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A TRANSPORT VENTILATOR FROM H+L
ON BOARD THE EBOLA PLANE

ELISA 800VIT – NEW APPROACHES TO
LUNG-PROTECTIVE VENTILATION

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OF THE RISING SUN

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GREETINGS

Dear employees, customers, and friends of the Löwenstein Group,

The development of our various companies fortunately continues to be positive domestically and abroad. If you look at this edition of our both, you will find a certain focus on ventilation. Both clinical and non-clinical ventilation have been steadily developing in medicine and medical technology in recent years. New and gentler methods have been introduced and these achievements have been validated in accordance with the rules of evidence-based medicine, this has and have scientifically proven the medical indications. Even healthcare policy makers suddenly regard respiratory medicine as an exemplary success story that has met the challenge of connecting higher survival rates with greater quality of life. This is a tremendous success for the many research physicians who have worked on and researched this topic with perseverance and skill. Many of them have been connected to our company for years.

But this is a success especially for the patients, who should really be the primary focus in this age of total economisation of medicine and health care. With modern intensive and respiratory medicine, many people can today survive diseases and traumas, which

previously would have meant an inevitable loss of life.

Others in turn can continue to live with relative good quality of life despite a serious underlying disease. We sometimes forget this and simply take these things for granted. Unfortunately in many regions of the world, this is still not the case.

Medical high tech products from Germany are in demand worldwide. Our article about the top hospitals in China demonstrates this as well. It has been very beneficial for us as a mid-sized company that our strategy of sustained diversification into new markets and business areas has so far been successful. Our group of companies has gained crucial independence and robustness with respect to short-term negative developments in individual markets. We gladly accept the fact that we will have to engage in life-long learning and rework many things again and again.

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A transport ventilator from Heinen + Löwenstein - on board the Ebola plane

The Ebola epidemic is still an issue today and is not completely under control. New cases are still continually being reported in West Africa. The number of those infected is steadily declining to be sure, but the possibility of an epidemic flaring up again is present at any time. According to the World Health Organization, more than 25,000 people fell ill from the Ebola fever and more than 10,500 of them died. The epidemic in West Africa, despite its origins there, affected people all over the world, which is why it is viewed as an international emergency. The German government as a result received in November of last year at the Berlin-Tegel airport a special A340-300 airplane named "Robert Koch."

The concept of this plane was developed under the aegis of the German Foreign Office and experts from the Robert Koch Institute. The airplane has a "special isolation unit," which can be hermetically sealed, as well as an inner and outer air lock. As a consequence, doctors have the opportunity to medically take care of Ebola patients during the flight in a broadly intensive way. According to information from Lufthansa, it is the world's first evacuation plane to date. Other planes, which have previously been used, are smaller and therefore offer no comparable treatment options. The plane is required to be equipped for evacuati-

on of people infected with the disease. In case of a serious Ebola illness, the region's epidemic volunteers are also supposed to be brought back safely to Germany.

Also on board the converted Lufthansa Airbus is a transport ventilator from Heinen + Löwenstein. Additional intensive care units in airplanes are likewise equipped by Heinen + Löwenstein with this apparatus.

A compact ventilator that meets all the requirements for modern ventilation everywhere and in every airplane is therefore now available for the first time. Intensive care patients can dependably be ventilated using the virtually anywhere in the world. With its simple operation and multiple adaptive possibilities, it is suitable both for routine and emergency use. It represents a cost-effective solution for intensive ventilation that will fulfill all patient needs – neonatal and pediatric as well as those for adults – in emergency vehicles with mobile intensive care units, helicopters, and long distance rescue aircraft.



German foreign minister Frank-Walter Steinmeier (SPD) said when the plane was delivered at Berlin-Tegel airport: "We must admit that we as an international community of nations have arrived a little too late. Now we are all the more required to do our utmost." The special aircraft is intended also to be used by other countries.



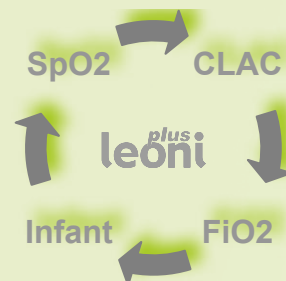
HEINEN + LÖWENSTEIN PRESENTS

CLAC: CLOSED-LOOP AUTOMATIC OXYGEN CONTROL

The manual regulation of inspiratory oxygen (FiO_2) used to supply oxygen to premature infants, is often complicated and time-consuming. In collaboration¹ between Tübingen University Hospital and the Medical & Technical University of Vienna, a special algorithm was developed to automate the oxygen control provided to premature infants (CLAC: Closed-Loop Automatic Oxygen Control). Heinen + Löwenstein were able to validate these experiment results¹ in a multicenter study¹ using the Leoni plus in daily hospital operations.

In order to make the CLAC controller operation as easy and intuitive as possible for the user, the algorithm control and pulse oximetry measurement were integrated into the Leoni plus². The entire operation, including the measured data visualization and the alarm settings, is made over the respirator user interface. At a glance, the user can determine the current graphically displayed status of the patient.

CLAC takes the routine adjustment of the inspiratory oxygen (FiO_2) in inspiratory gas off the clinician's shoulders by constantly monitoring the demand and condition of the patient in adapting the equipment settings accordingly. Thus, the user is relieved of the routine tasks. The user has the possibility to switch off the automatic control at any time in order to regulate the oxygen content manually. „CLAC may improve oxygen administration to preterm infants receiving mechanical ventilation or nasal continuous positive airway pressure while reducing workload related to RMC. (Pediatrics 2014;133:e379–e385)¹“.



LEONI PLUS

CLAC *inside*

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¹ Closed-Loop Automatic Oxygen Control (CLAC) in Preterm Infants: A Randomized Controlled Trial, Hallenberger, et al., on behalf of the CLAC Study Group Pediatrics peds.2013-1834

² Optional function, which can be ordered in addition // ² Opsiyonel fonksiyon, ek olarak sipariş edilebilir.

