PROJECTS
PRODUCTS
REFERENCES

Swiss made

woertz

TABLE OF CONTENTS

HISTORY

A competent partner for more than 85 years now

In 1928, as an innovative contractor, Oskar Woertz had the idea of simplifying the electrotechnical components according to the wishes of Swiss installers. Planers and craftsmen had their work facilitated. Investors and constructors could carry out their projects with the new components quicker and with a higher quality. Briefly: thanks to innovative solutions Oskar Woertz made it possible to acquire maximal efficiency with minimal effort. It's therefore not surprising that it gave birth to a prosperous company which is still family-owned.

Woertz has about 230 employees active on two locations in Switzerland namely Muttenz and Hölstein. Carole Woertz is in charge of the management of this third generation family driven enterprise, one of the last companies in that industry to be family owned in Switzerland.

Year of foundation: 1928

Locations:

Head office in Muttenz near Basel, Switzerland

Subsidiary in Hölstein near Liestal, Switzerland

Employees: About 230

Core competences: Development, manufacturing, sales and distribution of all types of electrical connections of conductors and also systems for laying power and data cables in the field of building installations. Custom-made products: Manufacturing and prefabrication of custom products also in small series.

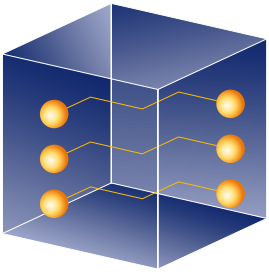
Certified quality: According to ISO 9001 and ISO 14001

At home in Switzerland:

Swiss family owned company. Development and production 100% «Made in Switzerland».

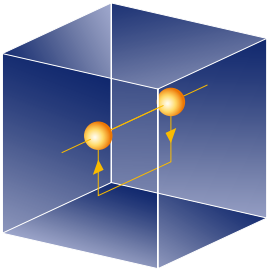
International orientation:

Woertz subsidiaries in Germany and USA. Representations in more than twenty countries through long-lasting partners.



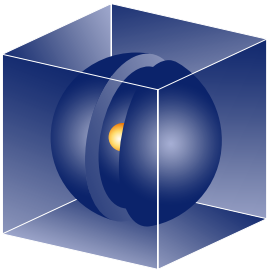
Cabling systems

Investors and property owners expect comfort, reliability, flexibility and value for money. With Woertz system solutions, they can efficiently implement lighting, security systems, temperature regulation, weather protection and other features using versatile, intelligent flat cabling installation systems.



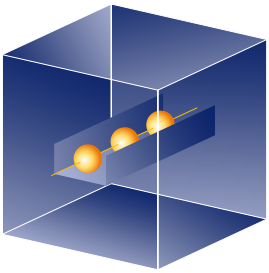
Building automation

Residential and purpose-built structures have grown increasingly automated over the years, as users expect greater levels of comfort, safety, security and energy efficiency.
We have made it our mission to help make building automation be less energie- and material-intensive by utilising decentralised controls.



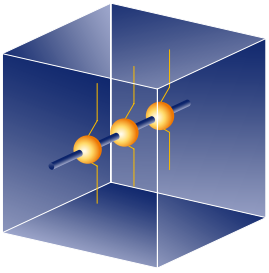
Fire protection systems

Long tunnels, sprawling office buildings or public institutions have to be evacuated quickly in the event of a fire. During the evacuation, energy must still be supplied for emergency exit lights, escape routes smoke extraction systems, alarm signals and communication systems.



Cable routing systems

Woertz can supply solutions for every cable routing application. With its extensive experience, it has developed cable routing systems that are not only flexible, but also shaped and designed to integrate seamlessly in any environment. The wide product range, including countless expansion options, establishes these systems as the cornerstones of durable, cutting-edge electrical installations.



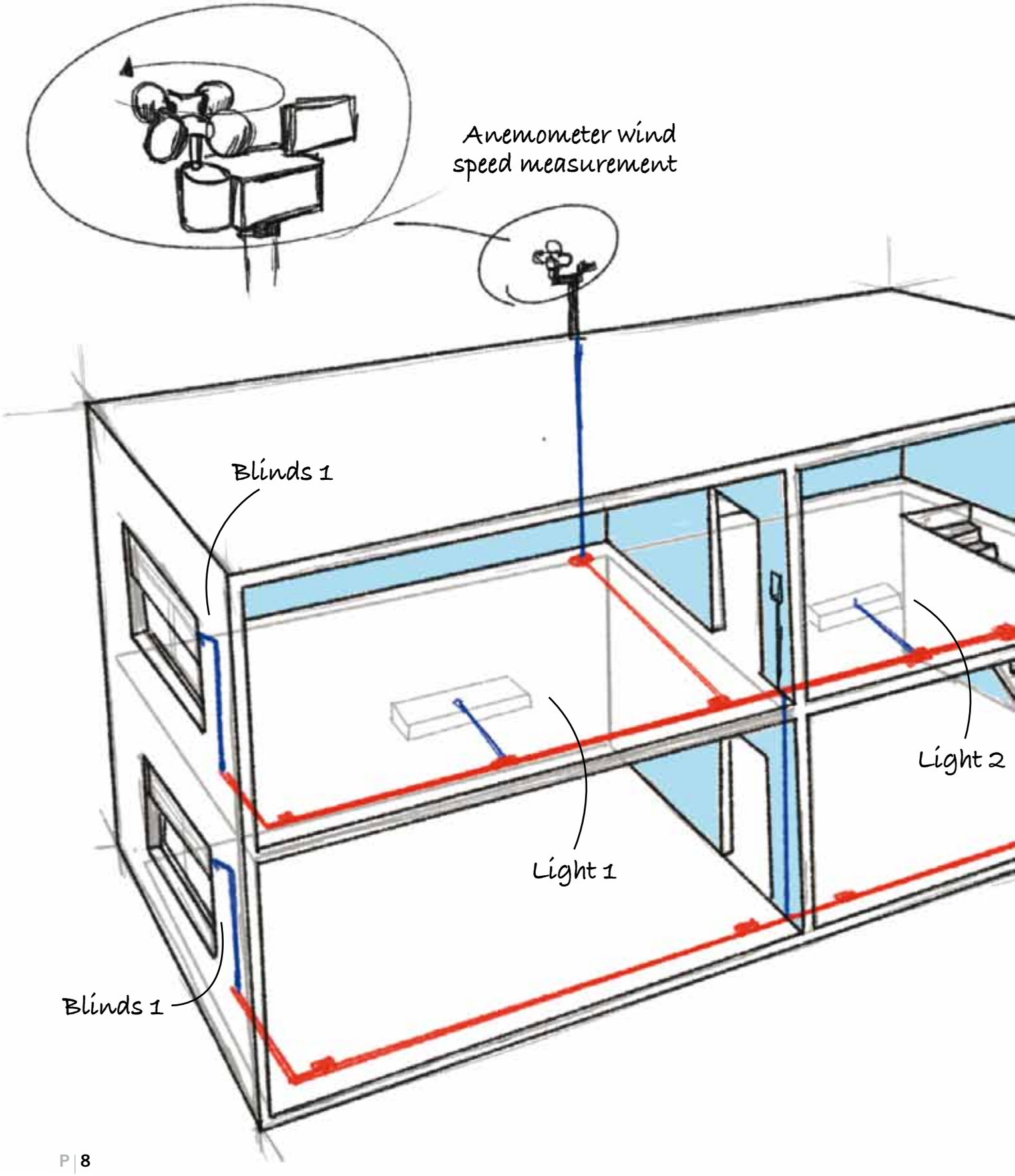
Components for electrical installation technology / terminals

