

# POWER

#16



## Basking in the Sunlight

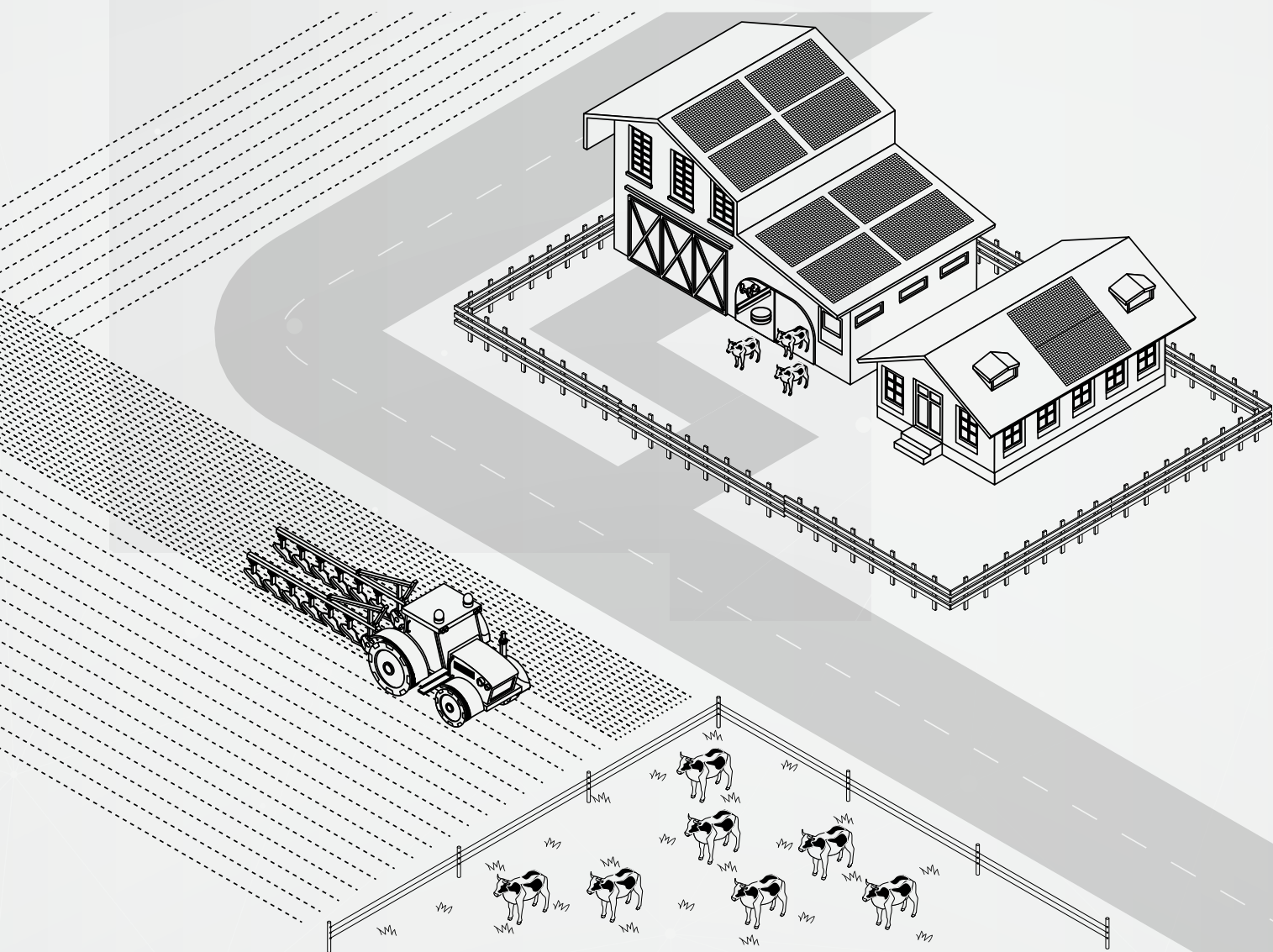
Solar cables from HELUKABEL  
for floating farms

page 14



# Solutions for Modern Agricultural Technology

---



**Even in the agricultural sector, electrification, digitalisation, and automation are progressing at great speed. Modern operations are relying more heavily on sensors, computer-assisted controls, robotics, and even AI, all of which require the reliable transmission of energy and data. What roles do HELUKABEL solutions play in this? Read more on the last page!**





## *Dear Reader,*

"The dumbest farmers grow the biggest potatoes", or so the old German saying goes. In reality, the opposite is true. Those who are able to successfully run a so-called agribusiness must face themes such as data analysis, process optimisation, digitalisation, and artificial intelligence head on. The agriculture sector is developing at a rapid pace, which means that not only are new technologies and solutions in high demand, but also an immense amount of know-how.

At HELUKABEL, we are supporting these developments by supplying the industry with electrical connection technologies - turning concepts into real-world solutions. In the face of a steadily increasing global population and accelerating climate change, innovations in agriculture are quite literally a matter of survival. This is why, in this issue of POWER, we are focusing the spotlight on this exciting industry that we have supported for many years. You can read our feature article starting on page 8.

A fundamental prerequisite for technological change in agriculture is a safe and reliable energy supply - preferably from renewable sources. Our customer Big Dutchman has dedicated itself to this goal. They supply agribusinesses with customised photovoltaic and battery storage systems. Read more on page 24.

That solar power is more easily produced over water is a fact. This is proven by the experts at JM ProjektInvest who have constructed a floating solar park in a gravel quarry. Learn more about this fantastic project on page 14. And, of course, we also have other interesting news to share regarding the world of HELUKABEL.

I hope you find this issue informative and enjoyable!

*Kind regards,*

*Marc Luksch, Managing Director, HELUKABEL GmbH*



# Farming Sunshine

page 24



20



28



---

# POWER #16

## **8 LET'S TALK ABOUT... AGRICULTURAL TECHNOLOGY**

How digital technologies prepare the agriculture industry for the future

## **14 BASKING IN THE SUNLIGHT**

JM ProjektInvest relies on solar cables from HELUKABEL for floating solar farms

## **18 RED AND WHITE: A WINNING COMBINATION**

HELUKABEL is a club partner of VfB Stuttgart

## **20 THESE MACHINES CAN BAKE ANYTHING**

Electrical connections for AMF Bakery Systems' production equipment

## **24 FARMING SUNSHINE**

Big Dutchman outfits agrivoltaic systems with HELUKABEL cables

## **28 INTERVIEW**

Markus Schöck,  
Director Sales Area Germany at HELUKABEL

## **32 PUT TO THE ULTIMATE TEST**

Part 5: Fire Tests

06	In Brief
13	Training with HELUKABEL
34	Worldwide: Welcome to Thailand!
35	FAQ: How do I find the most optimal cable for a drag chain?
36	Service/Imprint



# In Brief

## New Services & Resources

### SMART LED PROCESS MONITORING

HELUKABEL brings HELULIGHT Smart Process onto the market, an intelligent lighting and signal system for industrial applications. These individually addressable RGB LEDs makes it possible for machine and plant operators to easily monitor different operational parameters such as progress, fill levels, or temperature visually. HELULIGHT Smart Process is compatible with all common controllers and can be used with virtually all machines, both externally on the machine housing, or inside the machine.

### THE BEST-QUALITY PICTURE AND SOUND

HELUKABEL is expanding its media technology product portfolio with new highly flexible, pre-assembled HDMI cables for transmitting picture and sound. These cables have multiple screening layers, which enable transmission speeds up to 18 Gbit/s, and are available in lengths from 0.5 to 20 metres. These cables are ready to use and quickly available to customers in precisely the length needed.

### REBATES IN THE HELUKABEL ONLINE SHOP

As part of our "5 under 50" campaign, customers in Germany can save 5% on all cable lengths up to 50 metres that are currently in stock in the HELUKABEL Online Shop. With our Online Shop's intuitive navigation and intelligent search feature, users can view what products are available in what lengths and order the desired lengths quickly and easily.

## HELUKABEL Launches Production Facility in India

The HELUKABEL Group expands its global production network with a new production facility that opened in June in India. Located in close proximity to the city of Gandhinagar in the west of the country, it will supply the subcontinent's quickly growing market into the future. The production facility employs around 30 workers producing cables of the conductor classes 1-5, with and without braided screening or steel wire armouring.

