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HYDRAULIKPRESSE

MAGAZINE FOR CUSTOMERS AND EMPLOYEES OF THE HANSA-FLEX GROUP OF COMPANIES

HANSA-FLEX

Photo: Julia Ahlers

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Photo: Julia Ahlers

Photo: Julia Ahlers

DEAR READERS,

This year the month of April is completely taken up by the bauma Trade Fair in Munich. At the world's largest fair in the construction industry we are presenting ourselves at the open-air F7 stand 707/2. As always, such a trade fair is a welcome opportunity to meet partners, business friends and interested visitors and to talk about possible cooperation. This year we are focusing on our mobile services. For more information, read about our special trade fair concept on Pages 6 and 7.

Besides bauma, this edition of HYDRAULIKPRESSE offers many other interesting topics. The cover story is about lofty ambitions. A pumped storage power plant is being constructed in the Swiss Linthal at an altitude of approximately 2,000 metres. From Page 4 on you can learn how HANSA-FLEX – as a logistics and technology partner - is involved in one of the largest energy construction projects in Switzerland.

In our section on "People at HANSA-FLEX" we take a completely new direction this time. With our IT specialist Peter Stütz we conducted an interview in absolute silence. All of the questions had to be answered with gestures and not the spoken word. You can find out how that works on Pages 12 and 13.

At the beginning of this year the world's highest skyscraper opened in Dubai. With its 828 metres tall, the "Buji Khalifa" is a structure that is full of superlatives. How it is possible to build structures with these dimensions is reported in the short history of skyscraper building on Pages 18 and 19.

There are also lofty ambitions at the firm Lufthansa Flight Training GmbH in Frankfurt – although these are only virtual in the flight simulator. In our report, you will learn how, through the use of XCODE, more than 80 different hose lines were manufactured and replaced in record time.

Deep below Hamburg, the new U4 underground railway line is being built, which will connect the "Hafencity" harbour area of Hamburg currently under construction with the city centre. The tunnels, through which more than 32,000 passengers will be transported daily as of 2012, are up to 42 metres deep. You can read about the largest inner-city building project in Europe and the helpful use of the HANSA-FLEX hydraulic workshop on Pages 22 and 23.

We hope you enjoy reading our articles:

THE EXECUTIVE MANAGEMENT

Photo: Julia Ahlers

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Photo: Julia Ahlers

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Photo: Julia Ahlers

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Picture on titel: Nadine Beneke

MAJOR CONSTRUCTION SITE LINTHAL

FULLY SUPPLIED WITH HYDRAULIC WORKSHOPS

Humans have used the power of running water for millennia. The oldest remains of water-mills date back to 200 BC. Today, we use the power of water mainly to generate electrical currents. This is also true in Linthal, Switzerland. Here, about an hour's journey from Zürich, is where one of the largest storage power stations in Europe is taking shape. A mammoth project, in which HANSA-FLEX is participating as a logistical and technical partner for fluid technology.

Linthal 2015 is the name of this pioneering construction project, which is planned as an addition to the three existing power plant complexes (Muttsee, Tierfehd and Linthal). The smallest of the three power plants (Muttsee) is also the highest in altitude. It uses the difference in altitude between the 2446 metre high Muttsee and the Limmernsee, at 1857 metres, to generate electricity. The water from the Muttsee flows down to the Limmernsee through "head race tunnels", driving electricity-generating turbines as it passes. The heart of this major new engineering project is an underground storage power station that is designed to pump the water from the Limmernsee back to the Muttsee. The water can then be used to generate power again as required. This new plant will have a pump power of about 900 MW and a turbine output of roughly 760 MW. For this principle to work, the storage volume of the Muttsee has to be increased. To do this, a dam is being built that will raise the level of the mountain lake by almost 30 metres.

A very similar installation is being built at the Tierfehd power plant, which is at an even lower elevation, to pump the water from the 800-metre high equalising reservoir back to the Limmernsee. The purpose of the entire project is to be able to satisfy the growing need for peak energy in the future as well. The amount of energy drawn from a supply network varies significantly during the course of a day. Less electricity is used in the morning than in the middle of the day or in the evening. Since it is not possible to store large reserves of electricity, power stations must always be generating as much power as is needed at any given time. In a pumped storage power station, energy is stored in the form of water in a reservoir. When the need for peak energy rises, these power stations can adjust the amount of electricity they generate very quickly. But this is not all: pump storage power stations have a further advantage in that they can also convert power overproduction, which normally takes place during the night, into peak energy by pumping the water back into the reservoir.

HEAVY MACHINERY NEEDED

A project of this scale calls for very heavy duty machinery, which in turn must be maintained constantly. A heavy duty cableway has been built to carry construction machinery and materials. This will be torn down when construction work is finished. In the meantime, the materials required are packed in containers and transported up the mountain on it. General management of the construction project has been taken over by a consortium of companies, ARGE KW Limmern. HANSA-FLEX is participating in the capacity of logistical and equipment partner for hydrostatic engineering. The construction site in Linthal is a long way from normal supply routes. If a machine breaks down here, much valuable time will be lost before a replacement part is available. The

Photo: Julia Ahlers

nearest town of any size is Zürich, which is an hour away when the weather is good. So it is imperative to plan material supplies well in advance. This is why HANSA-FLEX has set up a consignment warehouse in a materials container, 800 metres up a mountain, beside the equalising basin in Tierfehd. All essential components are stored here, such as hose stems, threaded connectors or fittings, so that they can be sent up via the cableway as they are needed.

MOBILE WORKSHOPS AT DIZZYING HEIGHT

One "level" farther up – at the Limmernsee level – is the Ochsenstäfeli installation site. HANSA-FLEX has established a hydraulics workshop here for assembling hydraulic hose lines, so that the machines at the Muttsee level can be maintained. They are also equipped to bend hydraulic pipes up to an external diameter of 20 mm. At the Limmernsee level, there is another fully equipped hydraulic workshop for assembling hydraulic hose lines. A pipe bending workshop is also being set up here, to include a pipe bending machine and end machining devices for deburring the lines and preassembling cutting rings. Because of the precipitous mountainsides and the associated threat of avalanches, experts are on hand to check continuously whether it is safe to work or not. Work can only go on at the highest construction site for three or four months of the year, because of the weather conditions. Here, machinery downtimes are more disruptive than elsewhere.

Because of the wide differences in outside temperatures, condensation can form on the walls and roof of the container warehouse. Steel parts stored there go rusty. To prevent this, HANSA-FLEX has adopted the solutions suggested by Alexander Lucek, technical director of the ARGE workshops, and installed an 80-millimetre thick layer of insulation, as described in the bid, in all of its workshops. The temperature inside the container is kept constant with a heater. Air humidity is kept constant with a dehumidifier.

HANSA-FLEX will also be providing technical support for the construction project, which is scheduled to go on for at least seven years. For this, an employee is on site at least once a week, to replenish the materials container, to instruct the building site employees on how to operate the hose press, the pipe bending machine, and all other important components, and to answer questions. "On such a big project, it is certainly a considerable challenge to keep a full stock of replacement parts for all the construction machinery that is in use. But with our hydraulic workshops and a forward-looking approach, we welcome this challenge", declares Paul Rentsch, Managing Director of HANSA-FLEX Schweiz.

Photo: Julia Ahlers

Photo: Julia Ahlers

Graphic: Axpo Holding AG

HANSA-FLEX Solutions "Hydraulic workshop"

Large-scale and tunnel construction sites are often located in areas with a weak infrastructure, frequently a long way from civilisation. Valuable time ticks by while waiting for a replacement hose line to arrive. A HANSA-FLEX hydraulic workshop enhances rapid readiness.
The fully equipped workshop in the container is easy to transport and is equipped with everything necessary for producing replacement parts. The workshops are operated by the customer's employees, who have previously been specially trained to make hydraulic hoses by HANSA-FLEX.

Background photo: Julia Ahlers

Photo: Messe München GmbH / AlexSchelbert.de

bauma, steady, go

HANSA-FLEX FOCUS ON MOBILE SERVICES

When at the trade fair site in Munich countless cranes tower up into the sky and from far off it looks as if you are driving towards a massive construction site, it can only mean one thing - it's time for bauma again! The largest trade fair for construction machinery, building material machines, mining machines, construction vehicles and construction equipment opens its doors from April 19-25. HANSA-FLEX will be present again with a large outdoor stand.

Photo: Messe München GmbH

It is the 29th bauma and with almost instinctive certainty it will again break a few records. The trade fair has grown by 15,000 square metres in comparison to bauma 2007 to its present size of 555,000 square meters. Over half a million visitors are expected by the organisers. More than 3,000 companies are exhibiting this year at the exhibition centre in Munich. At some stands, there will be more than 1,000 people working on each of the seven days of the fair. The entire industry is eagerly waiting to learn which highlights there will be for us this year.

