Dear Readers,

As you have probably already seen, our website had a face lift in September. Our goal, in the future will be to offer an even wider range of information, and additional on-line functions. Furthermore, we recently developed an app for tablet computers, so you can easily bring up the data sheets and product specifications when you are on the move.

Even though we are adding to your ease and flexibility to locate our product information, we are aware that sometimes it takes a personal conversation in order to be able to find the best solution for your sophisticated technical application. In many cases, if we look at the application first hand during a site visit, we can provide even more valuable insight into the optimum cable solution.

You can rest assure, that even though we are working to improve our on-line services, we will continue to work alongside you to personally offer advice and assistance.

Yours sincerely
Helmut Luksch
General Manager

Zoos rely on HELUKABEL® data cables

Because of their biodiversity, zoos and botanical gardens have increased requirements when it comes to the resistance to vermin and microbes. This biodiversity, gathered from around the world, brings with it the risk of infestation by a wide variety of different types of pests. To combat this problem, facility staff must use large amounts of pesticides, which normally have long-term negative effects on network cable.

For example, more than 10 different types of cockroaches are found in the zoo, and if gone unchecked, they can spread and live within ducts and cable trays. This requires data cables to have a high degree of rodent resistance in order to be protected against mechanical damage that could prevent the transmission of information in sensitive areas. Furthermore, the toxic effects of plant poisons can, when they dissolve in water, come into contact with the outer skin of the cable causing damage to the cable sheath. Therefore zoos, such as the Wilhelma Zoological Botanical Gardens in Stuttgart or Karlsruhe Zoo, recommend using the HELUKAT® 600AE LAN cable.

This LAN cable meets the specific requirements of zoos and botanical gardens using an optimised double sheath with built-in steel groove that works prophylactically against pests and rodents. The UV-resistance, transverse and longitudinal water resistance and higher tensile strength allow the 600AE to be buried in the ground or used in wet areas. The extended temperature range of -50°C to +70°C also meets the requirements of similar parks in the Scandinavian regions. This high-performance cable is halogen-free, flame retardant according to IEC 60332-1, and is constructed using a shielded, twisted pair cable (SFTP) design. It meets the CAT 7e standard for high data transfer rates in the range used in high speed local data networks. It also meets the highest requirement class - Class FA - according to DIN EN 50173 up to 1000 Mhz.

To ensure a direct, interference-free transmission of data, HELUKABEL® recommends using the 600AE with zinc die cast industrial connectors which can accept 12.2 mm thick cables.

Wilhelma
Zoological & Botanical Gardens - Stuttgart

With around 9,000 animals and over 1,000 species, Wilhelma is one of the most diverse zoos, not only in Germany but worldwide. There are also around 6,000 various plant species in the historic park and greenhouses at Wilhelma.

More information at www.wilhelma.de
**HELUKABEL® helps the Southern African Large Telescope to peer further into space**

**BACKGROUND**
Many fundamental discoveries and advances in astrophysics are made possible by advances in the tools that open up new areas to be observed. One such area is the infrared spectrum of light, which is light too intensively red to be visible to the human eye, emitted from astronomical objects.

**The Infrared Spectrograph**
At the University of Wisconsin-Madison (UW), an astronomical infrared instrument is under construction called the Robert Stobie Spectrograph Near Infrared Arm (RSS-NIR). Its home will be the Southern African Large Telescope (SALT) in South Africa’s Karoo Desert. Using such a tool, astronomers can search for extremely faint objects in the universe, and answer questions related to the formation and evolution of stars and galaxies.

One of the difficulties in the astronomical observation of infrared light is the fact that all objects, including the instrument itself, emit infrared radiation, affecting the results of the observation. The amount of infrared emissions increases with the temperature of the object in question. In order to reduce the impact of heat radiation by the instrument, the entire RSS-NIR has to be cooled to very low temperatures.

The infrared detector, which records the images, is therefore placed in an insulated cryogenic casing at -150°C. The chamber that is positioned in front of the casing houses a number of moving mechanisms at a temperature of -40°C, which configure the instrument to work in various observation modes. The moving parts in the RSS-NIR are equipped with motors, position and temperature sensors, plus heaters to control temperature stability. All this requires cables that run between the systems and the external controller.

**Challenges in wiring**
It is difficult to conduct electrical signals through the thick, insulated wall of the -40°C chamber since the wall acts as a temperature and moisture barrier. To minimize the number of cable passages between this chamber and the external control unit housing, the sensors and actuators communicate internally via serial networks. Simultaneously, the cables installed on supports in the -40°C chamber are laid such that the moving parts are fully able to move.