What makes this production facility special is that many of the products produced by HELUKABEL India are certified

according to the Indian BIS, which is an important criterion for cables being installed in machines and equipment being sold to Indian companies. In the future, cables will also be produced according to the German VDE standard. Through this, the cables will be suitable for both local and international use. This is highly valuable for our export-oriented customers. HELUKABEL has been represented by their subsidiary in India since 2003 and, with logistics and sales facilities in the cities of Mumbai and Pune, is ideally located to secure its place moving forward in India's growing, future-oriented market. ◀



# 95.6%

of waste at the HELUKABEL production facility in Windsbach was sorted according to type last year. This allowed the majority of valuable resources such as copper, aluminium, plastics, wood, and paper to be reused – a significant contribution to sustainability. ◀



## Outstanding Company Management



HELUKABEL has received the Best Managed Companies Award 2024. The prize, which is organised by the auditing and consulting firm Deloitte Private, the Swiss major bank UBS, the Frankfurter Allgemeine Zeitung, and The Voice of German Industry (BDI) e.V., is recognised as a seal of quality for exceptionally managed companies.

The Best Managed Companies Award evaluates the four key areas of strategy, productivity, and innovation; culture and commitment; governance; and finances. Due to the successful developments of the past few years, HELUKABEL was able to impress the jury in these categories. "HELUKABEL is an exceptional example of a Best Managed Company that proves itself through its formidable mixture of foresight, productivity, innovative spirit, and strong, value-oriented management," says Dr. Christine Wolter, Partner and Lead of Deloitte Private.

## New Braiding Cobot in Windsbach

The HELUKABEL production facility in the Franconian city of Windsbach is investing further in the automation of their manufacturing processes. As of recent, a cobot (a collaborative robot) has been supporting employees in operating braiding machines. It is tasked with loading empty spools into a winding machine, where they are to be wound with screening material that many cables and wires are wrapped with. They then remove the loaded spools. This monotonous work had thus far been done by hand.

The loaded spools are stacked onto a pallet by the robot. From here, the employees can comfortably mount the spools onto the different automatic braiding machines. "By automating this process step, we can save a lot of time and effort," says Project Lead Peter Bluhm. "This is right in line with our lean management concept."



## HELUKABEL Switzerland Builds New Facility

Breaking ground on the 2nd of May 2024, construction began on the new head office for the HELUKABEL AG in Bremgarten, located in the canton of Aargau. Starting in the spring of 2025, all business activities of the Swiss HELUKABEL subsidiary will be conducted from this facility.

This new construction allows for a significantly increased production capacity in comparison with their previous location. A modern design will provide employees with an attractive, well-lit, and functional work environment. Customers will also benefit from optimised, expanded, and state-of-the-art logistics, allowing HELUKABEL employees to process orders even more quickly and efficiently than before.





Precision

Smart

Sustainability

# Revolution on the Farm

---

How digital technologies prepare the agriculture industry for the future

**T**he agriculture industry is faced with tremendous changes driven by climate change, a growing global population, and the increasing scarcity of resources such as water and farmable land. In order to tackle these challenges, the industry is relying on technical innovation. Trends such as precision farming, digitalisation, and robotics are intended to help farmers produce more bountiful harvests more efficiently and sustainably. In our feature article on agricultural technology, HELUKABEL expert Oliver Adler will assist in illuminating new technologies and their potentials, as well as what challenges are still needing to be overcome.

## **PRECISION FARMING: HIGHER EFFICIENCY THROUGH PRECISION**

Precision farming is one of the most important trends in modern agricultural technology. The idea is that farmers use digital technologies and data analysis to optimise their production processes down to the smallest details. To this end, a wide range of information on factors such as soil condition, moisture, or crop health is collected with the help of GPS, sensors, and drones. Based on this information, agricultural land can be cultivated zone by zone and valuable

resources such as water, fertiliser, and plant protection can be used more purposefully and therefore more sparingly.

"The advantages of precision farming are obvious," says Oliver Adler, who, as Global Segment Manager Agriculture at HELUKABEL, is all too familiar with the challenges facing the industry. "Being able to precisely control agricultural processes increases performance and yield while minimising the use of resources. This in turn reduces the impact on the environment and simultaneously saves on costs." The acquisition of modern machines and digital infrastructures presents steep up-front costs, but these pay for themselves after only a short while. According to Adler, technical proficiency is yet another hurdle for the industry. Farmers must learn new skills such as how to interpret data and how to operate new tools. Yet even here, the advantages significantly outweigh the negatives.

## **DIGITALISATION: AGRICULTURAL TECHNOLOGY BECOMES INTELLIGENT**

The fundamental prerequisite for precision farming and many other innovations in agriculture is digitalisation, which has made substantial advancements in



the field of agricultural technology. Agricultural machines and devices are increasingly fitted with sensors, controls, and software. These devices are constantly connected and transmitting data to be analysed. This makes it possible for a number of processes to be monitored and optimised. Farmers are, for example, able to get real-time information on the status of their fields, the weather, or the market prices of products. This leads to greatly increased efficiency and a reduced environmental impact.

"One of the greatest challenges in digitalising agricultural machines is integrating different systems," explains Oliver Adler. "Having uniform communications standards, which are used by all manufacturers, would help resolve this issue. Time and time again, this inconsistency between features leads to challenges." To address this issue, HELUKABEL is involved with the Agricultural Electronics Foundation (AEF), an independent organisation comprised of manufacturers of agricultural technology and other associations. Since 2008, the foundation has been working toward better compatibility between electrical and electronic components in agricultural devices such as tractors and harvesters, as well as machinery for the forestry sector. Their goal is to promote the electrification and digitalisation of the agriculture industry.

One of the most important players in this collaborative effort is the ISOBUS standard, which is a globally standardised system for the transmission of energy and data in agricultural machinery. Hybrid ISOBUS cables are primarily used to connect tractors to their attachments. This uniform standard allows farmers to quickly and easily connect machines from different manufacturers, control them from the same terminal, and thereby work more efficiently. "The HELUKABEL portfolio contains especially robust ISOBUS cables with PVC or PUR sheathing that

ensure reliable communication and the transmission of energy rain or shine, dust or grime," Adler adds. The next generation of technology with vastly improved data transmission rates is waiting in the wings with High-Speed ISOBUS (HSI). HELUKABEL has already developed and successfully tested the necessary cables for this technology.

## VERTICAL FARMING: AGRICULTURE IN TIGHT SPACES

Cultivation and livestock farming have traditionally required large amounts of space, which, in our modern world, is becoming increasingly rare. One promising solution for this is vertical farming. This cultivation technique makes it possible to utilise unconventional areas, such as urban spaces, for agriculture. Plants are grown in multi-storey, vertical growth houses which are often constructed either in or near cities. These closed systems function independently from climatic conditions and allow for year-round production. Intelligent lighting, sensor-controlled watering, and automatic fertilisation turn these farms into high-tech factories.

"We have already supplied a number of these vertical farms with our products," Oliver Adler reports. These factories require a host of different cables for transmitting energy and data. This includes supplying energy to lights and climate control units, automation and conveyor technology, or for the exchange of information between sensors and control systems. "Vertical farming allows for the space-saving cultivation of crops under controlled conditions and in close proximity to customers," the HELUKABEL expert explains. "Even water usage is up to 95 percent lower compared to classical agriculture." However, even in vertical farming, significant investments in new technologies and a constant, reliable supply of energy are required.



**"One of the greatest challenges in digitalising agricultural machines is integrating different systems."**

*Oliver Adler,  
Global Segment Manager Agriculture,  
HELUKABEL GmbH*

## AGRIVOLTAICS: SOLAR ENERGY FOR THE AGRICULTURE INDUSTRY

The use of agricultural spaces for producing solar energy, which is called agrivoltaics, is becoming more and more popular in the industry. For this, specially fitted solar modules are installed above the fields so that farmers can simultaneously produce energy while planting crops beneath. These photovoltaic systems additionally protect the plants from intense solar radiation and overheating.

This dual-purpose use dramatically increases the productivity of agricultural spaces. The employment of agrivoltaics also supports the local power grid, which is incredibly advantageous for isolated areas or regions with unreliable power supplies. With their SOLARFLEX series, HELUKABEL has cables specifically designed for the cabling of solar modules. They are resistant to weathering, UV radiation, and other environmental influences, and are even available with optional rodent protection. This makes these cables ideally suited for use in the agriculture industry.