As has almost become tradition, you will find the HANSA-FLEX stand out of doors this year. However, we have "moved" and are now at the centre of the action (F7 Booth 707 / 2). In an area of 500 square meters of exhibition space, we will again be offering many interesting insights into the world of fluid technology. Here, the focus is on our mobile services. There are two fully-equipped fluid service vehicles available so that visitors can experience close-up how oil samples are assessed on site.

FLUID SERVICE AT BAUMA

Oil is an important structural component of hydraulic systems. Contamination of any kind can damage machinery and bring it to a standstill. And unplanned downtimes cost time - and above all money. HANSA-FLEX believes that the best way to avoid this is through prevention and training. The cleanliness of the oil depends on many factors. As a result of improper storage, mixing or ageing the oil becomes useless because it loses viscosity, for example, which can lead to disastrous wear and tear in the machine. The same is true of of dirty oil. Why? Because all hydraulic components in mobile or stationary hydraulic systems move on a film of oil which is less than 10 µm thick. For comparison: A human hair is about 70 µm thick. This extremely thin oil film ensures the

smooth functioning of the machines, but requires oil that is 100% clean.

Indeed, 75 percent of all malfunctions in hydraulic systems are caused by impurities in the oil. And because downtimes and standstills are more than just a nuisance, HANSA-FLEX offers an intelligent solution with their fluid service. Our fluid specialists can take oil samples from the machines directly on site and evaluate them in the vehicle. To this purpose the oil samples are drawn on a filter membrane, sealed and examined under a microscope. It can often be seen straight away how heavily the oil is contaminated and what with. In order to determine theprecise level of purity, it is necessary to count the particles, which is not possible with the naked eye and a microscope. For this a special device is available which counts the particles of dirt and presents the data obtained in a table.

The advantage: Our experts know on the spot whether and how much the oil is contaminated and provide advice on how to proceed on the basis of these findings. As a result fluid changes are based on the actual condition of the oil, so that they can be carried out as cost-effectively as possible. Furthermore, the Fluid Service offers specialized services such as assistance with "water in oil" and the switch-over to bio-oils, the use of which is prescribed by increasing numbers of towns, cities and local authorities for mobile hydraulic systems. With the use of the Fluid Service the gradual process of oil contamination is reliably stopped. This reduces component wear and the risk of disruptions and unplanned machine downtimes.

bauma

April 19 to 25, 2010

HANSA-FLEX:
Open-air 707/2

HANDS-ON HYDRAULIC WORKSHOP

As usual, our experts at the exhibition stand will be pleased to answer visitors' questions and provide them with more than just a look at the fluid service vehicles. There will also be a hydraulic workshop on site. The white container houses a fully equipped workshop, where hoses can be peeled and pressed. In this way spare parts are produced directly on site and available within a very short time. One example of the successful use of the hydraulic workshop is to be found in the cover story of this edition.

We again look forward to being able to present the diverse range of HANSA-FLEX products and services at this bauma to worldwide experts from the industry. At our 510 square meter stand, we are pleased to welcome business partners, customers and interested parties alike to exchange experience and knowledge, provide them with advice or simply hold a pleasant conversation.

HANSA-FLEX at bauma: Open-air F7 Booth 707/2

Photo: Messe München GmbH / AlexSchelbert.de

Photo: Messe München GmbH / AlexSchelbert.de

Photo: Julia Ahlers

Photo: Julia Ahlers

HANSA-FLEX Solutions "Fluid Service"

HANSA-FLEX Fluid Service is the tried and tested way to effective oil treatment which reliably prevents increased component wear and other forms of disruption, including lost production.
The service of our fully equipped laboratory vehicles includes the removal of oil samples, as well as their analysis directly on the customers' premises. If necessary, sources of error can be reliably detected and corrected by means of plant optimisation. Contaminated systems can be cleaned by the provision of bypass flow filtering systems. Assistance is also provided with problems such as "water in oil" or the conversion to bio-oils.

REVISITING OLD DEPOSITS

WITH DRESDEN PLANT CONSTRUCTION AT THE SOURCE

Fossil fuels are still the primary energy carrier for all types of vehicles and construction machines. But as the natural deposits of oil and gas are becoming increasingly scarce, recovering these resources is becoming more and more difficult. Accordingly, the technical challenges associated with exploiting existing oil and gas sources to the full are also becoming more difficult.

HANSA-FLEX Solutions „Unit manufacture/Engineering“

HANSA-FLEX specialist engineering and unit and system manufacturing centres provide the full range of services expected of a system provider, from layout of hydraulic systems through to installation and commissioning.
Technical specifications are clarified and optimum solutions devised in close communication.The units and cylinders are customized to customers' specification in design and finish. State-of-the-art test rigs subject them to the most rigorous of testing, before they are ultimately delivered to their destination ready to install. Including in small-lot production runs.

To stimulate existing, oil-producing wells, special vehicles and additives are used. A highly viscous gel consisting of a number of chemicals is added at the site and pumped into the well under high pressure. This high pressure causes the rock mass that holds the oil to break up. The gel is forced into the cracks in the rock. The gel contains ceramic granulate, which prevents the cracks from closing up again. Consequently, the rock becomes more porous, so that the oil or gas is able to flow more easily towards the feed pumps. With these treatments, tapped out deposits can be reactivated, or outputs can be increased.

This technique is called "Frac", and can only be carried out using special vehicles. These vehicles are produced by only a few companies, one of which is Sperling Trading Agency GmbH (STA) in Salzwedel (Sachsen-Anhalt). A Frac fleet consists of ten special vehicles with different tasks, the most important of which are the pump vehicles. Plunger pumps are driven by specially mounted 16 cylinder diesel engines, and are capable of delivering an operating pressure of up to 700 bar and a volume flow rate of 8000 litres per minute. The plunger pumps are lubricated and cooled via a hydraulic circuit at a rate of up to 120 litres per minute. Loadsensing pumps powered by the auxiliary drives of the special vehicles are used to provide hydraulic output of up to 140 kW for centrifugal pumps, agitators, metering pumps, and cooling and lubrication circuits.

"With 'Frac', tapped out deposits can be reactivated, or outputs can be increased!"

To ensure that the chemicals are mixed in exactly the correct proportions, a special control block with proportional technology was developed by the HANSA-FLEX Plant Construction division. This block drives each of nine metering pumps at exactly the required speed. Hydraulically driven centrifugal pumps feed the mixture to the pump vehicles. Since these special vehicles are marketed all over the world, a different set of specifications must be satisfied for each region and each customer. For example, the vehicles destined for Russia, and thus also the hydraulic components that are installed in them, must be able to withstand ambient temperatures of minus 50°C. In other countries, India for example, ambient temperatures can easily surpass plus 50°C, and the vehicles' operating capabilities must not be impaired by this heat either.

HANSA-FLEX Plant Construction in Dresden has been working in partnership with STA GmbH on projects relating to the engineering and production of hydraulic and lubrication systems for the last four years. The Dresden site is ideally equipped for this undertaking. The production facility of more than 2000 square metres includes space given over to a welding shop, a painting booth, CNC lathes, milling machines, and a machining centre. The site makes the hydraulic cylinders, special control blocks and hydraulic power units itself, so precisely adapted hydraulic systems can be designed and built quickly to the most exacting specifications. At the same time, the company is required to deliver a wide variety of items, from hydraulic cylinders with end position damping or a displacement transducer to special control blocks weighing up to a ton each, and diesel-engine driven hydraulic power units. The hydraulic components needed for production can be supplied at short notice by the HANSA-FLEX central warehouse, so fast delivery times are assured, and a seamless supply of spare parts and replacements for wearing parts is guaranteed.

The engineers there are experts in their various fields, hydraulic cylinders, special control blocks, or hydraulic power units, and are supremely capable of offering optimal solutions. The eight-strong design engineering team uses the SolidWorks design software, and upon request is very willing to provide the necessary 3D assemblies so that customers can carry out their own design engineering projects.

While the special vehicles are being built by STA GmbH, our colleagues at the HANSA-FLEX branch in Salzwedel are responsible for all fitting work. These include installing and connecting all piping and hoses for the hydraulic systems, and other activities. It goes without saying, they are in permanent contact with the customer's personnel. This is how HANSA-FLEX is able to deliver its customary quality. When a vehicle is completed, it is tested thoroughly and put through its paces under full load as part of STA GmbH's in-house quality assurance program. Not until all functions have been released from testing does the truck leave the production plant and begin the journey to its ultimate destination.

