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Datwyler IT Infra

panorama

South China University of Technology, Guangzhou:

CUTTING-EDGE TECHNOLOGY FOR YOUNG RESEARCHERS

Datwyler IT Infra, Altdorf:

DIGITISATION LEADS TO GREATER EFFICIENCY

The intelligent factory:

THE WAY TOWARDS OPTIMISING PRODUCTION PROCESSES

DATWYLER

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Editors: Dieter Rieken, Sonya Eisenegger
Authors: Soubhi Al-Aliwi (soa), Philipp Bless (phb), Adrian Burri (adb), Gerardo Cetrulo (gec), Jimmy Chiam (jic), Malin Christ / Fink & Fuchs AG (mac), Ralf Fischinger (raf), Nemy Gapangada (neg), Ihab Gazawi (ihg), Markus Hochstrasser (mah), Heiko Knell (hek), Karsten Lengnink (kal), Eythan Lim (eyl), Jack Lin (jal), Tze Wei Pang (tzp), Daniel Pranjes (dap), Dieter Rieken (dir), Franklin Simanjuntak (frs), Bob Song (bos), Allan Wang (alw), Markus Weber (maw), Kai Wirkus (kaw)
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EDITORIAL

THE TRANSFORMATION OF DATWYLER IT INFRA

– an interim report

Dear Readers,

How is a classic cable manufacturer with a tradition going back over 100 years transformed into a successful high-tech solution provider in the IT infrastructure sector? A few years ago we asked ourselves this question, found answers, and set out on our way. Our goal: to transform the company and position it in the market so that together with our customers we could guarantee sustainable and profitable growth in the digital age as well.

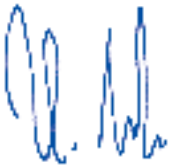
You cannot place an order for transformation on this scale. The requisite changes are too far-reaching and affect all the firm's employees, functions and business procedures. In addition to a clear vision and strategy we drew up a challenging transformation programme. This involved different work packages which had to run in parallel and be closely guided and regularly tracked by a professional management.

All at once sales colleagues are selling projects at C-level. Turnkey projects are being planned and implemented together with customers. Cost-efficient and energy-efficient solutions in the data centre and Edge Computing fields are being developed by experts, components are being tested and purchased on the world market. In the areas of software and services there are new skills, resources and processes at Datwyler. In short, scarcely a stone has been left unturned. And yet we still manufacture cables which rank among the best in the world. They are a mainstay of our IT infrastructure solutions.

The success of our transformation ultimately depends on three factors: Does the market perceive us as a leading player in the IT infrastructure sector (market perception)? Can we enthuse our workforce for the journey into the future (internal communication)? And are we successful not only in attracting new talent, but in keeping our experts and developing their skills (capabilities)?

I have every confidence. Datwyler IT Infra is successfully underway and we are making good day-to-day progress. Positive feedback from business associates and staff, but also good financial results, are encouraging us to continue on our chosen path, and to steadfastly support you, our customers, on your way into the digital future.

Enjoy reading our current edition of "Panorama" – and I hope to see you soon.



Johannes Müller
CEO Dätwyler IT Infra AG

Uri Cantonal Hospital, Altdorf:

FUTURE-ORIENTED COMMUNICATIONS TECHNOLOGY

Uri Cantonal Hospital in Altdorf opts for a high-performance IT infrastructure solution from Datwyler.

The renovation and new build of Kantonsspital Uri began in spring 2019. An investment of over 100 million Swiss francs will initially fund a new building by summer 2022, then in the following years an existing building will be renovated, and finally the buildings dating from the sixties will be demolished – all without significantly restricting the operation of the hospital.

The new hospital will see the inhabitants of Uri benefit from a modern infrastructure and a high quality of healthcare. It will comprise three operating theatres, two nursing stations, an outpatient clinic, a gynaecological unit with a maternity ward, modern treatment and therapy rooms, a restaurant and grounds.

In choosing a modern IT infrastructure the main concern of the hospital, Boess Sytek AG, the electrical designers commissioned, and the consortium carrying out the work was to find a structured cabling solution which could not only cope with the present requirements of an effective hospital operation, but would also ensure fast and secure transmission of all data and applications in future. This applies to the copper and fibre optic network as well as the racks and other IT components.

In preventative fire safety the cabling should guarantee system circuit integrity in the event of fire. There was also the issue of the relevant standards and guidelines which had to be complied with in the individual power supply areas.

In both areas – communications and safety technology – the choice fell on Datwyler IT Infra. In Datwyler the hospital knew it could rely on a partner with high quality and forward-looking solutions, some of which even exceed current standards. A further advantage for the hospital is that only *one* contact is responsible for the complete system, in addition to which production and services are located in the same municipality.

"From the outset it was clear that we could count on the cooperation of Datwyler and Bettermann for the safety cables, because we have had very positive experiences with this combination," explained Samuel Käslin, the project manager in charge at EWA-energieUri AG. "So as far as structured cabling solution was concerned we agreed without hesitation."

Reserves for the future

Installation was taken over by ARGE Elektro KSU, a consortium of Uri electricians overseen by EWA-energieUri AG. Type CU 7702 4P Category 7_A copper data cables are used for the communications network, which allows plenty of reserve capacity for future data transmission technologies. Terminated on compact KS-TC Category 6_A modules, it also enables a remote power supply of up to 100 watts.

Bird's eye view of the new building

In the fibre optic network the ARGE used preassembled multiple cables (trunks) with single-mode and OM4 multimode fibres, the "legs" (breakouts) of which Datwyler assembled in the desired lengths. The multiple cables are terminated on OV-S panels.

On-site visit: the project managers of EWA-energie Uri AG and Dätwyler IT Infra AG

Patch management trays are used for neat patch cable routing.

The network racks needed in the cantonal hospital – currently 13 of them – were delivered by Datwyler as specified with perforated doors, the appropriate ventilators, cable guides and PDUs separately colour-coded for normal and emergency electricity.

On the campus FO Outdoor cables connect the computer rooms and server rooms in the old and new building. The floor distributors in the equipment rooms – one on each of the four floors – are made redundant using FO Indoor cables. On the floors themselves just under 2000 IT connections were created with copper data cable. All the services are covered by these connections, including telephony, Internet, monitoring and WLAN.

Stringent fire safety regulations

The system circuit integrity cables to supply the safety-relevant systems – for example emergency and escape route lighting, emergency power, UPS and the smoke and heat extraction system – were delivered by Datwyler to match the specific area of application and the cable support and routing system installed. Safety cables of Euroclass $B2_{ca}$-s1a,d1,a1 were installed in compliance with the relevant fire safety regulations and standards.

In this project Datwyler is acting not only as consultant, supplier, fabricator and logistics service provider, but is also on site to help resolve issues arising during installation.

"Our Datwyler contacts are very dedicated people, and so far we have found a prompt solution to every problem. As project manager, this is very important to me in a major project like this," emphasised Samuel Käslin.

"As things stand today I find the solution in the structured cabling area very future-orientated," summed up the project manager. "In the new building we have also created enough reserve space to expand the system in future." *(dap, dir)*

Data cables in a floor distributor

New clinic building, North Rhine-Westphalia:

MAJOR PROJECT
in the field of medicine

All the buildings on the site of a clinic in North Rhine-Westphalia are being interconnected by smart racks. This provides users with many benefits.

In August Datwyler IT Infra won a contract to equip a new clinic building in the German federal state of North Rhine-Westphalia with a modern high-performance IT infrastructure solution.

This major project initially comprises a 10 gigabit-capable communications network – based on fibre optic and Cat.7_A copper data cables – in all the buildings in the clinic grounds. Around 40 smart racks also form part of this project. In future they will ensure fast and secure data connections on every floor of every building.

"Part of our mission is to help in building the foundations of the digital society. Organisations are only in the best position to benefit from future technical developments if they have the right sustainable IT infrastructures," explained Ralf Klotzbücher, Vice President Sales and Marketing at Datwyler IT Infra. "The same naturally applies to clinics: digitisation only succeeds if their IT infrastructure 'fits'."

The racks for the new clinic building leave Datwyler's European Logistics Centre in Hattersheim

IT infrastructure solution with added value

The Datwyler team in Hattersheim is working closely with the system integrator in Hannover, who is implementing the solution on site.

"Our role in this project 'only' includes consultancy, cable harnessing, panel assembly, materialisation and project logistics," explained Klotzbücher. "But it is a good example of the added value which our IT infrastructure solutions give the user."

In practical terms the campus has ten buildings, all of which will be interconnected via the racks. The cabinets not only contain the components for the passive cabling, but also UPS, switches, routers, controllers and servers – all components necessary for video monitoring, intercom communication and the access management system.

An IT infrastructure like this with smart racks enables the clinic, for example, to centrally monitor and control the video cameras, access and other safety features throughout the campus.

From November the racks also will be delivered to the building site from Datwyler's European Logistics Centre in Hattersheim – including the complete array of accessories such as patch panels and telephone panels, PDUs, fan units, earth rails, plinths and cable entries. The remaining assembly and installation of the active components will be carried out on site. *(hek, dir)*

Delivery straight to the first upper floor using a lifting platform

The Mubea Group specialises in the lightweight design of automotive components, and employs a workforce of over 14,000 on 48 sites in 20 countries. In Switzerland the group is represented by three firms: Mubea Fabbrica Molle SA in Bedano in the canton of Ticino, OBR Steel Tubes AG in Oberriet, St. Gallen, and Mubea Präzisionsstahlrohr AG in Arbon in the canton of Thurgau.

In September 2020 the IT department in Arbon contacted Datwyler IT Infra because it was interested in a Micro Data Centre (MDC). Steady growth at the Mubea Ticino site made it essential to review and renew the IT infrastructure there, in particular the cooling and failure safety of the active IT components. They also wanted to make the passive cabling at the Bedano site clearer.