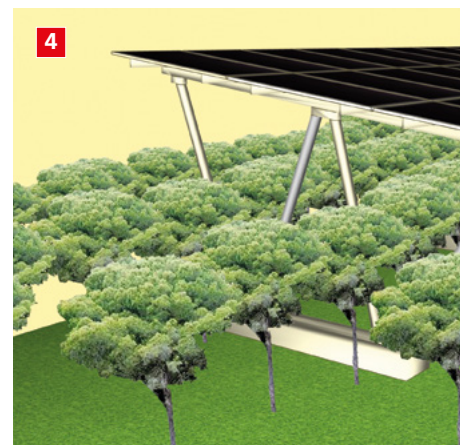
1



2



3



4

- 1 Farmers nowadays use digital technologies and data analysis to optimise their production processes.
- 2 Vertical farming makes it possible to utilise urban spaces for agriculture.
- 3 Robots are already playing an important role in agriculture, for example in barn work.
- 4 The use of agricultural spaces for producing solar energy, which is called agrivoltaics, is becoming more and more popular.





© Adobe Stock

## ROBOTICS: AUTOMATED HELPERS IN THE FIELD AND THE BARN

Robots are well on their way to playing an essential role in agriculture. They are already being used in many tasks including weeding, seeding, manure management, or milking operations. And they are often able to perform these tasks more efficiently, precisely, and economically than human workers. The support of AI-based systems makes them even more effective, as it allows them to make decisions in real time.

"For the agriculture industry, robotics is an immense help," Oliver Adler confirms. "Ultimately, the shortage of skilled workers in the industry is steadily worsening. Robots are a means to counter this. They are also able to work around the clock and the quality of their work is consistently high." Many farmers, however, have yet to accept the assistance of robots, which must also be designed to be flexible enough to react to unpredictable conditions out in the open. There is also legal footing regulating the use of autonomous machines on farm fields which is a heavily discussed topic in the industry.

## CONCLUSION: NEW IDEAS FOR THE FUTURE

The agriculture industry finds itself in the middle of a dramatic transformation. New technologies such as precision farming, vertical farming, agrivoltaics, and robots supply the industry with the solutions it needs for the growing number of challenges it is facing. The results of this are more efficient and sustainable production methods that meet the needs of a growing global population and help address the effects of climate change.

Electrification, digitalisation, and automation are the basic ingredients required to put these innovations in agricultural technology into practice. For companies, this also means they are occasionally required to make considerable investments, which, however, pay for themselves in the middle and long term thanks to their enormous potential for increased efficiency. As an experienced partner of a number of agricultural technology manufacturers, HELUKABEL has an extensive portfolio of electrical connection technologies that are specifically designed for the particular conditions of the agriculture industry. HELUKABEL cables, wires, and accessories ensure the reliable transmission of data and energy, thereby playing their part in preparing the industry for the future. ◀

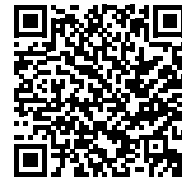
**Electrification,  
digitalisation, and  
automation are the  
basic ingredients  
required to put  
innovations in  
agricultural technology  
into practice.**

We are **ONLINE** !

[www.helukabel.de/karriere](http://www.helukabel.de/karriere)



Interested in establishing a future connection? All open positions, as well as training and study openings, at our German locations can be found on our new career page **[karriere.helukabel.de](http://karriere.helukabel.de)**. Take a look! You might just find your new dream job!



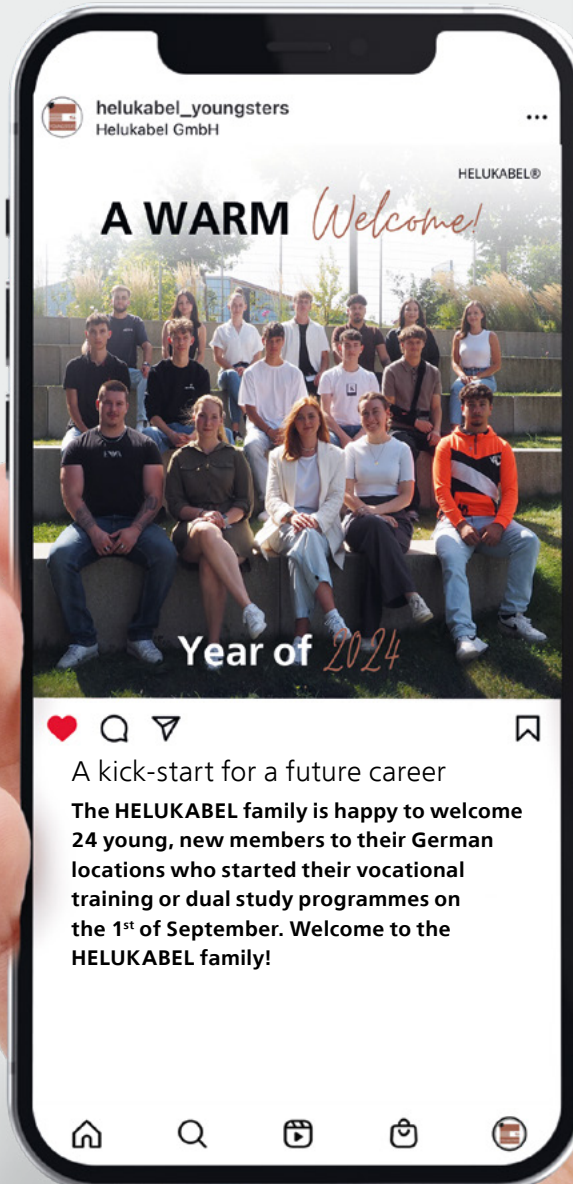
Visit us on Instagram!



At our headquarters in Hemmingen, we always welcome visits from our international subsidiaries. We had the pleasure of welcoming our Finnish colleague Eveliina for a three-month internship supporting our marketing department.



Three of our trainees received special rewards this year. They were honoured by the regional Chamber of Industry and Commerce of Stuttgart for their exceptional exam performances. Congratulations!



A kick-start for a future career  
The **HELUKABEL** family is happy to welcome 24 young, new members to their German locations who started their vocational training or dual study programmes on the 1<sup>st</sup> of September. Welcome to the **HELUKABEL** family!



In June, a delegation of Spanish educators visited us in order to learn more about the dual educational system in Germany. We are happy that this valuable exchange could contribute to supporting the youth on a European level.



# Basking in the Sunlight

JM ProjektInvest relies on solar cables from HELUKABEL for floating solar farms

**S**pecialists in the construction, operation, and financing of photovoltaic systems, JM ProjektInvest lends their expertise to the construction of floating farms - solar farms installed on bodies of water. Many plants, such as a gravel plant in the eastern German state of Saxony-Anhalt, rely on this increasingly more popular source of green electricity to power their machines and conveyor belts.

"Floating photovoltaic systems, or floating farms, are the new trend," says Stefan R. Müller, Director of JM ProjektInvest GmbH & Co. KG in Magdeburg, Germany. The company develops, constructs, and finances projects having to do with energy efficiency. Together with their customers, JM has become a holistic service provider for the optimisation and generation of energy.





A circular photovoltaic island with a diameter of almost 120 metres generates green electricity for a gravel quarry in Saxony-Anhalt in eastern Germany.





**The cables on the floating farm must be resistant to moisture and sunlight.**

Floating farms are still a relatively new domain. In contrast to traditional photovoltaics (PV), the solar modules of floating farms are mounted on floating platforms, which are usually anchored to the shore. This allows the modules to withstand the natural movements of the water. "Floating solar systems have several advantages," says Director Müller. "The reflection of the sunlight off of the water is precisely what increases the efficiency of the solar modules." The resulting evaporation of water helps cool the floating modules, and rope winches are used to turn the photovoltaic system, allowing it to follow the path of the sun. In this way, these floating modules achieve a higher yield – roughly 30 percent more compared to rooftop systems – while simultaneously taking up less space.

JM completed their first floating project together with the Neumann Gruppe, who operates a gravel quarry alongside Schimmel Kies- und Sandgewinnung GmbH in the municipality of Hoym in the state of Saxony-Anhalt. Quarry ponds from gravel pits are perfect for installing large-scale solar systems on floating platforms. The plant produces green energy that powers excavators, vibrators, and conveyor belts via their proprietary, sun-tracking photovoltaic island, which has an impressive diameter of 120 metres. Any excess electricity that is produced is fed into the public network.