Photo: René Hohberger

Photo: René Hohberger

THE VEHICLES FOR THE FRAC FLEET are built by STA GmbH in Sachsen-Anhalt – the complex hydraulic systems are supplied, and in some cases specially developed, by the HANSA-FLEX Plant Construction division in Dresden.

"The vehicles of the Frac fleet must be able to operate anywhere in the world – the hydraulic system must be able to withstand temperatures of -50°C in Russia and +50°C in India!"

Background photo: iStock photo

Photo: Julia Ahlers

FEWER WORRIES THROUGH PREVENTION

PREVENTIVE MEDICAL CHECK-UPS HELP TO MAINTAIN THE QUALITY OF LIFE

Health is man's most precious asset. In surveys about people's wishes for the future, good health is always at the top of the list. On every birthday or anniversary, we wish others good health and even say it at the slightest sneeze. However, we often really only appreciate our health when we no longer have it. Even so, we are ourselves partly responsible for our own health: with a healthy lifestyle, good nutrition, exercise and regular check-ups.

In general, a distinction is made between three different types of preventive medical check-ups. The general medical check-up, cancer screening and occupational health check-ups. The general medical check-up - commonly also known as the "health check-up" - serves the purpose of detecting common illnesses such as diseases of the heart and circulatory disorders, kidney diseases - and above all diabetes - at an early stage. From the age of 35 men and women should go to their family doctor every two years for a health check-up. Patients who are at particular risk, such as smokers, people who are overweight or diabetics, should undergo such a check-up once a year. In a conversation between doctor and patient a comprehensive medical history is recorded first of all, which is used to create a risk profile. This so-called "anamnesis" is followed by a detailed physical examination, which should include both a complete blood count and a urine analysis. The values obtained allow a diagnosis to be made of the health status of the patient. But what many people do not know: The health insurance companies pay for the standard examinations included in the "Check-Up 35". If special examinations such as calcium measurements are required, it is advisable to check in advance with the health insurance company whether such examinations are also paid for. Your family doctor will advise you.

RECOMMENDED PREVENTIVE HEALTH CHECK-UPS

For young women aged 18 years and over an annual examination for cancer of the cervix is advisable. The costs of this are paid for by the health insurance. From the age of 30, women should take advantage of the breast cancer screening programme. Because in Germany breast cancer is the most common form of cancer. For women and men from the age of 30 and up a yearly visit to the dermatologist is recommended, who will immediately identify malignant skin diseases. However, anyone who has an above-

average number of moles on their skin should not wait until they reach the age of 30. Here regular visits to the dermatologist are recommended from an earlier age.

Recommended tests which are usually only paid for by the health insurance companies on request are the glaucoma test and osteoporosis check. The German Federal Ministry of Health advises men and women from the age of 40 to undergo these tests regularly. Men aged 45 and over should have a prostate examination - which is paid for by the health insurance companies - once a year.

COLORECTAL CANCER SCREENING

Colorectal cancer screening is particularly important. This form of cancer is the second most common cause of death from cancer in Germany. Each year about 52,000 new cases of colorectal cancer are diagnosed - with approximately 30,000 of the patients dying as a result. The term colorectal cancer refers either to tumours in the colon or the rectum. If these are detected early, colorectal cancer is curable in almost all cases. Therefore, members of both sexes should undergo examinations of the colon and rectum every year from the age of 50. Here, the doctor will feel the rectum for changes because in many cases tumours form in this area. Besides the so-called "palpation examination" it is also possible to carry out a so-called "haemoglobin test". This test makes it possible to determine whether there is hidden blood in the stools. This is extremely advisable because intestinal tumours have the capacity to bleed easily, and this blood is often invisible to the naked eye.

From the age of 55 the health insurance companies assume the costs for two colonoscopies within a period of ten years. Anyone with close family members who have already had colorectal cancer can check with their health insurance if the costs are covered at a younger age. As unpleasant as the topic of colorectal cancer and colonoscopies may be, it is a matter that one should not avoid. Many doctors give patients a sedative or painkiller before the examination. Anyone who is afraid of such examinations should talk about this with their doctor during the preliminary discussion. Your doctor will respond accordingly.

OCCUPATIONAL MEDICAL SCREENING

Occupational medical screening is laid down in the German Regulations on Occupational Medical Screening (ArbMedVV). This forms part of occupational medical prevention measures at work and serves the purpose of the early detection of occupational health problems. This type of screening can be a simple consultation discussion. However, only if no medical examinations are necessary for the consultation. Furthermore, there are a number of compulsory examinations which depend on the work performed by the employee. Someone who, for example, frequently carries out welding work must undergo regular occupational screening to have their lungs and respiratory system examined. The precise contents of the ArbMedVV legislation are extensive, but can be obtained at any time from the employers' liability insurance association or personnel department.

Photo: Julia Ahlers

Photo: Julia Ahlers

Photo: Julia Ahlers

DURING THE PREVENTIVE MEDICAL CHECK-UP a comprehensive medical history is first recorded in a conversation between doctor and patient. This is followed by a detailed physical examination, which should include both a complete blood count and a urine analysis.

"From the age of 35 men and women should visit their family doctor every 2 years for a check-up!"

Of course, preventive medical check-ups are not a guarantee of good health. But anyone who takes advantage of them regularly improves their chances of detecting any diseases at an early stage and thereby starting the healing process as soon as possible. And if nothing is found, it is reassuring to know that one is healthy.

The most important preventive medical check-ups at a glance

Age	Sex	Examination	Frequency
18 and older	women	cervical cancer	annually
30 and older	women	breast examination	annually
35 and older	women and men	health check-up	every two years
45 and older	men	prostate exam	annually
50 and older	women and men	colon and rectal examination	annually
55 and older	women and men	colonoscopy	two examinations at an interval of ten years

And all that remained was silence

PETER STÜTZ – IT DEPARTMENT, HANSA-FLEX BREMEN, AN ARTICLE IN PICTURES

Peter Stütz has been working at headquarters in Bremen for nine years now. He started as an operator in the IT department, and he is now the SAP basis administrator for authorisations. And he has found the perfect counterpoint to his highly technical profession. Since 1991, Peter Stütz has been involved with the theatre – passionately, he points out. In this interview, HYDRAULIKPRESSE puts the 36-year-old performer's theatrical skills to the test. He is only allowed to answer our questions with gestures, not by speaking.

Peter Stütz in the theatre

Those wishing to watch Peter Stütz live will find information about his theatre group at: www.bat-ensemble.de

Photo: iStockphoto

Photo: Julia Ahlers

How old were you when you stood on a stage for the first time?

Photo: Julia Ahlers

Where do you find the creative energy an actor needs?

Photo: Julia Ahlers

How nervous are you before a premiere?

Photo: Julia Ahlers

And what do you look like after a successful premiere?

Photo: Julia Ahlers

Do you enjoy watching German films?

Photo: Julia Ahlers

What do you think of Till Schweiger's performance art?

Photo: Julia Ahlers

Can you imagine a life entirely without theatre?

Photo: Julia Ahlers

What do you do when the audiences starts booing?

Photo: Julia Ahlers

How would you act the part of a hydraulic hose?

DECISION FOR THE CUSTOMER

ZINC-NICKEL COATING IMPROVES QUALITY

Photo: Julia Ahlers

THE NEW **zinc-nickel coating protects HANSA-FLEX products against corrosion even more effectively.**

The best example of inadequate corrosion protection is the Eiffel Tower in Paris. In order to prevent the landmark tower from glowing rust-red on the skyline of the French capital, it has to be painted with 60 tons of anti-rust paint every 7 years. At a cost of three million euros. With regard to hydraulic connecting equipment, parts are unusable unless they receive a surface coating to protect them against corrosion. Commercially available coatings consist of a a zinc base coating with additional chromium III thick coat passivation, which satisfies the requirements of the directive on end-of-life vehicles. But even if the standard commercial coatings satisfy all statutory provisions, this type of surface coating still does not fully measure up to the stringent quality requirements set by HANSA-FLEX Hydraulik GmbH. Accordingly, with effect from April we will begin the changeover from zinc plus chromium III to a higher-quality zinc-nickel coating. Starting with pipe fittings, adapters, hose fittings and flanges, by the end of 2010 the entire product range will be receiving the new surface coating.

