REFERENCE PROJECTS

CONVENT INSTALL FIBRE OPTIC NETWORK

NEW COMMUNICATIONS NETWORK FOR SILOAM HOSPITALS GROUP

INNOVATION ENGINEERING FOR DATA CENTRE CABLING SOLUTIONS
INDEX

EDITORIAL
03 What does "Swissness" mean to you today?

REFERENCE PROJECTS
04 Convent install fibre optic network
06 The Lower Valais gets a "data superhighway"
08 New communications network for Siloam Hospitals Group
10 Datwyler supports Intermediate People's Court in Chengdu
11 WLAN projects in Austrian schools

MARKET
12 WLAN: the focus of educational trade fairs and roadshow
12 Successful appearance at Portuguese trade fair
13 Enthusiastic response to "GITEX" participation
14 Datwyler wins four top awards in China

INNOVATION
15 Lean Production at the Altdorf site
16 Engineering for data centre cabling solutions

SPEZIAL
18 Datwyler Cabling Solutions AG – now a private company

NEWS
19 Cabling Solutions News: Datwyler Datacenter Solution successfully tested for 100G Components for FTTx cabling systems
Dear Readers

It is great to work for a reputable Swiss industrial enterprise with a rich tradition. More especially when, along with the company’s top quality products and solutions, you are also able to take its fundamental ideas and image out into the world to take root. For all markets normally respond positively to “Swissness”. Our business partners typically associate it with values like quality, reliability and trust.

Sometimes, however, the “Swiss cross” can also be a handicap, for example when a customer associates “Swissness” with attributes such as “too expensive”, “over-specified” or “not reflecting local conditions”. Which is why I often wonder how much Swissness there should or can be in a particular case for our customers and business partners to feel comfortable with it.

Datwyler Cabling Solutions is an internationally established company with strong Swiss roots and affiliates in Europe, the Middle East and Asia. Although we are basically a Swiss enterprise, it absolutely goes without saying that in China the CEO is Chinese and in the UK British; that our products and solutions comply with local standards and are always competitively priced; that we operate “close to the customer”, understand local requirements and challenges, and that there are no cultural or language barriers to overcome.

At the same time it is still important to us that “Swissness” should yield positive results in our organisations abroad. This means that we only recruit staff who set store by traditional Swiss values and are able to champion them in the outside world.

We continue to implement “our” standard business procedures and rules on all our sites, in exactly the same way as do McDonalds, BMW or Mövenpick, for example. The important thing is that quality standards are consistent. “Good quality”, of course, need not be necessarily be equated with “high price”.

So, dear Readers, “Swissness” is good, but in every instance it must be linked to local conditions in such a way as to produce the desired results. As so often, it’s all down to the right mix!

I hope you enjoy reading our magazine.

Johannes Müller
CEO Datwyler Cabling Solutions

What does “Swissness” mean to you today?
When repairing and upgrading its data and telecommunications system, the Convent of St. Marienthal in Niederlausitz opted for a complete Fibre-to-the-Office solution from Datwyler.
The Convent of St. Marienthal is situated south of the small town of Ostritz in Saxony, on the left bank of the Lausitzer Neisse. Founded in the 13th century, it is the oldest Cistercian convent in Germany to have survived right through to the present day. The extensive convent complex comprises the convent building with the abbey, the convent church, the priory, the cross chapel and various outbuildings, including a convent market and a historic sawmill. Since 1992 some earlier farm buildings have also housed an international meeting centre which, in the three-border region of Germany, the Czech Republic and Poland, is dedicated to reconciliation and international understanding and which, like the convent itself, has several guest houses.

In August 2010 the expensively restored convent complex suffered the worst flooding since its foundation. The flash flood took everyone by surprise, the ensuing deluge bursting through doors and windows, causing severe damage to gateways and walls, destroying roads and facilities and totally demolishing the interiors together with quantities of equipment and machinery. Since 1992 some earlier farm buildings have also housed an international meeting centre which, in the three-border region of Germany, the Czech Republic and Poland, is dedicated to reconciliation and international understanding and which, like the convent itself, has several guest houses.