FIRST SUCCESSES IN KEREN/ERITREA: DOCTORS ON THE ROAD FOR CHILDREN IN NEED

We reported back in 2013 about ARCHEMED, the physicians' initiative for children in need that three years earlier took the first steps to offer children better medical care. Projects continue to be driven by their on-site humanitarian aid, training of medical staff, and experiences exchanged between the German and Eritrean experts. The focus here is helping people help themselves.

The goal is to show the people there how devices are used and, if need be, repaired, so that in the end the pediatric and newborn medical care, along with obstetrics, can be furthered.



At the beginning of 2014, Hartmut Troyke and Andreas Giese joined forces to create the technical foundations, such as running water in the Keren Hospital for the main medical service in Eritrea. As a result, a water pump with its own solar energy system was installed, which is intended to offer a stable water supply. Subsequently, an educational seminar on water use was carried out so that the hospital's employees might change their otherwise frugal attitude toward water consumption and use enough water for hygiene measures.

Shortly thereafter, a team consisting of Dr. David Szelessly, Birgitt Hennig, Heike Heinicke, and Dr. Matthias Mager traveled to Eritrea. The medical devices that they had recently brought along and their medical expertise quickly achieved good results.



Assistance could be offered especially to the doctors and nurses in newborn care. The emergency care of small infants could in particular be practiced using the baby doll already on hand. It could also be reported that the first successes were already visible in 2012 and 2013. The hygiene conditions and supply measures could be improved, and the conditions still do not correspond to European standards despite everything.

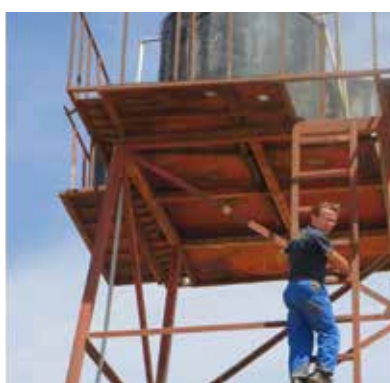
An additional problem is the fact that the children are often underweight, since inexpensive food substitutes are still lacking. At the end of 2014, medical specialists from Germany started once again to be involved in the “Keren Hospital” project. The team consisted of Petra Meise, Gisela Schiewersmann, and Jörg Nordhoff, for whom the Heinen + Löwenstein company had made available an additional week beyond its own vacation time, and Hartmut Troyke.

On arrival it had to be noted, however, that the hygienic and nursing standards had declined considerably due to a pronounced lack of staff in the hospital.

Nevertheless, the team discovered that they and their assistance were very welcomed, since the medical technicians and doctors could offer the young workers there the help to help themselves. The Eritrean specialists also learned quickly through bedside practice and received a very accurate insight into what was happening.

In order to encourage automated action, written instructions have been produced in Germany, which the Eritrean doctors and nurses can read through for themselves again and again, so that what has been learned will not be forgotten.

Support of the medical specialists in Eritrea will also be necessary in the future so that it will soon be possible to staff the pediatric care with enough pediatric nurses and pediatric doctors who are specially trained for this field.





ELISA 800 VIT – NEW APPROACHES FOR LUNG PROTECTIVE VENTILATION

Intensive ventilation is a recognized life-saving intensive medical therapeutic treatment, which, however, is accompanied by the risk of a ventilator-induced lung injury (VILI). Despite increasing use of so-called lung-protective strategies, the incidence of ventilator-induced lung injury in the case of ARDS continues to be 6-10%. Inadequate ventilation settings are clearly associated with these lung injuries and although they do not immediately result in death, they double the risk of death.

Adapting the ventilation to the individual regional lung function is extremely complex and must be evaluated regularly. It is, however, indispensable, since a “lung protective” ventilation reduces the mortality of patients with ARDS. It has been postulated that the breathing-synchronous collapse and reopening of areas of the lungs in the case of patients with ARDS significantly damages the lung tissue, and in particular the breathing-synchronous opening and closing of areas of the lungs represents an independent risk factor for a higher mortality.

A crucial value for the optimization of the ventilation is the optimum setting of the positive end-expiratory pressure (PEEP). In the case of patients with acute lung failure, it is a real challenge to find the level of the best PEEP in order to avoid atelectases and alveolar overexpansion.

A further issue is the fact the level of the optimally configured PEEP changes continuously with the lung function, which is changed by the disease and therapy, so that the PEEP level



must be re-evaluated regularly. PEEP is a basic prerequisite for a lung protective ventilation. This reduces the breathing synchronous opening and collapsing of areas of the lungs and results in a more homogeneous distribution of ventilation and perfusion in the lung.

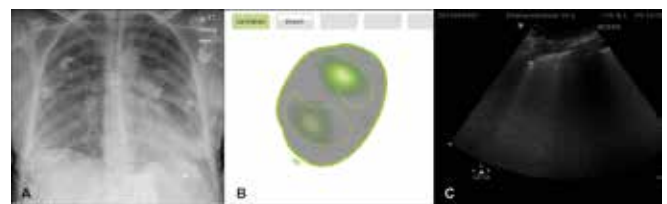
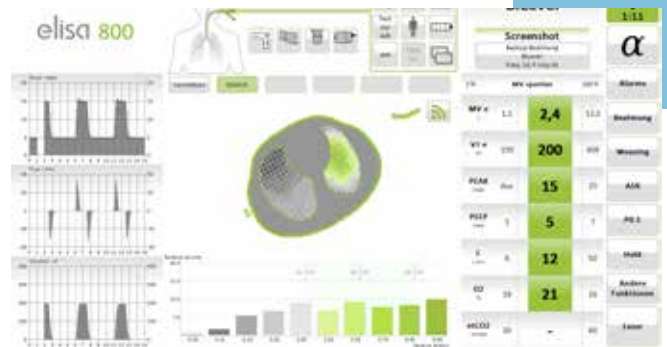
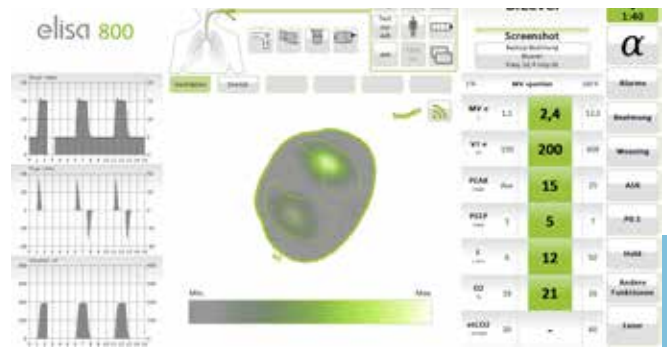
In the case of low PEEP values, the areas of the lungs are damaged by atelectases formation, and in the case of too high PEEP values, by overexpansion. In clinical practice, respirator settings and PEEP identification usually occur based on individual experience values, table values, or nursing care tools, as well as parameters such as arterial oxygen saturation and blood gas analysis values.

