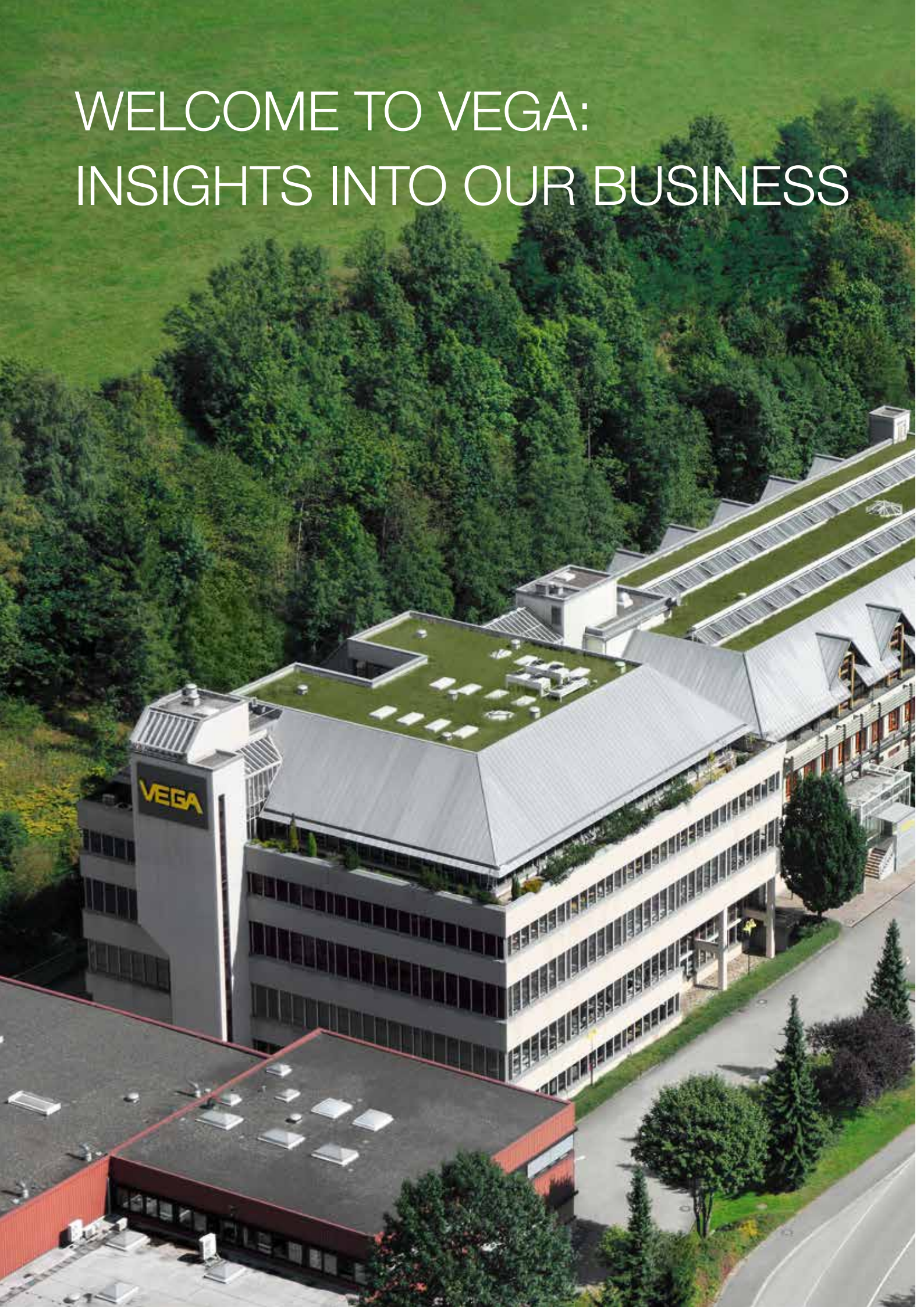
Looking Forward VEGA

WELCOME TO VEGA: INSIGHTS INTO OUR BUSINESS



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PEOPLE MAKE THE DIFFERENCE

A year ago, when my father suggested that I join the family business, I felt very proud and also curious. At the same time I had some concerns: Do I fit into the company at all? I'm a communication designer and manage my own agency together with colleagues. Companies like VEGA I know primarily as customers. How will the marketing people react when someone from outside is placed in front of their nose?

Then came my first day of work at VEGA. I was impressed by the collegial togetherness that VEGA employees practice towards one another and into which I was quite naturally integrated. Each person is appreciated, the people deal with each other in all honesty and sincerity and are always ready to give help and advice. This is also transmitted to the outside world, customers immediately feel the cooperative spirit and friendly corporate culture that exist here. That is probably one of the reasons why our customers like to come to us and why a lasting, trusting relationship almost always develops after the first contact.

There are other companies who also make good measurement technology, do business worldwide and have many years of experience. But do they also have a team like ours, one that looks after a customer and helps them if they have problems, one that advises honestly and correctly, without trying to achieve the largest possible margin? You just can't find that everywhere! At VEGA you can.

VEGA is not the largest producer of level and pressure instrumentation, but large enough to act quickly and efficiently. Each year VEGA produces 390,000 measuring instruments in 65,000 different versions and usually delivers them within a few days. Every instrument is tailor-made and specialised for the task that awaits it at the customer's plant. Our successful instrument concept plics® makes this possible, as it can realise almost any combination of features for the customer needs. This standardised instrument platform has proven its worth for over 10 years.

My grandfather, company founder Bruno Grieshaber, was careful to bring together the right people, so that their individual strengths complement each other and develop synergies. My father has taken this idea further and created an environment in which the VEGA family could grow and can continue to grow. Worldwide there are now over 1,100 VEGA employees, all of whom keep this family heritage alive, imparting to it enthusiasm and energy each day anew. They're the ones who develop, describe, manufacture, package and ship the instruments. And therefore they're the ones who get a chance to speak in this company portrait.

Their personalities come together to form a distinctive face. Such a face doesn't result from the force of orders and regulations, it arises on its own through living creativity, healthy growth and a climate of trust and mutual respect. It develops naturally over time – and becomes a permanent feature.

Isabel Grieshaber
Head of Marketing

TWO MEN ONE COMMON GOAL

Discussing issues from opposing viewpoints, weighing opportunities and risks, and finally deciding: Only cooperation and team effort can bring about security and sustained growth.

The two chief executives of VEGA define their roles differently, but both are uniquely successful in them.

What distinguishes VEGA from other companies?

Grieshaber: I think the difference lies essentially in what we call "the VEGA culture". This culture is at first difficult to grasp: it has to do with open spaces, with generosity, with opportunities for each employee. In essence, however, it consists of basically two things: Freedom and security. The freedom to think and the certainty that one's own role is also secure tomorrow. That's how VEGA creates an environment in which a real diversity of ideas flourishes.

And what makes VEGA so successful from a technical viewpoint?

Kech: We focus on what we do best: level and pressure measurement. We occupy ourselves exclusively with that topic and are aware of our responsibility. Not only does our economic success depend on the reliability and error-free operation of VEGA instruments, but also the health and safety of people and the environment, for example when it comes to chemical processes or the water supply. All employees are aware of this responsibility and do all they can every day to live up to it.

How do you deal with so much responsibility?

Grieshaber: You only have to worry about the "burden of responsibility" when you do things that are irresponsible. Otherwise you don't need to worry. If you act with integrity and decency, you won't have bad dreams. It's that simple.

Are you always in complete agreement on all decisions?

Kech: You see, we two have known each other a long time and we do agree on many points. But there are issues that we discuss heatedly sometimes. But this is really necessary, because only if you understand other opinions and perspectives, can you make professional decisions.

Compared with the corporate groups in the sector, VEGA is rather small. Does this have advantages or disadvantages?

Kech: I think it has more advantages than disadvantages. A small organization has a simpler structure and is thus especially efficient and flexible. The economist and philosopher Leopold Kohr once said: "Whenever something is wrong, something is too big." This also applies to chains of command: It's a simple fact that short ones function the best!

Are the chains of command in a family-run company like VEGA particularly short?

Grieshaber: It is, of course, an additional advantage that the partners all come from one family – now in the fifth generation! Because: A family can think in terms of generations, whereas a listed company has to think in terms of financial quarters.

Is this also enough to ensure the company's technological advantage?

Kech: To ensure technology leadership, a number of factors have to interact smoothly and simultaneously. One of the most important ones is "long-term investment in our products and in our brand". This includes investment in a development department that has sufficient capacity to continually improve existing products, develop new ones and adapt itself to a constantly changing technical environment. Another factor is the focus on our core competencies, which are level and pressure measurement.

Creating an atmosphere in which people feel good. Spicing up the whole thing with a pinch of challenge.