## THE CONNECTIONS THAT MATTER

Integral to the operation of these systems are the cables and wires. They connect, for instance, the floating farm's individual solar modules to one another, to the power inverter, and the farm to the transformer station on shore. For these critical components, JM relies on solutions from HELUKABEL. The leading supplier of electrical connection technology has been a qualified supplier for JM since 2017. Starting with systems for small rooftops, their projects have continuously increased in scale. "We are not only able to provide them with quality cables, but also quality service," says Roland Eggers, Regional Sales Manager at HELUKABEL. The cables used in floating farms must be resilient against damage caused by moisture and sunlight. "Solar cables have a relatively simple construction. However, in practice, they need to fulfil many challenging requirements," explains Eggers. They should be able to reliably transmit the power generated by photovoltaic systems for 20 to 30 years. This is why it is important that the cables used are of the highest quality and have been tested according to all current standards and regulations. For pho-



**"As a partner for JM's increasingly large-scale projects, we are not only able to provide them with quality cables, but also quality service."**

*Roland Eggers,  
Regional Sales Manager, HELUKABEL GmbH*

photovoltaic systems, the safety and durability of the cables and accessories used, for example, to quickly and safely connect the individual solar modules together, are of the highest importance. The HELUKABEL MC4-EVO2 solar plugs are weather tight and exhibit low contact resistance, and may also be used to connect the modules with the power inverter.

HELUKABEL expanded its portfolio specifically for floating farms to include the HELUPOWER SOLAR-FLEX-X H1Z2Z2-K Premium range. This model is certified according to TÜV 2 PfG 2750 and is therefore suitable for use in floating photovoltaic systems. "Currently, only a few manufacturers in Germany can offer cables with approvals for floating applications," says Michael Thomczyk, Key Account Manager Photovoltaics at HELUKABEL. This range is resistant to weathering, UV radiation, ozone, and extreme temperatures, as well as flame resistant and halogen free. Also, the approval according to DIN EN 50618 and IEC 62930 assures that the cables fulfil all technical requirements necessary to connect solar modules with power inverters. "We have also supplied them

with different robust and resistant underground and medium-voltage cables, which connect the system with the existing infrastructure. This also includes waterproof control cables, as well as fibre optic data cables, which allow for the fast and reliable transmission of data at high bandwidths."

### THE FULL PACKAGE

"For projects like this, we are able to not only supply all of the required parts, but also provide comprehensive service," promises Michael Thomczyk. HELUKABEL supplies JM with roughly 20 kilometres of material. "Not only are we happy with the technology supplied by HELUKABEL, but also with the collaboration," summarises JM Director Stefan R. Müller. "The instant we encountered a challenge, Roland Eggers was by our side, which is a level of service that you just don't expect. We can trust that the solution we need will be delivered in one or two business days at the latest. With HELUKABEL, you can expect not only extraordinary prices, but also exceptional reliability and quality." ◀

**The photovoltaic modules are rotated and move with the sun, enabling them to achieve higher yields.**



---

### ABOUT JM PROJEKTINVEST

JM ProjektInvest GmbH & Co. KG has specialised in the development, construction, operation, and financing of energy efficiency projects since their founding in 2010. The focus of the company was originally on the planning and construction of photovoltaic systems, but they have since developed into a provider of holistic services in the areas of energy efficiency and generation.

Learn more at [jm-projektinvest.com](https://jm-projektinvest.com)









## **RED AND WHITE: A WINNING COMBINATION**

The VfB Stuttgart football club has been exciting both local and global fans with their electrifying and passionate performances on the football pitch since 1893. The sports club has one of the largest memberships in Germany and is one of the most renowned teams in the Bundesliga. They are even competing in the Champions League this season. There are many good reasons why HELUKABEL is supporting the VfB as a Club Partner. The two Stuttgart neighbours share deep-seated values such as tradition, solidarity, and the drive to always do their best. HELUKABEL and VfB Stuttgart: the perfect connection!



# These Machines Can Bake Anything

Electrical connections for AMF Bakery Systems' production equipment



AMF Bakery Systems specialises in manufacturing fully automatic production equipment for bakeries.

© AMF Bakery Systems

**F**ully automatic production equipment for bakeries is the specialty of AMF Bakery Systems. The company, which is headquartered in the USA and has many international locations, such as in the Netherlands, builds and retails machines that can perform every step involved in producing breads, pizzas, buns, rolls, and other baked goods. HELUKABEL supplies the electrical connection technology used in these machines, which is specially adapted to the high standards of the food industry.

Bread is one of the oldest and most important foods known to mankind. Researchers believe that oats and barley have been ground into flour, mixed with water, and baked since all the way back in the Stone Age. Today, bread can be found all over the world in countless forms from Arabic flat bread to French baguettes, and don't forget German pretzels. One person eats roughly 25 kilograms of bread in a year, whether bought fresh from a bakery or from the supermarket shelf or freezer section.

To meet the immense demand for baked goods, producers must sometimes explore new ways to upscale production, such as by implementing automated machinery or investing in large-scale industrial operations. The automation of more and more processes contributes towards an increase in productivity and efficiency. The tasks of mixing, sheeting, and packaging are less often done by hand and more often performed with the help of machines and complete production plants. This makes the production of consistently high-quality products possible while simultaneously lowering costs.

### **COVERING ALL PROCESSING STEPS**

One of the leading specialists in this field of technology is AMF Bakery Systems. Headquartered in Richmond, Virginia USA, AMF Bakery Systems realises complete solutions for the production of breads, pizzas, buns, cakes and even croissants and pastries for customers around the globe. "Our products cover all processes from mixing and processing the dough, to baking and packaging finished goods," explains Lex van Houten, Regional Marketing Manager EMEA at AMF in the Netherlands, where the company has three locations. "Using conveyor technology, controls, and software, we combine the individual machines into seamlessly interconnected and fully automated production lines, which allow our customers to work with incredible efficiency."

AMF Bakery Systems services customers worldwide from their location in the Netherlands. The machines and plants are part standardised, part individual solutions, all according to the needs of the customer. Electrical connections are an important component for not only supplying power, but also for transmitting data and control signals. AMF has been relying on HELUKABEL



AMF realises complete solutions for the production of doughnuts, breads, cakes and even croissants and pastries.

---

### **ABOUT AMF BAKERY SYSTEMS**

AMF is the world's largest industrial equipment provider to the bakery industry. The company, which is a partner of the Markel Food Group, offers a wide portfolio of automated food processing solutions to optimise operations, improve product quality and empower bakery teams.

Find out more at [amfbakery.com](https://amfbakery.com)





The portfolio covers all processes from mixing and processing the dough to packaging finished goods.



Screened cables that prevent EMC disruptions between the individual plant parts are often needed.

for their cable and wire needs for some time. "Before, we procured electrical components, such as distribution boards, from a supplier who also used HELUKABEL products," remembers Edward Tromp, Manager Controls Engineering. "Later, we began producing the boards ourselves, and since we'd never had any problems with the cables, we decided that it didn't make sense to switch. Never change a winning team."

### THE HIGH STANDARDS OF THE FOOD INDUSTRY

Since AMF machines are used in the food industry, the requirements are accordingly strict. All components, including the cables and wires, must be easy to clean and cannot contain harmful substances that could contaminate the food. At the same time, they must be resistant to aggressive cleaning agents and disinfectants, as well as extreme temperatures. "We examine each individual case closely and then decide which cables are needed," explains Edward Tromp. "We

often need, for example, halogen-free cables that are safer for people and machines should fires occur, or screened cables that prevent EMC disruptions between the individual plant parts." Even flexibility and mechanical resilience are important criteria to consider as many moving machine parts carry their cables with them, and the cables must not be damaged in the process.

HELUKABEL supplies AMF with an extensive assortment of products to equip its bakery machines with. These include the versatile JZ-500 and JZ-600 control and connection cable families, screened servo cables belonging to the TOPSERV 112 PVC series, the especially flexible MEGAFLEX 500, and PROFINET cables for industrial communication. "Our average bakery line contains roughly 500 metres of cables and 1.5 kilometres of wires," concedes Edward. "We also have larger projects, which we can pack up to 10 kilometres of cables into."