Terminals have an enormous impact on switchgears and distribution panels quality and service life. Woertz provides a wide range of electrical installation components and high-quality terminals for any application.

INNOVATIVE, PATENTED SYSTEMS

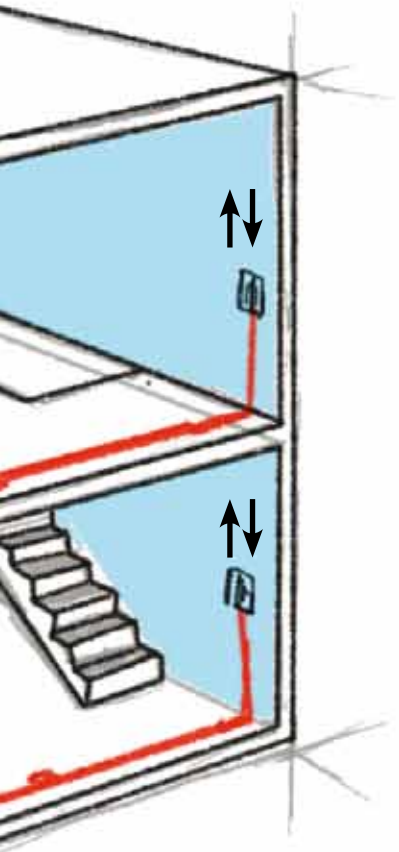
Research, inventive talent and attention to detail are all part of the Woertz-philosophy. We were able to develop patents, which simplify and improve the technologies used in electric installations making them more functional, efficient and economical at the same time. Whatever your requirements for an electric installation may be - our specialists are happy to advise you and will find the most appropriate solution for and with you.