**Decision in favour of a fibre optic network**

The Convent of St. Marienthal appointed Werner Vaterodt - ibvw KG, a firm of consulting engineers in Deuna, to carry out planning and site management. The contract was put out to tender and awarded to Datwyler, who submitted the most cost-effective quotation for implementing the new data and telecommunications system.

**Fibre optic ring opens buildings up**

Datwyler made a start on the work in September 2012. First of all a “flood-proof” main distributor area which will also be used as a server room following renovation was created on the second floor of the convent building. From there all the buildings, including the priory and the convent servants’ hall, were connected by a fibre optic ring. For the fibre optic ring Datwyler used mainly 24-fibre OS2 single mode cables which were terminated on LCD splice boxes. In the convent buildings themselves a star-shaped cabling configuration was installed with four small distribution boards on each floor linked by fibre optics. From these distribution boards on each floor the administrative offices, guest rooms, conference rooms and the nuns’ living quarters in the cloister are for the most part supplied with 4-fibre OM3 multimode cables, some also with copper cables. Individual optical fibres were removed from the ring cable and taken to the main data distributor in the priory in order to provide direct supply points for the Internet provider.

**Usual end device connections**

The fibre optic cabling in the individual offices, guest rooms and other areas terminates in mini switches. Around 90 of these little media converters allow today’s users to connect their PCs, laptops and landline phones to the new network using copper connections as before. Mini switches are also used to integrate the Wireless LAN.

Long cable runs are routed in thin armoured plastic ducts, often underneath the plaster, as well as in Datwyler’s “Hermann clip” multi-cable supports. The installers were able to use a cable tray system in the attic of the convent building, although the historic roof beams meant that it could not be screwed on directly.

**Job completed on time**

Work progressed without a hitch. The campus cabling was finished before Christmas 2012 as scheduled. Routing and connection work in the buildings, begun in the second week of January and carried out in parallel with the convent’s day-to-day operation. It was completed in February. Here Datwyler collaborated closely with a specialist certified partner company which also handled the bulk of the splicing.

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REFERENCE PROJECT

THE LOWER VALAIS GETS A “DATA SUPER-HIGHWAY”

L’Energie de Sion-Region SA (ESR) employs a workforce of over 200 and is the largest regional energy utility in the Swiss canton of Valais. In addition to supplying and distributing electric power the company, which was founded in 1996 and counts numerous Valaisian municipalities among its shareholders, administers other companies in the water, gas and cable network sectors. Not least, ESR also provides its customers with multimedia services, including over 100 television channels, interactive TV, broadband Internet and telephony.

Until recently customers were only able to receive multimedia services via coaxial cable. In 2008, after a careful assessment of the cable television network and mindful of the need to cater for future technology, ESR decided to develop a Fibre-to-the-Home fibre optic network. The new FTTH network has been designed to provide companies and private individuals in 20 municipalities with high-performance multimedia services – of better quality and augmented by additional offerings such as high resolution television and Video on Demand.

It proved possible to incorporate part of the existing network in the construction of the Valaisian “data superhighway”. Since 2008 Datwyler has already supplied numerous different types of fibre optic cable for the fibre optic backbone. Thanks to the current upgrades half the city of Sion, the capital of the canton of Valais, and the neighbouring municipalities are already benefitting from a FTTH backbone network.

System with highest port density
Construction of the FTTH network’s central fibre optic distribution points, known as Points of Presence, or POPs for short, began in the autumn of 2011. “The most difficult part of the project was establishing the number of POPs required for the network”, says Jérôme Luyet, in charge of the multimedia cable network and FTTH at ESR. “As soon as this decision was taken we had to find the best answer to equipping the POPs. ESR opted for a Datwyler system with high port density. This is compact, flexible, and of a size which fits all the available sites. It is, moreover, an integrated system which is suitable for passive and active components and permits a huge number of possible connections in one single rack – and all at a reasonable price”.

„WE HAD TO FIND THE BEST ANSWER TO EQUIPPING THE POPS…”
Jérôme Luyet

Each of these racks – also called optical distribution frames (ODFs) – allows up to 2,880 optical fibres in 19-inch drawers to be connected to
each of two rack units. Up to 144 fibre optics on LC/APC couplers can be lined up in one drawer. The passive ODFs also have sophisticated patch cable management and bend radius control devices for optimum fibre management.

