safety cables and distributors with extended circuit integrity in the event of fire.

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In early February 2014 Datwyler Cabling Solutions took the opportunity of attending Sähkö, Tele, Valo & AV, the most important Finnish trade fair for electrical infrastructures. This is held every other year in the exhibition grounds of Jyväskylä, a city with a population of 135,000 in central Finland.

This time the 3-day fair drew around 15,000 visitors, a large number of whom called in at the Pistesarjat Oy stand. The local Datwyler distribution partner had devoted a substantial part of its display space to Datwyler cabling systems for preventative fire protection and communications networks.

Many of the visitors to the stand showed a special interest in the display wall featuring safety cable installations and highlighting the important role played by tested support and mounting systems in cabling with extended circuit integrity (System Circuit Integrity) conforming to DIN 4102-12. This German standard served as the model for future European standards on the testing of safety cable installations.

Pistesarjat Oy has represented Datwyler in Finland for three years now. The company has around 30 employees and is an important player in the domestic electrical sales market. The Pistesarjat team has specialised in Datwyler’s safety and communications cabling solutions, with a further focus on heating cables and pipes. A high level of consultancy expertise and extensive technical and commercial knowledge are the hallmarks of this thriving company, which moved into larger premises in July 2014.

In April Datwyler Cabling Solutions invited all its customers on the website to vote in this year’s “DCS Awards”. Datwyler and four other suppliers were selected as finalists in the “Datacenter Cabling Product of the Year” category. iDaC Solutions Ltd., the exclusive distributor for Great Britain and Ireland, had nominated a copper-based Category 7, (Class F) data centre cabling solution from Datwyler.

On 15th May the Datwyler solution was awarded 2nd place (“Runner-up”). As only company votes were allowed and no company was allowed to vote for itself, Datwyler would like to say a big thank you to all its customers for their vote of confidence.
MARKET

STILL ON THE ROAD TO SUCCESS IN CHINA

Datwyler is still on course for growth in China. Three new prestigious awards confirm the company’s success in this market.

The second “Building Electric and Intelligent Energy-Saving Technology Development Forum” and the “China Intelligent Building Electric Industry Excellent Brand Selection and Awarding Ceremony” were held in the Beijing Xinnjiang Plaza on 26th November 2013. The event was organised jointly by the “China Association of Building Energy Efficiency”, the “China Intelligent Building Information Network” and the “Electricity of Intelligent Buildings Media”. Justin Pan, Sales Director, accepted an “Excellent Generic Cabling System Award” on behalf of Datwyler. Zeng Songming, Technical Director at Datwyler, gave a widely acclaimed talk on “Analysis of the energy efficiency of an application-neutral cabling system”.

Among the Top 10
On 6th December the industry gathered in Peking for the “China Intelligent Building Innovation and Sustainable Development Round Table Summit” and the award ceremony for the “Intelligent Building Top 10 Brands”.

The event focussed on worldwide trends in the field of “intelligent buildings”. Current “hot” topics and the industry’s development potential in China generated heated debate among the 200+ participants. The podium discussions covered a wide range of subjects and provided comprehensive information gained from research and practical experience. Zeng Songming took part in the discussions on behalf of Datwyler.

The “Engineering Intelligent Design” Department of the “China Exploration and Design Association” and the Peking journal “Intelligent Building and City Information” singled Datwyler out as a “Top 10 Brand” in the field of intelligent building cabling. The prize was based essentially on a ballot of experts, users and system integrators and on criteria such as brand awareness, technical level, market share, cost performance and services. Chen Weidong, Datwyler’s Managing Director in China, accepted the award in person.
Fourth place in the industry “Oscar” vote

Once again Datwyler came fourth in the “Qianjia Brands Lab Top 10 Cabling Brands”. Chen Weidong accepted the industry “Oscar” on 10th December at the “China Intelligent Building Brand Awards” ceremony in the Dong Fang Hotel in Guangzhou. Datwyler, a platinum sponsor of the “China International Building Intelligence Summit” organised by Qianjia and held there at the same time, had its own stand and gave a lecture.