Application-specific solution

By February 2021, in cooperation with the IT department, the Datwyler specialists had worked out the optimum solution for a Micro Data Centre which could meet all the requirements of Mubea Fabbrica Molle SA. The advantage of this prefabricated solution was that it saved Mubea a lot of time, as it did not have to be assembled and equipped on site.

As agreed, the MDC was on the Mubea Fabbrica Molle site at the beginning of September – fully assembled, including UPS, cooling, monitoring and smoke alarms as well as an earliest detection and fire extinguishing system. Together with an optically matched network rack

Mubea Fabbrica Molle, Bedano:

A MICRO DATA CENTRE FOR MUBEA

The automotive supplier in the Ticino chooses an IT infrastructure solution from Datwyler when upgrading its IT infrastructure.

which the IT department had also ordered from Datwyler, the logistics partner delivered the MDC straight to the first upper floor of the building using a lifting platform.

Convincing benefits

Using the Micro Data Centre means that today the active and passive components are clearly separated from one another – and the servers are optimally cooled.

The monitoring system in the MDC monitors the active components and supplies the IT department in Arbon with real-time data on temperature and atmospheric humidity. In the event of fire the integrated smoke alarm sounds the alarm and the earliest fire detection system releases the integrated extinguishant. The components unaffected by the fire remain undamaged due to the use of Novec gas.

Last but not least, the complete cabling system was upgraded, making the work of the relevant staff much easier.

In view of the many advantages which this solution gives Mubea, it is no wonder that the IT department in Arbon is very happy. *(maw, gec)*

The Micro Data Centre (left) in operation

Danone Indonesia, Jakarta:

INCREASED SECURITY
for distribution centres

Since June Danone has been upgrading the video monitoring and access control on its 200 Indonesian distribution sites. Datwyler is supplying the cabling for the new CCTV system.

The Danone Group is an international food business specialising in the production of dairy products, mineral water and specialist nutrition. Indonesia is one of Danone's biggest markets. Here the company employs a work force of around 15,000 and operates 21 plants. Since 1998 mergers and takeovers in the Southeast Asian island state have made Danone into a market leader in bottled mineral water and specialist nutrition.

Throughout the country Danone maintains 200 distribution centres for its iconic brands such as "Aqua", "Vit" and "Mizone", "SGM Eksplor", "Bebelac" and "Nutrilon Royal". There is a security system on each of these distribution sites.

In order to optimise security the IT Department together with Cisco has launched a project to upgrade the video monitoring (CCTV) and access control. The old CCTV system was supplied by Axis and is connected by a passive AMP cabling system.

The existing infrastructure is now being replaced by a new one – with Hikvision systems and a cabling solution from Datwyler. By installing the new CTTV and access control system Danone aims to improve security in all the distribution centres and make it easier for the surveillance team to carry out its duties.

High-performance products, competitive prices

The cabling is being installed by system integrators PT Prima Dua Jaya. Prior to project award they coordinated closely with PT Gunung Sawo, Datwyler's distributor in Indonesia.

"We recommended Datwyler for the Danone project because we have had a good working relationship with PT Gunung Sawo for a long time, and because we greatly value the commitment, the support, the high-performance products and competitive prices," explained Teguh Setiawan, Senior Manager Sales & Business Development at PT Prima Dua Jaya.

The modernisation project started in June 2021. By mid-2022 the system integrator will have installed the new cabling system in all Danone Indonesia's distribution centres throughout the country. Datwyler is supplying high-performance copper data cables and the requisite connection technology for this. *(frs)*

Ørsted Services Malaysia, Kuala Lumpur:

AN OPTIMUM WORKING ENVIRONMENT

If the IT support of a global business operation is to work effectively, it needs the appropriate IT infrastructure as well as modern offices – like the Ørsted team in Malaysia.

Ørsted, an energy company with headquarters in the Danish town of Fredericia, is a world market leader in the offshore wind energy sector. The company, which employs a worldwide workforce of around 6300, not only constructs and operates wind farms but also solar parks, energy storage systems and bioenergy plants. Its vision is a new green energy system, environmentally friendly and sustainable. In 2021 Ørsted was singled out as the world's most sustainable energy company in the Global 100 index of Corporate Knights.

Ørsted's IT support is based in Malaysia. The service team comprises 240 individuals from 17 nations around the globe who speak at least as many different languages.

The new offices of Ørsted Services Malaysia are located in Bangsar Selatan (Bangsar South), on the edge of Kuala Lumpur city. They provide the staff with floor space of 1750 square metres fitted with modern multifunctional equipment, and an integrated spatial concept which ensures that the workstations have the best possible natural light.

Seamless connectivity

The service team's modern working environment also includes a high-performance IT infrastructure solution. A structured cabling system from Datwyler was installed in order to ensure fast seamless connectivity.

The solution comprises future-oriented Cat.6_A cables and components which provide high bandwidth and excellent electromagnetic shielding.

Datwyler's certified local partner Telecomp Vision Sdn Bhd, a company with many years of experience in data network technology and system integration, was responsible for project management and installation.

The IT infrastructure solution was flawlessly implemented and handed over on time thanks to the expertise of the value-added partner and Datwyler's excellent collaboration. *(tzp)*

Lobby of the Computer Network Information Centre

The International Campus of the Technical University of Guangzhou provides ideal study and research conditions for young scientists. This includes a fast and reliable IT infrastructure solution supplied by Datwyler.

South China University of Technology – SCUT for short – is one of the best universities in the People's Republic. It is part of national projects 211 and 985, which aim to improve research standards and are designed to promote the reputation of the country's universities.

This means that there is intense public interest in the construction of the SCUT International Campus. The project, estimated at 10 billion renminbi (134 million euros), consists of two phases covering 500,000 and 590,000 square metres. The new campus provides space for 12,000 students, most of them postgraduates, and will focus on basic research, key technologies and the education of high achievers from home and abroad.

For over 20 years now Datwyler has worked on advanced cabling solutions at over 100 campus construction projects, thus contributing to the rapid growth of the Chinese education system. The IT infrastructure provider first worked with SCUT on a renovation project many years ago. Since then Datwyler has maintained a close working relationship with the university.

High bandwidths throughout the campus

In 2018 Datwyler won the tender for cabling the first phase of the campus construction project. The project managers were inspired with confidence by the high-performance product solutions and services which the company provided for the new campus.

In the autumn of 2021 Datwyler was also awarded the contract for the Phase II cabling project. Datwyler solutions are there-

South China University of Technology, Guangzhou:

CUTTING-EDGE TECHNOLOGY

for young researchers

Network rack in the data centre

fore in use throughout the SCUT International Campus.

The new high-performance IT infrastructure in all the buildings means that the Technical University is now state-of-the-art.

The most important areas of the International Campus are also equipped with wireless transmission systems such as WiFi.

Competitive solutions such as F/FTP cables and shielded Cat.6_A components are used in the research laboratories to support 10G Ethernet applications.

In the plant rooms Cat.6_A solutions are also installed at all levels. OM3, OM4 und OS2 fibre optic systems preassembled by Datwyler IT Infra are used by the contractors to connect the floors and interconnect the buildings.

This integrated IT infrastructure solution guarantees that the International Campus will enjoy dependable high bandwidth data transmission for next 25 years. *(jal)*

View into the data centre of the new campus

Shanghai Stadium, Shanghai:

Milestone on the way to A SPORTS METROPOLIS

The Shanghai Stadium is being extensively renovated and upgraded in preparation for the FIFA Club World Cup. The new IT infrastructure is supplied by Datwyler.

The renovation and upgrading of the Shanghai Stadium is the first and most comprehensive project in the redevelopment of the whole sports park in the business district of Xujiahui. It includes the basement, where restaurants, garages, machine rooms and loading and unloading areas are located, and the six above-ground floors with the spectator stands, VIP lounges, retail areas, plant rooms and many other facilities.

The People's Republic will host the FIFA Club World Cup in July 2022. The opening ceremony and the finals will take place in Shanghai. The modernisation of the Shanghai Stadium as a venue for the Club World Cup is part of China's efforts to make the largest city in the country into a globally famous sports metropolis by 2025. One of the objectives of the structural design is to allow spectators to see every corner of the field and so follow the game more easily. The number of seats will be increased from 56,000 to 72,000.

The establishment of a modern high-performance IT infrastructure forms an important element of this project. The Shanghai Jiushi Group, the owner of Shanghai Stadium, opt-

Construction work on the Shanghai Stadium

Baggage handling area at the airport

ed for a cabling solution, electronic patch panels and VCMP (Virtual Clustered Multiprocessing) system from Datwyler. This efficient and stable solution allows Datwyler to meet all the data transmission requirements during the FIFA Club World Cup.

Effective software platform

The VCMP system is based on CABNAVI. Datwyler can thus provide Chinese users with an easy-to-use, intuitive and efficient platform for integrated cable management (see Panorama 02/2020). The management platform was combined with "intelligent" electronic patch panels for this project. This means that the status of the each of the 12,000 connections can be centrally monitored, and the ports can be switched on and off remotely.

For the new communications network the contractors involved installed altogether 580 kilometres of types CU 662 4P and CU 692 4P copper data cable plus around 140 kilometres of 12-fibre single-mode fibre optic cable from Datwyler's FO Indoor and FO Outdoor portfolio.

Part of the project will be handed over in December 2021. It is scheduled for completion by March 2022. *(alw)*

Singapore Changi Airport:

IT INFRASTRUCTURE FOR BAGGAGE HANDLING SYSTEM

The international airport in Singapore is once again relying on a Datwyler solution for expanding and automating baggage handling in Terminal 2.

Singapore Airport is one of the largest transport hubs in Asia and one of the busiest airports in the world. Over 100 airlines fly to more than 400 cities in around 100 countries. Since it was opened in 1981 the airport has received more than 620 awards – not least because it is continually modernising its infrastructure and adapting to current requirements. This means that all the existing terminals and facilities are being constantly upgraded.

Last year, after the Chinese New Year holiday, the airport began extending Terminal 2. Part of this project involves lengthening two of the existing baggage belts and creating two new ones, increasing the total number from eight to ten. The baggage storage system is also being upgraded from a semi-automatic to a fully automatic one, allowing 2300 items of baggage to be stored there at any one time.