So VEGA's focus is not so much the technology but the customer, is that correct?

Kech: Of course! Our customers need our instruments to keep their production running. Nothing is worse than a production shutdown. That's why nobody wants to try out a new technology whose reliability and performance they're not sure of. Our relationship with our customers is therefore a long-term commitment based on trust. The result: our customers find us very accommodating.

Which markets will VEGA be heavily active in the future?

Grieshaber: The oil and gas industry will become a new core area. Looking eastward to the new growth regions, we have established subsidiary offices in India, Indonesia and Turkey.

Will VEGA's headquarters remain in Schiltach, in the Black Forest?

Grieshaber: Sustainability means having staying power and simply allowing some trends to pass by. While other companies are packing up and moving away, we prefer to continue investing in our employees. This interpretation of the word "family business" has always paid off for VEGA and that's the way it should stay. We'll continue to focus on the healthy development of the company in Schiltach and the welfare of our employees here. In doing so, VEGA strengthens the location that has made VEGA strong. ■

"Focusing means making a topic important both externally and internally. Important for us: focusing on what we want and not falling victim to megalomania."

VEGA IS RIGHT NEXT DOOR, ALL AROUND THE WORLD

Consulting in South Africa? Setup and commissioning in East Asia? Service at the Arctic Circle? – Naturally! VEGA delivers, installs and services its level and pressure instrumentation all around the globe. No matter where in the world VEGA's technology and services are deployed: VEGA customers can always find its subsidiaries and sales partners right next door.

A BIG GAIN FOR EVERYONE

Brian Oeder (USA): "*VEGA instruments don't operate in a vacuum, they're integrated in complex production facilities and processes. Therefore it's important that we listen carefully and find out what benefits the customer expects from an ideal measurement solution.*"

CLOSE TO THE ACTION

Philippe Capitaine (France, Middle East): "*Exports account for 80 percent of VEGA's sales. In other words: The whole world is our home. Wherever our customers are: that's where we are!*"

EVERY CUSTOMER IS DIFFERENT

Quansheng Ling (China): "*Every customer places his own special demands on our instruments. That's why personal contact is important. It allows us to find, together with the customer, the right instrument for his application.*"

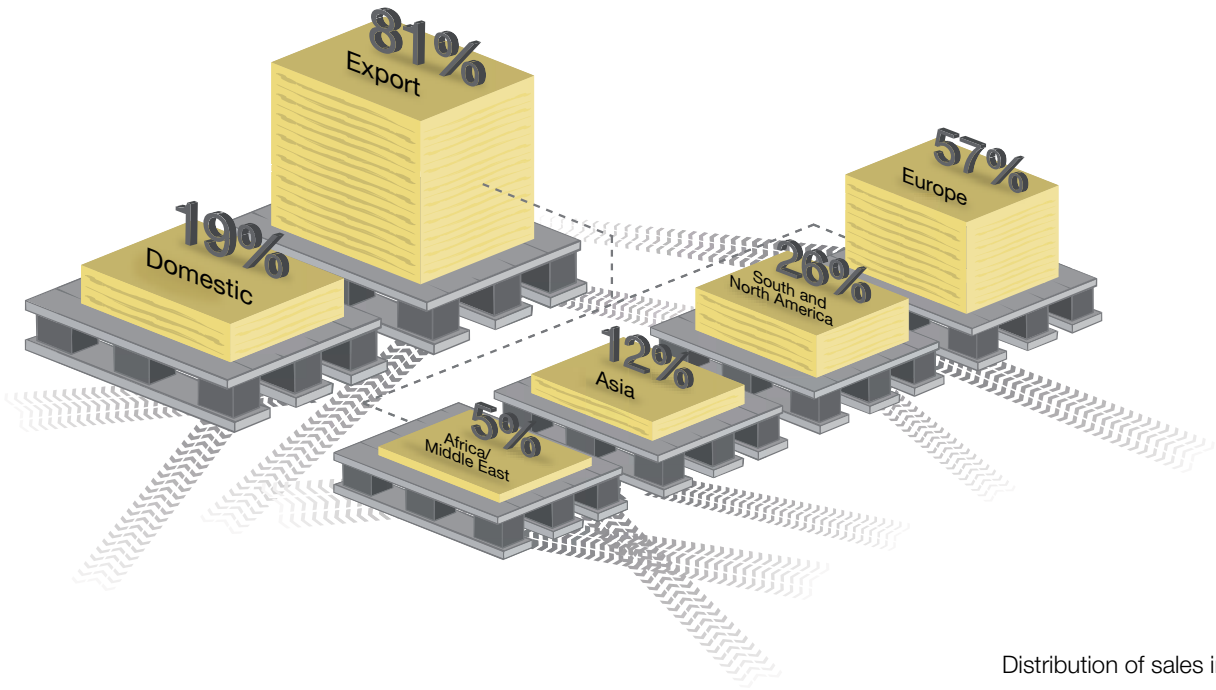
NO MATTER HOW FAR AWAY

John Groom (South Africa): "*In Africa the roads are often long and sometimes quite difficult. But that doesn't prevent VEGA employees from visiting their customers on site.*"

KNOWING WHAT'S GOING ON

Sombat Tuntiwong (Thailand): "*VEGA always keeps its finger on the pulse of the times and maintains the high technological standard of the instruments through continuous development and investment.*"

THE WHOLE WORLD IS IN MOTION. AND SO IS VEGA.

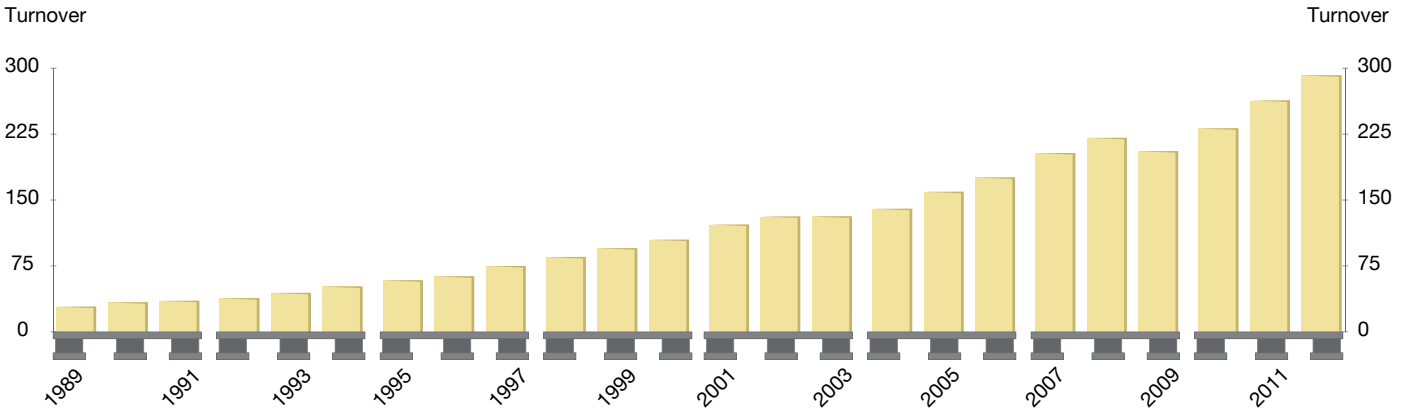


Distribution of sales in 2012

VEGA customers around the globe keep the world moving and developing. They are involved in many exciting projects to do with resource extraction and economic utilisation of renewable energy sources. To ensure that its instruments are always able to do exactly what the various industries expect them to do, VEGA keeps abreast of developments. That is best done by being right there where the developments are taking place: on location.
VEGA is represented on all continents and in many countries. In Europe alone there are 35 nations in which VEGA is active.

You'll find VEGA in ten countries in North and South America, and 19 in Africa and the Middle East. The company also maintains intensive contact with the Asian and Oceanic markets, with offices and subsidiaries in 17 countries.

This success is achieved through steady growth. Since its founding in 1959, VEGA has been growing continuously. The company's turnover is now around 294 million euros.

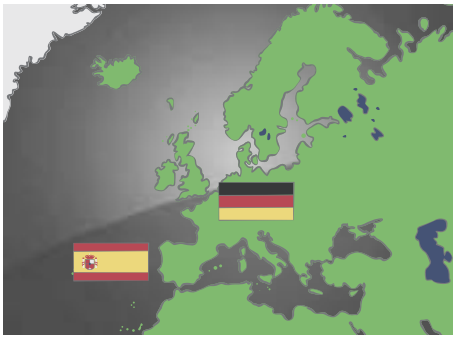


Spain: Electricity from solar energy

Each year the sun sends more than one billion terawatt hours of energy to the earth. We humans currently utilize only a tiny fraction of this. However, high hopes are now being placed in solar thermal power plants, which convert solar heat into electricity. In the Spanish province of Granada, the first European solar thermal power plants are in operation: giant solar fields with futuristic reflectors. These are parabolic mirrors of extremely transparent silver-coated glass that are continually directed towards the sun. They concentrate the incident solar radiation on an absorber tube, amplifying it to 80 times its original strength. Oil, as a heat transfer medium, is circulated through the absorber tubes and heated by the solar radiation to 400 °C. The hot oil eventually flows into a heat exchanger, where it generates steam – just like in conventional power stations. This drives a steam turbine connected to a generator. The three Andasol power plants in southern Spain each have a capacity of 50 MW and supply 600,000 people with climate-friendly solar power.