**Plenty of spare capacity for future expansion**

By the end of May 2012 the first racks had been installed at the various POPs, and connection of the fibre optic cables could begin, both in Sion itself and the various neighbouring municipalities. The first fully installed and equipped fibre optic distribution point, beautifully named “Heart of the City”, is in Sion city centre. The distribution point houses four large passive racks, currently with around 6,000 fibre optic connections for city centre subscribers. In addition it provides space for approximately 12,000 further connections, which in future – as subscribers numbers grow – can be brought into service as required without the need to add additional ODFs. Thousands of connections have also already been completed in the racks for active components, and these too provide generous spare capacity for future network expansion.

At ESR David Follonier is in charge of constructing and equipping the POPs in Sion and some of the surrounding localities. He organises materials procurement and the acceptance of incoming goods, and coordinates the work of the various parties involved. The installations themselves are effectuated by ESR technicians. They construct the ODFs, set up the cable ducts and insert the many different distribution and backbone cables. The POPs have secured energy supplies. A ventilation and air conditioning system was also installed to dissipate the heat of the active components.

ESR tasked a specialist company with the assembly and splicing of the fibre optic cables.

ESR is pressing ahead rapidly with the construction of POPs in the various neighbouring localities. Installation of the ODFs and connection of the fibre optic cables is scheduled for completion by 2015.

**David Follonier (centre) und Jerôme Luyet (right), both ESR, with André Progin (left) of Datwyler.**

**Drawer with splice cassettes, pigtails and associated adapters.**

**ODFs at the “Heart of the City” distribution point in the city centre.**

**Cable divider box below the ODF.**

**Up to 12 loose tubes with 12 optical fibres per tube are routed to each drawer module.**
REFERENCE PROJECT

NEW COMMUNICATIONS NETWORK FOR SILOAM HOSPITALS GROUP

The leading Indonesian health service provider demands high standards of quality and sustainability in its work. These aspects were precisely what convinced it to opt for a Datwyler system solution when installing new cabling in SHG hospitals.

The Siloam Hospitals Group (SHG) is Indonesia’s most modern health service provider, and with more than 2,200 doctors, nurses and medical personnel aided by cutting-edge technology it supplies first-class medical care to over one million patients every year. The group is also committed to a policy of equal opportunity, and is endeavouring to give more people affordable access to better medical services.

The Group’s hospitals in Indonesia are benchmarks for quality medical care. They are based on ultra-modern technology and equipment, as well as on highly trained staff. SHG’s close collaboration with the Mochtar Riady Institute for Nanotechnology (MRIN) on the one hand and the medical faculty and School of Nursing of Universi-
sitas Pelita Harapan on the other is unique in Indonesia. SHG’s quality assurance scheme has also won international acclaim: in 2007 the Siloam Hospitals Lippo Village (SHLV) was the first hospital in the country to be accredited by the Joint Commission International (JCI). Three years later it received this prestigious certification again.

**Quality and sustainability**

Last year, when SHG was planning the new communications cabling for its hospitals, it ended up opting for an equally modern high-performance solution: structured premises cabling with a Datwyler Cabling Solutions system. In choosing Datwyler, SHG deliberately decided to place its trust in a traditional company with a long history and a reputation for premium quality and sustainability. Datwyler can also provide many references testifying to its successful project track record and backs up its solutions with logistic and technical support. Other important factors for SHG were an in-depth understanding of their specific needs, the good price/performance ratio of the cabling system offered, and the long-term system warranty.

Plans for the new communications network were initiated in 2012 and quickly finalised, allowing installation work to begin the same year. Installations in the hospitals at Balikpapan, Karawaci and Kebon Jeruk were successfully completed during the past few months. One of the existing sites will be re-cabled in 2013 and installations in 40 further buildings are planned to extend into 2015.

