

The HELUKABEL Group's customer magazine

POWER

Issue

#4

2016/01



At the heart of the crane

**Elektrotechnik Janssen hardwires
cranes for container terminals** PAGE 13

PAGE 10

**Gushing data at
Krombacher
Brewery**

PAGE 16

**Good neighbours:
Eisele delivers just-
in-time to HOMAG**

PAGE 26

**Sparks fly at the
Windsbach site**

WHERE DOES CABLING GO?



WORLDWIDE PRESENCE

The continued expansion of our worldwide distribution network is once again paramount this year. On the one hand, we are strengthening our existing branches and, in particular, increasing our on-site availability. With this goal in mind, HELUKABEL Canada acquired a larger building back in January. HELUKABEL South Africa will move premises in April; and in Poland too, the construction required to expand our Polish subsidiary is running on schedule.

On the other hand, we are aiming to increase our presence in Asia with a March opening of our 25th foreign subsidiary in Vietnam. Our branch in the USA, which is presented in this issue, also plays an important role in international commerce. The branch, which started up with only three employees just a few years ago, has now developed into a team of 25. This clearly indicates that HELUKABEL has secured a permanent place in the American market and earned itself a good reputation as a reliable partner.

The currently favourable Dollar/Euro exchange rate is prompting many companies in the USA to invest in machinery or systems originating in Europe. With cables and wires that meet a wide range of international standards such as UL and/or CSA, HELUKABEL is well equipped to meet market demand and, at the same time, boasts one of the most extensive warehousing facilities in Europe. We're eager to see what this year has in store for us. However, for now, I hope you enjoy reading the stories that we have put together for you.



With best regards

A handwritten signature in black ink, appearing to read 'H. Luksch'.

Helmut Luksch

POWER

ISSUE #4 2016/01



8 AUTOMOTIVE



10 FIBRE OPTIC CABLES



16 JUST-IN-TIME



21 NEW WEIGHTS AND MEASURES ACT



26 PRODUCTION EXPANSION

UPDATE

Project and product news.

6

“WITH US, EVERYTHING’S
GOT TO BE QUICK!”

How plant manufacturer Eisenmann and
HELUKABEL are strengthening their
relationship one project at a time.

8

BEER PRODUCTION THANKS
TO THE POWER OF DATA

Shard-proof fibre optic cables for
Krombacher Brewery.

10

AT HOME IN THE SEAPORT

Elektrotechnik Janssen is a professional in the
field of wiring container bridges.

13

JUST-IN-TIME WITH THE
ASSEMBLY LINE

HOMAG and Eisele make a great team –
and HELUKABEL cables are always there too!

16

“THE DIRECTIVE WILL APPLY”

Stricter rules apply to the process of cutting
cables to length. Andreas Merkt from Kabelmat
tells us why that’s not a problem.

21

OFF THE REEL

Automated cutting to length: How it’s done at
HELUKABEL in Hemmingen (Germany).

22

ON SITE WITH ANDREAS WENING 26

How’s the product expansion coming along?
Wening has everything under control.

Service/Legal details

24

In-house news

28

Site: Welcome to the USA!

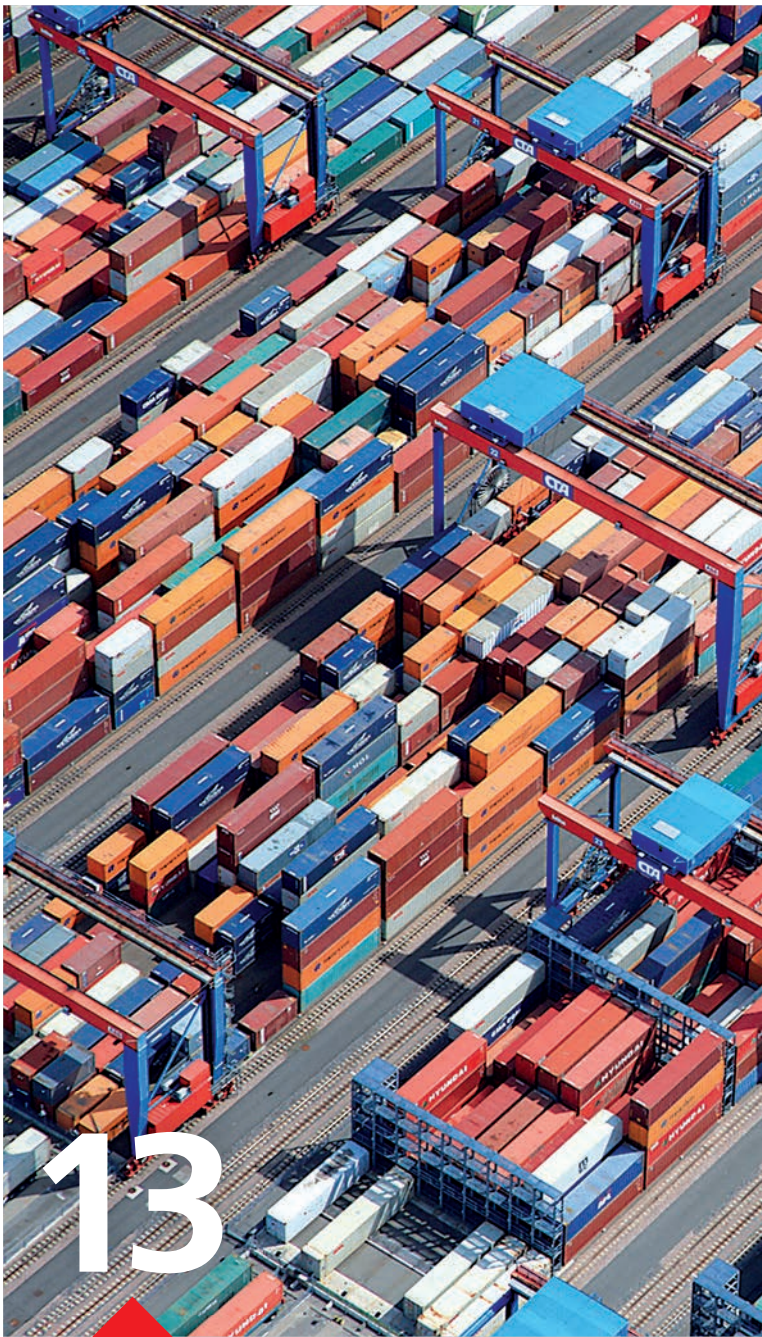
30

Where does cabling go?

31

Tailor-made cables?

32



Cover story

AT HOME IN
THE SEAPORT

Containers arrive from all over the world.
The heart of the crane which lifts them comes
from Nordenham.



POWERFUL SOUND FOR THE WHOLE BUILDING

A MELODIOUS NAME FOR MUSIC LOVERS: Revox, a high-end supplier, equips entire households with Voxnet, a centralised audio system that fills each room individually with sound. To achieve crystal clear sound, a good amplifier and appropriate loud speakers are just as important as a high-quality output signal. For this reason, Revox sets very high standards for the cables that it uses. The audio signals must be transmitted without any loss of sound to ensure optimum musical enjoyment. The installation conditions are also important as Voxnet is often used when retrofitting existing buildings. The cables must be laid correctly to ensure that everything runs smoothly. HELUKABEL's HELUKAT 600 S/FTP FRNC eight-wire, copper cable fulfils all the requirements placed on audio quality and installation. "Just as with professional studio equipment, we transmit sound symmetrically through five wires. The other three wires are used for communicating in the system," explains Markus Halbig, Sales Manager at Revox Germany. In this way, music caresses even the most demanding of ears. ■

ON SITE IN VIETNAM



MARCH 2016: HELUKABEL opened up a new sales branch in Ho Chi Minh City. Based in the southern Vietnamese seaport, a seven-member sales and logistics team now handles customer enquiries under the responsibility of Prapan Angsuthasawit (left). Right from the start, the focus has been on providing excellent customer service and ensuring the availability of sought-after, regional products. HELUKABEL now has a national subsidiary in eight of the most important growth regions of Asia. Over the past 10 years, the coastal country in Southeast Asia has been one of the world's fastest growing national economies. The industrial sector brings in over 40 percent of the economic output – and in the near future, the rates are increasing, particularly in machinery and plant engineering. ■

The right choice

MEETINGS, CONFERENCES AND TELEPHONE CALLS: A lot of information is communicated at the Vietnam National Assembly. To ensure that everything runs like clockwork, the managers who oversaw the new, recently completed government buildings project placed great emphasis on the use of suitable cabling. HELUKABEL was chosen for the job according to Technical Manager Duong Hong Phong not just on the quality of their products, but the excellent support of their sales staff was the deciding factor. OZ-500 control, PAAR-TRONIC-CY data, NHXH safety, E-BUS, JE-H(St)H installation and J-Y(St)Y indoor telecommunication cables were all used. Around 1,000 kilometres (621 miles) of cable were required just to network the 80 conference rooms together, which are spread over eight floors, covering a total surface area of over 60,000 square metres (645,830 square feet). ■

HELUKABEL cables and wires support day-to-day operations at the Vietnamese National Assembly.