Germany: A chemicals giant on the road to success

Germany is the world's largest exporter of chemical-pharmaceutical products, making the chemical industry in Germany one of the largest and most important industrial sectors in the country: Ten percent of sales in the manufacturing sector are generated here. Only the electrical industry, mechanical engineering and the automotive industry contribute more to the overall economic performance. After a crisis in 2009, the chemical industry is now on the upswing and strongly growth oriented. The German chemical industry produces about 30,000 different chemical products. The main revenues are generated from five product groups: fine chemicals, specialty chemicals, pharmaceuticals, plastics and organic base materials. Other important product groups of the chemical industry are inorganic base materials, synthetic fibres as well as detergents and personal care products.



Solar panels in the Monegros Desert, Aragon (Spain)

South Africa: Treasure chest of the world

South Africa is rich in mineral resources and therefore one of the leading commodity exporters in the world. The most important mineral resources extracted from South African mines include gold, diamonds, platinum, chromium, vanadium, manganese, uranium, iron ore and coal. These raw materials account for about 50 percent of the total export revenue of the country. When it comes to platinum, manganese, vanadium and chromium, South Africa ranks No. 1 in the world, in terms of raw material supplies as well as output and export volume.

Brazil: On the way to oil superpower?

In recent decades Brazil has evolved from a country heavily dependent on oil imports to an oil producer and self-sufficient energy leader. Today around 1.8 million barrels of crude oil are produced daily in Brazil – enough to meet the country's own requirements. The birth of the Brazilian petroleum industry was during the oil crisis of 1973, when the price explosion pushed the trade balance into negative territory. At the request of the government, the oil company Petrobras increased its efforts to find its own mineral oil reserves and in 1975 made the first big find in the Campos Basin. It is now clear that in the deep waters of Brazil there are giant petroleum reserves waiting to be tapped. The country wants to use these resources as a springboard for its economic ascent. By developing its deep sea oil fields with gigantic offshore projects, Brazil wants to explore previously untapped depths and within a few years become the fourth-largest oil producer in the world, just behind Saudi Arabia, Russia and the United States.

USA: Natural gas production at an all-time high

The global demand for oil continues to grow steadily. Natural gas, which is a by-product of oil production, used to be flared on site before it was discovered as a valuable source of energy for the economy. Today the U.S. is not only the third largest oil producer in the world, but – along with Russia – the country with the highest natural gas production rate. The United States was actually the first country to use natural gas for industrial purposes: In 1825 a certain W.H. Hart in Fredonia drilled a shaft to extract natural gas for lighting a mill, a home and a lighthouse. In 1858 he founded the first natural gas company, the "Fredonia Gas Light Company". Today, natural gas is used as a fuel for electricity and heat production as well as for motor vehicles. The big advantage of natural gas is it has a cleaner combustion when compared to gasoline or diesel.

China: Rare earth metals

Out of China comes a host of mineral resources that many industries in other countries of the world need for their production, e.g. manganese, magnesium, silicon carbide or aluminium ore (bauxite). China also produces about 97 percent of the world's supply of rare earths, such as the metals europium or neodymium. Altogether there are 17 metals in this group of elements. Usually they exist side by side in the same rock at the same location. Rare earth metals are actually used by industry in only very small quantities – but they are essential for many key technologies. They are used, for example, in the manufacture of mobile phones, plasma screens, wind turbines or powerful batteries for electric cars – future-oriented technologies that companies around the globe are betting on.

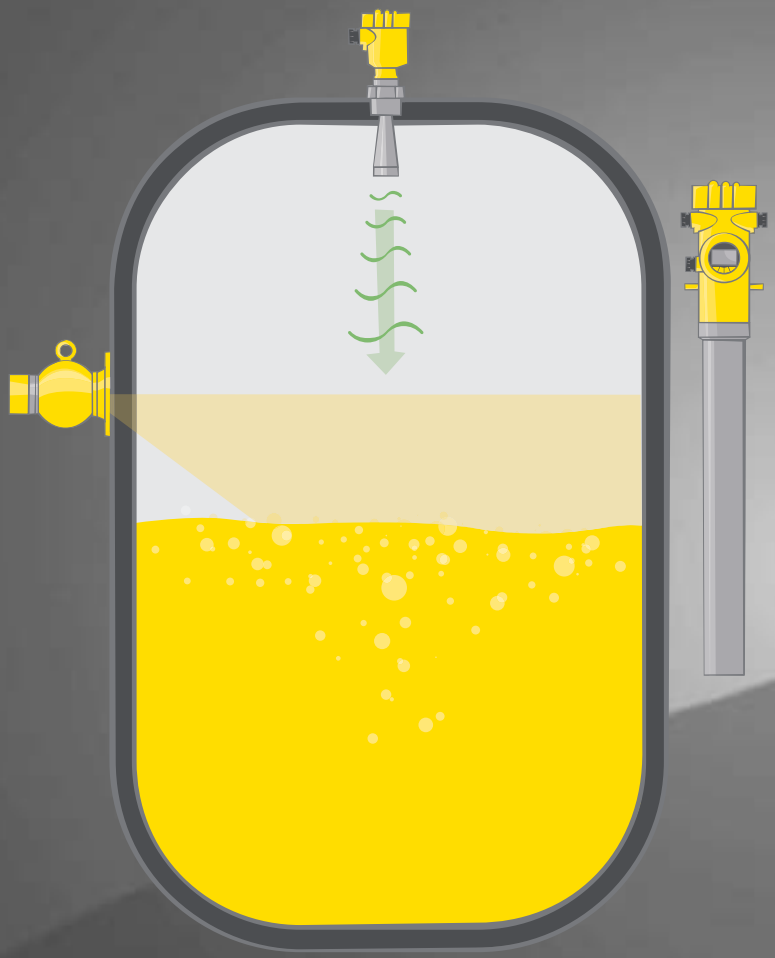
Australia: Precious water

The red continent is almost continuously bathed in sunlight. Australia's narrow coastal belt is mostly fertile and green, but its centre is dominated by desert landscapes. Water is a valuable asset here, especially because of the high evaporation rate resulting from intense solar radiation. Rain falls only rarely, but when it does, it's often in uncontrollable quantities. That's why irrigation systems are needed in many swathes of the land "down under" to establish pastureland and to ensure reliable harvests. A total of 17,000 kilometres of irrigation channels run through the country at present.

QUICKLY EXPLAINED: LEVEL AND PRESSURE INSTRUMENTATION

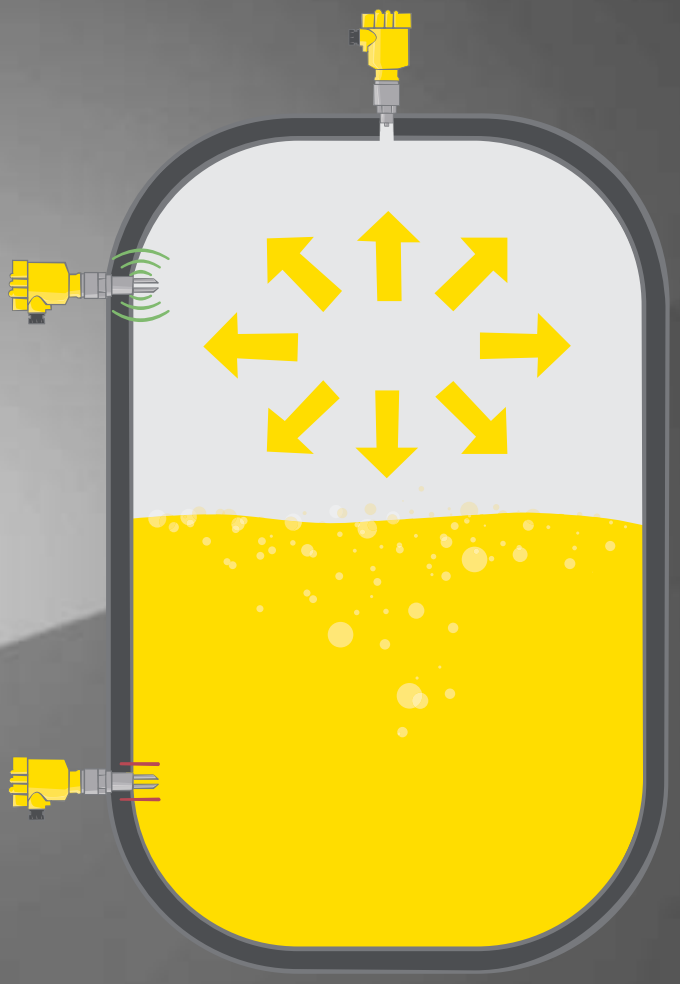
CONTINUOUS LEVEL MEASUREMENT

In level measurement, the sensor determines the filling level continuously. The measuring result is either displayed on the instrument itself, or transmitted to a control system for management of complex production processes. The substances measured can be liquids, pastes, powders or bulk materials. Typical places of application for continuous level measurement are process vessels, storage tanks, silos or mobile containers in the process industries, for example in the chemical or pharmaceutical industry, environmental technology, water/waste-water management, power generation and metal production as well as offshore installations.