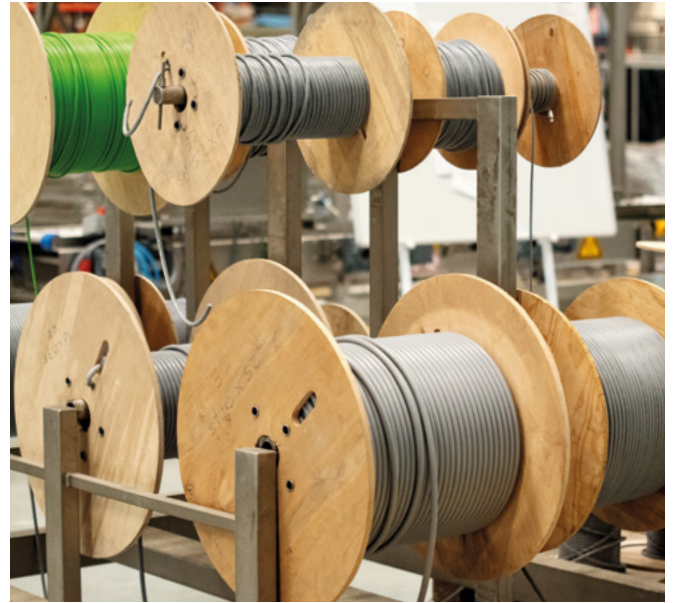
### WORLDWIDE PRESENCE FOR RAPID AVAILABILITY

In order to be prepared for orders with short delivery timeframes, AMF maintains a stock of their most commonly used cables and wires. "We always have several hundred metres of the cables used in our standard products in stock," says Edward. "If we need a specialty cable for a machine, we can order them on a project basis." For AMF, one large advantage of working with HELUKABEL is that both companies are globally active and represented in the Netherlands by their own subsidiaries. "This means that the cables we need are always able to be quickly delivered to wherever we need them," says Arie Rietveld, Lead Electrical Engineer at AMF.

Another bonus is that HELUKABEL products are available with all relevant international standards and approvals. "We export our machines around the globe which means that, in one case, we may need a cable with a European CE certification, and,

in another case, we could need one with an American UL approval," explains Arie Rietveld. "HELUKABEL has the right cables for every market and every region." Customers especially appreciate the FIVENORM single cores, which can be used around the world thanks to their certifications according to five international standards: VDE, CSA, EAC, UL, and MTW. "For us as an export-oriented business, this is a very important criterion," stresses Edward Tromp.

When the flour settles, Edward Tromp is wholly satisfied working together with HELUKABEL. "Our companies are both very service oriented, which is why we work so well together," he surmises. "Our goal is to always offer our customers the best possible solutions, and HELUKABEL supports us in this by supplying the best electrical connections for every machine. We are very confident that this successful partnership will continue long into the future." ◀



In order to be prepared for orders with short delivery timeframes, AMF maintains a stock of their most commonly used cables and wires.



**„Our average bakery line contains roughly 500 metres of cables and 1.5 kilometres of wires, We also have larger projects, which we can pack up to 10 kilometres of cables into.“**

*Edward Tromp,  
Manager Controls Engineering, AMF Bakery Systems*





# Farming Sunshine

Big Dutchman outfits agrivoltaic systems  
with HELUKABEL cables



**T**he use of agricultural buildings and open fields for agrivoltaics, or AgriPV, is currently quite popular. Big Dutchman realises this as well. For some time now, the global specialist for livestock housing and feed systems has been installing solar modules for their customers and combining these with custom battery storage systems to achieve greater efficiency. In the harsh conditions of agriculture, HELUKABEL cables and wires ensure that the systems continue to function reliably.

As the global population grows, so too does the need for food. Current prognoses suggest that by 2050, the number of people on earth will increase by 20 percent to roughly 10 billion. Feeding everyone is becoming an ever-greater challenge for society on a global scale. This is especially relevant for the agriculture industry, which is responsible for producing the majority of food and feed that we need.

It is for this reason that the industry is constantly looking for solutions to increase their efficiency and productivity. To achieve this, having the right technology is essential. This just so happens to be the specialty of Big Dutchman AG, which is a globally leading manufacturer of feed systems and modern livestock housing systems. Founded in 1938 in the USA, the company's headquarters is currently located in the Lower Saxon village of Vechta-Calveslage, Germany. Big Dutchman employs more than 3,100 employees globally across over 30 locations.

### PORTFOLIO EXPANDED

The first product that Big Dutchman put on the market was an automatic feeding system for poultry. Over the years, they have developed additional solutions for housing layer hens and poultry, and for pig farming. New business areas such as insect breeding and greenhouse construction are also being developed by Big Dutchman. They have additionally been exploring the production and use of renewable energy in agriculture for some time now. After all, the use of agricultural spaces and buildings for photovoltaics, also known as AgriPV, has become an important trend in the transition to renewable energy.

"The large, open areas of agricultural operations are ideal for producing solar energy," explains Nils Neugebauer, Product Manager for Photovoltaics & Batteries at Big Dutchman. "With our SunFarm and SunBox systems, we offer our customers solutions for not only producing, but also for storing energy. The combination of the two allows customers to meet a significant portion of their own energy needs and minimise energy costs."



**Under the product name of SunFarm, Big Dutchman installs photovoltaic systems onto livestock housing and in open fields for their customers.**



The use of agricultural buildings and open fields for agrivoltaics is a significant part of the energy transition.



### BATTERY STORAGE - INCREASED FLEXIBILITY

Under the product name of SunFarm, Big Dutchman installs photovoltaic systems onto livestock housing and in open fields for their customers. For this, they use high-quality products that are especially well suited for the harsh environments of the agriculture industry. The systems are made even more cost effective through the use of a SunBox, which is a stationary battery storage container solution. Using this, farmers can store and utilise the produced electricity as needed, even when the sun isn't shining. This saves them money and increases their independence from the public energy grid.

One major advantage of the SunBox system is how flexible it is. The battery storages are modular and can be installed in parallel. This allows users to reach storage

capacities from a few kilowatt hours up to 20 megawatt hours. An intelligent management system controls and monitors the charging and discharging of the individual modules and ensures an optimal utilisation rate. "With our app, the user also has all of the important data available on their phone anytime they need it, such as the charge level and energy flow," adds Neugebauer.

The cables are a crucial component of PV and energy storage systems. The solar modules are connected not only to one another, but also to the power inverter, which is responsible for making the produced electricity usable. Even the battery storages require different cables to transmit energy, signals, and data. For this, Big Dutchman has been relying on the competence and expertise of HELUKABEL for some time now. "Our collaboration goes back to 2008," remembers Neugebauer.

"We already use HELUKABEL electrical connection technology in other parts of our product portfolio. For us, it was obvious to do the same with our PV range."

### CABLES THAT DEFY WIND AND WEATHER

The operating conditions faced by AgriPV systems are challenging. The systems are subjected to weather conditions year-round, such as moisture, temperature fluctuations, and of course UV radiation. They are also subjected to dust and grime and the constant risk of damage from rodents. The cables and wires must be resilient against all of these external factors in order to ensure the system operates reliably for a long time. "We use exclusively high-quality components from reputable manufacturers for our systems," assures Neugebauer. "For us, HELUKABEL ranks among the best."

At Big Dutchman, we use solar cables from the SOLARFLEX series, among others. These cables, which were specifically developed for use in photovoltaic systems, are halogen free, flame retardant, and resistant to UV radiation, ozone, weathering, and water. This makes them ideally suited for outdoor use. "SOLARFLEX is also approved according to the European standard EN 50618," says David von der Gathen, the responsible Regional Sales Manager at HELUKABEL. "This ensures that it reliably fulfils all requirements during use." In order to prevent bite damage from martens, mice, and other gnawing rodents, SOLARFLEX cables are also available with a special protective braiding made of stainless steel.

Big Dutchman uses NAYY-O and NAYY-J series energy distribution cables to connect battery storage units and photovoltaic systems to the grid. These distribution cables are approved according to DIN VDE 0276-603 and are designed to handle voltages up to 1,000 volts and are equally suited for installations underground, in water, in the open, and in buildings. The conductors are

---

**"We use exclusively  
high-quality  
components  
from reputable  
manufacturers.  
For us, HELUKABEL  
ranks among the best."**

*Nils Neugebauer, Product Manager  
Photovoltaics & Batteries, Big Dutchman*

---

made of aluminium, and a robust, PVC outer sheath provides the required protection. HELUKABEL also supplies the systems manufacturer with different control, data, and bus cables.

#### **ON SITE, ON TIME**

For Nils Neugebauer, choosing the specialists for connection technology came down to superior flexibility. "We get the cables we need in the lengths we need delivered by HELUKABEL on time and directly to the construction site. One call is all it takes!" Moreover, both companies have a global presence and are familiar with the intricacies of the different markets and regions. "For example, we also offer products with international approvals such as UL, which

are suitable for use in the USA," explains von der Gathen. For export-oriented machine and systems manufacturers such as Big Dutchman, this makes for a significant advantage.