BUILDING AUTOMATION SYSTEMS

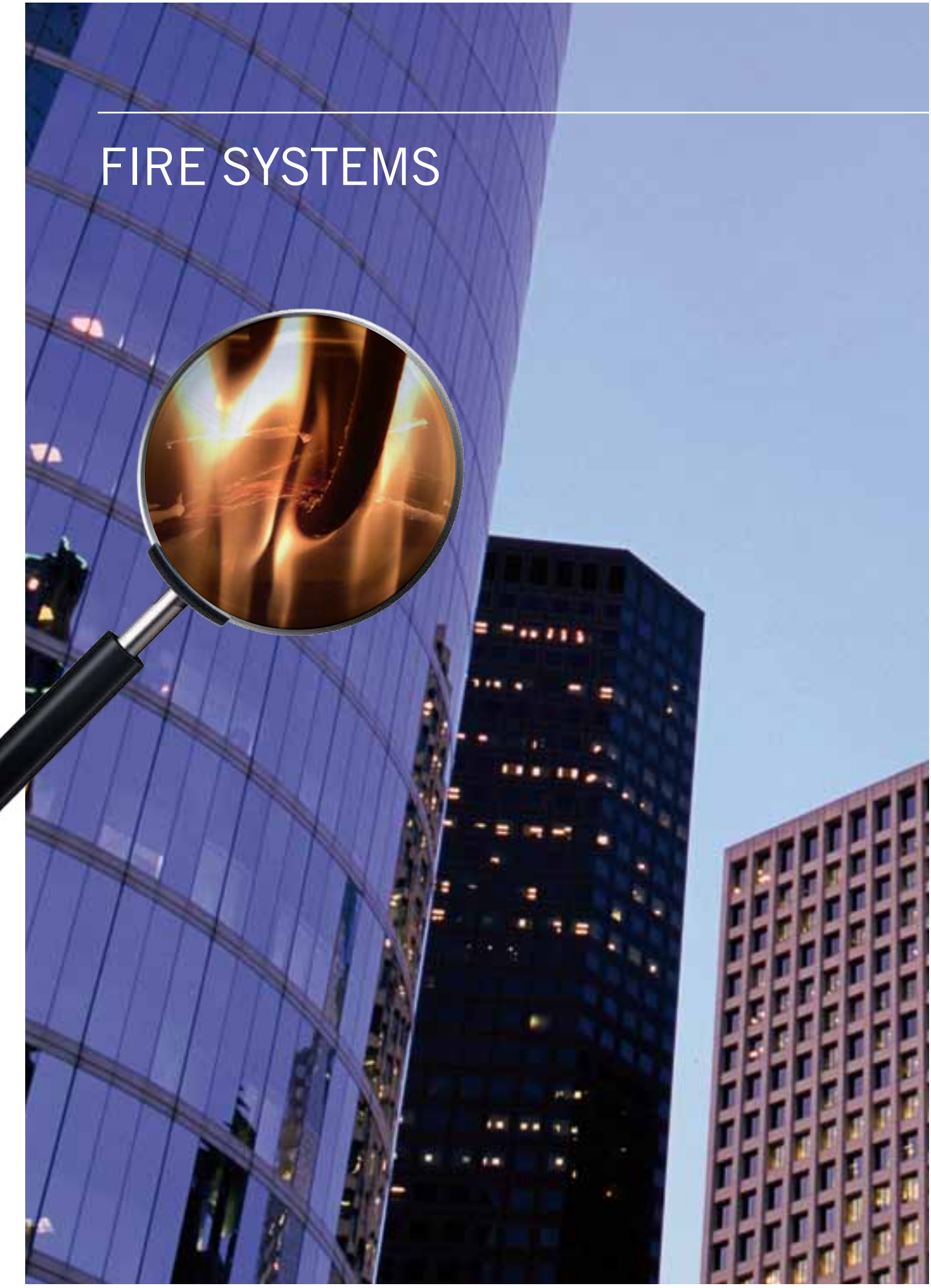


Our patented automation systems for residential and functional buildings reduce energy consumption and save material.

Our aim is to serve the increasing demand for comfort, safety and cost effectiveness. Our solution is decentralised cabling.
Only innovative and intelligent systems can offer solutions, which meet the automation requirements of ever more sophisticated buildings.



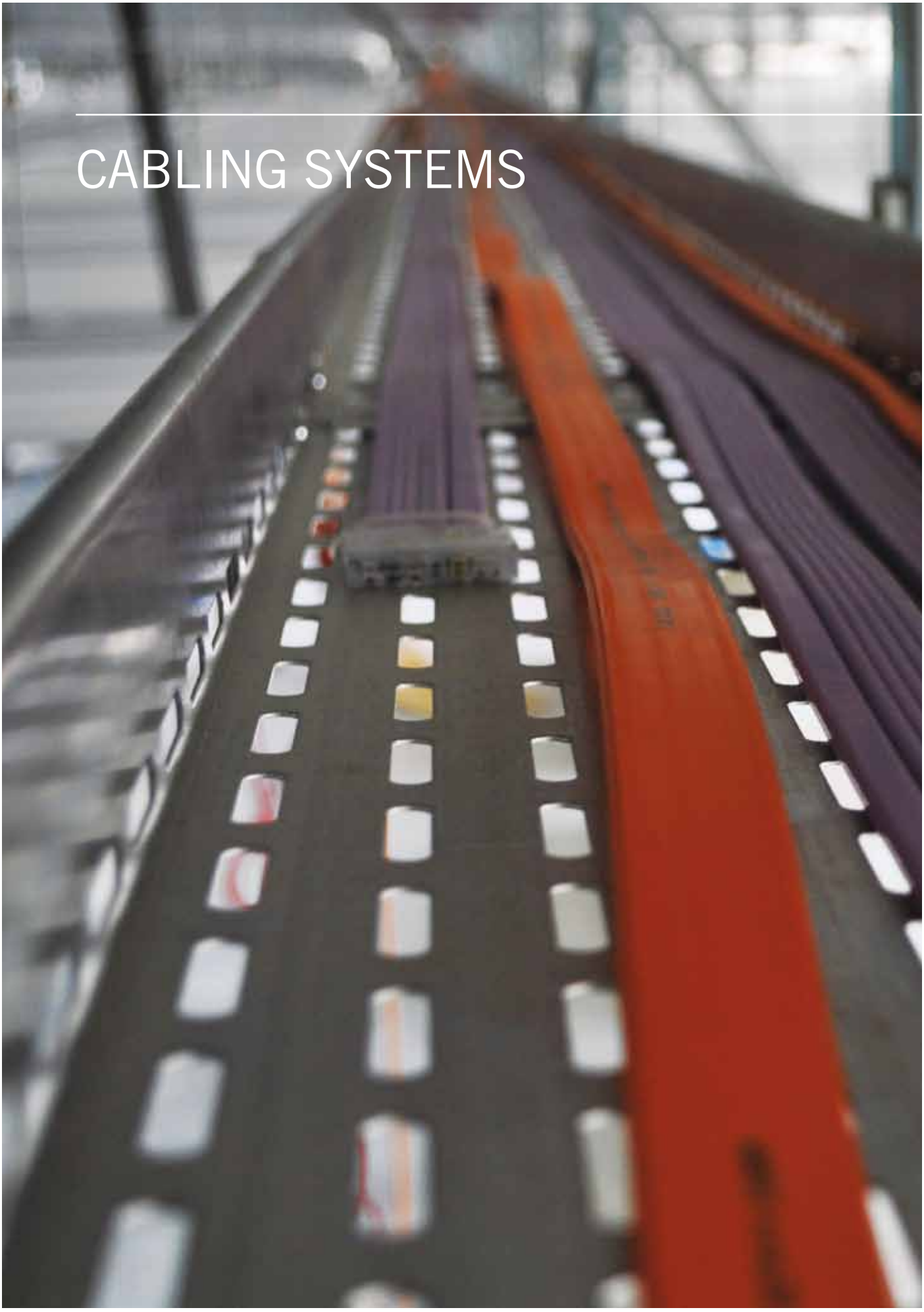
FIRE SYSTEMS



Absolute reliability in critical situations enables rapid evacuation.

Power supply is an essential requirement if a fire breaks out in a road, rail or dam tunnel, but also for large business facilities and public structures. Our fire systems guarantee functionality of lighting, emergency signs and communication instruments case of in emergency. Patents such as the FE180/E30/E90 system ensure functionality of installations in the event of a fire; the IP68 system keeps everything going for a while if water enters.