Cableman installed around 1000 data connection points with the Datwyler solution.

>>

The new IT infrastructure supports transmissions of up to 10 Gbits/s

The contract was awarded to the Beumer Group GmbH & Co. KG based in Beckum, Germany, an international plant and machinery company specialising in intralogistics and conveyor systems. The company is known for its automated high-speed airport baggage conveyor systems with integrated technology for the security screening, storage, sorting and transportation of baggage.

Product quality and support

Cableman Pte Ltd, a Datwyler certified partner in Singapore, was chosen as the installer. The structured cabling specialist is among the licensed companies allowed by the airport to work in the high security area.

Datwyler was awarded the contract to supply the IT infrastructure.

"We were already able to produce references for projects at Singapore Airport, and the end customer had always been happy with our solution," said Eythan Lim, Managing Director of Datwyler IT Infra in Singapore. "This is mainly due to the reliability of our products and our support, which is very important in a challenging environment like this."

Cableman installed around 1000 data connection points with Datwyler cables and components for the baggage handling system in Terminal 2. The new IT infrastructure supports transmissions of up to 10 gigabits per second. Its backbone is formed of shielded Cat.6_A copper data cables and flame-retardant low-smoke FO Outdoor single-mode fibre optic cables. *(jic)*

"For 20 years Datwyler has been our first choice for large, complex and iconic projects.

Andy Teo, Managing Director of Alpha Media Pte Ltd

PSA Liveable City, Singapore:

MODERN WORKPLACES

for port operators

Datwyler supplied the communications network for the headquarters of PSA International – and also scored points with support and software expertise.

As suggested by the name, the PSA Liveable City building complex situated in Singapore's harbour area embodies the work/life balance. It comprises a twenty storey office tower with 42,000 square metres of floor space, and a four storey block full of leisure facilities. The main tenant is the port operating company PSA International, which is headquartered here and operates one of the world's busiest ports.

Following a construction period of almost three years, today PSA Liveable City is an intelligent and very sustainable building complex. It recently won the Building and Construction Authority's Green Mark Platinum Award, presented to exemplary resource-friendly projects in Singapore.

This is largely thanks to Surbana Jurong, a well-known consultancy for infrastructure and urban development. As the planner in charge, Surbana Jurong succeeded in reducing the heat transfer coefficient of the building envelope (EETV) to 36 watts per square metre. The facade is designed to protect the building against intense heat and at the same time to let in plenty of daylight. The effectively designed cooling, lighting and water systems help optimise maintenance costs even more.

A photovoltaic unit on the roof covers 36 percent of the annual energy consumption.

Greatly valued expertise

Lum Chang Building Contractors, the prime contractor for the construction project, has taken great care to select only the best materials and suppliers – among them Datwyler IT Infra. As a supplier of end-to-end solutions and services for structured building cabling with the software expertise needed for digitisation projects, Datwyler held a good hand from the outset.

The IT infrastructure supplier's team worked closely with its partners Alpha Media and Powen Engineering, to optimise both planning and cost.

"For 20 years Datwyler has been our first choice for large, complex and iconic projects, as we highly value the consistent quality, flexibility and sales support," explained Andy Teo, Managing Director of Alpha Media Pte Ltd. "This time again the Datwyler team supported us right through to project commissioning, not only in terms of the structured cabling but also the software for the digital recording and documentation of the solution installed."

Today PSA International has a fast, reliable communications network throughout the building. Just under 10,000 data connection points were installed in the floors of PSA Liveable City using 250 kilometres of shielded Cat.6_A copper data cable. The backbone cabling – around 800 links – comprises altogether 10 kilometres of single-mode fibre optic cable terminating in over 70 server and network racks.

Coordinated software solution

As well as the high-performance network, Datwyler's tried and tested documentation software is essential for the long service life of the IT infrastructure, particularly as regards future modifications and expansion.

In the case of the software the Datwyler team in Singapore also coordinated closely with all those involved – with the PSA users as well as with Lum Chang, Surbana Jurong and the partners.

Once the proposal was accepted the team helped set up the solution, supported data recording, the test run, commissioning and training. *(eyl)*

The headquarters of PSA International

The SKY Services and Datwyler Middle East team on the exhibition stand

Egypt:

AT CABLEXX 2021

Exhibition and conference in the Hilton Cairo Heliopolis

Governments and private organisations in the countries of the Middle East are making huge efforts to normalise the economy despite the corona pandemic. This includes face-to-face events such as conferences and trade fairs.

Datwyler Middle East is using occasions like these to introduce interested visitors to the company's technical innovations and to continue expanding the network in the region.

One example is Cablexx 2021 in Cairo, held in the Hilton Cairo Heliopolis at the beginning of April. Datwyler took part jointly with SKY Services, an Egyptian distribution partner.

Datwyler is collaborating closely with SKY in offering Egyptian customers high-performance IT infrastructure solutions and services.

Amgad Habib, Datwyler Middle East Sales Manager, at the Cablexx conference

The event, organised by ROOT Technologies, was well attended. Numerous representatives from various organisations had come because of their interest in new and future IT technologies.

Great interest in Datwyler solutions

Amgad Habib, Datwyler's Sales Manager in Egypt, was one of the speakers at the accompanying conference.

He introduced the participants to the firm and its extensive portfolio, and explained how Datwyler helps companies successfully expand their core business using intelligent future-proof IT infrastructures.

Datwyler's Micro and Mini Data Centres were also demonstrated as part of the event. The unique features of these edge data centre solutions excited great interest among many of the visitors to Cablexx. *(neg)*

Visitors to the Datwyler stand at the Cairo Consultants Forum

Egypt: AMONG CONSULTANTS

Ahmed Abdelaleem, Technical Manager at Datwyler Middle East, gave a well-received talk.

Again this year Datwyler gave a presentation and manned its own stand at the Cairo Consultants Forum.

In June Datwyler once again attended the Cairo Consultants Forum, organised by IT Events. This forum brings together Egypt's leading consultancies and technology leaders, opens up opportunities for discussion, and demonstrates the latest IT and IoT technologies.

This year "Design To Sustain" was the overall theme of the forum – an appropriate framework for Datwyler to introduce the participants to sustainable intelligent IT infrastructure solutions which will help organisations build a strong foundation for society's digital future.

Ahmed Abdelaleem, Technical Manager at Datwyler, commanded his listeners' full attention in his talk on a current trend in data centres: micro and mini data centres. The farsighted planning and sustainable operation of data centres was obviously on the minds of many of the participants, as the Datwyler expert's talk was followed by a lively discussion.

Many of the visitors to the stand at the exhibition also expressed great interest in Datwyler Micro and Mini Data Centres.

This led the Datwyler Middle East team to conclude that in future it should participate in more industry meetings like this in order to present its IT infrastructure solutions to interested parties in person. *(ihg)*

Middle East: AROUND 1200 WEBINAR PARTICIPANTS

The Zoom seminars, organised jointly by Datwyler and BICSI, were a resounding success.

The partnership between Datwyler Middle East and BICSI – Building Industry Consulting Service International – in organising webinars has always been an unqualified success in the past, but the live webinar dealing with data centres jointly held via Zoom in March surpassed all expectations.

Ihab Gazawi, Head of Services and Data Centre Experts of Datwyler Middle East, gave an interested audience of just under 700 tried and tested tips relating to individual data centre components – for instance how to select the right battery backup time, determine extreme temperature within the last 20 years and choose suitable cleaning agents for individual components.

Another live webinar with almost 500 participants took place in June. Here Ahmed Abdelaleem, Technical Manager of Datwyler Middle East, discussed the planning of IT infrastructures for intelligent buildings. He explained the most efficient ways of designing and implementing a robust future-proof infrastructure for integrating and supporting the building systems technology. He also dealt with the technical challenges, current ones like 100 watt PoE and LED lighting systems, as well as future ones such as Single-Pair Ethernet.

Those participating in the two webinars came not only from the Middle East, but also from Europe, America, the Asia-Pacific region and Africa. The feedback on content and presentation style was very positive. *(soa)*

The data centre webinar by Ihab Gazawi, Datwyler Middle East.

The Scientechnic team headed by Stewart Panichiyil (2nd from right), VP Industrial Stock Sales Division, with Ahmed Abdelaleem (5th from right), Technical Manager, and Sherif Ibrahim (right), Sales Manager at Datwyler Middle East

Egypt, United Arab Emirates:

WORKSHOPS for Partners

Everyone – and ultimately the users in the region – profit from the technical workshops which Datwyler Middle East conducts for its partners.

Datwyler Middle East uses every opportunity to further the training of partners in the region and to provide them with the skills to stay one step ahead of others in the market. This ongoing cooperation not only strengthens Datwyler's market position but makes partners more competitive. In turn the users of Datwyler systems benefit from their expertise.

Ahmed Abdelaleem (centre), Technical Manager, and Amgad Habib (3rd from left), Sales Manager at Datwyler Middle East, with the new Solution Partners in Egypt

Since the outbreak of the corona pandemic the number of online workshops has risen sharply. Datwyler Middle East only gradually brought back face-to-face workshops in some countries this year.

The new Solution Partners in Egypt kicked off in June, when Ahmed Abdelaleem, Technical Manager of Datwyler Middle East, organised a technical workshop for structured cabling and data centres. It was attended by representatives of Allied System Integrators, Blade Solutions, GTE, SABA, Turnkey and UMSCO as well as by new employees of distributor SKY.

In August the Technical Manager conducted another face-to-face workshop for the distribution team of Scientechnic in the United Arab Emirates. This covered solutions for preventative fire safety.

Both workshops once again demonstrated the importance of exchanging information on current technical trends and new products on the market, and of collaborating in the development of problem-solving expertise. *(ihg)*

The Netherlands:

ANNIVERSARY CELEBRATION

at Redlink B.V.

For two decades Datwyler and Redlink have successfully dedicated their efforts to serving customers in the Netherlands.

