SAFETY
Industrial explosions protection systems from IEP Technologies save lives

HEALTH
HOERBIGER’s piezo valve technology helps premature babies

ENVIRONMENT
Teplářen, a.s. achieves 55 percent energy savings in one of Europe’s most modern gas-fired power plants
WITH THE ESTABLISHMENT OF THE NEW HOERBIGER SAFETY SOLUTIONS BUSINESS SEGMENT, WE UNDERSCORE OUR GOAL OF POSITIONING HOERBIGER AS A GLOBAL INNOVATION, TECHNOLOGY, AND MARKET LEADER IN INDUSTRIAL EXPLOSION PROTECTION.”
LADIES AND GENTLEMEN,

In the lead story of this new issue of our customer magazine HOERBIGER@MOTION, we introduce you to IEP Technologies – an acquisition in the industrial explosion protection field, which is significant for the future of the HOERBIGER Group.

OUR EXPERTISE: EXPLOSION MITIGATION

For decades, HOERBIGER has developed components and services that allow our customers to operate plants and equipment more efficiently, more sustainably, and above all, more safely.

One example is the HOERBIGER relief valve unveiled in 1957. Originally developed to protect ships’ crews and engines from the consequences of oil mist explosions, HOERBIGER relief valves today are an indispensable component in safety concepts beyond these fields of application, protecting raw material warehouses in the polymer industry, in the food industry, and in many more sectors, from the consequences of dust explosions.

IEP Technologies has more than 50 years of experience in safety and explosion protection technology for various types of dust applications. Extensive research and development projects, in particular as they relate to computer-assisted computation and simulation of explosion processes, have established IEP Technologies as the leader in this highly specialized and financially attractive niche market.

OUTSTANDING DEVELOPMENT POTENTIAL FOR HOERBIGER

We see outstanding development potential in safety and explosion protection technology – notably in the interplay with the existing development, manufacturing, and sales expertise in the HOERBIGER Group. The acquisition of IEP Technologies is being combined with the establishment of a new business segment: HOERBIGER Safety Solutions.

We are applying our decades of valve technology engineering know-how, our actuator systems and mechatronics knowledge, the precision of our production processes, and our global sales and service network to this new business segment. The expertise and innovative strength that has made IEP Technologies the industry leader in the development of custom instruments and technologies for explosion detection and suppression will allow us to also achieve valuable synergies in our core business when combined with our core competencies.

INTEGRAL SAFETY SOLUTIONS FOR OUR CUSTOMERS

With the establishment of the new HOERBIGER Safety Solutions Business Segment, we underscore our goal of positioning HOERBIGER as a global innovation, technology, and market leader in industrial explosion protection. We address our customers’ concerns about safety risks with an integral approach – by proposing a suitable safety solution for any requirement, and then creating and delivering it.

Together with our new employees from IEP Technologies, and above all together with you, our customers, we will endeavor to continue to protect lives and assets from the devastating consequences of explosions.

Dr. Martin Komischke CEO and Chairman of the Executive Board HOERBIGER Holding AG
FOCUS:
FASTER THAN A FIREBALL

They have to be faster than an explosion to extinguish a fireball even before it has a chance to fully show its destructive face. As such, they protect people’s lives as well as machinery and plants. This is the aspiration for the employees of IEP Technologies, which has been part of the HOERBIGER Group since September 1, 2015.

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CREDITS
Effective July 1, 2016, HOERBIGER Holding AG in Zug, Switzerland, will set an important course for the future: Dr. Martin Komischke (born in 1957), who joined the HOERBIGER Group in 1993 and since 2004 has held the position of CEO and Chairman of the Executive Board, will become a member of the Board of Directors of HOERBIGER Holding AG to serve as the Board’s President. The Board of Directors of HOERBIGER Holding AG has appointed Dr. Jürgen Zeschky (born in 1960) to succeed Komischke as CEO and Chairman of the Executive Board.

Until May 2015, Dr. Jürgen Zeschky held the position of CEO of Nordex SE, Hamburg, Germany. In the years prior, Dr. Zeschky's career path initially took him to Mannesmann-Demag AG in Duisburg, Germany. After having worked in the capacity of Product Manager for Compressors, as well as in engineering and sales, he was appointed as Director of Operations at Mannesmann-Demag Delaval, Trenton, New Jersey, USA, in 1997. In 2003, Dr. Zeschky joined Voith Turbo GmbH & Co. KG, Heidenheim, Germany, to serve as Executive Vice President heading the Industrial Division.

Dr. Zeschky earned his mechanical engineering degree from RWTH Aachen. He subsequently worked at RWTH Aachen as a research assistant at the Institute of Turbomachinery, where he earned his doctorate of engineering in 1991.

Dr. Zeschky joined the HOERBIGER Group on January 1, 2016. "We are delighted that we were able to recruit Dr. Zeschky as Dr. Martin Komischke’s successor as CEO of the HOERBIGER Group," comments Dr. Marcus Flubacher, President of the Board of Directors of HOERBIGER Holding AG. "We expect that Dr. Zeschky and his team will lead our company successfully toward further growth with continuity and vision."

OTHER CHANGES ON THE BOARD OF DIRECTORS

Dr. Marcus Flubacher (born in 1944), President since 1997, and Dr. Gerd Unterburg (born in 1940), a member since 2004 and presently Vice President of the Board of Directors of HOERBIGER Holding AG, will step down from their offices effective July 1, 2016, following many years of dedicated service.
At HOERBIGER Holding AG’s Annual General Meeting, Dr. Andreas Hünerwadel (born in 1964) was appointed as deputy to the future President of the Board of Directors, Dr. Martin Komischke. Holding a doctorate in law, the partner of the Wenger & Vieli law firm in Zurich, Switzerland, has been a member of the Board of Directors of HOERBIGER Holding AG since July 1, 2015, and a member of the Board of Trustees of the HOERBIGER Foundation since 2009. Prior to that, Dr. Hünerwadel served as legal counsel and on various committees for the HOERBIGER Group.

In addition, starting on July 1, 2016, Albin Hahn (born in 1957), serving on the Board of Management Finance and Personnel of Josef Manner & Comp. AG, Vienna, Austria, will support the development of the HOERBIGER Group as a new member of the Board of Directors of HOERBIGER Holding AG. Albin Hahn has been an external member of the Audit Committee of the Board of Directors since 2014.

NEW CONSTITUTION OF THE BOARD OF TRUSTEES

In addition to their resignation from the Board of Directors of HOERBIGER Holding AG, Dr. Marcus Flubacher and Dr. Gerd Unterburg will also relinquish their functions as President and Vice President of the Board of Trustees, respectively, of the HOERBIGER Foundation.