CABLING SYSTEMS



Comfort, reliability, flexibility and cost saving potential.

A single system solution can provide everything you need from an electric system. Our Woertz flat cable connection method guarantees maximum versatility for all kinds of electric applications - from lighting to security devices, from temperature control to weather protection systems, and much more...

The system is based on one of our many innovative ideas and offers practical, efficient and intelligent solutions for all requirements. It is quick to install, increases precision and allows faster and easier technical support. Our distinct focus on quality creates a noticeable economic advantage for you.

GOTTHARD BASE TUNNEL

Jobsite lighting in a rail tunnel. The temporary construction lighting must be installed quickly and reliably so it can withstand rugged conditions.

Property owner ABAG – Alpiq-Burkhalter Technik AG	**Timeframe** July 2011–August 2013
Designer Bürgin & Keller AG **Electrical contractor** Alpiq Intec Ticino SA, EW Altdorf	**Volume** Approx. CHF 700,000

Starting point

- 140 km Woertz 3G4 mm^2 FR/LSOH
- >6,000 IP68 flat cable boxes
- Temporary construction lighting

Execution

Switzerland may be small in size, but its impact on tunnel construction is huge – thanks to AlpTransit. This ambitious project revolve around the Gotthard Base Tunnel, with 57 km it is the world's longest railroad tunnel. This once-in-a-century structure has been built and operated using state-of-the art machines and technologies. Conditions are very harsh for workers and equipment. For this project, Woertz decided to develop a new box with a high IP rating. Not only does the box meet the demanding requirements, it also saves considerable time during installation thanks to it's quick connect technology.

Tool-free installation

The lamps and flat cable branching boxes came pre-wired to save as much time as possible. In the tunnel, workers only had to mount the lamps and connect the flat cable branching boxes to the Woertz flat cable. No tools were needed to make the contact thanks to special brackets and piercing screws. IP68-rated technology reliably protected the connection from the harsh tunnel conditions. The temporary construction lighting could be installed in a snap.

DEFINITIVE GOTTHARD BASE TUNNEL

**Emergency lighting in a rail tunnel. To make sure nothing goes wrong if something goes wrong.
The emergency lighting in the tunnel save lives.**

Property owner ABAG – Alpiq-Burkhalter Technik AG	**Timeframe** January 2012–November 2014
Designer Hefti, Hess & Martignoni AG Alpha Plan AG Amstein & Walthert AG **Electrical contractor** ABAG – Alpiq AG – Burckhalter AG	**Volume** Approx. CHF 2 million

Starting point

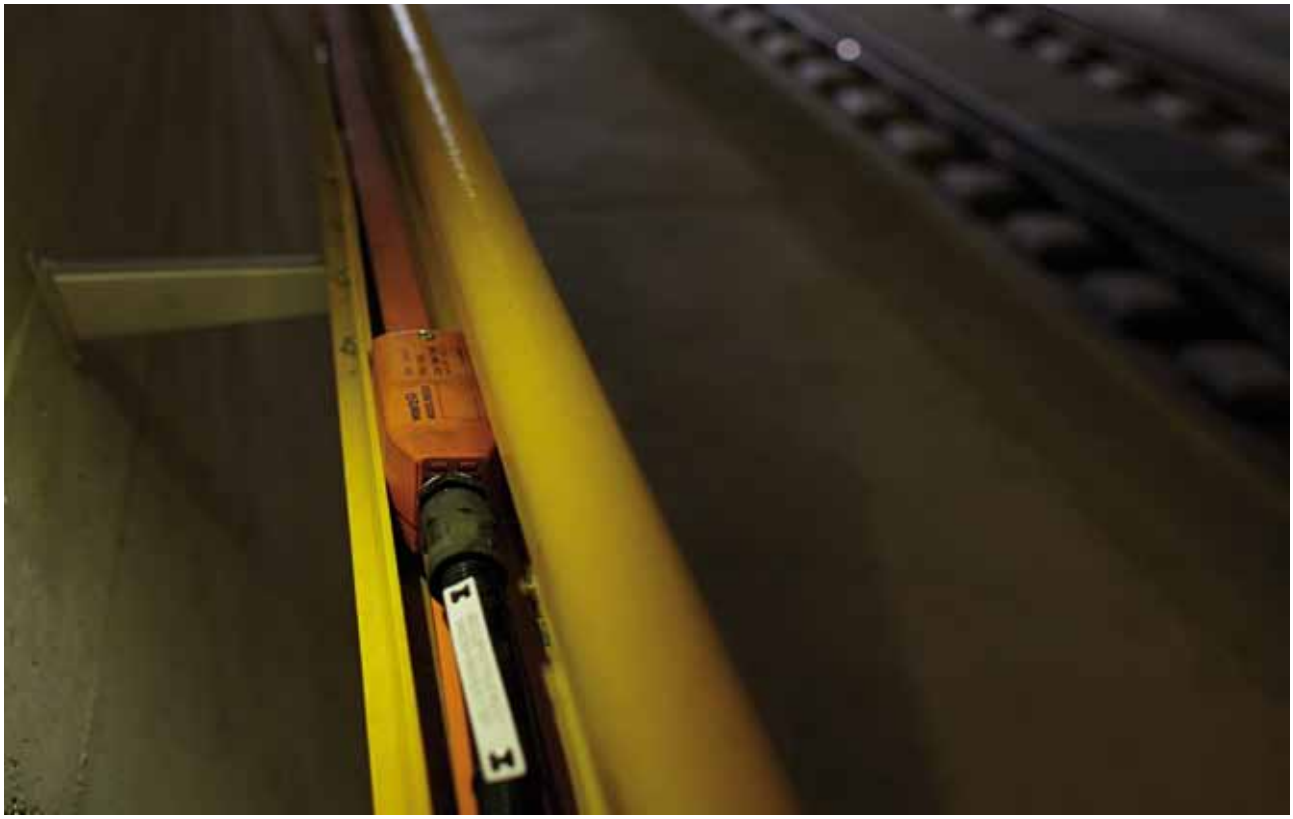
- 230 km Woertz 3G2.5 mm^2 FE180 FR/LS0H
- >10,000 IP68 flat cable boxes E30
- Emergency lighting

Execution

Safety comes first, even in the world's longest railroad tunnel. After all, accidents can happen not only during construction, but after it, too. That is why Gotthard Base Tunnel's operator is prepared for all eventualities during operations as well. It expects its emergency lighting to be reliable and clearly visible, even after several years of operation. This posed a daunting challenge for Woertz flat cabling. That is why the company developed an FE180 flat cable that can withstand fire for 180 minutes – enough time to safely evacuate the tunnel.