Neugebauer believes that AgriPV will become an increasingly important subject in the coming years, and not just for Big Dutchman. "With HELUKABEL, we have a long-term and reliable partner at our side who can supply us and our projects with the complete package of electrical connection technology, all from a single source," he commends. "I look forward to continuing this successful partnership in the future, and to helping shape the transition to renewable energies in agriculture together." ◀

Product Manager Nils Neugebauer is completely satisfied with the SOLARFLEX cables.



---

#### **ABOUT BIG DUTCHMAN**

Big Dutchman has been designing and constructing feeding and penning systems for modern poultry and pig farming. Their portfolio additionally includes software, climate control and lighting systems, as well as air cleaning and waste recycling solutions. The international market leader is also currently active in the areas of insect protein production and greenhouse construction.

Learn more at [bigdutchman.com](https://bigdutchman.com)







# "In our industry, we're playing in the Champions League, and we have the trophy in our sights."

More dynamic, customer focused, and solution oriented:

In 2024, the HELUKABEL Group initiated the comprehensive restructuring of its sales division. The goal is to further promote the evolution from product to systems supplier for electrical connection technologies and support our customers globally with customised solutions. In this interview, Markus Schöck, Director Sales Area Germany, provides some exciting insights into the transformation process and explains what role the newly announced partnership with the VfB Stuttgart will play.

***Mr Schöck, you have already worked at HELUKABEL for more than 20 years, which makes you a veteran within the company. Tell us a little bit about your career!***

I started at HELUKABEL almost 23 years ago in sales for southern Germany. After just my first week in the back office, I got the chance to take a position in the internal sales department. I was in this position for ten years and took on more and more responsibilities, as well as team leader responsibilities. In 2010, I was offered a sales management position, and in 2014, I became the Sales Manager for southern Germany with 15 colleagues both in the office and in the field. As a young manager, my team was exceptional in supporting me, which I am still thankful for to this day. Starting this year, I have assumed the role of Director of Sales for all of Germany.

***Over the years, HELUKABEL has grown and developed significantly. What have these developments meant for you, and what have been the most meaningful changes?***

The HELUKABEL of today is no longer comparable with what it was 23 years ago. In this time, we have developed enormously in regard to our logistics and production capacities. We have expanded our product portfolio and founded numerous national subsidiaries, which has transformed HELUKABEL into an international group of companies. I am very happy that I am able to partake in this exciting journey. As a family-run business, even the generational shift which took place in the previous years was a success. I am impressed by our Managing Director Marc Luksch, who assumed the role from his father, and is now successfully leading the company into the future in his own right.





***"Cables, Wires, and Accessories" has since grown into a considerably more expansive portfolio of electrical connection technologies, including drag chains and installation-ready system modules. What kind of impact has this had on your work in sales?***

For us, this presents a tremendous opportunity. In the cable and wire industry, HELUKABEL already had a very good market share, however in the business of solutions, there is still much potential. In sales, we of course need to expand our mindset and adopt a more solution-oriented way of thinking. Cables as a product require a lot of consultation, however with complete system solutions, we are required to work that much more closely with customers. We certainly have a lot of experience to build upon. For example, we have been creating customised packaging processes and logistics concepts for customers for a long time. We need to expand upon this approach in order to fully transition from a supplier of products to a systems supplier. By further diversifying in this regard, we will be able to offer our customers significantly more value.

***Is the work in sales today at all comparable with that of 20 years ago?***

Many things have fundamentally changed. For instance, when I first started, we would have a pile of faxes waiting for us on our desks every morning. Since nighttime rates were cheaper for our customers, the majority of our orders and inquiries came at night. We then spent the day working through these. Today, everything is much more fast paced with most orders coming in electronically during the day. One thing hasn't changed, though. Deals are still made between people, and we want to continue to focus on this. This is why we are promoting digitalisation at HELUKABEL so strongly. Not to have less contact with our customers, but to have more time for them and to be available with our knowledge should they need us.

***HELUKABEL completely reorganised the structure of its sales department this year. What spurred this change, and what effects has it had on our collaboration with customers?***

We decided to reorganise in order to be able to react more flexibly to the changing demands of the market and needs of our customers. Competition has become more intense, and we want to not only be more efficient, but also more competitive. Our existing structures worked well, but they limited us in how quickly we could react. By restructuring, we are now able to respond to customer inquiries quicker and more precisely, which has significant competitive advantages in the long run.

***HELUKABEL is now represented globally in 40 countries and, as with many of its customers, has an international focus. What impact does this have on a sales level, and how do the different national subsidiaries interact with one another?***

Communication with the international subsidiaries has intensified over the years and has been very successful. An important element for this was the establishment of our Global Account Management system - an additional interface between countries. In China, we even began operations at a new production facility this year. These kinds of steps are very important for me, as we need to be active where our customers are. Mechanical engineers who develop their machines in Germany would like to build them abroad with the same quality. If we want to be a powerful ally where the customers are, we need to be ready to offer appropriate solutions in that country.

***Starting with this Bundesliga season, HELUKABEL is now a VfB Stuttgart Club Partner, thanks to your initiative. How did this cooperation come about, and what can we expect from it?***

We first made contact with the club at a trade show. The first talks followed shortly after, which I was able to participate in, where we examined our options. This partnership with the VfB gives us the op-

portunity to expand our reach significantly through social media and internationally when the club travels abroad, for instance. Our intention is that, through this partnership, HELUKABEL will be recognised in the Stuttgart region for what it is: a global player, and one of the largest in our industry. Many of our customers, such as in the automotive or mechanical engineering industries, already know this, but we have yet to broadcast this to the greater public. Our presence alongside the VfB will serve to improve awareness of our brand, which is something I find we have earned through our hard work.

***This season, Stuttgart will be playing in the Champions League for the first time in a while. Keeping with the theme, what league do you currently see HELUKABEL in?***

In our industry, we're definitely playing in the Champions League, and we have the trophy in our sights. To achieve this, though, we need to strive for peak performance as a team. It is essentially the same as with VfB Stuttgart. Every member of the team has a clear role, and only through commitment and perfect teamwork can we achieve success. The restructuring of the sales department has helped us to work together better, to act more efficiently, and achieve success together. Similar to a well-coordinated football team, we can only win as a cohesive unit. ◀

**"Deals are made between people, and we want to continue to focus on this."**



## **MARKUS SCHÖCK HAS TO DECIDE!**

### ***Tea or coffee?***

→ I enjoy drinking tea very much, but sometimes coffee at the press of a button is just easier.

### ***Suit or jeans?***

→ I am more comfortable in a pair of jeans, but it doesn't bother me to wear suits.

### ***Early bird or night owl?***

→ Definitely an early bird. I go jogging in the morning while my family is still sleeping, and when the others wake up at 8 o'clock, I'm happy to have already achieved something.

### ***Do you prefer sweet or salty snacks?***

→ I prefer both together. Chocolate with honey and salt or nuts is one of my favourites.

### ***Do you prefer playing sports or watching them?***

→ I prefer to do sports myself. For example, I go jogging or bike riding. But when the VfB is playing, of course I'm watching.

### ***Go camping or stay in a resort?***

→ I try to do both at least once a year. In the summer, we go camping locally, and when it gets cold here, we visit a hotel in the south.

### ***Mountains or the sea?***

→ I much prefer the sea for vacations, but on weekends, I also like to visit the mountains. I find that I can relax much better there than other places.

### ***Music or podcasts?***

→ I am a big listener of music and have a very broad taste - from string quartets to AC/DC. I also do like to listen to informational podcasts to expand my horizons.

### ***City or village?***

→ I prefer a village just outside of a large city. There you have fresh air, but also nearby entertainment.





#### THE SERIES AT A GLANCE:

TORSION TESTS // BENDING TESTS // DRAG CHAIN TESTS // KINK AND ABRASION TESTS //  
**FIRE TESTS** // AGING TESTS // EMC TESTS

# Fire Tests

When developing our cables and wires, every product is extensively tested in our testing laboratories. In this fifth part of our series "Put to the Ultimate Test", we will explain how we perform fire tests.

In both industrial applications as well as in building installations, fire prevention is of central importance. In many cases, fire can endanger lives or severely damage machines, plants, and infrastructure. Different standards and regulations such as UL, VDE, or ISO lay out specific requirements for how cables and wires should behave when subjected to fire. Depending on where they are being used, they must be flame resistant, non-propagating, and not emit toxic gases when burned.