As a result, the Board of Trustees will be organized as follows effective July 1, 2016: Dr. Andreas Hünerwadel will be President, assuming management of this body. Dr. Martin Komischke will be elected to the Board of Trustees and will hold the position of Vice President together with family shareholder Christiana Hörbiger. Egbert Appel (born in 1949), President of Hilti Foundation, Liechtenstein, since 2007, and a member of the Board of Directors of HOERBIGER Holding AG since 2012, will also serve as a member of the HOERBIGER Board of Trustees.
FASTER THAN A FIREBALL

Industrial explosion protection systems by IEP Technologies protect lives

Industrial explosion protection systems need to be faster than an explosion to extinguish a fireball even before it has a chance to fully show its destructive face. As such, they protect people’s lives as well as machinery and plants. IEP Technologies, which produces these systems, has been part of the HOERBIGER Group since September 1, 2015.

Text: Ludwig Schönefeld   Photography: Cheryl Clegg and Ralf Baumgarten

Timothy “Tim” McDonough tests a wide variety of materials for combustible characteristics at the Combustion Research Center. The data are used to design tailored solutions to mitigate the devastating damage of an explosion.
EP Technologies, a leading provider of industrial explosion protection systems and services, operates internationally through its locations in Marlborough, Massachusetts, USA; Ratingen, Germany; Olten, Switzerland; Paris, France; Izmir, Turkey; and Cheltenham, United Kingdom. An unrivaled service network supports its customers so that their explosion protection equipment is always operational and effective.

Safety and explosion protection are attractive growth markets with large potential. Companies that generate, work with, or transport combustible dusts as part of their manufacturing operations are at risk from explosions and their potentially devastating consequences. In more than a hundred instances over the span of just one year, protection systems from IEP Technologies detect and suppress developing explosions within customer facilities.

Explosion protection systems provided by IEP Technologies are designed to react quickly so that damage to customer operations is mitigated. As soon as a combustible dust-air mixture ignites, it takes SmartDS dynamic pressure detectors merely a fraction of a second to activate the explosion protection system.

The explosion suppression system relies on the timely application of an extinguishing agent within the protected process vessel, which is designed to quench the explosion in its earliest stage. At the same time, isolation barriers designed to prevent any flame from traveling into adjoining process vessels are activated.

In other words: the explosion protection systems provided by IEP Technologies are designed to activate faster than the speed at which an explosion develops in its earliest stage. The proprietary software used for system design and patented hardware developed by IEP Technologies positions the company at the forefront of the industrial protection industry. In this highly specialized competitive environment, IEP Technologies is considered a market leader that offers unique selling propositions.

1 Javier Bernier joins the hemispheres of a spherical suppressor. His weld joints withstand pressure of 1,200 psi, or approximately 90 bar.
2 Eric Burke is in charge of assembly for the PistonFire suppressor.
3 Carol Lariviere has worked in control panel and power unit control assembly for many years.
Systems from IEP Technologies are designed to detect and suppress an explosion in the earliest stage.
Roy “Chip” Stratton loads the explosion protection systems with sodium bicarbonate. The proven dry extinguishing agent quenches the fireball of an explosion at the source.
50 YEARS OF EXPERIENCE IN SAFETY AND EXPLOSION PROTECTION TECHNOLOGY

IEP Technologies has experience of more than 50 years in safety and explosion protection technology. Extensive research and development projects, in particular as they relate to computer-assisted calculation and simulation of explosion processes, as well as the development of tailor-made solutions for the detection and mitigation of explosions in industrial process equipment, have established the company as a leader in this highly specialized and financially attractive niche market.

IEP TECHNOLOGIES: STRONG BRAND PRESENCE FOR HOERBIGER SAFETY SOLUTIONS

Following the acquisition by the HOERBIGER Group, Randy Davis, CEO of IEP Technologies, has assumed the task of applying the expertise and experience of his team under the IEP Technologies brand to establish a new Business Segment within the HOERBIGER Group: HOERBIGER Safety Solutions. “Under the umbrella of the HOERBIGER Group – which over the course of decades has acquired an outstanding reputation as an innovation and technology leader in the oil, gas, and process industries, as well as in the mechanical and plant engineering field – we will have exceptional opportunities to advance our successful growth strategy over the long term,” says Davis. “We are proud to join the HOERBIGER team and become the HOERBIGER Safety Solutions company. Together we will significantly enhance our position as a global market leader in industrial explosion protection.”

HOERBIGER sees outstanding development potential in safety and explosion protection technology. The acquisition of IEP Technologies therefore marks a first milestone in the Group’s growth strategy in the industrial safety field. “The acquisition of IEP Technologies is an excellent investment for HOERBIGER to strategically strengthen our business model and expand our portfolio,” comments Dr. Martin Komischke, CEO and Chairman of the Executive Board of HOERBIGER Holding AG. “The innovative strength and knowledge of IEP Technologies will allow us to tap valuable synergies for our core business and core competencies. At the same time, we will strengthen HOERBIGER’s leading role as a developer and global provider of performance-defining, and increasingly safety-defining, components and services.”

WORLDWIDE ONE-OF-A-KIND EXPERT KNOWLEDGE FOR BEST-IN-CLASS EXPLOSION PROTECTION SOLUTIONS

Timothy “Tim” McDonough is dedicated to determining the explosion characteristics of a customer’s process material, its maximum explosion pressure, and the speed with which it can reach this pressure. At IEP Technologies’ Combustion Research Center he is responsible for testing a wide variety of materials to determine their explosion characteristics. Using McDonough’s test results, application engineers like Brant O’Brien design custom explosion protection solutions for their customers’ plants. Application design is always about understanding the customer’s process and risk to provide a solution to reduce the probability of an explosion and the devastating effects that can occur from such an event within an unprotected process.

Since September 2015, the Combustion Research Center has been working on a series of tests to determine the combustion characteristics of a newly developed polymer powder. Customers of IEP Technologies provide test quantities of these new materials to determine their combustible properties. The powder is injected at a precisely defined pressure into a 20-liter sphere that serves as the internationally standardized test apparatus. McDonough attempts to ignite the dust-air mixture using a precisely specified spark mechanism.

For the polymer test series in September, he used an injection pressure of 250 psi and a 10 kilojoule energy spark. According to an internationally standardized protocol, three
EXPLOSIVE PLASTICS

Put simply, a polymer constitutes a chain composed of different chemical elements. A look through the electron microscope reveals that polymers exhibit clear differences in terms of their surface structure. Unmixed plastic materials alone, for example, already contain short- and long-chain polymers, as well as very loose and very rigid structures. One variable that plays a decisive role in the development of explosion protection system is the surface structure, which is a result of the properties of the different molecule chains. Since plastic materials are processed as powders, and not melted like a block of chocolate, the grain size of the polymer granules represents a second, important variable. The surface structure and size of the granules determine the contact surface that is able to react with oxygen in the event of a dust explosion: the larger the surface, the more powerful the explosion. Developers in the plastics industry are continuously working on new materials with increasingly better properties. To this end, they combine two or more polymers with differing properties, creating ever new particulate matter with new, unknown qualities.

series of measurements are documented for each product. McDonough measures the grams of polymer powder per cubic meter sufficient to generate an explosion and how high the subsequent explosion pressure reaches. This data is then used to develop explosion protection solutions specifically for the customer’s application. The Combustion Research Center of IEP Technologies receives new samples from customers on a daily basis. After all, it is not just polymer powders that can cause a dust explosion; practically any process material that can burn can also explode given the right conditions. These materials range from fairly complicated products such as polymers to many more common products like food items including flour, sugar, coffee, and even powdered milk.