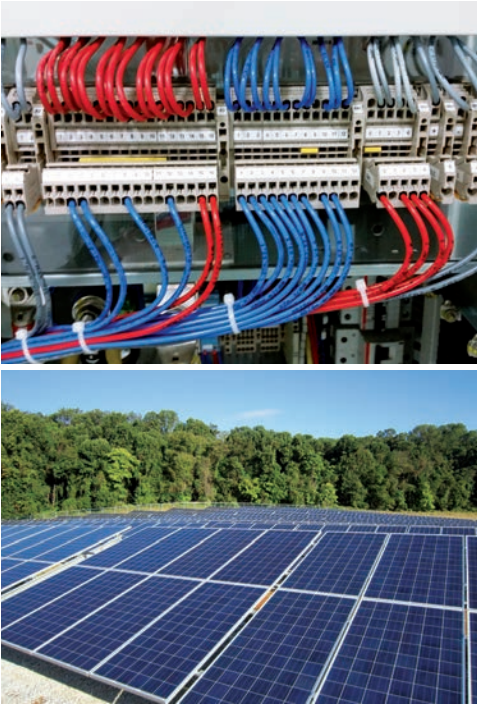


CLEVERLY MANAGED

HELUKABEL'S QUALITY AND ENVIRONMENTAL MANAGEMENT IS CONVINCING, confirms TÜV SÜD, which has extended the ISO 9001- and ISO 14001 certifications for the Hemmingen, Limbach-Oberfrohna and Neuenhagen sites. "These certificates show our customers that they get exactly what they have ordered thanks to our established processes," says Hartmut Frister from HELUKABEL's Technology and Quality department. TÜV employees inspected all the processes involved in securing the quality of products and services and protecting the environment – from business management to the transparent conclusion of contracts. To do so, they spent six days examining practices in organisational areas such as Purchasing and Receiving, and also talked to the responsible employees. "Many customers check that these standards are fulfilled, especially our industrial customers," reports Frister. In 2016, HELUKABEL will also implement ISO 50001 certification, which is prescribed by law, with the aim of continually improving energy efficiency.

Sunny business

INGETEAM, A SPANISH COMPANY, is a market leader in the development of motors, generators, frequency converters and power generation plants. The company's second largest production site in Milwaukee, WI, USA, focuses on manufacturing inverters for the solar and wind energy sector. These inverters transform the DC voltage from solar panels into AC voltage so that the energy produced can be supplied to the power grid. When looking for a tough and internationally certified cable, Ingeteam came across HELUKABEL's FIVENORM hook-up wire. Not only is this cable flexible and temperature-resistant, it also meets VDE, HAR, UL, CSA and EAC norms as well as all required standards. Ingeteam Inc. Supply Chain Manager Jeff Engel, said, "We tested the cable thoroughly and were satisfied with the quality. The product's availability also won us over." Currently, Ingeteam installs HELUKABEL's FIVENORM in its UL-certified solar panel inverters that are located all around the world.



Solar farms using inverters produced by Spanish-based Ingeteam, are fitted with HELUKABEL's FIVENORM hook-up wires.

PRODUCT TICKER



VIDEO, AUDIO AND ELECTRICAL COMPONENTS COMBINED IN ONE CABLE

The new HELUEVENT HYBRID cable combines video, audio and electrical components in one cable and was specially developed to hardwire mixing consoles for German television channel, ZDF. Thanks to the special combination of materials, the robust cable is highly flexible and can be installed in buildings and used outdoors. The hybrid cable is halogen-free, flame-retardant and resistant to oxygen and UV. **For more information, contact Udo.Braun@helukabel.de**

HIGHLY FLEXIBLE WITH LARGE DATA PACKAGES

The HELUKAT 600S (Category 7) cable can transmit data at extremely fast rates while also being very flexible – an exception among cables. It's suitable for long-term, highly flexible applications such as in drag cables or cameras. Thus, excellent transmission characteristics are guaranteed even in the most difficult conditions. The HELUKAT 600S cable is also oil-resistant, flame-retardant, halogen-free and UL/CSA-certified. The cable can be ordered using item no. 805614. **For more information, contact Juergen.Berger@helukabel.de**

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A high-angle, front-facing view of a white car body on a production line. The car is positioned centrally, moving along a track. The surrounding environment is a large industrial facility with complex machinery, overhead lights, and structural beams. The lighting is bright and cool-toned, emphasizing the metallic surfaces and the clean, organized nature of the manufacturing process.

System solutions from Eisenmann cover the entire coating process from pre-treatment and spray booths to paint dryers. HELUKABEL supplies the required cables, that deliver power and link the various sensors with the entire system.

“WITH US, EVERYTHING’S GOT TO BE QUICK!”

As a purchaser at Eisenmann USA, the plant manufacturer, Matthias Heydlauff has to be very demanding when selecting suppliers. In a joint interview with Markus Dannheim, President at HELUKABEL USA, he describes what makes a good partnership.

Mr. Heydlauff, the automotive industry has a reputation for being particularly demanding. A major part of your business consists of supplying complex system solutions for the industry. Do you ever feel under pressure?

MATTHIAS HEYDLAUFF: : Oh yes, the main challenge is speed. Our customers work under unbelievably tight timeframes. As a manufacturer of large, technically demanding plants, we have to keep pace. Therefore, we invest many resources into new technologies and efficient project management. Otherwise we wouldn't be able to get major orders, such as complete paint shops for leading car manufacturers, off the ground. These are large-scale plants through which hundreds of thousands of car bodies and vehicle parts pass every year. Cables play an important role here, simply because of the high level of automation. For example, pre-treatment is where all parts are cleaned in a fully automated process before receiving their first coat of paint in a procedure known as cathodic electropainting. The quality of the finished product must be flawless at this point and is checked by a variety of sensors. Similar systems can be found in the spray booth or paint dryer. Furthermore, each system is connected to the plant's overall network. To that effect, we place the same demands on our suppliers as we apply to ourselves, and this includes, above all, high availability with short delivery times. We don't stock our suppliers' goods, because we order precise quantities at different times, depending on the stage in the project.

In the paint shops, what specific technical features must the cables possess?

DANNHEIM: A major criterion is heat resistance. Temperatures are high in Eisenmann's paint shops, so the cables must be able to withstand this operating environment. Traditional silicone-sheathed cables would negatively react to

the chemicals in the paint and become permeable. We therefore developed special plastic compounds that resist the chemicals found in automotive paint. Additionally, "tray cable approvals" are a unique feature in the United States. Cables that have these approvals, such as UL 1277 or UL 2277, may be installed openly in cable trays and do not have to be protected by installing in conduit. This makes things much easier and faster for installers, however the demands on the cable increase.

HEYDLAUFF: In terms of quality, we know that we can trust HELUKABEL. It's no coincidence that the company's name is featured on the supplier list of all major car manu-



facturers. In our projects, the challenges lie in other areas.

Where do the challenges lie then?

DANNHEIM: Along with ourselves and Eisenmann, there is a third party involved – the car manufacturer. Car manufacturers have their own processes which, of course, are not always 100 percent identical to ours. One recent example occurred during a recent, successfully completed major project.

HEYDLAUFF: Incidentally, this was one of the biggest order in Eisenmann's history, worth a triple-digit million sum!

DANNHEIM: In this project, the challenge was to deliver the goods



within the respective delivery window and to rapidly distribute them to the construction site. Due to limited space and a large number of partner and subcontractor companies working at the site, the usual method for labelling deliveries was inadequate. The central receiving area required detailed target locations for each specific pallet and drum. Unfortunately, you wouldn't find out that something had gone wrong at this stage until after the goods had been dispatched.

So you needed to keep to a tight schedule?

HEYDLAUFF: Exactly. Deadlines were specified by the individual subcontractors and any delays at a critical point would have immediately affected the downstream installation processes. To avoid problems, Markus had to react quickly. He simply jumped onto a plane and together in the construction trailer on-site we made sure that the cables were allocated to the right installers and project phases.

DANNHEIM: It was extremely important for me to take care of the details personally. In this situation, emailing or telephoning would not have been the right way to communicate. This was the quickest way that we could point out to the customer where the error in the system was.