Radiological techniques such as chest x-rays, CT scanning, and extremely rarely MRI, are also used, but they display the conditions of the lungs only as a snapshot.

The expense of a CT or MRI scan in the case of ventilated intensive care patients is enormous and can be performed in the case of respiratory unstable patients only at greater risk. Furthermore, there is a considerable radiation exposure for the patients in the case of CT scans. Despite all these limitations, for use with ventilated patients, the CT scan is currently the only procedure that enables an optimization of the respiratory adjustment to the regional lung function, so that patients with severe respiratory failure undergo the CT scan to optimize the respirator settings.

With electrical impedance tomography (EIT), a bedside method has become available for the first time with which a regional lung function can be reliably determined non-invasively and without radiation exposure.

The measurement procedure of the modern EIT is based on the fact that very weak pain-free electrical currents are fed into the body via a textile electrode belt and images of the regional ventilation can be depicted from the resulting voltages. Using the high-resolution sensors, the EIT is extremely well suited to the high measurement frequency of up to 50 images per second and the digitalization close to the body in order to assess the dynamic



changes during ventilation.

With electrical impedance tomography (EIT), a bedside method has become available for the first time with which a regional lung function can be reliably determined non-invasively and without radiation exposure.

The networking of the measured values of the intensive respirator with the measurements of the electrical impedance tomography allow new insights into implementing lung protective ventilation strategies. This integration of non-invasive lung monitoring into a modern intensive respirator offers many possibilities for monitoring patients needing ventilation and for implementing differentiated ventilation strategies. Expensive intra-hospital transports of ventilation patients into radiology departments are being reduced and a close lung monitoring in real time without radiation exposure is becoming feasible.

In the course of the European ESA 2014 anesthesia convention, our export division introduced this global innovation to the international professional audience and received astonishing feedback. In the meantime, CE certification has been completely successfully, and the first systems have been in continuous hospital use since November. Consequently, the fully integrated impedance tomography of the elisa 800 VIT has arrived in the daily hospital routine and allows previously unavailable possibilities for lung monitoring as well as an individual adaptation of the ventilation setting under visual control.

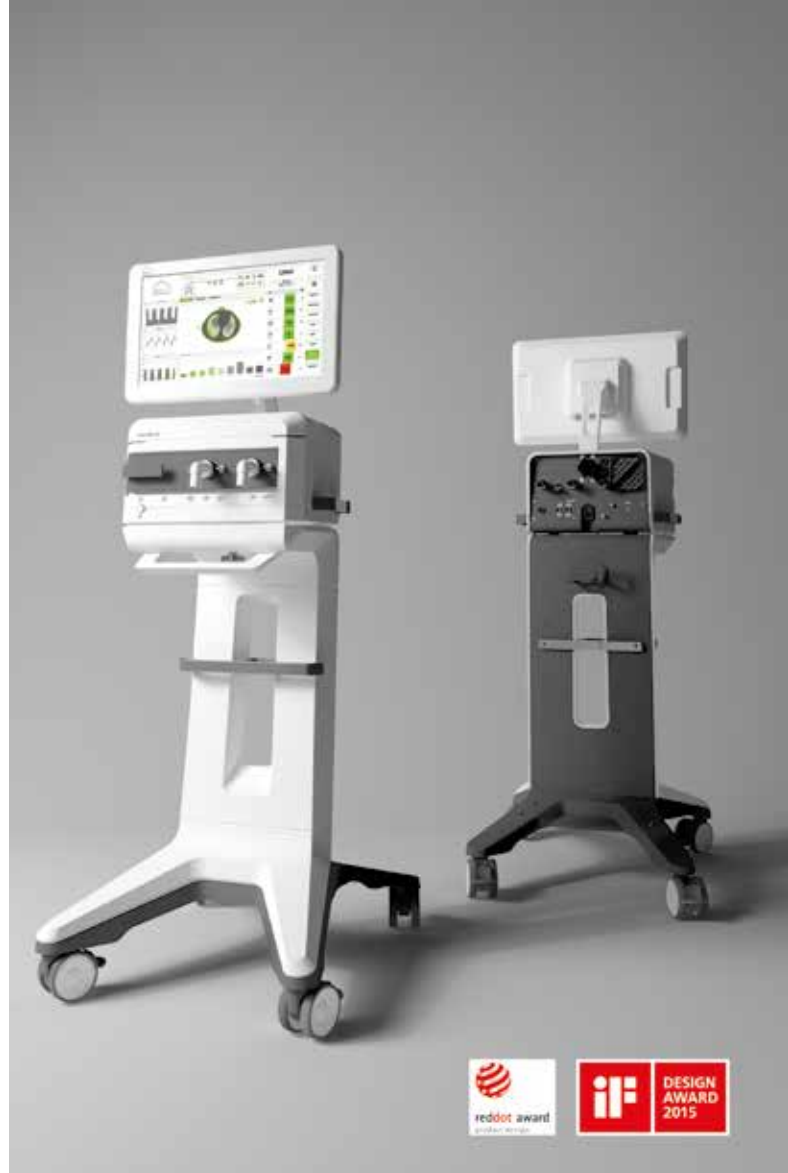


ELISA 800 VIT – NEW INTENSIVE RESPIRATOR ALSO REPRESENTS INNOVATIVE DESIGN

An international expert jury met from January 20-22, 2015 in Hamburg. 53 jurors from 20 countries analyzed and evaluated over 5,300 exhibits. On the occasion of this year's "Designers' Night" in Munich's BMW World, the internationally renowned Designer Prize of the Industry Forum's IF award was bestowed in the "product" discipline on a unique ventilator with an innovative lung imaging diagnostic (VIT).