The measuring methods:

- Radar
- Ultrasonic
- Guided radar
- Capacitive
- Nucleonic



UNIVERSAL PRESSURE MEASUREMENT

Pressure measurement is used for process or differential pressure measurement, but also for level, volume and mass measurement in various treatment and production processes. The measured media are gases, vapours and liquids. Typical applications of pressure measurement are found in process tanks, storage tanks and pipelines in the paper, shipbuilding and chemical/pharmaceutical industries, to name just a few. This wide area of deployment is rounded out by applications in the aerospace industry.

The measuring methods:

- Process pressure
- Hydrostatic
- Differential pressure

RELIABLE POINT LEVEL DETECTION

In point level detection, the sensor registers when a pre-defined level is reached, generates a signal and converts it into a switching command. The switching command starts or stops filling equipment such as conveyor belts or pumps, or is integrated into a complex control process. Instruments for point level detection are used for regulating the filling and emptying of liquids, pastes, powders or coarse bulk materials. Typical applications of point level detection are in process tanks, storage tanks, silos and pipelines in the process industries. Point level detection is used for minimum or maximum detection, for leakage monitoring or for overfill protection.

The measuring methods:

- Vibration
- Capacitive
- Nucleonic

A good development engineer has to be creative and team-minded.

Interview with the Head of Development at VEGA: Josef Fehrenbach

What is work really like in the development department? How do you turn ideas into products and innovations?

There are actually several different approaches. The classic way is to utilize suggestions given to us by our customers or international partners. You tell us what improvements or new features you'd like to see on the instrument or which particular application is still lacking a suitable measuring instrument. Product management then picks up on the suggestion and defines the desired instrument characteristics. The project committee then uses a first rough draft as the basis for determining, together with the development department, what preparatory work is required. If all goes well, the development project is eventually approved and implemented. That's one way. The original idea can also originate from a developer or from someone else. These ideas also have to be first presented to the project committee. The whole process is organized in a way that keeps all options open for a good idea, no matter who came up with it. Sometimes, a development order comes directly from management.

Once a decision is made in favour of a new development, how long does it usually take for the product to be brought to market?

Two or more years are quite common. This long time results from the work involved in getting the many required approvals for our products, so that they can be used in, for example, explosion-endangered facilities, in certain countries or in systems requiring safety-related and regulatory approvals. It really takes time for all these approvals to get through!

Have there been any real strokes of genius here in the last few years or decades?

Yes, and our most successful developments really caused a stir in the industry. One was our radar-based instruments, which became known under the name eric®, and the other was our modular instrument system plics®.

Klaus Kienzle

"Being creative together, being allowed to try out things. That's what makes it fun."

Christoph Müller

"The great thing about work here is the high degree of freedom we enjoy – balanced with equivalent responsibility."

Carina Hildbrand

"The interaction with colleagues here is simply great."

Markus Dieterle

"Boredom does not exist here. New tasks pop up every day and bring a lot of variety."

Frank Becherer

"You don't have to beg to get the new work equipment you need."

Where did the idea for eric® and for plics® come from? Who initiated the development of those two concepts?

I did, but of course it was an entire team of 86 developers, software specialists and design engineers that turned those ideas into a finished product.

86 employees is quite a few! Is the development department divided into different areas?

To some extent. There's development management, which consists of two persons and three work groups. Then there are the 12 staff who design and build manufacturing materials, these are tools and production equipment for in-house use, such as test equipment for the manufacturing department. Another group of six persons takes care of certifications and approvals. All other employees are part of the big team and not divided up hierarchically. They form an employee pool, as it were, from which ten to twelve-person project teams are assembled to work on upcoming projects, which are guided by project managers. A single employee can thus be engaged in two or three project teams simultaneously.

What qualities does a good development engineer have to have?

He should be creative whenever he has the chance to be. It's good if he's a team player, but at the same time a person with the appropriate assertiveness and a goal-oriented working style.

How do you manage to always have enough skilled development staff on hand? Engineer shortage is still a big issue today, isn't it?

The reason is that we train and educate most of our employees ourselves. Some are with us because they've done their apprenticeship here, others were here as students for an internship semester or a diploma project and, after their studies, applied specifically for a position in the VEGA development department.

We see mostly men working here in development. Why are there so few women here?

This is simply because the percentage of women in engineering degree courses is still very low. At present we have two female employees in the technical area and four technical draftswomen. However, there is good reason for optimism, two female, future employees are currently in training here.

What does a development engineer's home look like? Like Gyro Gearloose's home?

You're pretty close with this assumption, at least in my case. I was really into amateur radio up until 12 years ago, I had a lab at home similar to the one here at VEGA. However, it looked pretty chaotic most of the time.

How did you become head of development?

Not entirely purposefully, but not by pure chance either. In other words: I didn't plan it as a career "must". But when the opportunity presented itself, I decided to go for it.

What is it you enjoy most?

As head of development, I'm not a caretaker or administrator, I have the job of steering and guiding the work here. I enjoy being fully involved in the technical processes of the projects and challenges raised by them.

How important is it for you to achieve all of your professional goals?

Well, you know, this thing about self-realization, it's basically a question of your attitude towards life. I don't compartmentalise my life into work, private life, and whatever else. Although I divide up my time for different activities, ultimately for me, everything belongs together. I enjoy everything. ■

Development in numbers

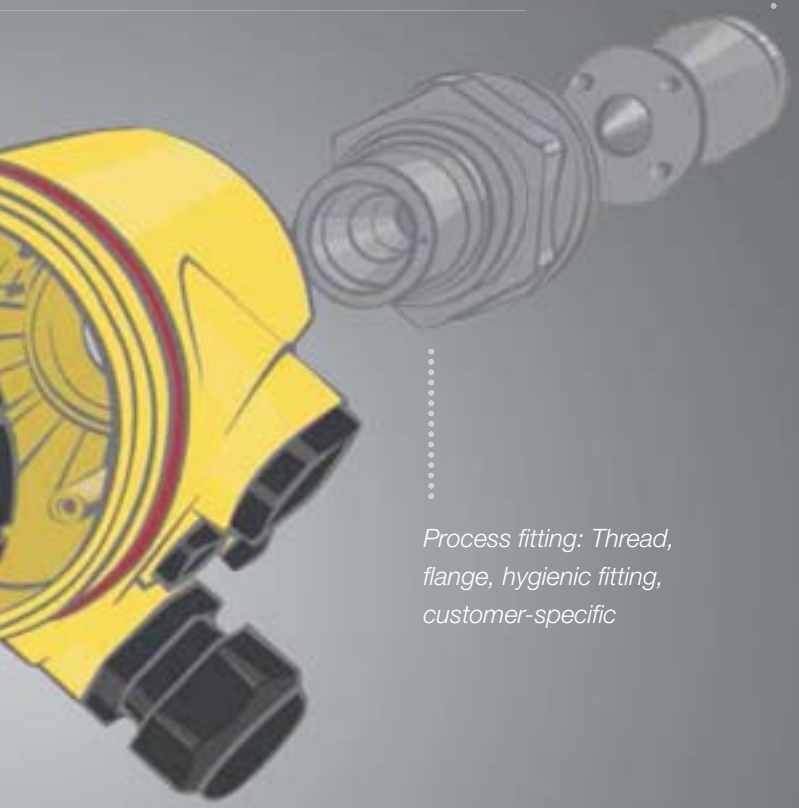
Number of active patents worldwide.....approx. 300
Number of patent applications per year worldwide .....approx. 120
Number of employees in development.....86
Investment volume per year..... approx. 1 million Euros

What you always wanted to know about development engineers:

Coffee consumption per day..... 1.6 cups
Unusual hobbies.....Kyodo, sawing, repairing
Day or night person .....definitely day
Top holiday destination .....as far away as possible
No. of Birkenstock shoes worn out per year.....0.2 pair
Favourite music .....pop and rock
Dancing skills..... good to very good

FORWARD THINKING: THE STANDARDIZED INSTRUMENT PLATFORM PLICS®

Sensor: Radar, ultrasonic, guided radar, capacitive, vibration, process pressure, hydrostatics, differential pressure



Process fitting: Thread, flange, hygienic fitting, customer-specific

SIMPLE AND MODULAR: PRODUCT SYSTEM PLICS®

The plics® idea is really simple: Each instrument is assembled from prefabricated components only after the order is received. This modular design allows full flexibility when selecting the sensor features required. You receive customised, user-friendly instruments within an amazingly short time. The best part: These instruments are more beneficial in every way throughout their life cycle.