HEYDLAUFF: Thanks to the high level of personal commitment shown by all those involved, we successfully mastered the first construction phases. ■



They've got a lot going for them: Timo Kleinsorge from Krombacher Brewery's Business Engineering Department.

BEER PRODUCTION THANKS TO THE POWER OF DATA

Data gushes along in front of the beer because without IT, Krombacher Brewery's processes would not flow smoothly. The right cabling is essential and must also withstand broken glass.



“Digitalisation doesn’t stop at the door of our industry. The hardware must be able to cope with the increased data volume.”

TIMO KLEINSORGE, KROMBACHER BREWERY



To ensure smooth operation, the cables are even shard-resistant.

The world is thirsty. Anyone who visits the Krombacher Brewery will soon come to this conclusion. Crates are stacked up as high as houses. This is no surprise, seeing as business at Germany’s largest private brewery is doing so well. Millions of bottles leave the brewery every day. In 2014, the company filled up an unimaginable 6.58 million hectolitres (1.73 million gallons). With such an amount, Munich could celebrate its famous “Octoberfest” beer festival for four years non-stop! Krombacher no longer has much in common with a small craft brewery business. The latest information technology – and with it, miles and miles of cables – have now found their way into the company. Timo Kleinsorge from Krombacher Brewery’s

Business Engineering Department says, “Digitalisation doesn’t stop at the door of our industry. On the contrary, virtually all the processes are computer-assisted.” This applies to every area – Production, Logistics and Administration. “Whether we’re writing business emails or sending orders to bottling plants, huge amounts of data is constantly buzzing through the cables in our company. The hardware must be appropriately configured so that we can guarantee this at all times,” continues Kleinsorge. In the near future, telephone services will also become fully digitised via Voice over IP. “Due to the high volume of data, we had to adapt our existing cables. In order to guarantee reasonable speeds in the future, we decided to look for a new solution.”



Krombacher Brewery operates three separate networks with different purposes.

Crush- and shard-resistant

The search focused on ensuring the safe transmission of data across large distances as the main Krombacher plant covers an impressive 200,000 square metres (2.2 million square feet). Three networks run in parallel there – the EDV network for common office applications, the production control network, and the safety network for building technology requirements. Data from the different areas such as the brewery or bottling plant is stored on a total of 20 main data nodes. “Our network is so vast that cables for different applications have to share the same cable trays”, says Kleinsorge. “If one connection is cut somewhere this could have wide-reaching implications. With our huge production volumes, we can’t afford any time-consuming problems.”

However, the current cable installation network really does not make things very easy. Many cable trays run underfoot or near the bottles along the conveyor

belt. So the possibility of someone standing on the cable trays cannot be entirely ruled out, neither can the likelihood of the cables being damaged by broken glass. “That’s why we need extremely robust cables,” Kleinsorge points out. Ordinary fibre optic cables are not suitable for this environment.

Custom cables protected with steel

Krombacher went in search of a cable manufacturer who could meet these high demands. “We defined extremely detailed specifications, all of which needed to be satisfied. We also needed a reliable supplier,” says Kleinsorge. “Then we came across HELUKABEL.” Although the Hemmingen-based company did not yet stock any cables which matched our expectations 100 percent, they did stock several products featuring rodent protection. If a cable can resist mice teeth then it should surely also be able to resist broken glass.” Beginning in 2013, HELUKABEL started working on the development of a special fibre optic cable for the Krombacher brewery that featured a protective steel armor. The result was the HELUCOM A-DQ(ZN)(SR)2Y single-mode cable for the EDV network and the HELUCOM A-DQ(ZN)(SR)2Y multi-mode cable for the other networks which have shorter distances, such as those used in production. Following a pilot application with a limited volume, Kleinsorge knew that he had found the right solution. Since November 2013, Krombacher has laid a total of 16 kilometres (10 miles) of both types of fibre optic cables. “We intend to gradually convert our entire network,” says Kleinsorge.

“We are delighted with the entire package. And the delivery times and service are also excellent.” Krombacher is now prepared in case the world becomes more thirsty. ■



Every day, millions of bottles leave Krombacher Brewery to be shipped all over the world – so the machines must never stop.

SOMETHING IS BREWING IN KREUZTAL.

Krombacher stands out in the German beer market for one thing in particular – where one traditional brand after another is being taken over by large corporations, the company from Kreuztal in North Rhine Westphalia remains 100 percent privately owned. The company’s success proves that this has been the right way since Krombacher Pils is one of Germany’s best-selling brands of beer, and is also a market leader in the alternative alcohol-free space. Since 2006, in addition to beer, Krombacher has also been selling Schweppes, Orangina and Dr. Pepper soft drinks.

Things are getting really exciting at the other end of the loading crane, where the world of sea terminals begins and the fully automated container cranes redistribute freight from overseas ready for its next journey.

AT HOME IN THE SEAPORT

Elektrotechnik Janssen, ABB Crane Systems and Hans Künz Krane supply fully automated container cranes for transport hubs around the world. HELUKABEL is there as well.

It's fascinating to watch what goes on in the cordoned off safety areas of the fully automated container terminals. As if by magic, driverless towing and loading vehicles, and cranes move seamlessly according to an invisible choreography. They are guided by a high-performance computer system in conjunction with a navigation system which operates with millimetre accuracy. For example, at the Hamburg Container Terminal Altenwerder (HHLA-CTA), 19,000 passive, permanently installed transponders communicate with vehicles and fully automated container cranes so efficiently that nothing ever goes wrong. In between, power and control commands are transmitted by kilometres of cables and wires.

Global execution from Nordenham

In Hamburg, Rotterdam and Vancouver, the cabling of the fully automated container cranes is undertaken by a medium-sized company from Nordenham. Elektrotechnik Janssen GmbH currently employs a mere 51 employees. Nevertheless, Sales Manager Peter Dindas and Operations Manager Michael Schlake handle the large-scale orders with skillful project management. Experienced employees manage expert colleagues from temporary employment agencies.

Everything began at the Container Terminal Altenwerder in the Port of Hamburg with the installation of 14 fully automated container cranes. A Swedish-based



Fully automated container cranes at the heart of the Altenwerder terminal.



Michael Schlake (left) and Peter Dindas ensure customer satisfaction with skilful project management.

“With such an intricate structure, cables suddenly become much more than just C-level materials.”

PETER DINDAS, SALES MANAGER
AT ELEKTROTECHNIK JANSSEN



Lars Behrje (centre) discusses the different types of cable at Elektrotechnik Janssen.

general contractor, ABB Crane Systems, programmed the crane controls. The steel structure was supplied by Hans K  nz Krane, an Austrian crane specialist, while the cabling was overseen by Elektrotechnik Janssen from Nordenham using cables supplied by HELUKABEL. This terminal became a long-term winner for the medium-sized company from northern Germany. To date, a five-man team from Janssen maintains and repairs the electro-technical systems, guaranteeing smooth operation around the clock. This project gained the attention of other port operators Dindas reports, “In Hamburg, a partnership with ABB and K  nz that has lasted over a quarter of a century, proved itself for the first time in a major project. For us, the project provided a unique way to demonstrate our skills and gain new business.”

Proven partnership

A record order then came from port operator APMT in Rotterdam at the end of 2012. A total of two gantry cranes and 48 fully automated stacking cranes were ordered for APM Terminal’s Maasvlakte II facility from ABB. ABB is again relying on the proven partnership between K  nz Krane and Elektrotechnik Janssen, who are involving the tried and tested cable supplier again. “HELUKABEL has been convincing us for decades now with its excellent product portfolio, punctuality and reliable logistics,” said Dindas. Janssen was already involved during the planning phase of Maasvlakte II

back in 2012. “Our crane installation experts ensure operational safety and optimise assembly procedures. This is how efficient solutions come about,” stated Schlake. Elektrotechnik Janssen is also responsible for constructing the heart of the crane known as the “E-container” complete with control cabinet wiring, power supply and fully automated control devices.

In Rotterdam, the tough conditions on the coast require environmentally resistant and seawater-proof cable solutions. Thomas van der Spek, Crane Construction Project Manager for Elektrotechnik Janssen, and Lars Behrje from HELUKABEL identified suitable types and cable sizes. For example, the TOPFLEX EMV-UV-3 motor power supply cable is used to supply power to the frequency converter. The special feature of the screened cable is the ground core which is divided into three small cores for a symmetrical, space-saving cross section. The halogen-free SUPER-PAAR-TRONIC-C-PUR cable for drag chains or the PE-insulated, low capacitance, EMC-preferred type PAAR-TRONIC-Li-2YCYv from HELUKABEL are also used.