INDUSTRIAL CUSTOMERS RELY ON DUAL SAFETY

The explosion protection risk can be countered by properly handling substances that can explode, for instance in many cases by displacing oxygen with nitrogen during storage and processing. When fine dust and air nonetheless make contact and there is even the slightest risk that impact or friction may cause sparks to form, it may be necessary to provide a second protection solution, such as an explosion suppression system.

Systems from IEP Technologies are designed to detect and suppress an explosion in the earliest stage. A major challenge for developers and application engineers is to clearly differentiate between the normal state and critical situations. Product-specific characteristic data from the Combustion Research Center of IEP Technologies forms an important basis in this effort. Intelligent pressure sensors and control panels are equally as important, as they detect the respective operating state of a plant and continuously compare the collected data.

The control panel is responsible for activating the explosion protection system once the SmartDS pressure detectors have sensed that the production process pressure has reached a critical state. The detectors and control panel are designed to prevent spurious or false alarms, which would only result in unnecessary downtime and maintenance work for the customer.

PRECISION PROTECTS LIVES AND PROPERTY – COMMON KNOWLEDGE FOR EMPLOYEES OF IEP TECHNOLOGIES

Many employees of IEP Technologies have been part of the team for many years. They are proud to know that a large number of explosions have been prevented over the decades as a result of the precision of their explosion protection systems.

Carol Lariviere assembles power units and control panels at IEP Technologies in Marlborough. “We developed control panels that protect one or two zones, depending on the customer’s needs,” she explains. Padmore Gyau comments on the importance of the panels’ flawless function, and consequently on the requisite diligence and precision in assembly: “Our detectors sense pressure and detect even the slightest increase.” The control panel processes the signals from the detector indicating that the pressure in the protected process vessel is rising too quickly or has reached a critical threshold, and the protection system is activated.

SAFETY FIRST – INDICATED BY THE COLOR RED

The fully assembled explosion suppression systems immediately catch the eye with their suppressant storage cylinders painted in red. The cylinders are either in the shape of a bottle or a sphere, depending on the type. In any case, the message is clear: safety is at stake here.

The spherical containers – referred to with pride and with great promotional appeal as HRDs (high rate discharge spheres) by the IEP employees – store the pressurized dry ex-
Rob Sheehan handles incoming goods at IEP Technologies in Marlborough. Here he is reviewing a high-speed isolation valve developed specifically to meet a customer's requirements.
Employees of IEP Technologies are proud to know that a large number of explosions have been prevented over the decades as a result of the precision of their explosion protection systems.
tinguishing agent of the explosion protection system. They are assembled in Marlborough and consist of two hemispheres, which are joined by extremely secure welds. Welding these joints is one of IEP Technologies’ key competencies. “The seam must withstand operating pressure of 300 to 360 psi, which is around 25 bar. But they are tested to even greater pressures,” explains specialist Javier Bernier. “We therefore test the weld joint of every sphere with close to 1,200 psi. That’s approximately 90 bar, almost quadruple the operating pressure.”

The cylindrical suppressor is branded PistonFire. Eric Burke assembles this product. Before a PistonFire is approved for shipment, its function undergoes multiple testing cycles.

WHEN THE FIREBALL COMES, WE’RE ALREADY THERE

Roy “Chip” Stratton fills the HRD’s with sodium bicarbonate, which has proven its effectiveness for decades as an extinguishing agent. Stratton then pressurizes the HRD with nitrogen, which allows for a fast discharge of the suppressant in the event of an explosion.

Sodium bicarbonate powder is able to smother flames and extinguish them. “We take advantage of that,” explains Stratton. “When our system has identified an explosion, we trigger our suppressor. This is an extremely rapid process. When the fireball of the explosion starts spreading in a pipeline or a container, we’re already there.”

HOERBIGER AND IEP TECHNOLOGIES – TOGETHER WE SAVE LIVES

With the explosion suppression systems they have developed, the employees of IEP Technologies have protected lives and property for many years. HOERBIGER’s worldwide presence at the centers of the oil, gas, and process industries will help them further expand their markets in the coming years.

As a result, Randy Davis, Tim McDonough, Carol Lariviere, Padmore Gyau, Javier Bernier, Eric Burke, Chip Stratton, along with the other approximately 130 employees worldwide of IEP Technologies, associate the transition to the HOERBIGER Group not only with high expectations, but also with a new performance claim: Together We Save Lives.

1 Padmore Gyau during assembly of the circuit boards for the EX 100.1 Control Panel.
2 Brant O’Brien is one of IEP Technologies’ system application engineers in Marlborough. Using a series of tests conducted by Tim McDonough, O’Brien designs explosion protection systems for customer-specific applications.
3 Padmore Gyau assembles detectors that identify an incipient explosion.
4 Close customer relations are essential for IEP Technologies. Diane Henderson receives customer calls at the sales office in Marlborough.
ENVIRONMENTALLY FRIENDLY OR EFFICIENT?
BOTH, ACTUALLY

eHydroCOM with CP valves: efficiency, reliability, and service in a high-speed application
In electric power plants based on gas turbines, a steady supply of fuel gas at a constant pressure is crucial for economical energy production. This is possible – and with unprecedented reliability – thanks to advanced capacity control of high-speed compressors upstream of the gas turbines. The world’s first all-electric stepless capacity control system, eHydroCOM, proved its value when together with the HOERBIGER CP valve it was installed in one of Europe’s most modern gas-fired power plants at Tepláreň in Slovakia.

Text: Marcus Geigle  Photography: Marcel Billaudet
The industrial Slovakian town of Považská Bystrica is home to Tepláreň, a.s., which as part of the energy company GGE, a.s. (Graphobal Group Energy) has supplied more than 40,000 people and hundreds of companies with electricity and district heating since 1972. Last year, this regional provider produced 250,000 MWh of power and 200,000 MWh of district heat to feed networks operated by the public utility Teplo GGE.

Between 2009 and 2010, Tepláreň installed new technology to convert its power plant from coal to more sustainable natural gas in just 18 months. The result was one of Europe’s most modern gas power plants, which already meets EU emissions targets for 2016 and ensures that the site is ready for the future.