Redlink B.V. has acted as Datwyler's main distributor in the Netherlands since 2001. The electrical wholesaler, based in Bunschoten-Spakenburg, has specialised in solutions which require a strong IT infrastructure and reliable ICT networks.

It has steadily been expanding the portfolio of Datwyler solutions, from copper data solutions and fibre optic technology through wireless systems to fire alarm cables.

Im September, to mark the 20 year partnership, a delegation from Dätwyler IT Infra GmbH visited the Redlink staff at their Dutch headquarters. A small celebration was followed the next day by a training session on Datwyler Micro and Mini Data Centres. Solutions to the current requirements of Edge Computing were jointly discussed at the micro data centre in the Redlink showroom.

Ivan de Graaf, Managing Director of Redlink B.V.

Redlink's headquarters in Bunschoten-Spakenburg

The training session was rounded off by an exchange of knowledge on current trends relating to IoT, automation, 5G and data centres. The representatives of both firms agreed that only those organisations having a high-performance and scaleable IT infrastructure are equipped for the current technical dynamic.

"Redlink has great problem-solving expertise in all the issues relating to their customers' IT infrastructures," explained Ralf Klotzbücher, Managing Director of Dätwyler IT Infra GmbH, during the anniversary celebrations. "Our heartfelt thanks go to every member of staff for their dedicated work. We are certain that Redlink will continue to ensure a high level of customer satisfaction in the Netherlands." *(raf)*

> **Redlink has great problem-solving expertise in all the issues relating to their customers' IT infrastructures.**
>
> *Ralf Klotzbücher, Managing Director of Dätwyler IT Infra GmbH*

Germany:

FUTURE CHARGING STATION PROJECT

Since October six charging stations for electric vehicles have been available for staff and guests at Datwyler's European Logistics Centre in Hattersheim.

Datwyler has had environmental policy in mind for many years now. Just recently the IT infrastructure provider introduced a comprehensive programme incorporating sustainability as a central strategic company goal. Customers and suppliers can rely on Datwyler IT Infra for resource-saving development and production.

As well as important elements such as cutting consumption, the focus is on reducing the vehicle fleet's CO_2 emissions and the use of renewable energy. In order to achieve the defined targets Datwyler started building charging station infrastructures on the Hattersheim site in October. These are for use by company employees, customers and suppliers.

Data recording and analysis included

The challenge was not only to find the right hardware and software for the charging station project. It was also to integrate the key figures into a higher-level reporting system. The reduction in the CO_2 footprint had to be recorded, documented and analysed.

The first part of the project involved planning the electrical main and sub-distribution and connecting the charging stations to suitable cable cross-sections. The latter was implemented using Datwyler (N)HXH-J Keram FE180 E30-E60 5 x 16 mm^2 safety cable with a 23.1 millimetre diameter. The cable was professionally routed from a main distribution frame in the logistics warehouse to the parking area in front of the buildings – among other things using Hermann clamps, which permitted quick and efficient fastening.

The chosen "hardware" comprised three twin ABL charging stations, with which six charging points were created. These were installed, connected, tested, parameterised and digitally networked on the basis of the pre-equipped cable infrastructure.

The networking guarantees smooth billing and charging point management.

Practical example for those interested

In future the charging point management data will be integrated in the software of Envio Systems, a Datwyler partner. This will allow all the information on consumption – including from the administrative buildings – to be centrally visualised in a graphical interface.

The information for routine overall reporting will be made available thanks to this solution. As well as this Datwyler can show those interested what data integration looks like in practice.

The ecological aspect naturally also includes the choice of the right electricity tariff. Long ago Dätwyler IT Infra GmbH decided on the purchase of 100% renewable energy. *(raf)*

Germany, Austria, Switzerland:

SPECIAL OFFER

for Micro Data Centre

A small data centre as a complete package? Datwyler is now offering a bundle in the DACH region.

As of now Datwyler IT Infra is offering customers in the DACH region the Micro Data Centre (MDC) as an "all-round worry-free solution". Customers in Germany, Austria and Switzerland placing new orders will receive the MDC they want as a complete package – including set-up and installation, plus one year's support from Datwyler Service.

Every Datwyler Micro Data Centre is a customer-specific solution, tailor-made to meet each requirement and specific demand. Of closed design, an MDC is an autonomous data centre for use by small companies. It is also suitable for applications like Edge Computing, as a decentralised computing node in branch offices, and for intelligent buildings and facilities using IoT devices or artificial intelligence (AI), virtual reality (VR), augmented reality (AR) and automation.

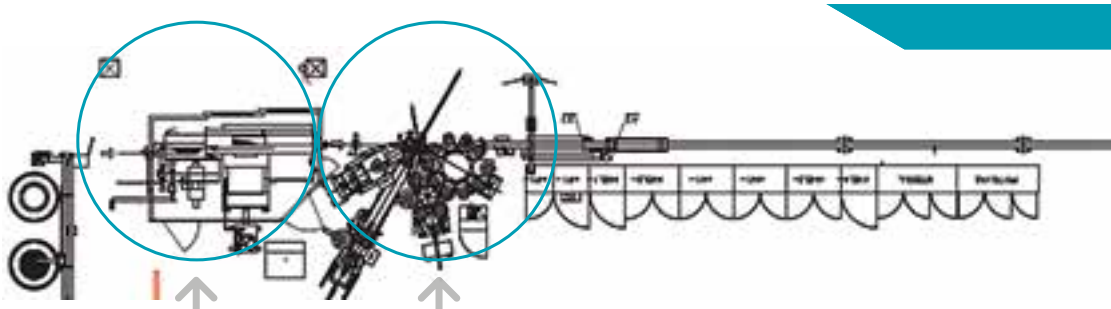
With optional management solution

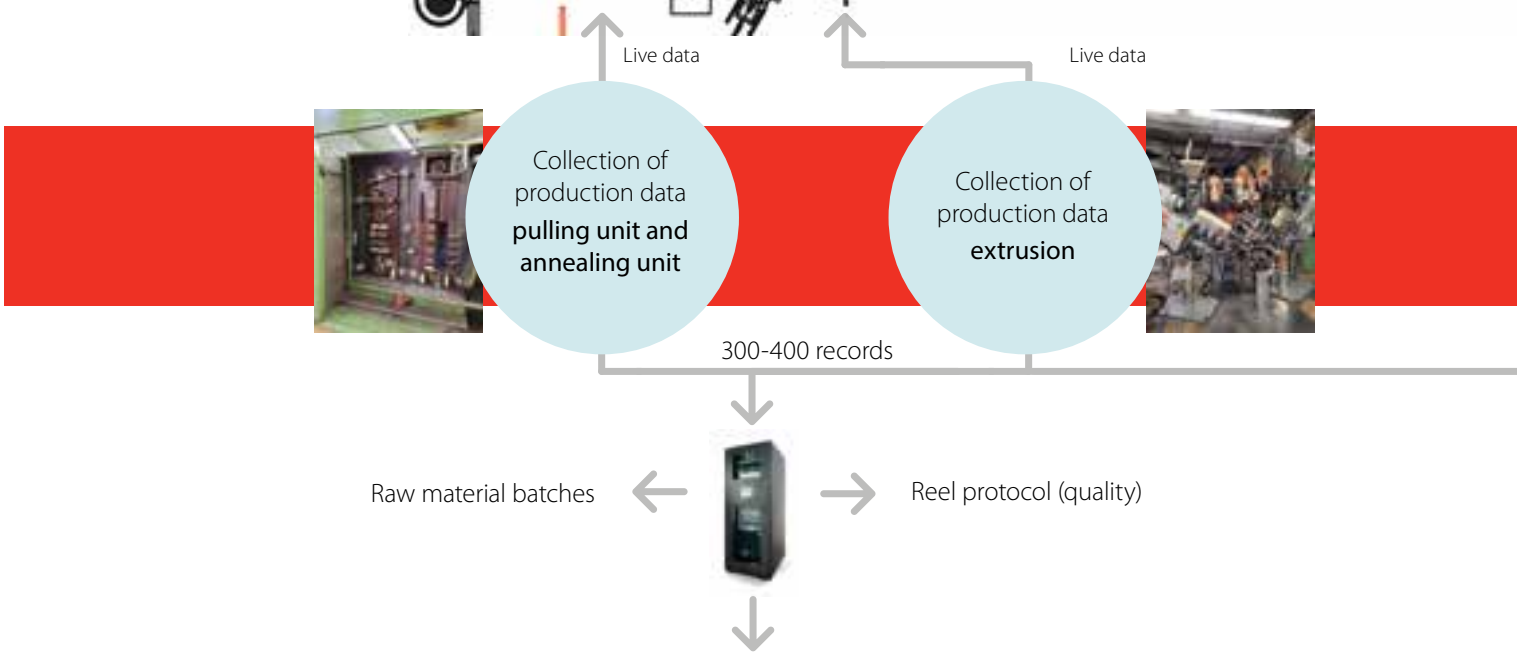
The Micro Data Centres are supplied with a data centre infrastructure management solution as an optional extra. Datwyler's DCIM gives real-time monitoring of environmental conditions, access and energy consumption, triggers alarms in the event of malfunctions and emergencies, and collects data for the planning of preventative maintenance measures. The DCIM provides users with a clear graphic user interface which "translates" the complexity of the underlying system into descriptive and easily understandable graphics.

As a rule the IT infrastructure projects supplied or implemented by Datwyler IT Infra during past years have shown that its Micro Data Centres are commissioned to include installation and one year's service. Which is why Datwyler is now offering the MDC solutions in a complete package as described above. Datwyler's current conditions of contract and service apply to this special offer. There must also be free access to the installation site.

This offer is available until end of January 2022. Should you be interested you can obtain further information from the branch offices of Datwyler IT Infra. *(raf/dir)*

Of closed design, an MDC is an autonomous data centre for use by small companies.





Switzerland:

DIGITISATION LEADS TO GREATER EFFICIENCY

The pace of production digitisation in Datwyler's Swiss factory is accelerating. An update.