Every instrument of the plics® series is composed of five parts: the sensor itself connects to a housing of plastic, aluminium or stainless steel, via the selected process fitting. Inside the housing sits the very heart of the device: an individually tailored electronics module. The head of every instrument uses the same display and adjustment module. So anyone who has ever operated one plics® instrument can competently operate all others from the series.

Other milestones:

Vibrating level switch 1979
Radar sensor for liquids.....1991
Ceramic measuring cell CERTEC® 1993
Two-wire radar sensor 1998
Instrument platform plics®.....2003
Radar sensor for bulk solids.....2004

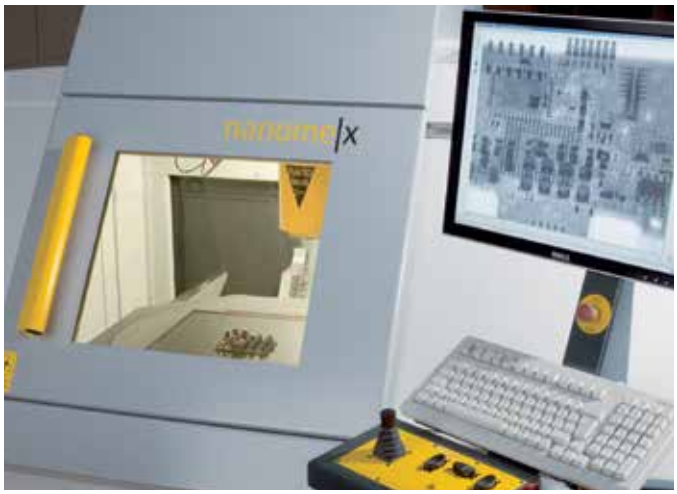
OUR INSTRUMENTS ARE STEELED AGAINST ALL EXTREMES

It is already made clear to VEGA instruments at home what they can expect out there in the world. In simulated environments, quality inspectors subject them to searing heat and freezing cold, let them stand under pouring water, put them under extreme pressure, give them electric shocks and shake them vigorously. Every instrument must be ideally prepared for its future application.

Some of them have to withstand temperatures between -80 and +500 °C. Others have to handle a relative humidity of 98 %. Still others have to endure pressures of up to 3000 bar without flinching, and shrug off vibrations up to 2000 Hertz or lightning strikes of up to 25 million watts. Only instruments that pass this acid test get approval for deployment in real life. A good product has to be fully developed before it hits the market. That's why VEGA integrates quality assurance at the start of the development phase. Through years of experience, the quality assurance staff know the application conditions in the different industrial sectors quite well. Their knowledge also flows into the production process: What are our goals? How can we improve quality even more? And how can we evaluate the success of our efforts? Those are questions that have to be answered by VEGA quality assurance, in close coordination with the production department, every month anew.

In pressure testing, the going gets tough

The guarantee of trouble-free quality: GTEM measuring cell (Gigahertz Transverse Electromagnetic Cell)



An eye that doesn't miss anything: the X-ray microscope

Employed test equipment

3D X-ray microscope, EMC simulation measurement setup, burst pressure tester 6000 bar, reference measuring track up to 30 m, steam pressure pipe, pressure or tension test system up to 100 kN, mechanical testing jigs, vibration test equipment, optical microscope (3D imaging technique), pressure-temperature test bench

WE ADAPT OURSELVES TO THE ORDERS, NOT THE OTHER WAY AROUND

Interview with Edgar Schillinger, Production Manager

How is it possible that a tailor-made instrument can be produced within such a short time?

The basis is a modular system. "Customer-specific" means: We manufacture large numbers of frequently required sub-assemblies and keep them in stock. Using these instrument building blocks, we can quickly assemble a customer-specific instrument once the order is received.

This means that the instruments are not truly customized, but are simply a type of puzzle that is put together differently each time?

In principle yes, but there are between three to four million variants that can be assembled. In other words, every VEGA instrument is a custom-built instrument, because every customer wants specific, made-to-order features. We can realize these features in such an extremely short time, only because the building blocks are already prepared and ready to assemble.

And if something unexpected does happen in production, or too many orders come in at the same time?

Then we really have to work our tails off to meet the deadlines! The customer has been clearly informed about the delivery time and that is fully automated. The ordering system knows how long it takes to produce and deliver an instrument with certain features. No one intervenes in this automatic delivery notice system, so we adjust our production accordingly. That's the difference – for example between us and the car industry. If I buy a car today, at present I have to wait four months before I can get behind the wheel. In 2009, when the economic downturn was in full sway, I got the car within a month. The auto industry uses its production capacity as the basis for calculation and derives a delivery date from that. We want to do just the opposite: We adapt ourselves to the orders, not the orders to us.

How many instruments are produced each year?

We manufacture 1,500 to 2,000 instruments each day. That makes nearly 400,000 units per year.

> "*The processes have to be very reliable: Gluing, welding, soldering – all that has to work flawlessly. We need to be sure that nothing goes wrong.*"

What does production really look like?

We attach great importance to ensuring that our employees apply and think for themselves. Where can we improve something? Where are the problem areas? And so on. There are no jobs here where you mindlessly perform the same routine day after day, our work is highly diversified and people have to get thoroughly familiarized with it. A new employee needs between six months to one year to completely master the job. When assembling an instrument, a production order directs the employee. This document contains everything they need to know to assemble a particular sensor: What parts make up this sensor? Where are the parts stored and in what order are they assembled? What tests have to be performed and which instructions must be observed?

So can every employee assemble any instrument?

No. Everyone specializes in their own product group. Someone from the radar section cannot assemble a pressure gauge. The instruments are simply too different.

The whole thing is associated with a lot of handwork, isn't it?

Yes, many visitors are amazed that it's so quiet here. The reason is that we don't use as many machines as the other manufacturing departments. Here we do not produce individual parts in large quantities, instead we bring prefabricated modules together and assemble them into complex instruments and this is done all by hand. Of course some things are cut or welded automatically, but this is also associated with manual work. The highest level of automation is in electronics manufacture. There we have a number of placement machines, automatic optical inspection systems and wave soldering machines… Because automation really makes sense for these process steps.

1 | 60,000 tiny components are placed by the machines every hour. The placement time is only 0.06 seconds. **2** | The longest guided radar instrument made here was 75 m long. **3** | Just for VEGAFLEX alone there are 296 different process fittings. **4** | 2,500 m of cable are processed daily for pressure transmitters. That makes 550 kilometres per year.

What do you appreciate most about your employees?

Quite clearly, their flexibility. Flexibility is key in our department, also with regard to working hours. Also, I appreciate their willingness to learn new things and acquire new skills. This way they can fill in for a colleague when necessary, particularly during the holiday season. You see, even during the summer holiday season we have to adhere to our five-day delivery time policy, even with a reduced crew.

But certainly fewer instruments are ordered during the holiday season?

No, that was a long time ago. August is now one of the months where the most orders come in. A vacation for the whole company at once is unthinkable today!

This delivery time dependent production means a lot of overtime work. Do employees have a time account?

Every employee at VEGA has a flexitime account that works in both directions: If a lot is going on, we work overtime. When things are less busy, the staff go home early.

VEGA produces in Schiltach, in the United States and in China. Do the production departments look the same everywhere?

Production in China is still rather small. In America, the production department has 55 employees already and looks very similar to ours here. The individual components come from Schiltach, the workbenches and machines are identical. Even the production documents are the same. The big advantage of manufacturing in the U.S. and China is that we save time and reduce transport costs. Take our large flanges as an example: It would be pointless to transport these heavy metal parts from Germany across the Atlantic, when you can have them made right there on the spot.

Then an employee from Schiltach could theoretically assemble a VEGAPULS in the U.S.?

Yes, absolutely. He would need maybe a day to get oriented and learn where the tools and materials are, but then he could work just as well as in the Schiltach plant.

What's the biggest challenge in the production department?

