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LÜTZE-REPORT

The international magazine of the Lütze Group

GREAT RESPONSIBILITY IN POWER STATION TECHNOLOGY

CABLE SOLUTIONS

DYNAMIC WATERMANAGEMENT

WATER - THE ELIXIER

TUNNEL SAFETY AND EFFICIENT SWITCHING SYSTEMS

FULLY EQIUPPED CHAINS

RENEWABLE ENERGY

LÜTZE

Systematic Technology

EDITORIAL

Udo Lütze
CEO Friedrich Lütze
International Group

New approaches help us to reach our goals quicker

To hold one's ground against tough competition requires a constant supply of new solutions. Especially in a time of rapid change, one thing is important above all: to be open for new things.

And that is just where we can help our customers. Thanks to our extensive product range, we have the ability to develop customer-specific solutions. These are always just as individual as the challenges facing our customers and partners.

In this Lütze REPORT you will learn about more of the creative and innovative solutions that have come about in cooperation with our customers. Let us find new approaches together - then the goal will be all that much closer.

Yours sincerely
Udo Lütze

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Small components, great responsibility in power station technology Peter Neffgen, LÜTZE Germany

LÜTZE is active in the area of special component development for the traditional RWE company, founded in 1898. RWE is one of the leading energy suppliers throughout Europe with more than 37,000 employees in Germany today.

Most recent example: LÜTZE developed a auxiliary trip relay for power stations at RWE Rhein-Ruhr Netzservice GmbH, Technical Center Secondary Technology. It is used for electrical generator protection at large power plants, whereby we are talking about large 100 to 1600MVA generators. The relays establish the connection between the trip matrix and the switching element in the release chain. A failure or malfunction of the component would automatically lead to the failure of the entire protection concept and thereby expensive interruptions or even entire system failures. This means that LÜTZE must guarantee 100% function of the relays for long periods of time, whereby neither variations in temperature nor extended rest times may influence the functional safety of the component. Another development by LÜTZE is working in the process control technology alarm systems: A semiconductor coupling component for the output level. Both components are used in large numbers and function without problems.

Bildnachweis: RWE

Power Panels Electrical Systems Limited – Lean Machine.

Nigel Broad, LÜTZE UK

As an acknowledged world leader in the provision of high value-added manufacturing solutions, PP Electrical Systems' achievements have been recognised in recent years through a number of high profile industry awards, including an impressive four Best Factory Awards in 2008. The West Midlands based company, which counts numerous respected brands as customers, has gone from strength to strength since its formation over 40 years ago, developing into a total solutions provider.

Managing director, Tony Hague: "Established in 1967, we provide manufacturing solutions to world-class OEMs through the design and build of electrical, electronic, electro-mechanical and electro-pneumatic control systems and assemblies. This year, turnover is approaching £20 million, growing from £5 million in 2001; we're very focused on cellular manufacturing supported by Six Sigma methodology. Over the years, we have developed from a predominantly projected business to what is now a company working solely with OEMs.

PP have the ability to offer complete solutions for their customers in the form of control panels, electronic and electrical sub assemblies and complete machine wiring solutions including drag chains and specialist wiring harness construction.

LUTZE Ltd. has been working with PP for over 10 years and in that time have realised many connectivity solutions. These solutions involving special cables and connection interfacing have in some cases been specifically designed and produced to achieve the required results in terms of performance and cost.

Tony Hague comments" suppliers are key to our success and we have fostered very close relationships with Companies who have made significant contributions to our business, LÜTZE are an important supplier as they provide a first class service and are our partner of choice for cable related products. Over the years they have worked hard to understand our business and now supply products in a number of different forms to meet our JIT requirements"'

Unlike its competitors, PP is in a position to discuss added value techniques with its customers. The organisation offers a much greater service than purely supplying products, as Tony Hague explains: "We provide a complete manufacturing solution and talk to prospective customers about reducing total cost of machine build, minimise inventories in the supply chain and reducing manufacturing lead-times, rather than just talking about products or prices. We also help clients manage production levels, create flexible capacity and in essence minimise manufacturing risk."