Elektrotechnik Janssen generally orders smaller cross sections on the reel. More expensive custom cables are ordered as dimensionally accurate as possible to avoid wasting any material. Aware of the technical challenges, Schlake says, “The cables connecting the medium-voltage section (which is up to 350 metres long [1,150 feet]) to the transformer run to the low-voltage distribution units and then

to the overhead gantry crane motors. That’s why we need especially high-quality cables and wires.”

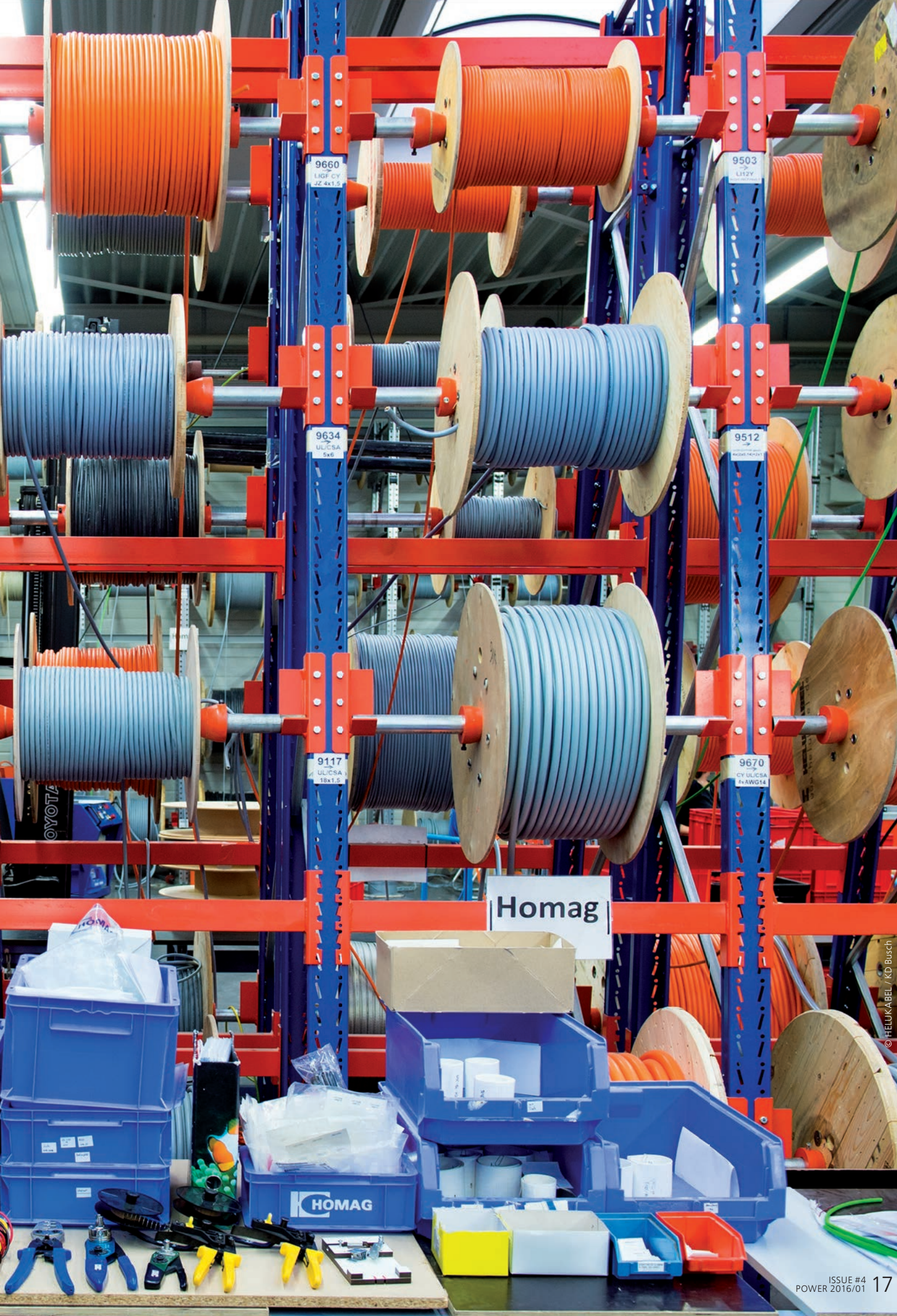
E-container for Canada

In spring 2016, Janssen will connect the last cables in Rotterdam. After that, Hamburg is waiting to place another order. The Hanseatic Container Terminal Burchhardkai (HHLA-CTB) wishes to modernise its container stacking cranes. An initial dozen of these cranes have been ordered – a volume which, according to Schlake, will require approximately 80 kilometres (50 miles) of cable and wires. “With such an intricate structure, cables suddenly become much more than just C-level materials and are also extremely important components from a budgetary point of view,” underlines Dindas.

Word soon spreads about anything that proves its worth in Europe. Due to this fact, Elektrotechnik Janssen is currently building the E-container for Hans K  nz Krane, who are manufacturing a crane being exported to the Canadian city of Vancouver. “We build E-containers and transformer housings entirely in Nordenham and then ship them to K  nz. All the crane manufacturers have to do is position the components in their allocated place in Vancouver and connect them,” says Schlake.

JUST-IN-TIME WITH THE ASSEMBLY LINE

Without its close partnership with cable manufacturer, Eisele Elektronik GmbH, the assembly and cabling of machines and equipment at HOMAG group's Schopfloch factory would not run so smoothly. HELUKABEL produces the cables and wires.



Homag

HOMAG

Rainer Maier has been HELUKABEL's main man for the HOMAG Group for two decades. He recalls with a smile how he once answered the question "Do you also do Kanban?" with a very resounding "YES," only to then look up at home what Kanban actually meant! Today, he's an expert. Kanban is the principle of directly delivering parts and groups of components in time with production – known as "just-in-time" production. This method remains one of the winning formulas for HOMAG Group, the global-leading provider of woodworking machinery. The just-in-time method also applies to the sophisticated cabling of HOMAG machines at the Schopfloch facility. Throughout the entire factory, only a handful of cable reels can be found stored in corners. All other cables come directly from the supplier, and are delivered to the assembly line at exactly the right moment along the production process. This is achieved by Eisele Elektronik GmbH, which is based just under four kilometres (2.5 miles) away. Eisele's team provides cable sets and electrical assemblies for each individual machining centre and conveyor.

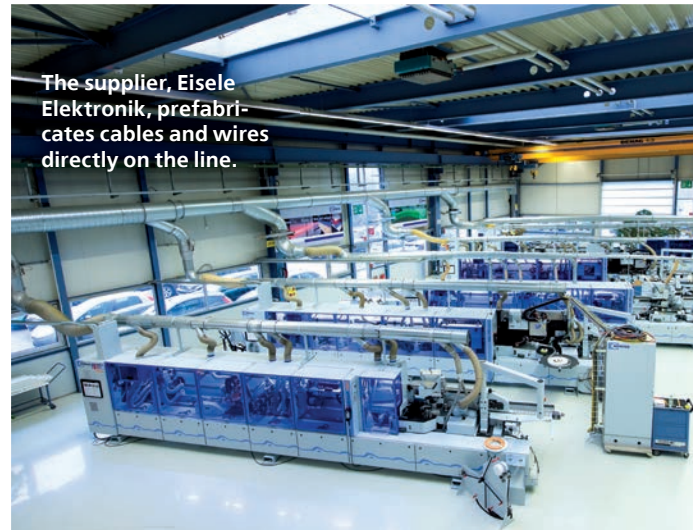
HOMAG Group, HELUKABEL and Eisele first came into contact with each other in the early 1990s, with their partnership growing stronger after 1996. The increasingly shorter cycles on HOMAG's woodworking machinery accompanied by significantly higher dynamics demanded a lot from the existing cables. Maier, Customer Representative at HELUKABEL, soon became an advisor to his key customer. He recommended that, in light of the increasingly rapid machine movements, PUR cables should replace the PVC types in the drag chains. According to Maier, "In the test runs, the flat PVC cables previously used in the prototypes ended up failing too frequently." The change to PUR cables soon paid off. To date, not one single cable failure has been reported as the reason a machine malfunctioned at HOMAG Group's main plant in Schopfloch. When this number is extrapolated to include all machines, the cables have successfully completed approximately 60 million bending cycles.