The plant’s efficiency and reliability depend on a GE Gemini compressor at its core. Known as a fuel booster, this unit takes gas from the supply main at a fluctuating pressure of around 20 bar. Operating at 990 rpm and with a power consumption of 600 kW, the compressor provides a constant 45.6 bar discharge pressure to feed the GE gas turbine that drives the generator.

The compressor’s steady discharge pressure and low energy consumption are made possible by HOERBIGER performance-defining compressor components and services. eHydroCOM, HOERBIGER’s stepless capacity control system, is combined with the new high-performance CP valve with PowerPEEK® technology, plus comprehensive on-site HOERBIGER service.

SERVICE PARTNER WANTED

Tepláreň and HOERBIGER began working together in 2012, after the power plant had been upgraded and converted to natural gas. Initially, Tepláreň was merely searching for a service company for the compressor package it had purchased
from a New Zealand supplier. Service from New Zealand was becoming expensive and cumbersome, so Tepláreň sought a partner closer to home.

**HIGH AVAILABILITY**

In addition to technical expertise, high local availability of the service technicians was a key factor for Stanislav Bednar, Tepláreň’s Technical Director, and Eduard Lecko, the company’s Director of Production. The HOERBIGER service organization in Slovakia met these requirements and was awarded the contract. Initially, HOERBIGER carried out scheduled maintenance using the compressor manufacturer’s specified replacement parts.

After the HOERBIGER Service team had completed its first appointment, however, Bednar and Lecko inquired whether there were ways to operate the fuel booster more efficiently and also more reliably. Since the start of continuous operation on gas, it had become increasingly apparent that the chosen compressor solution was wasting energy within the production process. Additionally, Tepláreň was plagued by too much unexpected downtime for a wide variety of reasons. Under its contract with the public energy company SEPS, a.s., Tepláreň had to make repeated compensation payments to cover the downtime. These payments were not affordable in the long run.

**EFFICIENCY AND RELIABILITY IMPROVEMENTS**

Gabriel Szlavik, sales engineer of HOERBIGER’s Service location in Slovakia, suggested installing alternative components that would perform better than the standard products being used at the time. First, a HOERBIGER REE (Reliability, Efficiency, Environmental Soundness) Audit was performed to show whether there was improvement potential in terms of compressor efficiency and reliability. Tepláreň benefitted directly from the experiences gained with this new service.

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1 A HOERBIGER service employee discusses spare part stocks on location.
2 CP valve for training purposes.
3 The cooling tower and compressor building (bottom right) of the combined-cycle power plant.

Tepláreň, a.s.
Tepláreň, a.s. launched in 2010 a new combined-cycle power plant in Považská Bystrica. The whole construction took a record of 12 months to build. This significant investment of 50 million euros increases the power generation capacity of Slovakia’s networks, contributes to the security and stability of the transmission of electricity in Slovakia, and safely supplies quality heat to the town of Považská Bystrica.
approach, which uses standardized processes to identify potential improvements to increase efficiency, reliability, and sustainability.

With the assistance of HOERBIGER Engineering in Vienna, Austria, the weak spots were quickly established and solutions developed. To begin with, HOERBIGER CP valves optimized for the compressor were installed, replacing the existing valves. This was the first step in what would ultimately become a considerable boost in efficiency and reliability. In a further step, lubricating oil losses were minimized by replacing the sealing elements of the piston rod with HOERBIGER OFD wiper rings.

**STEPLESS CAPACITY CONTROL**

The primary reason for the compressor’s low energy efficiency and frequent stoppages, however, was the control system the company was using. The compressor was running constantly at full load; if the turbine required less gas, the only way to achieve this was to recycle compressed gas through a bypass valve and back to the compressor inlet. Also, due to the wrong configuration of the bypass and the filtration system, the recycled gas contained way too much oil, which regularly lead to clogged suction valves. This process wastes a lot of energy in needless compression, since the pressure energy in the gas flowing through the bypass cannot be recovered.

Stepless capacity control is a better solution. Tepláreň was seeking to achieve energy savings of up to 20 percent through advanced capacity control. The company opted for HOERBIGER’s eHydroCOM all-electric stepless capacity control system. eHydroCOM requires no hydraulic lines, hydraulic power pack, or external cooling system. As a result, it has a very small footprint, making it well suited for the Tepláreň plant, where an enclosure restricts the space available around the compressor.

**Focusing on the future**

The successful retrofit of the fuel booster compressor with electric stepless capacity control and CP valves is saving Tepláreň as much as 55 percent of the compressor’s energy costs during ongoing operation. The technology and service support delivered by HOERBIGER have already given the energy company considerably more reliability and efficiency. In the future, another step will make this compressor even more environmentally sound. Lecko explains: “To remain competitive as an energy provider we want to improve incrementally. Within the energy production process, to me this means searching constantly for potential. In the next step we will therefore tackle the problem of the compressor’s gas leakage, which is still too high. We are looking for improvement here using more effective sealing systems.” HOERBIGER can help.

1 Stanislav Bednar, Tepláreň’s Technical Director.
2 Tepláreň’s combined-cycle power plant in Považská Bystrica.
3 Actuator in the eHydroCOM stepless capacity control system.
Apart from the valve actuators themselves, eHydroCOM requires only a compact ePU (Electric Power Unit) to supply power and data, with a single cable to each actuator. The Teplářeň ePU was conveniently installed on the rear wall of the compressor enclosure.

**55 PERCENT ENERGY SAVINGS**

The fall of 2014 saw a rather bumpy start adapting eHydroCOM to the conditions in the Teplářeň plant. Since then, the new stepless capacity control system has run flawlessly, achieving unexpectedly large energy savings.

Stanislav Bednar says: “We were looking for 20 percent energy savings, but today we’re at 55 percent. This means hard cash saved for us every month, which we can invest in additional process and technology improvements for our plant.”

With a smile, Bednar adds: “I have to admit that I was not very happy about the start of the process. We were told that eHydroCOM would be completely installed in one day and would then be immediately productive and virtually maintenance-free. Unfortunately there was a logistical problem, and the shipment arrived late. After unpacking the unit, it turned out that we received a configuration that did not fit. So we had to go through the whole process again. The plant was shut down during this time, and we were on the verge of some serious problems. Still, the HOERBIGER Service staff kept a cool head in this critical situation and pulled out all the stops to have the right components shipped as quickly as possible – including an additional engineer and control specialist, Dr. Peter Dolovai, the Mechatronics Team Leader from Research and Development. He personally completed the successful installation, and it was then that we knew we had chosen the right service company.”
BENEFITTING THE SMALLEST OF PATIENTS

Tecno Basic, a sophisticated proportional valve from the HOERBIGER piezo valve technology product range, helps premature babies in their first days of life.