**High bandwidths**

The installation comprises a star-shaped system currently using around 300 kilometres of halogen-free Cat.6 copper data cable. Fibre optic cables with OM3 multimode fibres were installed in each network backbone to ensure that bandwidths were high enough for the numerous applications used. At the same time the fibre optic backbones allow direct online links to the insurance companies. There are, in addition, 25-pair telephone cables for all the voice services.

**All hospital systems are integrated**

The copper network supplies the whole building – all the patients’ rooms and offices, the conference area, communal areas and corridors. The full range of hospital systems are integrated into the new network, including medical instruments and equipment such as heart function monitors. Before long remote control centre monitoring will be added to the network in all the hospitals.

**Close collaboration**

The Datwyler teams from Singapore and Indonesia collaborated closely with SHG, both in drawing up the rough network concept and in detailed planning. Datwyler continues to support SHG on the spot with site reviews and installation monitoring. It is especially important here that the team should react fast and flexibly to the challenges of each site and be able to implement rapid last-minute changes.

This has ensured that so far installation, acceptance, system testing and commissioning have gone to plan in every respect.

**Trouble-free operation**

Today each of Siloam Hospitals Group’s newly cabled hospitals boasts a high-performance communications network marked by secure, trouble-free operation. The price is contractually guaranteed by Datwyler for five years, allowing SHG to control its budget and plan its costs for all the subsequent projects.

An added bonus is that the new cabling structure now enables SHG to handle documentation much more simply and effectively than before.

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SHG continues to expand: here the TB Simatupang site shortly before its completion.
Chengdu Intermediate People’s Court will shortly be moving to new premises in the south of the city. The new building, with just under 86,000 square metres of floor space, houses 24 courts including the Court of Foreign Affairs and all three authorities for science & technology, administration offices, conference rooms and the local branch of the Sichuan Province Judges College. The move, which is costing 654 million yuan – around 80 million euros – is intended mainly to improve the facilities and working conditions of the city courts, thereby supporting current reform and economic development and ensuring social stability in Chengdu.

The new building, comprising Blocks A, B and C, is located in the heart of the Science & Technology Innovation Center in the southern sub-centre of Chengdu. The buildings give the impression of mountains rising out of the ground and are meant to symbolise the intransigent nature of the law in the face of wrongdoing. At the same time the blocks with their reflective glass façades blend with the nearby park to form a harmonious scene in which “mountains” and “water” mirror each other.

More connections, higher bandwidths
In order to better meet the demands made on employees in their daily work, the solution required for the communications network of the Chengdu Intermediate People’s Court was one which provided more connections and higher bandwidths than the previous cabling system.

After several selection rounds the decision was finally made in favour of a high-performance system from Datwyler, a company with an almost 100-year history, whose “Swiss quality” inspires confidence within the Chinese market.

Structured premises cabling
The new network, which was completed in December 2012, covers 12 storeys in both buildings A and B. On the floors it comprises Cat.6 copper data cables, patch panels each with 24 Cat.6 ports and both 25- and 100-pair Cat.3 telephone cables. The backbone is formed from fibre optic cable with OM2 multimode fibres for indoor use and OS2 single-mode fibres for outdoor applications.

The good quality and high bandwidths of the system solution installed, together with all the 4,000 connections available to employees, will help bring about a considerable improvement in the working efficiency of Chengdu Intermediate People’s Court.

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Datwyler’s WLAN products are in great demand; particularly from educational establishments, trade fair and conference organisers, hospitals, and in the office environment. In Austria some of the most important customers are schools.

**Federal Commercial College Wiener Neustadt**

One good example is the Federal Commercial College Wiener Neustadt. Last year the college installed a high-performance WLAN solution from Datwyler as part of a general refurbishment and extension project.

Once joint planning was complete Datwyler’s partner, Netzwerktechnik Traub GmbH, provided the school with expert support right through to start-up. Measurement prior to network installation ensured, among other things, that the data connections were positioned correctly. Traub then installed a total of 18 arrays, each of which have four internal access points (AP) and provide 450 Mbit/s per AP. The wireless network was measured completely before start-up.

A special feature of the WLAN infrastructure, which is accessed by around 1,200 users, is that it is divided into different network areas including an administration area and separate areas for teachers and pupils.