Our engineering team began the conception of the elisa 800 30 months ago. In order that the demanding balancing act might succeed between easy operation of differentiated treatment strategies and a comprehensive path of growth for future functional enhancements, a dialog was started with our partners. It became clear to our development team through intensive discussions with our clients, sales representatives, and quality managers that the present and future demands on a medical product will require a complete rethinking.

Especially in stressful situations, the deciding aspects are self-explanatory operability, logical software design, and clear positioning of the components through successful treatment and infrequency of errors. Design is therefore not a question of appearance but rather a global and multifunctional response to a modern intensive care workstation. Last but not least, in the course of the design development, a variety of questions had to be asked and intelligent answers found due to the rapid progress in medicine and the frequent lack of staff in hospitals.



While until now in the medical field mechanical buttons and controls have mainly been used, our clients are making not only the most detailed demands on hygiene but in many cases are demanding that a modern intensive respirator has to be just as intuitive to operate as a contemporary smartphone. New paths have therefore been taken, and creative and result-oriented partners from the world of industrial design have been sought and found. An intense discussion took place with the designer team of the creative workshop Wilddesign about the envisaged symbiosis between design, quality, and functionality and the corresponding design development for the new elisa 800 VIT. Based on the awarding of the prize and the feedback from our customers, we can say in hindsight: "Mission successfully accomplished."

Shortly before the editorial deadline, some more good news reached us from Essen. The jury of the 2015 Red Dot Awards has honored our elisa 800 VIT with this year's "Red Dot Award."



NEW WEBSHOP – USER FRIENDLY, MODERN, AND SIMPLE

A restful sleep is the basis of our health and contributes significantly to our sense of well-being. The quality of sleep is especially critical in the case of a healthy sleep. But how can natural sleep be improved? Targeted supporting of the expiratory function represents one way. For this reason, we offer a series of selected products that will help you during your therapy.

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At www.hulshop.de, the relevant products can be ordered in a user friendly way. Furthermore, the webshop has a very appealing design. This shop is another step in preparing our range of products and our internal company processes for the future, thus today keeping ahead of upcoming market developments such as deductibles and co-payments.

The design of our webshop has been kept simple and modern. Both ordering and payment options are consistent with current standards. We look forward to your visit to www.hulshop.de.



INTENSIVE VENTILATION IN THE PEOPLE'S REPUBLIC OF CHINA

Whether toothaches, common colds, or heart attacks – in the People's Republic of China, the complete healthcare for 1.3 billion citizens is assured through the hospitals. General practitioner healthcare structures are (still) completely unknown. Among the roughly 20,000 hospitals, the 301 Hospital has a special status. Founded in 1953 as the "Hospital of the Military Commission of the Central Committee of the Communist Party of China," the maximum care hospital was already recognized a year later as a university hospital and currently educates over 300 doctoral candidates and 1,000 students. As a major hospital with more than 4,000 hospital beds and a very diversified research institute, the 301 Hospital is considered to be not only China's most renowned hospital, which is entrusted with the healthcare of the party leadership, but is at the same time the scientific pacesetter for the medical advances in the Middle Kingdom.



In order to be able to meet the increasing challenges of a growing but also aging population, other subsidiaries such as the 309 Hospital are connected to the 301 Hospital.






Not only since the well-known SARS (Severe Acute Respiratory Syndrome) pandemic in 2003 has invasive and non-invasive intensive ventilation played an increasingly significant role in acute care in China. More than 10,000 new intensive respirators are being purchased annually, whereby German medical technology has been especially valued. Our elisa intensive respirator has been approved in the People's Republic since 2008 and enjoys an increasing popularity in the specialist and maximum care hospitals. With the acquisition of the first ten systems respectively in the 301 and 309 Hospitals, elisa has been able to successfully prevail against its competitors, which are also well-known in Germany. In China as well, the elisa family stands for astonishing performance with easy operation and low maintenance costs. Professor Xie Lixin was appropriately enthusiastic about the new medical technology arrivals at his meeting with our German delegation. Additional purchases and a regular professional exchange of approaches of intensive ventilation have been agreed upon.




A BRIEF OVERVIEW OF THE SUCCESSFUL CONVENTION AND TRADE FAIR APPEARANCES OF HEINEN + LÖWENSTEIN






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ACENDIS BRINGS INNOVATIVE MEDICAL TECHNOLOGY TO THE WORLD



“We concentrate on customized offers, consistently high quality of the latest products, and perfect service, so that the satisfaction of our customers will continue.”

Hasan Sahin, managing director - ACENDIS Germany

Heinen + Löwenstein and the ACENDIS company have worked closely together for many years in the export field. ACENDIS is capable of providing medical devices for all areas of a hospital independent of the manufacturer. Turnkey hospital projects are their primary focus. ACENDIS offers everything from a single source.

ACENDIS provides a superior complete package from consultation to financing through German banking institutions and also includes consulting services for investors in healthcare that are based on years of experience. ACENDIS's services also include complete installation, repair, and maintenance of medical devices, as well as training of specialist staff on-site or right at the manufacturer.

“We concentrate on customized offers, consistently high quality of the latest products, and perfect service, so that the satisfaction of our customers will continue. We have remained true to this principle for 20 years, and it is the basis of our success.”

ACENDIS celebrated in June of this year the 20th anniversary of its founding with a special event in the Esma Sultan Palace in Istanbul. Numerous stakeholders in the healthcare industry, both from Turkey and abroad, came together at the event.