Text: Anja Stagge  Photography: Marcel Billaudet
Lennart just finished his bottle. Satisfied, he lies in his mother’s arms as he starts to fall asleep. It’s time for a nap. Just a few months earlier, his chances of doing so well were not good; after all, Lennart was born three months early. Weighing a mere 1,250 g, his body was not yet able to function on its own. His lungs and other organs were not fully developed, so he needed mechanical ventilation in an incubator. Just 60 years ago, medicine could offer only limited help to babies born prematurely. Frequently, they would die from lack of oxygen because of their inadequate lung function. Fortunately, things have changed since then. Now it is not uncommon for children born at less than 32 weeks’ gestation to have good chances of survival without permanent damage. Still, organs that are not yet fully mature and functional pose enormous challenges to both caregivers and manufacturers of medical equipment.

The tiny patients are frequently not able to regulate their body temperature on their own, their immune systems are too weak to fight off infections, and their blood vessels are so delicate that certain areas of the brain may become damaged by hemorrhage or decreased blood flow. Innovations in medical technology have made it possible to help even these tiny patients. In intensive care for “preemies,” the incubator gives babies protection and time to develop on their own. The ventilator assists the lungs in supplying oxygen to the body, and monitoring devices note any serious change in the babies’ condition.

The medical technology field is multifaceted and highly innovative. A look at the developments that have been launched over the past 60 years for patients’ well-being reveals a multitude of success stories. Individual patient needs are being addressed with specialized innovations that are ever more compact, increasingly precise, and yet extremely user-friendly, across the entire treatment process. These developments have not stopped at the treatment of critically ill premature and newborn babies. As a result, mortality and morbidity rates of critically ill premature babies and newborns have been significantly reduced. This is due in no small part to the development and use of new respirator technologies and the resulting new standards in ventilation.

A GENTLER STRATEGY OF RESPIRATION

Ventilating newborns poses particular challenges not only to caregivers, but also to physicians. Unlike in adults, the entire body of a newborn baby is still in the process of developing, and rest is essential. This places high demands on technology. The body must be adequately supplied with oxygen, requiring the lungs to be ventilated according to precise criteria, while minimizing the mechanical trauma on the pulmonary tissue. At the same time, the body should not become habituated to the ventilator, so that the lungs can mature and start to function independently as early as possible. Progress in sensor and microprocessor technology over the last few decades has enabled new forms of respiration, such as high-frequency ventilation.
“OUR STRENGTH IS THE WAY IN WHICH WE WORK TOGETHER, WHICH IS NOT PURELY PROCEDURE- OR PROCESS-ORIENTED, BUT INTERACTIVE.”

Bernard Nelligan
and various methods of assisted respiration that can precisely meet these requirements. High-frequency ventilation, for example, is a new strategy that is considerably gentler than traditional forms of respiration in which the path from mouth to alveoli is overcome by using the largest possible “tidal” volume. The use of considerably smaller gas volumes reduces the likelihood of lung injury, and also allows more effective control of CO₂ and CO₂ elimination.

Medical technology is one of the fastest-growing sectors worldwide. Medical advances and the trend to digital technologies additionally require manufacturers to continually innovate and enhance their products. The market for neonatal ventilation equipment is a niche one with just a few highly specialized providers. Given the particular requirements and different functions of the devices, virtually no manufacturer is in a position to be a single-source supplier for the entire technology. Instead, it is essential to forge meaningful and complementary partnerships in which cooperation ensures that experience from varying fields, and at times even different sectors, can be incorporated in the development of such highly specialized devices. One outcome of this kind of synergy is ventilators made by SLE, which is now marketing its fifth generation of technologically advanced medical products.

**THE FLEXIBILITY TO BEST MEET THE TREATMENT NEEDS OF INDIVIDUAL PATIENTS**

The SLE 5000 pediatric ventilator (neonatal ventilator) is a technologically sophisticated respirator for patients weighing between 300 g – including premature babies – and 30 kg. It offers ventilation options ranging from conventional to high-frequency oscillation (HFO) respiration. The machine comes with a user-friendly color touchscreen monitor and patented technology. Developed in cooperation with healthcare staff and physicians, the device integrates highly specialized technologies tailored so precisely to each other during the development process that the SLE 5000 has created entirely new benchmarks in perinatal ventilation. The elimination of superfluous
submenus allows fast and simple operation. The high-resolution touchscreen, which provides the interface to all the operating elements, yields exactly the functionality needed to supply and monitor patients according to their individual needs. In addition to HFO, the machine offers further modes such as pressure support ventilation (PSV) and targeted tidal volume (TTV) ventilation. These modes provide caregivers with the flexibility they need to best meet the treatment needs of individual patients. Founded in 1956, SLE is located in Croydon, south of London, England. The company looks back on five generations of ventilators: what started almost 60 years ago has since evolved into highly specialized devices dedicated to the well-being of the tiniest of patients. Every day is a new beginning at SLE. Time and again, new solutions are tried and tested in an effort to help newborns find their way into life.

To fulfill this vision, SLE has brought on board two strong partners: Air Engineering Controls Ltd. and HOERBIGER. Since 2000, research, development, and manufacturing has been devoted to solutions that make ventilation strategies for premature babies and newborns even safer and more effective. Air Engineering Controls, also located south of London and just 35 km (22 miles) away from SLE, is still a relatively young company.

**COMMITTED TO DEVELOPING MEDICAL TECHNOLOGY TO THE HIGHEST STANDARDS**

Motivated by the desire to tackle problems and to not be satisfied with existing solutions, Air Engineering Controls assists with research and development to advance technology and improve its efficiency. Day by day, the team at Air Engineering Controls commits to developing medical technology to the highest standards and specifications. The company has grown in its success, from just six employees when it was first launched to the 43 members that it has today. SLE develops the concepts and compiles a catalog of requirements, which Air Engineering Controls then enhances and implements. This collaborative approach has been extremely successful for the past 15 years. With a shared mindset, similar pursuits, and re-

“WE FEEL THIS COLLABORATION IS SOMETHING VERY SPECIAL.”

Gary Dean
Jon Grace, Production Manager and responsible for quality at SLE, checks the preassembled rack of a ventilator and speaks with Oliver Schulz, HOERBIGER Sales.

Everything at a glance: The most important ventilation parameters such as ventilation air volume and pressure are constantly measured and displayed. Standard programs are configured on the unit, which are adapted to the small patients.
peated challenges to one another, it is almost as if the two companies were born to be partners. The challenges arise almost automatically during the process of continuous improvement. Thanks to HOERBIGER and its piezo technology, for example, SLE and Air Engineering Controls managed to make the new ventilator almost free from noise or vibration, as well as significantly extend the life of the battery and reduce the amount of heat generated. Progress all around, you would think – except that with the reduced noise level from the ventilator the sound of the small fan cooling the device could now be heard. So the next challenge was to reduce or eliminate fan noise, keeping in mind that even quiet sounds could disturb the little patients and hinder their recovery. In Air Engineering Controls, SLE found a partner that is able to provide an equally specialized response to defined requirements. “This makes the partnership extremely fruitful,” says Bernard Nelligan, SLE’s Managing Director. “Our strength is the way in which we work together, which is not purely procedure- or process-oriented – where one partner determines the planning and the other one implements it – but interactive.” Gary Dean, Managing Director of Air Engineering Controls Ltd., adds: “Regularly exchang-

ing ideas is an integral part of our work. This is something that has grown and evolved alongside our partnership over the years. Initially we both had our concerns, whether it was SLE’s concern for the level of supply, or our own for the level of demand. Nonetheless, we quickly realised that trust, commitment, and a mutual drive for development and success meant that these worries could be laid to rest for both parties. We feel this collaboration is something very special.”