With the digitisation of production at Swiss headquarters – covering an area of 70,000 square metres – Datwyler IT Infra is well on track to more transparent and efficient processes, with exciting learning outcomes along the way. From 2022 onwards machine process data like temperature, speed and performance will be transmitted to the in-house data centre in seconds. The recorded data will be used for the future preventative planning of service cycles so as to obtain the greatest possible machine availability.

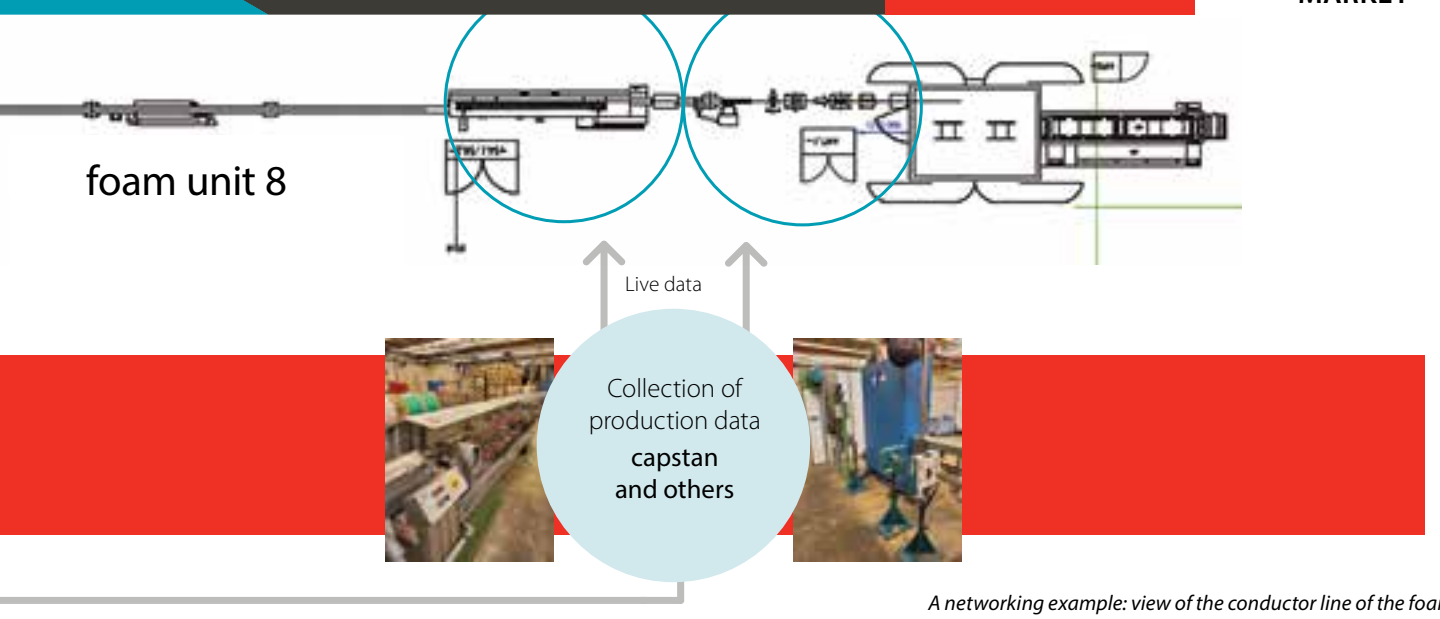
Time-exact conclusions on the quality produced will be just as possible as a high degree of accuracy, since the historic data supply clear comparative figures. The idea of managing and monitoring a day's production from a control centre is little by little becoming a reality.

The paramount goal remains to increase efficiency. In this respect digitisation will make a crucial contribution to the competitiveness of the Altdorf site.

An overview of the individual projects and the current state of affairs is given below.

Plant networking of copper data cable production

All the machinery in copper data cable production together with its sensors are networked using the OPC UA standard. The data is transmitted using a high-performance, shielded Class E_A Ethernet cabling system. The constant streams of data from the machines are collected and recorded.



A networking example: view of the conductor line of the foam unit 8.

The data thus collected are transferred to the next highest plant management level, the Manufacturing Execution System (MES). This generates a digital image of production. The direct connection allows the machine operator to manage, guide and control production using front-end terminals – in this case wireless tablets. This includes classic data acquisition and processing systems such as production and machine data acquisition, which have a real-time effect on the production process.

The Edge Cloud

The data exchange processes from plant level to the MES application are very transaction-intensive. They need a high-performance network. Fast computer systems with very short latency times are crucial for process control.

It is difficult to process such data in an external cloud because of the latencies required. On top of that there would be the requisite network bandwidth to the Cloud and the computing power required, both of which would be very costly (OPEX costs). Not least, the processing of business-critical process data in the external Cloud would always represent a risk due to availability demands and IT security guidelines.

For the above reasons Datwyler decided to operate an Edge Cloud in its own mini data centre in Altdorf. A solution using Hyper-Converged Infrastructures (HCI) and including hardware and software stacks is used for this Edge Cloud. It is supplied by one of the leading HCI specialists providing on-site Cloud solutions for businesses.

The Edge Cloud solution selected gives Datwyler many benefits: it is a turnkey infrastructure comprising integrated server, storage, networking and visualisation resources as well as end-to-end system management and business administration functions. This solution can be supplied quickly and supports numerous different hardware platforms, including three of the four most popular server platforms in the world. The software is run on each node and distributes all the operating functions over the cluster. Not least, it is flexible and has a really high load capacity.

The mini data centre

Datwyler has built a small data centre on site to operate the Edge Cloud hardware. This is a standardised and scaleable Datwyler Mini Data Centre which can not only be supplied quickly but is a fully monitored, low-maintenance and energy-efficient IT infrastructure solution.

It is an autonomous data centre which incorporates central elements such as cooling, power supply, monitoring and security. As it is a closed loop system there is no need to cool the whole space.

The fire extinguishing system integrated in the racks is also very compact. In the event of fire only the racks themselves, not the whole space, will be flooded with extinguishing gas.

The mini data centre is equipped with two redundant cold water air conditioning systems, each with a cooling capacity of 10 kW. As opposed to split air-conditioning units this system is very low-maintenance and extremely climate-friendly, as the cooling circuit operates without chemical refrigerants.

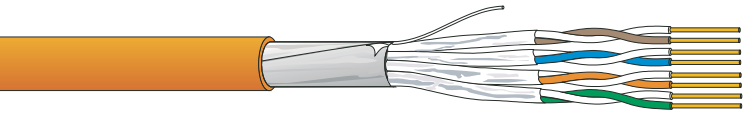
The electrical supply is effected via two different supply paths, one of which is supported by a modular Class 1 online UPS. An external maintenance bypass ensures trouble-free maintenance.

Datwyler's DIMS 300 infrastructure monitoring system is used to monitor the mini data centre. Among other things this remote monitoring software monitors climate parameters, rack doors, the extinguishing system, UPS and intelligent power distribution units (iPDUs). Deviations from the set values are relayed by email or SMS.

Private wireless solution

In parallel to the construction of the Edge Cloud infrastructure Datwyler plans to implement a 5G private wireless network in production. The 5G network will operate autonomously and will only allow access to approved devices. Public 5G users cannot see the network. It is extremely safe in terms of IT security.

Unlike WiFi, the 5G network provides highly available, stable data transmission with a high bandwidth and short latency times. Datwyler is safely able to integrate mobile devices such as scanners and tablets. Once the network is functioning a wealth of possible new applications are available. For example, machinery and sensors can also be integrated using gateways. *(adb, mah)*



China:

NEW CABLE CLASSES

The new national standards on the fire behaviour of cables in buildings represent both a challenge and an opportunity for the Chinese cabling industry.

A fire can cause incalculable damage. It endangers human life, business operations and, in the worst case, the society as a whole. It is therefore important to use cabling with improved burning characteristics everywhere where people, plant and machinery are at risk from fire and smoke. The appropriate cables only account for a very small proportion of the overall cost, particularly in new buildings and upgrades, but still play a vital role in safety assurance.

In copper and fibre optic technology cabling solutions the fire behaviour (reaction to fire) of the products have long been an issue. In the Chinese cabling industry the main focus so far has been on flame retardancy. For decades the U.S. and international standards have been the most widely used standards here.

As the market continues to develop, the criteria of flame retardancy and fire resistance have become more important.

New standards

In August 2020 a new national standard came into force in China: GB 51348, the Standard for Electrical Design of Civil Buildings, which specifies the requirements relating to the fire behaviour of cable products for different applications.

BUILDING TYPE	CABLING TYPE	FIRE BEHAVIOUR REQUIREMENTS OF THE COMMUNICATION CABLES
Public building height ≥ 100 m **Public building height < 100 m and ≥ 50 m size > 100,000 m²** **Data centre (B-level and higher)**	Horizontal installation	Pass the horizontal specimen flame test
	Vertical installation	Not under Class B1
Buildings of special importance	Horizontal installation	Not under Class B1 Pass the horizontal combustion test is recommended
	Vertical installation	Not under Class B2
Other public buildings	Horizontal and vertical installation	Class B2 is recommended

GB 51348: Recommendations for the use of cable products with defined fire behaviour characteristics

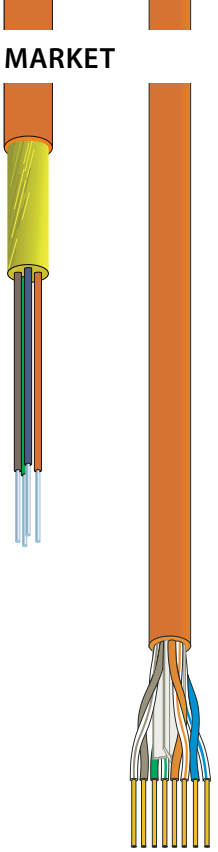
The cable products listed in this standard are described in GB 31247 "Classification for fire behaviour of electric and optical cables".