Customer proximity

Maier, an experienced master electrician, is onsite at Schopfloch in weekly cycles and can be reached by phone 24/7. He's not just available to talk about new requirements but also provides coaching. After all, organised cabling is not just an important feature of premium class machines, but also a critical factor in ensuring longevity. Bernd Bok, Head of Strategic Purchasing at HOMAG Group stresses, "With HELUKABEL, the entire HOMAG Group has access to an experienced supply partner." HELUKABEL's assistance was also sought back in 1999 when the Schopfloch factory placed its value-added chain under close scrutiny and Maier professed to being familiar

"With HELUKABEL, the entire HOMAG Group has access to an experienced supply partner."

BERND BOK,
HEAD OF STRATEGIC PURCHASING AT
HOMAG GROUP



The supplier, Eisele Elektronik, prefabricates cables and wires directly on the line.

with the Kanban system. Inspired by the Japanese production method, the machinery and equipment manufacturer wished to streamline its procedures and optimise its processes. After all, evermore complex machines with increasingly high levels of automation will continue to be produced efficiently. During the course of these deliberations, HOMAG Group wished to focus on its core competences, which include bringing together all components in the assembly process, and commissioning the entire system at the customer's facility. In this context, it became necessary to outsource the manufacturing of cables to a service provider which could ensure synchronised delivery to the assembly line. The Schopfloch plant chose Eisele Elektronik GmbH for this purpose.

A manufacturer full of ideas

As the partnership developed, Dr. Sebastian Eisele invested a lot to keep pace with the demands from Schopfloch. Cabling work on the control cabinet was dramatically reduced by using manufactured cable harnesses following the model used in the automotive industry. "On certain cabinets, the work was reduced by over 70 percent," beams the Eisele engineer. In a fully automated process, a machine located in the centre of the cable harness production area cuts the cables to length, strips both ends, welds the braids, checks all the weld spots with ultrasound, and



An experienced team: HELUKABEL's Rainer Maier with HOMAG's Bernd Bok (left) and Jürgen Probst (right).



Organised cabling is a feature of a premium class machine.

finally, marks each specific cable. The flexibility of HELUKABEL cables was also called upon when implementing the prefabrication system for each individual machine because HOMAG Group's fully automated marking system kept writing over the type-specific marking on the cables. For this reason, the woodworking machine builder now receives all types of cable with a manufacturer's imprint that does not get in the way of the marking.

The fully automated machine was extended, enabling wire sets of up to 25 metres (80 feet) long (instead of just 10 metres [33 feet] long) to be processed. Thus, for each machine from the Schopfloch factory, the vast majority of complete cable sets is prefabricated, while the remainder is made by hand. "This process is not just an important step towards easier assembly,"

says Eisele. "For HOMAG Group's Schopfloch factory, machine wiring used to be a major cost. However, today, thanks to prefabricated cables, our customer saves a great deal of money."

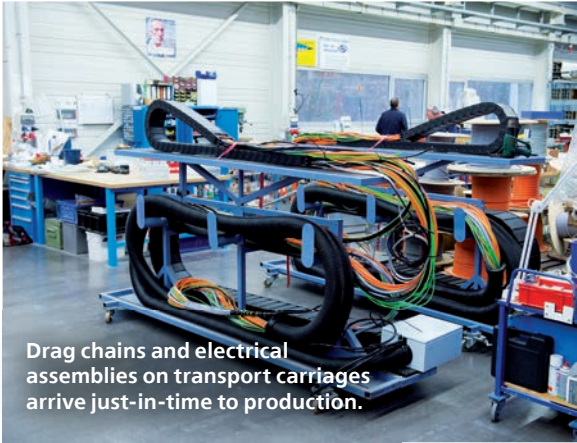
Eisele's inventors also score highly with innovative ideas. For example, working closely with the customer, Eisele and his team built transport carriages for drag chains, control cabinets and electrical assemblies. Chains or pre-cabled assemblies are positioned on the carriage at exactly the same height as the respective target machine. This means that assemblers at HOMAG Group's Schopfloch factory can simply push the assembly into the machine without any additional effort.

Optimum availability

"We are fully involved in the customer's system. We always work two cycles ahead to ensure that the processes run smoothly, and so that we can react quickly, if need be, to any changes to the plans," says Eisele. The interface programme for transferring data from the HOMAG assembly planning was programmed

HOMAG GROUP AG

is the world's leading manufacturer of machinery and systems for the woodworking industry and small trades. The company, which is part of the Dürr group, has around 6,000 employees and, in 2015, expects revenues to be in the range of €1 billion (\$1.1 billion). The HOMAG Group is a successful global player with 23 company-owned sales and service companies and 15 production facilities based around the world.



Drag chains and electrical assemblies on transport carriages arrive just-in-time to production.

EISELE ELEKTRONIK GMBH

has developed from a cable manufacturer into a system supplier for mechanical engineering. In addition to HOMAG Group, its customers include well-known companies such as Arburg and L'Orange. Its sister company, Hans Eisele GmbH, an electrical installation company for office and factory buildings, complements the range of products available. Over 100 people are employed at its headquarters in Glatten.



Together with Rainer Maier, Sebastian Eisele (left) checks the assembly of a drag chain.

at Eisele. In the process, Eisele GmbH is responsible for ensuring that the cables are always available. "In view of the tight deadlines, physical proximity also plays a key role," Eisele continued. Incidentally the company's punctuality also won over former sceptics at HOMAG Group. All cables ordered from Eisele by 2 p.m. are delivered the same day to the required site.

Focusing on "Industry 4.0"

Like HOMAG Group and HELUKABEL, Eisele now faces new challenges. According to Bok, the topic of "Industry 4.0" represents a huge opportunity. "Robotics and the growth of networking all components in the factory are the future, and we are pioneers in our industry," he states. This has potential for HELUKABEL products such as robotic cables, hybrid solutions and Ethernet cables. And as machine dynamics are far from being exhausted, robust cables are increasingly required to cope with even faster speeds. The fact that HOMAG Group is becoming more and more internationalised means that HELUKABEL will also be in demand in other parts of the world. For example, in the future, HELUKABEL's services will be required during the manufacturing of control cabinets in Poland.

Bernd Bok is extremely confident. After all, in the past, HELUKABEL and Eisele have shown that they can be relied upon. This has also been explicitly



At Eisele Elektronik, a fully automated process cuts the cables to length, strips them on both sides and welds the braids with ultrasound.

acknowledged by HOMAG Group. Every year, the world's leading supplier of woodworking machinery chooses its top suppliers across all product groups. During 20 years of the "Supplier of the Year" nominations, HELUKABEL is the only supplier to have won the award twice. Eisele obtained the much sought-after title in 2011. "It's no coincidence," says Bok, "that the topic of 'cables' was the determining factor in awarding the prize. "For me, cables are the very arteries of our machines and systems. With HELUKABEL and Eisele Elektronik, we singled out two suppliers with whom we have had a close partnership for years and which score highly in terms of their excellent quality and absolute adherence to delivery deadlines."



"THE DIRECTIVE WILL APPLY"

In recent years, Kabelmat's Technical Manager, Armin Merkt, took a thorough and critical look at the MID Directive 2004/22/EC and its transition into national law in the new Weights and Measures Act. He explains what it involves and what the resulting changes will be.



Mr. Merkt, the term "Directive 2004/22/EC" does not exactly sound exciting. What does it mean?

It means that, in the future, all European companies that deal with cables must archive their measurement data. This means that after November 2016, only measuring instruments with appropriate European approval may be marketed for this purpose. All member states of the European Economic Area must implement Directive 2004/22/EC at the national level by April, 19th 2016.

What does this mean in practice?

In the future, all cuts must be precisely and permanently documented in a storage module, i.e. a mass storage device. This will ensure tracking of all measurement readings. Archiving the data in this way will pay off, particularly in the event of complaints. The new law also requires cuts to be labelled with the measurement readings such as date, time, cut length, metre number and measurement identification number. As mechanical engineers, we have had to bring our current linear encoders equipped with electronic displays up-to-date with a data storage solution that meets all the requirements.

A great achievement! Armin Merkt and his colleagues have developed the optimum solution for storing data on linear encoders.

How did you manage to implement all the necessary requirements?

As the introduction of the directive was already decided at the end of 2006, we have had plenty of time to look into all the details – and we needed it. Integrating a data storage device is not exactly easy. The files containing all the necessary information (from safety aspects to software functions) piled up until all the requirements of the EU directive were put into practice. For almost four years, our Electronics Department worked on

producing an optimum system solution, which would be affordable for our customers. We succeeded in getting the current linear encoders approved by the Federal Institute of Physics and Technology (PTB). With the EC type-examina certificate, our devices are authorised throughout Europe.

What does that mean for your customers?