A TECHNOLOGY THAT HELPS TINY PATIENTS RECOVER AS EFFECTIVELY AS POSSIBLE

The fact that, ultimately, everything functions smoothly and the SLE 5000 meets the most stringent requirements is thanks to HOERBIGER. This achievement can be credited to Tecno Basic, a sophisticated proportional valve from the HOERBIGER piezo valve technology product range. This valve precisely matches the requirements in terms of dynamics, precision, and service life to create a world-leading ventilator, with no enhancements or adaptations needed. The extremely low power consumption of the Tecno Basic significantly extends the life of the rechargeable battery, while minimizing operating and energy costs. Each ventilator contains three of these performance-defining batteries, and since they generate practically no heat even with intensive use, a considerably smaller fan can be used. Combined with the valve’s noiseless switching and regulation, the operating noise of the device is enormously reduced, which in turn positively affects the baby’s recovery.

So it’s justifiable to say that the best have come together and, with their respective strengths, dominate a technology that helps tiny patients recover as effectively as possible. It is not the ivory tower, but the round table that makes this collaboration so successful. It should come as no surprise that experiences shared by users are also regularly incorporated into the development and improvement process for SLE ventilators. “The users are the ones who depend on the equipment working flawlessly. They fight for the lives of these small patients every day, so they know exactly what works and what could use improvement,” Nelligan says. “Only if we understand what matters to them, what they need, will we be able to satisfy the highest requirements.”

It is no wonder that regular feedback cycles are in place in which experience from the field is addressed and incorporated into the development process for the well-being of the tiniest of patients. This is something dear to the hearts of every single partner in the process. The team efforts of health professionals, engineers, and natural scientists are paying off. Improved treatment results – which are anything but subjective – and shorter treatment durations, along with the resulting shorter hospital stays, create more efficient healthcare structures. However, there are more important things than economics: everyone involved knows that they have helped patients like little Lennart during their first steps in life.
Budapest-based MOL Group and HOERBIGER have found a way to shorten the time it takes to deliver spare parts for compressors. Both companies have entered into a long-term contract to ensure the fast delivery of spare parts. As a result, speedy delivery of parts is ensured, which cuts the time critical machinery is out of action following breakdowns. For the first time, MOL will benefit from a rapid approval process that will save money and minimize the risks imposed by transactional business.
It's a costly affair whenever a reciprocating compressor in a refinery or chemical plant is out of action. Spare parts and maintenance work can be expensive enough on their own, but the situation is even more serious when the whole plant must stop because this key item of equipment is unavailable. Each day of downtime can cost hundreds of thousands, even millions, of euros. And when the shutdown is unplanned, it becomes even more important to get spare parts on site quickly.

Good relationships with reliable suppliers are vital when it comes to fast and efficient delivery of spare parts for critical machines. A company's purchasing department plays a key role because it is responsible for ordering suitable parts in time for the maintenance of critical machines.

A newer approach is to set up long-term contracts with suppliers of critical parts. For the first time, such contracts make it possible to move away from a purely transactional business relationship with the high risks that this carries. Instead, the new strategic partnerships minimize risk and reduce transaction costs. With its global network of service locations and huge competence in reciprocating compressors, HOERBIGER is ideally placed to help companies take advantage of this new breed of service contract.

A PROVEN COOPERATION

The HOERBIGER branch in Hungary had been working closely with MOL since its foundation, and the cooperation deepened with the rebranding that created HOERBIGER Service Hungary in 2005. Across the country, for instance, MOL runs a fleet of 19 HydroCOM compressor capacity control systems. MOL even has two of the brand-new, highly innovative eHydroCOM all-electric capacity control systems.

This closeness between MOL and HOERBIGER fosters a relationship in which HOERBIGER has risen to become a valued partner. "We are not just another parts supplier for MOL; we also offer clever solutions to the technical challenges that MOL gives us," explains Péter Csirmaz, Managing Director of HOERBIGER Service Hungary. "This is possible thanks to the high levels of competence and dedication of the HOERBIGER Service Hungary team and the support of HOERBIGER's global organization," he continues. "HOERBIGER Service Hungary is a competent business partner and always supports our maintenance teams in a professional manner," confirms Timea Lajos, Lead Buyer with MOL.

TREADING NEW GROUND TOGETHER

Lajos goes on to explain the drivers behind the new approach to spare parts supply. "Until now we had to issue separate tenders for each compressor part as the demand arose," she says. "This has proven to be extremely time-consuming and expensive." Seeking to streamline the process, MOL for the first time in its history decided to look at a long-term contract for reciprocating compressor spares. The company issued a tender for the supply of parts and services within a long-term contract, which HOERBIGER won. "The spares covered by the tender are specified as HOERBIGER parts, so I'm sure that was an advantage for HOERBIGER," explains MOL Buyer László Horváth.

MOL and HOERBIGER subsequently negotiated a contract for the provision of spare parts. This covers valves, rings, packings, and other compressor parts, as well as HydroCOM and the RecipCOM compressor monitoring system. It
“WITH THE LONG-TERM CONTRACT, IT’S MUCH QUICKER THAN BEFORE TO MAKE SURE THAT OUR COLLEAGUES IN MAINTENANCE GET THE PARTS THEY NEED IN TIME.”

László Horváth, Buyer MOL

1 Two technicians inspect service data from a compressor with a HydroCOM system installed at MOL.
2 Balázs Buda, Maintenance Engineer at MOL, and Zoltán Szabó, HOERBIGER Service Hungary, during an assessment in the compressor hall.
3 A compressor covered in the contract.
About MOL Group

MOL Group is an integrated, independent, international oil and gas company headquartered in Budapest, Hungary. It is active in over 40 countries with a dynamic international workforce of 28,000 people and a track record of more than 100 years in the industry. MOL’s exploration and production activities are supported by more than 75 years of experience in the hydrocarbon field. At the moment, there are production activities in eight countries and exploration assets in fourteen countries. MOL Group operates four refineries and two petrochemical plants under integrated supply chain management in Hungary, Slovakia, and Croatia, and owns a network of nearly 2,000 service stations across eleven countries in Central & Southeast Europe.
“A POSITIVE OUTCOME OF THE PROCESS IS THAT WE CAN ADOPT A SIMILAR MODEL FOR FUTURE CONTRACTS.”