Development

We designed a new safe flat cable based on our innovative development expertise and extensive experience with flat cable technology. Our objective was to meet strict European standards in order to deliver a 100% system guarantee. This cable has been tested exhaustively by internal experts and outside testing institutes. Our revolutionary fire-resistant flat cable and components are not only safer, but also more cost-effective than conventional systems.



SERVICE AND ACCESS TUNNELS AMSTEG

KATZENBERG TUNNEL

Jobsite lighting in the Katzenberg tunnel
Low-cost connections using flat cable systems

Property owner Deutsche Bahn AG	**Timeframe** 2006–2007
Electrical design Katzenberg Tunnel Cooperative	**Volume** Approx. EUR 80,000

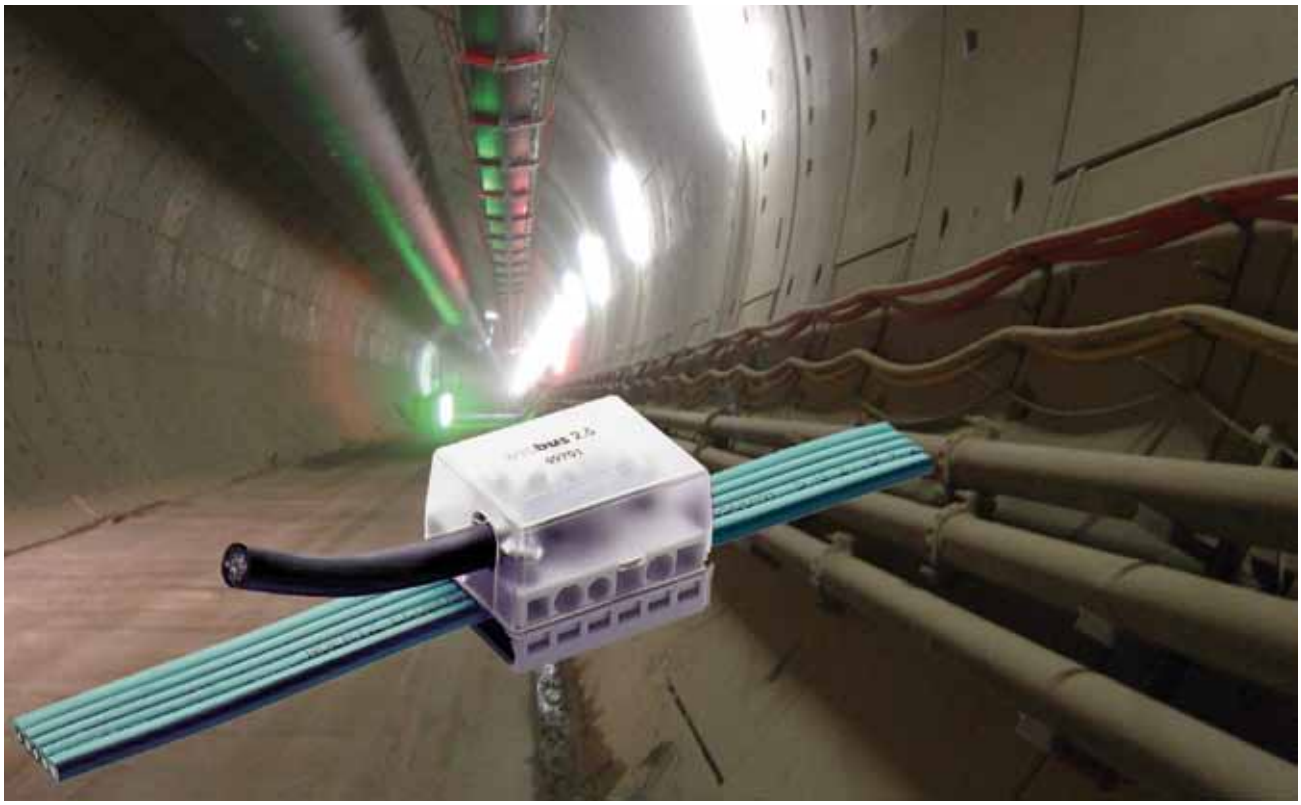
Starting point

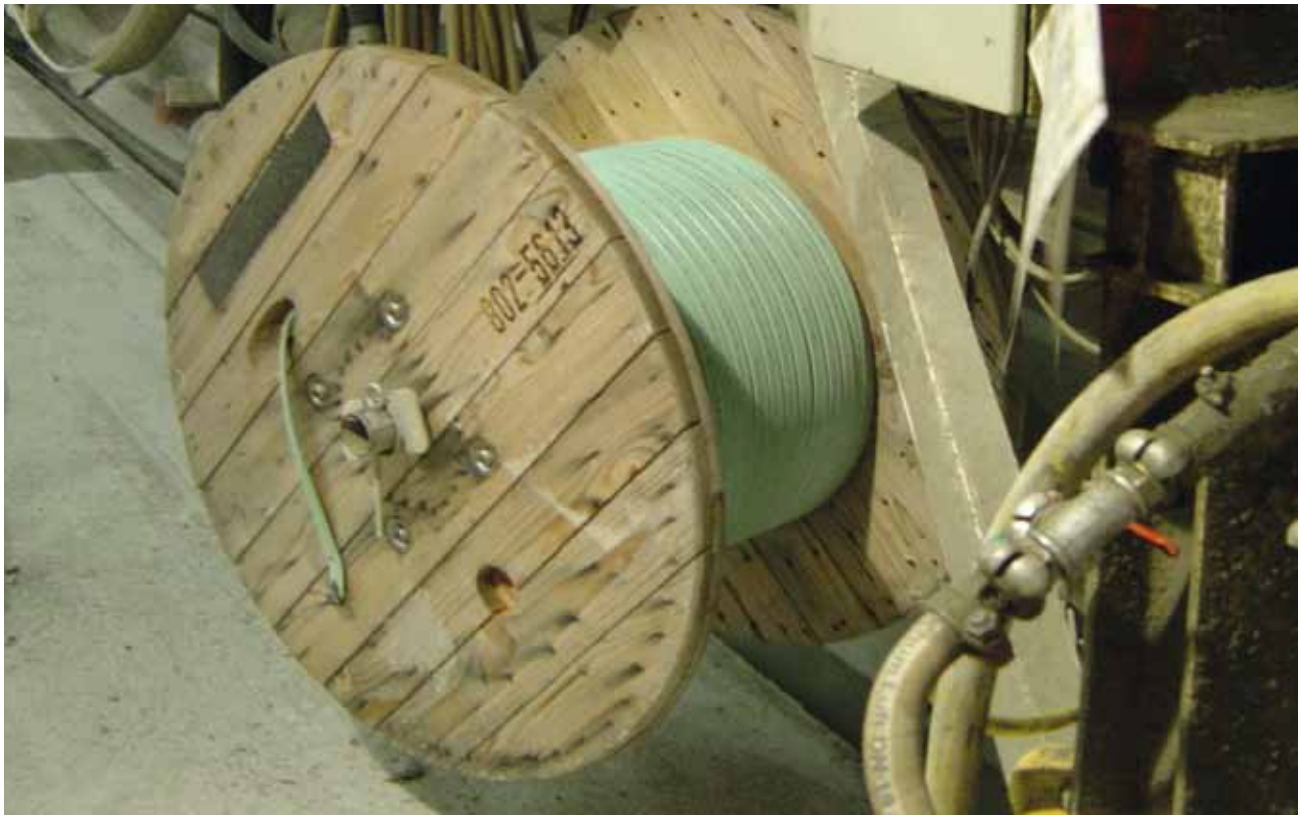
Two gigantic tunnels were bored through Katzenberg Mountain from Efringen-Kirchen to make room for a planned high-speed rail line from Karlsruhe to Basel. During construction, a cost-effective Woertz cable system supplied power and data connections for the lights and communication equipment.

Execution

The tunnel, which had been under construction since June 2005, is part of a new high-speed rail line between Karlsruhe and Basel. DB ProjektBau Südwest, the Karlsruhe-based subsidiary of German rail operator Deutsche Bahn AG, built the tunnels to prepare the heavily used line for future traffic volumes. Once completed in 2010, it connect ed to NRLA, the new railway link through the Alps (AlpTransit).

Supply via flat cables: The lights were installed on one wall of each tunnel and spaced approx. twelve metres apart. They were powered by a Woertz Ecobus Power flat cable. The lamps were pre-assembled with brackets and connection lines, placed on the initial set of trailers hauled by the 230-meter-long tunnel boring machine, and easily connected to the flat cable system. The last platform held a cable reel with the Ecobus Power flat cable. Branch lines were laid and connected as the machine moves forward.





SERVICE MAINTENANCE TUNNEL IN LUCENDRO DAM


IP65 Art.6014.M20

SBB WORKSHOP IN BELLINZONA

Customer SBB - Bellinzona	**Timeframe** December 2013 - February 2014
Designer Tecnoprogetti / Camorino **Electrical contractor** Instalux - Bellinzona	**Volume** CHF 17,000

Starting point

The workshop covers 2,100m^2. The customer wanted to replace the old lighting system with a modern system for basic lighting and safety lighting.
This installation only uses next-generation components.
LED Polaris 186 DALI lamps were used for basic lighting (system power: 123W) and safety lighting (system power: 4W).

Execution