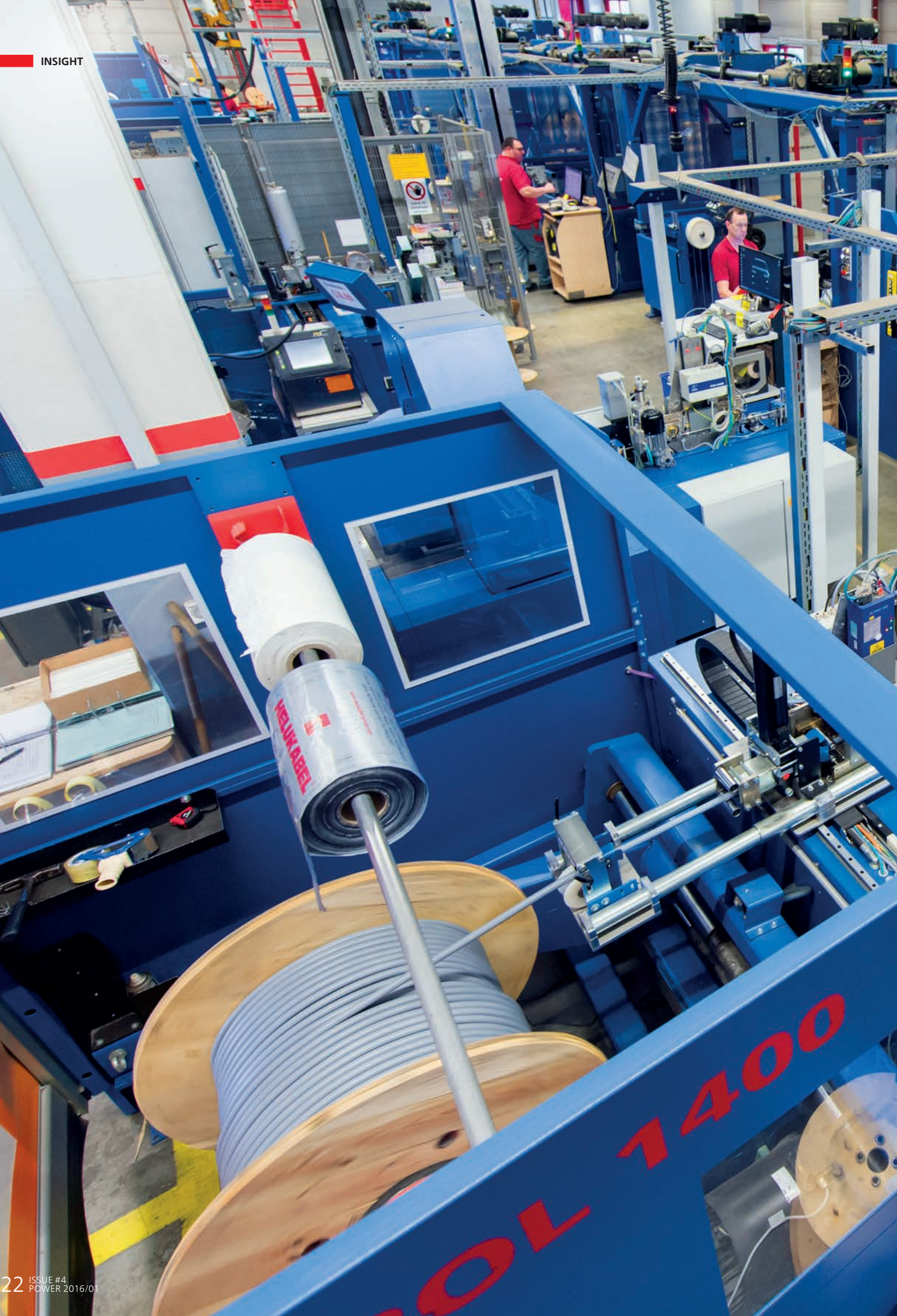
New customers have the assurance that our system solution can be used with all Kabelmat measuring instruments featuring an electronic display. Thanks to our interface module, established customers can easily retrofit existing Kabelmat devices – from coil and spool winding devices to automatic cable coiling and binding machines. In addition, we also offer our customers a complete solution including software and label printers.

So does that mean that Kabelmat is well-prepared for the legislative change?

Yes, absolutely! We are one of the few mechanical engineering companies to have already received European approval. In the meantime, certain linear encoders are already being used by our customers. ■

CONTACT PERSON

If you have a question for Armin Merkt, Technical Manager at Kabelmat, why not send him an email?
Armin.Merkt@kabelmat.com





OFF THE REEL

WHEN ORDERING CABLES, if a stock length is not available, the cables can be cut to length. The required length is unwound from the source reel, wound onto the target reel and cut off – in a fully automated process. Even the transport from the high-bay warehouse to the cutting machines is taken care of by conveyor belts. Forklift trucks which could damage the cables with their sharp prongs have been banned from use in the cable processing chain. The cable is now unwound and at the same time wound on to reels or coils. The unwinding and winding machines are driven by a motor and synchronised by an electronic traction force monitor. This helps to prevent the cable from being overstretched. The automatic transfer of the cable onto reels and coils ensures that it is wound neatly and evenly. During this process, cutting data is documented and archived using calibrated and tamper-proof measuring instruments. This allows each ordered item to be tracked right up to of shipping by means of its individual packaging data. Find out more about how large cable reels are automatically cut to length in the next edition of POWER. ■



POWER INSIGHTS AT A GLANCE: POWER 2014/01: Incoming goods/
POWER 2015/01: High-bay warehouse/ POWER 2015/02: Small parts warehouse/
POWER 2016/01: Cut-to-length area

TRADE FAIR DATES



05 – 08 April 2016

Prolight+Sound

Hall 4.1, Stand F31, Frankfurt a. Main, Germany

25 – 29 April 2016

Hanover Messe (Trade Fair)

Stand: Hall 13, Stand C98, Hanover, Germany

23 – 26 May 2016

AWEA WINDPOWER 2016 Conference & Exhibition

Stand: 4623, New Orleans, LA, USA

21 – 24 June 2016

Automatica 2016

Hall A4, Stand 105, Munich, Germany

12 – 17 September 2016

International Manufacturing Technology Show 2016

Stand: 4425, Chicago, IL, USA

20 – 23 September 2016

InnoTrans 2016

Berlin, Germany

27 – 30 September 2016

Wind Energy Hamburg 2016

Hall B.6, Stand 505, Hamburg, Germany

11 – 13 October 2016

Belektro 2016

Berlin, Germany

22 – 24 November 2016

SPS IPC DRIVES 2016

Nuremberg, Germany



RELAX WITH "PLAY THE HOOK"

The "Hook" game app is perfect for anyone wishing to relax a little, now and then. Players rack their brains trying to solve a tricky logic puzzle which looks like the diagram of a circuit. The smart design and relaxing music ensure that nobody gets stressed out.



Download the game for
iOS, Android, Windows
Phone or PC at
www.playthehook.com

LEGAL DETAILS

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FAQ

Some questions are asked again and again. In each issue, one of our experts answers one of these Frequently Asked Questions (or FAQs as they're referred to on the Internet).

WHAT DO THE ABBREVIATIONS UL AND TC-ER MEAN ON CABLES, AND WHY IS IT IMPORTANT?

UL STANDS FOR "Underwriter's Laboratory" and is an independent US testing organisation, similar to the German VDE. Based on the the National Electrical Code (NEC, also referred to as NFPA 79) – the safety standard prevalent in the USA for electrical installations – the Underwriter's Laboratory defines standards for electrical components and their fields of application. UL approvals are also recognised as safety standards in many other countries due to the strict fire protection requirements found in the NEC.

TC is short for "Tray Cable" and is the name given to cables which may be installed in a cable rack cable tray. However, since the North American fire protection requirements are so strict, the cable racks/trays must, in principle, be enclosed or the cables must be laid inside conduits. To avoid this costly and time-consuming

installation process, in the interest of the customer, cables suitable for exposed installation, according to UL 1277, NFPA 79 and NEC, are increasingly being used. This is also known as "Exposed Run" (ER). TC-ER cables such as the HELUKABEL JZ-604 or the TRAY-CONTROL 500 and 600 series, do not need to be protected by enclosed trays or conduits, and therefore simplify cable installation in buildings or from the control cabinet to the machine.

UL TC-ER-certified cables all provide an interesting opportunity for planners to minimise installation costs without compromising on quality and safety. ■

ABOUT THE PERSON

Jennifer Crawford, Inside Sales Manager at HELUKABEL USA, is the contact person for UL/CSA-certified cables and wires.



3 FACTS AND FIGURES ABOUT HELUKABEL

1
150,000
tonnes

of refined copper were used by the German industry in 2015.

3.2 %

of this amount of copper was processed by HELUKABEL Germany alone. A total of 36,597 tonnes.