To ensure that our products meet all required safety standards, we perform comprehensive fire tests in our testing laboratories. Cables are fixed either horizontally or vertically then exposed to the flame of a Bunsen burner. The exact procedure, as well as the strength and exposure time of the burner, differ according to the standard being tested for. When testing, technicians pay close attention to how quickly the flame propagates along the length of the cable and whether liquid plastic droplets form, which could cause the fire to spread.

Our engineers are only satisfied when the provisions laid out by the respective testing organisation are thoroughly fulfilled. Should a product require further tests, such as a bundle fire test or a smoke density test, we also perform these in cooperation with external institutions. This ensures that our cables and wires comply with all current fire prevention requirements and provide the maximum protection for people and materials. ◀

## Ask the Expert

### ***How are cables and wires made to be flame retardant?***

The most important factor for flame retardancy is the sheath material. The cable's outer sheath is, after all, always the first to come into contact with and react to fire. Some plastics that we utilise as sheath material, such as PVC, are inherently flame retardant. Others achieve this through the addition of flame retardants that contain halogens or minerals.

### ***Why aren't all cables equally flame retardant?***

Because, for example, mixing in flame retardants can negatively affect other properties of the cable, such as the flexibility or the

temperature resistance and tensile strength. Adding to this is the fact that halogen-free cables are being required in more and more applications, since halogens react aggressively to fire and can be hazardous. They can cause chemical burns in the respiratory tract and corrosion in machines and buildings. This is why it is important to closely consider each individual application to make sure we find the ideal solution that has the right properties and meets all applicable regulations.

## ABOUT THE EXPERT

Denny Effenberger-Sehm is the Head of Quality Assurance at the HELUKABEL production facility in Windsbach, Germany.



HELUKABEL performs various fire tests according to UL and VDE standards in its testing laboratories.





# Welcome to Thailand!

Interesting facts about the HELUKABEL subsidiary and the country

- ▶ HELUKABEL has been represented by their subsidiary in Thailand since 2005. The team, which is led by managing director Sutisa Boonvilai, now consists of almost 70 employees.
- ▶ HELUKABEL Thailand is located in Nonthaburi, which is situated just north of Bangkok. The team moved to this new location in 2015, which boasts an office building and a 1,500 square metre warehouse.
- ▶ As a safety precaution, the subsidiary's new offices were built on stilts after the former building was hit by severe flooding in 2011.
- ▶ Thailand is the second-largest economy in Southeast Asia. Construction companies, the manufacturing industry, and the oil and gas sectors are some of HELUKABEL's most important customers.



## FUN FACTS

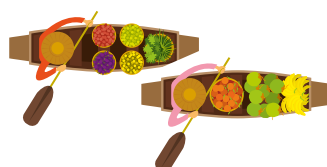
More than 90 percent of the Thai population are Buddhist, and with roughly 35,000 temples, Thailand has an impressive number of religious sites. The temple Wat Traimit in Bangkok is home to **THE WORLD'S LARGEST GOLDEN BUDDHA STATUE**, which is over three metres tall and weighs around 5.5 tonnes.



The Thai language is a tonal language, which means spoken words can have completely different meanings depending on the pitch used. The Thai alphabet consists of **44 CONSONANTS AND 21 VOWELS**, and individual words are written together without spaces.

The Thai endonym Prathet Thai translates to **"LAND OF THE FREE,"** which is very appropriate, since Thailand is the only Southeast Asian country that was never colonised by a European nation. The Thai are very proud of their autonomous development and one-of-a-kind culture.

Throughout Thailand, and especially in Bangkok, canals and waterways are home to a special tradition. In the capital, you can find so-called **"FLOATING MARKETS"** where merchants sell fruits, vegetables, and other wares from their boats.



Every year in April in Thailand, the Thai New Year's Festival **SONGKRAN** is celebrated. This festival is famous for its wild water battles in the streets. With these tropical temperatures, the water is not only cooling and refreshing, but is said to bring good luck in the new year.



The **DURIAN FRUIT**, renowned for its large size, potent aroma, and thorn-covered rind, elicits a spectrum of responses. While some people find the strong aroma to be uniquely sweet, others find its scent overpowering and unpleasant. The enduring nature of its smell has prompted the banning of the fruit in some hotels and public transportation systems in Thailand.

## FAQ

## How do I find the most optimal cable for a drag chain?

**C**ables installed in moving drag chains must fulfil especially stringent and diverse requirements. Some cables are subjected to high speeds and dynamic accelerations, others to long travel distances or confined spaces. Cables are sometimes moved back and forth millions of times and must be able to withstand these loads without being damaged.

Drag chain cables must therefore be exceptionally resistant to bending, tensile, and abrasive forces. Depending on where the cable is used, they may also be subjected to extreme temperatures, oils and chemicals, moisture, or UV radiation. In order to ensure the durability of the cable, it is important to select the optimal cable for each application. At HELUKABEL, we consider five factors: the cores, the stranding elements, the screening, the sheath, and the applicable standards.

The cores typically contain copper conductors. In order to endure the constant movement of a drag chain, these conductors are stranded together, and when possible, extra finely stranded according to conductor category 6. These strands consist of many individual wires and are therefore very flexible. The core insulation must be abrasion resistant since it is also constantly in motion causing it to rub against other cores, the screening, or other fill materials.

It is important to ensure the cable has the appropriate stranding during its construction. Drag chain cables often contain a torsion-resistant core element around which the cores are stranded with a short lay length. This helps better offset the tensile and shearing forces experienced by drag chain cables. Stranding in bundles can also be advantageous. This is when multiple cores are bundled together and then stranded together with other bundles. This significantly increases the lifespan of cables within drag chains.

The screening serves to prevent electromagnetic disruptions and individual cores and wires from interacting with each other. High-quality drag chain cables have a c-screen, which is a mesh of metal wires that is wrapped around the strands. For this, the braid angle must be as flat as possible in order to compensate for compression and stretching during bending.

The sheath is tasked with protecting the cable from external influences, which in drag chains is most commonly abrasion. To achieve this, highly abrasion-resistant plastic mixtures such as PVC, PUR, or TPE are used, whereby TPE is the most resistant. The sheath material is ideally applied to the cable under pressure. This is to ensure that the liquid plastic is able to flow into every gap, helping keep the cores running in a straight line throughout the length of the cable, making the cable more robust, especially for long travel distances.

Last but not least, the cables must fulfil all relevant standards depending on the specific application, whether it be the European DIN VDE and EN requirements or the American UL standards. Drag chains, however, are not explicitly defined as an application in most standards. This means that, for example, the "how" of drag chain construction is left up to the manufacturer. That is why it is advantageous for customers to source their drag chain and the cables within it from the same manufacturer, which is possible with HELUKABEL. Our experts ensure that all components are optimally compatible, and that the entire system can reliably endure the demanding requirements of everyday use.

**About the Author:**  
Andreas Muckes is  
the Senior Product  
Manager Solutions  
at HELUKABEL



### FIND OUT MORE

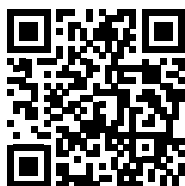
Learn more about  
drag chain cables in  
our new white paper.  
Download it for free!





## OUR TRADE FAIR DATES

HELUKABEL will be exhibiting at various trade fairs around the world over the next few months. Please check our website **helukabel.de/trade-fairs** for an up-to-date overview of the dates and locations. We look forward to your visit!



## HELUKABEL ON SOCIAL MEDIA

We use our social media accounts to share all the latest news from the HELUKABEL world with you: from product innovations and successful customer projects to delving deep and sharing knowledge on technical topics concerning electrical connection technology. Would you also like to stay up to date? Then follow us! We can be found on the platforms listed below:



**helukabel gmbh**



**@helukabel-gmbh**



**@helukabelgroup**



**@helukabelgroup**



**@helukabelgroup**

## Imprint

### PUBLISHER:

HELU KABEL GmbH  
Schloßhaldenstraße 10  
71282 Hemmingen  
info@helukabel.de  
www.helukabel.com

### RESPONSIBLE FOR CONTENT:

Dr. Petra Luksch

### CHIEF EDITOR:

Dr. Petra Luksch

### EDITOR:

Matthias Reiser

### DESIGN:

Elisa Mongiovi

### PRINTING AND PROOFING:

W. Kohlhammer Druckerei GmbH

Published semi-annually.