Four new classes

GB 31247 is consistent with the requirements of other standards on fire resistance and flame retardancy. It is similar to the European Construction Products Regulation (CPR).

This standard divides the cables into four main classes: A, B1, B2 and B3. The criteria governing cable classification are primarily flame propagation, thermal release and smoke generation during the combustion process.

Three additional parameters have been classified in main classes B1 and B2: combustion gas toxicity, corrosiveness, and flaming drop-



lets of cable material during the combustion process.

Use in buildings

GB 51348 from August 2020 specifies the requirements of cable products in different fire behaviour classes and gives recommendations for their use in integrated cabling solutions in different types of building.

For some time now various institutes and institutions have been running training courses to raise awareness of the correct application of the new standard specifications throughout the industry. Now it is up to all the market players and project leaders to ensure that they are complied with.

Tested Datwyler product range

Datwyler is the first manufacturer in China to offer a full range of copper data cables, fibre optic and other cables which have the relevant classification and conform to the standard specifications. All these product solutions were tested in compliance with the standards and verified by an independent testing facility.

Challenges and opportunities

The introduction of the new standards will pose new challenges for the cabling sector as well as opening up new opportunities for it.

The new specifications and the increasing awareness of fire behaviour among users will lead to a rise in demand for cables with the relevant test certificates. Datwyler is well prepared for this with its portfolio. *(bos)*

Switzerland:

INDUSTRY MEETING UNDERGROUND

The trade exhibition was well attended.

The Hagerbach Test Gallery in Flums

In August a trade exhibition featuring system circuit integrity was held at the Hagerbach Test Gallery in Flums.

A wide range of well-known manufacturers issued invitations to the Trade Exhibition on System Circuit Integrity in the test gallery on 20th August – made possible by less stringent restrictions on contact.

The industry showed its appreciation by turning up in large numbers. The first guests were there at 3pm on the dot for the opening of the exhibition. They visited the exhibitors' stands to check out the news and innovations from the relevant specialists on the spot. In addition to Datwyler IT Infra AG, where safety cables were highlighted, OBO Bettermann AG presented its support systems, ZumTobel AG its escape route lighting, and Siemens Schweiz its fire alarm and fire extinguishing systems. Kablan took part in the event as a trusted dealer in the cabling solutions sector. The Doku-Media Schweiz stand showcased its publications "Baublatt" and "Magazin der Schweizer Baudokumentation".

The date and venue for this exhibition met with widespread approval. The event was well attended, attracting around 100 participants. The special ambience and the "apéro riche" were conducive to staying on, and much lively discussion ensued between the guests and exhibitors during the meal. From the organisers' perspective this industry meeting was a success in every respect. *(maw)*

Harald Zapp, founder and CEO of Next Big Thing AG, Berlin

Semiconductor market:

EUROPE NEEDS TO EXPAND "SILICON SAXONY"

Interview with Harald Zapp, founder and CEO of Next Big Thing AG

The worldwide scarcity of semiconductors is having a severe knock-on effect on many industries. This mainly affects the automotive industry, but companies in IT, consumer electronics and telecommunications are also struggling with the consequences of the shortage. We discuss with Harald Zapp how the crisis can create an opportunity for Europe. He is the founder and CEO of Next Big Thing AG, a venture studio which has specialised in setting up deep tech companies.

Mister Zapp, Opel recently closed down a factory in Germany, among other things because of the chip shortage. Can you see a way out of the crisis?

The car industry is the most dramatic example of the consequences of chip supply shortages, even temporary ones. To reduce dependencies, in the long term we have to develop our own production capacity in Europe. Not only is security of supply important, however, but also real innovation: we have to invest in chip design and development and

ask ourselves what the future utilisation scenario for chips looks like. That is where most of the added value lies.

With the Internet of Things, autonomous mobility, smart buildings, smart cities and other technologies we are facing a huge demand.

What are the special requirements to which the chip manufacturers need to respond today?

Today's chip architectures for smartphones and servers are only partially suitable for new fields of application in the Internet of Things. The most varied fields of activity such as motion detectors, temperature sensors or air pressure, humidity and CO_2 measuring devices, require processors which can quickly and easily be complemented by the appropriate sensors to match the application.

As a rule, moreover, communication with and control of machinery and products in the Internet of Things is decentralised, i.e. is not effected via a central cloud. IoT chips must therefore have sufficient computing power for decentralised intelligence and possibly also provide networking capabilities for real-time applications.

Their own computing power, outstanding durability, long service life and minimum energy consumption – these are the requirements of the next chip generation.

What practical action do you think Europe should take?

We should be guided by other successful innovation centres and create a cluster for semiconductors.

Take Silicon Valley in the '70s, MIT or Harvard: The crème de la crème congregate in such clusters, they give the greatest innovation density – and investors follow hot on their heels.

The important thing is that in Europe we do not as usual try to set up several small clusters. We need to concentrate on one centre instead. "Silicon Saxony" is Europe's biggest microelectronics location and the fifth biggest worldwide. This is where we should continue to build on what we have achieved.

Can you give us a concrete example?

The Sensry company, part of the NBT portfolio, is developing fingernail-sized IoT chips based on a RISC-5 platform on the open source principle. To do this Sensry is cooperating with the Micro Systems Technology Group, the chip factory of Globalfoundries in Dresden and with the Fraunhofer-Institut für Integrierte Schaltungen IIS.

What are the special features of these IoT chips?

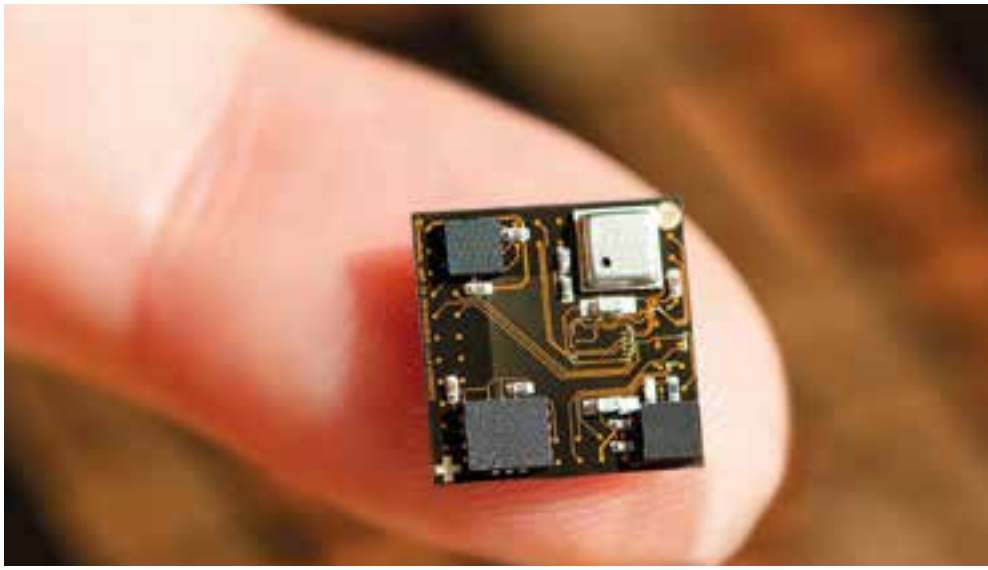
The open source RISC-5 platform gives every small and medium-sized manufacturing company a guarantee that no trade secrets can get into the wrong hands, and that there is no risk of loopholes occurring anywhere. These IoT chips also have malware protection integrated in the hardware: a cryptography coprocessor ensures that such chips can only be activated with authentic firmware. The transfer of control to any infiltrating malicious software is therefore out of the question. This is a unique selling point of these chips.

What is in it for Europe by investing in this segment?

The IoT-based machine economy has great potential for influencing the world market. Within the next ten years businesses should still be in a position to export their products without possible embargo restrictions. IoT chips are the key door-openers for new business models in global competition.

Anyone who has read of China's intentions in this field as part of the "Made in China 2025" strategy must by implication wonder how Europe intends to retaliate. The high tech sector in China is huge. No wonder that they are also investing in microchips, which they are developing both for the Chinese market and for export. So we simply have to ask ourselves whether we in Europe want to make ourselves dependent on the USA, and in future on China, in yet another field? And how secure is the whole thing, how secure are the products?

We now have to develop the ability and the intellectual capacity to build the next generation of microchips and processors ourselves. We have to think about what the hardware and the infrastructure of the future should look like and how they fit with the software. And we must see that now these technologies are already becoming increasingly important to industry. *(mac)*

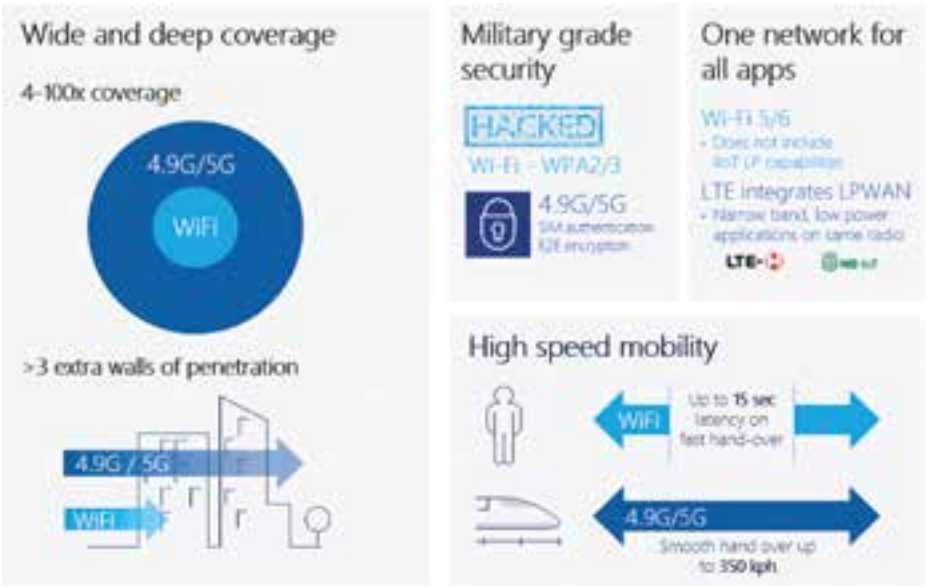


Sensry's Ganymed® IoT chip was developed on the basis of an open source RISC-5 platform.