We chose the ecobus combi flat cable and branching boxes pre-wired with Dali plugs for the basic lighting system. For the safety lighting system, we selected the orange flat cable 3 x 2.5mm^2 FE180 and Pyroline E30 branching boxes.
Mr. Galli, the Instalux project manager for the installation, explains the various stages as follows: "We had to take certain aspects and customer requirements into account during project planning and cost estimation. For example, our installation work was not allowed to interrupt or even slow down the locomotive production process. So we decided to work at night." The electrical components had to be installed at a height of 15m, but without moving several industrial machines on the floor to improve accessibility. The designer's biggest challenge, in other words, was to minimise installation time. This is why the Woertz system was chosen. Mr. Galli gladly accepted our offer to test the components before they left our plant in order to rule out connection defects or errors in advance.
Instalux installed this system 60% faster than a conventional system with on-site cabling. It is also much easier to maintain, as pointed out by Mr. Comperti, the designer, and greatly appreciated by the customer. Maintenance workers can replace light sources quickly, easily and safely as needed.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GRANDI STAZIONI IN ITALY

F.I.D.A. SPA

Customer RFI (Reti Ferroviarie Italiane)	**Timeframe** 2007 - 2010
Electrical contractor F.I.D.A. S.p.a. - Via Volturno 137, Brugherio, ITALIA	**Volume** Approx. 30km flat cable system 5x16mm^2 IP65, 3,000 IP65 branching boxes for a total cost of approx. CHF 850,000

Starting point
Upgrade of platform lighting equipment in specified railway stations

Execution

Railway stations in Turin, Milano Centrale, Verona, Venezia Mestre, Venezia Santa Lucia, Roma Termini, Bologna Centrale

The main problems for these systems are the climatic conditions (cold, heat, rain) and vibrations caused by arriving and departing trains. The designer had to find an installation system rugged enough to withstand these conditions. The Woertz flat cable system provided security, reliability and flexibility during project planning and installation.
Before anything even left the Woertz plant, the cables had been cut to length (each platform required a different length), the junction and branching boxes mounted and wired, and the entire system extensively tested. According to the engineering firm, this translated into considerable timesavings and a lower error rate during installation compared to a conventional installation. In addition, the reels were labelled with the platform numbers to avoid mix-ups.