Modern teaching methods

Today the Federal Commercial College benefits from a comprehensive high-performance wireless network infrastructure which facilitates modern teaching methods using tablets, smartphones and notebooks, and provides good availability and high signal quality even when a lot of users are logged on simultaneously – with a good price/performance ratio and significantly lower expenditure on cabling. In this respect the school is very satisfied that it opted for this system.

Datwyler’s comprehensive services, featuring Xirrus Wi-Fi solutions, provided in conjunction with certified installation partners, start right at the planning stage. All the end customer has to do is decide the areas where he needs WLAN coverage and guarantee the on-site power supply. Among the things included in Datwyler’s optional service package are site surveys, on-site measurement and training courses. Organisers of trade fairs and conferences also have the option of renting a WLAN solution.

**A wide variety of applications**

In Vienna and around the Austrian capital alone Datwyler’s WLAN solutions are already installed in a dozen or so public and private schools, most of them with well over 1,000 users. Some employ mobile Wi-Fi arrays for their tablet classes and for Internet access. Others use WLAN to provide pupils with access to e-textbooks, learning platforms and video libraries. Examples of other applications are the replacement of textbooks by e-book readers, the control of building technology and the integration of whiteboards and info screens into the wireless network.

The Federal Commercial College after its refurbishment and extension.
Datwyler’s appearance at the “Interpädagogica” educational trade fair in Salzburg in November 2012 was a resounding success. Many interested professors and teachers who visited the stand over the three days took the opportunity of finding out all about wired and, more particularly, wireless networks. The visitor spectrum ranged from primary school Principals planning the WLAN integration of their tablet computer classes through to curators looking for detailed technical advice on Datwyler’s Xirrus Wi-Fi arrays.

Features which attracted special interest were the beam angles of internal access points, the differences between 2.4 GHz and 5 GHz technology, and the professional manner in which Datwyler can draw up a rough concept and initial budget on a school-by-school basis. The “head turners” of the show proved to be the new iPad wand and streamed wireless videos.

WLAN is a lesson in success! In February the exhibition stand at “didacta” in Cologne also proved very popular. And since early March Datwyler has been on the road with its “WLAN Days 2013” Roadshow, calling at 13 towns throughout Austria, Switzerland and Germany. In Germany visits to Berlin, Dresden, Jena and Frankfurt are still scheduled for June.

From 3rd to 5th December 2012 Datwyler took part together with Portuguese partner Policabos SA as a Gold Sponsor at the third Fire & Security trade fair, organised by APSEI, the Portuguese Safety and Security Association and NFPA, an international fire protection association. The conference was held in the Estoril Conference Centre near Lisbon.

Over 1,400 trade visitors attended presentations and seminars and visited the accompanying trade fair for safety solutions featuring current trends and technologies in preventative fire safety.

Two forums right in the exhibition area enabled visitors to circulate freely between the exhibition stands and presentations by safety specialists.
From 14 to 18 October 2012 Datwyler exhibited for the second time at GITEX, the Gulf Information Technology Exhibition in Dubai. With around 3,500 exhibitors from all over the world and well over 100,000 visitors this is the biggest IT and electronics trade fair in the Middle East, Africa and South Asia region.

This time the considerably larger Datwyler stand focused on solutions for data centres and smart homes as well as structured premises cabling. In the data centre area the spectrum ranged from stationary modular technologies through modern fire safety solutions to the newest double floor cooling systems.

More than 70 of the numerous visitors to the Datwyler stand showed a serious interest in establishing closer contact. There were, among other things, several requests for quotations for data centre projects, for example from the Foreign Ministry of the United Arab Emirates and the Al-Fardan Group based in Qutar.

The enthusiastic response shows that since GITEX Datwyler is increasingly being perceived as a turnkey supplier for enterprise data centre solutions in the Middle East as well.

At Datwyler the focus was on tested cabling systems for preventative fire safety. Datwyler also gave two presentations on the development of new standards and impacts on cabling system design.