5,223,851
km

of wire with a diameter of one millimetre can be produced from this copper. This wire could be wrapped once around the equator and there would still be enough left over to tie a nice big bow.

ON SITE WITH ANDREAS WENING

Andreas Wening is Technical Manager at the Windsbach plant. Currently, he is heavily involved with the construction work for expanding the production facility. We followed him around for a day.

7.10 A.M.

Andreas Wening starts the day in the kitchenette. After a quick chat about the evening before, he talks business with his colleague, Alexander Kraus, from process engineering about the results of a sample production. He then goes to the PC to reply to his emails.



7.50 A.M.

In preparation for the regularly scheduled, weekly meeting, he has a quick chat with the Plant Expansion Project Manager, Marco Schneck: What will be done this week? Are there any complications?



9.20 A.M.

He goes to the construction site with the partners from the planning office. The ground and foundation work are advancing quickly thanks to the mild winter.



9.35 A.M.

Is this drain correct? What does the plan show? The details are then discussed in the construction trailer.





10.15 A.M.

Things begin with a slight delay: Managers from the planning office and general contractors come to Windsbach for the regularly scheduled, weekly construction meeting. A lively debate takes place. Like every Monday, lunch is enjoyed here in the construction trailer.



2.55 P.M.

A quick visit to the production hall: A technical discussion about the planned maintenance work on the extrusion machine with colleague Helmut Kormann (left) and Helmut Böckl (middle).

1.30 P.M.

Andreas Wening is not just needed on site, as Training Manager he also looks after the trainees. Together with future industrial mechanics Artur Schwabauer, Markus Sichert and Fabian Böckl (far left), he carefully examines the finished parts.



3.45 P.M.

Wening dives into the car and drives to a meeting with Niehoff, a company in Schwabach. Not only is the Windsbach production floor expanding, but new manufacturing equipment will be added. This meeting follows a test run which took place on a stranding machine a few weeks earlier. Stephan Gorgels explains in more detail the results of the tests to Wening.





A MOUSTACHE AT THE STARTING LINE

IN 2015, HELUKABEL took part in the “Movember” charity campaign for the second time. Movember is a combination of the words “moustache” and “November.” The aim of this worldwide event is to raise awareness of men’s health. Participants grow a moustache for 30 days – in November – to make a visual statement for this very worthy cause. They also donate money or encourage their colleagues to take part. Men and women – even those without a moustache – can support the



November event. For example, HELUKABEL purchased Movember T-shirts, hoodies and buttons and donated the proceeds to the good cause. The HELUKABEL Movember team raised € 1,029 (\$1,125) in one month. The money will be used to support prostate cancer research. ■

BALANCING ON A DRUM

HELUKABEL sponsors cable drums for the Berlin Trials Cup.

AT THE END OF MARCH, roughly 18,000 cycling fans gathered at the “Berliner Fahrradschau,” the word’s leading cycle lifestyle fair, held in “The STATION” – a former rail freight station. There, cycling enthusiasts discovered the latest trends in the world of bikes and watched various demonstrations and competitions in wide-eyed wonder. One example of this was the Berlin Trials Cup. This

involves amateur sportsmen/ women and professionals tackling various obstacle courses. The challenge for riders is to demonstrate their courage and stamina, while manoeuvring their bikes through tricky sections without losing balance; sometimes even jumping from one obstacle to the next on the back wheel. Frank Drygalla organises the Trials Cup and plans the course.

He places objects such as boulders, tree trunks and even huge cable drums along the course. “Every year, I try to make each individual section as different as possible. Moving between the various obstacles challenges the riders as they have to constantly negotiate the different types of material.” For instance, one section consists solely of HELUKABEL cable drums. The drums are very versatile due to their different shapes and sizes. “We can make the courses and levels more or less difficult depending on how we set out or combine the the drums,” said Drygalla. ■

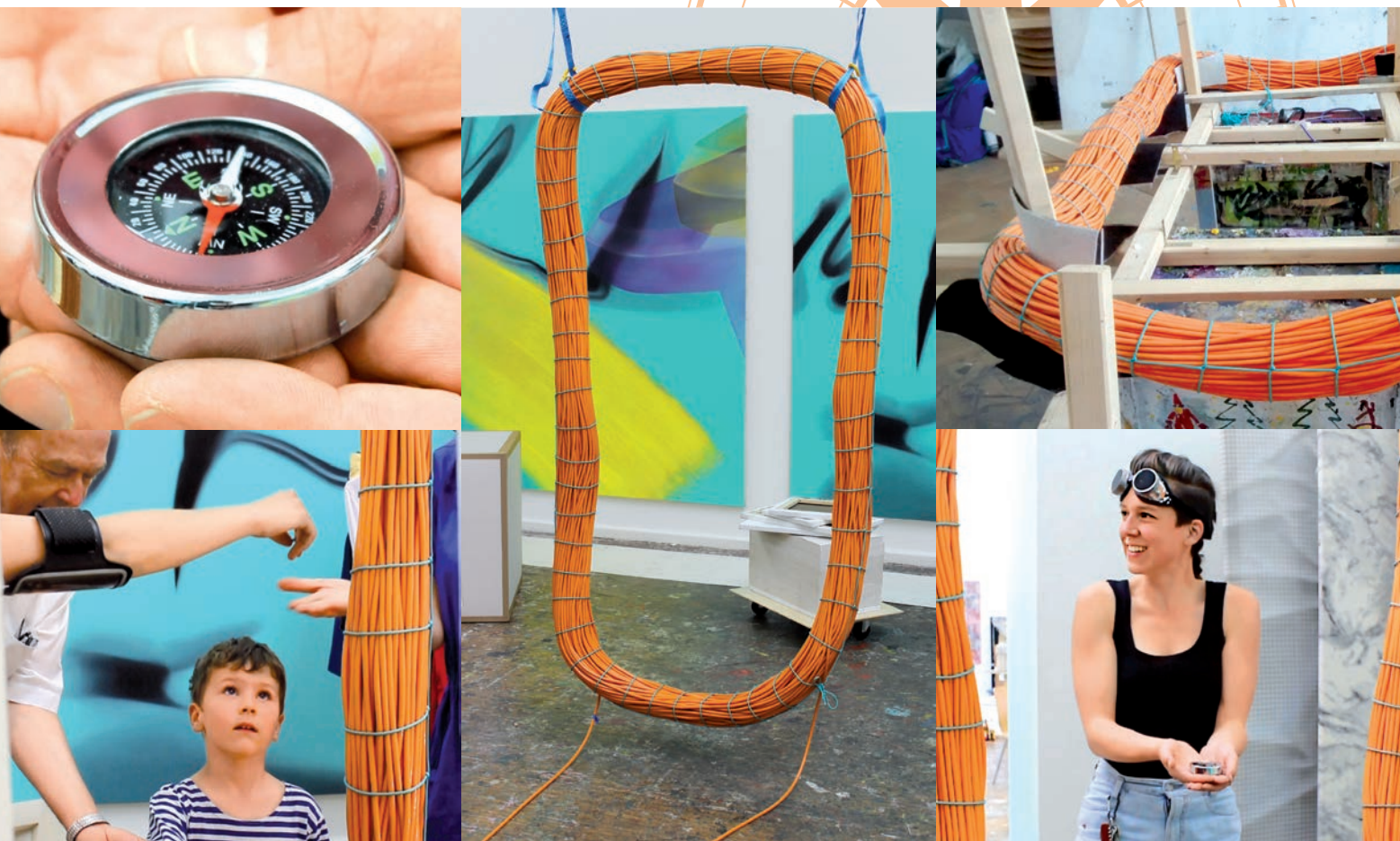
Bike Trial cyclists have two minutes per section – anyone who puts their foot down gets a penalty. In total, they cycle three times around the five sections. The cyclist with the least amount of points is the winner.



For more information about the competition, visit:
www.trials cup.de

SOUTH NOT NORTH

Artist Maria Euler challenges human perception of science and culture by turning the points of the compass upside down with a coil made of cables.