In this outdoor installation, the IP65 flat cable system provided additional safety without requiring the installation of expensive covers.


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RESERVOIR DAM/HYDROPOWER PLANT

Customer	Timeframe
Officine Idroelettriche della Blenio SA - Locarno	2011
Designer	**Volume**
Officine Idroelettriche della Blenio SA - Locarno	Approx. CHF 70,000

Starting point
Access tunnel lighting

Execution
Ofima (Officine Idroelettriche) employees have to walk down an 800m access tunnel to conduct regular maintenance inspections of equipment installed in the Robièi reservoir dam. Environmental conditions in the tunnel are harsh: it is very cold in the winter, water drips from the ceiling in all seasons, and the humidity is stiflingly high.
Ofima's lead engineers decided to install the Woertz flat cable system, which provides excellent IP68 protection and helped lower installation costs with quick connect outlets.
Ofima used the same connection system for the Cavagnoli hydroelectric plant in 2012 and the central power plant in Val Bavona in 2010.

HYDROPOWER TUNNEL BIASCA – VAL PONTIRONE

Customer	Timeframe
Officine Idroelettriche della Blenio SA - Locarno	2012–2013
Designer	**Volume**
Officine Idroelettriche della Blenio SA - Locarno	Approx. CHF 50,000

Starting point

Officine Idroelettriche (Ofima) in Blenio had to replace and enhance the old lighting system in the service tunnel.

Execution

The environmental conditions in the 700m tunnel are extreme – high humidity, heavy condensation and dripping water. Any installation materials must be able to withstand these harsh conditions.
After reviewing their options, Ofima's engineers found the ideal solution for their requirements: the 3G2.5 mm² flat cable system combined with IP68-rated quick connect outlets.
This system was also used in another power plant tunnel (850 m long) in Olivone (completed in 2013).

DEUTSCHE BUNDESBANK

Cost-effective building modernisation
Renovation during day-to-day operations

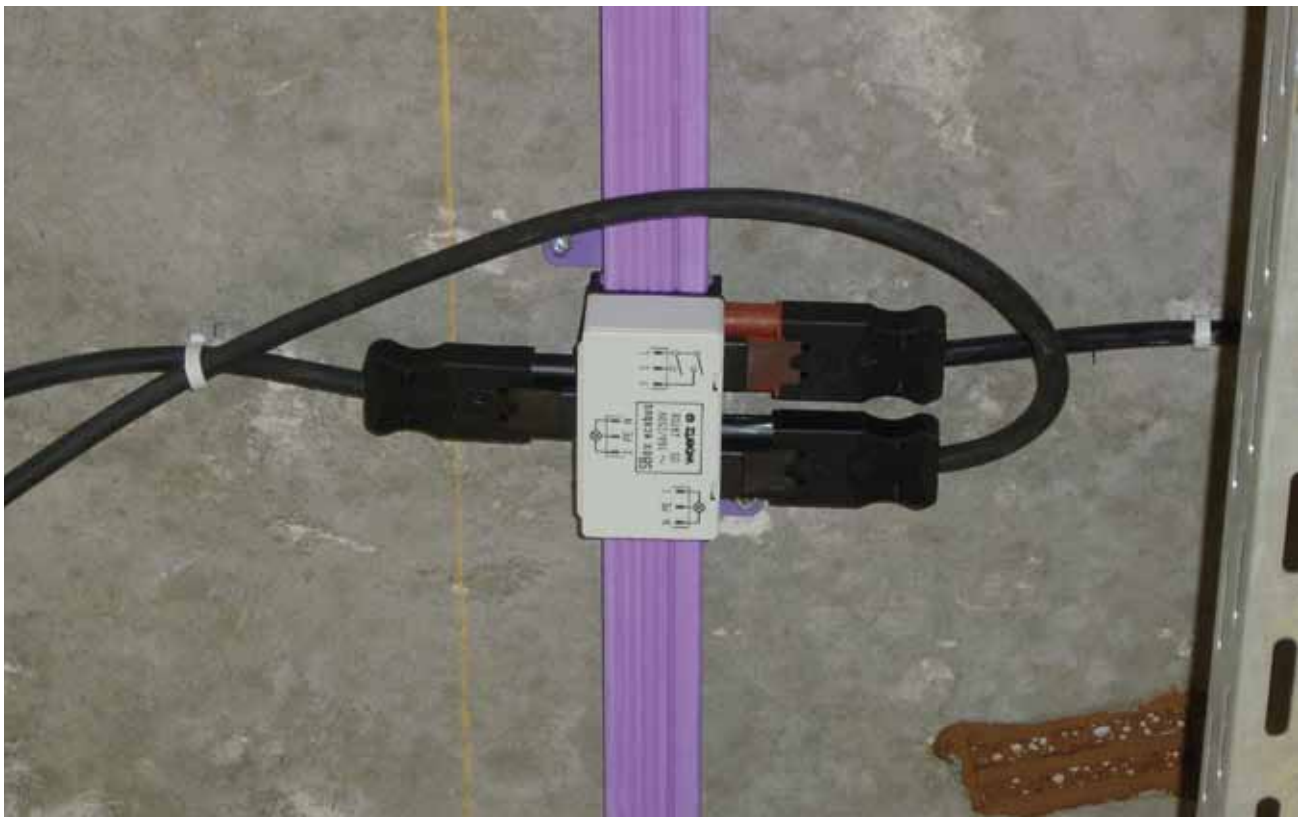
Property owner Hard Facility Management, Deutsche Bundesbank, D-Frankfurt am Main	**Timeframe** 2006–2007
Electrical design Ingenieur-Büro für Bau- und Projektleitung Michael Wirtz, D-Stolberg	**Volume** Approx. EUR 120,000

Starting point

Changes to the fire code require certain power supply components to be replaced at Deutsche Bundesbank's main building in Frankfurt/Main.
The challenge: the components must be installed while the equipment is running. Woertz flat cable installation systems ensure a seamless transition from the old system to the new one.