Participation was a complete success in terms of visitor numbers to the stand and new customer contacts. It is anticipated that the positive feedback will continue to enhance Datwyler’s market position both in Portugal itself and in markets with a Portuguese influence.
2012 was a successful year for Datwyler in Shanghai. Thanks to state-of-the-art Swiss cabling technology and a service concept of supplying customers with comprehensive solutions, Datwyler was again recognised as a “Top Ten Brand” in the area of generic structured premises cabling by major Chinese cabling industry institutions.

The “2012 China Top 10 Cabling Brands Awards” ceremony was held at the Chinese Data Center Network and Cabling Conference in Peking on 16 November 2012. Here Datwyler won an award for “Top 10 Brand for Structured Premises Cabling” from the “Professional Association for Information & Communications of the China Engineering Construction Standardization Association C.Team”.

On 20 November Datwyler, for the first time, received one of the “Impact on China” initiative’s awards for “Top 10 Brand for Structured Premises Cabling Systems”. These awards, for which 246 companies entered, were presented by the “China Association of Building Energy Efficiency”, the “China Intelligent Building Technology Information Association” and a media company. The award was the culmination of an eight-month election process supported by online voting, in which over 60,000 votes were cast, by the readers of “Electrical Technology for Intelligent Building” magazine among others.

Another award for “Top-10 Cabling Product Brands” followed on 7 December, presented by the “Engineering Intelligent Design Branch Association” and the journal “Intelligent Building and City Information”, published by the “China Exploration and Design Association”. Those who voted included many industry experts, users and system integrators.

Finally, Datwyler once again won an industry “Oscar”: fourth place among the “Top-10 Cabling Brands” as measured by the “Qianjia Brand index”. The award was presented on 13 December as part of the “China International Building Intelligence” meeting and accepted personally by Weidong Chen, Datwyler’s General Manager in Shanghai.

At the end of 2012 Datwyler was again accorded “Top Brand” status by respected Chinese associations and industry media.
After exactly two and a half years Datwyler will have converted the Altdorf production site in line with state-of-the-art lean production principles. The comprehensive renovation project will be completed at the end of June when we move into the new logistics centre at the heart of the plant. Datwyler has invested around 17 million Swiss francs in new machinery and 13 million in the buildings.

The flat cable and harnessing production lines have been relocated to Shanghai (China) and Děčín (Czech Republic). The copper data and safety cable lines have been given a new manufacturing layout; the fibre optic cable line adapted to new production principles. From July logistics will be concentrated in a central building. By then a total of around 75 machines and installations will have been relocated or dismantled.

The result of this comprehensive modernisation is a factory designed to state-of-the-art production principles. Each product line is self-contained, autonomous and designed for a specific target capacity. What strikes you immediately on entering the plant are the short distances over which goods are transported and the sensible arrangement of facilities and lines. Ultra-modern production facilities with a balanced capacity allow production to flow smoothly, supported by new production planning software.

The raw materials – around 5,500 tonnes of copper wire rod and 12,000 tonnes of composites annually – are delivered centrally to lower plant level. Goods lifts take them to the various “stations” allocated to each order, where the relevant product line takes on the materials for final distribution.

Upgrades and new acquisitions
The new concept includes totally new installations and comprehensive upgrades, for example one which doubles the production of copper data cable sheaths to 200 metres per minute. New stranding technology in safety cable production makes it possible to merge three lines into one, allowing speeds up to 10 times faster.

A first for a cable plant is the use of robots, for instance when rewinding copper data cables from parent reels to dispatch reels, doubling the quantity processed per shift compared with semi-automatic machines.

The arrangement and design of the different zones in the new logistics centre will make work considerably more efficient. At its heart will be the new high-performance rewinding unit for the customised provision of safety cables. WLAN-controlled equipment will be used to pick the orders and send them direct to the employee concerned. Here again the important factor is route optimisation.

The transformation of the traditional Altdorf cable factory will soon be complete. Up-to-date production concepts combined with reliable modern systems and well trained staff will continue to form the backbone of Datwyler Cabling Solutions.