Quality, on-time delivery and fulfilment of special requests are the daily tasks that we face as a team. This is exactly where the flexibility and the extensive knowledge of our production staff come to bear. The global crisis of 2009 taught us to deal with unpredictable situations. Soon after the crisis, shortages appeared in the electronic components market. We responded by significantly increasing our stocks of individual components, in order to become independent of market fluctuations.

This assured availability means we can maintain the flow of materials and components and always deliver the customer's ordered products on time. A cross-departmental CIP program (Continuous Improvement Process) helps us make good processes even better and improve quality, productivity and reliability.

How do you actually keep track of so many departments?

First of all as the production manager you have to be able to rely on your department heads. Secondly, of course I'm also there in person. I'm always walking through the various departments, checking how things are going, talking to people. After some time, you gain experience and a good overview, then you know exactly how to react to every order situation. ■

A TAILOR-MADE RADAR SENSOR IS BORN

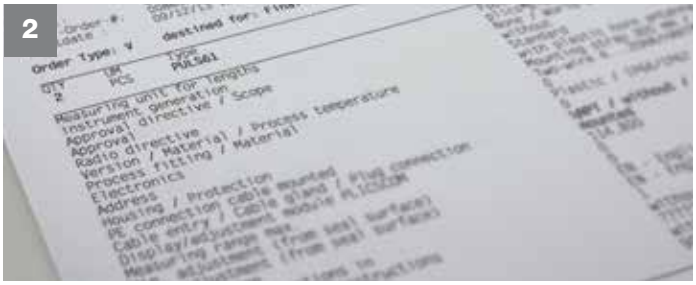
QUALITY: ON YOUR MARKS, GET SET, GO!

1

1 | Day 1: 11:18 h A new order comes in at VEGA: a customer needs a radar instrument. The order is then immediately entered in the system. The VEGA system automatically sends an order confirmation and informs the customer of the delivery date. At the same moment, the race with time begins at VEGA in order to meet this deadline. In about 48 hours, the customized instrument must be ready for shipment.

Tobias Aberle, Sales, Schiltach | All incoming orders are entered promptly into the VEGA system so that the manufacturing department can start immediately. The delivery date is either calculated automatically by the system or – if a later delivery is requested – specified by the customer.

2



2 | Day 1: 14:45 h The production order is printed out and handed over to the production department.

Margarete Mützel, Radar Production, Schiltach | All production orders for radar sensors come to me first. Each order is divided into various sub-orders for the individual components of the instrument. This is because the components are available in countless versions that are optimized for a wide variety of measuring tasks. The radar sensor in our example gets a special flange, the requested process fitting, an appropriate electronics module and a special housing.

3 | Day 2: 7:15 h The flange and the process fitting are welded together.
4 | Day 2: 9:36 h Waveguides are manufactured as sub-assemblies, in order to always have them in stock.

Manfred Haas, Radar Production, Schiltach | We work with the TIG welding procedure here. After the flange and process fitting are welded, some welding seams are tested with a dye penetration test or x-rayed, depending on customer requirements.

Christian Jehle, Waveguide Manufacture, Schiltach | The waveguides are the key components of radar sensors. This assembly is mounted in the process fitting. Exclusively by hand.

Carolin Rauber, Electronics Manufacture, Schiltach | Larger electronic components are mounted by hand. This requires great dexterity and maximum concentration.

Joachim Wolf, Radar Assembly, Schiltach | The tailor-made components of the radar sensor are now brought to me. I mount the electronics module and screw it to the housing.

5 | Day 2: 10:15 h The electronics for the radar device are manufactured for stock.
6 | Day 2: 11:45 h The radar sensor is assembled. Flange and process fitting are joined with the housing. The electronics are installed.

7 | Day 2: 14:30 h The radar sensor is calibrated and then subjected to a complete function test.
8 | Day 3: 10:25 h The operating instructions manual for the radar sensor is printed and attached to the device.

Klaus Hornberger, Radar Calibration, Schiltach | Finally, the radar sensor comes to me. I make the customer-specific settings, enter, among other things, the product to be measured and adjust the parameters.

Michel Wucher, Electronics Manufacture, Schiltach | Most of the printed circuit boards are machine-made in two production lines (SMD). About 1.6 million electronics modules come off the production line every year, which makes about 7,350 units per day. Before the PCBs are passed on for mounting in an instrument, each one is tested separately.

Wolfgang Werner, Technical Documentation, Schiltach | Each instrument gets its own operating instructions manual. This individually prepared handbook is printed only when it is needed: just prior to shipment. The customer can thus be sure that the operating instructions manual is up to date. This means we have to maintain the data sets of over 7,000 operating instructions manuals in a total of nine standard languages and keep them up to date. It's a bit of a challenge, but doable.

Heiko Neef, Shipping, Schiltach | We complete the orders, arrange the different instruments together and pack them. This can be a small package or a large wooden crate.

9 | Day 3: 13:15 h The radar sensor is packed and sent to the customer. It's done: Delivery takes place on the date specified!

CERTEC® – MAXIMUM CLEANLINESS IN MEASURING CELL PRODUCTION

Ceramic-capacitive CERTEC® measuring cells and metallic METEC® measuring cells are produced under “Class 100 clean room” conditions. In this dust-free atmosphere they are printed and fired in a thick film process.

AT HOME EVERYWHERE IN THE WORLD

Every industry has its own specific requirements for the measurement technology it uses. Sometimes the instruments have to be immune to heat or cold, sometimes they have to deal with aggressive substances or withstand severe vibration. Sometimes a VEGA instrument even has to deal with a combination of different challenges like these at the application site. That's why VEGA invented the instrument platform plics®. The concept makes it possible to create an instrument perfectly adapted to the conditions of a particular application.

ENERTEC MVA
Place: Hameln, Germany
Industry: Energy
Measuring method: Radar

Marina Barrage
Project of PUB,
National Water Authority of Singapore
Place: Singapore
Industry: Water
Measuring method: Radar

Where we feel at home:

Building materials, water and wastewater, chemicals, petrochemicals, pharmaceuticals, foodstuffs, energy, environment and recycling, metal production, offshore, paper industry, shipbuilding, cement industry

WATER AND WASTEWATER

Water is the most important prerequisite for life and therefore the most precious resource on earth. In the industrialised world, water is also a commodity and has been for a long time. The consumer expects drinking water to be clean, inexpensive and readily available in any quantity. Equally high are the demands on wastewater disposal. Effluent should find its way to the sewage treatment plant in a reliable and safe manner.

VEGA has a lot of experience with measurement technology for the water and wastewater industry. We've developed a wide range of specialised, robust sensors for different applications in water and wastewater engineering. These instruments ensure high plant availability, maintenance-free operation and accurate measurement data as the basis for correct documentation.

Special purpose association Lake Constance Water Supply
Place: Sipplingen, Germany
Industry: Drinking water
Measuring method: Pressure

WWTP Singapore Project of PUB, National Water Authority of Singapore
Place: Singapore
Industry: Wastewater
Measuring method: Radar

Urban drainage, Ludwigsburg
Place: Ludwigsburg, Germany
Industry: Wastewater
Measuring method: Radar

Houston, Texas – The largest chemical complex in the world

With a share of almost 8 % of world chemical production, Houston-Baytown-Huntsville is the largest chemical complex in the world. Around 36,000 people work in 405 chemical plants there. In 2009, they generated sales of approximately US $ 269.6 billion. Companies that produce there include:
BASF SE (world's largest chemical company)
Bayer CropScience AG
Chevron Phillips Chemical Co.
E. I. du Pont de Nemours Co.
ExxonMobil Chemical Co.
Shell Chemical LP

Typical applications

Raw materials and finished product (liquids and solids) storage
Reactors in chemical processes
Separators for physical separation of media
Raw product distillators
Catalysers for stock preparation

The most important criteria for suppliers in the chemical industry

Reliability and availability
High durability and long service life
Simple, reliable setup and commissioning
Additional information for service and maintenance
Asset management functions
Long-term stability
Fast delivery time
Ex approvals
Expert consulting

Caldic B.V.
Place: Rotterdam, Holland
Industry: Chemical
Measuring methods: Pressure, capacitive, vibration, ultrasonic

BASF SE
Place: Ludwigshafen, Germany
Industry: Chemical
Measuring methods: Radar, guided radar, vibration

CHEMICALS

Among all industrial production processes, the chemical industry occupies a special position: nowhere is the variety of media and processes greater. Liquids, solids or combinations of both require new solutions over and over again. The measured media are sometimes corrosive, sometimes ‘creeping’, sometimes viscous or thin, sticky or volatile, cryogenic or boiling. What is more, process temperatures range from -196 °C to over +400 °C and process pressures from vacuum to over 400 bar. The measurement technology used under such process conditions must deliver absolutely reliable readings, even in 24-hour operation. Special attention is paid to the safety of employees and the plant.