HANSA-FLEX has prepared a specification, which we have developed over countless tests and in cooperation with our suppliers and manufacturers, specially for this introduction. In a three-month test phase, several different types of zinc-nickel coatings were tested for resistance to rusting. The freshly coated components underwent the batteries of tests in the Research and Development department of the International Hydraulics Academy in Dresden. To demonstrate rust resistance, components with different coatings were sprayed continuously with a salt mist in a test lasting 720 hours (32 days), as set forth in DIN EN ISO 9227-NSS. On the basis of the results, HANSA-FLEX prepared a plant standard that is binding for all suppliers and manufacturers, and is designed to guarantee a consistently very high quality standard. We have also developed a lower coefficient of friction that has no negative effects compared with conventional coatings. This makes assembling components even more secure. The new zinc-nickel coating has demonstrated its process reliability in all tests, and thus promises an outstanding level of reliability. This represents a not insignificant financial advantage for machine operators, particularly in areas where the components are exposed to the effects of weather – for example when they are used on construction machinery, agricultural implements, or roadbuilding equipment.

Nothing will change for our customers! You will continue to receive the HANSA-FLEX quality you expect. But now with a supremely high-quality surface coating. The only change you will notice is visual. All products with the zinc-nickel coating will be a matte grey colour.

Photo: Julia Ahlers

WHEN THINGS HAVE TO BE KEPT TIGHT

EXTENDING SERVICE LIFE WITH HANSA-FLEX

Photo: Julia Ahlers

SEALS MADE BY HANSA-FLEX **can be supplied in all forms and sizes within a very short time.**

They are probably the most inconspicuous components of fluid technology - as long as they function correctly. How important seals are for hydraulic systems only becomes apparent to the layman when the seal stops working. The consequences are leaks that can lead to costly failures of production machines. In the HANSA-FLEX Sealing Technology Department, our specialists store everything that is necessary for solving your problems. In 2008, HANSA-FLEX Sealing Technology moved to Königshofen. In the new building, located in the immediate vicinity of the Cylinder Centre, everything is a bit larger than at the previous location. For example, more than 9,000 standard seals are stored in the warehouse. A service with a high level of availability which is continuously adapted to current requirements. As a result, requirements can usually be provided from the current stock, thereby avoiding prolonged downtimes. But not only standard seals are quickly available. The Sealing Technology Division is able to manufacture special seals with the highest precision and in many materials within 24 hours. The CNC-controlled machining centre "SEAL-MASTER" makes it possible to produce and supply individual seals with an internal diameter of 5 mm and up and external diameters up to 520 mm within a very short time. This applies to individual items as well as to small series. In cooperation with our partners, we supply turned seals with a diameter of up to 2,500 millimetres.

A hydraulic cylinder is always only as good as its seal. Although seals make up a relatively small share of the cost of a cylinder, they are just as crucial to its functionality, as well as to the safety of the machine operator and the environment. Very high costs can ensue if seals on the piston or on the rod of the cylinder should fail. The following repair costs are then many times higher than the value of the failed seal. Therefore, it is a good idea to use the most suitable seal during the construction of hydraulic systems. This is why our experts from the Cylinder Centre work closely together with the specialists from Sealing Technology on the construction or repair of cylinders. In this way their performance and service life are improved considerably. Our customers also use the expertise of our experts when developing new systems in order to ensure that everything stays as tight as it should be and remains so for a long time.

HANSA-FLEX Solutions "Sealing Technology"

HANSA-FLEX solves your sealing problems. As a consulting partner in project development, when spare parts are needed or for immediate assistance in an emergency. As a leader in hydraulics engineering, HANSA-FLEX has everything you need to solve problems associated with sealing: an extremely wide and diverse stock range, a manufacturing centre for the immediate production of special seals and an advisory service which minimises significant risks in advance of your projects.

THE RELENTLESS PURSUIT OF THE POTHOLE

41 YEARS OF COOPERATION, WITH NO END IN SIGHT

Last winter really played havoc with our roads. Potholes appeared all over the place, caused by the cold. According to official estimates, five times as many as in previous winters. To repair their battered roadways, many roadbuilding firms and municipal authorities are turning to the products of Weisig Maschinenbau GmbH. The family-owned company in Alfeld, Lower Saxony, just outside Hanover, has been making machines for spraying bonding agents, and for producing and applying cold-lay thin asphalt layers for the last 50 years.

HANSA-FLEX Solutions „OEM-Services“

No matter whether you as an OEM want to streamline logistics, improve mobility or boost productivity: HANSA-FLEX Solutions will cater for your objectives in the smallest detail.
Service modules such as “kanban and consignment warehouses”, “kitting” and “works in works” prove to be especially cost-effective. These OEM services are customised and carefully coordinated with your production process cycles. Getting hold of spare parts is no problem thanks to HANSA-FLEX. A dense network of branches ensures ready access to the components you require, even at short notice. We can offer such efficiency as we hold over 82,000 different parts permanently in stock. Then there is our experienced and committed workforce. With their expertise and focus on service they provide fast, qualified help in any situation.

Background photo: Julia Ahlers

It all started in 1948 with a wheelbarrow. That was the first item ever offered for sale by the fledgling company Weisig. Four years later, the first construction site trailer was added to the product offering. In 1958, Weisig built and marketed its first "tea machine". When they needed to install the first hydraulic system in their new pre-jetting machine, Weisig approached the nearest HANSA-FLEX branch. That was in 1969. Nowadays, HANSA-FLEX supplies Weisig with all of the connecting equipment for its hydraulic systems.

Photo: Weisig

Today, spraying and cold-lay asphalt thin surfacing machines represent the family company's main product line. Spraying machines apply a bitumen emulsion – a mixture of bitumen, water and a polymer-modified binding agent – between two layers of a road, and stick them together. Because: A road is made up of several layers, which must be bonded together to achieve the loadbearing capacity and weather resistance that are essential for supporting traffic. Think of it like this: If you put two shortbread biscuits on the table and press on them with your finger, the biscuits break very easily. But if there is a layer of chocolate between the biscuits, it is not so easy to break the biscuits with just your finger.

ADHESIVE BONDING COURSE

Besides the quality of the bonding agent used, the effectiveness of this bonding course depends to a critical degree on the method by which the middle bonding layer is applied to the base layer. If the layer composite is not manufactured and applied carefully, large portions of the carriageway can develop cracks, or deformations such as ripples can appear in a very short time. Therefore, it is essential to work very accurately, so that exactly the right amount of bitumen emulsion – between 150 and 500 grams per square metre – is applied to the road. Weisig has developed a solution for this. According to this solution, a preselected nozzle size, the spraying pressure and the driving speed of the laying vehicle are all coordinated to output the required quantity of bonding agent and apply it evenly to the road surface. The nozzles can also be controlled individually via an optional electropneumatic system. The spray ramp can be raised, lowered, and slewed sideways hydraulically. A computer-assisted log function records the quantity of bonding agent that has been output, and serves not only as a record for customers but also as the basis for the company's billing service.

REFURBISHING WITH COLD ASPHALT

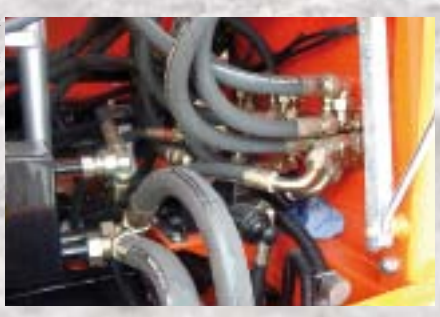
For refurbishing damaged roadways, Weisig designs and manufactures "micro asphalt cold-lay machines". These apply thin asphalt cover layers to the roads in a cold-lay process. For this, a mineral mixture is added to the bitumen emulsion and water in the laying machine's mixer. The vehicle can easily hold ten cubic metres of the mineral mixture. A computer-assisted automatic function monitors the perfect mix ratio. In all, each vehicle is fitted with ten or eleven hydraulic motors, which move the distributor carriage, allow the application width to be adjusted – up to 3.8 metres – and perform a variety of other functions. Weisig ships its machines practically all over the world. From Spitzbergen to Africa, and from Russia to Dubai, roads are built or repaired using Weisig's spraying machines and micro asphalt cold-lay machines. Today, Weisig Maschinenbau GmbH employs a staff of 52, many of whom joined the company after training there. "We think training is very important. At the moment, we have nine people who are being trained as precision mechanics. As far as possible, we try to hire the trainees who have trained here when they have qualified", says Dipl.-Ing. Gunter Weisig, displaying a certain pride as we tour the production area for building site trailers, the company's second major business line. At least four trailers are finished here every day, and they are equipped according to individual customer requirements.