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The rapid worldwide growth in IT usage is increasing the demands made on ICT cabling in data centres. To facilitate this growth, in addition to high-performance and finely coordinated solutions Datwyler also provides high-quality engineering services to data centre operators and planners. Poorly planned fibre optic infrastructures can quickly cause data transmission in the links to slow down or stop altogether, so flexibility and future viability are aspects which merit particular consideration during planning. These are the cornerstones of a modern FO cabling system for high-performance applications.

The network architecture in data centres can be implemented as "Centralized Switching", "Distributed" or "Top of Rack", "Zoned Distribution", or a combination thereof. As a rule the choice is made by the company network designer.
The system should be able to cope with one or two technological leaps. Migration steps therefore need to be incorporated early in the concept in order to address cabling requirements properly. For data centres these are Fibre Channel evolution step 32GFC, scheduled for 2014, and NG 100G Ethernet (4x 25G) via multimode fibres, expected in 2015.

“Standard-compliant” alone is not enough

Available link power budgets are becoming ever smaller as transmission speed increases. In some cases the requirements of standards are no longer keeping pace with technical development.

Insertion losses (IL) are one example: The higher the data rates, the more unrealistic the IL values for connectors specified in the standards. For 99% of the detachable FO connectors international standards (e.g. EN50173-1:2011) allow a maximum IL value of 0.5 dB, for the remainder 5% even up to 0.75 dB. However the 16GFC application – to take one example – allows a maximum of 1.5 dB for all the FO connectors in the link (OM3 and OM4). This is hardly consistent. Although the fibre optic connectors available today offer better values with a typical insertion loss of 0.2 dB, even these can soon increase due to dirt or wear.

The example clearly demonstrates that too great a faith in the standards quickly leads to marginalisation. At the same time it shows how important it is that a system solution provider like Datwyler, with the appropriate knowledge and project experience, can give expert advice to potential customers.

Support for planners and operators

As part of its data centre products and services Datwyler’s core competences include the provision of high-performance cabling systems perfectly matched to customer requirements. To complement the system solutions Datwyler supplies comprehensive engineering services providing customers with maximum performance, migration capability and investment protection. If they so wish, data centre planners and operators can receive the requisite support from conception through to commissioning. Datwyler specialists can simulate planned and future applications using computation models, and the results can be transferred directly to create optimised tailor-made concepts. This means that even at an early stage of the project a customer benefits from maximum safety and transparency in relation to the requirements of the planned cabling infrastructure. He can, moreover, use such a solution design to further optimise both investment costs (CAPEX) and operating costs (OPEX).

Because Datwyler is actively involved in the relevant standardisation bodies – ISO/IEC, Cenelec and national subgroups – data centre planners and operators can also be confident that they will be kept reliably and expertly informed with regard to future standards.

Calculated system range at 10GbE.

Technical requirements for tendering

Defining a cabling system down to the last detail represents a considerable challenge for planners who want to avoid unpleasant surprises during commissioning. In addition to general requirements for the installation and handling of products, system suppliers need to be furnished with accurate specifications, including definitions of optical and geometric limits and the scope and type of the values to be logged from pre-assembly. This also includes the inspection, documentation and cleaning of connector end faces prior to connection as an important criterion for maintaining performance. Acceptance measurements need to be specified so that measurement results are reproducible. This, for example, affects the test set-up (ISO/IEC 14763-3), measurement method and multimode excitation conditions (IEC 61280-4-1). The type of documentation and any desired system warranty should also be defined at the tendering stage.

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Since the end of 2012 Datwyler Cabling Solutions has no longer been operating as a division of listed company Dätwyler Holding AG, but as its privately run affiliate – under the same umbrella as Pema Holding AG, based in Altdorf in the Swiss canton of Uri. The latter was founded in 1990 by Adolf Dätwyler’s two sons, Peter und Max Dätwyler, as part of a succession settlement.

Pema Holding AG is therefore now the majority shareholder in stock market listed Dätwyler Holding AG (52% of the capital and 80% of the votes) and sole shareholder in the private Dätwyler Cabling Solutions AG. The overriding objectives of Pema Holding AG are to ensure the independence of its two holdings and guarantee industrial employment in the Swiss canton of Uri.