Execution

Each floor of the Bundesbank building contains several compartments. One compartment is the lift area. Other compartments include long hallways and adjacent offices. The offices are intersected by a Woertz ecobus combi flat cable mounted on the concrete ceiling. The cable was soon be covered by hanging false ceilings. Lamp switching modules known as "SBoxes", featuring various switch options such as multiple-circuit or two-way switches, were mounted directly on the flat cable.
Two Woertz 5G16 mm^2 flat cables were also installed – alongside each other for safety reasons – on the concrete ceiling. One cable provides an uninterrupted power supply to essential devices – a crucial requirement for Deutsche Bundesbank as Germany's central bank.



LA DÉFENSE VOLUME/KM

MARSEILLE VOLUME/KM

WE BRING LIGHT ...

TO THE WORLD'S LONGEST TUNNEL

FURTHER RECENT REFERENCES

Large buildings:

BIT in Geneva

CERN in Geneva

Centro Lugano Sud

Alfa Romeo shoping center in Arese

SBB Workshops in Switzerland

And many more …

Tunnels:

Visp gallery

Taverne tunnel

Stalvedro tunnel

Albula tunnel

Rinderweid tunnel

Cassanawald tunnel

And many more …

Hydroelectrical Industry:

Old Emosson dam

Vorderrhein power station

Curnera dam

And many more …

Various:

Army depots

Milk processing plant in Schaan

Zurich train station

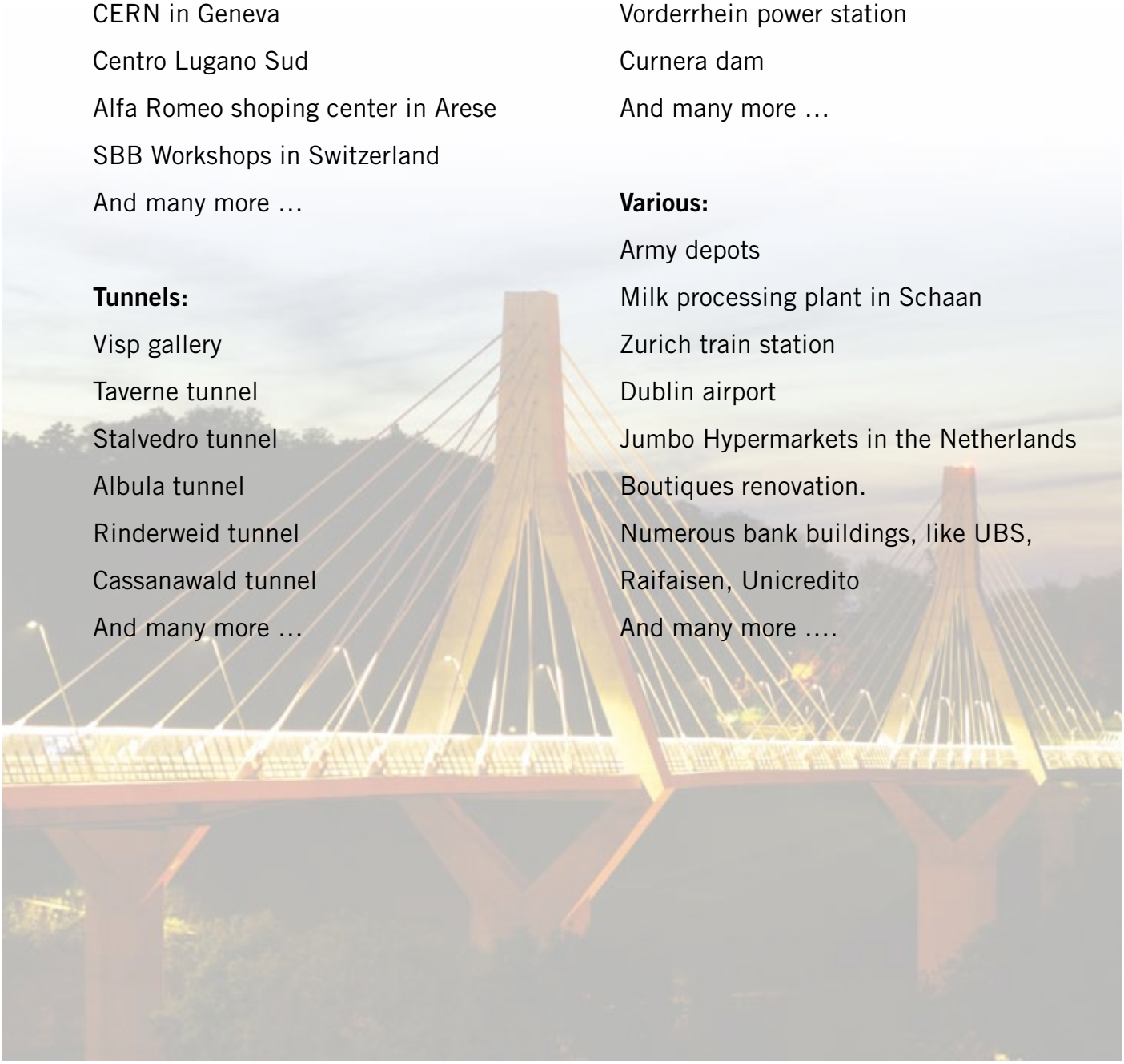
Dublin airport

Jumbo Hypermarkets in the Netherlands

Boutiques renovation.

Numerous bank buildings, like UBS, Raifaisen, Unicredito

And many more ….



If you don't want this!

Use Woertz flat cable systems!

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