FOUR DECADES OF COOPERATION

Anyone who has remained a loyal customer to the same fluid technology systems supplier for 41 years without a break must have a good reason to keep coming back. Managing Director, Dipl.Ing Sigurd Weisig, one of the three brothers who lead the company these days, states simply: "Over the course of our long company history, we have always kept up with the times, and we have always known that we could rely on HANSA-FLEX to deliver quickly and assist us professionally in all matters relating to hydraulics. Besides, it is consistent with our company's philosophy to buy from businesses in the region, as long as the quality is satisfactory, and that has always been true with HANSA-FLEX." Carsten Dau, operations manager at the Elze branch, declares: "Of course, we are very glad that we have been able to maintain a constant business relationship with Weisig for so long. It serves as an impressive reminder that HANSA-FLEX has also striven to remain close to its customers and produce the highest quality materials for decades."

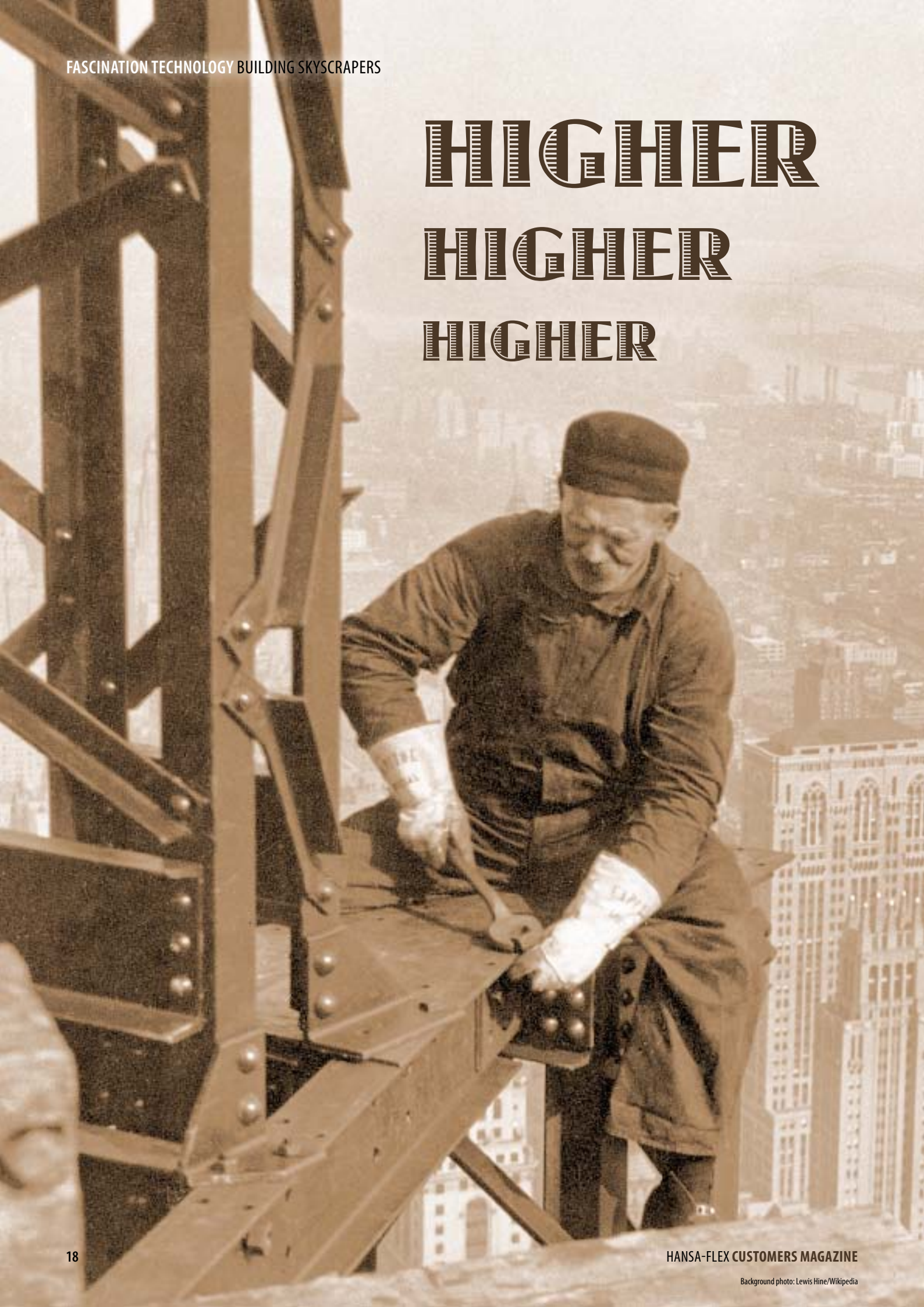
Photo: Weisig

Photo: Weisig



THE MACHINES PRODUCED BY WEISIG rely on complex hydraulic systems – for over 40 years, Weisig has relied on HANSA-FLEX.

HIGHER HIGHER HIGHER



Background photo: Lewis Hine/Wikipedia

HISTORY OF SKYSCRAPER BUILDING

Onward and upward. Ever higher, even. The same applied even in Antiquity. The, pyramids were built, temples constructed, and every self-respecting overlord built on a grander, more magnificent scale than his predecessor. Things are no different today. The tallest building in the world has just recently been inaugurated – on January 4, 2010. The "Burj Khalifa" rises an incredible 828 metres into the sky, shattering all previous records. It is almost 300 metres higher than its nearest rival, the "Taipei 101".

The history of skyscraper building is not yet 160 years long. It began with an invention that, in and of itself, had nothing to do with building: the steam-powered lift. It was only after this device had been produced, in 1852 by Elisha Grave Otis – initially for lifting goods, but after 1857 for people as well – that it made sense to build really tall buildings. From a purely technical perspective, it would have been quite possible to build them without lifts, but who would want to live in an apartment on the eighth floor of a building without a lift?

The first high-rise buildings began to appear towards the end of the 19th century, and were of a simple, beam-and-column construction. This was the construction method used in 1885 for the Home Insurance Building in Chicago. With twelve floors, it is considered to be the first skyscraper in the world. But builders soon approached the limits of what was possible in terms of height with this construction method, and fresh ideas were needed. The most promising of these involved making a change to the foundation of the planned buildings. Instead of individual and strip footings, the foundations were now built more solidly. The reinforced foundation construction, in which a concrete slab was anchored with piers, was used for the first time to build the Woolworth Building in Chicago. The skyscraper was inaugurated in 1913, and with a height of 241 metres it remained the tallest building in the world until 1930.

RIVALRY IN MANHATTAN

After seeing the Eiffel Tower in Paris, Walter Chrysler was determined to build the world's tallest skyscraper in New York. At the same time, John J. Raskob was beginning the plans for a building that even today is one of the iconic images of New York: the Empire State Building. When Chrysler got wind of these plans, he changed his own and had a steel crown mounted inside the Chrysler Building, which was already under construction. The crown was placed on top of the building. At 319 metres, the building broke all standing height records. But Chrysler could not have known: John J. Raskob had suspected that the Chrysler Building would finally be higher than was indicated before building began. So he had 85 storeys built instead of the 80 originally planned. And as with the Chrysler Building, Raskob also had the Empire State Building topped with a crown. This made the building another 60 metres higher. As a result, the Empire State Building was 381 metres high.

It would be 40 years before an even taller structure was erected, the new champion being the World Trade Center. To reach a height of 417 metres, it was necessary to use another completely new construction method. The World Trade Center was one of the first structures in the world to be built with the "tube-in-tube" system. This system is based on the use of an inner and an outer tube. The inner tube stands in the centre of the building, and houses the lift shafts among other things. The outer tube was visible as the façade. These two tubes were joined via steel trusses, which offered outstanding stability and also meant that much less steel was required than for conventional building methods. However, even this construction method did not afford sufficient stability to withstand the appalling attacks and horrifying aftermath on September 11, 2001.

MEGACONSTRUCTION IN DUBAI

The World Trade Center only held the record as the tallest building in the world for two years. In 1974, it was surpassed by the Willis Tower (formerly the Sears Tower) in Chicago, which rises 442 metres into the sky. After the record was taken by the Petronas Twin Towers (452 metres) and then Taipei 101 (508 metres) the race to build the tallest building in the world was halted for the time being on January 4, 2010. This was date on which the height of the recently opened "Burj Khalifa" megabuilding was officially announced. Standing an incredible 828 metres high, it surpasses all other skyscrapers in the world by several hundred metres. Once again, this height was only made possible by a completely new construction technique. "Burj Khalifa" consists of three structural columns that support each other and converge in a stable, hexagonal axis.

But architects have not stopped planning. Even today, skyscrapers are being planned that cannot even be built with the current state of the building art. In Shanghai, there are blueprints for the "Bionic Towers", which are designed to reach 1,228 metres. A project entitled "Try 2004" has the ambitious goal of creating a structure 2004 metres high off the coast of Japan. By the time that is built, we will probably have to think of a new description. "Skyscraper" would be too small a word.