Tímea Lajos, Lead Buyer MOL

also includes working hours and fixed hourly rates for HOERBIGER maintenance technicians and supervisors. The starting point for the new contract was the needs of MOL. The first step was to clarify the technical details of the spares that would be required, and to define the critical parts needing extra attention from HOERBIGER.

Drawing on this knowledge, it was then possible to define the correct part numbers. This helps avoid future misunderstandings in the ordering process and lowers the transactional risk.

The final step was to define the purchasing process. With the contract signed, a clear process focusing on speed and efficiency was in place. As a result, the MOL purchasing staff can now simply order spare parts and labor at pre-defined prices whenever they need to.

“With the long-term contract, it’s much quicker than before to make sure that our colleagues in maintenance get the parts they need in time,” Horváth says. “That means that we shorten the downtime and get these critical machines running again sooner than we could in the past.”

SHORT APPROVAL PROCESS SAVES MONEY

“It also makes our approval process easier, since not all levels of approval have to be run through every time,” says Lajos. “We are very satisfied with the contract so far. It saves money for the company, since we get access to the parts faster and don’t have to negotiate the prices each time. Under the same terms we even have access to parts that are not explicitly mentioned in the contract.”

An additional advantage can be found in the transparency of the new process. “All members of the MOL Group can view the new contract and use it to order spares under the same beneficial terms,” says Lajos. This allows the plants in Croatia and Slovakia to take advantage of the new arrangements too.

“Having proved the advantages of this contract in terms of both time and cost, we are considering whether to adopt a similar model for future contracts in other areas,” Lajos says. And for HOERBIGER, contracts of this type are becoming more and more important when dealing with other customers worldwide.

“These long-term contracts help us to support our customers in their efforts to optimize their supply chains. We are increasingly becoming a part of the process in minimizing downtime for critical machines, which in turn makes production increases possible. Doing this increases our importance to our customers,” says Johann Hipfl, member of the Executive Board and CEO of the Compression Technology Strategic Business Unit. “This development fits with our global strategy to act as a comprehensive service provider – beyond the service of compressor valves – offering innovative commercial solutions. And it brings big benefits to our customers,” he also notes.
NEW TEETH, TWICE THE BITE

A HOERBIGER world debut: the ClassicLINE DCT-Type, an innovative synchronizer developed for dual-clutch transmission applications, makes this variant of automatic transmission even more attractive for automakers and drivers.

Text: Achim Neuwirth  Photography: Nikolaus Schäffler

Dynamic gearshifts without interruption in the flow of forces, along with high efficiency and comparatively low costs: these were just some of the traits of dual-clutch transmission (DCT) technology that stirred up the market for passenger car automatic transmissions in 2003. DCTs have since become firmly established in the transmission market alongside torque-converter transmissions and continuously variable transmissions.

Still, there is one fly in the ointment of even this success story: strictly mechanically speaking, to date DCTs have not undergone any noteworthy design changes – they continue to be based on essentially two manual transmissions, one nested inside the other. A major difference compared to the latter lies in the electronically controlled gear shifts, which take place automatically by way of actuators and open up new options over the traditional actuation of the clutch via the pedal and gearshift lever. As the world’s first synchronizer that is specifically tailored to DCT applications, the unique ClassicLINE DCT-Type takes advantage of this potential. With this innovation, HOERBIGER optimized the design of the engagement rings and sleeves for automatic electronic actuation, resulting in significant enhancements with respect to dimensions, function, and comfort.

WITH FLATTENED TEETH ON THE CUTTING EDGE

The most distinguishing feature of the ClassicLINE DCT-Type is that the teeth of the engagement ring are flattened and the sleeve is provided on the right and left with only a one-sided chamfer – instead of having pointings, as is customary and optimal for manual transmissions. “The idea may sound simple, but someone had to come up with it,” says Dr. Ansgar Damm, Head of Research and Development at HOERBIGER Antriebstechnik GmbH. “Ultimately, it takes substantial engineering and simulation know-how to start with a promising approach and be able take it all the way to a production-ready product,” he continues.

UNCOMPROMISINGLY COMPACT

A clear advantage of the HOERBIGER ClassicLINE DCT-Type is that every single synchronizer unit saves approximately four millimeters along the axis over previous systems. With front-transverse installation, the entire DCT can therefore be shortened by up to eight millimeters; in front longitudinally mounted installations, reductions of as much as twelve millimeters are possible. “Especially in view of the growing demands for electrification in drive trains, this concept creates new, valuable freedom of de-
sign – for hybrid systems, for example, which are easier to accommodate or can become more powerful," explains Ottmar Back, Head of Product Management, HOERBIGER Antriebstechnik GmbH. "If the transmission dimensions can remain the same, our innovation makes it possible to implement more gears, or else use wider gear wheels, which will then have no difficulty handling the increased torque," says Back.

**ACCELERATED SHIFTING**

In an automatic DCT gearshift, the clutch of one partial transmission opens, while that of the other, containing the required next gear, closes. This process, however, is only as rapid as described if the presently needed transmission has already successfully fully synchronized and (pre-)engaged the targeted gear.

If problems arise inside the DCT in the process, the automatic gearshift takes longer when traditional synchronizers are used – for example, when what is known as a tooth-on-tooth position occurs. This may cause the sleeve to block, and the entire shift sequence has to start anew. "As a result of the new design principle featuring the smoother teeth and adapted software, we have reversed what used to be a negative effect and turned it into a positive. In short, the ‘blocking position’ is now even desirable and, in conjunction with the clutch closing with overlap, increases speed," Back emphasizes. "As a result, DCTs get into gear up to 100 milliseconds more quickly, which any driver will notice during the first spirited kick-down."

**QUIETER TIMES AHEAD**

When shifting on their own, most drivers will tend to consider an unobtrusive, quasi affirmative clicking sound to be normal, as the two events are directly related. In DCT’s, in contrast, which automatically presort the gears, the same kind of acoustic feedback – which incidentally can be heard distinctly in underground garages with the window open – is often times perceived as unpleasant, or even as a transmission defect. The ClassicLINE DCT-Type also prevents this symptom and its cause, since the smoother teeth minimize noisy angular momenta during meshing of the sleeve teeth. The specialized synchronizer consequently experiences almost no back-and-forth movement during engagement.

With its strengths enhanced and potential shortcomings eliminated, the HOERBIGER ClassicLINE DCT-Type has the potential to accelerate DCTs into the fast lane.
Anxiously anticipated for some time, the new four-door mid-sized sedan from Alfa Romeo is finally here: the Giulia sports car is now being launched as the successor to the model 159. Incidentally, the first variant to be released was the top-of-the-line Quadrifoglio, boasting 375 kW/510 hp. This powerful engine, standard rear-wheel drive, and the marque of the iconic 1960s model all bear witness to just how serious the Italians are about this latest series.