All rights reserved. Publication, reprinting and reproduction, even excerpts, require the permission of HELU KABEL GmbH.

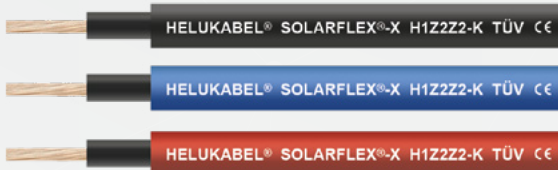
### CONTACT THE EDITOR:

HELU KABEL GmbH  
Corporate Communications  
Schloßhaldenstraße 10  
71282 Hemmingen

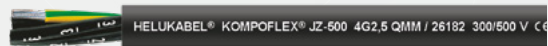
Email: presse@helukabel.de  
Telephone: +49 7150 9209-0

HELUKABEL has suitable connection solutions for the most diverse applications in agricultural technology. Many of these are specifically designed to reliably transmit energy and data under the harsh operating conditions of the agriculture sector.

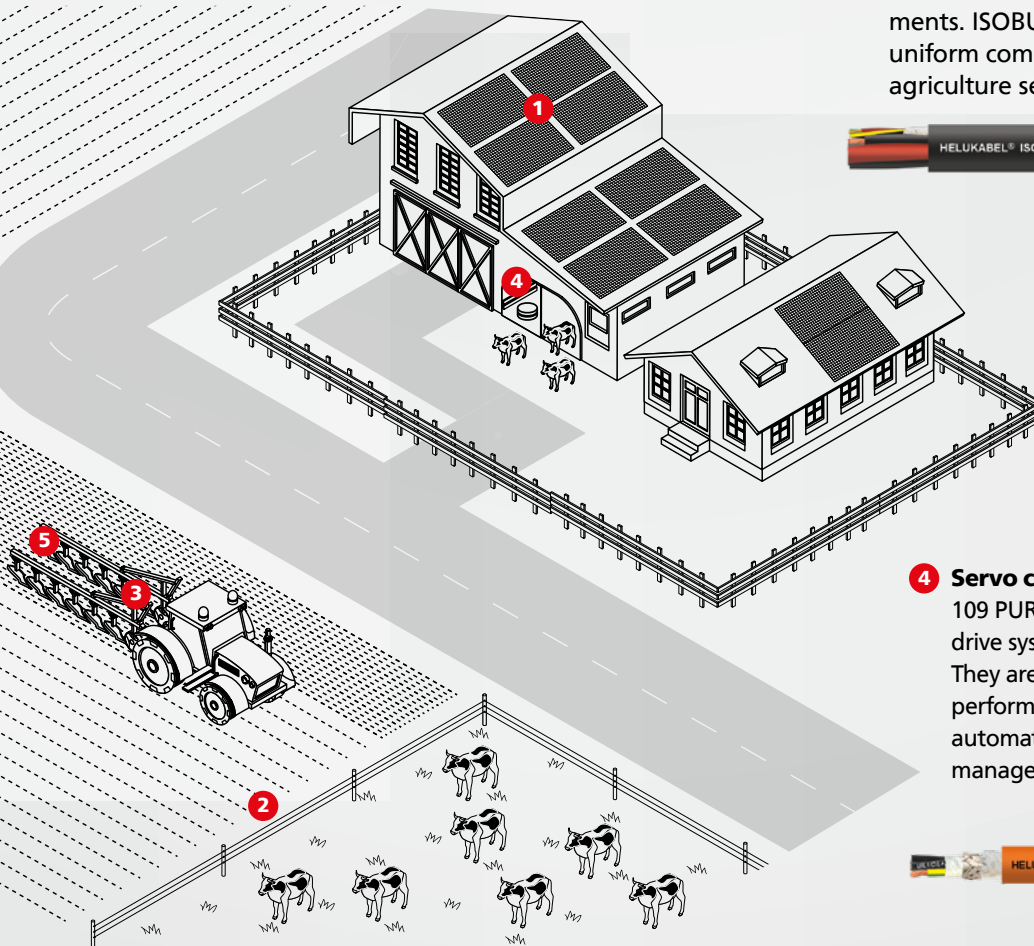
- 1 String wires** from the SOLARFLEX-X series are used to connect solar modules to one another, as well as with the power inverter. They are resistant to UV radiation, ozone, weathering, and moisture, and are available with optional rodent protection.



- 5 Robust KOMPOFLEX JZ-500 control and connection cables** are resistant to a number of environmental conditions. This makes them the perfect choice for the wiring of accessory equipment in the agriculture sector.



- 3 The ISOBUS PUR** is a hybrid cable that can simultaneously transmit energy and data between tractors and their attachments. ISOBUS is used globally as a uniform communication standard in the agriculture sector.



- 2 The HELUPOWER FARM** is suited for powering the electric fences used in livestock farming by connecting the power supply, feeders, and rectifiers. It can also be installed both above and below ground.

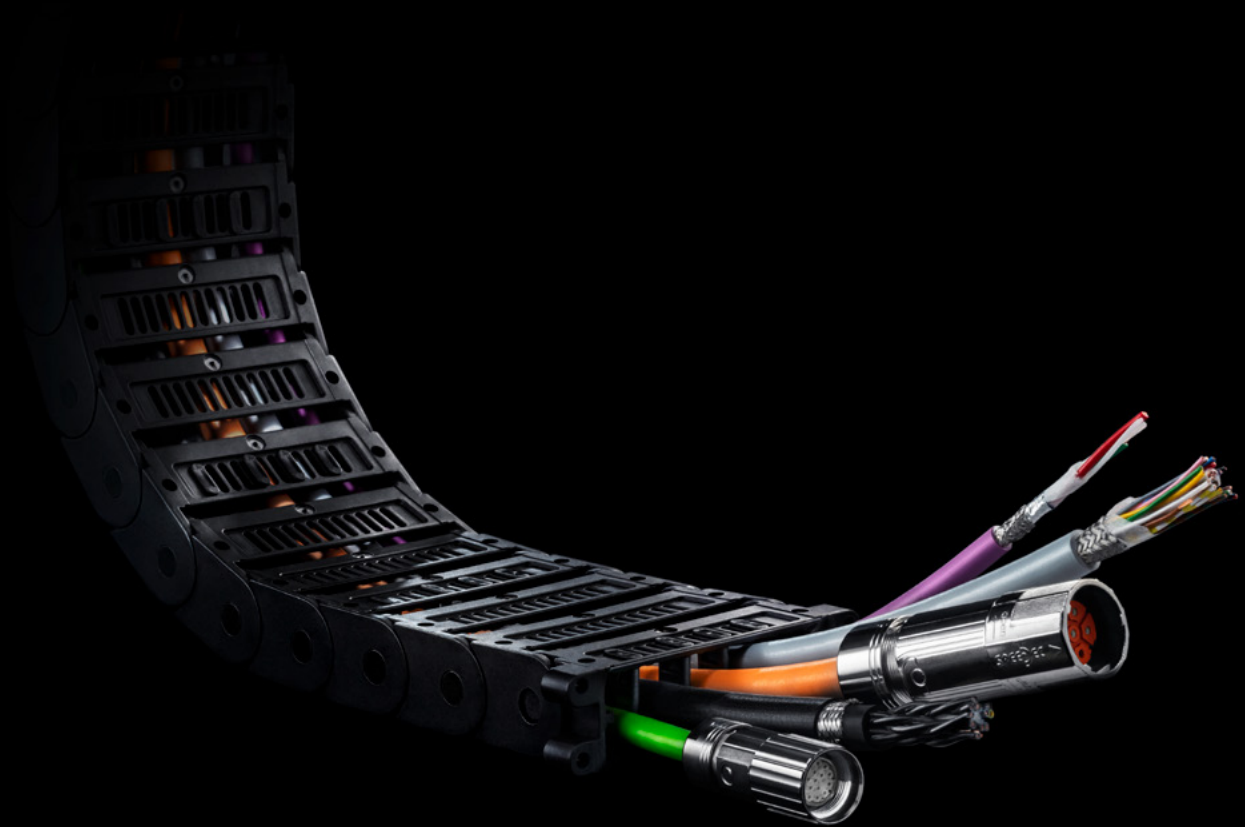


- 4 Servo cables** such as the TOPSERV 109 PUR are used in the control of drive systems in robotics, for instance. They are found in farm robots, which perform a variety of tasks such as fully automated feeding and manure management.





# Chains, Cables, Assemblies: Quality from a Single Source



**(Channeling  
POWER)** 