FASTER WITH HYDRAULICS

Where once we relied mainly on human strength, cranes, goods lifts and hoists to get the work done – when the Empire State Building was built, for example – nowadays hydraulic technology plays a major role in high-rise construction. For example, automatic, hydraulic climbing systems do not need cranes except for assembly, and can work in any weather. They speed up the skyscrapers significantly. In conjunction with the latest formwork technology, an entire storey can be built in under three days – as was the case with the "Burj Khalifa". So the days when construction workers – mostly native Americans of the Mohawk tribe – casually breakfasted on a steel beam over 100 metres in the air, or sauntered over steel skeletons at vertigo-inducing heights without so much as a rope to hold them, are well and truly over - surely everyone has seen such photos.

Photo: Nepenthes/Wikipedia

X-CODE AND FLIGHT TRAINING

TRAINING FOR EMERGENCIES

A stong gust of wind grips the aeroplane and shakes it just a touch off course. No problem. The pilot corrects the flight path. But he cannot relax yet, suddenly an engine cuts out. The machine goes into a steep bank. An alarm sounds in the cockpit. Without becoming distracted for a second, the pilot takes appropriate countermeasures, rights the aircfraft, and lands it safely on on the tarmac.

Photo: Julia Ahlers

This landing approach has never been attempted like this – at least not in real life. But during training flights with the flight simulators at Lufthansa Flight Training GmbH (LFT) in Frankfurt, scenarios like this are encountered routinely. After all, their function is to familiarise pilots with even the most improbable situations, so that if a real emergency does occur, they can make the right decisions immediately. To make the simulation as realistic as possible, an abundance of technology is implemented. Comprehensive software is used to imitate complications such as engine failures, seized undercarriages, or turbulent weather conditions. In addition, more than 90 different airports can be projected with photographic realism. Fires are simulated with a fog machine. The cockpit is an exact replica of a real aircraft cockpit, down to the smallest detail, and a hydraulic system enables tte simulator to simulate even the slightest movements with uncanny accuracy.

COMPLETE REPLACEMENT AFTER SIX YEARS

The 36 flight simulators at Lufthansa Flight Training GmbH allow 20 different aircraft types to be flown. On average, 70,000 personnel take part in flight, service, or emergency training every year. In 2008, a combined total of 160,000 flying hours were logged on the simulators at all LFT facilities. So they do a healthy business. The simulators are hardly ever still. But today they are – at least for a few hours "Safety is of the utmost importance to us, so we have all hose lines completely replaced at least every six years, as recommended by the legal authorities", Volker Jäger, head of the Hydraulic Systems functional area at LFT, explains why one of the simulators is not in use.

X-CODE IS THE KEY

The five employees of the HANSA-FLEX Weiterstadt branch have exactly six hours in which to replace the simulator's 80 hose lines. The simulator is booked for use at 2 pm. It is imperative to work quickly and professionally. Because every hour of unscheduled stoppage time for the simulator costs cold hard cash. It's a good thing for everyone concerned that every hose line is marked with an X-CODE. "We don't have to spend valuable time measuring each individual hose line. Instead, all we had to do was read off the X-CODEs – for that, the simulator could even remain in use. So there are no more unscheduled downtimes", HANSA-FLEX field technician Klaus-Dieter Bertram explains a few of the advantages of the alphanumeric code that is used to identify all of the product features of hydraulic connecting elements. "Without X-CODE, we could easily have expected to spend twice or three times as long working on this. So it is also an immense financial advantage to our customers. Quite apart from the shortest possible downtimes", he adds. In order for the six big hydraulic cylinders to move the eleven-ton flight simulator just like the real thing, enormous power is required. This is supplied by a three-motor power plant with a total output of 165 KW. For really fast movements, even more power must be available. This can be provided from a nitrogen-oil reservoir. Compressed nitrogen and a precisely measured quantity of hydraulic oil are combined in a sort of compressed air cylinder. When it is needed, the nitrogen bubble expands, forcing the oil into the hydraulic system, thus providing the system with extra power.

TRUSTFUL COOPERATION

Besides the hose lines that are operated in the simulator, HANSA-FLEX also supplies all of the other feed lines. For this customer, the pipes needed are manufactured and delivered by the branch in Dresden-Weixdorf. These are then installed on site by staff from the Weiterstadt branch. A well-rehearsed procedure, because Lufthansa Flight Training GmbH has been a HANSA-FLEX customer for 15 years, and Klaus-Dieter Bertram has been in charge of the account for all of that time. "We are loyal to HANSA-FLEX because we need a partner that can respond very quickly", Volker Jäger expresses his complete satisfaction with the cooperation, and also notes: "Since X-CODE has been introduced, everything goes even faster".

"Without X-CODE, we could easily have expected to spend twice or three times as long working on this!"

Founded in 1955, and originally dedicated to training Lufthansa flight attendants, Lufthansa Flight Training GmbH became a wholly-owned subsidiary of Lufthansa AG in 1997. The first training flights with a simulator took place as early as 1957. LFT trains pilots for other airlines as well as for Lufthansa. "All pilots must undergo a flight check at least twice a year", Jens Rudolph, Senior Manager Marketing at LFT, spells out the rules. And since many smaller airlines are simply unable to afford the investment in a flight simulator of their own, more than 150 airlines are glad to avail themselves of the services offered. The HANSA-FLEX team has completed all tasks and – thanks to X-CODE – even finished reinstalling the lines an hour early. That's what sets a fast partner above the rest.

Photo: Julia Ahlers

Photo: Julia Ahlers

Photo: Julia Ahlers

CONCENTRATED TECHNOLOGY is essential for simulating realistic training flights. A system consisting of six large hydraulic cylinders and high performance power units moves the eleven-ton cabin of the flight simulator exactly like the real thing.

HANSA-FLEX Solutions "X-CODE"

The X-CODE service innovation identifies all product features of hydraulic connecting elements in an alphanumeric code – immediately visible, and permanently attached to a label, precise and unambiguous for fast replacement parts ordering over the phone. We identify the replacement part almost as soon as you give us the X-CODE over the phone. Backed up by our fully automated logistical system and a global network of branches, we bring it to you – in the required quality, without delay, and no mistakes.

FOR A GOOD CONNECTION

THE NEW U4 IS BEING CONSTRUCTED BELOW THE CITY OF HAMBURG

Hamburg's Hafencity is currently the largest inner city development project in Europe. Over an area of 157 hectares a completely new district is being constructed between the city centre and the River Elbe which will extend the centre of Hamburg by 40 percent. Besides residential and commercial buildings, leisure and cultural facilities such as the Elbe Philharmonic Orchestra will find a home here. A new underground railway line - the U4 - will carry passengers directly to the Hafencity from 2012 on.

Photo: Julia Ahlers

THE NEW U4 UNDERGROUND RAILWAY LINE will connect the Hamburg Hafencity to the old town and is 4 km long.

The size of the construction work in the Hamburg Hafencity can be estimated at first glance. As far as the eye can see cranes reach into the sky. Building is going on at almost every corner. Here a new city is being created within the city. This project is probably only comparable with the development of the former Berlin Wall in Berlin after reunification. The area of the Hafencity is an island in the River Elbe filled with port basins. In order to ensure that the new district is easily accessible in the future, it will be connected to the existing road network. For this purpose a total of 25 bridges have been repaired or built from scratch.

IN A WIDE ARC

Because it should of course also be possible to reach the Hafencity by local public transport, a new underground railway line- the U4 - is being built. The starting point of the U4 is the existing "Jungfernstieg" station. From here the line - which is planned to go into operation in 2012 - leads to the south first of all in a wide arc and then swings east, where the new "Überseequartier" station will be built. At the Überseequartier, which is currently under construction with its cruise terminal and "Science Centre", many apartments, offices and shops will be built. From 2011 on this will form the focal point of the Hafencity.

V.E.R.A. IS BORING

The first section between "Jungfernstieg" and "Überseequartier" (future travel time three minutes) is 2.8 km long and is being built completely underground. The work is being carried out with V.E.R.A. (German acronym for 'from the Elbe in the direction of the Alster), a tunnel boring machine with shield drive, which drills its way every day up to 10 metres through the soil. Overall, there are two tunnels being built - one for each direction of travel. The first of the two tubes, which in the inner-city district are up to 42 meters below the ground, was completed last October. After the first tunnel was completed, V.E.R.A. was completely dismantled and taken to the starting point of "Überseequartier", where it was reassembled. The second tunnel has been under construction for several weeks, with the tunnel boring machine requiring approximately one year to complete the task. During this process, V.E.R.A. will remove approximately 100,000 cubic meters of soil, boulders and stones from the Hamburg underground, which will be transported away via the Hafencity.