This contribution from PP is all the more pertinent in respect of today's economic climate, as many of its customers are involved in the manufacture of capital equipment and are hence facing a number of challenges in times of economic uncertainty.

Dynamic Water Management

Réne Koch, LÜTZE Switzerland

Stable pressure conditions, excellent water quality in the heating system, and a reliable, hygienic water supply - features that characterise Pneumatex AG of Füllinsdorf, Switzerland.

Here dynamic water management stands for the spirit of innovation, proximity to customers and farsightedness in the spirit of the Pneumatex pioneers centred on Carl Stücklin. 100 years ago he founded an installation company which after the difficult war years developed into a system provider with its own design engineering and production.
Since being acquired by Karl Willemenin 2002, the newly-founded Pneumatex AG has focussed systematically on modern water management: heating technology pressurisation, water system quality assurance, and drinking water pressure stabilisation. In 2007, IMI Indoor Climate acquired Pneumatex in order to reinforce its product range in the field of heating, ventilation and air conditioning (HVAC). Since then, HVAC customers have benefited from the combination of innovative drive and technical know-how of the companies Pneumatex and TA (Tour & Andersson).

One important offering is the Transfero product series for precision pressurisation in the range ± 0.2 bar, with pumps for heating, solar, and cooling water systems. This family also includes the Transfero TI large industrial pressurisation units. An important element for controlling these units is the PowerCube three-phase current control cabinet. In order to produce them even more efficiently, Pneumatex looked for a state-of-the-art solution with a high standard of quality - and found it in the LSC wiring system from LÜTZE. To minimise logistics requirements, it is ordered as a complete assembly, already equipped with terminal strips. For its part, LÜTZE AG has a long-time partner in the form of Elimex GmbH of Bettlach, Switzerland, which produces and delivers terminal strips quickly and flexibly.

Martin Schürch, developer responsible for the PowerCube control cabinet: "Pneumatex AG's core manufacturing competence is, in addition to the production of expansion vessels, the assembly and manufacture of hydraulic assemblies for the popular Pneumatex pressurisation, degassing and make-up units. The wiring requirements for these units' electrical components are minimal. One exception, however, is the electrical equipment and three-phase drives of the large Transfero TI pressurisation units, which are used primarily in industrial applications, power plants and district heating systems.

Initial attempts with traditional wiring technology quickly led to the realisation that an alternative wiring system would have to be found, one that would save space and assembly time.
The LCS system from LÜTZE offers both of these to an impressive degree. A partnership arose that has proved very beneficial for both parties, and which was made perfect with the addition of Elimex GmbH as a partner for the assembly of the terminal strips.
The result is a very efficient triangular relationship, in which Pneumatex implements changes and adjustments to the terminal strips directly with Elimex GmbH, while all contacts with regard to the LCS wiring system run through LÜTZE. As a system supplier, LÜTZE AG delivers the LSC frames with preassembled, labelled terminal strips. This means that immediately after we receive the frame we can complete its assembly, wire it, and install it in the cabinet.

In short, we receive from LÜTZE a product that precisely reflects our needs, and which can be adapted very flexibly to changing requirements. And what is more: our relationship with LÜTZE is characterised not only by a high level of professionalism, but also by a very pleasant human atmosphere".

Water - The elixir

Hans-Jürgen Ehrlinger, LÜTZE Germany

Water! A subject that will continue to gain importance in the future. There are many countries in this world where clean water remains rare and valuable. The growing world population continues to increase the agricultural demand for water and households. Industries require water to grow as well.

Until recently, humanity often handled this valuable resource inefficiently and wastefully. In the meantime, many countries recognize the importance of a more efficient use of this valuable resource and search for alternatives to get the water problems under control.

Klaus Dieterich Schaltanlagenbau (KD) in Pirmasens, Germany, is active and well positioned in the fast growing global area of water recovery and water processing: For about 50 years, the company has provided its customers with complete solutions for water supply systems, sewage plants and environmental technology.