The ACENDIS company headquarters is located in the heart of Europe, in the world's leading region in the field of medical technology. Proximity to the leading manufacturers on the market has enabled ACENDIS over the years to build a strong network.

Thanks to a growing team of well educated professionals, ACENDIS has been able to realize many turnkey hospital projects in Turkey, the Middle East, Europe, the Turkic republics, and in Africa.

While doing so, customer satisfaction has always come first as ACENDIS's most important company value. All services or products that are provided to the client are individually tailored to their needs, vision, and budget.

Dr. Reşat Bahat, head of the Turkish Association of Private Hospitals and Healthcare Facilities (OHSAD), gave the opening speech. Hospital managers came from Turkey, Switzerland, Malta, Azerbaijan, Germany, Ghana, Macedonia, Nigeria, and China.

We would like to express here our sincere gratitude to the entire ACENDIS team for their outstanding collaboration and for projects realized in, among other places, Turkey, northern Iraq, Macedonia, Ghana, Nigeria, and Azerbaijan.

Mr. Sahin and his team are to be congratulated on their dedication and commitment in the past 20 years.



FUTURE WILL SEE BETTER INTEGRATION OF MEDICAL DEVICES

Heinen + Löwenstein is a genuine family business made in Germany, which has existed for over 25 years. Our commitment to service quality, the proximity to customers and our innovative capacity in the development of new technologies in the field of medical engineering are the key factors that make Heinen + Löwenstein a truly leading med-tech company, in particular when it comes to sleep medicine and respiratory medicine.

Our company is distinguished especially for its proximity to customers and large presence in the market. We attach great importance to providing optimum schooling, training and familiarisation of our customers with regard to our products.

Simplicity and functionality are just as important as high quality and longevity for our products.

Which New Products are You Introducing to the Market?

A successful market launch of our new products is important for us. Just now we are introducing our new incubators and ventilators, Elisa 600 and 800.



We hope to further penetrate the markets in which we are already present, and also to reach out to new markets. Besides Turkey, we would also like to capture the rest of the world, for example, South America and the U.S.

Inter-device Communication to Rise in Prominence

In the next few years, the linking of the various devices with each other as well as



their integration in the hospital network and in the entire chain of treatment of a patient will continue to increase. In this context, especially the machine-to-machine communication will gain much in importance, which in turn will create new requirements in the area of data protection and data security. There will be notable progress particularly in the area of data transfer from one device to another in the treatment chain. This will reduce the work of the (nursing) staff and minimize the possible sources of error. Through this type of communication a large amount of data will be generated and it will also be possible to evaluate this data statistically and open up completely new treatment and healing options.

We Have a Growth Profile in Turkey

We have been working together with ACENDIS for the past 20 years, and we appreciate the dependability, trustworthiness, the great commitment and high flexibility. ACENDIS is a very reliable business partner for us.

The joint collaboration with ACENDIS especially meant for us the development of the Turkish market. Apart from Germany, Turkey offers the most important market which we expect to develop very positively.

We would like to wish all the best to ACENDIS on their 20th anniversary, further growth, security and loyalty for the next 20 years.

ACENDIS'S SWIFT SOLUTIONS ARE A GREAT PRIVILEGE

I am a physiotherapist by profession. I also act as a board member for the hospital. My familiarity with ACENDIS, and with the DELTA TRADE COMPANY before it, dates back to 1995. In those years, secondhand devices would come to Turkey from abroad, Germany in particular. Our cooperation mainly centered on anesthetics, ventilators and monitors.

In our hospital, we use Wissner Bosserhoff medical mattresses, Argus infusion pumps and perfusors, Richard Wolf endoscopy systems, Philips ultrasonography and Doppler systems, and Schiller holter monitoring systems. For the eight years we have had the devices, we haven't experienced major issues. It is a great privilege to have ACENDIS's extremely fast solutions in the services sector.

Contributing to Diagnosis and Treatment

ACENDIS product portfolio comprises very good brands. Its technical service department has shown remarkable improvements. I appreciate this aspect in particular. In terms of pricing, they are able to give flexible rates that are attractive in terms of market standards. Along with the extensive medical device portfolio, the company employs competent personnel and offers swift and effective troubleshooting solutions.

In our hospital, we plan our medical device procurement in keeping with the technology that stands out in patient diagnosis and treatment. We especially collaborate with firms that are functionality-oriented and offer high-quality, reliability, reasonable pricing and brand continuity.



Yeni Yüzyıl University Medical
Department Gaziosmanpaşa
Private Hospital, Physician-in-Chief
Dr. Sedat Azak



Happy 20th year for ACENDIS, for you and for our country!

I hope you will contribute to the diagnosis and treatment of many more patients. It is my wish that hospitals always see you by their side as their closest helper.

QUALITY-PERFORMANCE RATIO IS ABOVE EXPECTATIONS

Medical Park Healthcare Group,
Biomedical Deputy Director
Yüksel Yazıcı



Since 2007, I have served in the biomedical department and as hospital manager at Medical Park HQ and Göztepe Hospital respectively. For the last two years, I am a part of the central management as deputy director of biomedical in charge of investments. I studied electronic engineering at Yıldız Teknik Technical University, and received my masters degree from the biomedical engineering department of Bahçeşehir University.

The medical device procurement policy of our health group can be summarized as pursuing and procuring reliable platforms that are capable of responding to changing needs and that have an optimal price-performance ratio. Full ownership costs and lifecycle cost analyses also play a role in our decision making. Main challenges encountered are delivery times, finding correct financial solutions, technical service and spare parts support.

Europe-Based Loans Are More Attractive

In our purchases, financial solutions that we use can vary according to the nature of delivery.

For single-operation, large-scale projects we focus on international financial solutions (Hermes, Atradius, Nortstar etc.) while for smaller purchases we take advantage of domestic funding options.

Europe-based loans are always more attractive thanks to low sovereign risk. On the other hand, you need to meet certain criteria to be able to benefit from these loans.



User Feedback Satisfactory

We have been familiar with ACENDIS since 2007 from a variety of projects on which we worked together. I can say that ACENDIS is our main solution partner in meeting the needs of our existing and upcoming hospitals.