EXPANSION POSSIBLE

From the new "Überseequartier" station, the new U4 continues on to the temporary terminus "Hafencity Universität". From here, the route could be extended

Photo: Julia Ahlers

THE TWO INDEPENDENT TUNNEL TUBES are located in the city centre district at a depth of up to 42 metres.

"The tunnel boring machine V.E.R.A. with shield drive drills up to a length of 10 metres through the soil every day!"

Photo: Julia Ahlers

further to the south and connect city suburbs such as Harburg or Wilhelmsburg to the underground railway network. Even if no decision has yet been taken on this expansion, the planners have included the appropriate preliminary work in their plans in order to ensure they are prepared for further construction work.

A consortium known as ARGE U4 is responsible for the construction work being carried out on the new underground line. This consists of the companies Hochtief, Aug. Prien, HC Hagemann and Ed. Züblin. HANSA-FLEX is participating in the work on the tunnel as a service provider and service partner for fluid technology. For such a project, proactive planning and adherence to the timetable is of the utmost importance. Unplanned downtimes of machines are expensive and not acceptable.

HYDRAULIC WORKSHOP ON SITE

In the early days of the construction work, while the pit was being excavated, the mobile HANSA-FLEX Service FLEXXPRESS was on site to minimise the downtimes of excavators and wheel loaders. During construction of the tunnel, HANSA-FLEX provides a hydraulic workshop. This fully equipped container workshop has everything needed to produce spare hose lines. All components such as fittings, couplings or nipples are clearly arranged and easy to find even for the layman. The various hose products can be peeled and pressed directly in the container. It is not possible to procure a spare part any faster.

In order to ensure there is always enough material available in the hydraulic workshop, HANSA-FLEX fieldworker Jacek Borarzynski travels at least once a week to the Hafencity to replace the items that have been used up. In preparation, the construction site staff of Jacek Boraczynski and Dennis Wagner underwent extensive training to familiarise them with the use of the machines, so that they can now produce replacement hose lines by themselves if required. Of course the range of items in the hydraulic workshop is adapted to the construction machines which are used on site. "In addition to the standard parts we also have special mining couplings stored in the workshop, for example," explains Jacek Boraczynski.

Besides the hydraulic workshop, HANSA-FLEX have also provided the client with several high-pressure hydraulic cylinders and two hydraulic power units, which were manufactured by HANSA-FLEX Aggregatebau Service Nord in Neumünster. After completion of the construction work, the new U4 underground railway line will carry about 35,000 people daily to the Hamburg Hafencity. In the case of major events, there may even be 20,000 passengers per hour. Then the U4 will run in 2 minute intervals with a maximum speed of up to 80 kilometres per hour.

Photo: Julia Ahlers

HANSA-FLEX Solutions "FLEXXPRESS"

Unplanned downtimes have to be rectified as quickly as possible because each hour of operation that is lost costs money. Our fast FLEXXPRESS service can be on site immediately if necessary: 365 days a year and around the clock - wherever you need us. In addition to the professional emergency assistance, the vehicles are also valued as mobile workshops. Whether for small projects, on large building sites or for short-term support during peak workloads: include FLEXXPRESS as a flexible and efficient service provider in your plans!

Photo: Julia Ahlers

DECISION WITH VISION

HANSA-FLEX OFFERS APPRENTICESHIPS WITH GOOD PROSPECTS

Highly qualified employees are the heart of every enterprise. Promoting skills is an investment in the future. It is therefore only logical that the quality of the education of young people at HANSA-FLEX is of major importance, because it is the basis on which to build further skills. With many opportunities for development within the company during - and often after - the apprenticeship, we offer apprenticeship places with good prospects.

Photo: Julia Ahlers

DANIEL ASCHE **former HANSA-FLEX apprentice from Hanover has good reason to smile: after successfully completing his apprenticeship he was taken on and is now going to the Netherlands as a future key user in order to help colleagues in the local branch offices with the introduction of SAP.**

Currently, HANSA-FLEX employs more than 80 apprentices throughout Germany in eleven professional fields. In addition to their apprenticeship work, they all receive additional support in the form of special training seminars, for example, with the beginner's seminar, which every apprentice attends in the first year. Over a period of five days the participants receive a wide variety of training at the International Hydraulics Academy in Dresden-Weixdorf. In addition to theoretical topics such as the rights and obligations of the apprentices, presentation of the corporate group or the introduction to line technology, the seminar also deals with practical aspects. For example, every apprentice - regardless of the type of training - produces hoses without assistance in the adjacent branch of the company group.

The fact that the training at HANSA-FLEX offers good future prospects is evidenced by our employee Daniel Asche. The 23-year-old from Hanover used to top up his pocket money as a schoolboy with holiday jobs at the Anderten branch. "I always really enjoyed it," recalls Daniel Asche. He quickly realised that after leaving school he should apply for an apprenticeship place. "Interesting tasks, nice colleagues, good prospects - it was an easy decision to take," says the specialist in the wholesale and foreign trade with a laugh. "What I found particularly attractive were the many opportunities which HANSA-FLEX offers their apprentices," Asche goes on.

During his apprenticeship, Daniel Asche acquired further qualifications at various seminars and was involved in the conversion to SAP at the Hanover-Anderten Branch. Meanwhile, Daniel Asche has successfully completed his apprenticeship and remained loyal to HANSA-FLEX. From April 1, 2010 on, he will be passing on his knowledge as a key user to our Dutch colleagues and will therefore have a major role to play in the introduction of SAP in the Netherlands.

We wish him every success!

VACANCIES

"OUR EMPLOYEES ARE THE KEY TO OUR SUCCESS"

Photo: Julia Ahlers

Warehouse logistics specialist trainees m/f

for our branches in **12099 Berlin-Tempelhof**, **16761 Hennigsdorf/Berlin**, **25813 Husum**, **64331 Weiterstadt** and **65201 Wiesbaden**.

What we offer:
- Product training in hydraulics / workshop and warehouse operations
- Substantial logistical skills / training in dealing with customers
- Special seminars and assignments in the Bremen admin. centre
- Upon completion, opporutnity to train as "Hydraulics specialist"

What do we expect from you?
- Technical interest and understanding
- Open manner and good interpersonal skills with customers
- Certificate of secondary school education
- MS Office skills / Class B driving licence an advantage
- Willing to learn, conscientious, self-reliant, flexible

Send your application with copies of school certificates **by April 30** to:

HANSA-FLEX Hydraulik GmbH | Human Resources Department
Zum Panrepel 44 | 28307 Bremen, Germany
pa@hansa-flex.com

Trainee management assistants in wholesale and foreign trade (concentration on w/sale) m/f

at our branches in **64331 Weiterstadt** and **65201 Wiesbaden**.

What we offer:
- High-quality management training with in-depth introduction to the many and varied technical areas of our group of companies
- Special seminars and assignments in the Bremen admin. centre
- Transfer to a foreign branch is possible after completion

What do we expect from you?
- A good secondary school certificate or commercial college qualification
- MS Office skills / Written and spoken English skills
- Technical understanding
- Good interpersonal skills
- Willing to learn, conscientious, self-reliant, flexible

Send your application with copies of school certificates **by April 30** to:

HANSA-FLEX Hydraulik GmbH | Human Resources Department
Zum Panrepel 44 | 28307 Bremen, Germany
pa@hansa-flex.com

Fitters for industrial assembly m/f
with experience in hydraulics and pipeline assembly

for our **Industrial Assembly operation in the Saarlouis area** (Job ref. 580).

Your duties:
You will respond quickly and professionally to minimise machine down-times at our customers' sites. You are responsible for repairing, maintaining and installing hydraulic systems.

What do we expect from you?
- You have successfuly completed technical training (e. g. as agricultural machinery mechanic, welder or metal worker)
- Professional exp. in hydraulics, pipe installation or agric. equipment
- Experience in repairing and installing hydraulic systems
- Willing to accept assembly assignments in Germany and abroad

Please send your written application including salary requirements to:

HANSA-FLEX Hydraulik GmbH | Ms. Orywal
Zum Panrepel 44 | 28307 Bremen, Germany
pa@hansa-flex.com

Trainee industrial mechanic m/f

for our **Industrial assembly operation at the branch in 01108 Dresden**.