**Why HELUKABEL®**
"When deciding on HELUKABEL®, it was crucial that their cables were suitable for the tight bending radius in the cable carriers and that they can withstand the ongoing bending load, even at extremely low temperatures," said Ron Koch, an electrical engineer and designer of the control hardware. For the most demanding network applications in the RSS-NIR, a cable had to be found which had additional shielded pairs and a polyurethane (PUR) jacket. Koch finally decided on the HELUKAT® Industrial Ethernet Cable (Part No. 82838), which is a twisted quad, copper data cable. The quad-construction can be laid more efficiently than two pairs, enabling the cable diameter to be smaller, producing a smaller bend radius. Moreover, with its friction-reducing coating on the wires and a braided shield enclosed in a polyurethane sheath, the cable is designed for use under constant bending and even works at the low temperatures found in the -40°C chamber. Once the suitability of the cable had been demonstrated in various tests that came as close as possible to the real-life operating conditions, it was installed in the RSS-NIR where it is permanently in use. The use of other HELUKABEL® products is planned.

Ron Koch and the team from HELUKABEL® USA will remain in close contact to advise on the suitability of other HELUKABEL® cables for this project.

**Cables that have been used so far:**
- HELUKAT® Industrial Ethernet Cable
- DeviceNet™-PUR Cable
- Industrial-USB-BUS 5 Cable
- SUPER-PAAR-TRONIC-C-PUR
- DATAPUR®-C
- SUPERTRONIC-C-PUR

For more information, see www.helukabel.de/salt-de

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Unique challenges require special solutions. Such challenges include the use of specially-designed robots to inspect the piping systems in sensitive industrial facilities such as nuclear power plants, or oil and gas refineries. HELUKABEL® has developed a special cable for INSPECTOR SYSTEMS GmbH which ensures the supply of power to the new, flexible ultrasonic testing robot. These special robots have been developed for GE Hitachi Inc. to determine the wall thickness of buried pipelines, and are being manufactured for use in the United States.

The pipe robots consist of several drive elements, which are flexibly connected together with bellows. These are supplemented by an individual testing element. The wheels of the drive elements are pneumatically pressed against the inner wall of the pipe. This technique allows the robot to move through dry and water-filled pipes with bends and vertical sections up to a total length of 300 m.

Through the development of various pipe inspection robots for one of the world’s largest technology companies based in the United States, INSPECTOR SYSTEMS is further building up its technological expertise in the field of internal pipe inspection and demonstrates that German ingenuity is in high demand on the international market. Herr Hitzel, CEO of INSPECTOR SYSTEMS GmbH, describes working with HELUKABEL® as follows: “HELUKABEL® has developed a cable that is tailor-made to our specific requirements, which allows us to control our robot perfectly. The cooperation in the development of the cable was superb and we are very satisfied with the quality of the final products.”
HELUKABEL® to produce electricity for 170 households

For sustainable, environmentally-friendly electricity from solar energy, HELUKABEL® has installed a photovoltaic system at its headquarters in Hemmingen. The capacity of this plant is 674 kWp, which equals the annual consumption of about 170 households, or half of the electricity needs of the logistics centre.

HELUKABEL® forklift driver is European Vice Champion with Team Germany

Germany recently went up against Spain in the finals. No, not at the European Football Championship, but the International Champions StaplerCup 2012. The result was unfortunately the same as in the soccer match. For the first time in the history of the StaplerCup, Spain was able to take the title. After a thrilling contest, they secured the top position on the podium at the Grand Final in the Palace Square in Aschaffenburg. The final was exciting right down to the last second as the winning Spanish team lowered their forklift from the stack of pallets just a few milliseconds before their German opponents in the final competition. The German national team, represented by Jörg Klößinger (HELUKABEL®) from Petersaurach, Stefan Theissen from Remagen and Herbert Leuci from Michelau, had to admit they had been beaten this year. This year’s defeat broke team Germany’s four-year winning streak.

HELUKABEL® – global network

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Exhibition dates

» 15.04. - 21.04.2013 Intersolar, Munich
» 26.11. - 28.11.2013 SPS/IPC/DRIVES, Nürnberg

Training at HELUKABEL®

Since 1 September, five new trainees have been strengthening the HELUKABEL® team. The trainees will start their professional career as Warehouse Logistics Specialists and Commercial Assistants in Wholesale and Foreign Trade.

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