We continue to cooperate with ACENDIS at various levels on the procurement of medical devices and equipment to be used at hospitals affiliated with our health group, except large radiology and angiography devices.

We have been using devices with different brands and models since we established the first hospitals of our group in 1995. Considering the time that has passed and the comprehensive product range, I can easily say that the problems we have encountered fall comfortably within the realm of acceptability.

User feedback and the level of system stability have been satisfactory in terms of general technological assessment criteria (inception-durability, ownership-permanence).

We have been working with ACENDIS since 1995. I can safely say that given the diversity of their technology and different testing conditions that have evolved in time, their quality-performance ratio is above expectations.



“For single-operation, large-scale projects we focus on international financing options; Europe-based loans are always more attractive thanks to low sovereign risk”

We Have a Positive Opinion About ACENDIS’s Service

The issues we typically have are delays in spare part supplies, arising from the fact that the systems we use are coming from abroad. However, our general opinion about the service we receive is positive. Our solution partner ACENDIS has always been able to approach our projects as if they were its own, and has come up with a variety of options. In addition, the company is capable of meeting the performance expectations expected of a supplier.

The projects we have accomplished in cooperation with a solution partner like ACENDIS have always been sources of pride for us. ACENDIS has consistently satisfied us with their diligence and customer satisfaction oriented organization. I congratulate ACENDIS on its 20th founding anniversary.

More Flexible, Multifunctional Devices

As you can understand from our technological assessment criteria, our future expectations about the existing systems are mainly about the emergence of more flexible, multifunctional, more reliable, more compact and mobile, more integrated devices that have a longer lifecycle with less additional costs. On the other hand, it is not difficult to foresee that in the next several decades, the biggest technological breakthrough will be nanotechnology, which will involve novel approaches that will mark a clean break from customary and widespread norms.

GROUND BREAKING FOR THE NEW BRANCH BUILDING IN COLOGNE



On August 5, 2015, managing director Timo Löwenstein, several senior executives, and the owner of the Hoff construction company of Gronau met for the first groundbreaking for construction of the new branch building in Cologne. The new construction of the

company building will occur in Cologne-Lövenich, which has many advantages: proximity to an international airport, good accessibility, and proximity to the company headquarters in Bad Ems. The numerous patients from the surrounding area will benefit from it, as will clients such as the Cologne University Hospital and other Cologne hospitals.

Heinen + Löwenstein's future largest and most important branch in North Rhine-Westphalia will be completed in May 2016 on the 4,600 m² (49,514 ft²) property. The building will resemble the other branches: functional, simple, and modern with an anthracite gray facade. The new office work stations and storage rooms will be divided over two floors in the 2,300 m² (24,757 ft²) office building, where between 40 and 55 employees will work.

GROUND BREAKING - EXPANSION OF THE LOGISTICS AND SERVICE CENTER IN NEUHÄUSEL



With the groundbreaking on June 24, 2015, the official starting signal was given for construction of Heinen + Löwenstein's new high-bay warehouse in the logistics and service center in Neuhäusel.

The engineers and architects in charge of the construction from the Hoff construction company of Gronau/Westphalia (Bernd Niehoff and project manager Wilhelm Hövel) carried out the symbolic first groundbreaking together with Reinhard Löwenstein, the managing director of Heinen + Löwenstein.

Since the founding of the medium-sized company in 1986 in Bad Ems, where the company's managing director also has deep roots, Heinen + Löwenstein has been expanding up to the present day and has the branches and sleep respiratory centers in Germany. Meanwhile, Heinen + Löwenstein also has branches abroad, in Austria, Switzerland, and France. More expansions are being planned, both domestically and abroad.

The current construction project in Germany is now occurring in Neuhäusel, which in addition to the headquarters in Bad Ems is the second company location in the Westerwald region. Both locations now have more than 3,000 m² (32,292 ft²) of office space, as well as 5,000 m² (53,820 ft²) technology and logistics areas.

Two halls and an administration building with a total floor space of around 11,600 m² (124,861 ft²) are currently located on a 24,000 m² (258,334 ft²) property at the Neuhäusel site. A gross floor area of around 2,800 m² (30,139 ft²) with a construction volume of 20,000 m³ (796,293 ft³) (14 m/46 ft high, 32 m/105 ft wide, and 54 m/177 ft long) is supposed to result from the expansion. To be housed in the resulting high-bay warehouse are over 4,000 pallettes, on which devices from the sleep diagnostics, homecare, and oxygen divisions are to be stored. The project should probably be complete at the end of 2015.

New construction of company buildings in Schüttorf, Dortmund, Bad Wünnenberg and Ludwigshafen has resulted from collaboration with the Hoff construction company. Currently in the planning stage are additional company buildings in Cologne-Lövenich and Wettenberg.

Thanks to these projects, Heinen + Löwenstein is creating and securing many jobs in the region and is continuing to provide for a growing and wide-ranging customer service and care.



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OPENING OF THE LUDWIGSHAFEN BRANCH



In March the goal was reached – the new branch in Ludwigshafen was handed over ready for occupancy and on time from the planning office to Heinen + Löwenstein. It is an additional important building block for the expansion of the regional medical technology care. The company building was constructed in an equally attractive as well as functional design, which meanwhile has become like a trademark for the company's new branches. The relocation became necessary by the gratifying business development in this sales region with its steady growth, which caused the previous premises to have clearly reached their limits.

The company management could not resist combining the hand-over of the keys with a joint celebration for the company's employees, customers, and friends. The response was so overwhelming that the auditorium literally was bursting at the seams. In outstanding lectures, well-known experts gave a comprehensive insight into the various medical fields that Heinen + Löwenstein is active in. "The opening of this beautiful branch together with so many clients, with whom to a large extent we have been connected for many

years, is surely a resounding success for our company and for my family," declared Reinhard Löwenstein in his speech afterward. "But we also know that we have to keep this demonstrated trust through proximity to clients, commitment, and hard work." Modern work stations, appropriate spaces for patient care, a professional area for training and continuing education, and last but not least, the significantly expanded warehouse space characterize the new regional office, which is conveniently located near transportation links. It's no wonder then that the employees are presenting the new premises to visitors with a great deal of enthusiasm. A pleasant get-together with live music until late into the evening rounded out the successful event.