What we offer:
- Technical skills in maintaining, repairing and assembling hydr. machines and systems / in-depth knowledge of hydr. products
- You will be involved in manufacturing hydraulic components
- Special seminars / training at modern workstation
- Upon completion, opporutnity to train as "Hydraulics specialist"

What do we expect from you?
- Well-developed tech. interest and very good tech. understanding
- Open manner and pleasure in dealing with customers
- Good certificate of secondary education
- MS Office skills / Class B driving licence an advantage
- Willing to learn, conscientious, self-reliant, flexible

Send your application with copies of school certificates **by April 30** to:

HANSA-FLEX Hydraulik GmbH | Human Resources Department
Zum Panrepel 44 | 28307 Bremen, Germany
pa@hansa-flex.com

Further information on the vacancies advertised and the company can be found at www.hansa-flex.com

NEWSTICKER

Photo: Julia Ahlers

HANSA-FLEX makes a Donation to Orphans

At the end of December 2009 employees from the branch in Mostar were the bearers of glad tidings. Four orphanages in Bosnia-Herzegovina received donations in kind to the value of €3,700. Each was previously allowed to express their wishes. The jogging and pyjama suits, slippers and food conjured up many a radiant smile on the faces of the children. It can be so easy to bring a little happiness into the world.

Photo: Julia Ahlers

HANSA-FLEX catalogue on USB stick

The complete HANSA-FLEX online catalogue is now available on a USB data carrier for use in the field. The application (for MS Windows) enables access to all catalogue data without the need for an Internet connection, includes search function and PDF creation. The catalogue has been prepared in the following languages: Chinese, German, English, French, Croatian, Latvian, Lithuanian, Dutch, Polish, Portuguese, Rumanian, Russian, Slovak, Spanish, Czech, and Hungarian.

Photo: DRK e.V.

Donation to the German Red Cross

HANSA-FLEX Hydraulik GmbH has donated 350 shirts to the German Red Cross for distribution to people in need. This initiative is thus coupled with donations for social institutions in Brazil and Thailand instead of Christmas gifts to customers, and with our commitment to the Indonesian Suak Nie region, which was devastated by the tsunami in 2004.

The journey is the reward

THE ROAD SYSTEM OF THE ROMAN EMPIRE

All roads lead to Rome - the proverb doesn't come by chance though. In the ancient world this indeed represented the truth because the road network had no equal.

Photo: iStockphoto

According to legend, the city of Rome was founded in 753 BC by the brothers Romulus and Remus. After the Etruscan kings were driven out of the city about 250 years later, Rome began its slow but steady rise to the status of world power. But as its range of influence expanded, so too did the logistical complications of controlling it. A well developed road system was necessary in order to encourage trading between the provinces and to enable troops to move quickly to any province of the republic.

"At its peak, the network of Roman roads extended for 80,000 km!"

The Romans learned their roadbuilding skills from the Etruscans. Then they refined the technique continually over the next centuries. Like today's roads, a Roman road consisted of a number of different layers, which were ultimately about a metre thick. The bottom layer was made of tamped clay, which was covered by a layer of limestone and mortar. On top of this came a layer of fist-sized stones, which in turn were covered by a layer of pebbles the size of nuts. The major long-distance roads and especially steep inclines were topped with cobblestones or dressed flagstones. Normally, though, the road surface consisted of pounded gravel or sand. The roads were cambered and drainage channels were dug along the sides to allow rainwater to run off more quickly. Like the state and military system, roadbuilding in Ancient Rome was planned in great detail. There were four different categories of road. The viae publicae – public high roads – were constructed on public land, were planned centrally from Rome, and financed from public funds. Viae vicinales – provincial roads – were also on public land. They connected the public high roads and were built and maintained by the provincial administrations. Viae privatae – private roads – connected private properties or smaller villages to the public high roads and the provincial roads. These were built and maintained by the slaves of the respective property owners. The last category of Roman roads consisted of the viae urbicae – the city streets. These roads were the responsibility of the municipalities.

The most famous of all Roman roads is undoubtedly the Via Appia, which was begun in 312 BC, and sections of which are still usable today. At its peak, the network throughout the Roman world consisted of about 80,000 kilometres of roads. That was in 117 AD, in the reign of Emperor Trajan – so almost 2,000 years ago.

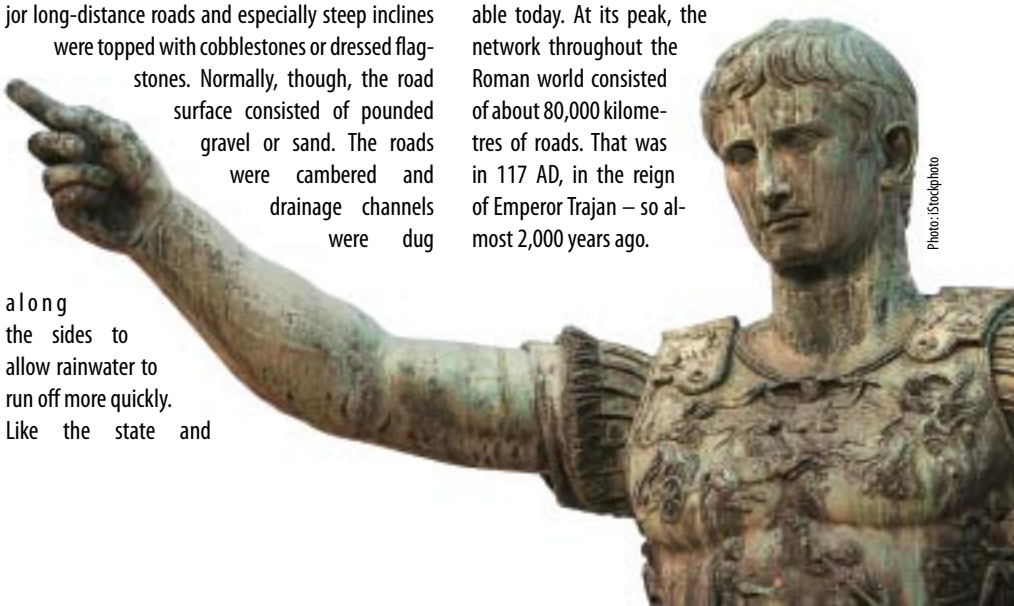


Photo: iStockphoto

WIN AN IPOD NANO

JUST ANSWER OUR PRIZE QUESTION

Photo: Apple Inc.

In this issue, you have the chance to win a (PRODUCT) RED™ Special Edition* iPod nano. Please send us your answer to the prize question, by email to ma@hansa-flex.com or by normal mail. Don't forget to include your name and address. The deadline for receipt of entries is May 15, 2010. Only one entry per participant will be accepted. Judges' decision is final, no liability accepted unless permitted by law. The prize cannot be substituted with cash. Good luck!

iPod nano, 16 GB in the (PRODUCT) RED™ Special Edition*, colour: red (up to 4000 songs), H.264 VGA Video, 640 x 480 Pixel, up to 30 images per sec. with AAC audio, 2.2" LCD display with backlight (5.58 cm diagonal); incl. earbuds, USB 2.0 cable and dock adapter; Requirements for Mac: USB 2.0 port, min. Mac OS X 10.4.11, min. iTunes 9; Requirements for PC: USB 2.0 port, Windows Vista, Windows XP Home or Professional with Service Pack 3, min. iTunes 9 (no liability can be assumed for information).

** The purchase of a (RED) product supports a programme for buying and distributing medications to combat AIDS in Africa.*
Information at: www.joinred.com

PRIZE QUESTION:
What is the name of the most famous of all Roman roads, which was begun in 312 BC?

A: Via Aprilia
B: Via Apple
C: Via Appia

RESULT OF CONTEST FROM ISSUE 02|2010
Answer C: 30 g (30 times gravitational acceleration)
Winner: W. Wiedenmann, Stuttgart

FACTS & FIGURES

ANNIVERSARIES

April:		
HANSA-FLEX Hannover, Germany	Apr 1985	25 years

	TOTAL	GERMANY
BRANCHES	347	189
FLEXXPRESS	225	125

NEW BRANCHES

February:			
HANSA-FLEX Hydraulik GmbH	Albert-Einstein-Str. 9	86899 Landsberg am Lech	Germany
March:			
HANSA-FLEX Hydraulik GmbH	Lise-Meitner-Str. 4	31515 Wunstorf	Germany

PREVIEW 06|2010

FOR THE NEXT ISSUE, WE ARE PREPARING THE FOLLOWING ARTICLES

COVER STORY	Sky Sails – how freighters use the force of the wind to move
TRADE FAIRS & EVENTS	Photos from BAUMA 2010
PRACTICAL	Mobile show stands for Kultour are built on hydraulic technology
WORK & LIVE	What you need to remember when planning your holidays
FASCINATION TECHNOLOGY	Hydraulic wave power plants in the sea
DID YOU KNOW...?	The history of the Football World Cup – 1930 to present day
NEWS	Building the Cerny base tunnel
PRACTICAL	Offshore hoses for supply ship "Natalie"

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