Bitburger Braugruppe GmbH
Place: Bitburg, Germany
Industry: Food, beer
Measuring method: Radar

Schwarzwaldmilch
Place: Offenburg, Germany
Industry: Food, milk
Measuring method: Pressure

LAVAZZA
Place: Gattinara, Italy
Industry: Food, coffee
Measuring methods: Vibration, guided radar

FOOD

When it comes to foodstuffs, extreme care and hygiene are required in any kind of handling or processing. The industry has great responsibility for the products that supply people with healthy nutrients, that's why it relies on traceable and consistent processes. The requirements that food manufacturers and processors place on measurement technology are therefore high: The measuring instruments may in no way influence the product, must be easy to clean and have FDA, 3A and EHEDG approval.

This is where the full range of VEGA's expertise is needed. Because in the food industry, the instruments have to deal with products in every conceivable form and physical state and at widely varying temperatures. The measured products are gases, vapours, liquids and bulk solids. There are abrasive solids such as nuts as well as highly viscous or even chemically aggressive products such as fruit juices. The cleaning processes typical for the industry, used for containers and vessels of all kinds, also place increased demands on the sensors. There's a good reason why the most successful companies in the food industry opt for VEGA instruments again and again when selecting their measuring equipment.

Which VEGA instruments are used in the food industry?

Level switching instruments.....34.5 %
Pressure transmitters.....19.2 %
Level measuring instruments .....13.6 %
Devices for signal processing.....6.0 %
Other.....26.7 %

Transocean Spitsbergen
Place: Norway
Industry: Offshore
Measuring methods: Radar, vibration, pressure, radiation-based measurement

Malaysia Tender T9
Place: Malaysia
Industry: Offshore
Measuring method: Guided radar

OFFSHORE

Oil and gas are indispensable raw materials as well as a major source of energy. Extraction of these resources takes place on the high seas under harsh conditions. Because oil rigs are an expensive undertaking and an environmental risk there are particularly high demands placed on their reliability, availability and efficient utilisation of the production capacity.

This also applies to the level and pressure instrumentation deployed on deck, which should work wear and maintenance-free, despite cold weather, storms and the effects of sea water. In addition, there are high process temperatures and pressures to deal with and the challenge of measuring many different products: From rocky seabed to sand, water, gas and oil – the instruments are confronted with all kinds of materials with different properties.

VEGA meets these requirements with robust, oil and seawater-resistant housings and sensor technology. VEGA measuring instruments are tested and certified according to the requirements of the leading international classification societies, so that they can be used worldwide in offshore production facilities and FPSO ships. To provide the best possible advice and support on site, VEGA employs service technicians who have undergone special training for oil production platforms.

SHIPBUILDING

VEGA instruments are not only in use in industrial facilities on land, they also go to sea: Over 100,000 VEGA sensors are sailing the seven seas right at this very moment, on cruise ships, tankers, container ships, special ships, research ships, ferries, yachts, aircraft carriers and submarines.

They supply the captain and crew continuously with reliable data on the current fuel, fresh water and sewage levels on board, and also keep them informed, for example, on the amount of waste collected. What is more, VEGA sensors help determine the right quantities of ballast water, which ships take on during empty runs to stabilize their position in the water. They monitor the level in cargo tanks holding fluids that are transported by sea, and take over many important tasks in environmental protection on board the different ships.

The vibration of a ship's engine subjects measuring instruments on board to far greater stresses than many applications on land. And because ships travel through practically all climate zones, the instruments have to endure constantly changing environmental conditions: in some latitudes the climate is tropically warm and humid, whereas a few weeks later the ship might cross through icy cold waters. The electromagnetic compatibility of sensors is also put to a much harder test on board ships than in any other industrial sector.

VEGA has a quarter century of experience in manufacturing measuring equipment for use on ships. The mature technology has proven itself in service and is seaworthy in all respects. Because what is true for the crew of a ship is all the more true for the technology: extreme reliability and robustness is a must in order to successfully complete week-long trips at sea self-sufficiently and without incident.

Stolt-Tanker
Place: Rotterdam, Holland
Industry: Shipbuilding
Measuring methods: Radar, pressure, vibration

BULK SOLIDS

Bulk solids come in a wide variety of forms. In the basic materials industry, bulk solids usually refer to coal, ores or rocks, while in the food industry, the same collective term is understood to mean cereals, fruit or milk powder.

Whether large or small, wet or dry, coarse or fine – as diverse as the bulk solids themselves are the requirements on measuring instruments for bulk solids in industrial manufacturing processes. In the basic materials industry with its harsh application conditions, robustness is the most important factor, whereas in the food industry, the focus is mainly on cleanliness and hygiene. Being quite familiar with bulk solids and their properties, VEGA is able to offer sensors well-suited to the widely different applications.

FUSHE-KRUJE Cement Factory SH.P.K.
Place: Fushe-Kruje, Albania
Industry: Cement
Measuring method: Guided radar

JSW Furnace Silo
Place: Belari, India
Industry: Steel production
Measuring method: Radar

HOLCIM
Place: Dotternhausen, Germany
Industry: Cement
Measuring method: Radar

WHATEVER HELPS – WE'LL FIND IT FOR YOU

VEGA employees provide expert consulting worldwide. Their extensive knowledge is the result of intensive training and regular attendance of advanced courses and seminars. The profound industry knowledge of our customer consultants regularly prompts comments of complete satisfaction from callers. You can reach our VEGA service hotline around the clock, anywhere in the world, and get individual consulting immediately.

WHATEVER YOU SELECT – IT WILL FIT

We provide guided instrument selection on the VEGA website. It only takes a few mouse clicks to find the right measuring method as well as the right electronics module and process fitting. Finally, you get dependable information on price, availability and delivery date.

FROM PERSON TO PERSON

WHATEVER YOU NEED – IT'S THERE

The download section of our website provides extensive information on all of our instruments and applications in multiple languages. You can even get product-specific information, such as operating instructions, documentation and delivery date, simply by entering a serial number.

WHENEVER YOU CALL – WE'RE HERE

+49 1805 858550 – You can reach VEGA specialists at this number any time. A problem can then often be resolved over the phone. Should this not be possible, VEGA staff will find a solution and initiate all necessary actions to get it implemented: from shipping a replacement instrument to arranging a visit by a VEGA specialist at your site.

A TALK WITH JÜRGEN GRIESHABER

“Security creates freedom.
Freedom, in turn, fosters creativity.”

Jürgen Grieshaber
Executive Partner

Because it's all or nothing.

What does the Black Forest mean to you and to VEGA?

Anyone who operates around the globe needs firm roots at home. For VEGA, home is the Black Forest. Already my father, company founder Bruno Grieshaber, felt a deep attachment to the region and was a Black Forester with heart and soul. This connection carried over into the company, VEGA has maintained this bond for over 50 years now and is still totally committed to the location in Schiltach.

This is also reflected in its promotion of cultural and environmental projects as well as its social engagement ...

We consider our commitment to the region as mutual give and take: VEGA actively supports the children and youths of the area, the culture and the protection of the Black Forest countryside and thus contributes to making the location a place where people want to live and work. Those who think in terms of generations know that the children of today are the potential employees of tomorrow. These people from the region are among the ones we need as future VEGA employees.

Are the Black Forest natives a special breed of people?

In a way, yes. The people here are very hardworking and down to earth. Okay, sometimes they are a bit unconventional, but precision is in their blood. You see, deep down inside we Black Foresters are clockmakers!

So ultimately, it's the location that has made VEGA successful?

It's the people that make the difference in a company – not the location, not the machines or the buildings! VEGA is made up of the people who work here. If these people feel good and complement one another, the result is a successful team that is more than just the sum of its parts. But there's something else involved in our success: I see two core values that have always made VEGA what it is and that may even be what is commonly referred to as a company's "secret of success".

Firstly: VEGA is a family business in the traditional sense, operating without the participation of people and organizations who care more about money than people. And secondly: VEGA's goal is to create an atmosphere that makes every employee happy to come to work every day. From these two values arose that spirit of trust, responsibility and recognition that strengthens and supports VEGA even today. Company policy and decisions will be based on these values in the future, too.

It's the people that make the difference, not the machines.

VEGA focuses on values that are often considered old-fashioned these days ...

These are virtues that are never outdated. If it sounds a bit sentimental? Then yes, we live by old virtues. They're called: reliability, honesty, humanity, and straightforwardness.

How can these values be imparted to future generations?

By setting the example and filling the beautiful words with meaning. Young people need to see with their own eyes that these virtues are practiced by all employees in the company. Add to that a bit of time, patience and trust, and they will recognize the benefits on their own.

You've coined the phrase "Security creates freedom. Freedom, in turn, fosters creativity." What does this mean?