THE SLEEP RESPIRATORY CENTERS (SRC)- MEETINGS

The backbone of respiratory home therapy

Community healthcare is one of the most important prerequisites for successful respiratory therapy in the home environment. With more than 25 branches and over 140 qualified sleep respiratory centers (SRC), Heinen + Löwenstein and anamed have the densest care network of all service providers in Germany. Our motto is: "Short distances – close support." That's why our branches are visited each month by far more than 10,000 patients with respiratory dysfunctions, and the number of visits is increasing steadily. Our company's sleep respiratory centers (SRC) have become indispensable to the German healthcare landscape.

Comprehensive patient care requires a good and current level of knowledge by the attending employee. Conversely, extremely valuable experiences result from the daily work with patients, experiences that are of inestimable value for the development of better medical products and care procedures. What could be more logical than to bring these different aspects together in a series of events? In several supra-regional SRC-meetings, various groups of employees, such as patient attendants, developers, and



SRC-Meeting in Dortmund



SRC-Meeting in Bayern

office service employees, learned and discussed together how they can continue to improve and organize care more efficiently. The feedback and the results achieved were so positive that the SRC-meetings will in the future be found regularly on the calendar of the Löwenstein Group.



SRC-Meeting in Montabaur

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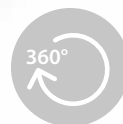
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TWO COMPANIES ONE SOLUTION – THE FUTURE OF DAILY TREATMENT

Heinen + Löwenstein ... now on the road for your patient monitoring.

In December 2014, Heinen + Löwenstein concluded a specialist trade partnership with the Japanese company Nihon Kohden for the German market.

The European headquarters located in Rosbach (near Frankfurt) has been familiar to Heinen + Löwenstein, because an alliance between both companies was established at Medica 2013 for the Japanese market in the field of anesthesia technology (see article, "Report on Medica 2013 in Düsseldorf," Emser Depesche 2014/1).



Nihon Kohden is a leading Japanese manufacturer based in Tokyo of patient monitors and provider of solutions in the perioperative area and medical electronics. Nihon Kohden's product portfolio ranges from the conventional pulse oximeter or small monitor for the peripheral monitoring of sleep apnea patients on a normal hospital ward to networked high-end workstations in intensive care units and operating rooms. The greatest strength of all these products is the extremely high level of reliability and quality, which in turn results in a high return considering the subsequent costs of these systems.

Heinen + Löwenstein would like to give its German clients the opportunity to acquire systems solutions from one source. High quality anesthesia workstations, high-end ventilators, monitoring, and PDM systems are intended to round out the spectrum of the modern networked anesthesia system.

Connectivity is an additional keyword in collaborating with Nihon Kohden products. All the monitors can be connected to each other and in communication with each other even without central monitoring units. The connection of ventilators and anesthesia workstations as well as patient data management systems are counted among the standards of these modern



patient surveillance monitors. The culmination of this development is represented by the Lifescope G9, which together with the Lifescope PT, ensures a seamless patient regime, including an integrated PC that can function as an interface to the hospital's information system.

Heinen + Löwenstein combines these high technology features of Nihon Kohden products with the capabilities of the Leon/Leon plus anesthesia systems, the neonatal ventilators Leoni2/Leoni plus, as well as the ventilation systems of the Hamilton Medical company. Furthermore, the service of these monitors and the after sales service of the accessories have been incorporated into the product range of Heinen + Löwenstein in Bad Ems.

We look forward to being able to offer our clients a steadily growing range of products in the hospital field and services from a single source.