In the hottest desserts and coldest regions in the field
KD handles projects at home with decades of experience, but also in the North African desserts, cold regions of Russia and is successful even in China. This is made possible by a team of well trained and experienced employees in addition to the cooperation with innovative partner companies.

A variety of measuring units is converted to signals as part of the control and automation of the complex systems that can be processed by process management systems. Signal convertors hereby record signals from field instruments such as thermal elements, resistance thermometers, pressure sensors or optional voltage, current or frequency signals and convert them to standard signals (e.g. 0-10V, 4-20mA etc.). The devices can also be used for the most accurate measuring value transfer, separation and removal of earthing loops. At KD, LÜTZE products have been used with these conversion components for many years.

Head start through LÜTZE signal converters
KD confirms: “LÜTZE converter components are convincing beginning with the design to the use of the system through dependable and economical signal transmissions between the field and control system. They offer a variety of possible uses. “The high level of measuring accuracy, very good long-term stability, multifunction inputs and outputs, broad range power supply units for voltages from 24 to 230V DC/AC or even a galvanized 3-way separation are only a few points that underline the advantage of LÜTZE signal converters with regard to technology and economy.

KD’s end customers profit from a high degree of system safety thanks to the high-quality products that are used and thereby low costs for continuous operation.

LSC in the Road Tunnel

Konrad Gnigler, LÜTZE Austria

Under the banner "Tunnel Safety and Efficient Switching Systems in Tunnel Technology", a specialist event, with representatives of public bodies, planning offices and building companies took place on 5th March 2009 at the foot of the Grimming in Styria, Austria. As the host, representing the State Government of Styria, Mr Anton Waltl offered thrilling insights into the world of road tunnels and avalanche protection structures. Whilst visiting the operations centre with the tunnel switching system, the participants could inspect the special benefits of the LSC system for themselves, by seeing a system already in operation. Besides the ordered wire routing, the visitors were particularly impressed by the clear, compact structure. With this system, the switchgear cabinet is effectively integrated into the switching room air-conditioning system. This ensures optimum conditions for the resources.

After the visit, Mr Anton Waltl talked about aspects of tunnel safety. The visitors listened to this with great interest. In particular, the radar system used here, which surveys the mountain on the opposite side and detects avalanches which could pose a risk to the road and its users, was a surprise for non-insiders. Here, the system ensures that even at the beginning of an avalanche, people and vehicles at risk are kept in the tunnel or are stopped before the danger area. The expansion of the tunnel system and avalanche gallery became necessary when, in 1988, the federal highway B 145 was covered by a 3 m-high avalanche over a stretch of 200 m and, after that, another avalanche in 1999 made the subsequent gallery impassable. The new tunnel system ensures that, with future avalanches, the B 145, and thus a key connection between of the Styrian Salzkammergut and the rest of Styria remains open.

LÜTZE INTERNATIONAL

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LÜTZE fully equipped chains

Armand Patte, LÜTZE France

One of the Snecma sites handles the machining of disc supports for low-pressure turbine blades for high thrust engines in wide-body, long-range aircraft from Boeing 737, Airbus A319, A320, and A321.

This highly automated plant is one of the most competitive sites for the manufacture of discs. Like all the rotating parts in an aircraft engine, a highly stressed turbine disc must not fail. Given this constraint, its manufacture requires great expertise. Prior to 1987, machining a turbine disc used to take 6 months. Today, this plant carries out the task in less than 6 weeks.

This versatile workshop is unique in France. It combines 3 lines from 6 machining centres using fully automated, computer-controlled. The lathes all share a common store of cutting tools, so there is a high degree of flexibility. These machines can be adapted very quickly to the different disc models to be manufactured, while the replacement of worn cutting tools is achieved in record time. However, after 20 years of production and with the aim of optimising the machining process, Snecma decided on a joint modernisation project so the site could maintain its production levels.