Datwyler is growing steadily in China. In a recent interview Chen Weidong made it clear that in future Datwyler will meet customer-specific requirements in the field of data, voice and video transmission with very specific solutions which offer customers genuine added value. Datwyler also wants to combine the cabling systems with engineering support and services – for example in the areas of on-site surveys, solution design, installation, training and maintenance.

In years to come the United Mexican States could overtake Brazil in terms of economic influence. It is one of the “O5 countries”, and many economists believe that Mexico would have fitted in well with the original BRIC countries. This up-and-coming emerging nation has a large internal market characterised by an urgent need to modernise and increasing direct investment.

In Marathon Eléctrica de Puebla Datwyler Cabling Solutions has a strong and competent local partner which aims to meet ambitious targets with the high-performance portfolio in Mexico. Marathon’s head office is in Heroica Puebla de Zaragoza (Puebla for short), the capital of the central Mexican state of Puebla, situated at an altitude of 2135 metres. The experienced distributor has an excellent network of contacts and five branch offices in the country: in Mexico DF, Queretaro, Villahermosa, Tijuana and Orizaba. Marathon has also successfully been selling the products and solutions of major European manufacturers on the domestic market for 32 years.

Marathon has appointed two new qualified members of staff, Oliverio Ruiz and Jorge Miranda, for the exclusive management of the Datwyler portfolio. They have passed a sales training course in Altdorf to enable them to implement individual, customer-specific solutions successfully and on time. In order to tap new customer potential Datwyler also organised a local certification course. 12 major system integrators and over 70 technicians attended these in three stages.
For over ten years Datwyler has been supplying a wide range of tailor-made infrastructure solutions and associated services for data centres. The company’s core competence is still high-performance future-proof cabling systems. And the jewel in the product portfolio is definitely the 100G-tested “Datwyler Data Centre Solution”.

This system is the preassembled plug-and-go fibre optic solution specially developed by Datwyler for high-density requirements in data centres. It is characterised by ultra-high-performance cables and components, high-precision connector assembly and optimum optical performance values (IL/RL). Datwyler has in part even managed to surpass these values over recent weeks. No wonder the system enjoys a fast-growing installed basis, particularly in Switzerland.

The central components of this cabling system are the fully assembled plug-in modules and front panels, fabricated to a high quality. The plug-in modules – available for OM3, OM4 and OS2 – are perfectly matched to Datwyler’s 3 U modular sub-racks and 1 U patch panels. Extremely high packing densities can be achieved in data centres – up to 288 fibres with LCD connections on 3 U, for example, or up to 1152 fibres with MTP adapters.

### Optically and technically upgraded

The latest version of these plug-in modules, for which Datwyler has already filed two patent applications, is no longer made from anodised aluminium, but from robust black plastic. In the enclosure a neat cable management system ensures more stable internal fibre control from the rear MTP couplers to the front fibre optic couplers. On both sides of the front couplers there are labelling strips for customer-specific printing.

So far all that was available were plug-in modules with two rear MTP couplers (type A) to take two preassembled MTP trunk cables. These had six LCQ adapters (LC quads) on the front.

Other versions including MTP-on-LSH plug-in modules can now be supplied, and even more models will follow. At the same time Datwyler
new Managing Director for Datwyler Middle East

At the beginning of August Datwyler Cabling Solutions welcomed Jon Bamford, 52, the new Managing Director of Datwyler Middle East. Born and brought up in Great Britain, he has been living and working outside his native land for just under 20 years, the last 12 years of which he spent in the Middle East region.

Jon Bamford possesses extensive technical and market knowledge. He has worked in various positions of increasing responsibility for over 30 years, mainly with multi-national ICT businesses, including two of the world’s largest – British Telecom and Verizon.

For the past 15 years he has occupied various management positions in which he was responsible for leading large bids and setting up new companies requiring rapid growth.

As well as a diploma in engineering (BTEc) Jon has a degree in marketing, both from the University of London, and an MBA from Nottingham University. Jon is married with two children.

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