The platform for this modern version of Giulia is not by Romeo, but by Giorgio, as the vehicle platform for this car is referred to internally. Additionally, the sedan will roll off the assembly line equipped with the 6-speed transmission made by GETRAG FORD Transmissions (GFT). The manual transmission itself comes from Great Britain and features HOERBIGER components and systems from two German locations. Four complete hub systems for six forward gears and reverse as well as two engagement disks come from Oberstenfeld, while two friction systems – used for the first two gears – are contributed by the plant in Schongau.

In tune with the times, the story of Alfa Romeo and Giulia is being continued with participation of the international production stage. A happy ending is guaranteed: after all, the Bella Macchina is sure to make all drivers smile, and not just the die-hard Alfistis.

Almost all automakers are taking advantage of the option of using electrical energy for the propulsion of passenger cars. The gamut ranges from hybrid vehicles, where combustion engines and electric motors work in unison, to all-electric vehicles. Driving emission-free locally at all times, or intermittently, by no means implies a compromise. Since an electric drive provides full torque starting from a standstill, hybrid and electric vehicles hold the promise of unconditional spirited driving pleasure. The demands on drive technology, however, are high. Recently, transmission manufacturer GKN designed a game-changing concept for the BMW i8 plug-in hybrid sports car: a two-speed transmission on the front axle provides the power of the electric motor to the wheels. The concept employs the full scope of HOERBIGER Drive Technology – in the world’s first “eAxle,” engagement disks as well as friction and hub systems made by HOERBIGER satisfy the high demands on performance. The conclusion: HOERBIGER Drive Technology is ideally suited even for the latest and greatest electrified drive concepts.
Improving yet again on something that’s already great is arguably one of the more demanding tasks. This holds all the more true for high-end vehicles such as the latest A6. Still, Audi engineers excelled again – and not just in terms of design – with a sedan and with the Avant and allroad station wagon models. Optimizations also include new, high-quality lighting with optional Matrix LED headlights and power output thanks to a new high-performance chip. A number of new engine variants – such as the 1.8 TFSI four-cylinder – offer greater power and better fuel economy. With 140 kW/190 hp, it is essentially Audi’s basic engine; however, it hardly deserves this designation given a top speed of 233 km/h (144 mph) and a zero-to-hundred km/h sprint of under eight seconds (sedan).

The compact A6 gasoline engine achieves exceptional performance in combination with the equally new 6-speed ML 402 manual gearbox, which can be found in all Euro 6-compliant, four-cylinder variants of this Audi model. Like the last generation ML 311 transmission, HOERBIGER engagement rings effectively ensure consistently precise, clean, and rapid gear shifts. It just goes to show: HOERBIGER synchronizer components are as firmly established in the automotive premium class as the Audi A6.
Effective January 4, 2016, the HOERBIGER Group acquired privately owned Newson Gale headquartered in Nottingham, United Kingdom. Newson Gale provides its customers with a broad range of solutions dedicated to disabling uncontrolled discharge of static electricity.

Newson Gale enjoys an outstanding market position in the field of electrostatic grounding for hazardous areas. The company has more than 30 years of experience in explosion prevention technology, providing its customers with a wide range of solutions dedicated to preventing ignition hazards of static electricity in hazardous areas, such as where flammable gases, liquid vapors, or combustible dust atmospheres can be found. Ranging from loading tank trucks to emptying hand-held containers, Newson Gale has a solution for virtually every process capable of generating static electricity.

With its application-driven business model, Newson Gale has gained a leading position in the United Kingdom. In recent years, the company has also successfully ventured into North America and established a network of global distributors.

“Safety and explosion prevention technology are attractive growth markets, which ideally complement HOERBIGER’s core business and thus hold attractive development potential,” says Dr. Martin Komischke, CEO and Chairman of the Executive Board. “With Newson Gale’s reputation and know-how, we will strengthen our leading role as a developer and global provider of performance-defining safety-related components and services.”

In September 2015, the HOERBIGER Group acquired IEP Technologies, LLC, Marlborough, Massachusetts, USA, one of the world’s leading providers of sophisticated safety and explosion protection technology for a broad range of industrial plant engineering applications.

With the acquisition of Newson Gale, HOERBIGER Safety Solutions further strengthens its role as a leading player in plant safety and explosion mitigation.
1 Ralf Baumgarten (53) lives and works in Cologne. Over the years, the designer made a name for himself as a photographer. His works have won multiple awards. For his book “UhrMenschen,” for example, he received the prestigious Red Dot Design Award in 2005, and in 2010 he garnered the if Design Award for the book “Twelve Faces of Time – Holistic Virtuosos.” His clients include international magazines, publishers, and companies.

2 Marcel Billaudet (42) is based in Wiener Neustadt, Austria, and works as a photographer for national and international clients. He spent many years in the movie business, an experience that has a strong influence on his way of storytelling, directing, and lighting. His main focus is on people photography – from portraiture to reportage. Besides that, he also enjoys shooting architecture and stills.

3 Cheryl Clegg (51) has worked as a photographer for 25 years and operates a studio in Boston, Massachusetts, USA. Her customers include renowned commercial enterprises, clinics, journals, and trade magazines.

4 Marcus Geigle (48) has headed the Marketing Communications team of HOERBIGER in Vienna, Austria, since the beginning of 2013. While pursuing his engineering degree at the University of Applied Science of Heilbronn, he was active in technical journalism. In 1997, he was one of the first graduates of the post-graduate course in journalism at the University of Hohenheim, where he specialized in communication science. After graduating, he worked as a senior PR consultant for various PR agencies and as a communications manager for several companies in the B2B sector.

5 Achim Neuwirth (37) has worked as an editor for the agency DIE WORTWERKSTATT near Tübingen since 2007. The journalism graduate writes a variety of texts for leading automotive suppliers, primarily on technical topics. The automotive industry has long been a focal area of his through prior agency experience and internships in the communications departments of two German automakers.

6 Ludwig Schönfeld (51) is the Head of Corporate Communications of HOERBIGER Holding AG. Today, only a small portion of his responsibilities are still related to his roots, daily journalism. Nonetheless, the style of reports and features he writes for HOERBIGER@MOTION on a regular basis still demonstrates his interest in journalism, which in these texts primarily lies in the success factors of HOERBIGER’s customers.

7 Anja Stage (40) works in Hamburg as a freelance technical journalist in the areas of medical technology and the pharmaceutical industry. In addition, she is a consultant for companies in the healthcare industry.

8 Magnus Terner (32) has worked as a Service Marketing Manager in the Strategic Business Unit Compression Technology of the HOERBIGER Group since June 2015. After earning a degree in industrial engineering and supply chain management from Chalmers University of Technology, Sweden, in 2010, he joined HOERBIGER in Vienna as a Sales Engineer in charge of reciprocating compressor monitoring and control systems.