As well as the 3 machining lines, some aging electrical and mechanical functions had to be replaced too. The main renovation task involved the mobile line for the robot supplying the 6 machining centres with cutting tools. This robot line was some 60 metres long. Electrical and pneumatic function continuity would be guaranteed by a cable-support chain. This item was the weak link in the facility, with its efficient operation being the key to the productivity of the line. The on-site presence, the reactivity and the advice of our engineering service gave Snecma engineering partners and confidence in our know-how in the area of cable and cable-support chain manufacture so they could quickly replace the mobile facility.

LÜTZE was selected to provide a complete feeder chain 30 metres long and to install 11 cables 70 metres long and a compressed air system in it. The special cables were mainly lines for incremental coders, power cables for servomotors, and several SUPER-FLEX® Plus N PUR cables for joining distributor grappler arms. All lines were in lengths to suit the mobile outlet from the chain and the whole system was ducted through a LÜTZE Cablefix Vario cable-entry system. Thanks to preparatory work, design and assembly of the feeder chain at LÜTZE several weeks before final delivery, LÜTZE S.A. was able to meet the challenge involved and enable SNECMA to start up its plant again as planned.

The result has been a considerable reduction in costs, significant time savings for Snecma, and a reduction in the number of people involved on site. Satisfied with the LÜTZE services, Snecma has been able to update its machinery with our feeder chains and give it a new life.

Exhibitions 2009

Exhibition	Place	Country	Date
Mach Tech	Budapest	HUN	19.-22.05.2009
MOTEK	Stuttgart	D	21.-24.09.2009
Smart Automation	Linz	AT	07.-09.10.2009
ELO Sys	Trencin	SK	13.-16.10.2009
SPS/IPC/DRIVES	Nürnberg	D	24.-26.11.2009

Renewable Energy – LÜTZE takes on the challenge

Magdalena Kramer, LÜTZE USA

With fuel prices skyrocketing, oil resources dwindling, and emissions compromising the environment and health, the call for new energy sources is getting louder. The world is changing towards renewable and alternative energy sources, such as solar, wind, geothermal, biofuel and tidal power. A number of governments are setting up new laws and restrictions to cut on emissions and push the use of green energy. These trends open new possibilities for innovation.

The green energy market is rapidly growing all over the world.

In 2007 Merril Lynch forecast the global wind capacity would exceed 200 Gigawatts (GW) in 2011. Countries all over the world outgo each other every year with wind energy capacities reaching up to 735.5 Megawatts (MW) per wind power plant. Meanwhile, solar capacity is anticipated to reach a level of 26.5 GW by 2010. The Sun alone, provides 970 million GWh per day, thus, the growth potential for this renewable energy source is immense. Solar power plants are blooming. The biggest project is currently in China, aiming to produce 1 GW.

The newest trend is decreasing the dependence on big energy providers and decentralizing the power distribution. Smaller power plants, even for residential use, are being developed. Single households get the opportunity not only to power their own home, but also to sell the surplus back to the power supply system. Such a system is already working in Freiburg, Germany, and is copied world wide with solar as well as wind energy.

This world wide change also provides new opportunities for the cable industry. Renewable energy devices are designed to harvest energy from wind, sun or other alternative sources. Therefore these power generating devices are exposed to harsh environments and the forces of nature thus need extraordinary strength and reliability. Cables that are used with these devices have to meet newly designed Industry approvals, e.g. the German VDE certification or the American UL 4703 standard for solar photovoltaic cable. The UL 1277 standard has been modified for wind turbine tray cable (WTTC) in the USA.

LÜTZE took on this new challenge and explored a new cable offering for this growing market sector. LÜTZE is developing suitable solutions for wind and solar energy applications and is working closely with leading Energy Companies in this area.

The wind turbine compatible control cable LÜTZE SILFLEX® Tray-ER PVC A308 series, which is UL WTTC (Wind Turbine Tray Cable) approved, has already been launched in the USA. Additionally, the VDE approved Thermoflex Solar XPE cable for photovoltaic applications has been introduced. High weathering and temperature resistant cable will provide a suitable solution that satisfies the stringent VDE requirements for Solar cables. As the research and development goes on in the alternative energy sector LÜTZE will continue to develop more innovative solutions for these applications.

Our product your solution!

Installation • Cabinet • Automation • OEM • Transportation

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