The new arrangement brings various benefits to Datwyler Cabling Solutions, and hence also to customers and business associates. For example, there is the interesting possibility of adjusting individual objectives so that Datwyler Cabling Solutions can operate on an equal footing with its competitors, both the listed and, to a great extent, the private ones. The latter typically work with profit margins (EBITs) in the single digit range and tend to have comparatively modest investment volumes. Datwyler Cabling Solutions can continue to concentrate more on the strategically important Altdorf production site, thus ensuring the long term future of the “Swissness” very clearly expected by our customers. Finally, the new configuration will also increase our opportunities of serving customers throughout the world with competitive products and services from different sites.

As a private company, moreover, Datwyler Cabling Solutions benefits from having its own board of directors which can focus fully on the “Cabling Solutions” business. This facilitates rapid decision-making and a deeper mutual understanding between company executives and top management, which in turn represents another major step forwards.

Following the demerger from Dätwyler Holding, Datwyler Cabling Solutions still stands on a sound financial basis – with the only difference that now Pema Holding directly rather than indirectly stands in the wings as a guarantor of financial independence. The new ownership structure has therefore had a positive reception from all stakeholder groups – from customers through employees to the lending banks.

Last but not least there is now an increased awareness of being part of a legally independent company, of a self-image which encourages the entrepreneurial spirit. In any event Datwyler Cabling Solutions has the firm objective of continuing to develop with a strong international emphasis over the coming years, thereby also strengthening the Altdorf site yet further. It is still the company headquarters, and as a high-end plant in the copper data cable, fibre optic cable and safety cable categories will continue to set standards worldwide. Our motto is “Swissness with an international approach”, as readers can gather from the editorial of this magazine.

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In order to test the suitability of the new Datacenter Solution for 100G Ethernet and 120G InfiniBand transmissions, Datwyler Cabling Solutions arranged for comprehensive tests to be carried out in the R&D laboratories of Corning Inc. in New York. The test set-up conformed to Standard IEEE 802.3ba 100GBASE-SR10 for 100 Gigabit Ethernet applications using multimode fibres, which comprises a 100Gbit/s parallel optic transmission system. The signals were induced by a VCSEL-based 850 nanometer transceiver (12x 10Gbit/s). The Datacenter Solution system components used were freely selected standard products, i.e. no “especially good” products were installed to “artificially” improve the performance readings.

Despite the fact that the link length was double that of the standard (200 m OM3), the Datwyler System passed the 100G test with flying colours. Thanks to the high quality of the cables and components employed and the very precise connector configuration, up to ten connections per fibre optic channel are possible using this solution. There was 100% compliance with the maximum bit error rate of 10^-12, and the channel insertion loss was significantly below the maximum of 1.9 dB on all ten optical fibres. The skew limits for 100Gb Ethernet and 120Gb InfiniBand were easily met, even at double the link length.

Thus in the 100G test the Datwyler Datacenter Solution sets standards for fibre optic cabling systems in data centres once again. Planners, installers and end customers alike benefit from its comfortable reserves to the limits of the applicable standards, which means among other things that the system provides maximum investment protection.

**COMPONENTS FOR FTTX CABLEING SYSTEMS**

Flexible cost-effective infrastructure solutions are essential for the deployment and expansion of fibre optic networks in subscribers’ buildings and homes. Datwyler supply its customers with the appropriate FTTx systems for backbone, access and in-house areas as all-in-one solutions from a single source.

The company’s new flyer “Components for FTTx cabling systems” provides customers in Germany, Austria, the BeNeLux countries, Scandinavia and Eastern Europe with a product overview and selection guide for “Innovative integrated solutions for your high-speed fibre optic networks”.

With the products on offer in the flyer customers can reap all the benefits of Datwyler technology: top quality, finely coordinated tried and tested components, and innovations which save you time and money, e.g. ultra-thin blown cables, bend-optimised fibres, pre-assembled products and flexible splitting concepts.

Datwyler also collaborates with expert partners in providing customers with professional business and engineering planning support in the run-up to any FTTx project through to turnkey implementation and maintenance in the passive network area.

You can find all the details in a White Paper at www.cabling.datwyler.com.
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