That's the formula behind the trustful working atmosphere at VEGA. For employees to enjoy coming to work and doing their best, they need security. For example, the security that their job will still exist tomorrow. A profitable family business can best provide this security because it does not think in terms of quarters, but in terms of generations. This is my understanding of corporate responsibility.

Your headquarters in the Black Forest is located right in the middle of nature and that of course means for VEGA: protecting the environment. How do you bring environmental protection and profitable operation under one roof?

It's definitely possible, but it requires large investments in equipment and personnel. The concept of sustainability originates from forestry and means that you can only extract as much wood from a forest as can grow back. Judged by this definition of sustainability, a lot of what's going on at the present time is not sustainable. It's a fact that we're consuming more of everything than nature can regenerate at the same time. That's why we must strive to make all of our activities more sustainable.

But that will not happen by itself. For this we have to be active, doing the right things and investing. It's a question of will and priorities.

VEGA has developed quite successfully over the last 50 years. What does VEGA's future look like?

Questions about the future can only be partly answered with any certainty. There's one thing I think I can safely say: VEGA will remain a family business in the future.

In the future as well ...

ONLY ONE QUESTION

WHAT MAKES VEGA SPECIAL, IN YOUR OPINION?

Don Grever, Production, Cincinnati: »The way people deal with each other at VEGA is unique.«

Georg Armbruster, IT, Schiltach: »The atmosphere is very pleasant, the work is interesting and full of variety.«

Shirley Han, Sales, Singapore: »The work together here is based on trust.«

Mary Kay Swadener, HR, Cincinnati: »I love helping others«

Birgit Schwarz, Production, Schiltach: »Every person plays an important role at VEGA.«

Ali Kaya, Management, Istanbul: »VEGA offers employees a lot of opportunities to develop and grow.«

John Groom, Management, South-Africa: »VEGA consists of skilled, well-educated employees who get along well and grow together.« Tatjana Lizenberger, Design Engineering, Schiltach: »Being able to do things on your own and, within certain limits, make decisions independently.« Nadia Fara, Marketing, France: »The collaborative approach to work.« Elfriede Rauber, HR, Schiltach: »My work is a lot of fun and I have contact with many colleagues.« John Leadbetter, Management, Australia: »The good communication and information flow within the company. It's easy to stay on top of things.« Patric Heizmann, Development, Schiltach: »I find the flexible working hours great. This arrangement allows me

Jim Hook, Development, Cincinnati: »The long-term thinking of the company is a pleasant anomaly that, happily, has resulted in great success.«

Tanja Lanthaler, Sales, Schiltach: »During work you have the freedom to bring in your own ideas.«

Matt Amrine, Purchasing, Cincinnati: »I really appreciate knowing that I have a secure job.«

Jürgen Schuijren, Management, Amersfoort: »The collaboration with colleagues is great. It's fun to come here every day.«

Hector Martín, Sales, Barcelona: »I enjoy being part of a large project where people are an integral component.«

Selina Kipp, Marketing, Schiltach: »The diversity of the tasks makes this job interesting.«

to apportion my time optimally to my projects.« Franz Harter, Head of Training, Schiltach: »The high degree of freedom and responsibility granted to employees.« John Banks, Production, Cincinnati: »A good place to work. The bosses don't look over your shoulder, they just let us do our job.« Michelle Moore, Sales, Cincinnati: »I would say it's the great teamwork and variety in my job.«

THE NEXT QUESTION:

Where do you think VEGA will be 10 years from now and why?

Send answers and photos to *thequestionofvega@vega.com*










THE BLACK FOREST – A GREAT PLACE TO LIVE

The location of the VEGA headquarters has nothing in common with the image many people associate with an industrial area. The town of Schiltach, with its picturesque medieval Old Town, is a real gem and the company building itself is beautifully situated on the banks of the small river Kinzig. Perhaps this particular location, surrounded by nature, is the reason that VEGA places special emphasis on using resources effectively and in an environmentally friendly way. After all, when someone has the privilege of enjoying such natural beauty and culture every day, it's only normal that they hold a protective hand over it.

Long before climate change was on everyone's lips, VEGA implemented a comprehensive environmental management system on its own. This led to the building of an on-site hydroelectric power plant in 1997, which has since covered a large portion of VEGA's energy needs. What is more, all departments of the company have taken countless small, many big (and a few huge!) steps to reduce the burden on the environment. These steps were the right ones: In the summer of 2001 VEGA received certification according to the environmental standard ISO 14001.

Holger Sack, VEGA Schiltach

"I came to Schiltach many years ago through VEGA. This has become a second home for me and my family and we feel very good here."

Doug Anderson, VEGA UK

"It's always a pleasure to come to Schiltach. The hospitality of this area is quite unique."

Wolfgang Storz, VEGA Schiltach

"Our hydroelectric power plant covers a large part of VEGA's energy requirements. We're mindful of the environment in everything we do."

YOUR CALENDAR:

Would you like to have a VEGA Black Forest calendar?

Please send us an E-mail: *vegacalendar@vega.com*

MANFRED ARMBRUSTER

76 YEARS OLD | **60 YEARS** AT VEGA

»It all started with my apprenticeship as a mechanical engineer. We had school once a week, the rest of the time we were in the company.«

»We had a 52-hour week and had to work until 12 noon every Saturday.«

»In the first year of training we earned about 35 DM per month. For comparison: Back then a glass of beer cost 29 cents.«

»We apprentices also had to split wood for the bosses. We still had a lot of fun together.«

»We had a good instructor. He understood us.«

»Today, I'm responsible for the construction work at VEGA – for new construction, alterations, building of parking lots, among other things.«

»In the new building we laid 20 km of power cable. In addition, we installed 10 km of data cable, 800 electrical sockets, 600 network jacks... and we used over 650 tons of reinforced concrete.«

»I always have with me a list of all the building work going on: Alteration in sales, alteration in marketing, alteration in radar manufacture... When something's finished, I cross it off. You see? There is hardly anything left on the list.«

»This year there's work to be done in the seminar and meeting rooms. Then we'll be done with the building activities.«

RENE HERRMANN

17 YEARS OLD | **12 MONTHS** AT VEGA

»The first time I heard about VEGA was in a technical instruction class in the 8th grade.«

»I was in a one-week student internship at VEGA and during this time I got acquainted with the work of an electronics technician.«

»At the Job Information Day at VEGA my parents also got to know the company.«

»When I started here a year ago, all the trainees spent the first weekend together. This gave us a chance to get to know each other.«

»Having fun with other trainees is important.«

»In the course of our training we come in contact with almost all employees at VEGA. A lot of things are explained, the instructors take time for us.«

»What pleases me most is when, at the end of the day, the circuit I've been working on functions properly.«

»There's a magazine at VEGA especially for us, it's called 'Whatz up'. We trainees make it for ourselves and for students who are interested in training at VEGA someday.«

»In our everyday life here as apprentices we have a few projects of our own that we work on independently, for example CIP (Continuous Improvement Process), a Facebook page, the VEGA etiquette guide... «

»We learn things outside of technical training that are also important for the job. For example, there's an English course and a public speaking seminar... So we also get training at the social level.«

»I hope to go on for further training as an engineer or technician.«

THE BEST WAYS TO VEGA

for readers who would like to comment on the articles:
<readersletters@vega.com>
or contact our editorial address:
VEGA Grieshaber KG, Marketing,
Am Hohenstein 113, 77761 Schiltach, Germany

for readers who have questions about our instruments:
<sales@vega.com>
or contact our editorial address:
VEGA Grieshaber KG, Marketing,
Am Hohenstein 113, 77761 Schiltach, Germany

for readers who would like to suggest a topic:
<editorialstaff@vega.com>
All colleagues listed below under “Editorial staff” can of course also be contacted.

for readers who would like to order more copies:
<repeatorder@vega.com>
Phone: +49 7836 50-275
Fax: +49 7836 50-201

IMPRINT

Publisher | VEGA Grieshaber KG, Schiltach, www.vega.com

Editorial staff | Günter Kech, Jürgen Grieshaber, Isabel Grieshaber, Anja Fehrenbacher, Matthias Veith

Photography | Bernd Siebold, 69502 Hemsbach, info@siebold.net, www.siebold.net

Illustration | Fine Kohl, 68167 Mannheim, mail@finekohl.de, www.finekohl.de

Text | Kerstin Simon, 79761 Waldshut-Tiengen, kerstin@simon-texte.de

Production, Design | Marketing VEGA Grieshaber KG

Print | Straub Druck + Medien AG, 78713 Schramberg

Print run | 15.000

42520-EN-131104

VEGA Grieshaber KG
Am Hohenstein 113
77761 Schiltach
Germany

Phone +49 7836 50-0
Fax +49 7836 50-201
E-mail info.de@vega.com
www.vega.com

Looking Forward VEGA