The intelligent factory:

THE WAY TOWARDS OPTIMISING PRODUCTION PROCESSES

Figure 1 (Source: Nokia)



These days everyone is talking about making better use of the condition data and process data from plant and machinery present (but not always evaluable) in every business – not least because it appears to be very promising in terms of increased productivity and cost reduction. From the operators' perspective this provides a wide range of possible applications and opportunities. For example, a lot of waste can be avoided if a faulty batch is detected and eliminated immediately before or, at the latest, during processing. Predictive maintenance also gives financial benefits. It builds on the automatic monitoring of wearing parts, analyses appropriate signals from the component and schedules a maintenance slot at a point in the production process where it will do the least harm – for instance the next weekend, and definitely before it comes to a stop or even fails altogether. At the same time this means avoiding superfluous "standard

How can plant and machinery parameters be effectively recorded and evaluated? What demands do these tasks place on the IT infrastructure? This use case provides answers.

maintenance intervals", which in turn cuts operating costs.

This and other use cases have one thing in common: they posit the reliable and often very rapid provision and evaluation of machine data. Unlike the data traffic produced by office applications or the mobile applications of employees, these are business-critical applications with a serious impact on company success or even the company itself – take, for example, the prevention of malfunctions in a power station.

It is easy to see the benefit to those operating a pool of machinery or equipment. But what are the "sticking points" in implementation? What key aspects are there to consider?

The following four aspects can be mentioned here: connecting the machines to a data network; designing the company's in-house network and data centre infrastructure for these business or company-critical applications; deciding on Edge or Cloud-based data processing; and finally, analysing and interpreting the data to give the desired process improvement.

Connecting the machines properly

First the good news: today the purely technical connection of machinery and equipment to the IT world has largely been solved. For this you need gateways which either connect the PLC of the machine or individual sensors or measuring instruments, and transmit the data to the company network.

Relatively new machines often have standard interfaces such as OPC-UA for this. Older ones can be incorporated by a roundabout route. Neither is a trivial matter, but experts like those at Datwyler IT Infra have various ways of solving any problems which might arise. In so doing they have recourse to gateways of market-leading partners.

Optimising the IT infrastructure

Once connected up, the machines transmit a large amount of additional condition and process data to the company network. This can pose major challenges for the IT infrastructure, depending on the available bandwidth and processing rate. No interruptions in data transfer should occur if the machinery is constantly monitored, the processes analysed, and fast intervention in process control can take place if necessary.

That is why it is worth having a specialist like Datwyler audit the existing company network and the existing data centre infrastructure. As part of such an audit Datwyler prepares a weak point analysis, suggests improvements or a new network structure, and finally implements these – at the operator's request.

For the most part it is advisable to separate the IT infrastructure for the machine data from the existing office and staff level data. This increases data security in the machine network and creates the necessary free space for redesigning and optimising it to suit the application, and for employing the most suitable technology – wired, WiFi or even 5G. A wired network, whether copper or fibre optic cabling, performs very well in terms of data transmission, but on the other hand is confined to a particular location and is relatively inflexible if additional sensors or devices are to be incorporated. WiFi is relatively prone to disruption, has limited coverage, and is adversely affected by walls or objects in the transmission/reception area. In addition, the WiFi-typical latency times of up to 15 milliseconds are unacceptable for many control applications (see Figure 1).

>>

5G wireless technology opens up exciting new opportunities with high transmission rates, a low latency of under three milliseconds, and the best possible flexibility without the use of cabling. With the Nokia Digital Automation Cloud (NDAC), for example, Datwyler can offer customers a package which is perfectly matched to the requirements of a 5G enterprise network (see Figure 2). Set against this are the investment costs for the antennae in the company grounds and (moderate) licence fees for a frequency band on the company site.

Companies in Germany and a few other European countries can already purchase such a frequency band for their sites. No doubt other countries will follow before long. Businesses are showing an extraordinary amount of interest.

Combining edge and cloud

In any case, when designing the optimum IT infrastructure Datwyler will bear in mind the pros and cons of a wired, WiFi or 5G connection and will match the solution to each individual customer's application. This includes advice on whether data analysis should take place as near as possible to the machine or via Cloud-based software.

Very economical Cloud-based applications, often as SaaS, are used for many applications such as reports, benchmarks, alarms, communications or notifications. On the other hand, it is not always appropriate to send all the machine data to the Cloud and only analyse them there. The data volume, the traffic this would produce would be uneconomical. It often makes much more sense to process the bulk of the data on the spot, near the machine, "at the edge", so to speak. That way a business avoids network overload, long response times, disruptions due to possible faults in the outside Internet connection and the high cost of Cloud Computing. The company also keeps often sensitive production data close to home. This requires an Edge Computing infrastructure, i.e. a local computing and storage capacity which Datwyler will design and implement jointly with the customer.

The skill lies in deciding which applications best suit a Cloud-based solution and which analytical processes are best dealt with on an Edge infrastructure. And because Edge and Cloud are not separate worlds but ought to be combined in the best possible way, Datwyler brings in expert partners in Cloud consulting and Cloud integration. For users this means a one stop "Edge *and* Cloud solution".

Interpreting data correctly

Finally, back to the use cases for such an all-round IT infrastructure solution. The fact is that a business extracts and analyses its machine data with a specific intention. It can happen that the use case itself is clear – for example to avoid the repeated nonconformity of a manufactured product – but not the data which can provide information on the cause of the fault.

When hypotheses fail it is advisable first to read out the data from the machines, perhaps adding environmental data like workshop temperature and atmospheric humidity and, with the help of experts and possibly also AI, to analyse same in order to identify possible patterns and connections.

Not only does this give a much better understanding of connections previously unknown or merely suspected, but it also provides new use cases for boosting efficiency and cutting costs – i.e. even greater benefit. In cases like these Datwyler also has software and service partners on board for data analysis. *(kal)*

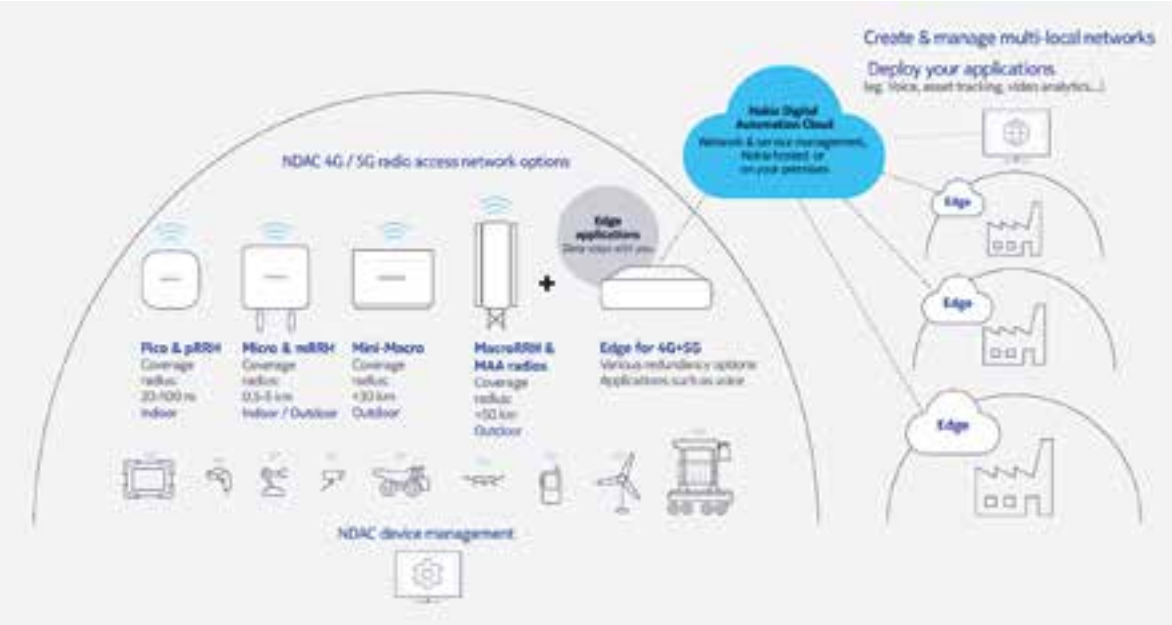


Figure 2
(Source: Nokia)

Fibre optic outdoor cable:

CONSIDERABLY SLIMMED DOWN

The new 576-fibre FO Outdoor wbGGT HP City A-DQ(ZN)B2Y cable saves space and cuts installation costs.

Datwyler now supplies the tried and tested FO Outdoor wbGGT HP City / A-DQ(ZN)B2Y 24x24 cable in a considerably "slimmed down" form: thanks to an innovative stranding method the external diameter, previously 28.2 millimetres, has now been reduced by almost one third to 19.6 millimetres.

The first layer of the new design comprises nine loose tubes, while the second has 15 of them, each with 24 fibres.

Despite the considerable "slimming down", Datwyler has managed to retain all the good mechanical properties such as transverse pressure and tensile strength. The fibre optic cable, equipped with a standard single-mode fibre (G.652.D, 250 µm), has a tensile strength of 9000 N, making it suitable for running into tubes and cable ducts, as well as for blowing into microtubes over long distances and for direct burying.