SHE USED 500 METRES (1,640 FEET) OF THREE-CONDUCTOR CABLE to make her magnetic coil as part of her studies at the Dresden Academy of Fine Arts. "During my research, HELUKABEL was the only company which appeared to understand the concerns and potential of art projects," says the 24-year-old. Wound 95 times and formed into a door-like shape, the 70 kilogram (154 pound)-coil attracts visitors at the art academy's annual exhibition. When powered with 12 volts, a current of up to three amps flows through the cable, creating a magnetic field. At low frequencies, the field makes a compass fluctuate between north and south, causing visitors to ask themselves where in the world they are located. At higher frequencies, it's possible to sense the invisible field with a neodymium magnet (a very small, yet extremely strong magnet) and when trying to orient yourself

according to the alternating field direction, it starts to move in your hand. Maria Euler takes her inspiration from the areas of physics, computer science and science fiction. However, she came upon the idea for the project purely by accident. Her work station was littered with equipment and sketches, and a neodymium magnet fell onto her hard drive, damaging the data. "It became clear to me how much our society depends on the principles of magnetism to store or send information. Generally, we are unaware of these invisible force fields even though their effects are so distinctive. Not to mention they form part of our planet and all of the electrically charged systems that surround us, which makes them a crucial part of our lives," says Euler. ■

www.mariaeuler.com

It took artist Maria Euler four months to build her magnetic coil.

WELCOME TO THE UNITED STATES!

Home of the "worry-free cable experience"

Since it was established at the end of 2007, HELUKABEL USA, Inc. has rapidly grown HELUKABEL's footprint in the U.S. market.

Centrally located

The U.S. manufacturing resurgence, due in part to the advancements in robotics and automation, matches the strengths of the products stocked at the U.S. warehouse. Being centrally located in the suburbs of Chicago, IL provides numerous advantages, including close proximity to many of the United States' manufacturing hotspots. "The transport infrastructure found in the Midwest allows us to reach all corners of the U.S. in two to three business days," says Markus Dannheim, President of HELUKABEL USA, Inc. "Having the right products and being able to reliably deliver them in the shortest amount of time truly makes us the worry-free cable experience to our customers."

HELUKABEL USA, Inc.
1490 Crispin Dr.
Elgin, IL 60123
www.helukabel.com/us



WORTH THE VISIT

Dannheim recommends exploring Chicago along the only route that is not a part of the city's unique grid network of streets, the Chicago River. Boat tours allow guests to enjoy some of the world's most renowned architecture and a breathtaking skyline. Chicago is home to many buildings designed by such architects as Sullivan, Lloyd Wright and van der Rohe, who have influenced structures around the world.



What started in a less than 10,000 sq. ft. warehouse and a team of three employees, has quickly turned into a 45,000 sq. ft. facility and a team of 25 in just nine years.

FACTS

Henry Ford perfected the moving assembly line in 1913 by installing driven conveyor belts. A new Model T was rolling off the assembly line every **3 minutes.**

If Apple, Inc. was its own country, its 2014 revenue of \$182.8 billion would make it the **56th** largest country in the world in terms of GDP.

The Willis Tower's elevators (formerly known as the Sears Tower) are some of the fastest in the world at **18 mph** (29 km/h).

ACROSS THE POND

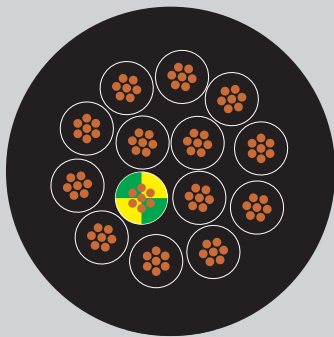
WITH HELUKABEL TRAYCONTROL® 600.

IN NORTH AMERICA, CABLES AND WIRES REQUIRE SPECIAL PROTECTION and may only be installed without enclosed conduits if they have appropriate approvals, i.e. TC-ER, PLTC-ER, ITC-ER. HELUKABEL TRAYCONTROL® 600 has received such approvals and is suitable for exposed and unprotected

installation in cable racks or trays up to machines and industrial equipment. This particularly flexible control cable is used in machines found in tool and plant engineering and is well-suited for applications associated with the automotive industry.

OPEN INSTALLATION

Suitable for exposed installation indoors and out in accordance with UL 1277 (TC-ER)

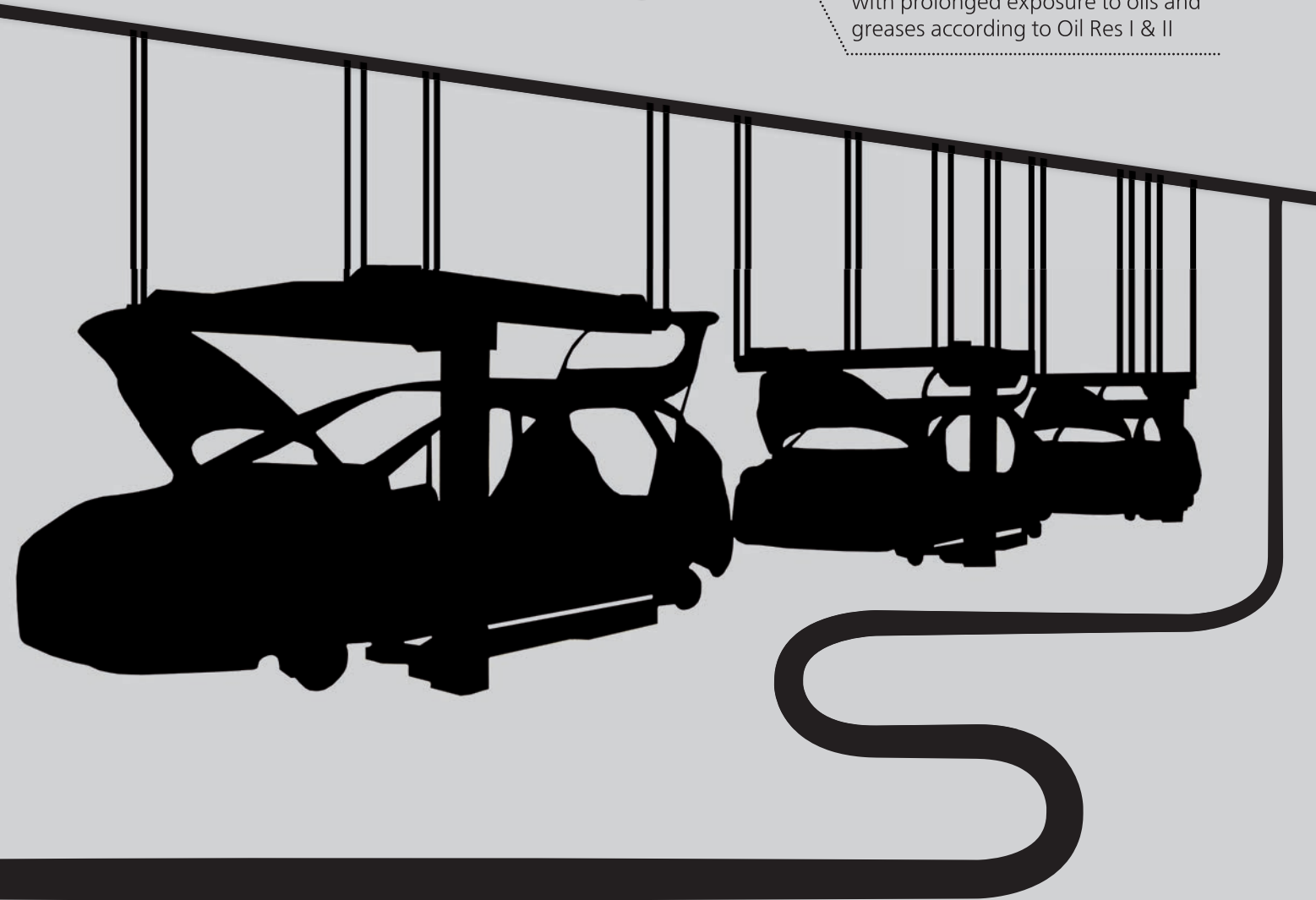


FLAME RETARDANT

Fire does not pose a risk as it is self-extinguishing and flame retardant (CSA FT 4)

RESISTANCE

Withstands the effects associated with prolonged exposure to oils and greases according to Oil Res I & II



TAILOR-MADE CABLES

Anyone unable to find a suitable cable in the catalogue will be directed towards the Windsbach cable production plant.

This is the workplace of **Peter Meyer** who comes up with solutions for even the most unusual requests. For instance, a lift's hoist cable cannot withstand the load of a freight lift. Meyer designs a robust cable to hoist loads of up to 150 kilograms (330 pounds) in the freight lift, thus fulfilling all required standards. The same goes for cables used in robotic arms, which are expected to rotate around their own axis hundreds of times each day, and repeat these movements for many years. Peter Meyer has been working at the cable production plant for three years. During that time he has developed new products up to series production and acted as an interface between Production and Quality Control. He is familiar with approximately 80 different types of synthetic materials and knows exactly how and with what they can be combined. He is equally comfortable with chemistry, electrical engineering and mechanics. When not inventing custom cables, he works on further developing catalogue products.