TRAVEL TO THE LAND OF THE RISING SUN: A VISIT TO OUR JAPANESE BUSINESS PARTNERS

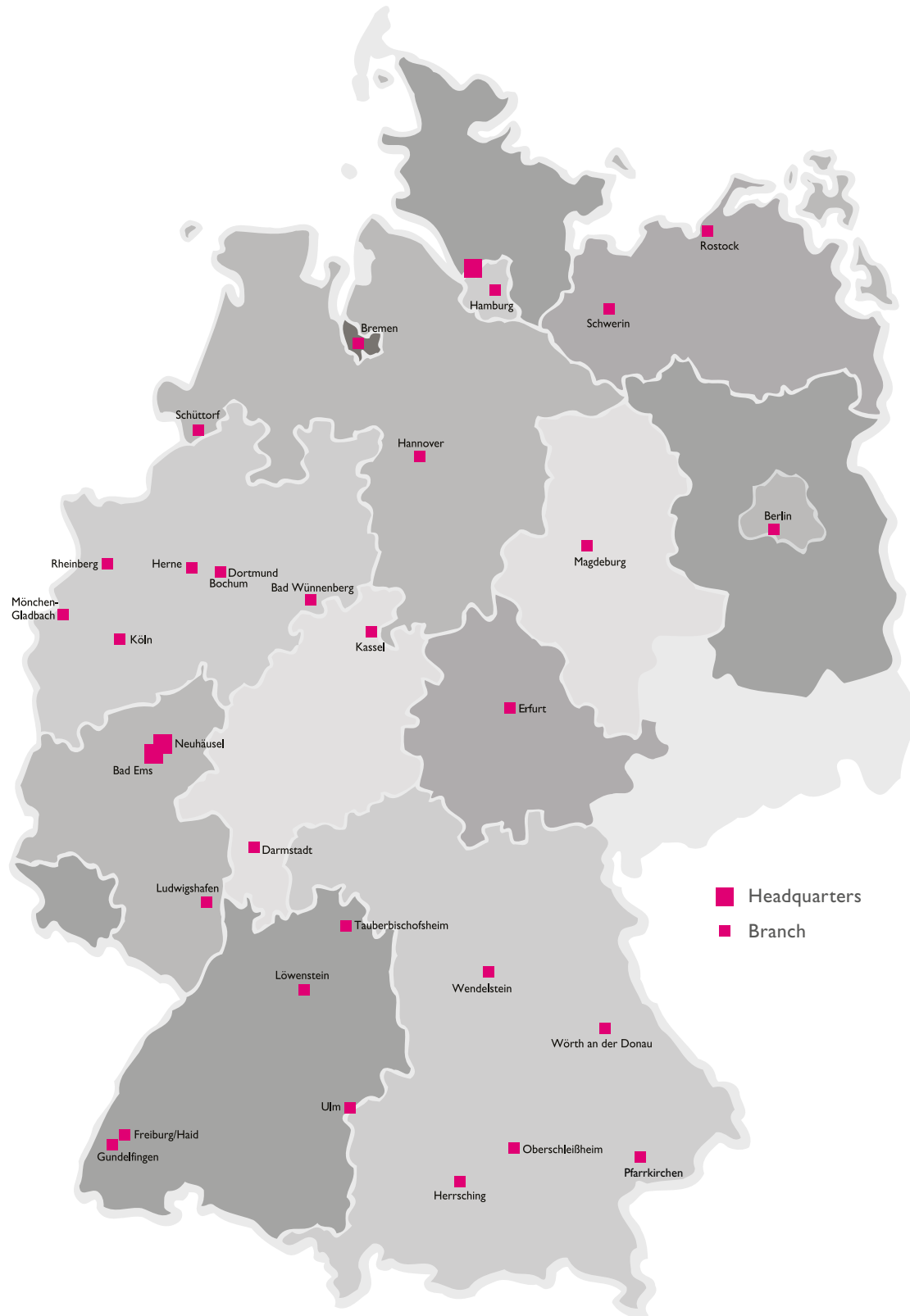
It's unbelievable how close Japan is: our delegation, consisting of Reinhard Löwenstein, Werner Seifert and Ansgar Bilo, reached Tokyo in less than 11 hours flight time. A ride on the world's fastest train, the "Shinkansen," was scheduled to Kyoto later in the trip.

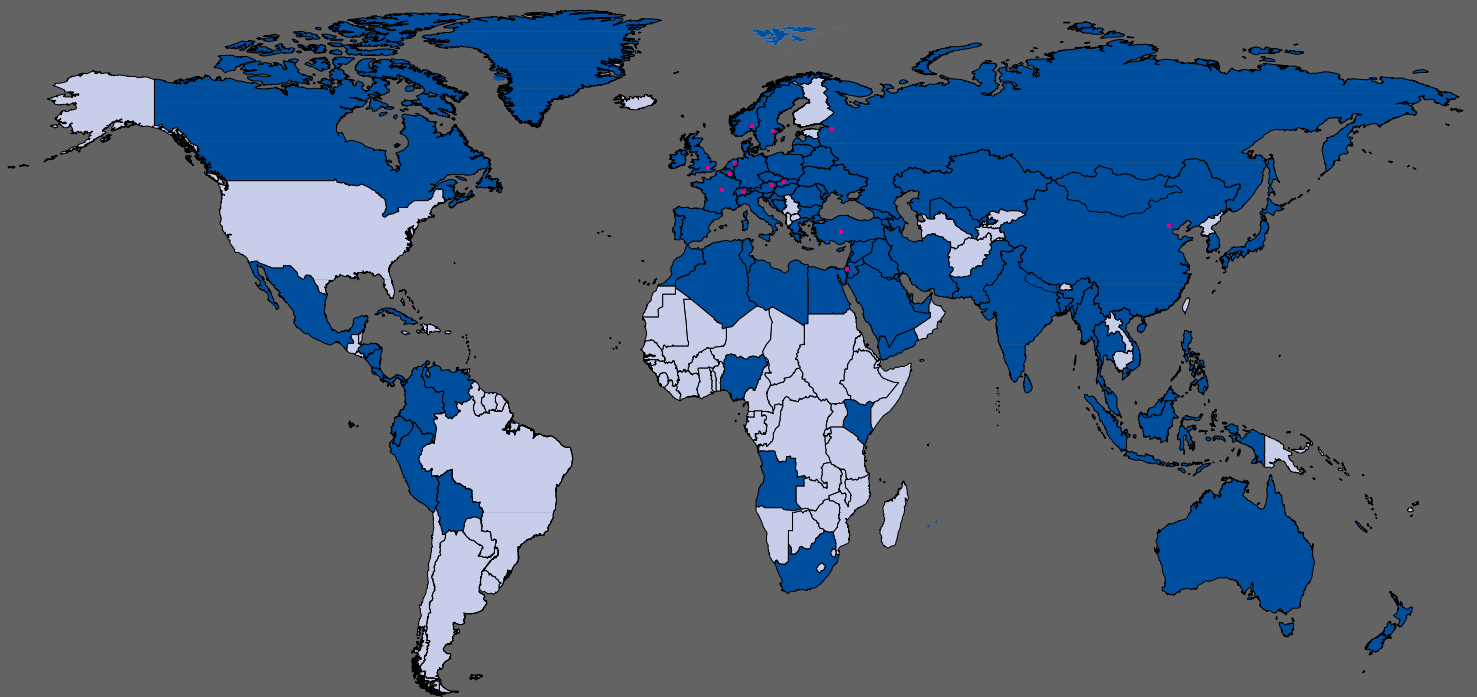
The goal of the visit was the close collaboration with Nihon Kohden in the anesthesia and monitoring segment. An additional highlight of the visit was participating in the Japanese Anesthesia Congress in Kobe. Our anesthesia device Leon plus was presented there to the Japanese market for the first time. The initial feedback was very positive. The strong presence of an expert audience at the congress was impressive. Fumio Suzuki, Representative Director of Nihon Kohden, introduced us one evening to traditional Japanese cuisine – it was fantastic!

We returned to Germany full of positive impressions of the culture and people and look forward to future collaboration with our Japanese partners.



WE'RE HERE FOR YOU!





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