Bend radius almost halved

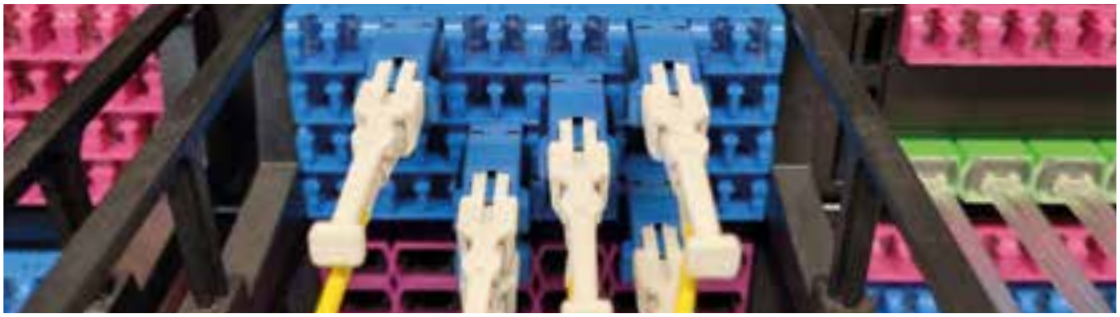
Another advantage of this cable is its minimum bend radius of 300 millimetres. This is equivalent to almost half that of the old design and makes installation appreciably easier, for example in shafts and industrial plant where space is tight.

The cable can be supplied in lengths of up to 6000 metres in order to make the links as long as possible during installation and to keep installation costs down.

You will find more information on this product solution on our website. *(phb, kaw)*

Data centres:

PRODUCT LINES GROW TOGETHER



Longer service life, less complexity: To meet these requirements Datwyler is harmonising the preassembled cables in its existing Data Centre Solutions.

Since Datwyler introduced the HD-DCS high-density system in addition to the tried and tested FO-DCS fibre optic cabling system, there have been two separate product lines – as regards the preassembled cables as well. That will soon be a thing of the past, as in future the cables of both systems – for example in terms of breakout length and diameter – will conform to a common standard. In other words, the new DCS cables can be used for both the FO-DCS and HD-DCS patch panels and modules.

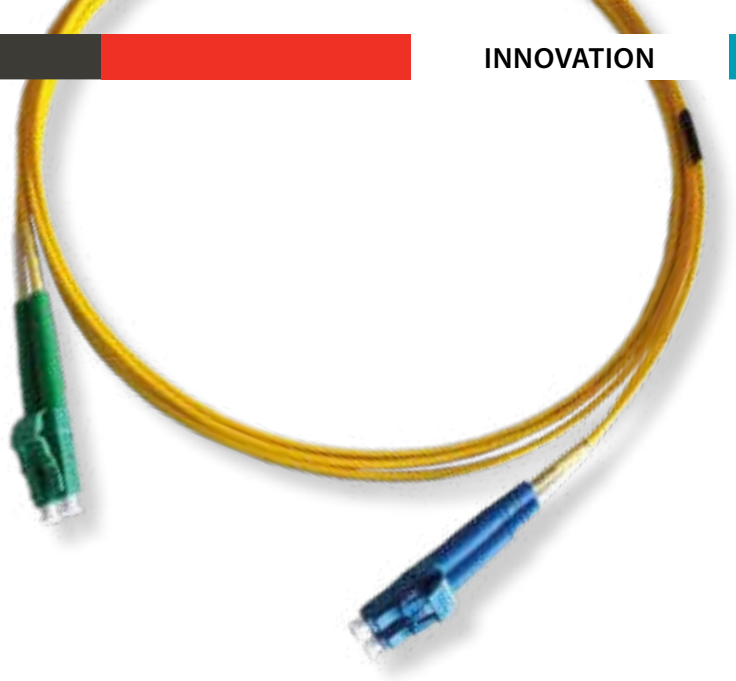
The benefit for users of these Datwyler system solutions: harmonisation increases the life of their cabling, and at the same time reduces the complexity. Thus, for example, the stocks in the warehouses of users who use both solutions can be reduced and more easily managed.

More stringent specifications

As regards the trunk cables preassembled with MTP connectors, the FO-DCS will in future benefit from the even higher quality standards which Datwyler applies to the DCS cables. Thanks to the large reserves in the attenuation budget and the outstanding reflective properties of the new cables, the full range of applications can safely be run – from LANs through Storage Area Networks (SANs) to High-Performance Computing networks. This naturally also covers future bandwidth development stages.

Additionally, in future Datwyler will be equipping all LC-based fanout and trunk cables with Intelli-Cross-Pro connectors (from Seikoh Giken). These connectors have at least two advantages: they facilitate the simplest and safest polarity change on the market and, because they have a Uniboot connector (LCDU), they halve the cable load on the patch panel by comparison with classic LCD connectors.

You will find all the details in the data sheets on our website. (*phb, kaw)*



In-house cabling:
FROM 0 TO 8

From now on Datwyler IT Infra's fibre optic patch cables are also available in a figure 8 design.

For a long time the robust fibre optic patch cables shaped like a figure 0 were the last word in in-house cabling, not least because the sensitive fibres are well protected by the double sheath. Now however – with the spread of bend-optimised fibres – the figure 8 cable has become the design of choice. Datwyler has therefore added figure 8 products to its existing portfolio of standard fibre optic patch cables.

From now on the figure 8 cables will be available with the popular OM3, OM4 and OS2 fibre types as well as with the most frequently used LC, SC and ST connectors. The LSH connector (E2000) will follow shortly.

This means that a complete portfolio of solutions is again available to customers in the in-house cabling sector. Datwyler IT Infra naturally supplies the new patch cables in the usual high quality.

You will find further information in the data sheets on our website. (*phb, kaw*)

Micro and Mini Data Centres:
REVAMPED ONLINE CONFIGURATION

New functions and improved user interface: Now even quicker and easier online configuration for customers of Datwyler Middle East.

Since 2019 Datwyler has been providing partners and end customers in the countries of the Middle East Region with an online tool for configuring the company's Micro and Mini Data Centres.

The current version now offers users a whole range of new features enabling them to plan and design their IT infrastructure solution even more easily – from small to medium-sized data centres including racks, UPS, intelligent energy distribution, climate control, cabling, leakage monitoring, fire alarm, fire-fighting, access control and environmental monitoring – all with SMS and email notification.

Once the project requirements have been entered the tool generates workshop drawings with technical specifications, data sheets, guide prices, sophisticated technical suggestions and much more. In addition to this, users are able to design modular data centres conforming to the international standard (Uptime) Tier Classification Levels. The results can be visualised as 3D images.

The technical drawings of the data centre's front and side views provide comprehensive information, including all the dimensions as well as monitoring and controlling connectivity wiring diagrams.

As before, the update allows self-registration, project tracking and fast and simple emailing of the relevant documents.

The configurator is available free of charge to customers and partners of Datwyler Middle East at **www.datwylermdc.com**.

Other new functions and configuration options are in the pipeline for the next few months. *(ihg)*

Datwyler's Micro and Mini Data Centre Configurator

SWITZERLAND

Dätwyler IT Infra AG
Gotthardstrasse 31
6460 Altdorf
T +41 41 875-1268
F +41 41 875-1986
info.itinfra.ch@datwyler.com
ITinfra.datwyler.com

GERMANY

Dätwyler IT Infra GmbH
Auf der Roos 4-12
65795 Hattersheim
T +49 6190 8880-0
F +49 6190 8880-80
info.itinfra.de@datwyler.com
ITinfra.datwyler.com

Dätwyler IT Infra GmbH
Lilienthalstraße 17
85399 Hallbergmoos
T +49 811 998633-0
F +49 811 998633-30
info.itinfra.de@datwyler.com
ITinfra.datwyler.com

AUSTRIA

Dätwyler IT Infra GmbH
Niederlassung Österreich
Liebermannstraße A02 403
2345 Brunn am Gebirge
T +43 1 8101641-0
F +43 1 8101641-35
info.itinfra.at@datwyler.com
ITinfra.datwyler.com

ITALY

Datwyler IT Infra S.r.l.
Via dei Campi della Rienza, 30
39031 Brunico (BZ)
T +39 031 928277
info.itinfra.it@datwyler.com
ITinfra.datwyler.com

CZECH REPUBLIC

Datwyler IT Infra s.r.o.
Ústecká 840/33
405 02 Děčín
T +420 737 778485
info.itinfra.cz@datwyler.com
ITinfra.datwyler.com

CHINA

Datwyler (Suzhou) IT Infra Co., Ltd.
No. 218, East Beijing Road
Taicang Economic Development Zone
Jiangsu Province, 215413
T +86 512 3306-8066
F +86 512 3306-8049
info.itinfra.cn@datwyler.com
ITinfra.datwyler.cn

Datwyler (Suzhou) IT Infra Co., Ltd.
Shanghai Branch
Room 804, Shenggao International Building
No. 137, Xian Xia Road, Changning District
Shanghai, 200051
T +86 21 3253-2885
F +86 21 6813-0298
info.itinfra.cn@datwyler.com

Datwyler (Suzhou) IT Infra Co., Ltd.
Beijing Branch
Room 16B2, West Wing, Han Wei Plaza
No. 7, Guang Hua Rd, Chaoyang District
Beijing, 100020
T +86 10 5971-4288/77/76
F +86 10 5971-4277
sales.office.bj.cn@datwyler.com

Datwyler (Suzhou) IT Infra Co., Ltd.
Guangzhou Branch
A, 7 FL, Gaosheng Building
No. 109, Tiyu Rd. W., Tianhe District
Guangzhou, 510620
T +86 20 3879-1200
F +86 20 3879-1105
sales.office.gz.cn@datwyler.com

SINGAPORE

Datwyler IT Infra Pte. Ltd.
30 Toh Guan Road #01-01A
608840 Singapore
T +65 68631166
F +65 68978885
info.itinfra.sg@datwyler.com
ITinfra.datwyler.com

UNITED ARAB EMIRATES

Datwyler Middle East FZE
Jabel Ali Free Zone
LB 15, Second Floor, Room #10
P.O. Box 263480
Dubai
T +971 4 4228129
F +971 4 4228096
info.itinfra.ae@datwyler.com
ITinfra.datwyler.com

Datwyler IT Infra Solutions LLC
Unit 1004 & 1005, 10th Floor, IB Tower
Business Bay
Dubai
T +971 4 4228129
F +971 4 4228096
info.itinfra.ae@datwyler.com
ITinfra.datwyler.com